

FORMING AN EVOLUTIONARY VECTOR TO THE ARISTOTELIAN POLE OF SCIENTIFIC ORGANICISM (BIOCOSMOLOGY)

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*We cannot solve our problems with the same thinking
we used when we created them.*
Albert Einstein

ABSTRACT. Supporting Saniotis' and Henneberg's "challenging long held assertions of Platonic essentialism and biological reductionism within evolutionary biology", as well as the reality of "a scientific myopia" of the contemporary science, and their claim to the "rise of system and epigenetic approaches" – this critical response likewise aims at the introduction and encouragement of the Triune (Three-dimensional) development of the modern scholarly endeavor. In general, the formation of an evolutionary vector to the Aristotelian pole of scientific Organicism² is undertaken. In this way, the Triadic formula 50-(Physicalism)/10(Organicism)/40(Integralism) is proposed to consideration (and the use) by scientific community. Herein, our chief aim is the prompt introduction into the actual scientific work of all the three – real autonomous – spheres of scholarly endeavor (of Physicalism, Organicism and Integralism).

KEYWORDS: essentialism, physicalism, organicism, integralism, Aristotle's pole of scientific Organicism, fundamental functionalism, Triune, Triadic formula of scientific activities, Biocosmology

1. Introduction

First of all, we are to acknowledge gratefully that Arthur Saniotis and Maciej Henneberg, in their paper "Conceptual Challenges to Evolutionary Biology: A Necessary Step" – have done excellent work that is rich in profound and thought-provoking ideas, and really launches the fruitful discussion on the topics of evolutionary theory (in broad sense). Authors highlight and critically consider the valuable notions – of "Platonic essentialism" and "biological reductionism" – analyzing their strengths and weaknesses in the practice of current scholarly

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² Prescribing certain terms and concepts with a capital letter indicates that they belong to the true (Aristotelian, original for scientific investigations) Organicism.

endeavor. Fully upholding their “challenging long held assertions of Platonic essentialism and biological reductionism within evolutionary biology”, as well as the reality of “a scientific myopia” of the contemporary science, and their claim to the “rise of system and epigenetic approaches” – our general aim is likewise to develop *in extenso* Aristotle’s essentialism, which is purely opposite (polar) to Plato’s essentialism (but which both are evolutionary essential); and, in general – in realizing the restoration and full development of a Triadic (Triune, Three-dimensional) approach to the development of modern scholarly endeavor.

2. Two polar types of essentialism – Plato’s and Aristotle’s

Primarily, we have to admit the obvious fact – there are two opposite (polar) types of essentialism in modern scholarly realm: Plato’s (currently dominant) and Aristotle’s (left out of focus).

Not without purpose, authors state that “this reductionist approach has been repeatedly shown to fail with regard to the understanding of human life where radically different holistic approaches have been advocated to be more effective”, but, “this, however, is the domain of humanities” (Saniotis and Henneberg, p. 8). Indeed, “anthropology” (by definition) is the scientific study of the origin, the behavior, and the physical, social, and cultural development of humans; and that it naturally has origins in humanities, the natural sciences and the social sciences. Thus, in fact, anthropology naturally is the all-embracing science. At the same time, and this is the clear ‘*global anthropological paradox*’ – modern science is unable to advance a proper methodological foundation – adequate for the essential (all-embracing, universalizing) anthropological cognition of the world.

The reason of this inability is evident for us – this is the emerged and developed (during the last centuries) and still persisting ‘*cosmological insufficiency*’, caused by excessive dominance (in fact, monopoly – dictate) of the Platonic essentialism and Physicalist reductionism. Therefore, our actual issue, now, is to develop the understanding of the current “scientific myopia” into a wider magnitude – of the ‘*cosmological insufficiency*’ (the latter, in medical meaning) – of the loss (inability) to perceive the significance of the pole of Aristotle’s scientific Organicism (primarily, Aristotle’s essentialism).

In this way, our first step might be a clear distinction between the two polar forms of essentialism – Plato’s and Aristotle’s, which have the opposite meaning to each other. We can use a table (below) – to highlight the differences:

Table 1.

Plato's essentialism vs Aristotle's essentialism

<i>Plato's essentialism (PE)</i>	<i>Aristotle's essentialism (AE)</i>
<p>PE basically has the idealist (dualist) essence – it is centered over the primarily Idealist perception (of the ideas of Transcendent and Transcendental origin) – representation of the empirical resemblances of the perfect ('real') idea of a thing under study (its "holotype" – ideal or abstract form, of which individual objects are mere facsimiles). Substantially, therefore, empirical characteristics of the studied object just represent a range of "resemblances" of its ideal (perfect) prototype – the subject-matter for mathematical analysis (logics), thus – creating the modern dominating <i>physico-mathematical</i> methodology of research. The latter essentially integrates physicalist approach (reductionism) and mathematical (abstract, based on Plato's idealism and dualism) processing of the empirical data.</p> <p>This PE-type of cognition realizes basically the <i>abstract-quantitative</i> approaches to rational cognition, and uses the <i>explanatory</i> mode of scientific understanding of the real world, describing through mathematical analysis the extrinsic attributes and interrelations of the tangible objects.</p>	<p>AE has the opposite meaning and basically has the realistic (universalizing) essence – intrinsic and dynamic (cyclic) – centered over the substance of the given individual (thing, entity, subject) under study. The latter always conforms to the cornerstone principle of <i>hylomorphism</i> (stating that material and non-material causes of its/her/his existence and development are inseparable – always integrated into the one substantial whole), but wherein the goal-driven causes (i.e. <i>causa finalis</i> and <i>c.formalis-entelecheia</i>) have the leading significance. Substantially, these teleodiven causes of the entity under study (and, therefore – of its/her/his individual wholeness and the integrity with the surrounding world) – is the direct subject-matter for rational cognition, by means of the integration of all the three main modes of knowledge: empirical research, intuitive thorough grasp, and the rational logical construction of the conceptual edifice.</p> <p>This AE-type of cognition realizes basically the <i>Noospheric-qualitative</i> approaches to rational cognition. It uses the <i>definitive</i> mode of scientific understanding of the real world, i.e. the definition of the intrinsic teleodiven causes (of the individual under study, which is empirically evident) has the primary significance for the entire conceptual edifice.</p>

3. Aristotle – the founder of the Four-causal universalizing aetiology and scientific Organicism

Biology of today is evidently based on Plato's essentialism and derivative physicalist (biological) reductionism. At the same time, the latter uses precisely the Aristotelian aetiology (although in the shortened and misrepresented form). In other words, the true Aristotelian aetiology is four-causal and teleodiven, while, in the physicalist sphere – the three-causal aetiology is used, wherein teleodiven causes are removed from the scope. Thus, admittedly, Aristotle's original aetiology and the derived Bio-(Organicist)-physics is indeed the basis for the modern anti-Aristotelian (based on the Platonic essentialism) Physicalist physics. However, the basic (Organicist) significance of Aristotle's Bio-physics has been artificially removed from the field of view of modern scientific community. This result occurred (as it is argued below) due the historical (specific) dynamics of the global cultural (scientific) development.

