

FROM THE THREE-DIMENSIONAL REALITY IN THE INTEGRAL SOCIOLOGY OF PITIRIM A. SOROKIN – TO THE CONSTRUCTION OF THE TRIUNE UNIVERSALIZING (BIO)COSMOLOGICAL APPROACH

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ABSTRACT. *In the work, starting from the representation of Pitirim A. Sorokin's conception of triadic (triune) nature of a sociocultural reality, – author conducts a comparative analysis and propose the essential characteristics of the three main and equal (in their significance) cosmological spheres of life – of AntiCosmism; ACosmism; and RealCosmism – and which cosmological substantiation chiefly serves the aims of an exploratory agency. A milestone of this exploration is also the advance of the method of 'essential metaphor' – for the realization of universalizing explorations (firstly, for the applying of the three-dimensional perception of life processes reality). Likewise, a key-point of this paper is the substantiation of the RealCosmist (neo-Aristotelian – Biocosmological) essence of the Russian science and philosophy (this cultural phenomenon is named as 'the Russian functionalism (organicism)'; and that this historical achievement is our vital potential for the overcoming of the current 'cosmological insufficiency' and effective realization of the ongoing and future global development of science and philosophy (evolution of sociocultural processes in general).*

KEY WORDS. *Biocosmology, neo-Aristotelism, triune approach, metaphor, Russian functionalism (organicism), universalizing cognition*

РЕЗЮМЕ. *В своей работе, исходя из концепции Питурима А. Сорокина о триадической (триединой) природы социокультурной реальности, – автор проводит сравнительный анализ и предлагает существенные характеристики трех основных и равных (в своем значении) космологических сфер жизни – АнтиКосмизма; АКосмизма и РеалКосмизма – и космологическое обоснование которых служит главным образом целям познавательной деятельности. Важным моментом данного исследования также является выдвигание метода «существенной метафоры», призванного способствовать реализации универсализирующих исследований (в первую очередь, по отношению к применению трехмерного восприятия процессов жизни, существующих в реальной действительности). Также, важным вопросом этой работы является обоснование РеалКосмистской (нео-Аристотелевской – Биокосмологической) сущности Российской науки и философии (это культурное явление получает название 'Русского функционализма (органицизма)'; и что это историческое достижение является насущным потенциалом для преодоления текущей 'космологической недостаточности' и эффективного осуществления настоящего и будущего глобального развития науки и философии (эволюции социокультурных процессов в целом).*

КЛЮЧЕВЫЕ СЛОВА. *Биокосмология, нео-Аристотелизм, триединый подход, метафора, Русский функционализм (органицизм), универсализация познания*

1. Introduction: neo-Aristotelian (Biocosmological) essence of the Russian philosophy and science

Introducing this material, once again, we might primarily stress our basic statement: the terms “Biocosmology” and “Aristotelism” are synonymous – Aristotle perceived the real world as the Organic Universal Cosmos, the fact that would be later confirmed by the discovery of the (universal) structure of DNA by James Watson and John Crick (1953). Substantially, Aristotle’s Organicist cosmos is quite antipodal to modern astrophysics and perception of “cosmos” on the whole: it is essentially *finite, qualitative and hierarchically differentiated*. Actually, Aristotle’s “cosmos” (precisely in metaphysical meaning) is substantially more than a planetary model and is quite distinct from the modern Dualistic and physicalist concept of Universe (*infinite, quantitative and homogeneous*, where space, time, matter, and cause are absolute and uniform). On the contrary, in Aristotle’s Cosmos there is no space (but the concept of *place* is used) and everything is ever the whole combination (integration) of matter and form (*hylomorphism*), wherein any change (movement and development in Cosmos) is based on the entire and inseparable set of the main causes – i.e. on the Four Causes: *material, formal, efficient, final*. In this order, immanent causes (*c.formalis, c.finalis and entelecheia*) has the decisive significance – all entities in the world are basically moved and are (self)evolving due to their *inner immanent (natural, purposeful, ergic) goals*. Thus, Aristotle has made *teleological* explanation (of primary cognition of the immanent goal-directed causes) – the most fundamental of the four interacting and integrated ways of explaining nature.

Emphasizing this point again, we note that Biocosmology and Biocosmological approach categorically do not treat “biocosmology” in the common sense of SETI (Search for Extra-Terrestrial Intelligence) or investigation of the origin of life in the Universe. In our approach, Biocosmology is written with a capital letter – to highlight and signify its special (neo)Aristotelian sense. Herein, “*Bio-*” signifies precisely the Aristotelian “Bio-”cosmos – i.e. organic, whole, hierarchical cosmos, in which every (living) entity has its/her/his inherent place and destination in the one whole (organic) self-evolving cosmic world (‘organism’). Essentially, therefore, Biocosmology is not a new conceptual construction or paradigm, but this is just giving the name precisely to the existing forms of neo-Aristotelism and the Aristotelian philosophical system on the whole, reinstating its Organicist essence and, thus, precisely integrating psychological knowledge with physiological knowledge, scientific paradigm with humanitarian paradigm, and reconstructing the natural unity of philosophy and science (metaphysics and physics).

At the same time, a great paradox of the present-day reality is that Aristotelian philosophy (in spite of its colossal influence on the modern civilization) is drastically misinterpreted, chiefly being perceived in the theological (scholastic) or the light of the later philosophical schools. At the same time, philosophy of Aristotle – his *First* philosophy (metaphysics) and *Second* philosophy (physics) – which are inseparable units – is neither *idealist*, nor *materialist*, but a *naturalist (cosmist)*, for, Aristotle believed in the only one whole (natural or cosmic) world, driven by the *immanent telic forces*. Essentially, Aristotle’s cosmic absolute *Nous* serves categorically as the

attractive centre of all natural purposeful forces, but not as the managing and driving Absolute whom we have got used to perceive.

Therefore, we are to return (rehabilitate) the original meaning to the term “cosmology”. Originally, since the ancient times, the field of cosmological explorations deals with four main issues:

1. A study of the Universe in its *wholeness*, i.e. fundamental rational representation about the world as a whole;
2. A definite rational resolution of the issue about active (driving) *causes* in the cosmic whole;
3. A definition of the fundamental (*universal*) *laws* in respect to both physical (Non-Organic) phenomena and processes, and equally, – in relation to life (Organic) phenomena and processes, and, herein, – referring to all spheres of life (biological, ecological, anthropological, of the individual’s ontogenesis, sociocultural, of the global evolution, including the world history and evolution of the sociocultural processes, etc.);
4. Elucidation, in the accepted cosmological sphere, of the place and *role of the individual* in current evolutionary processes of the one cosmic universal evolution of the life on Earth.

Notably, Russian philosopher Nikolay O. Lossky, author of the famous “History of Russian philosophy”, in its chapter “Characteristic features of Russian philosophy” – therein Lossky put forward and substantiated the concept and perspective of cosmology as a branch of metaphysics: “the world-whole, studied by the branch of metaphysics called cosmology, contains concrete individual elements of such significance as for instance, the biological evolution, the history of humanity – and philosophy must answer the question as to their meaning and their place in the world-whole.” (Lossky 1951:402)

It may be added that implementing a distinctive treatment of the issues of cosmology, we might propose two categories of cosmology – ‘Big’ and ‘Small’. In this approach, we might define as ‘small cosmology’ the Aristotelian (or any other) cosmology that deals with the part of the world that contains the objects of modern astrophysical study. On the other hand, we have a great realm for study of the world-cosmos on the whole (as well including the Nature of Earth, with all its life processes, and the consciousness of the person in particular, which both in all cases are the product of the one whole Cosmic evolution) – aiming at the study of this ‘Big Cosmos’. The latter exactly is the topic of original cosmology, i.e. exploration of the whole organization of the world (Cosmos) and its universal principles, driving forces or aetiological causes, and the place-function of the human individuality in the Cosmos under study, which we might define just as ‘big or original cosmology’.

A key-note point in this approach is the Neo-Aristotelian essence of the Russian philosophy and science. The judgment of Alfred North Whitehead is well-known: “The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato” (Whitehead 1978:39). Using a periphrasis, Russian philosophical and scientific tradition (integrating philosophy with science, exactly in Aristotle’s meaning) – *‘Russian philosophy and science consists of a series*

of footnotes to Aristotle'. We mean that Russian (and the scientists from other countries) thinkers have rehabilitated all the 4 Aristotle's existing (cosmic) *aetiological* causes: *material, formal, efficient, final*; stressing their equivalence, but highlighting the leading role of the immanent causes (*c.formalis, c.finalis, entelecheia*). Below, in the table, we tried to demonstrate the weight of this statement.

