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Biocosmology – Rehabilitating Aristotle’s Realistic Organicism and Recommencing Russian Universal Cosmism: Response To Arthur Saniotis

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Philosophy is a science and therefore, like every other science, it seeks to establish truths that have been strictly proved and are therefore binding for every thinking being and not only for a particular people or nation. - N.O. Lossky (1951, p. 402).

Introduction

At the very beginning, responding to the article of Arthur Saniotis (“A Reconnaissance of the Cosmos: A Critical Response to Konstantin S. Khroutski’s BioCosmology”; *EJAIB* 18, March 2008, pp. 52–56) I would like to thank the author and underline a high quality of his critical analysis of BioCosmology. Saniotis has carried out really a substantive, interesting, thoughtful and productive analysis that yield the results of new original propositions, as well as the elucidation of further possible areas for future discussion in the realm of holistic thinking. At the same time, Saniotis chiefly concentrates his attention on my first (of the year 2006) article, published in the section BioCosmology, of the on-line journal *E-Logos: Electronic Journal for Philosophy* (<http://nb.vse.cz/kfil/elogos/>). The title of this article is “BioCosmology – Science of the Universal Future” and, of course, it has a basic significance.

However, my second article (also published in the section BioCosmology) – “Arousing a Dispute over BioCosmology. A Reply to Stephen Modell” – likewise should be read carefully, moreover, this is precisely the work that originates the discussion over BioCosmology. The main peculiarity of this text is that it establishes a vector of comparative analysis of BioCosmology with the philosophy of Aristotle. Crudely speaking, the essence of BioCosmology is the rehabilitation of Aristotelian “bio-” (organic, whole, hierarchical) cosmos, in which every (living) entity has its inherent place and destination in the one whole organic self-evolving cosmic world. Substantially, the perspective of comparative relation to Aristotle’s philosophy (pertaining to the critical analysis and development of BioCosmology) was set by Stephen Modell in his previous critical response (Modell, 2006).

In fact, Modell has grasped the substantial point – the true trajectory of the discussion on BioCosmology lies in the realm of rehabilitation and reconsideration (while

addressing to the state-of-the-art empirical and theoretical achievements of the world scientific progress) of the realistic philosophy of Aristotle. One more valuable contribution in this perspective (likewise published in the *E-LOGOS*), that ought to be mentioned, – is the work by Anna Makolkin “BioCosmology as a New Sign and its Possible Meanings”, in which she discloses the great value of Aristotle’s ideas in our time. In truth, for instance, Arthur Saniotis, while exemplifying the basic law of autopoiesis by Maturana and Varela, brings about their substantial assertion: “Further, the organism is not a whole by itself, rather it results as a whole in the relational space in which it is considered as an autopoietic system through its interactions in its niche” (Saniotis, 2008:52). That is clearly the Aristotelian approach, inasmuch as it relates to the world as a heterogeneously (harmoniously, organically) self-evolving whole, with the natural position of an entity in its(her/his) place (“niche”). This approach categorically withstands with a modern dominating scientific standpoint that divides the world and establishes the dualism of Mind and Matter, as well as treats cosmos as the material unified (homogenous) space.

Current substantial misinterpretation of Aristotle’s philosophy

On the whole, in Aristotle’s approach, – a realistic exploration (physical and metaphysical, scientific and philosophical) is the integrity of rational and empirical knowledge, of noumena and phenomena, of *aposteriori* and *apriori* data. He defined philosophy as the science of the universal essence of that which is real or actual. Hence, Aristotelian philosophy has the irreplaceable significance, inasmuch as the world of our living is actually universal (which is an *aposteriori* truth, i.e. is confirmed and not rejected by natural sciences data). Instead, in the present reality, we are witnessing the situation, that “reflections on the meaning of the complex dynamical nature of living systems show an overwhelming multiplicity in approaches, descriptions, definitions and methodologies” (Van de Vijver 2003:101). At the same time, agreeing with the accurate conclusion by Anna Makolkin: “The post-Christian man misinterpreted Aristotle, who had come back to Europe via Byzantium, Moslem Spain and Papal Rome during the Renaissance. Aristotelian texts had been read in the light of the post-Christian analytical categories, tinged with Judeo-Christian and Islamic theology.” (Makolkin 2008:5). Hence, the actual task of-today is the urgent rehabilitation and development (due to the challenges of the current epoch) of Aristotle’s realistic (universal) philosophy.