In the outcome, the Aristotelian essentialism – that is based on the natural perception of the inherent (inalienable, integral, intrinsic, immanent³) essences (qualities) of an entity under study, i.e. of the intrinsic causes (forces) of the entity's movements (growth, evolution, ontogenesis) – these approaches (based on Aristotle's essentialism) are currently removed from the scene of scientific research. The more it is important that Saniotis and Henneberg focus our attention on the important conclusion made by Mistelli (*italic mine.* – **K.H.**): “The properties that determine the organization are the *intrinsic* properties of the structure's components” (p. 12).

In fact, the time has come (long ago) to advance (rehabilitate) and treat Aristotle's philosophical system (as a whole) at a higher (generalizing) level. First of all, we always are to remember that Aristotle is the founder (“Father”) of modern science, and that this fact is recognized around the world. In other words, precisely Aristotle is considered to be a founding father of many schools of philosophy, law, science, and ethics. Generally, however, there is a substantial distinction between his and Plato's legacy. Significantly, Plato is referred to as the Father of Philosophy, while Aristotle is considered precisely to be the Father of Science and the originator of the scientific method. In fact, Aristotle is regarded as the father of various modern scientific fields: biology (mainly due to his zoology studies), psychology (by his book *De Anima* – “On the Soul”), logic (Aristotle was the first to develop a formalized system of science), of jurisprudence (by his “natural law” theory), of political science, of economics, etc.

An essential moment is that Aristotle is not a philosopher in the modern sense of the word, i.e. not a researcher of the “objects of human consciousness” (abstractions, speculations, pure logical constructions, etc.); and who (a philosopher) is opposed to modern science (and scientists) involved in the objective study of empirically evident phenomena and processes of the real world. Aristotle was precisely the explorer who integrated philosophy and science into the one whole cognitive body of knowledge (dealing with the one whole real world). He created the method of knowledge that is based on empirically evident matter (he likewise is recognized as the Father of Empiricism); and, essentially – his cognitive rational method unites in one complete process all the key stages of knowledge: observation and experiment, intuitive grasping (intellectual definition) of the essence of the phenomenon or process under study, and the subsequent logically correct building of the theoretical (conceptual) construction.

The gist is that Aristotle's Empiricism (that was substantiated against Plato's forms) is exactly the point (beginning) of his scientific (Organicist, rationally universalizing) method of cognition. In other words, Aristotle is the first philosopher who built the conceptual system which justified the need for empirical research as the initiative (launching) stage of the entire scientific methodology for the investigating

³ However, the term “immanent” has the theological origination – therefore, we should try to avoid its use.

of actual phenomena and processes of the real world. Moreover, based on the cosmological Organicism – Aristotle’s scientific method integrates the essential features of empiricism, intuitivism and rationalism, advancing a genuinely universalizing (Organicist) approach to achieving a rational knowledge of the reality. In fact, the genius of Aristotle has created and introduced to the world culture the whole body (construction) of rational knowledge – the (Bio)cosmology, i.e. the cosmology of scientific Organicism, that embraces Bio-physics and Bio-metaphysics, and the relevant aetiology, methodology, anthropology, socioculturology, evolutionary theory, etc.

In the issue, we are to distinguish a more superficial layer in valuing Aristotle’s achievements, while there is a deeper one. Substantially, on the fundamental level, we are to recognize, primarily, that Aristotle is a founder (Father) of Organicist aetiology and the scientific Organicism on the whole. This rational (universalizing, scientific) Organicism is essentially based by Aristotle on the Four-causal aetiology. The Greek word *aitia* means “cause” – the generative force that is the origin (or change) of something. Aristotle’s theory of the Four Causes is mainly expounded in his works *Physics* and *De Anima* (On the soul). The four-causal aetiology states the equal importance of all the four main cosmic causes: *c.materialis*, *c.formalis*, *c.efficience* and *c.finalis*.

At the same time, the leading significance of telic causes (*c.finalis* and *c.formalis-entelecheia*) is the cornerstone moment of this aetiology. Herein, Aristotle’s “*causa formalis*” has exactly the essence of “formative cause” (as Peter Heusser states, 2011) – the active cause that “becomes a natural cause of physical explanations” (p. 161). Basically, Aristotle holds a teleological (inherently purposeful) worldview. Thus, inherent goal-driven (teleodrive)n causes have the leading role and substantiate the fact that the subject’s potentiality exists for the sake of its/her/his Functionalist actuality. At any rate, we should remember the basic statement of Aristotle (made in his “*Physics*”, Book II, chapter 7):

Now, the causes being four, it is the business of the physicist to know about them all, and if he refers his problems back to all of them, he will assign the ‘why’ in the way proper to his science – the matter, the form, the mover, ‘that for the sake of which’.

An important moment (‘centre of gyration’ of the whole system) is that Aristotle’s universalizing organicist aetiology is based on the cornerstone cosmological principle of *hylomorphism*. The latter notion reflects the basis of Aristotle’s theory which conceptualizes substance (of the natural thing) always as a compound of matter (Greek – *hylo-*) and form (Greek – *morphe*). Significantly, Aristotle was the first to distinguish between matter (*hyle*) and form (*morphe*). The principle of hylomorphism signifies that every natural body consists of two intrinsic

principles, one potential, namely, primary matter, and one actual, namely, substantial form.

4. Comparative analysis of modern physics, biology and Aristotle's Bio-physics (Bio-science)

Therefore, we can make a comparative study of the distinctive features that are characteristic of modern physics, biology, and Bio-physics of Aristotle. Results of the study are placed in the table below.

Table 2.