TABLE 1. Fundamental concepts and notions developed by Russian thinkers

Author	Name of the concept or the main field of contribution	The leading notion – analogous to “ <i>causa finalis</i> ” of Aristotle
Nikolay Ya. DANILEVSKY	Theory of historical-cultural types; a leading critic of Charles Darwin in the 1880s	“the <i>inherent principles</i> of the civilization”
Karl Ernst von BAER	A founding father of embryology; a leading critic of Charles Darwin in the 1860s-1870s	“ <i>goal-directedness</i> ” of evolutionary processes
Ivan M. SECHENOV	“The Father” of Russian physiology	the physiological conception of “ <i>internal inhibition</i> ” and the basic psychological notion of “ <i>free will</i> ”
Alexander A. BOGDANOV	Author of “Tectology: the universal science of organization”	The central notion of “ <i>organizing decision</i> ”
Lev S. BERG	theory of “nomogenesis”	the ruling “ <i>internal principle</i> ”
Nikolay D. KONDRATIEFF	Author of the theory of business cycles which are now called “Kondratieff waves”	“ <i>cyclic development</i> ” of economic processes
Ivan P. PAVLOV	Nobel prize winner; Reflex system research	The notions of “ <i>goal reflex</i> ” and “ <i>unconditional reflex</i> ”
Alexei A. UKHTOMSKY	Author of the “ <i>dominant theory</i> ”	the conceptions of “ <i>functional organ</i> ” and “ <i>chronotop</i> ”
Vladimir I. VERNADSKY	Author of the theories of <i>biosphere</i> and <i>noosphere</i> ;	“ <i>intrinsic activity of living matter</i> ”
Pyotr K. ANOKHIN	General theory of functional systems	The inner “ <i>result of action</i> ”
Pitirim A. SOROKIN	Author of the cyclic theory of social change (“ <i>social and cultural dynamics</i> ”)	the “ <i>immanent determinism</i> ” of a sociocultural system
Alexander M. UGOLEV	“the concept of universal functional units”	The leading significance of the evolutionary “ <i>effect</i> ”
Pavel V. SIMONOV	“the need-informational theory of emotions”	The leading significance and the hierarchy (biological, social, ideal) of the intrinsic needs of the person
Lev N. GUMILEV	Worked in the areas of history, ethnology and anthropology	the concept of “ <i>passionarity</i> ”

In fact, what else are these fundamental concepts and notions developed by Russian thinkers (philosophers and scientists), which are listed in the table, – if not basically the works of the *Organicist (neo-Aristotelian)* essence? Substantially, we can supplement them with other important achievements of the Russian culture, starting from the 18-th century, since the works of Michaylo Lomonosov; but mainly from the 19-th century, including the conceptions of “*organicism*” by Danilo M.

Vellansky and Alexander I. Galich, and, since the second half of the century, – the sociocultural concepts by the so-called “westerners” – Alexander I. Herzen and Nikolay G. Chernyshevsky; the “*subjective school of sociology*” created by Pyotr L. Lavrov and Nikolay K. Mikhailovsky; the theory of the *cyclical nature of civilizations* by Konstantin N. Leontyev; the theories of *collectivist anarchism* by Mikhail A. Bakunin and *anarchist communism* by Pyotr A. Kropotkin; the cosmist ideas of Dmitri I. Mendeleev who is famous as the creator of the periodic table of elements; *personalism* by Nikolay A. Berdyaev and *intuitionism* by Nikolay O. Lossky; the works of Alexander L. Chizhevsky – founder of *heliobiology* and theorist of *cosmo-biology*; *ecological concepts* by Nikita N. Moiseev; and other – all these essential ideas, notions, conceptions and theories (including the forms of integral and universalizing psychophysiological and sociocultural conceptual constructions) – all of them signify the leading significance of organic intrinsic cyclic activity and the leading role of immanent goal-directed whole-organizing causes (similar to the Aristotelian *causa formalis*, *causa finalis* and *entelecheia*).

Likewise, we might speak about the pivotal significance of the realistic principle of *anthropocosmism* – each individual is the decisive active-evolutionary functionalist element of the one actual self-evolving world (Cosmos). This essence was clearly disclosed by an eminent Russian scientist and philosopher Nicolai G. Kholodny: “A man, despite the essential features of the vital environment created by him himself, continues to remain an integral part of cosmos, completely subordinated to its laws. A person is not *above* the nature, but *inside* the nature.” (Kholodny 1993:333). This judgment reflects a cornerstone of the Aristotelian (Biocosmological) approach: the individual is *within* (but *not without*) the one whole Cosmic evolutionary process of the life on Earth, and s/he is the decisive (creative) element of the future safe and wellbeing evolutionary progress. Therefore, each individual is not only the *microcosm* (similarly to the views of Eastern or Ancient philosophers) but, in Biocosmological realm, – the individual is likewise the *macrocosm*, analogously to the entire Organism of the self-(macro)evolving Evolutionary Process (EvoProcess).

2. Advanced nature of the achievements of Russian science

To start with, we could propose the approach that includes the consideration of a so-called “homologous series in the world science”. The latter notion is taken by analogy with the “homologous series in evolution”, for instance, as they were expressed in Nikolay I. Vavilov’s law of a homologous series, developed in the 1920s. This law establishes parallelism in the variability of organisms. Then, building a bridge to our topic, in a metaphorical sense, – we can try to reveal parallelism in the emergence of the “homologous” scientific theories in various places and cultural milieus of the Earth. In this approach and in the light of aforesaid, – we can disclose a phenomenon (in certain fields) that Russian scientific achievements have taken the evolutionary lead over the global scientific development.

For example, as concluded by Ken Baake, “Russian philosopher, economist and political revolutionary Alexander Bogdanov in the early 1910s postulated the idea of

organized systems in biology, capturing very much the sense that meaningful complexity is when agents adapt to information.... Arguably, then, Bogdanov could be seen as the founder of postmodern complexity science” (Baake 2003:190). However, even in Ludwig von Bertalanffy's General System Theory, published in 1968, which includes a section on the history of systems theory, there is no reference to Bogdanov whatsoever. From the ordinary point of view, it is difficult to understand how Bertalanffy could not notice and miss this event. The point is that Bogdanov’s three volume Tectology was firstly published in Russia between 1912 and 1917, but afterwards translated into German in the 1928. A milestone is also that the “conceptual” of general system theory (GST) had first been put in place by Bogdanov (Gorelik 1987). Nevertheless, Ludwig von Bertalanffy did not even mention Bogdanov in his works, which Fritjof Capra (1997) finds “surprising”. “Above all, Bogdanov develops a fairly comprehensive conceptual apparatus for dealing with the very problems later explored by the disciples of GST and cybernetics” (Mattessich 1978:285).

However, if we admit the existence of different cosmological foundations of scientific activity, then this phenomenon becomes natural. The same phenomenon – the advanced achievements of the Russian culture, but which were even unknown for their successors (in about 50 years) in other centers of world science – refers to the pairs ‘Danilevsky—Spengler’ or ‘Berg—Lima-de-Faria’, or ‘Vernadsky—Lovelock”, etc. Substantially, all the scientists (mentioned in this ‘homologous’ comparison: Spengler, Bertalanffy, Lima-de-Faria, Lovelock, Wiener, Maturana and Varela) initially were fully unaware of the Russian predecessors in their fields of research. To elucidate this moment, we have prepared a comparative table (placed below) that demonstrates these ‘homologous’ interconnections.

TABLE 2. ‘Homologous series’ in the world science

<i>Essence of the scientific discovery</i>	<i>Author, the title of the main work or the name of concept, and the year of the appearance of the main conception</i>	<i>Analogous discovery in the other place (scientific center)</i>
Advance of the organicistic evolutionary theory (with respect to the sociocultural development) which essence is the realization of <i>immanent civilizational potentials</i>	Nikolay Ya. Danilevsky “Russia and Europe”, 1869.	Oswald Spengler “The Decline of the West”, 1920.
Contribution of <i>Tectology</i> – universal organizational science that integrates social, biological and physical sciences	Alexander A. Bogdanov (Malinovsky) “Tectology”, 1912.	Ludwig von Bertalanffy “General system theory”, 1968.
Contribution of the theory of <i>Nomogenesis</i> – evolution on the basis of intrinsic goal-directed patterns	Lev S. Berg “Nomogenesis”, 1922.	Antonio Lima-de-Faria “Evolution without selection”, 1991.

Creation of the integral theory of <i>biosphere</i> and <i>noosphere</i>	Vladimir I. Vernadsky “The Biosphere”, 1926.	James Lovelock “The Gaia theory”, 1979.
Contribution of the general theory of <i>functional systems</i>	Pyotr K. Anokhin “Problems of the center and periphery in the physiology of nervous activity”, 1935.	Norbert Wiener “Cybernetics”, 1950. Humberto R. Maturana and Francisco Varela “Autopoiesis”, 1958.
Advance of the “Dominanta” theory and the conceptions of “ <i>Chronotop</i> ” and “ <i>Functional organ</i> ”	Alexey A. Ukhtomsky “Dominanta as the working principle of the neural centers”, 1923.	?
Creation of the three-dimensional (triadic) approach to the study of sociocultural processes, in the form of his social cycle theory	Pitirim A. Sorokin “Social and cultural dynamics”, 1937–1941.	?

3. Scientific heritage of Pitirim A. Sorokin – in the development of a universalizing approach to the exploration of the issues of the individuality, culture and society

As we can see from this comparative table, some of the achievements of Russian science still do not have the analogous continuation in the world science. First of all, this “gap” in the global cultural development relates to the achievements of Pitirim Sorokin – the eminent Russian-American sociologist. Sorokin’s major contribution to the world of science (that was chiefly realized in the monumental work – his *magnum opus* – “Social and Cultural Dynamics”, 1937–1941) is that he has substantiated the inefficacy of the one-dimensional perception of sociocultural reality (in relation, primarily, to the means of science and philosophy).

