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Editorial

The military-political situation in the world remained complex throughout 2023; and that is believed to be due to the objective processes of “global transformation” taking place in the world, i.e. charged with the global reorganization of the world socio-cultural order. One of the consequences of these ongoing “processes” was the sanctions measures against Russia, in general, in line with attempts to isolate Russia from interaction with the whole world. As a result, scientists from many countries (directly or indirectly) were forced to refuse (or temporarily abstain) from cooperation with our international Journal, but which has ‘residence’ (registration) in Russia.

Eventually, all this could not but also have a negative impact on international scientific cooperation. We have also experienced this in our own publishing endeavors. This year it was possible to prepare for publication only one issue of the journal *Biocosmology – Neo-Aristotelism*. It will make up the XIII volume of our edition – “*Biocosmology – neo-Aristotelism*”, Volume 13 (Yearly Issue, 2023). Significantly, this issue, first of all, continues the development of the *Biocosmology Initiative* (BCI), first of all, by bringing its topical issues to the international discussion. This time, in the section “*Discussion of the Biocosmology Initiative*”, the article is published “*What is Biocosmology and the Biocosmology Initiative? Response to 6 critical articles by Chinese scholars. Part 1*”; its author, Konstantin S. KHROUTSKI.

The section of scholarly articles opens with a paper by Anna MAKOLKIN, titled as “*Aristotle and Alexander of Macedon – By-products of Greco-Macedonian Cultural Symbiosis and Eternal Tribal Contest*” – the latter gives us remarkable information about the national origin and cultural background of the great figure of Aristotle. The following article is presented by S.N. GRINCHENKO, its title is “*Triad of time types “Chronos-Cyclos-Kairos” – from the position of the model of nature’s self-controlling processes*”. Next, with the study of the topic “*Consciousness and its meaning, ontologically*” is the work of Xinyan ZHANG. This is the author’s first publication in the *BCnA Journal*, but the scholar has big plans for the development of his topic : therefore, readers may find it interesting and useful to immediately and in depth familiarize themselves with this serious work and the author's approach. The next final (of the section) publication is the (also debuting) article by Hao LIU, its title “*The model of intentionality in Aristotle*”.

The Essays section of this Issue includes the (long awaited) work of Yuri Pavlovich ARSHBA, a scholar from Veliky Novgorod; his paper is titled as “*On the sustained interest of contemporaries in the nature of the Aether*”. This study raises the topic of the significance of physical aether; the relevance of the study of which not only does not pass with time, but beyond any doubt increases the

appeal of its study in the present. Another published essay, which also cannot fail to interest the reader, belongs to Anna MAKOLKIN: here the author applies Aristotle's theory of cultural universals to the study of the content of famous proverbs; and that is unlikely to leave the reader in an indifferent (disinterested) state; the title of her work is “*Universality of Proverbs and Aristotle's Universals*”.

Finally, the Issue is completed by the 24ISBC-Book of Abstracts (of the 24th International Seminar on Biocosmology), which had as its topic the “*Biocosmological U-turn towards the Organicist Pole of Triadological scholarly knowledge and the North-Eastern vector of the peaceful world evolvement*”. Significantly, a number of the theses here are extended statements of the issues raised by the authors; as it is demonstrated with respect to the speeches of professors A.I. ORLOV; S.N. GRINCHENKO, Leonardo CHIATTI, Xiaoting LIU, A.S. KOZHEMYAKOV, Miriam FERNANDEZ, and others – all this will definitely arouse the reader's genuine interest.

December 22, 2023

Konstantin S. Khroutski, BCnA editor

Редакторская статья

Военно-политическая обстановка в мире сохранялась сложной, на всем протяжении 2023г.; и что, как считается, является обусловленным происходящими в мире объективными процессами «глобальной трансформации», т.е. заряженными на глобальное переустройство мирового социокультурного порядка. Одним из следствий данных происходящих «процессов» стали санкционные меры в отношении России, в целом в русле попыток изоляции России от взаимодействия со всем миром. В результате, ученые многих стран (прямым, или опосредованным образом) были вынуждены отказаться (или временно воздержаться) от сотрудничества с нашим международным Журналом, но имеющим ‘прописку’ (регистрацию) в России.

В конечном счете, все это не могло не сказаться отрицательно также на международном научном сотрудничестве. Равным образом, мы ощутили это и на примере своего издания. В этом году оказалось возможным подготовить к публикации только один выпуск журнала «*Биокосмология – нео-Аристотелизм*». Он и составит XIII том нашего издания – *Biocosmology – neo-Aristotelism*, Volume 13 (Yearly Issue, 2023). Существенно, что данный Выпуск, прежде всего, продолжает развитие *Биокосмологической Инициативы* (БКИ), в первую очередь путем вынесения ее актуальных вопросов на международное обсуждение. В этот раз, в разделе «*Обсуждение Биокосмологической Инициативы*» публикуется статья «*Что такое*

Биокосмология и Биокосмологическая Инициатива? Ответ на 6 критических статей китайских ученых. Часть I»; её автор, К.С. Хруцкий.