Comparative analysis of modern physics, biology and Bio-sciences

<i>Sciences</i> <i>Criteria</i>	Physical sciences	Modern biology	Bio-science⁴ (Aristotle's Bio-physics)
<i>Subject of study</i>	<i>Non-organic</i> phenomena and processes	<i>Organic</i> phenomena and processes, excluding psychological and sociocultural (as well as co-evolutionary, Bio- and Noospheric) life forms and processes	<i>Organicist</i> phenomena and processes at all levels: biological, ecological anthropological, sociocultural, global (Cosmist); evolutionary, Bio- and Noospheric
<i>The essence of fundamental notions and principles</i>	<i>Physicalist</i> (are originated from the study of the non-organic phenomena and processes, like gravity, or electromagnetism, or affinity, etc.	Basically are the same – <i>physicalist</i> . The main methodological principle is physicalist (biological) reductionism. The main method of analysis and explanation is the modern mathematical logics	<i>Organicist fundamental principles⁵</i> . The main method of cognition has the universalizing essence – by integration all the three main forms of knowledge: empirical, intuitive and logical-constructive
<i>Basic belongingness (in origination) of scientific notions and principles</i>	<i>Natural</i> (belong to natural, i.e. cosmic forces)	<i>Man-made</i> (artificial, speculative), i.e. belong to a man's reason and abstract analysis, but not to the real Nature (Cosmos)	<i>Natural</i> (belong to the Nature, i.e. Cosmist reality)
<i>Number of theoretical fundamentals and the extent of universality</i>	<i>A few fundamental naturalist theories</i> that are compatible and provide a universal physicalist viewing of the world	<i>Overwhelming amount of idealist (speculative) theories</i> that lead to the current extreme artificial (man-made) pluralism (relativism) in modern life sciences	<i>Biocosmological approach</i> that realizes a <i>universalizing</i> approach to actual cognition of the real world
<i>Basic characteristics of the applied methodologies</i>	<i>Monistic</i>	<i>Dualistic and pluralistic</i>	<i>Universalizing</i>

⁴ A characteristic of Bio-science is likewise given in the author's work (Khroutski 2004).

⁵ As a starting point, author represents his vision of 16 Organicist (Bio-Realistic) fundamental principles, in his work "All-Embracing (Triune) Medicine of the Individual's Health: A Biocosmological Perspective" (Khroutski, 2010a).

Biocosmology (developed by the Biocosmological Association) is just a form of neo-Aristotelism (RealCosmism, Bio-physics). In general, each cosmology (Biocosmology, among them) is a “supersystem” (in the term of Pitirim Sorokin), but of a wider (universalizing) significance – as much of real life processes, as (accordingly) of sociocultural and cognitive processes (and the entire rational knowledge). In other words, each cosmology has its own autonomous constitutive (sub)systems: physics (biology) and metaphysics, aetiology, methodology, anthropology, socioculturology, evolutionary theory and all the other directions of philosophical, scientific and applied cultural knowledge and practices.

5. The scientific legacy of the Russian-American scholar Pitirim Sorokin

Herein, significantly, in our endeavor to rationally outline and develop the *Biocosmological* pole (and sphere) of rational knowledge – we categorically do not treat “biocosmology” from the AntiCosmist standpoint, i.e. in the common sense of SETI (Search for Extra-Terrestrial Intelligence), which means investigation of the origin of life in the Universe. In general, Biocosmological approach in modern science and philosophy is based on Aristotle’s fundamental cosmological principles, such as: *universal organicism*; *hylomorphism*, *aetiological unity of the four main cosmological causes*, *fundamental functionalism* as the main methodological principle based on the *inherent teleodriven essentialism*, as well as Aristotle’s *ethical eudemonism*, and likewise the proposed (Organicist) *universal evolutionism* and *Noospheric* relation to the global processes.

A significant moment in the world history is the appearance (in the middle of the XX-th century) of the Triadic theory, advanced by the eminent Russian-American sociologist Pitirim A. Sorokin. This theory mainly deals with the issues of dynamic cyclic sociocultural development. Sorokin’s major contribution to the world culture is chiefly realized in the monumental work – his *magnum opus* – four-volume “Social and Cultural Dynamics”, 1937–1941. Essentially, in his work, Sorokin has substantiated the inefficacy of the one-dimensional perception of sociocultural reality (in relation, primarily, to the means of science and philosophy).

Pitirim Sorokin – a true follower of Russian organicism (but, synchronously – a rigorous academic⁶) – thus Sorokin 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 autonomous, equally real (and synchronously active) systems of sociocultural life (and, accordingly, of knowledge) 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 (in

⁶ Who realized his creativity on the basis of strict empiricist results – factual evidence of colossal amount, attained in the planned investigations.

Sorokin's terms): "*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 the "integral" supersystem and sphere of reality (in relation to knowledge – the sphere of Integralism and Integralist studies). Its main feature and essence is that Integralist studies (and knowledge) equally use the principles and patterns from both poles. Thus, naturally, Integralist studies do not have their own rational foundations (for, it is impossible to unite two opposite essences in the one rational conception), and, therefore – naturally rely on a Transcendent basis.

Each of the three supersystems (substantiated by Sorokin: two polar and one basic intermediate, that integrates the actual mechanisms from both poles) embrace in itself the corresponding type of all the constituting basic cultural systems. This is the basic standpoint of Sorokin's theory that a civilization is the "large-scale cultural system" which 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, p.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, p.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 systems⁷.

6. Expanding the notion "supersystem" into the universalizing significance of the concept "cosmology"

Developing Sorokin's Triadic sociocultural approach, but expanding and transforming his concept of "supersystem" into the significance of "cosmology", i.e. – the sphere of all-embracing knowledge that studies all levels and types of life processes: biological, ecological, anthropological, sociocultural, global, of evolutionary and developmental processes, as well as, essentially – all the forms of rational knowledge: metaphysics and physics (and all sections of derived sciences), aetiology, methodology, anthropology, socioculturology, global processes and evolutionary theory (including the individual ontogenesis; primarily, of course, of the human wholesome life).

⁷ Quoted from the site: "Pitirim A. Sorokin Collection at the University of Saskatchewan" – <http://library2.usask.ca/sorokin/about/bio/philosophy>

At the present time, however (even, in spite of possessing the bright scholarly contribution by Sorokin) – we have lost the perception of the Triadic (Three-dimensional, Triune) essence of life processes (at all levels) and in relation to the sphere of knowledge (primarily, of scholarly endeavor). Currently, instead, we have got the monopoly of AntiCosmist sphere of knowledge, with the leading significance of Plato's essentialism and physicalist (biological) reductionism.

First of all, we have allowed (in our scientific realm) the alienation and forgetting the real significance of Aristotle's pole and sphere of knowledge – of the essential scientific Organicism. This fact is amazing – the great mighty Aristotelian system of knowledge (of the utmost importance) is literally dissolved in the course of history (in the thickness of the ages). In fact, however, if to inquire this issue closely, the mechanism is (was) rather simple.