Sorokin's theoretical achievements are fundamental for Biocosmological development. In fact, for instance, Biocosmological realistic principle of Bipolar Unity corresponds to the sociological “law of polarization” by P.A. Sorokin, which deals with “opposite poles” in all fields of social and cultural life. It is significant that Sorokin and his assistants have done a really titanic empiricist work, having processed more than 100.000 scientific sources on the research topics. In the outcome they had arrived at a startling discovery – the disclosure of the *three-dimensional* (and of *three-stage cyclic*) – evolutionary dynamic essence of a sociocultural reality: The synchronous existence of the two polar (called Ideational and Sensate) and one intermediate (Integral) spheres and cycles of a sociocultural life. Pitirim Sorokin’s other essential conceptions are: his famous “integralism”; “sociological universalism”; “autonomy in social (super)systems” and basically inherent self-regulation of sociocultural systems – that “the principle of immanent change of sociocultural systems leads to an immense amount of research and practical activity in procedures, techniques, and policies profoundly different from the principle of the externalistic theory of change.” (Sorokin 1985:634).

A key point is that Pitirim Sorokin (a true follower of Russian organicism, who realized his creativity on the basis of strict empiricist results – factual evidence – attained in the investigations) – had advanced the original social cycle theory wherein he substantiated “the withdrawal of one-dimensional world-viewing” (Lebedev, 2000) and carried out the transition into the “three-dimensional” reality. In this (three-dimensional) world three equally real (and synchronously active) systems of knowledge and sociocultural life exist and replace each other, by turns, in terms of their domination over the whole sphere of contemporary culture. These three types of “supersystems” in all times are: “*ideational*” (herein reality is spiritual, but is driven mainly by *internal* stimuli), while the opposite reality is “*sensate*” (reality is dominated by materialistic world-view and driven by *external* stimuli); at the same time the ‘third’ (or the ‘first’ in significance) – intermediate (basic) – is “*integral*” supersystem and sphere of reality.

Each of the three supersystems (substantiated by Sorokin: two polar and one basic intermediate, that integrates the means from both poles) embrace in itself the corresponding type of all the constituting basic cultural systems. This is the basic standpoint of Sorokin that a civilization is the “large-scale cultural system” that develops over time and undergoes cyclic transformations. In turn, each “vast cultural system consists of language, science, philosophy, religion, the fine arts, ethics, law, and the vast derivative systems of applied technology, economics, and politics.” (Lane and Ersson 2005:143). Therefore, for instance, “all the fine arts of these cultures are part of one living unity, the manifestation of one system; and that therefore when this culture begins to undergo the process of transformation, they all naturally follow the same path and change in the same direction.” (Sorokin 1985:223). Thus, as Sorokin stated, the Sensate supersystem is made up of: sensate science, sensate philosophy, sensate religion of a sort, sensate fine arts, sensate ethics, law, economics and politics, along with predominantly sensate types of persons and groups, ways of life and social institutions. Likewise, the Ideational and Integral supersystems consist respectively of Ideational and Integral types of all these systems.

Therefore, due to the conceptual framework of Pitirim Sorokin (and the substantiated nature of a real sociocultural life), besides each most general cultural system, – “there are larger cultural unities or cultural supersystems”. According to Sorokin, “each such supersystem is based on certain major premises or certain ultimate principles, the development of which makes up its total so-called ideology.” Following another conclusion of Sorokin, “the investigators seem also to agree that these civilizations, or cultural supersystems, like deep cultural undercurrents, largely determine most of the surface ripples of the sociocultural ocean: the life, organization, and functions of smaller groups and cultural systems, the mentality and behavior of individuals, and a multitude of concrete historical events, trends and processes.” (Lane and Ersson 2005:14)

We can likewise add that a “sensate” sociocultural supersystem is the second name of the currently dominating Western civilization (with its foundation in secularism, anthropocentrism, utilitarianism, hedonism, empiricism, etc.) – the object

of Sorokin's harsh criticism. Substantially, Pitirim Sorokin prophesied its fall into decadence and the emergence of a new "integral" era. In essence, Sorokin's creative and practical activity was aimed chiefly at the approach to and becoming of this new Integral era. However, as we know, his efforts (and efforts around the world) have failed in achieving this goal. This might be the reason that each transitional (integral) cycle of sociocultural life naturally integrates the general principles and mechanisms of both poles of sociocultural activity – as of the currently dominating supersystem (we have temporarily the "sensate" Western one that is ruled by extrinsic stimuli), as of the opposite one ("Ideational" in the term of Sorokin, that is ruled by intrinsic stimuli). This point is crucial – at present we have lost the integral meaning and rational expression of actual causes of the second pole, which is opposite to modern Western civilization and has precisely a neo-Aristotelian essence and significance. This is likewise a key point that a clear rational outline (and sequential analysis) of this evolutionary next pole (cultural supersystems) is generally absent in Sorokin's theorizing.

At any rate, we should note the impossibility, in principle, of carrying out a new *Integral* sociocultural cycle (new cultural supersystem) without knowing the essence and rational causes of the sociocultural supersystem (civilization) that is naturally opposite to the modern Western ("sensate") civilization. A reason herein is clear, – each Integral organic construction (physiological or sociocultural system) realizes, in essence, the integration of the principles and mechanisms (driving forces) of both poles-supersystems ("sensate" and "ideational", in Sorokin's terms), related to their ontogenetic or evolutionary processes. Accordingly, the former ("sensate") are chiefly driven by *extrinsic* factors (by chance and the selection of the fittest), while the latter ("ideational") – by *intrinsic* (goal-directed and wholesome) motive powers (momenta). Thus, in a physiological metaphor, the awakening individual gradually comes to raising awareness of the issues that await him throughout the day, and gradually incorporates her/himself into the preparations for their implementation.

Naturally, therefore, our direct problem is to fill this gap. Biocosmology primarily aims precisely at the realization of this goal – of the rationale of foundations and main constructions in the whole organization of the next new pole of the global sociocultural life (or the individual's healthy ontogenesis), which is called (in Biocosmological approach) as the RealCosmist (or AnthroCosmist) pole of the safe and wellbeing individual's ontogenesis or global sociocultural evolution.

4. The method of 'essential metaphor' – for the realization of universalizing modeling in the research of life processes

Already while dealing with 'homologous series' in the world science (and realizing our comparative analysis), and in other places of this exploration, – we have found a substantive value of the method of so-called "essential metaphor". Indeed, if to return to the significance of the discovery of the structure of DNA by Watson and Crick – we are aware since the 1950s about the natural sciences' fact: All life processes on Earth are essentially universal. In turn, inasmuch as the Earth in all cases is the product of the one whole Cosmic evolution, – we inevitably are arriving

at the two main Biocosmological goals: 1. To disclose the universal (basic) essential principles of the given (objectively evident) universal organic world (Cosmos) – and further to apply them in all spheres of scientific cognition that deals with life phenomena and processes; 2. To actualize the method of ‘essential metaphor’, i.e., inasmuch as life processes are universal on all levels of evolution, – a direct sense is to transpose essential principles from the already studied fields of knowledge to the areas that are representing topical issues.

What is (method of) metaphor in general? We usually think of the metaphor as a literary device – a literary figure of speech that uses an image, story or tangible thing to represent a less tangible thing or some intangible quality or idea; for instance, “hungry like the wolf”. In our approach, we use the method of ‘essential metaphor’ that has a specific methodological destination. As was noted above, inasmuch as Earth (and all its life processes) is the objective product of the one cosmic evolution, and inasmuch as the entire living world is universal (due to the evident universality of the basic DNA structures), – we are to assert that the whole living (Cosmic) world – all its levels and hierarchical layers: vegetative, animal, rational (human), sociocultural, cosmist – of the individual’s ontogenesis; – all these levels are organized and moved by common (universal) laws (the fundamental realistic (Bio)cosmological principles)¹.

Therefore, a method of “essential metaphor” naturally emerges. Essentially, the method of metaphor already is used in the study of complex processes – of the transfer of knowledge from one sphere of scholarship to the other, wherein we are tackling an actual problem. “Metaphors demand a chasm to bridge:... It is because we are persuaded that such a chasm yawns between the natural and the human that we so often dignify (or revile) the concourse between the biological and social sciences as «metaphorical.»” (Daston 1995:37). Actually, metaphor is the effective means of knowledge transfer between different domains. “Providing such a bridge between different discourses and contexts, metaphor can thus be both creative and constitutive” (Hodgson 1995:341). Arnold H. Modell arrives at the conclusion that “metaphor is a fundamental and uniquely human cognitive ability, a primary form of cognition and thought that becomes secondarily incorporated into language (Johnson 1987, Lakoff 1987, Turner 1991, Gibbs 1994, Lakoff and Johnson 1999)” (Modell 2003:26–27).