Раздел научных статей открывает работа Анны Маколкин, озаглавленная как *«Аристотель и Александр Македонский – побочные продукты греко-македонского культурного симбиоза и вечного соперничества племен»* – последняя сообщает нам удивительные сведения о национальном происхождении и культурной принадлежности великой фигуры Аристотеля. Следующая статья представлена С.Н. Гринченко, её название *«Триада типов времён «Хронос-Циклос-Кайрос» – с позиций модели процессов самоуправления природы»*. Далее, с изучением темы *«Сознание и его смысл, онтологические аспекты»* выступает труд Синьян Чжана. Это дебютная публикация автора в ВСнА-журнале, но ученый имеет большие планы на развитие своей темы : поэтому читателям может оказаться интересным и полезным сразу углубленно ознакомиться с этой серьезной работой и авторским подходом. Следующей завершающей (данный раздел) публикацией становится (также дебютная) статья Хао Лию, её название *«Модель интенциональности у Аристотеля»*.

В раздел Эссе, в этом Выпуске, включена (давно ожидаемая) работа научного сотрудника НовГУ Юрия Павловича Аршбы. Это исследование поднимает тему физического значения эфира; актуальность изучения которого не только не проходит со временем, но и вне всякого сомнения повышает притягательность своего изучения в настоящем; название авторского эссе, *«Об устойчивом интересе современников к природе Эфира»*. Другое публикуемое эссе, которое также не может не заинтересовать читателя – принадлежит Анне Маколкин : здесь автор применяет теорию культурных универсалий Аристотеля к изучению содержания известных поговорок; и что навряд ли оставит читателя в равнодушном (незаинтересованном) состоянии; название её работы *«Универсальность пословиц и универсалии Аристотеля»*.

Наконец, Выпуск завершает Книга Тезисов 24ISBC (XXIV Международного семинара по Биокосмологии), имевшего своей темой: *«Биокосмологический разворот к Органицистскому полюсу Триадологического научного знания и Северо-Восточному вектору мирового-peaceful развития»*. Существенно, что ряд тезисов здесь представляют собой развернутое изложение поднятых авторами вопросов; как это демонстрируется в отношении выступлений профессоров А.И. Орлова; С.Н. Гринченко, Леонардо Кьятти, Сяотина Лиу, А.С. Кожемякова, Мириам Фернандез, и др. – все это определенно вызовет у читателя неподдельный интерес.

22 декабря, 2023 г.

Константин С. Хруцкий, ВСнА-редактор

What is Biocosmology and the Biocosmology Initiative? Response to 6 critical articles by Chinese scholars. Part 1

Konstantin S. KHROUTSKI¹

Что такое Биокосмология и Биокосмологическая Инициатива?

Ответ на 6 критических статей китайских ученых. Часть 1

Константин С. ХРУЦКИЙ

Abstract. In 2021, the *Biocosmology Initiative* was released. In 2022, 6 articles from Chinese authors were submitted to the Discussion section of the *BCnA*-journal, which critically examine the *Initiative*; and what is now an important resource for the whole BCA community activities. In response, with great appreciation to the colleagues : the authors start (with the given paper) a reciprocal reflection on the stated worthwhile theses, presenting now the first (initial) part of the reflexive response on the valuable critique by Chinese scholars; here starting with the main notions of Biocosmology, aiming here at the “rectification of names” (according to Confucius).

Keywords. Biocosmology, Taoism, holism.

Резюме. В 2021 году была опубликована Инициатива по биокосмологии. В 2022 году в раздел «Обсуждение» журнала ВСнА было подано 6 статей от китайских авторов, в которых критически рассматривается Инициатива; и то, что сейчас является важным ресурсом для деятельности всего сообщества ВСА. В ответ на это, с большой благодарностью к коллегам: авторы начинают (данной статьей) взаимное осмысление заявленных достойных тезисов, представляя сейчас первую (начальную) часть рефлексивного ответа на ценную критику китайских ученых; начиная с основных понятий биокосмологии, стремясь здесь к «исправлению имен» (по словам Конфуция).

Ключевые слова. Биокосмология, даосизм, холизм.

¹ Novgorod State University named after Yaroslav the Wise, Veliky Novgorod.

Introduction: the main notions of Biocosmology. The question is often asked: What is Biocosmology and the Biocosmology Initiative – is it a worldview or a science?

Here the answer is unambiguous – it is in unity both the first and the second.