In fact, every life process has the essence of ascending spiraling process, wherein each round of the (dominating) life cycle transcends both poles and, each time, essentially crosses the intermediate (integral, central, axial, pivotal) sphere, and, in the result – eventually returns to the same line (with which, in straight correlation – the movement was initiated) but at a higher level of development. Of course, it is not easy to apprehend and apply (for scientific work) the Triadic (Three-dimensional, Triune) essence of life processes (and, accordingly – the Three-dimensional knowledge about the real life processes). For instance, the Russian scholar Yuri V. Yakovets has arrived at the following conclusion: “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, p.12)

Therefore, to overcome this difficult moment – the method of “essential metaphor”⁸ could be useful. Thus, applying an “essential” metaphorical example – we can point firstly to the day-(24 hours)-biorhythm. The implication here is that we have each day two polar (opposite) supersystems (“cosmologies”) – of Sleep processes and Awake-activity; and the intermediate basic Organism itself (the general “axis”), which adopts (into the growth process) all the results of development during the (aimless) Sleeping and purposeful Waking cycles (i.e. the cycles of domination of the polar supersystems); and which constantly self-maintains the “golden mean” – homeostatic norm (health) of the Organism (of all its organs and systems). The latter, essentially, is placed in-between two poles, and, naturally and basically – carries out the integral use of the actual mechanisms (patterns) equally from both poles. Likewise, in this light, we can draw a comparison of the Biocosmological approach with the cyclic dynamic theory of Pitirim Sorokin (represented in the table below).

⁸ The method of “essential metaphor” is described in the author's work (Khroutski, 2011).

Table 3.

**Metaphorical comparison of the Biocosmological approach
with the cyclic dynamic theory of Pitirim Sorokin.**

<i>In the theory of P.A. Sorokin (three main types of sociocultural supersystems)</i>	<i>In physiological metaphor</i>	<i>In the Biocosmological approach</i>
<i>Sensate</i>	<i>Sleep aimless</i> (chaotic, ruled by chance) processes of organic regeneration and growth	AntiCosmism (<i>Humanistics</i>)
<i>Integral</i>	<i>Fundamental well-being (homeostatic) vitality and Transition</i> from one pole to the domination of another pole (Awakening, or the transition from Wakefulness to Sleep)	ACosmism (<i>Holistics</i>)
<i>Ideational</i>	<i>Awake goal-driven</i> (Cosmist, based on purposeful self-realizing) activity	RealCosmism (<i>Realistics</i>)

7. The dissolution and misconstruction of Aristotle's scientific Organicism in the history of global culture

The mechanisms of this paradox, i.e. of the current monopoly (dictate) of the Platonic essentialism and physicalist reductionism, and the deletion of the Aristotelian scientific Organicism – although the former is based on the latter – are rather simple. The trick mainly consists in the fact that all the cosmological shifts in the global scientific culture have taken place as much by using the conceptual constituents of Aristotle's rational system of knowledge, as "on behalf of Aristotle" (although the successive historical shifts have realized the new cosmological essences which were radically different from the true Aristotelian system of knowledge). In other words, in this manner of using the Aristotelian philosophy (science), which is the essentially substantive system of knowledge – a 'grand plagiarist' had taken place. It is in this way, for example, St. Thomas Aquinas, in his XIII century – the time of "golden scholasticism" (and under the influence of *divine revelation*) – made his tremendous processing of Aristotelian metaphysics. In fact, however, it was a banal (but huge – total) plagiarism – Aristotle's conceptual constructions (due to *revelation*) were taken just as building conceptual material, without reference to its cosmological essence. In other words, Aristotle's philosophical system was just used as the preceding suitable conceptual stuff that was merely used into the makeup of a new (onto)theological construction (i.e., of the distinct cosmological essence). Thereby, the evolutionary cyclical character of global (cultural) evolution was denied and gradually converted into the (conventional) perception of cultural development as a purely *linear* process. Of course, in this 'linear transformation' of the naturally

cyclic evolutionary process – Aristotle (the essential cosmological significance of his philosophical system⁹) was transformed into the status of an ordinary predecessor of Medieval scholastics (including Aquinas) or later (in the history) of scientific giants of Modern era.

In fact, however, life (and historical) processes are evidently cyclical. Russian scientist Nikolai Ya. Danilevsky is recognized as the founder of the cyclic approach to the study of the sociocultural dynamics (his work “Russia and Europe” was published in 1869). Independently, in the 1920s, the similar ideas were developed in Germany by Oswald Spengler. The great contribution to the theory of sociocultural dynamics was realized by Pitirim Sorokin¹⁰. Another bright example is the “evolutionary philosophy” represented by Ervin Laszlo. The outstanding scientist substantiates the reality of the four global ascending macro-evolutionary stages: (1) “Mifos”; (2) “Theos”; (3) “Logos”; (4) “Holos” (Laszlo, 2001). It is significant that the first three global levels already have taken place in the world history, while the fourth (“Holos”) is still in an urgent need – for the establishment of a new harmonious world – to save and continue into the future the Earth's civilization. Among Asian scholars, we cannot ignore the conception of Naoshi Yamawaki, the author of the “Concept of Glocal Ethics” (Yamawaki, 2010). The author’s “Glocal Ethics” deals precisely with the integration of “global” and “local” on the due “Glocal” (Integralist) basis and substance. Another bright example is the conceptions of “bargain consensus” and “social tuning technology” by Hyakudai Sakamoto, which are aimed at the Integralist resolution of conflicts of any type and realization of the harmony in (future) global bioethics. The third conception is the “Three Levels Structure Analysis” by Takao Takahashi which has substantial correlations with Integralist and cyclic approach to the resolution of actual sociocultural issues (Takahashi, 2011).

Returning to our main topic, it should be noted that in the later periods of history, after the dissolution of Aristotle’s cosmological system (including scientific Organicism) in the cultural evolution of theological Middle Ages – the consistent misconstruction of Aristotle’s system of knowledge (by using Aristotle’s notions and concepts – as building blocks – for the cosmologically diverse constructions, up to its full inversion, in the Modern era) – after that the process has taken the easier course. It was now enough to Bacon, Descartes, Kant (and other) only to explain that because the teleodrive causes of Aristotle’s aetiology belong directly to God (?!), i.e. have the Transcendent nature – therefore they cannot (in principle) be related to research activities.

Thus, in Modern era – Aristotle’s cornerstone principle of *hylomorphism* was eventually disassembled, and, in the long run – his *Four-causal* aetiology was

⁹ And which is actually the origination and foundation of modern science.

¹⁰ More information on Sorokin’s integralism and cyclic dynamic socioculturology is given in the author’s work (Khroutski, 2011).

transformed into the *Three-causal* one (with the removal of teleodiven causes from the field of scientific knowledge). Thereby, gradually (step by step) – Aristotle’s Bio-Physics (all-embracing, universalizing Organicist physics) ceased to exist and was replaced by the modern one (Physicalist – physico-mathematical) physics and other natural sciences, including biology. In general, this is a natural evolutionary event (stage) – in accordance with the cyclic essence of the global evolution. At the same time, the fact that Aristotle’s Bio-Physics was totally removed is completely the unacceptable point: this was precisely the historical act, of the type – “to splash the baby together with the bathwater”.