Larisa V. Kalashnikova develops the conclusion: “metaphor is a basic mental operation – the instrument of cognition (of), structuring and explaining the world.” (Kalashnikova 2010). Especially, we need the use of metaphor in respect to the resolution of the issues (aforementioned) of the universality of life processes, especially in the aspect of their natural macro-evolutionary essence (the explanation

¹ In the article entitled “All-Embracing (Triune) Medicine of the Individual’s Health” an attempt is realized to substantiate 16 Biocosmological fundamental realistic principles. These 16 universal laws (that are proposed to be used for the Organicist type of scientific exploration) are considered to be equal, in their significance, to the universal physicalist laws, such as the laws of Gravity, Affinity, Electromagnetism, etc.).

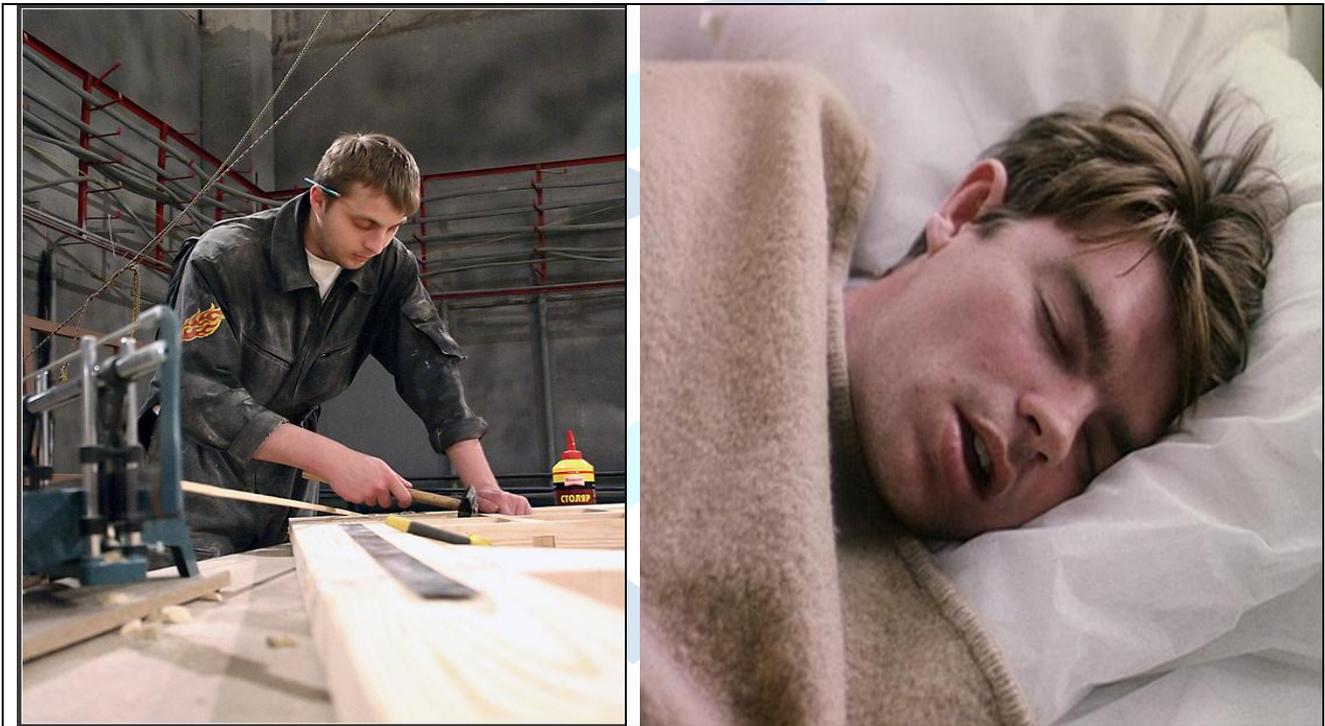
is given below). Therefore, we fully agree with the authors, that “from the *persona non grata* status in the scientific language – metaphor should move up to the *vip* status ...,” (Kuzmina, 2006); and that “metaphor is one of the most productive means which carries out verbalization of the reality. This is a universal mode of cognition and conceptualization of the world” (Hodorenko, 2010). In turn, we are speaking about “a substantivist view on metaphor,” and in this case “metaphor as the means of scientific knowledge brings us closer to scientific truth, but metaphor itself cannot be treated as a measure of truth or falsity, as any theory” (Kuzmina 2006); i.e., the method itself cannot be true or false, the method is judged by the results it provides in a particular field of knowledge.” (Surovtsev and Syrov, 1998).

We do need the use of the method of “essential metaphor”. The President of the International Institute of Pitirim Sorokin – Nikolai Kondratieff, Russian scientist Yuri V. Yakovets arrives at the conclusion that “majority of social scientists hardly accept the proposed (by Pitirim Sorokin) division of sociocultural orders and the cyclical alternation of epochs that are characterized by the domination of this or that order, as well as Sorokin’s anticipation (prevision) of the main tendency towards the replacement of the sensate order (that was ruling for five centuries) by the integral order.” (Yakovets 1999:12)

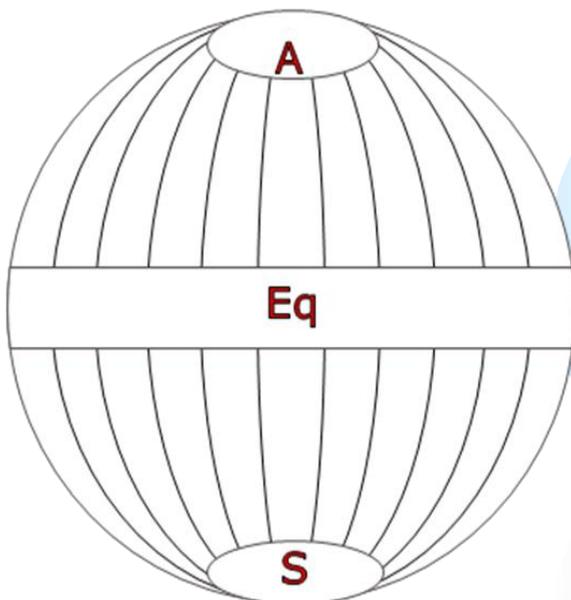
The Biocosmological approach precisely is characterized by the active use of the method of “essential metaphor”, i.e., which is aimed primarily at clarifying the fundamental principles of natural life processes. In this approach, primarily referring to biological (normal) functioning of a human body, – we draw attention to the regular alternation of polar (diametrically opposite) physiological (macro)cycles – of waking and sleeping cycles (during every day, i.e. 24 hours). Thus, relying metaphorically on this evident fact (of Bipolar essence and Triadic sequence of life spheres, i.e. of the alternation of two polar cycles – of Awake activity and Sleep processes – and the third (or the first, in significance) sphere that is Organism it/her/himself and which is always the basis for the transition from one polar cycle to another polar cycle (and sphere) of life. This ‘first’ sphere (the organ or organism under study – the basic living sphere) maintains permanently the homeostatic life parameters (i.e. carries out permanently healthy or normal condition of life), as well as equilibrium in interrelations with the environment. Likewise, as mentioned above, this Organismic basic sphere is the intermediate basis (but equally independent in its whole organization) for the transitive cycles (transition from Awake- to Sleep-processes and back). Substantially, all these three independent (from each other) life spheres – two polar regulative and evolutionary spheres (we call them AntiCosmist and RealCosmist, that refer accordingly to Sleep-processes and Awake expedient activity) and the basic Organismic sphere (that maintains the homeostatic level of life activity and incorporates the results of developmental processes during Sleep and Awake cycles) – it is named as ACosmist sphere.

Therefore, in each (Bio)rhythm, there are existing (synchronously) three autonomous spheres: two polar (that are regulative and realizing the development) and the third cycle – of the Intermediate (*Middle, Fundamental, Basal, Axial*) significance. The Bipolar unity of life processes is reflected in a Picture 1 (that is

given below,) and two special figures (Figure 1 and Figure 2): the first of them uses the metaphor of the globe; while the second addresses to Abraham Maslow's conception of the hierarchy of needs, represented as a pyramid.



PICTURE 1



Pole of the *Awake goal-directed activity (A-)* – herein life organic processes are characterized by the inherent ergic life activity that is basically sensible, sane, reasonable – for the good of the ambient organism-world or the environment. Under this pole each subject of life realizes its/her/his *purposeful – functionalist – integrity with the cosmist (organic, hierarchical) world*. Herein, any subject's life activity is essentially *cosmos-centric* (realizing microcosm-macrocosm and macrocosm-macrocosm interrelations).

Pole of the *Sleep processes (S-)* – is characterized by the *essential sensory rupture (denervation)* of a living subject with the world (which is a natural Dualism) – for the realization of processes of *assimilation, accumulation, restoration, regeneration, growth, development of one's potentials (self-actualization)*, domination in the environment, etc. For a conscious subject, substantially, a *S-cycle* of life activity is realized in the *chaotic realm*, governed by chance and the dominant 'dreams' (*per se – 'hallucinations'*). Any life activity, during *S-cycle*, is essentially *subject-centric (anthropocentric)*.