To begin with, we note immediately that the basic concept of Biocosmology is the *subject of life* (or *living subject*) – an autonomic active universal entity capable of Auto-changing and Auto-evolvement (in the complexity of organization), in the universally Auto-evolving Biocosmos.

In the Biocosmological approach, the notion of a *subject of life* (subject of EvoProcess, in the abbreviated form – *subject*) – here *subject* has the universal significance; it is the natural-scientific concept of a *free* (to move and interact) *physical* (Natural, Cosmic) *autonomic* individual entity. *Subject of life* refers both to naturally living (by Nature) world-Kosmos as a whole; and to each subject of the living Biocosmos (any of their countless number on planet Earth) – from a free micro-particle, to free (autonomic) man and society-civilization, and the whole mankind. Each one is a *living subject by Nature*, i.e. it is originated *from within* (produced by) the integral Auto-evolving world-universe (Biocosmos, Kosmos, EvoProcess).

At the same time, each living subject is a (micro)Kosmos itself – through coherent organizing other needed subjects for its/her/his consistent successful Auto-evolvement. Essentially, within the Auto-evolving Biocosmos : here the main inner potential, powers and possibilities of each *subject of life*, throughout its full lifetime (ontogenesis) – all this exists for the ultimate, to the fullest extent, realization of purposefully-organized (Telos-telic – *Entelechist*, goal-driven) Auto-evolvement; with the ultimate attainment and realization by the *subject* of its/her/his natural inherent Functionalist (effector) abilities; and that all is realized on the basis of constant Auto-maintenance and Auto-management, at the homeostatic (rather, *homeodynamic*)² level, of all its/her/his vital functions.

To conclude, Biocosmology (“Bio-” with a capital letter) deals with the study of any life phenomenon realized by an individual *subject of life* – as the organ within the Biocosmic Evolutionary Process (EvoProcess)³. In other words, the scope of Biocosmology becomes the scientific study of all kinds of natural (natural science) *subject* ontogenesis, studied at all levels and in all processes of its

² Homeostasis - maintaining the constancy of optimal (for life) parameters of the internal environment of the organism; and that is provided due to the activity of internal forces of the subject, hence – *homeodynamics* becomes a more appropriate term here.

³ The notion EvoProcess means, in the Biocosmological approach – naturalistically inherent Auto-ascending (by complexity of organization) evolutionary Process of living Nature and Cosmos – Biocosmos, or Kosmos.

organization – both the singular integral EvoProcess itself and the life individual ontogenesis of any subject. Naturally, for today, out of all their uncountable multitude : our primary scholarly interest is directed at the study of both the wholesome ontogenesis of a contemporary man; and the wholesome ontogenesis of a positive civilization (“cultural-historical type”⁴; or the ontogenesis of “ethnos” and “superethnos”)⁵ – consistently at all strata of the EvoProcess: Geophysical, Biospheric, Anthropological, Sociocultural, Ecological and Noospheric.

In everything, for each *subject* of the EvoProcess : here the cornerstone becomes the universal Biocosmological principle of *free* ontogenetic Auto-ascension of the *subject* to successively higher (in the complexity of organization) strata of the individual Evo-ontogenesis (of everything and everyone – within the Kosmos and the EvoProcess’s current Time). It is important to note that the single integral Kosmic EvoProcess realizes its Auto-ascension (in the complexity of organization) precisely through individual effector *Telos*⁶-contributions into the common EvoProcess – by a great multitude of active-effector subjects, actually constituting and realizing the single integral evolutionary Biocosmist (Biocosmological) movement.

Because of its comprehensiveness, Biocosmology is essentially in need of a universally recognized reference framework – in order to achieve mutual understanding between scholars⁷, and subsequent effective interaction. For the BCA such conceptual all-encompassing bases are, first of all, the doctrine of Taoism; and Aristotle’s *Organon* Kosmology, with its main principles of *entelechism* and *hylemorphism*. It is significant that both the original Aristotelian concept of *Organon*; and the

⁴ Following the civilization theory of N. Ya. Danilevsky (1822–1885).

⁵ According to the theory of *ethnogenesis* by L. N. Gumilev (1912–1992).

⁶ *Telos* (Greek: τέλος) – in the Biocosmology, the concept telos (in full accordance with the Greek τέλος) means “result of action”, and it has the natural-scientific significance : since *Telos*–“result of action” originates in and is generated by the endogenous *entelechist* driving Biocosmic forces-causes that act *from within* the subject; and which (telos-generated energy) is aimed at the achievement and realization of a higher (in complexity) result-contribution to the comprehensive movement of the EvoProcess. A famous judgment of Cicero says: “The Greeks by Telos understand the supreme, ultimate or final Good”. With regard to Aristotle’s science, another statement is significant, by John Herman Randall, Jr. [1962]; here the renowned scholar concludes that the Aristotelian “break with Plato is complete: *natural teleology* (italics is our. – **Authors**) has nothing to do with reason and ‘purpose’, which in English implies ‘conscious intention’ but is a mistranslation of *hou heneka* and *telos*”. This issue is discussed in detail in the BCnA-article with the title “*Editing the English version of the Biocosmology Initiative, year 2022*” [Khroutski, 2022].