First of all, we might confess that Aristotle of-today is substantially misinterpreted. For example, if to take into consideration Aristotle’s cornerstone notion “form”, which originally signifies those inherent ideas that substantively determine the origination, existence and development of any entity, – in contradistinction, a

contemporary meaning of “form” has rather the opposite sense, signifying the external superficial features of a thing, like its shape (or configuration, contour, figure, outline, etc.). The same is with Aristotle’s “cosmos” (not only in astrophysical, but precisely in ontological meaning) which is substantially more than a planetary model and is quite distinct from the modern concept of Universe (infinite, quantitative and homogeneous, where space, time, matter, and cause are absolute and uniform). On the contrary, Aristotle’s Cosmos is finite, qualitative, and hierarchically differentiated. In this Cosmos there is no space (only place), and everything is ever the combination of matter and form, while any change is based on the Four Causes (*material, formal, efficient, final*). In this order, *causa finalis* has the decisive significance – all entities in the world are basically moved and are (self)evolving due to their inner immanent (natural) goals. Thus, Aristotle has made teleological explanation the most fundamental of the four complementary ways of explaining nature.

At the present time, however, *causa finalis* (as the inner universal essence) has been deleted from the sphere of modern science, philosophy and (bio)ethics. Our actual task is to return it back, thus paving the way for the universal understanding and interrelation with the world. In this perspective, the achievements of Russian philosophy and science (which were and are badly suppressed or passed over in silence during nearly the last century) are the matter of great importance.

Cruel fate of Russian biocosmology

“All new is the well forgotten old”. In relation to Russian philosophy and science the formula is pertinent: “All new is the well annihilated «subjected to repression» old”. In other words, the disappearance of the achievements of Russian philosophers and scientists from the world scene of cultural evolution has not occurred due to natural causes (owing to a free competition of ideas and their further embodiment in personalist and public life), but this historical disaster emerged exclusively because of the “artificial” man-made causes (not programmed by the nature, but which were planned and realized by the certain persons and their public structures). To put it differently, Russian philosophers and scientists (as well as writers, poets, painters, musicians, artists) who formed the so-called stream of Russian cosmism and analogous currents, and who just realized and substantially developed Aristotelian ideas of real perception and universal cognition of the world (treated as the one common organic whole, but, now, on the contemporary higher level and stage of the world evolution) – these cultural workers have been shot, banished in concentration camps, or exiled from the country, and their major achievements have been basically withdrawn from cultural sphere and up to now totally are not admitted

into the processes (in the main cultural spheres) of public institutes building and development, including education and science.

To the point, forcible westernization of Russian civilizational evolution has been carried out since the reign of Peter the Great (i.e., since the beginning of the XVIII century) and continued during the further monarchical reigns, and this “general perspective” seriously reduced possibilities of the realization of Russian inherent civilizational potential. However, in the XXth century (since the 1917, during the Bolshevik dictatorship), the essential conditions have been worsened dramatically, inasmuch as Russian civilizational evolution has been broken by the violent total suppression of its inalienable cultural potentials (as well as by non-admission of the other world-wide cultural achievements). The suppression of true inherent Russian culture (and, hence, the breaking of the world evolutionary development of Aristotle’s basic philosophical principles) has been fulfilled in favor of Western Marxism, executed in the name of Marxism-Leninism and within the dogmatic principles of Soviet Marxist Philosophy (dialectical materialism). To implement this, there were framed the punitive social institutions that repressed opposition to Soviet ideology, including GULAG (the government agency that administered the penal labor camps), GLAVLIT (Soviet censorship organ), the forcible “psychiatric treatment” of dissidents (otherwise-minded), etc. Herein, the conclusion of Nicolei Lossky is relevant (made by a prominent Russian philosopher in the 1951, already in the emigration, for, Lossky was exiled from Russia): “Dialectical materialism is the only philosophy allowed by the Soviet Government. A philosopher who attempted to write a book or an article in a different line of thought could not have his work published and moreover would be in danger of being sent to a concentration camp. As soon as Russia becomes free of the communist dictatorship and has freedom of thought, there will at once appear many different schools of philosophy just as in any other free and civilized country” (Lossky 1951:408).

Only since the late 1980s and early 1990s, during the periods of “Glasnost” and “Perestroyka” and the further “democratic reforms”, – there appeared (in Russia) the conditions for the free development of philosophical ideas, both Russian and World (chiefly, Western). However, again the balance has run into the unfavorable condition for the development of Russian cultural heritage, including the development of Russian scientific achievements, realized in the conceptions of Sechenov, Mendeleev, Danilevsky, Ukhtomsky, Bogdanov, Vernadsky, Kholodny, Sorokin, Anokhin, Chizhevsky, Ugolev, Gumilev, Simonov and many other (which bear the essence of neo-Aristotelism). The reason is that the current sources of Western philosophy and science is enormously more influential (in financial aspect, first of all) than the surviving sources of