FIGURE 1. Bipolar essence of life processes

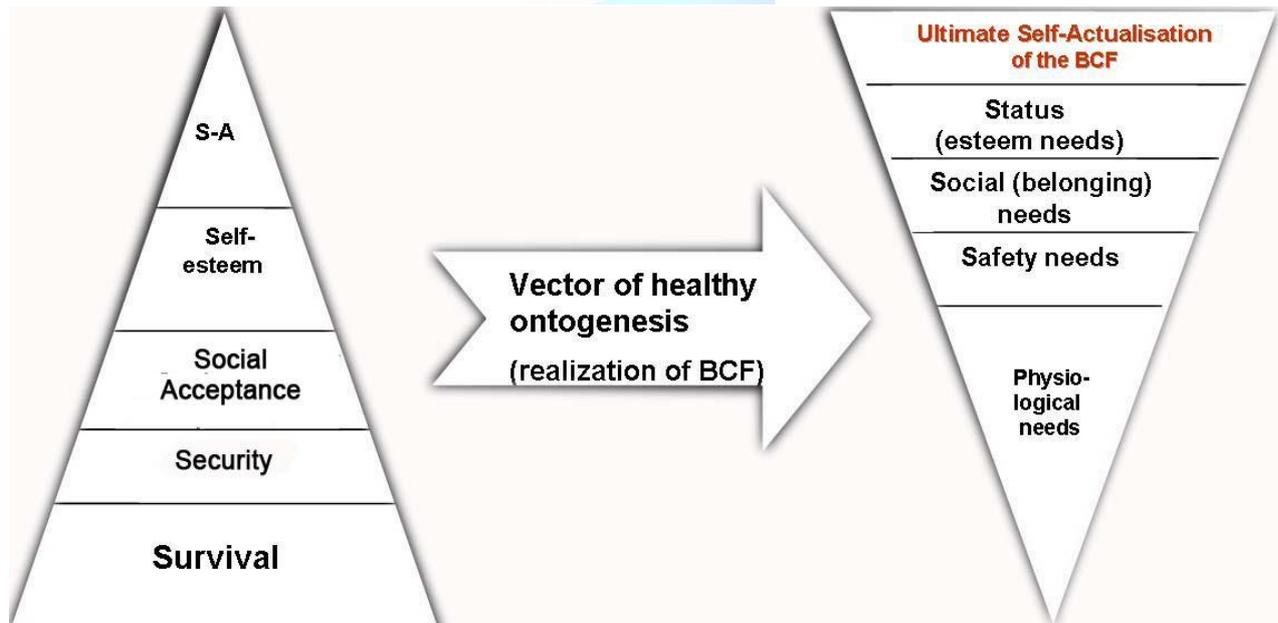
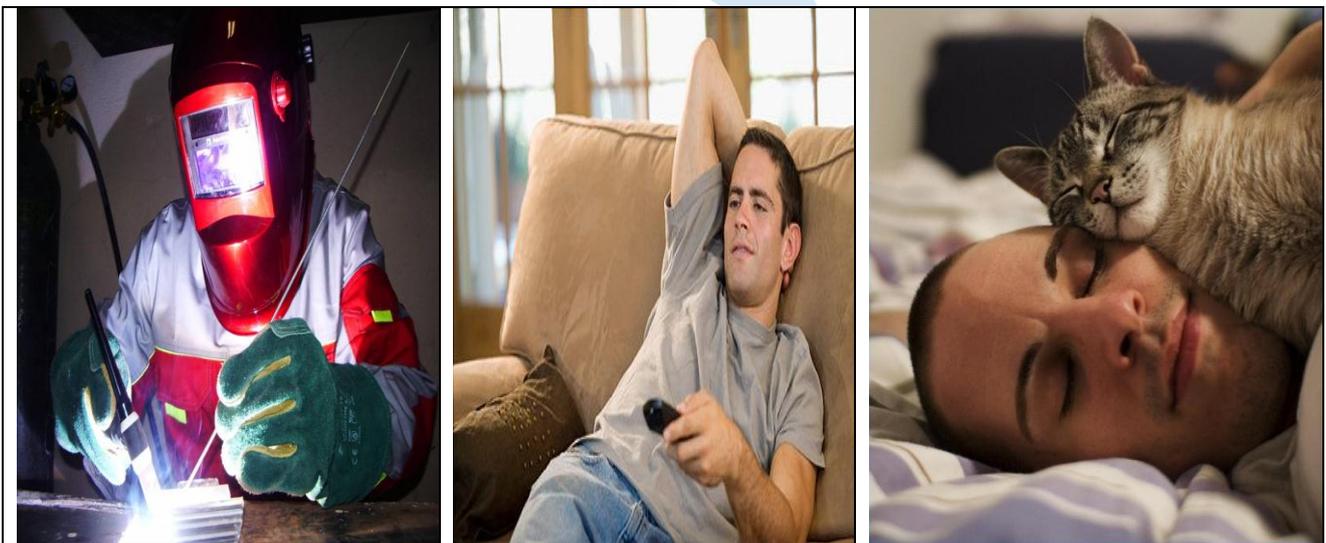


FIGURE 2. Bipolar unity of Maslow's pyramid – from Aristotle's (Biocosmological) point of view (the unity of “live – to eat” and “eat – to live”)

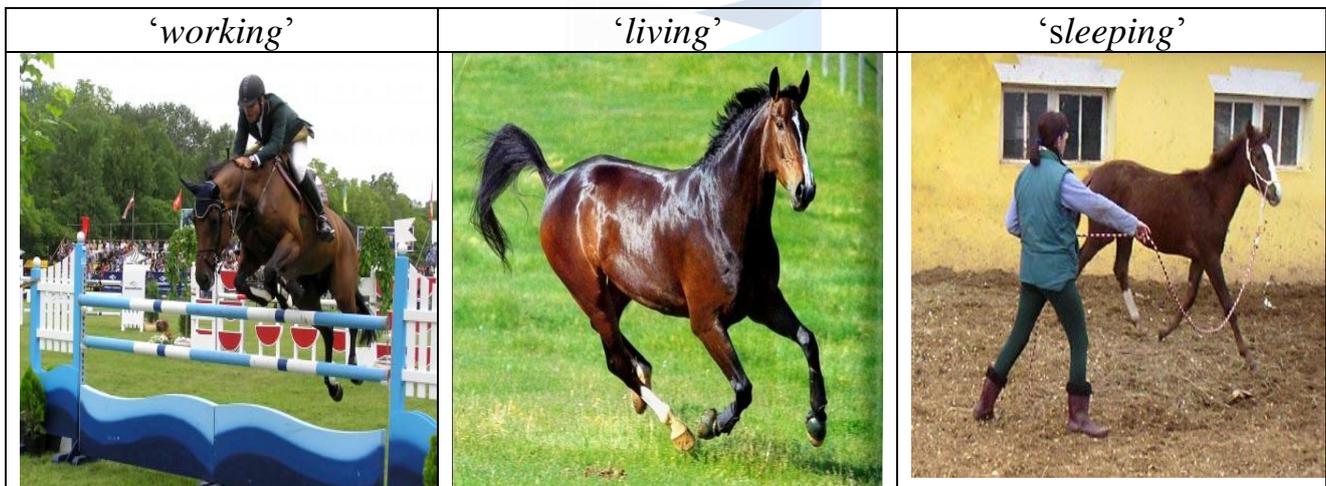
In turn, the metaphor of the Triadic essence of life processes can be exemplified by the Picture 2:



PICTURE 2.

Another metaphor (and the model for understanding the issue) is the metaphor of a ‘horse’ (Picture 3): firstly, each horse (like every Bio-organism) has the Middle (Fundamental, Axial) sphere – of the self-maintenance of all life processes (internal and of the interrelations with the environment) on the level of homeostatic equilibrium – these life processes can be called as ‘*living*’. In turn, two polar spheres are: the sphere with a rider (jockey) reflect the ‘professional’ (wholesome, goal-directed) cycle of the whole biorhythm – this sphere and cycle may be called as

‘working’ (or ‘functioning’, or ‘contributing’). Finally, the horse with a stableman (and including all the processes of restoration and growth) reflects the other pole – of ‘sleeping’ – of training, feeding, care, treatment, sleeping, etc.



PICTURE 3

Substantially, Biocosmological scientific application of the method of ‘essential metaphor’ is aimed primarily at the clarification of the fundamental principles of natural life processes. Thus, from the above examples of cyclic biorhythm in human life (the “rational” level in the cosmic hierarchy, according to Aristotle) and the life of a horses (“animal” level), and using the method of ‘essential metaphor’, – we have the (rational) right to put forward the position that there are at least two universal laws in the sphere of natural organic processes: of ‘Bipolar Unity’ and of ‘Triadic Evolutionary Cyclicity’ (or cyclic recurrence), wherein, always, together with the two poles, – the ‘third’ (or ‘first’, in significance) intermediate self-sustainable foundation (organ or organism itself) exists and evolves.

5. Metaphorical example of the triadic autonomic regulation of cardiac activity

In the latter relation (in clarifying the principles of Bipolar unity and Triadic cyclicity) one more metaphorical example can be useful – of the nervous regulation of a heart (in human’s body). We know exactly from physiology that the conduction system of the heart is the basis of the heart’s functioning – this system is essentially autonomous in realizing the contractile activity of the heart. As it is well known from the practice of heart transplantation, in the case of applying the method of “living organ” transplant, – donor’s heart (i.e., in the extracorporal condition), if put into the proper medium and at body temperature, preserves its suitable condition and contractile activity for a long time.