⁷ Often the situation is such that scholars propose their own (different) concepts, but which are difficult to perceive from the first time – because of the diversity of their basic concepts and, consequently, the expressed variability of their conceptual and terminological apparatus (hence, challenging the difference and seeming dissimilarity of the terms used in the designation of the same general principles) in the ongoing research.

derivative Biocosmological meaning of the term *organic* – the meaning of both derives from the Greek ὄργανον, which has the original meaning of “instrument” (“tool” and “means” to achieve the goal-result) – i.e., the intended result of an action. *Organon*, in fact, is the natural goal-function of any organ (subject), which realizes and undergoes its *entelechist* ontogenetic path in Biocosmos. Therefore, Biocosmology should be considered as a contemporary scientific and philosophical expression of the teachings of Aristotle and Lao-tzu.

1. Contribution of Chinese scholars to the evolvement of the *Biocosmology Initiative*

Of great appeal and value to the BCA are the works of Chinese scholars⁸, who aim to critically examine the merits and demerits of the *Biocosmology Initiative* (BCI) put forward in the BCA. With great interest, in the course of their study : we made it our task to examine in the works of Chinese scholars both the essential points of their agreement with the principled grounds and objectives of the BCI put forward; and divergence with the BCI positions, or issues of insufficient understanding of certain tenets of the *Initiative*. In general, at the first stage, our goal is to identify and emphasize the key points of the BCI, which are still a bit difficult to understand for scholars – mainly in relation to the proposed comprehensive (Biocosmological – Organicist) approach; and which require their additional full clarification – to be subsequently put on the agenda of contemporary scientific and philosophical activity, to its evolving and actual exercise.

The scrutiny of the Biocosmology Initiative (BCI) has been undertaken since the 2021. This study is organized within the framework of the Biocosmology community, within the pages of the journal “*Biocosmology – Neo-Aristotelism*”, and its initiators are Russian and Chinese scientists. Undoubtedly, the initiated work makes a great contribution to the growth of fundamental *Organicist* (Biocosmological) thinking of modern scholars – which directly leads to the scientific understanding of naturalistic (natural science) dynamics of the present and future evolvement of the living peace-world of the Earth; as a manifestation of the successively higher result of the Auto-evolution of the living Kosmos (EvoProcess). Therefore, our current task (with respect to the BCI) is to conduct a comparative study of substantive papers (that explore the BCI) presented by Chinese scholars. To date, we have six papers, all published in the previous, 12th volume of the *BCnA*-journal in the section “*Discussion of the Biocosmology Initiative*”. These papers and their brief designations (for referring to) are:

⁸ All 6 papers were published in the *Biocosmology Initiative Discussion section*, in Volume 12 of the *BCnA*-Journal.

- 1-(**MV&CI**) “The **M**ethodological **V**alue of the Biocosmology Initiative **and** Its **C**ontemporary **I**mplications for the Construction of a New Civilization” by ZHANG Xihua and LIU Jingyuan;
- 2-(**PhThs**) “**P**hilosophical **T**houghts on Biocosmology” by CAO Mengqin;
- 3-(**RTrC**) “From Modern Science to Contemporary Science: **R**ejection of **T**ranscendental **C**osmology and Exploration of the Biocosmology” by XIAO Xianjing;
- 4-(**VBT&PP**) “The **V**alue of **B**iocosmology for **T**oday and Some Issues on the **P**ath toward its **P**ractice: Comments on “Addressing the Scientific Community –the *Biocosmology Initiative*” by CHI Xuefang and YE Ping;
- 5-(**NPhBMC**) “A **N**ew **P**hilosophy **B**eyond Traditional **M**echanical **C**osmology” by ZHOU Guowen et al.;
- 6-(**MHWEx**) “Biocosmology: A **M**odel of **H**umanity's **W**orld **E**xperience in the 21st Century” by JIANG Hongyu and GAO Han.