Russian culture. Therefore, in outcome, in current Russian reality (cultural life) we have, of course, the overwhelming predominance of Western civilizational ideas and dispositions over the natural inherent Russian position and perspective in the world development. Not surprisingly, therefore, that Arthur Saniotis, as well as any other scientist in the world (including a major part of Russian philosophers and scientist themselves), – have not any other chance for the exploration of organic wholeness of the world but the use of a Western standpoint (world outlook), inasmuch as the achievements of Russian philosophy and science, which develop Aristotelian ideas of realist and rational (universal) approach to the world (i.e., which deal with and develop Aristotle's immanent teleological essentialism), – these ideas and conceptions still are unavailable for a explorer and, thus, – for the world cultural development on the whole.

Indeed, for more than 300 years Russian civilization undergoes the crudely unfavorable conditions for the natural origin and development of its inherent cultural potentials, including the horrific period of the Bolshevik dictatorship in the XXth century, since the 1917 (that caused, in brutish manner, the artificial break of the evolution of Russian civilization and its influence on the world development). To my strong opinion, the lack of the harmonizing influence of Russian culture on the world evolution in the XXth century is one of the main factors of the occurrences of two brutal world wars and the entire world confrontation in the XXth century, as well as the appearance of the 11 global paradoxes (crises), the characterization of which is given in my previous works (Khroutski, 2007–2008).

The important negative result (in this course of world affairs) is that still the account of the significance of Russian civilization for the world culture is realized exclusively from the Western standpoint that treats Russian culture as the peculiar (queer) phenomenon (which is chiefly explained by its specific religiosity or mysticism), but which has strongly emerged in the general way of the world cultural development and movement to the “omega” point of mature Western civilization (with its cultural achievements: technological progress, free market, liberal democracy, etc.) – the “end of history” (“end of philosophy”). This is a typical *presentist* point of view, which is, metaphorically, – a kind of sleep (of “dream” or “hallucination”). In reality (in the cycle of ‘wakefulness’), we might always remember that a human life and human life activity is ever the product (creation) of natural (cosmic) evolution, but not vice versa. In fact, we (every living subject) are the constituents of the evident (due to the natural sciences data) one common whole cosmic evolutionary process of the life on Earth (EvoProcess, briefly). Within EvoProcess, substantially, a man is ever an organ (like a cell in the organism), which naturally has its self-dependent functionalist evolution. Therefore, in the realistic dimension, a human mind (consciousness), as

well as any other living entity is ever a functional means (but never – the end) and, thus, – ever being (and functioning) in the triadic process (micro- and macro-evolutionary) of the realization of its/her/his inherent emergent past, present and the future stages of autonomous evolution.

Likewise, Russian civilization is a natural autonomous organ (but which still is artificially suppressed) within the one common whole world organism (which might be treated as Cosmos, or Godmanhood, or World, or Universe, etc.). The cornerstone point is that the natural (healthy, self-sufficient) functioning of this organ (of Russian culture) is the essential condition for the universal well-being of the entire world, for, nobody else at present (in the modern times) is concerned with the rehabilitation and practical implementation (on the due evolutionary level) of Aristotle's true physical and metaphysical principles, aimed at the realistic universal cognition of the world.

Biocomological unity of Russian philosophy and science

Substantially, there is no fundamental difference between Russian religious and secular philosophy. I defend in my works that Russian culture has basically the *organicistic* (*biocosmological*) essence, which roots are taken in the World (Ancient, Eastern) cosmism (holism). In turn, the stem of Russian biocosmology is constituted by the fundamental ontological, gnoseological and axiological principles: of ontological *organicism* (*cosmism*, *universalism*, *holism*, *pan-unity* or *all-unity* – of treating any actual entity as the *microcosm* in the one common whole universal organic *macrocosm* or Cosmos); *anthropologism* or *personalism* (stating that, at present, every man is the crucial agent of the one self-evolving world or Cosmos); and *triadic futurologism* or three-stage emergent futurology (of studying the autonomous (in their organization) Past, Present and the emergent, sought for – naturally required, desired, needed – Future).

Likewise, the gnoseological (core, fundamental) foundation of Russian biocosmology is the principle of “*zhivoznanie*” – *epistemological realism* – in the various forms of *integral knowledge* (“tsel’noe znanie” – the term, for the first time coined by V.I. Solovyov) or of *intuitivism* (the notion of Lossky) that integrates “the subrational aspect of the world (sense qualities), its rational (or ideal) aspect, and the superrational principles”, thus combining “sensuous, intellectual and mystical intuition” (Lossky 1951:404). (In turn, “*zhivoznanie*” – ‘LifeCognition’ – is the term of Slavophiles who urged that our knowledge of reality is immediate. “*Zhivo-znanie*” (‘LifeCognition’) is represented in Russian gnoseology in the different forms, all of which “discard the Western belief that sense data are subjective mental states of the observer,

and admitted their transsubjective character” (Lossky 1951:404).