In the same way, the Aristotelian conception of universalizing “*fundamental functionalism*” (this notion was coined by Randall J.H.Jr., 1960, p. iv) was disassembled – the main component of Aristotle’s essentialism and Organicist universalizing methodology of knowledge, based on the primary and leading significance of the inherent teleodiven causes. Instead, in the new (physicalist) sciences, including biology – function irreversibly loses its Organicist (independent) significance and becomes the mere attribute of a material structure and the object for mathematical (abstract) analysis.

As stated above, firstly medieval scholastics (including Thomas Aquinas) – “on behalf of Aristotle” – converted Aristotle’s realistic Organicist fundamental system of rational knowledge into the quite different – ontotheological (ACosmist) – cosmological status. All that fits the metaphor – to “saddle up” the whole system (body of rational knowledge) and override its development in the opposite direction from its true significance. At the same time, the Middle Ages era of cultural evolution gives us a bright example of Integralist synthesis.

For instance, Aquinas built his great ontotheological (ACosmist) system by means of integrating of both Plato’s and Aristotle’s knowledge – therein the dualistic and idealistic ideas of Plato were realized (in speculative construction) by using the realistic conceptual tools of Aristotle’s rational system (although used as a building material). In other words, Thomas Aquinas did his ontotheological construction without highlighting the RealCosmist essence of Aristotle’s fundamental Organicist realistic system of rational knowledge (but just using it as the constructional material for his grand synthesis), and, thus, misconstruing and transferring Aristotelism into the completely different – ontotheological (ACosmist, Integralist) – cosmological status. As the logical result, from then onward (ranging from the epoch of Renaissance, but fully implemented in the Modern era) and up to the present – the global scientific community (in relation to the issues of science and philosophy) started to perceive Aristotle and his philosophical system (currently, almost everywhere) as a theological thinker and construction (but he absolutely is not). In the present, therefore, a common reaction of a modern researcher to the issues of Aristotelism is the surprise and confusion – Why do we need, in our Contemporary

era and modern science, to deal with a medieval scholasticism, or even more so – God's creation¹¹?

In general, as a result, at the present time – monopoly on the methodology of scientific research came about, and which, in fact, was artificially (conventionally) declared. In other words, instead of the real perception of natural Bipolarity of knowledge (together with the intermediate third – Integralist – sphere of knowledge) – nowadays the only official and approved sphere (pole) is declared to be the modern scientism (based on the Platonic essentialism, physicalist reductionism and physico-mathematical method of research). Under these circumstances, currently all the integralist (systemic, holistic) investigations are treated (assessed) as merely alternative forms – in relation to the one (and only one – Platonic) pole of cognition. At present, in fact – the dictate of one-dimensional knowledge in scholarly endeavor is established (while the Triadic reality is evident).

8. Formula of the Biocosmological scientific activity – Bio-3/4

Thereby, the reconstruction and rehabilitation of the pole of Aristotelism (scientific Organicism) – its reinstatement in the true meaning – is an urgent task. At the same time, our actual and main aim is the reconstruction of the true sphere for Integralist (systemic, holistic) explorations – which place is in-between the two poles. This position naturally requires the clear essential perception of the rational constituents of both poles. In this way, our pressing problem is forming the evolutionary vector to the pole of scientific Organicism (Biocosmology), essentially developing Integralist studies, in the first place.

The Biocosmological Association holds precisely this course of development. The formula of its activity may be defined as **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 Organicist Cosmos. Herein, scientific Organicism likewise has the fundamental essence – the disclosure and use of fundamental principles that are applicable (universal) at all the levels and processes of organization of life: biological, ecological, anthropological, sociocultural, global and Cosmist – of the individual's ontogenesis and other evolutionary¹² processes;

2. “**3**” – *Three-dimensionality* of the treatment of life processes and the application of the universal Triadic (Three-dimensional, Triune) approach in scientific work. In essence, Three-dimensionality means the synchronous existence of the three autonomous – independent from each other – spheres: the two polar, and the

¹¹ More details about this issue – see the original work “On Biocosmology, Aristotelism and the prospects of becoming of the universal science and philosophy” (Khroutski, 2010b).

¹² Understanding herein by “evolution”, in a broad sense – as much micro-processes, as the ontogeneses and inherently directed macro-ascents (shifts) to cyclically natural and of a higher (in complexity) level of biological and socio-cultural development.

third that is intermediate, but has the fundamental vital significance – of the basis that permanently self-maintains life processes and realizes the growth of Organism;

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 Four Aristotle’s existing (cosmic) aetiological causes: *material, formal, efficient, final*; stressing their equivalence, but highlighting the leading role of the inherent teleodrive causes (*c.finalis* and *c.formalis-entelecheia*).

The emergence of a rational – sound (real, substantiated) – neo-Aristotelian scientific pole of Organicism (Biocosmology), and the formation of evolutionary vector to this pole – will allow to carry out Integralist (systemic, holistic) investigations (which are really actual in the present) – with a new strength and realizing new possibilities of increasing their efficiency of research.

9. Rehabilitating the true significance of the Aristotelian scientific Organicism

In fact, Saniotis and Henneberg highlight a key point – modern biological¹³ investigations are impossible without studying the issues of “negative entropy”¹⁴, including such important concepts as “intrinsic properties,” “self-organization,” “cellular stability and plasticity,” “complex behavior of cellular dynamics,” “epigenetic factors” and, in general, the study of “cybernetic, comprising of complex and irreducible feedback systems and cycles between organisms and their environments” – all of these basic and necessary concepts for modern biology and the study of all the other processes of life – all of them require strengthening their aetiological, methodological (anthropological and sociocultural) bases. The latter urgently appeals to the rehabilitation and reinstatement of the true Aristotelian pole of rational knowledge in modern scientific activities. By way of example, we can emphasize that the notion “self-” – which is the basic and essential concept for any integrated (holistic, system) research – the concept “self-” always is related (directly or indirectly, intentionally or unintentionally) to the pole of Aristotelism (scientific organicism, Biocosmology), i.e. – always refers to Aristotle’s teleodrive aetiological causes (*c.finalis* & *c.formalis-entelecheia*).

At the same time, we need to clearly understand that Platonic essentialism and physicalist reductionism (mainly in the form of modern physico-mathematical method) led to the emergence of a so-called ‘*human causality*’ – the human ability to “control over the lifeworld” (Saniotis and Henneberg, p. 11) and change the world constructively, and thus – to realize an efficient progress in the humanitarian and socio-cultural spheres. Modern achievements in the development of democracy and social police in western and eastern societies, which release human creativity and

¹³ And, we can add – in relation to all the forms of life processes.