2. *Pro et Contra*: Chinese scholars' views on the Biocosmology Initiative

Naturally, we proceeded initially with the task of ascertaining those important research positions, in the works of Chinese scholars – which are substantially consistent with the premises of the *Initiative*. Thus, in the (**NPhBMC**)-study : the authors agree that “we should re-interpret the cosmology of the 17th century in an organic way, realize the contemporary turn of the organic cosmology, and finally form a systematic and scientific philosophical worldview and the methodology of building a new human civilization.” [p. 383]. Another (**MV&CI**)-research upholds this position and complements it: “the *Initiative* has not only the methodological significance of scientific cognition but also the contemporary significance of constructing a new civilization at its beginning.” [p. 261] In the next (**VBT&PP**)-study and analysis of the *Initiative* : here, the authors make a significant statement that Biocosmology “presents a way of scientific understanding and thinking, as well as a picture of scientific knowledge structure oriented toward the future propelling the construction of the global community with a share future for humanity that are revealed in the development of human civilization as the world undergoes tremendous changes unseen in a century.” [p. 393] For their part, authors of the (**PhThs**)-research point out that “Biocosmology constructs a bio-cosmos where man and nature are integrated and the world is regarded as a complete, self-developing and subjective bio-cosmos,” [p. 269].

It is particularly noteworthy that (**MV&CI**)-authors note a direct link between building the Biocosmological scientific approach and the overriding principle of Taoism. The latter establishes

the inherent Auto-evolvement and successive Auto-ascension (in complexity) of the real physical world (Nature, Kosmos⁹): “that the cosmos is inexhaustibly generating, moving, transforming and evolving in the process.” [p. 262] The authors here cite a key statement from the teachings of Lao Tzu: “Tao generates One, One generates Two, Two generates Three, Three generates ten thousand things.” [Legge, 2008] In the Biocosmological approach, the notion of EvoProcess means the *naturalist*¹⁰ inherent Auto-ascending (in complexity of organization) evolutionary Process of living Nature and Cosmos – Biocosmos. The main gist here is that the naturalistic essence of the *Organicist*¹¹ EvoProcess presented is all quite consistent with the meaning of the Tao in the teachings of Lao Tzu.

As for the criticisms and responses of Chinese scientists to the *Biocosmological Initiative* (and the Biocosmological scientific approach itself) : there are many of them; and all of them have a constructive character, i.e. a wonderful property to stimulate the work of thought – suggestive and make you think; in general, powerfully activate thinking. If you try to answer all of them, then the result will cover many areas of philosophical and scientific knowledge, and the total length would require a book format, but not a single article. Thus, the (RTrC)-author introduces problematic issues and organizes them as subheadings of his article: «1. Is the “transcendental cosmology” followed by modern science a “mechanical cosmology”?; 2. Is the Biocosmology towards which contemporary science is moving Aristotle's?;» [Xiao, 2022].

⁹ Once again, here the notion ‘Kosmos’ is etymologically derived from the Greek term κόσμος – the world order, universe and as an expression of a higher order.

¹⁰ Naturalism and “naturalist”, from Lat. *Natura* (meaning “birth, world order”, Russ. – Природа; and which derives from *nasci*, “to be born, originate”; further from archaic *gnasci*; derived from Praindoevr. *gen-/*gn- “to beget, produce” – see: <https://ru.wiktionary.org/wiki/natur%C4%83>) – and what is the Auto-evolvement, inherent in nature; and where *nature*, in the broadest sense, is the physical world or the Universe. Substantively, in the etymological relation : the terms *natural* and *naturalist* are synonymous with the lexemes *physical* and *physiological*, since “physical” is derived from the Greek φύσις (*phusi*, meaning “nature”), and the latter comes from the Ancient Greek φύω (*phyo* – growing, maturing, developing); thus, initially enclosing in the *natural* and *naturalist* meaning of Auto-evolvement and Auto-ascension of the subject, in the complexity of a living organization.

¹¹ Organon (from the Greek ὄργανον – organ, instrument, appliance, instrumentality), thus the essential *function* (organ’s or living subject’s function), which EvoProcess usefulness is the crucial property for a living subject’s ontogenetic survival and evolvability.

3. Organicism and holism: starting with the definition of leading concepts (“rectification of names”, according to Confucius)

In this connection, it was suggested to highlight first the points of significant misunderstanding of the BCI by Chinese scholars; and, in the course of their characterization, to refer to some important statements of the criticizing or supplementing authors.

We note, firstly, that Chinese authors do not see the all-encompassing meaning of Biocosmology – namely, the cosmological (universal) encompassing the whole of existence as dynamically Auto-evolving. In Biocosmology the concept of *cosmos* (from the Greek κόσμος – world order, universe, world) – here Kosmos means world order and higher order; and that includes all subjects and objects, all entities and strata, and all ongoing organized processes (starting with EvoProcess – Tao) – natural peace-world Auto-movement and Auto-Evolvement (Auto-ascension in the complexity of organization).

At the same time, Chinese scholars use the same terms and concepts that are used in the Biocosmological Organicism. Consequently, the task of clarifying, starting from Organicism and *organic* – the true (genuine) meanings of the common concepts used – is of primary importance.