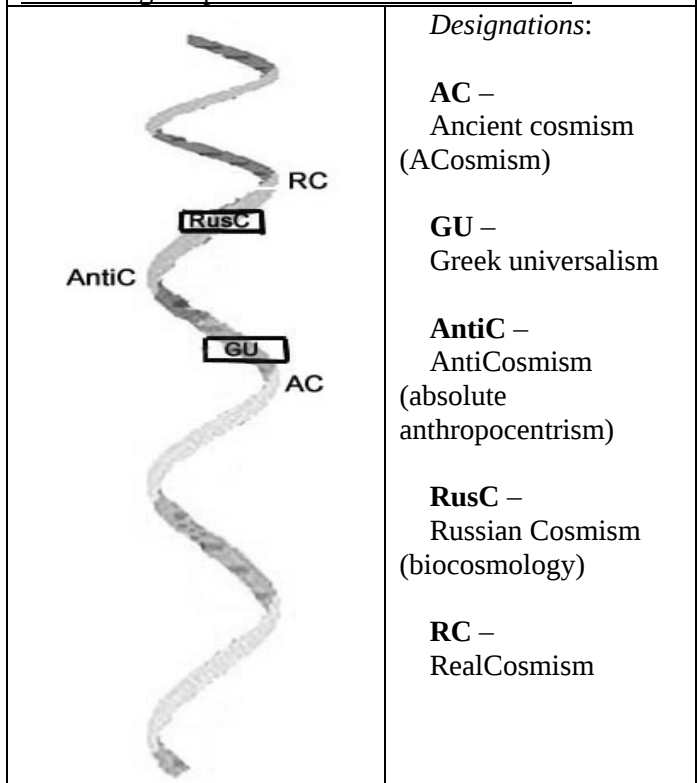
Finally, we have the axiological cornerstone (biocosmological) principle of *anthropocosmism* (the conception with this name was basically developed in the middle of the XXth century by N. Kholodny) – a person is the decisive active-evolutionary functionalist element of the one actual self-evolving world (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 1982:44). This judgment reflects a cornerstone of Aristotelian (as well as of Russian biocosmological) approach: a person is *within* (but *not without*) the cosmic evolutionary process of the life on Earth, hence, s/he is really the *microcosm* (similarly to the views of Eastern or Ancient philosophers) but, distinctly, in biocosmological realm, – a man is the personality who is not only integrated, but, likewise, is the decisive (creative) element of *macrocosm* – self-(macro)evolving Evolutionary Process (EvoProcess).

Hence, having taken roots in the ancient cosmism and centered over the stem of basic cosmism – ontological, gnoseological and axiological – fundamental principles (of pan-unity, anthropologism (personalism), triadic futurologism, integral knowledge (zhivoznanie) and anthropocosmism) – the branches and fruits (of the ‘tree’ of Russian biocosmology) have sprung up in the forms of various achievements of Russian culture, both “religious” and secular. The former are represented at least by the conception of Sobornost and “zhivoznanie” by Slavophiles (A. Khomyakov and I. Kireevsky, first of all); “pan-unity”, “Godmanhood” and “integral knowledge” by V.I. Solovyov; cosmology of N. Pirogov; Sophiology of S. Bulgakov; “Soil Conservatism” of F. Dostoevsky; original philosophy of L. Tolstoy; “The common task” of N. Fedorov; Personalism of N. Berdyaev, L. Shestov, L. Lopatin, and others; Ontologism of S. Frank; Intuitivism of N. Lossky; the “metaphysics of all-unity” of brothers Trubetskoi, L. Karsavin, P. Florensky; and many others. The latter (biocosmological essence of Russian secular philosophy) is brightly expressed in the “organicism” of D. Vellansky and A. Galich; “cosmism” of D. Mendeleev and I. Sechenov; “revolutionary-democratic” conceptions of the so-called “westernizers” – A. Herzen and N. Chernyshevskij; the “subjective school in sociology”, created by the so-called “narodniki” (Russian populists) – P. Lavrov and N. Michailovsky; the philosophy and theory of “cultural-historical types” by N. Danilevsky and K. Leontiev; Anarchism of M. Bakunin and P. Kropotkin; philosophical conceptions of nature – “ortobios” of I. Mechnikov and “nomogenesis” of L. Berg; “tectology”

of A. Bogdanov; “cosmic philosophy” of K. Tsiolkovsky; philosophy of social sciences of P. Sorokin; L. Gumilev’s “theory of passionarity”; Biosphere and Noosphere of V. Vernadsky; Heliobiology of A. Tchizhevsky; ecological conceptions of N. Moiseev and others; and, eventually, the conceptions of modern (Russian, universal, biocosmological) functionalism – of A. Ukhtomsky, P. Anokhin, A. Ugolev, P. Simonov – which are the matter of special interest and study from the standpoint of author’s BioCosmology (this issue is characterized below).