Therefore, the heart has factually its own nervous regulation that is exercised by the metasympathetic, or, to be more precise, – by cardiometasympathetic nervous system (CMNS). The main structures of this CMN-system are sinoatrial and atrioventricular nodes, atrioventricular and ventricular bundles, and Purkinje fibres. Substantially, to stress this, once again, – the intracardiac level of regulation (of

CMNS) is autonomous, although it is included in the complex organismic hierarchy, including the higher significance of the central nervous regulation. Essentially, the CMNS has a complete set of functional elements (fully analogous to the organization of the central nervous system) for the autonomous functional activity: sensory cells, integrating interneuron apparatus, motive neurons.

In general, the conception of metasymphathetic nervous system (MNS) has been developed by the Russian scientist Alexander D. Nozdrachev. In spite of the fact that his theory is well known in Russia and his works are acceptable through PubMed (for instance, Nozdrachev 1984–1994), – the concept of metasymphathetic nervous system (MNS) is poorly known outside of Russia. The reason is evident – the comprehension of this theory needs the use exactly of Organicist (hierarchical) approach to the subject-matter. In fact, MNS is not the system (in common meaning) that integrates the organs (the elements) into the one whole, morphologically explicit organization. As opposed to this standpoint, MNS of Nozdrachev means the gathering (sum) of organs that is realized not because of their mutual systemic interaction, but by reason of their possession of common characteristics on the similar (systemic hierarchic) – organ level. First of all, herein, this is their possession of an own basic (autonomous) nervous system that independently (from the higher level centers and systems) regulate the vital processes of the organs.

Alexander Nozdrachev has substantiated that the metasymphathetic nervous system (MNS) is the third equal part of the autonomic nervous system – together with the commonly recognized discrimination of the two polar divisions at the segmental level: of the sympathetic nervous system and parasympathetic nervous system. Nozdrachev defined MNS as the complex of micro-ganglionic formations (intramural ganglia) and their connecting nerves, as well as individual neurons and their axons and dendrites that are located in the walls of internal organs which have contractile activity. The main effector apparatus of the walls of hollow visceral organs, which are regulated by the MNS, are as follows: smooth muscle, secretory, absorbing and excretory epithelia, capillary network, local endocrine and immune structures. Substantially, MNS has a high degree of relative autonomy from the central nervous system.

Thus, returning to the example with the nervous regulation of the heart's functioning (which is the attempt to metaphorically clarify the essence of a Triadic life organization and Triadic scientific methodology), – we firstly state that the organ level (which is lower in hierarchy but which is autonomous and has the fundamental significance for the life activity) – this organ level is performed by the CMNS (cardiomethasymphathetic nervous system) that realizes both the rhythmical contractile functioning of the heart and the regulation of the basal homeostatic parameters of the heart's vital activity. To stress this fact, once again, this organ level of regulation (CMNS) is independent from the higher levels (although, in turn, is regulated by them) – of the central nervous system and its vegetative divisions: the SNS-sympathetic nervous system and PNS-parasympathetic nervous system.

Another cornerstone point is that this basic (CMNS-)level possesses itself and exercises the polar regulative mechanisms of the higher centers, i.e. cholinergic and

adrenergic mechanisms of regulation the vital processes. Substantially, this is the key condition and ability of the CMNS to maintain all the organ's life processes on homeostatic level. At the same time, if to signify (metaphorically) the whole organism and its higher nervous centers (of the CNS) as "Cosmos", then CMNS (organ-level), inasmuch as it is independent from the higher centers (although issuing efficiently their polar mechanisms) – is essentially the ACosmist level of organization (independent from the higher Cosmic centers).

This metaphorical example (of the physiological organization of the nervous regulation of the heart) is truly polysemic. First, we see here (in relation to the regulation of cardiac activity) the manifestation of the *Triadicity* principle – the synchronous activity of the three divisions of autonomous nervous system (indeed, the physiological evidence is that the cardiac activity is impossible in the case if any of the three systems – CMNS, SNS, PNS – is inactive). Second, the principle of (evolutionary) *cyclicality* becomes evident – of the alternating dominance of the polar (super)systems that is realized through the intermediate cycle of the organ's basic activity (which is the fundamental basis for the whole Triad). Third, we can see in action the principle of *hierarchy* – a fundamental integral (the organ's, "axial") level is placed at the basis; "above" the two poles of opposite spheres (in direction of life activity) are organized – it is the principle of *Bipolarity* and the *Bipolar unity*. Fourth, a fundamental level includes in its organization (integrates) the mechanisms that are main to the operation of both higher polar (super)systems (i.e., that cause and produce the opposite effects of life activity of the organ) – the principle of *Integrality*. Just this principle makes it possible to realize the fundamental (organ's) level of the self-maintenance of homeostatic constants (i.e. healthy condition) for the vital processes under study.

6. Three cosmological spheres – basic comparative analysis

The next step is the attempt to advance the main characteristics of the methodological foundations for the realization of scientific explorations. This is a comparative analysis of the three cosmological spheres (AntiCosmist, ACosmist and RealCosmist) – the exploration and definition of their basic philosophical principles and the essential methodological and practical features. Substantially, all three cosmological exploratory spheres are equal in their significance and efficiency in relation to the study of the (sensitive to the one of three methodologies) various properties of the subject (object) under exploration. The results of the comparative analysis are given in the table below:

TABLE 3. Three cosmological spheres for the exploration of the one real world (Cosmos)

<i>Type of cosmology</i>	<i>AntiCosmism (Humanistics)</i>	<i>ACosmism (Holistics)</i>	<i>RealCosmism (Realistics)</i>
<i>Cosmological basis</i>	Ontological Pluralism	Metaphysical Dualism	Cosmological Monism
<i>The ultimate, true reality-value</i>	<i>The human's Transcendental (a priori) abilities (reason) that realizes survival (adaptation to) and development (construction of) the surrounding material world</i>	<i>The Absolute – a Transcendent substance that determines the harmonic order of the given (“in situ”) life phenomenon and the surroundings</i>	<i>The Universal (Organic) Hierarchical Cosmos wherein every life subject self-realizes its/her/his individual's constitution and immanent telic Basic Cosmist Evolutionary Functionality (BCEF)</i>
<i>Position of a subject in the cosmos</i>	Outside (<i>without</i>) the material (physical) cosmos	<i>Integrated</i> into the given organic wholeness (the wholeness of the given mind-body-milieu)	Inside (<i>within</i>) the organic (self-evolving Organicistic) Cosmos
<i>The main cosmic cause</i>	<i>Causa efficiencie</i>	<i>Causa formalis</i>	<i>Causa finalis</i>
<i>Regarding the position of an explorer</i>	A kind of ‘ <i>external</i> ’ (causal) epistemology	Subject of cognition by virtue of her/his primarily direct spiritual relation to the Transcendent substance is included into the systemic integrity, equally with the object of cognition	A kind of ‘ <i>internal</i> ’ (telic) gnoseology
<i>The leading method (mechanism) of exploration</i>	‘Explanatory’	‘Understanding’	‘Definitive’
<i>Gnoseology</i>	Epistemological dualism	Gnoseological monism	Biocosmological pluralism
<i>Exploratory essence</i>	<i>Bio-logical</i> , reducible to the physicalist structural-functional units or the ‘ <i>Transcendental subjective</i> ’ experience of a person	<i>Bio-philosophical</i> , all the units are integrated by the ‘ <i>Transcendent Absolute</i> ’ (God, Matter, Spirit, System, Information, Field, Energy, Pattern, etc.)	<i>Bio-realistic</i> , reducible ultimately to the individual's constitution and subject's (personalist) ‘ <i>ontogenetic entelechy</i> ’ and the operative (just-in-time) goal-directed ‘ <i>causa finalis</i> ’
<i>Ideology</i>	Physicalism and humanism	Integralism (Holism)	Biocosmology
<i>Ideology with respect to the human being</i>	Anthropocentrism	Anthropoholism	Anthropocosmism