It is significant that in the history of scholarly knowledge – this goal (principle) is primarily revealed (as fundamental) in the teachings of Confucius. As it is known, the great Chinese philosopher asserted the necessity of realization of the three primary tasks, when there is a need to overcome a complex crisis by a human being and society. The latter arises, for example, during the transition period (as at present), the so-called “time of change”; when society endures sharp transformations in its evolvement. Then, as the genius of Confucius reveals to us a universal plan of action – the subject needs to urgently realize the three most important target tasks: 1. *Rectifying names (notions)*; 2. *Strengthening traditions*; 3. *Acquiring the image of the future*.

At the same time, what immediately draws attention to itself : in the presented (by Chinese scholars) works the concept of holism is actively used; but, at the same time – all this is carried out both in different semantic meanings, or in confusion with the concept of Biocosmological Organicism (that is essentially distinct). Thus, as the (MV&CI)-authors state, “the real world is regarded as a unity from the perspective of holism, but this unity is not a collection of mechanist disparate elements, but a natural and living existence, embodying the standpoints of naturalism and organicism.” [p. 266]

However, in another – (PhThs)-work, holism here is considered already from the perspective of the “environmental philosophy,” thereby “*ecological holism* (italics is our. – **Authors**) implements the

holistic philosophical logic of «one and many», such as Leopold's «*The Land Ethic*», in which all kinds of natural existence including human beings are just citizens or members of the earth community.” [p. 274] As it clearly follows here : the authors, believing themselves on the position of modern holism (accepted in the Western academic community) – Chinese authors actually exclude the *dynamic naturalistic* (Taoist) principle in the Auto-evolvement and Auto-ascension (in complexity) of all Earth Organicist (Auto-moving) evolutionary processes.

Here the authors also argue (but which is sharply opposed both to Aristotle's science and philosophy, in general; and especially in terms of denying the fundamental naturalism of the neo-Aristotelian Biocosmology) that “The integral structure of «one and many» in ancient Greek philosophy that annihilates the role of human subjectivity is replaced by Hegel's unity of opposites, to achieve the goal of equal value between man and nature.” However, as the author further concludes, “we notice that the integrity of «one and many» is incompatible with the integrity of «unity of opposites», while biocosmology tries to make them compatible but we cannot see the necessary basis and basic logic for the compatibility of the two integrities.” [Ibid.]

The latter point of view is fully consistent with the generally accepted (Western) definition of holism, the essence of which can be reduced to its basic ontological principle – “*the whole is always something more than the simple sum of its parts.*”

It is clear from the above that the Western (Transcendentalist) holism that is ingrained in modern academic knowledge – this holism studies Static and Homogeneous (but holistically organized) phenomena; and that corresponds to the category of objective “givenness” (in relation to the external observer studying it). Here the holistic object is usually a social or environmental (ecological) system. At its core, Western holism studies the objective parts of a holistic system and their interrelationships, but where the main principle is that a “holistic system” is “*more than the simple sum of its parts*” (which directly implies something *transcendent* behind the holistic system under study, as a result of the creation of a Demiurge or the endeavors of man and society). In this light, each holistic system serves both to maintain its stability and to realize a constant *monolinear* (on the same grounds and in the same direction) process of its progressive improvement, thus approaching the ideal values of the Common Good (which directly correlates with Plato's philosophical constructions).

In contrast, the Organicist naturalistic principles (natural science foundations) inherent in Biocosmology and Taoism – are practically absent in Western holism.

However, these very principles are fundamental for any subject of the Biocosmos (on a universal scale) – for the realization by each *subject of life* of its/her/his integral ontogenetic Auto-ascension (in the complexity of its organization) : starting with the fundamental principles of Dynamic Bipolarity and Cyclicity – Triadicity (hence Triadological scientific knowledge); but all this is basically lacking in the modern holistic concepts allowed in the academic community of Western science.

But it is the latter (Organicist naturalistic principles) that are fundamental for any *living subject* in its realization of its ontogenetic Biorhythmic and Cyclic Self-evolution – all this aimed at the Entelechist specialized Auto-perfection of the subject and the attainment of its/her/his highest stratum of the *OrganonKosmist* life organization (movement) – for making here the Functionalist (*entelechial*) wholesome contribution, into further Self-growth (in complexity) of the EvoProcess itself.

In the following (NPhBMC)-work we learn a striking piece of information about Aristotle and holism, that “characteristics of holism and scientism revealed by Aristotle's philosophical thought have constructed the basic concepts and frames of thought in the category of organic cosmology.” [p. 386] Finally, the (MHWEx)-judgment reveals that “from a comprehensive perspective, it (biology, – **Authors**) complements reductionism with holism, complements simplicity with complexity, and complements linear description with nonlinear description, which further enriches the overall revelation of the object world.” [pp. 379-380] Naturally, we find it difficult to agree with both author’s judgments.