The scheme shown in Figure 1 shows similar positions of Greek universalism (firstly, of Aristotle’s philosophy) and Russian cosmism (biocosmology) in relation to “the general ascending – Cosmist – axis (vector)” of world evolution. At the same time, these cultural eras (cycles of world cultural development) clearly have the opposite axiological directions – of “theocosmism” or “cosmobiology” (paving the way ultimately for the sphere of modern anthropocentrism or AntiCosmism) and, in turn, – of “biocosmology”, naturally required for the Future anthropocosmism – the essential foundation of the sphere and era of RealCosmism.

Figure 1: Positions of Greek universalism (cosmobiology) and Russian cosmism (biocosmology) in the integral spiral evolution of world culture



Meanwhile, in the conclusion of this part and with reference to cosmological substantiation, the idea of a (macro)evolutionary spiral (as a metaphor of the one

common world cultural process) is advanced. Substantially, this 'evolutionary spiral' transcends (during its ascending movement) the polar cycles of human basic world-viewing and relation to Cosmos – from ancient cosmism (or ACosmism) to modern anthropocentrism (or AntiCosmism) and, further and again, to present and future cosmism (RealCosmism). The given below scheme strives to simplify the perception of this thesis. To the point, herein, the compression of the turns in the current and future times reflects the apparent acceleration of cultural processes. As Ervin Laszlo asserts, "in the past, a more adapted civilization evolved over several generations; the rhythm of change was relatively slow. This is no longer the case. The critical period for change today is compressed within a lifetime of a single generation" (Laszlo 2001: 46).

Modern (Russian, biocosmological, universal) functionalism

Russian psychologist and historian of sciences M.G. Yaroshevsky substantiated the "Russian way" in the world science, which brought about the emergence of *behavioral science* that is radically different "from psychology of consciousness, on the one hand, and from neurophysiology, on the other hand" (Yaroshevsky 1995, 5). Really, Sechenov had revealed the phenomenon of "central inhibition" that showed clearly the integration of central nervous activity (including the qualities of "soul") into the whole behavioral activity of a person. Further, I.P. Pavlov elaborated the theory of conditioned reflexes ("conditioned", i.e. centrally organized). However, the cornerstone moment is the origination of the notion of "*functional organ*" by A.A. Ukhtomsky, the forerunner of his famous *theory of dominanta*. The Russian scientist gave a strict definition to his concept of a *mobile, whole functional organ*: "we used to bind the notion «organ» with the representation of a morphologically developed, static and constant formation. It is absolutely not obligatory. Organ can represent any temporary combination of the forces, capable to carry out the certain achievement" (Ukhtomsky 1978:95).

The revelation of the physiological mechanisms of "central inhibition" (by I.M. Sechenov) and the following conception of "functional organ" (by A.A. Ukhtomsky) unraveled the integrated nature of an organism's behavior in the environment (world) and worked the way to the other functionalist achievements in the Russian physiology and psychology (the *general theory of functional systems* by P.K. Anokhin, the *conception of modern functionalism* by A.M. Ugolev, the *need-informational theory of higher nervous activity* by P.V. Simonov and the other). For the purpose of more detailed characteristic, we are to decide in favor of Petr Anokhin's scientific work, inasmuch as his theory, probably, is the most elaborated conception in the area of modern (biocosmological)

functionalism. Characterizing a distinguished contribution of P.K. Anokhin to the world science, Professor K.V. Sudakov, a leading specialist in the area of functional systems approach in contemporary Russia, highlights "universality, constructivity, and practical usefulness of the principal scheme of the functional system... According to this theory, a functional system is an elementary integrative unit of any activity ending with a *useful result*. It makes the functional system an isomorphic (i.e. – universal. – K.K.) principle for systems of different classes which end with a useful result." (Sudakov 1998:171).