<i>The basic topic of reference (primary issue of research)</i>	The <i>physical-chemical</i> structures and their (causal) interactions; as well as the <i>Human's</i> (anthropocentric) needs (rights) that are opposed to the surrounding world, and which satisfaction (on the physical, societal and spiritual levels) is the highest goal	The <i>Holon</i> , i.e. the organism, person or society (in turn, each is a unit of the Hierarchy), – its/her/his/ harmonious condition and wholesome contribution to the integral well-being and the sustainable development of the holarchy (supersystem) under exploration	The individual's constitution and subject's (the individual's) ' <i>ontogenetic entelechy</i> ' (BCEF) and the derived ' <i>causa finalis</i> ' – goal-directed and purposeful life processes and behavioral activities
<i>Methodology</i>	Physicalist–(Bio)Logical (Scientism)	Integralist (Holistic, Systemic), founded on the Transcendent basis	Bio(Cosmo)Realistic-Functionalist and CosmoBio-typological
<i>Aetiology</i>	<i>Causa finalis</i> is categorically eliminated out of the scientific (natural, physical) aetiology	All four causes are equally treated within the given self-sustainable milieu	<i>Causa finalis</i> has the key significance, but all four causes are essential, together with the leading role of <i>entelecheia</i>
<i>The kind of the philosophical bases of science</i>	Rational, but non-realistic (transcendental, idealistic)	Realistic, but non-rational (transcendent)	Realistic and rational (Biocosmological)
<i>Character of research</i>	Sectional (disciplinary)	Inter- and cross-disciplinary	Universalizing
<i>Exploratory interrelation of a scientist with the world</i>	<i>subjective–objective</i> , which is the dominating form in the current (global) scientific milieu	' <i>Subject–Absolute–Objective</i> '	' <i>Subject-Subject</i> ' – from the 'Cosmist Organicistic Hierarchical' standpoint
<i>Basic schools of rational philosophy</i>	Platonism, British empiricism, French rationalism, German transcendental idealism	Thomism, German objective idealism and materialism, American pragmatism, phenomenology, modern integral (holistic) approaches, including systems and complex science	Ancient Eastern and Greek philosophies – that are actual up to nowadays and for the future – of RealCosmist essence, Aristotelism, Russian Organicism (Functionalism)
<i>Homo sapiens</i>	Homo sapiens <i>humanisticus</i>	Homo sapiens <i>holisticus</i>	Homo sapiens <i>kosmicus</i>
<i>Ethics</i>	<i>Deontologism</i> – anthropocentric and society-centric – Ethics of inner personalist Obligation for the realization of extrinsic societal Duty. Herein, the reverse side of the medal is always the individualist hedonism	' <i>Moral holistic utilitarianism</i> ' – deliberate transcendent harmonization of interrelations of the man or society with the world, doing it " <i>in situ</i> " and " <i>just-in-time</i> "	<i>Eudamonism</i> – IndividualCosmist goal-directed self-realization of the individual's inherent (specific) talents – Ethics of universal Personalist Love and Happiness

In our way of Triadic (Triune) analysis, a key point is, to stress this moment once again, – that all the three cosmological approaches (AntiCosmist, ACosmist and RealCosmist) are equal in their significance, including the issues and foundations of

pluralism, dualism, monism and universalism they use. The results of this special comparative analysis are placed in the Table 4.

TABLE 4. Equal significance of the three main cosmologies

	AntiCosmism (Humanistics)	ACosmism (Holistics)	RealCosmism (Realistics)
<i>Pluralism</i>	<i>Transcendental</i> (Idealistic) – hegemony of the human mind (“thing-in-itself”) that defines the functional interrelations between the objects under study	<i>Transcendent</i> (Holistic) – supremacy of the certain Transcendent foundation (Absolute, which forms are God, Matter, Spirit, System, Information, Field, Energy, Pattern, or any other Transcendent substance) that determines the harmonious (well-balanced) cooperation of the life subjects (if all levels) in the given milieu	<i>Immanent</i> (Realistic) – decisive significance of the inherent functionalist wholesome agency of the conscientious subject in the one whole global Cosmic evolution
<i>Dualism</i>	<i>Epistemological</i> – which essence is the opposition of the Transcendental mind of a man to the surrounding physical (unified) world – Dualism with the surrounding world	<i>Metaphysical</i> – which essence is that the world is cognizable exclusively through the primary (spiritual) integration with the Absolute (that has created and/or sustains the world-cosmos) – Dualism with the cosmos	<i>Biocosmological</i> – fundamental unknowability of the reasons of the origination of Cosmic life processes, for, man and her/his mind is the product (the effect – means) of the organic Cosmic evolution – Dualism with originative and generating causes of the Evolutionary Process
<i>Monism</i>	<i>Physicalist</i> (Humanistic) – its basic position is that everything which exists is no more extensive than its physical properties (that are uniform)	<i>Holistic</i> (Integralist) – of the wholesome integration (through comprehension and praxeological activity) of a man into the given (harmonious) milieu that is created ‘ <i>in situ</i> ’ (in the given natural place) by the Transcendent foundation (Absolute); herein, a primary integration with the Absolute is needed on her/his personal (voluntary spiritual conscientious) level	<i>RealCosmist</i> (Realistic) – ultimately reflecting the universal inherent functionalist realization by the subject of its/her/his life destination (‘ <i>ontogenetic entelecheia</i> ’ – Basic Cosmist Evolutionary Functionality), thus realizing the individual’s immanent contribution to the One Common Cosmic Evolutionary Process (EvoProcess)
<i>Universalism</i>	Universal in the physicalist – reductionist – relation, or the subjective transcendental ‘atomization’	Universal due to the wholesome integration of a person into the given milieu – “ <i>in situ</i> ”, and, thus (due to the primary integration with the Absolute), – understanding the interrelations of the objects within the given integral (holistic) world	Universal – by virtue of explorer’s natural (inherent) ability to use her/his intuition and to grasp (and define rationally) the universal essence of the subject under exploration (i.e. its/her/his leading <i>causa finalis</i>); likewise, universal in the praxeological evolutionary relation (of the subject’s ontogenetic functionalist self-realization)

<i>Condition of the individual's activity</i>	In permanent opposition to the surrounding world – “without” the evolutionary process	In coexistence (co-evolution) with the surrounding world	<i>Within</i> the self-evolving world (Evolutionary Process), exercising the self-realization of the individual's functionalist (universalizing) destination
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Eventually, returning to the basic significance of the Three-dimensional approach to the study of sociocultural processes, proposed by Pitirim Sorokin, – we might try to compare (in metaphorical sense) his three sociocultural supersystems with the physiological biorhythm life cycles. The results are given in the Table 5.

TABLE 5

<i>In the theory of P.A. Sorokin (three main types of sociocultural supersystems)</i>	<i>In metaphor</i>	<i>In the Biocosmological conception</i>
<i>Sensate</i>	<i>Sleep</i> processes of organic reconstruction and growth	AntiCosmism (<i>Humanistics</i>)
<i>Integral</i>	<i>Constant maintenance of homeostasis</i> and the <i>Transition cycles</i> (Awakening, or the transition from Awake activity to Sleep processes)	ACosmism (<i>Holistics</i>)
<i>Ideational</i>	<i>Awake</i> immanent goal-directed activity	RealCosmism (<i>Realistics</i>)

7. The formula of a Biocosmological exploration – *Bio-3/4*

Thus, applying the method of essential metaphor (per se – modeling), and starting from the analysis of natural (physiological) life processes – we propose a universalist principle that each normal (healthy) life process (organ, organism, the individual or social body) exercises (follows) the natural universalist principles of Bipolarity and evolutionary Triadicity of life processes. Likewise, if to take into account the intermediate cycles (that make possible the end of one polar cycle and the transition to the start and domination of the other polar cycle), as well as the full completion of cycling life processes and the beginning of a new evolutionary stage in the given polar axis, – to advance the natural (cosmic) universalist principles of Tetramerous (four-membered) cycling and Pentamerous (five-membered) spiral evolutionary macro-cyclicity.

In other words, a well-being development (ontogenesis) of the individual consists in alternate change (in terms of dominance), but integral synchronous functioning (Bipolar unity) and alternate dominance of each of the two poles of integral life activity (in the used metaphor – of Sleep and Awakeness). Naturally, these two polar spheres – of assimilation and growth of living potentials, on the one hand; and goal-driven (telic, ergic) action and purposeful behavior in realization of these ready-to-use inherent capabilities, on the other hand, – are available entirely in the case of existence of the third basic foundation – organ or organism her/him/itself,

which/who self-maintains all essential life processes in the normal range of values and which/who precisely serves the basis for the very possibility of alternation of the poles and interchange of their cycles of dominance. This is the essential condition for the well-being ontogenetic development (evolution) of the man or any other subject of life (of sociocultural processes, for instance).

Particularly, we are to recognize reality of the universal principle of Pentamerous (Ontogenetic) Spiral – in the implementation of each (complete) macro-cycle – in the ontogeny of any subject of life. The prefix "macro" is to be added for the submission of concepts, because, by virtue of its versatility – each life cycle in turn consists of polar micro-cycles. For example, as we know from physiology – sleep macro-cycle (i.e. the entire period of a physiological night sleep cycle) consists of 4-6 cycles (i.e. micro-cycles), each consisting of the two alternating types (phases) of sleep – non-REM and REM sleep, which distinct features (in physiological terms) might be opposed to each other and treated as the polar ones. In the case of life cycles successful execution – in line with the Pentamerous (Ontogenetic) Spiral – the phrase “tomorrow is a new day” just becomes clear. In the same way, the (macro)cycle of Awake activity is also realized through the essential polar (sub)cycles (phases) – of the dominant expedient (purposeful) activity and the alternating phases of somnolence (sleepy states or just rest breaks that are needed for relaxation, repair of one’s strengths, recreation).

I.e., the issues that could not be resolved in the previous day – after a rest in the evening and a complete night's sleep (as well as during the transition period in the morning) – these issues can get their effective resolution (on the ideological and operational level) during the active purposeful activity of the subject in the next day, i.e. – during the fifth cycle, but related (like the first macro-cycle) to the same cosmological evolutionary (ontogenetic) axis of life development.

Eventually, one more metaphorical (of ‘essential metaphor’) example could be supposed. One could imagine her/himself as a myocardiocyte (a contractile cell of the heart, i.e. located deeply inside the organism – without any possibility to outline the whole organism with its design and laws of life). If this imagination is possible, then an explorer would recognize that every second of time s/he will go through two polar cycles – Systole and Diastole. Therefore, in the first cycle (of Systole or Cosmos itself) the subject will act (function) in accordance with the whole organ (heart) and realizing the need of the whole organism (in circulation). But in the second cycle (of Diastole or Chaos) the subject will work (function) generally in the opposite direction – i.e., at the realization of its/her/his own and the local environment’s needs (of energy and trophic assimilation, recovery and growth).