¹⁴ The concept “negative entropy” was introduced by Erwin Schrodinger in his book “What is life” (1944). Later, Leon Brillouin shortened this notion to “negentropy”, expressing in a “positive” way that a living system imports negentropy and stores it.

realize colossal breakthroughs in scientific and technological progress – the fantastic advances in medicine, transportation, communications, information technology, etc. – is a clear confirmation. Finally, globalization has emerged as a new reality – essential intensification of worldwide sociocultural relations. All this is a direct consequence of the agency of ‘human causality’ (in turn, which substantially is based on the Platonic essentialism and physicalist reductionism).

At the same time, however, we should never forget that there is the other (Organicist) pole of life processes – and of all the sociocultural domains, including institution of scholarly endeavor. This polar Organicist sphere of life processes (which is opposite to Plato’s pole) sets the position of an individual (the researcher) not *without* the current (of outward things) world, but who is placed *within* the self-developing Cosmist world. Herein (in contrast to Plato’s – aimless – essentialism) – an individual acts as the integrated (*within*) and essential unit (by virtue of its/her/his specific Functionalist potential which is consciously and creatively self-realized). Essentially, this individual’s Functionalist agency is as much the organ of the universal evolutionary process (all-embracing Organism), as the essential (Functionalist) tool of the ongoing evolutionary development (by contributing efficient functionalist results to well-being of the hierarchically¹⁵ higher level of the world evolutionary organization).

10. Comparative analysis of the three main cosmologies

In this regard, we should arrive at the comprehension (and the further implementation) of the Triadic essence – Three-dimensionality and Triunity of all life processes, including all areas of scholarly knowledge (and, firstly, with regard to the evolutionary theory).

Below is placed the table. It includes some criteria which realize a comparative analysis of the three autonomous (and synchronously existing) spheres of knowledge. Herein, the term Bio-science (*Bio-*, from the capital letter) refers directly to

¹⁵ First of all, it is important to note that Aristotle’s Organicist Cosmos has the hierarchical essence, and, naturally, his *Bio-science* divides the Organicist world into the three layers (as it is made in the work *De Anima*): a *vegetative* soul, responsible for reproduction and growth; a *sensitive* soul, responsible for mobility and sensation; and a *rational* soul, capable of thought and reflection. Aristotle attributed only the first to plants, the first two to animals, and all three to humans. Naturally, therefore, a human being – a representative of the higher level of organic evolution – is capable to grasp (intellectually comprehend) the meaning of the substance (its form or essence or entelecheia, and its compound with the matter) of the living subject under study. This is a naturalist teleological approach to the exploratory process that substantiates the observed data in relation to the formal design of the subject of life under exploration. Aristotle did not use the term “object” itself, and, in principle, he did not conduct any kind of objective research of the material world (that is implied in the contemporary physicalist and positivist research activity). Therefore, we introduce the notion “subject” (of universalizing, but hierarchically different meaning) – to get closer to the essence of Aristotle’s approach.

Aristotle's physics and metaphysics (i.e. to *Bio*-physics and *Bio*-metaphysics – *Bio*-science and *Bio*-philosophy), and means that the Organicist (Bio-)aetiology and Bio-methodology embraces all the levels of life processes: biological, ecological, anthropological, sociocultural, evolutionary (including ontogeny) and global processes, and the Noosphere-genesis.

Table 4.

Comparative analysis of the three main cosmologies

Cognizable spheres of life, under the influence of \ criteria	Plato's essentialism (AntiCosmism) <i>Humanistics</i>	Integralism (ACosmism) <i>Holistics</i>	Aristotle's essentialism (RealCosmism) <i>Realistics</i>
<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 tangible world</i>	<i>The Absolute – Transcendent substance – which precedes and/or creates the real world, and which determines the harmonic order of the given ("in situ") life phenomenon and the surroundings</i>	<i>The Universal (Organicist) Hierarchical Cosmos wherein every life subject self-realizes its/her/his individual's specific constitution and inherent telic Basic Cosmist Evolutionary Functionality (BCEF)¹⁶</i>
<i>Exploratory essence</i>	<i>Biological and humanitarian, reducible to the physicalist structural-functional units or the 'Transcendental subjective' experience of a person</i>	<i>Bio-philosophical, herein all the units are integrated by the 'Transcendent Absolute' (God, Matter, Spirit, System, Information, Field, Energy, Pattern, etc.)</i>	<i>Bio-realistic, reducible ultimately to the individual's constitution and the subject's (its/her/his) 'ontogenetic entelecheia' (i.e., c.formalis-entelecheia) and the operative (just-in-time) goal-directed 'causa finalis'</i>
<i>Aetiology</i>	<i>Three-causal aetiology that excludes the inherent teleodrive causes</i>	<i>Four-causal aetiology – with the equal significance of all the four Aristotle's causes – they are equally treated within the given self-sustainable organic milieu</i>	<i>Four-causal aetiology – with the leading significance of inherent teleodrive causes (c.finalis and c.formalis-entelecheia)</i>
<i>The main cosmic cause for study</i>	<i>Causa efficiencie and c.materialis</i>	<i>Causa formalis (which deals with the 'homeostatic' integrity and growth of the given organic whole</i>	<i>Causa finalis and c.formalis-entelecheia</i>

¹⁶ A more detailed description of the notion "Basic Cosmist Functionality" (BCF) is given in the author's work (Khroutski, 2002).

<i>Exploratory interrelation of a scientist with the world</i>	<i>Subjective–objective,</i>	<i>‘Subject–Absolute–Objective’</i>	<i>‘Subject-Subject’ – from the ‘Cosmist Hierarchical’ standpoint</i>
<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, society, ecosystem (in turn, each is the unit of the Hierarchy), – its/her/his harmonious condition and wholesome contribution to the integralist 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>Perception of the world under study</i>	Aimless (chaotic), ruled by chance and focused on the struggle for survival	Harmonious, characterized by natural coordination and mutual support	Goal-driven, based on the effective satisfaction of higher-order Organicist evolutionary needs
<i>Main type of the scientific approach</i>	physico-mathematical	system-holistic	Individual-Functionalist
<i>Characteristics of scholarly endeavor</i>	<i>Sectional positivist</i> research (i.e. dividing the general scientific field into a great number of non-compatible sections-disciplines), including the primary division of science into four main branches: natural, social, formal and applied	<i>Holistic and systemic</i> , in essence, thus – realizing a true interdisciplinary exploration and essentially arriving at the comprehension of the issues of biological <i>negentropy</i> – eventually addressing the issues of true harmonious sociocultural development	<i>Scientific Organicism – RealCosmist</i> (universalizing) approach that is based on the Organicist fundamental functionalism and Cosmist evolutionary hierarchy of the subject-matter under study
<i>Methodology</i>	Based on the dualistic attitude and the use of physico-mathematical method; the latter excludes the reality of the teleodiven causes in the objects under study	Integralist (Holistic, Systemic), founded on the Transcendent basis; and which equally uses the principles, patterns, methods (and other means and approaches) from both poles (Physicalist and Organicist)	Based on the realistic (universalizing) fundamental functionalism – thus, essentially integrating all the three forms of cognition (empirical study, intuitive grasping and logical construction), and highlighting the leading role of inherent teleodiven causes
<i>Regarding the position of an explorer</i>	Extrinsically (<i>without</i>) the tangible (physical) cosmos – a kind of <i>‘external’</i> (causal)	<i>Integrated</i> into the given organic wholeness (the wholeness of the given mind-body-milieu) – by	Intrinsically (<i>within</i>) the self-evolving (Organicist) Cosmos – a kind of <i>‘internal’</i> (telic)