The definition of a functional system is the following: "Functional systems are dynamic, self-organizing and autoregulatory central-peripheral organizations the activity of which is aimed at achieving adaptive results useful for the system and the organism as a whole." (Sudakov 1995). A cornerstone point is that Anokhin's notion of a functional system differs radically from the notion of a classical system. In his time, P.K. Anokhin emphasized that "overwhelming majority of researchers do not attempt to penetrate into the internal architectonics of a system – to make a comparative estimation of the specific properties of its *internal* (italics mine. – K.K.) mechanisms» (Anokhin 1973:31). K.V. Sudakov sets out the essence of this issue: "Just the being (entity) of a system-formative factor – the result of activity – radically distinguishes functional systems from the system organizations of the classical type formulated by L. Bertalanffy" (Sudakov 1997:48). It is clear that we have herein the direct analogy (and the development) of Aristotle's conceptions of *causa finalis* and *entelecheia*. (Aristotle's entelecheia – from *en* (in), *telos* (end, or purpose) and *echein* (to have) – denotes "having one's end within" and signifies something's essential potential that is capable of and determining its own spontaneous (but in the due time and condition) full self-actualization).

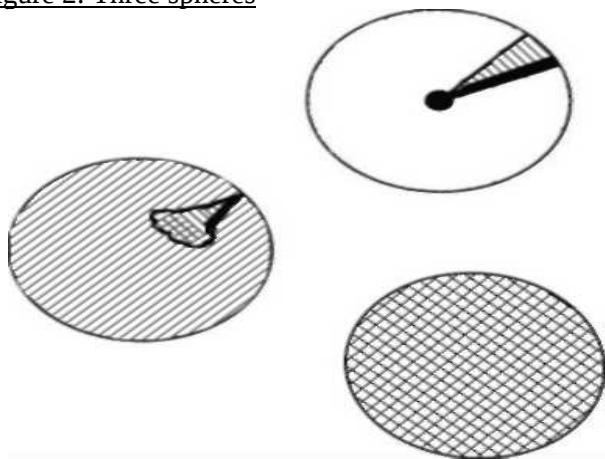
Three autonomous, constantly active spheres of human cognitive and practical activity

On the basis of aforementioned conceptions, we might advance the idea of the three autonomous (emergent) spheres of human cultural activity, which are forever required and active for a personalist (societal, ethical) cognitive and practical agency. This metaphor is expressed in the scheme given in Figure 2.

These three spheres likewise designate (in relation to the fundamental ontological, gnoseological and axiological bases of Russian biocosmology) the three evolutionary levels of modern scientific activity. The First (bottom) level and sphere pertain to Ancient (Eastern) holism (cosmism) that conducts a *realistic* (treating the world as a universal whole) but *irrational* approach (lacking the reduction of knowledge to a rational substance). In the expression of Prof. Sakamoto, the cognitive activity of a man in this sphere is driven by "the *Asian ethos and wisdom*" (Sakamoto

2004:489). As regards bioethics, this area is brightly exemplified by the original conceptions of “bargain consensus” and the “social tuning technology”, which were created by Prof. Sakamoto and presented by him at the Fifth Asian Bioethics Conference in Tsukuba (2004), and which are aimed at the resolution of conflicts of any type and realisation of the harmony in (future) global bioethics.

Figure 2: Three spheres



With respect to biomedicine, this is the sphere of activity of the so-called ‘organismic’ medicine (in the forms of Hippocratic, neohippocratic, post-neohippocratic, and the current forms of alternative medicine – Homeopathy, Acupuncture, Osteopathy, Vitamin Supplements, etc.), which treats a patient as a whole (as organism – *microcosm*, integrated into the given environment – *macrocosm*), whose disease is generally considered as the imbalance of her internal harmony. The humoral theory of Hippocrates himself – Father of medicine – is a bright example of the ‘first – organismic’ medicine. Significantly, Hippocratic medicine shows general agreement with Traditional Chinese Medicine. The substantial quality of Hippocratic medicine (and the derived modern complementary forms) is its holistic (organismic) and health-centric essence, which is realized, however, within the *presentist* world outlook – within ‘the given’, thus denying the ‘the evolving’ substance of a person. Noteworthy, Hippocratic principles in medicine, including biotypology, survived more than 25 centuries (and continue to develop) in the world history, having presented the remarkable achievements in integrative constituting of human organism – from Hippocrates, Galen, and Paracelsus up to Pavlov, Jung, Kretschmer, and Sheldon.