In fact, to distinguish fundamentally between the concepts of Holism and Organicism – here (first and again) we need to pay special attention to the meaning (and understanding) of the foundational principles of Biocosmology. At the same time, since the latter are really close to the basic principles of Taoism – we hope for their soon and certain perception and understanding by Chinese scholars.

It is important to initially take into account that the fundamental basis of Biocosmology, which studies the integral (singular) living Kosmos, and all its (countless) constituent *subjects of life* : here the principles of Bipolarity and Triadicity (Triadology) are the foundational ones in the organization of the living Kosmos (Biocosmos as a really existing EvoProcess and its peace-world).

The essence of the Triadological principle is that it asserts the Three equal, independent (from each other) and autonomic (in its organization) spheres of life activity – respectively, the Three cosmological Types of scholarly knowledge : two polar (opposite to each other); and the Third, but

equally essential *intermediate*, Integralist *meso*-Type¹², which unites the potentials, energies and forces of the poles (and its own – *meso*-Integralist forces) into a single axis-foundation of the integral wholesome ontogenetic organization of the life activity of an organism-subject.

In lieu of a conclusion. The release of the *Biocosmology Initiative* (BCI, in 2021) triggered a subsequent reaction from scholars – consideration, criticism and discussion of the BCI; and that included active study of the *Initiative* by Chinese scholars (for example, 6 substantive papers studying and evaluating the BCI were submitted to the *Discussion section* and published in the Vol. 12 of the *BCnA*-journal). The BCA community saw this as an important milestone and a valuable resource, and immediately began to promote responsive reflection. At the same time, in this paper, the authors pursued the goal of launching the already organized reflection; and, at first, remembering the great Confucius's strong advice to start a big undertaking with “rectifying names” (clarifying the true meaning of the main concepts and standpoints) in the ongoing discussion and solving the set goals and tasks. Hence, to a rough approximation : but this paper argues that we should correlate (as profoundly complementary) Biocosmology and the teachings of Lao-tzu (Taoism, in general).

References

- Cao, Mengqin Philosophical Thoughts on Biocosmology,” *Biocosmology – neo-Aristotelism* Vol. 12, Nos. 1&2 (Winter/Spring 2022): pp. 272–275. (in the paper is used in the abbreviation “**PhThs**”)
- Chi, Xuefang & Ye, Ping (2022). “The Value of Biocosmology for Today and Some Issues on the Path toward its Practice: Comments on «Addressing the Scientific Community – the *Biocosmology Initiative*,” Vol. 12, Nos 3&4 (Summer/Autumn 2022): pp. 393–403. (in the paper is used in the abbreviation “**VBT&PP**”)
- Jiang, Hongyu & Gao, Han (2022). “Biocosmology: Shaping the Model of Human Experience of the World in the 21st Century,” Vol. 12, Nos 3&4 (Summer/Autumn 2022): pp. 378–382. (in the paper is used in the abbreviation “**MHWEx**”)
- Khroutski, Konstantin S. (2022). “Editing the English version of the Biocosmology Initiative, year 2022,” *Biocosmology – neo-Aristotelism* Vol. 12, Nos 3&4 (Summer/Autumn 2022): pp. 404–418.
- Legge, James (2008 [1891]). *Tao Te Ching or the Tao and Its Characteristics*. The Floating Press.

¹² From Greek μέσος – mesos – making up the middle, median; and μεσότης – the mean, the intermediate, the (golden) middle.

- Randall, John Herman Jr., (1962). "Aristotle's System of the Physical World: A Comparison with his Predecessors by Friedrich Solmsen," *The Philosophical Review*, Vol. 71, No. 4 (Oct., 1962), pp. 520–523.
- Xiao, Xianjing (2022). "From Modern Science to Contemporary Science: Rejection of Transcendental Cosmology and Exploration of the Biocosmology Initiative," *Biocosmology – neo-Aristotelism* Vol. 12, Nos. 1&2 (Winter/Spring 2022): pp. 276–280. (in the paper is used in the abbreviation "RTrC")
- Zhang, Xiuhua & Liu, Jingyuan (2022). "The Methodological Value of the Biocosmology Initiative and Its Contemporary Implications for the Construction of a New Civilization," *Biocosmology – neo-Aristotelism* Vol. 12, Nos. 1&2 (Winter/Spring 2022): pp. 264–271. (in the paper is used in the abbreviation "MV&CI")
- Zhou, Guowen; Wang, Hongyuan & Zhu, Yingyin "Biocosmology: A New Philosophy beyond Traditional Mechanical Cosmology," Vol. 12, Nos 3&4 (Summer/Autumn 2022): pp. 383–392. (in the paper is used in the abbreviation "NPhBMC")

Aristotle and Alexander of Macedon – By-products of Greco-Macedonian Cultural Symbiosis and Eternal Tribal Contest

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Abstract. This essay looks at the problem of cultural symbiosis and cultural ownership exemplified by the ongoing biographical discourses on Aristotle and Alexander of Macedon which through time continue to display the validity and correctness of Aristotle’s notion of cultural universals, manifested in the eternal strife for tribal extraordinariness, cultural exceptionalism, emphasis on Otherness and ownership of a particular tribal hero, despite the essential similarity of the civilizational ascent. Both figures are treated as permanent universal cultural signs, viewed with the semiotic lenses.