	epistemology	virtue of her/his primarily direct spiritual relation to the Transcendent substance	gnoseology
<i>The leading mechanism of exploration</i>	‘Explanatory’	‘Understanding’	‘Definitive’
<i>Scholarly ideology</i>	Humanism and physicalism	Integralism (Holism)	Biocosmology (Organicism)
<i>Essentialism</i>	Anthropocentric	Anthropoholist	AnthropoCosmist
<i>Naturalism</i>	Nature has the physicalist (aimless, tangible) substance that withstands the human’s (Transcendental or empiricist or rationalist) consciousness and well-being	Nature has the Transcendent origination and/or organization, and, thus – nature embodies the harmony and unity of the man and the world	Nature is a synonym to Cosmos and signifies the Organicist (Noospheric – inherent teleodiven) Universum
<i>Reductionism</i>	Physicalist and subjectivist	Focused on the dynamic equilibrium of life processes under study	Individual-Functionalist
<i>Anthropology</i>	Man is treated as a <i>bio-social</i> creature – bio-organism, social actor and unique person who withstands and successfully adapts to the environments, due to her/his consciousness	Man is the <i>microcosm</i> who is integrated (in) and responsible (for) the development of the predetermined harmonious world order, created by the Transcendent Absolute	Man is the <i>bio-socio-Cosmist</i> individual and the essential functionalist agent of the Universal Organicist world (Kosmos – Noosphere), and who has the equal essence of the <i>macrocosm</i> (to Biosphere, Society and the Cosmos on the whole)
<i>Physiological metaphor</i>	<i>Sleep</i> (aimless and dualistic) processes	<i>Intermediate (Integral)</i> life processes – the basis for transition from the dominant cycle of one pole to another; of constant self-maintenance of the ‘homeostatic – normal’ equilibrium interval; and assimilation (embracing) the results of development during the polar ontogenetic cycles	<i>Awake</i> goal-driven activity (mainly – occupational, for a human being; or specialized – for a biological structure); and the (Functionalist) realization of the entire individual’s ontogenesis (evolutionary growth, from infantile to mature forms)

Repeating our key-point, individualization (substantiation, formation, unfolding) of the three spheres of scholarly knowledge (two polar – Physicalist and Organicist; and the intermediate Integralist sphere) – with essential clarification of their

aetiological and methodological bases and patterns – this individualization will significantly enhance the capacity and effectiveness of contemporary Integralist studies. The gist is that holistic and systemic studies essentially and equally use the means of both poles of knowledge. Therefore, by reinstating the real significance of the pole of Aristotle’s rational¹⁷ Organicism – we naturally enhance the capacity and effectiveness of Integralist studies. First of all, in this approach – Integralist research acquires the significantly equal (autonomous) status, in relation to the currently dominating pole of Physicalism and rehabilitated (in its true significance) pole of Organicism.

11. Advancing the Triune formula – 50-(Physicalist) /10-(Organicist) /40-(Integralist)

In exemplification of this, we can apply to the well-known Russian scientific website¹⁸. Therein, we can perform a search on the keywords which have, accordingly, the references to various cosmological spheres. In this way, two notions were selected – “self-organization” and “nanotechnology”. The fact is (as stated above) – the notion “self-organization” (which has the essence of “self”) is used exclusively in (points out directly to only the scope of) Organicist and Integralist studies; while, on the contrary – the term “nanotechnology” corresponds to the highest level of modern physicalism, thus leading us directly to the sphere of Platonic essentialism and physicalist reductionism. Thereby, using the site elibrary.ru – the search by keyword “self-organization” (“samoorganizatsiya”) gives us 386 findings for the year 2012. In contrast, a similar search for the keyword “nanotechnology” (“nanotekhnologiya”) gives the number 331 for the same year (2012). Thus, in comparison, we have 386 findings (“self-organization”) vs 331 (“nanotechnology”). Hereby (in this case) – the contemporary ratio of Organicist and Integralist investigations to Physicalist researches is 54% vs 46%.

The result has a striking character. We see that the natural scope of scientific Organicism and Integralism (but which aetiological and methodological foundations are still hidden from the view of modern scientific community) – currently prevail over the sphere of modern Physicalism, but which is recognized all around the world as the only correct and proper method of scientific activity. As a result, more than 50% of all scholarly endeavors (in the example of the Russian reality) lack the inherent natural (Organicist and Integralist) grounds, therefore, in principle – such scientific work cannot fully realize its potential and achieve effective results.

¹⁷ Which, at the present time, could be named as ‘Aristotle-4.0’, for, at least, the Medieval (scholastic) and the fundamental cosmological proposals of the Modern era (firstly, aetiological and methodological), which underpin the bases for the modern scientific work – all of them were mainly founded on the bases of the Aristotelian philosophical system.

¹⁸ Scientific Electronic Library – <http://elibrary.ru/>

From our standpoint, the result of this test is evident – we urgently need to begin discussions aimed at the creation of necessary conditions for the prompt introduction into the real scientific work of all the three – real autonomous – spheres of scholarly endeavor (of Physicalism, Organicism and Integralism). All of them, essentially, must have equal opportunities (but in due proportion) for the realization of their own physics and metaphysics. Of course, primarily and essentially – all three spheres (“supersystems” – cosmologies) are to constitute and construct their own (open and comprehensible for colleagues) aetiologies, methodologies, anthropologies, socioculturologies, and the basic principles for the exploration of global processes (‘Noospherology’) and evolutionary theory (thus, in each sphere – embracing all the branches and disciplines of science and philosophy).