At the second level and in the second sphere – of (post)modern philosophy and science activity (which clearly dominates in the world since the XVIII century) – the cosmology of anthropocentrism (i.e. – of AntiCosmism) has the absolutely dominating significance, thus generating the entire spectrum and grand scale of the current technological progress, which

is not in a need of extra comments. Substantially, the achievements of Russian functionalists (Sechenov, Ukhtomsky, Bogdanov, Anokhin, Ugolev, Simonov), as well as the advances of systems and hierarchy theorists and the progress of complexity scientists, including the promising position of A. Saniotis himself (of all, who study the non-linear processes of integral natural and life phenomena, and whose proposals are based on the theories of chaos, fractals, catastrophes, etc.), – might be treated as marginal and non-determinative (counting at the best on interdisciplinary interaction with the generally recognized – mainstream, anthropocentric – paradigms and theories), but which have the essential transitive character and role (for the future holistic philosophy and science) in the integral development of world culture. Substantially, the Second sphere enables the *rational* (subdued to the empirical evidence and logical reasonableness), but *unrealistic* approaches in philosophical and scientific domains, inasmuch as it establishes (due to its fundamental anthropocentrism) the dualistic separation of a man’s mind (consciousness) from the world’s reality (which is *a posteriori* holistic – all-in-one) and, thus, legalizing the enormous pluralism of human idealistic interpretations of the world.

Characterization of the bioethical issues, as concerns this Second sphere, was given in my previous work for the *EJAIB* (Khroutski 2007). As regards biomedicine, the ‘Second – Western’ (‘organic-pathological’), modern scientific medicine is based on the *subject-object* exploration of Aristotle’s *causa materialis*, *causa formalis* and *causa efficiens*, and the rejection of *causa finalis*, i.e. – on the basic studying of extrinsic factors, thus being *bio-* and *morpho-*centric, as well as *socio-* and *environment-centric*, and, ultimately, bearing the *pathocentric* essence in relation to a human being. In contradistinction (to holistic medicine), a person is viewed here as an average patient – a *statistical* (bio- or social) *norm* (without any peculiar intrinsic and organismic peculiarities). The primary significance is placed on the external factors which cause a disease – infectious, traumatic, other environmental causes. Hence, this is precisely the medicine of disease (which, of course, is absolutely necessary), but not the medicine of individual’s health, of her/his ontogenetic well-being. A vivid example, herein, is the definition of blood types in humans, unnecessary to a healthy person, but absolutely necessary in the certain pathological situations. Another relevant example is the modern pharmacogenomics and the knowledge of the genetic basis (with respect to the diseased person) – her/his genetic profiles – of a drug response, that allow specification of drug prescriptions instead of trial and error.

Ultimately, at the Third level and sphere, biocosmological fundamentals (the basic ontological, gnoseological and axiological principles – of pan-unity, personalism, triadic futurologism, integral (of the unity

of empirical, intuitive and rational) knowledge, anthropocosmism – i.e. of *realistic* and *rational* relation to the world) – take on the status of a central nuclear core of the entire life (including cognitive and practical) activity. Henceforth, RealCosmism acquires the ‘legal’ determinative significance, thus opening the colossal realm (yet unexplored – “white area” in the “map” of scientific discoveries) and prodigious perspective for the growth of any cultural trend, including firstly the philosophical and scientific domains. Naturally, the already existing functionalist (of integral knowledge) scientific achievements (methodologies) of Russian scientists (Ukhtomsky, Bogdanov, Anokhin, Ugolev, Simonov) will take on a special significance, serving as the primary point of reference.

As well as author's BioCosmology might pretend to be useful in the realization of this global perspective (of general turning to the realistic and rational – *universal* – cognition of the world). Substantially, BioCosmological approach cardinally transforms the ethical preferences. Indeed, anthropocosmism means the ‘*ethics of love*’ – the basic significance of “reasonable (judicious, sane) egoism” (in the term of N.Chernyshevskij – of satisfying (accompanied by positive, gratifying emotions and feelings) realization by a person (during the entire ontogenesis) of her/his Basic Cosmist Functionality (‘ontogenetic entelecheia’). This is the radical opposition to current (Kantian) “(bio)ethics of duty”, which is the reflection to the requirements ‘*from without*’ (like Kantian “categorical imperative”), while the ‘(bio)ethics of love’ is the expression of natural life impulses ‘*from within*’ (thus, in turn, we are dealing herein with the types of transcendent and immanent essentialism). In this approach, we are to refer and reconsider the significance of Darryl Macer's conception of the “Bioethics is love of life”, wherein “key to life is love of life” (Macer 1998:5).