This example is good to demonstrate that both spheres of life activity are polar – radically opposite, and that they have their own systems of organization, and which are polar to each other – life systems and the goals of life activity. In the case of ‘diastole’ or ‘night-sleep’ inhabitant, – an explorer finds her/himself inside the whole organism's Sleep-cycle (which, in general, has the Dualist ‘Kantian’ essence and realizes an anthropocentric Anti-Aristotelian – i.e. non-Organicist – cosmology). At the same time, the Aristotelian – i.e. Organicist cosmology – is the next natural

macro-cycle (after the Sleep) of the whole organism's life activity.

In other words, in accordance with principle of the Bipolar Unity, each life sphere consists of the two poles of life processes organization, i.e. of the two 'cosmoses', thus – of their natural cosmologies. Indeed, it is absolutely impossible to rationally explain any 'systolic'-event in the terms of 'diastolic'-patterns, although they are the structures of one the same objective organ – heart; – for, they have their absolutely autonomous morphological structures and (extra)organic systems of their life-processes regulation and evolution.

We hope that all of the arguments presented above will help to understand the features of the proposed Biocosmological approach. In general, Biocosmological research activity can be expressed in the formula – *Bio-3/4*:

1. "**Bio**" – means *Bio-universality* and that Biocosmology uses the universal Organicist relation to the world – the position "*within*" the one whole organic Cosmos. Herein, Organicism likewise has the fundamental essence – the disclosure and use of fundamental principles that are applicable (universal) in all the levels of organization of life: vegetative, animal, human and sociocultural, and cosmist – of the individual's ontogenesis;

2. "**3**" – *Three-dimensionality* of the treatment of life processes and the application of the universal Triadic (Three-dimensional) approach in scientific study. In essence, Three-dimensionality means the synchronous existence of the three autonomous – independent from each other – spheres: the two polar, and the third that is intermediate, but has the fundamental vital significance – of the basis that permanently self-supports life processes;

3. "**4**" – *Four-causality* means the Four-causal (truly Aristotelian) aetiology and, thus, – the return and making the full use (in the scientific area) of all the 4 Aristotle's existing (cosmic) aetiological causes: *material, formal, efficient, final*; stressing their equivalence, but highlighting the leading role of the immanent causes (*c.formalis, c.finalis, entelecheia*).

8. Conclusion: To overcome the current 'cosmological insufficiency'

We fully agree with Kwon Jong Yoo that the main targets of the modern study, ultimately, are "to make a methodology for communication and mutual understanding between different cultures or between different religions or between different languages, what is more, between different sciences" (Yoo 2011:155). At the same time, a reason for the difficulties in realization the natural universalizing and all-embracing cognitive agency is evidently the phenomenon of '*cosmological insufficiency*' (using this term in a medical sense). This '*cosmological insufficiency*' significantly reduces the effectiveness of the methodological bases in modern scientific research. In the first place, the lack of perception and use of Aristotle's universalizing methodology or cosmology is meant (essentially including his four-causal aetiology). Essentially, our approach is based precisely on the restoration (return) to the original sense of the notion "cosmology" and rehabilitation of the genuine meaning (comprehension and use) of Aristotle's philosophy. A key point is that the Aristotelian philosophical system has the Organicist essence – it is based on

its own (Bio)cosmology. In turn, the proposed Biocosmological approach has the neo-Aristotelian essence. At any rate, the restoration of the true meaning of Aristotle's philosophical system, i.e. based on its own (*Bio*)cosmological basis – can be considered as an urgent task for the current scientific development.

First of all, however, we must learn to distinguish the true cosmological (Organicist) basis of Aristotle's philosophy. For instance, constructing the “emergent materialism” conception, Wilfrid Sellars preferred to deal with “the Aristotelian-Thomist theory of mind in terms of the place of the senses in the human cognitive enterprise”. Substantially, we categorically object to this approach – of Aristotelianism and Thomism mixing. In cosmological relation, as shown above, - Aristotle's Organicist (RealCosmist) approach to the study of the real world categorically differs from the AComist basic disposition of Medieval theological thinkers or the AntiCosmist paradigms of the current Modern time. In other words, we have nowadays (in the cultural world) the accepted treatment of Aristotle as a “theological” thinker who is (as commonly believed) is the ancient predecessor of modern Western philosophy and science, while the whole history of world culture is treated in the linear mode as (ultimately) the history of Western culture (with ancient, mediate and the eventual modern – Western or global – stage). In contrast to this world outlook (Weltanschauung), we state the evolutionary cyclic (spiral) development of the world (as a true one). As regards Aristotle's philosophy, he is neither AComsit, nor AntiCosmist thinker, but a genuine RealCosmist scientist and philosopher.

Biocosmology is substantially the autonomous sphere and scope of research, but, first of all, – this is a rationally well defined ‘pole’ of real life processes perception and exploration. Thus, initially, we are speaking about the vector (direction, address, course, route, way) of understanding and moving towards (or just bearing in mind the significance of) this pole and sphere of life activity. Without taking into account this ‘pole’, – the real perception of life processes is impossible.

Primarily, in our proposing the vector of Biocosmological evolution, – we are to re-establish the true significance of Integral (systemic, holistic) studies. The reason is that each Integral study naturally includes the regulative mechanisms from both poles of cognitive activity, like “Jin” and “Jang” in the Traditional Chinese Medicine). Therefore, the true organization of an Integral (systemic, holistic) study is hardly possible without the clear perception of the meaning of both poles in the given area. Currently, however, we still work in the one-dimensional (unipolar) realm and this factor causes serious restriction of our cognitive and practical possibilities.

Substantially, three cosmologies (of *Humanistics*, *Holistics*, and *Realistics*) have the equal significance for the exploration of actual issues and vitally important tasks. All three exactly are bearing jointly the potential to realize the *all-embracing* knowledge and the possibilities (perspectives, vectors, trajectories) of a safe and prosperous evolution. In this relation, we have at our disposal a weighty potential of the Russian science and philosophy, which advances exactly a universalizing (neo-Aristotelian, Organicist) approach to the resolution of actual issues. A crux is, however, that due to the existing ‘*cosmological insufficiency*’, – this

potential still stays in a ‘hidden’ condition, i.e. – hidden from the global scientific community. A key point is, therefore (as it was argued above), – we urgently need to rehabilitate and develop the Biocosmological (neo-Aristotelian) sphere of cognitive agency and, thus, to reinstate the equal significance of all three main forms of natural cosmologies – AntiCosmist, ACosmist, and RealCosmist – and their correlative (aetiological, methodological, scientific) forms.

Russian scientists in general, as it was stated above, are precisely the proponents of Aristotle’s “*fundamental functionalism*” (this notion has been coined by John Herman Randall, Jr., in the year 1960). Indeed (if to repeat some basic ones), the conceptions of “the inherent principles of a civilization” in the cyclic civilizational theory by Nikolay Ya. Danilevsky; “goal-directedness” of evolutionary processes by Karl Ernst von Baer; conceptual “sensible (wholesome) egoism” in the philosophical constructions by Nikolay G. Chernyshevsky; the physiological conception of “internal inhibition” and the basic psychological notion of “free will” by Ivan M. Sechenov; “Tectology: the universal science of organization” by Alexander A. Bogdanov; the conception of the ruling orthogenetic “internal principle” in the evolutionary theory of “nomogenesis” by Lev S. Berg; intrinsic “cyclic development” of economic processes by Nikolay D. Kondratieff; “the goal reflex” and “unconditional reflex” in Ivan P. Pavlov’s theoretical constructions; “the dominant theory” and the conceptions of “functional organ” and “chronotop” by Alexei A. Ukhtomsky; “intrinsic activity of living matter” by Vladimir I. Vernadsky and his theories of biosphere and noosphere; “the general theory of functional systems”, based on the conception of the leading significance of the inner “result of action” by Pyotr K. Anokhin; Pitirim Sorokin’s conception of the “immanent determinism” of a sociocultural system and his cyclic theory of social change (“social and cultural dynamics”); “the concept of universal functional units” in the field of evolutionary biology, by Alexander M. Ugolev; “the need-informational theory of emotions” by Pavel V. Simonov; the concept of “passionarity” by Lev N. Gumilev, and others - all of these fundamental concepts (and their psychophysiological and sociocultural conceptual constructions) mean the leading significance of organic intrinsic cyclic activity and the whole–organizing and immanent goal-directed causes (similar to the Aristotelian *causa formalis*, *causa finalis* and *entelecheia*). Essentially, these leading immanent causes that are independent of human consciousness or of any transcendental ideas, – exactly these intrinsic purposeful motive forces (in accordance with the domination of the due inherent life cycle) realize the well-being ontogenesis (evolution) of the given subject of life (bio-organism, the individual, society, state, civilization, biosphere, noosphere). Really, we might define this historical (evolutionary) phenomenon of the global scientific development as ‘*the Russian functionalism (organicism)*’.

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