In light of the foregoing and remembering the main conclusion of Pitirim Sorokin (made in the 1930s) that the Sensual era (thence, Platonism and Physicalism) already completed their dominance (being in progress for the last 5-6 centuries) and gave the way to the Integral epoch (and, accordingly – to the Integralist science). In this Triadic (Three-dimensional, Triune) approach, the issue number one is to reinstate the (proper) significance, and, further – build a sound conceptual construction of the contemporary pole of (neo)Aristotelism (scientific Organicism – Biocosmology). The latter comes out precisely as a whole sphere of knowledge – opposite to the currently dominating AntiCosmist pole and its Physicalist science, i.e. – to the currently dominating principles of Platonic essentialism, anthropocentrism, physicalist reductionism and positivism.

Therefore, in this light, firstly – we understand clearly the essential importance of the currently dominant physicalist science (and its significance for the humanitarian and sociocultural progress), and that this – empirically verified data, scholarly notions and scientific conceptual constructions – is the (sole) universalizing language of contemporary science (in its general significance). However, on the other hand – the other essential (natural and vital) thing is the need for urgent reconstruction and reinstatement of the pole of scientific Organicism (Aristotelism, Biocosmology). The conclusion is, therefore – Biocosmology (scientific Organicism), at present, cannot occupy less than 10% (less than 1/10 part) of the entire realm of scientific activity.

In turn, naturally, the sphere of modern Integralist (systemic, holistic) scientific work should be granted with not less than 40% of all the research funds and efforts of the global scientific community. The leading role of the Integralist sphere in contemporary world and the arrival of Integral era in the global cultural evolution was convincingly proved yet by Pitirim Sorokin. Likewise, significantly, the very course of history provides the evidence for the domination of Integralist processes – by actively ongoing globalization of the modern world. The authors of the discussed paper (Saniotis and Henneberg) also clearly represent the urgency and importance of

Integralist (holistic, system) approaches in modern science (biology, evolutionary theory).

Thus, the formula of the (highly in-demand) Triadic – Three-dimensional, Triune – realization of modern (global) scientific activity and development is: 50-(Physicalist) /10-(Organicist) /40-(Integralist), in toto – 100%.

12. European Renaissance and ‘Asian Awakening’

There is one more reason to refer to the works of Pitirim Sorokin, in which he developed his Triadic theory and grounded the conclusion about the beginning of Integral era in the global sociocultural evolution. The point is that we can find therein another essential moment – Pitirim Sorokin substantiated the leading role of the Asian region countries – in the formation of the new Integral era. This conclusion has a natural correlation, for, in general – the development of the Asian countries is based on their inherent holistic cultures.

Then, characterizing the ascending spiral of the world culture – we can clearly see the phase of ‘*ingress*’ into the modern scholarly world of ruling physicalism (Platonic essentialism and physicalist reductionism) – during the era of European Renaissance. At that time – once again “on behalf of Aristotle” – the transition was realized (from ontotheological) to currently dominating ideas of humanism and positivism. In turn, naturally, guided by the reverse movement of the spiral – the ‘driving evolutionary force’ inevitably arrives at the point of leaving the Modern era, i.e. – running into the natural era of ‘*egress*’, which can be named as the ‘Asian Awakening’. The latter is proposed with the reference to the (aforementioned) physiological metaphor: Sensual era and its Physicalism meets the metaphor of “Sleep aimless processes”, while the forthcoming Organicist epoch (of course, in the case of effective and wholesome Integral era, which is already unfolding) – its constituting sociocultural processes can match the metaphor “Awake teleodrive activity”.

We give deeper meaning to the substantiated (in this work) general evolutionary vector (to the pole of Aristotle’s Organicism) – applying the prime importance to modern Asian holistic potentials. Indeed, proper strategy is always the main condition for the implementation of effective development. In this regard, at our Seoul meeting (in December 2012, conducting a joint meeting of the 4th International Seminar on Biocosmology and the 3rd International Conference on Comparative Studies of Mind) – we were really pleased to give birth to the Asian Centre for Biocosmology (neo-Aristotelism) and (Integralist) Mind Studies. Now, we are glad to invite colleagues who are interested in contribution to the development of this project and unfolding our international cooperation.

13. Conclusion

In conclusion, firstly – we emphasize again that the Platonic essentialism and physicalist (biological) reductionism are the absolutely necessary (evolutionary) stage and indispensable means for the effective humanitarian, social and cultural progress. Equally, the absolute truth is that the opposite (to Plato's pole of modern Dualism, Anthropocentrism and Physicalism) – the pole of Aristotle's scientific Organicism (Biocosmology) is of the same extent essentially indispensable. This is a matter of fact (indisputable evidence) that the planet Earth and all Earth's processes (including life and evolutionary processes) are the product of the one whole Cosmist evolution. i.e., in fact – all are (ultimately) the subject-matter for Biocosmology (scientific Organicism).

Moreover, the current movement of the global evolutionary spiral naturally is directed at the Aristotelian pole, and, thus, this is our urgent matter – to rehabilitate and reconstruct (in a sound conceptual construction) the rational significance of the Organicist sphere, firstly – its scientific (Biocosmological) apparatus. Essentially, the approach to this pole is possible exclusively through the evolution and domination of the intermediate era of Integralist (sociocultural, scientific) development. This development has already started, but, without the clear perception of the “final destination” – entering and shifting into the Organicist sphere – effective growth of scientific knowledge, and, in general, of the natural and wholesome process of the globalization of international life becomes impossible. First of all, however, without the clear comprehension of the bases and conceptual framework of the pole and sphere of scientific Organicism – the full self-realization of Integralist theoretical and practical endeavors is hardly achievable.

At the same time, the fact is (due to historical factors) that we live now in the age of monopoly (dictate) of unipolar (one-dimensional) mode of knowledge (based on the Platonic essentialism, physicalist reductionism and physico-mathematical method of research). Under these conditions, Integralist scholars (scientists) do not have the essential autonomy and are considered just as the conductors of alternative approaches of research, but which all (ultimately) belong to the same Platonic pole of cognition. Therefore, our first priority is to advance and establish the parity of all the three spheres of scientific activities¹⁹.

Eventually, in our work and expressing our response to the authors – we have arrived at the reality of the formula of a Triune (Three-dimensional) realization of modern (global) scholarly endeavor – 50-(Physicalist) /10-(Organicist) /40-(Integralist), in toto – 100%. At least, this is our duty (due to the evidence of the issue) – to realize an attempt in carrying out the Three-dimensional approach to the organization of modern scientific work. Likewise, a cornerstone point is, in this way,

¹⁹ In turn, constituents of the three all-embracing cosmologies correlate (at some extent) with the three overarching sociocultural supersystems, discovered 75 years ago by Pitirim Sorokin.

that implementing into practice the Triune nature of scholarly endeavor – we arrive at the level of creation and use of the really comprehensive (all-embracing) knowledge.

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