As regards biomedicine, the Third (biocosmological) sphere opens the real perspective for the realization of a true medicine of individual's health (personalist medicine); firstly by bringing forward the fundamental principle of *CosmoBiotypology*, another cornerstone of the whole Cosmist theoretical edifice. *CosmoBiotypology* may be treated as a concrete biocosmological law, which states that each living subject on Earth is a natural (more accurately, *cosmic*) *function* of the higher-level congenerous subject and ultimately of EvoProcess itself. Therefore, every living subject on Earth naturally bears the biotypological traits of this intrinsic basic functionality and naturally relates to the appropriate ecological-social environment (the analogy to Aristotle's notion of “place”). In other words, this principle establishes the functionalist identity and, thus, the universal meaning of the three macro-orders of man's entire wellness: satisfying subjective feelings and perceptions; adequate position in the social-ecological environment; and biological constitution or biotype. The latter precisely serves to the fulfilment of a person's BCF – *basic cosmist*

functionality (which is the first basic inherent need – *entelecheia*, and the self-realization of which is the basic condition for the entire healthy ontogenesis of a person). Thus, the CosmoBiotypological principle aspires to universalize biomedical, social, and human knowledge – to rationally unite a person's subjective knowledge with the objective knowledge about her/him, hence – to unite previously incompatible scientific and humanistic paradigms.

Conclusion

The substantial point is that Russian biocosmological culture on the whole and author's BioCosmological conception, particularly, – fully correspond (in ontological and gnoseological aspects but substantially differ in axiological perspectives) to Aristotle's realism, practically carrying out the rehabilitation of his philosophy that perceives the world (cosmos) as “bio” (organic) whole, and wherein *teleological causality* (immanent essentialism, fundamental functionalism) occupies the primary positions. Therefore, Russian biocosmological culture (with its core principles of *organicism*, *personalism*, *triadic futurologism*, *integral intuitive knowledge* and *anthropocosmism*) represents a world evolutionary phenomenon and cultural process that is essential (as author strives to reveal in his works) for the future well-being evolution of the global world. The gist of the issue, however, lies not in the nationality, but precisely in the need of effective rehabilitation (in line with the contemporary tremendous scientific achievements) of Aristotle's universal consideration of the Earth's world with all its (living) entities and processes.

The author attempted to disclose in this work that the long epoch of the “westernization” of Russia has eventually brought about the unfavorable results of cultural stagnation in Russia (and in the whole world, accordingly). Hence, nowadays, the task of the rehabilitation of Russian inherent civilizational (biocosmological) potential (and, thus, the restoration and development of the evolutionary potential of Aristotle's philosophy) becomes the urgent task for the global culture. At any rate, however, this grand task is a matter for a special – thorough and substantive – exploration (and discussion). Meanwhile, in this response to A. Saniotis's interesting contribution to the discussion over BioCosmology, I chiefly tried to focus attention on the cosmological bases (primary dispositions – Cosmist and AntiCosmist, that determine the essence and results of scientific activity), as well as to shed light on the evolutionary ‘logic’ of their natural evolutionary emergence. To author's firm belief, at present and henceforward, the exploration and understanding of these issues take on special significance for resolution of the issues of integral (universal, rational) cognition of the living world on Earth, firstly of a person's well-being ontogenesis.

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Darwin – Wallace Saga: Ethics in Research

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Some significant celebrations are quite close now. In 2009 biologists will be celebrating the bicentennial anniversary of Charles Darwin's birth (date of Darwin's birth: 12th Feb. 1809) and 150th anniversary of publication of Darwin's "Origin of Species" (the book was published in Nov. 1859). Establishment of the natural selection theory of evolution as a scientific theory has proved to be a turning point and a revolutionary step in the history of biology. Hewett Watson, a noted botanist of that period, wrote to Darwin soon after the publication of "Origin of Species", "Your leading idea will assuredly become recognized as an established truth in science, i.e. 'Natural Selection' ... You are the greatest revolutionist in natural history of this century, if not of all centuries". The optimism, expressed by Watson, has not only survived through one and a half centuries, but also it has been much strengthened by cogently explaining all biological observations and phenomena. Moreover the concept of natural selection is entering the realm of molecular biology (Yuan et al., 2005; Joyce, 2004; Paegel et al., 2008).

Recently Beccaloni and Smith (2008) have pointed out that, when we plan next year Darwin's anniversaries, we shall be downplaying Wallace's role in formulation of the Natural Selection Principle.

The Darwin-Wallace saga has something very relevant to the present scenario in the field of research. Hence it would be useful to recall the history of development of the Natural History concept.

When Darwin returned from his famous scientific voyage on HMS Beagle in 1838, he had a load of interesting observations in the various parts of the world, visited. He got his experiences published in his book "Journal of Researches" in 1839. After sometime in London he moved to his country residence in 1842. Escaping the excitement and bustle of London and having a restful time in his country home, he pondered over his recorded observations and reached his Natural Selection concept. While he was diligently and analytically arranging evidences supporting the concept and was preparing a voluminous manuscript of a proposed book, he received the script of an essay from Alfred Russell Wallace on his concept of mutability of form through selection.

Wallace was a zoogeographer, and had extensively traveled in the Malay Archipelago. When he was lying