Keywords: hero, heroism, cultural signs, cultural ownership, cultural symbiosis, signs of Greekness, signs of Slavdom, ethnic origins, civilizational ascent.

Резюме. В данном эссе рассматривается проблема культурного симбиоза и культурной собственности на примере продолжающихся биографических дискурсов об Аристотеле и Александре Македонском, которые со временем продолжают демонстрировать обоснованность и правильность аристотелевского понятия культурных универсалий, проявляющихся в вечной борьбе за племенную экстраординарность, культурную исключительность, акцент на Инаковости и право собственности на особенного племенного героя, несмотря на существенное сходство цивилизационного восхождения. Обе фигуры рассматриваются как постоянные универсальные культурные знаки, рассматриваемые через семиотические линзы.

Ключевые слова: герой, героизм, культурные знаки, культурная собственность, культурный симбиоз, знаки гречности, знаки славянства, этнические истоки, цивилизационное восхождение.

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Выводы

Introduction. Pondering over the pathway of modern Europe and the central orientation of current European cultural discourse, Jacques Derrida, himself a product of cultural symbiosis and choice, reminded that “culture never had single origin, despite the universal tribal desire to impose and assert it [1991:10]. Over millennia, the panorama of the civilizational ascent has demonstrated that human pathway has been very complex, extremely convoluted and contradictory, despite the tribal desire to simplify it and draw borders between the cultural routes in order to assert cultural status, cultural ownership and superiority of some versus others.

For a long time, Homeric 8th century epic was the single most authoritative source about the exceptional Greek cultural legacy, its uniqueness and superiority ignoring its actual Phoenician origins and influential impact of the Hellenic-Phoenician cultural symbiosis. However, even Greek dramatist Euripides (485BC–406BC) whose life ended in Slavic Macedonia already produced a creative-antithesis to Homer, alluding to the re-assessment of the Greek cultural pathway and re-

evaluation of the Phoenician cultural impact and the forgotten Helleno-Phoenician cultural symbiosis. The same idea of collective cultural construction would re-appear in the Roman poet Virgil (79BC–19BC) who asserted that “mixing and mingling” in general constituted the universal mechanism of cultural development and human civilizational ascent.

Regrettably, our age of paradoxes and cultural amnesia is repeatedly embarking on the same futile and impossible questions of tribal exceptionalism, tied to race, ethnicity and discovering the alleged hidden origins. Despite the impossibility and futility of determining the precise ethnogenesis, historical fictions and nonsensical questions arise again and again. Whose is Alexander the Great?

What are the actual ethnic origins of Aristotle, the towering figure of humanity? We try to unpack the multiple meanings of these two cultural signs and denote the complexity of the discourse around them and multiplicity of meanings and contexts evoked by them. The purpose of the current undertaking to emphasize the mistaken interpretations of these well-known cultural signs, which basically reflect the modern context of the universal tribal reversal to oversimplification and the desire to assert one’s own superiority.

1. The New Meaning of the Old Icon – Aristotle, the Stagirite

On the basis of the multiple biographical accounts over two millennia, Aristotle (384BC–322BC) as a heroic cultural icon can be simultaneously referred as the cultural property of the two ethnic and cultural groups – Macedonian and Greek. Athens made him a towering immortal cultural figure, the creator of his own school of philosophy, the son of Hellas, while Stagira, Aristotle’s place of birth, was a proto-Slavic land, now a Greek territory, but a part of the Macedonian kingdom in the past. Thus, Aristotle belongs to two homes – Greek and Slavic. His belonging to Stagira has been acknowledged by the thousand-year-old tradition of Aristotle commentators who had bestowed upon him the name-symbol “Stagirite”. As a universal cultural sign Aristotle is the cultural property of the global intellectual community, but as a native of Stagira he could be claimed as a Macedonian and a Slavic tribal hero. None of the mainstream commentators dared to unpack the semiotic ambiguity of this cultural sign and the complexity of the phenomenon. But certain doubts were occasionally raised over millennia.

It is not incidental that the recent modern monograph-biography by the Italian scholar Carlo Natali, *“Aristotle. His Life and School”* (2013) sheds the new light of the complicated biographical reality of the ancient thinker. Carlo Natali informs, for instance, on page six of this new modern biography that Stagira, Aristotle’s birthplace, “was a polis of Thracia” and that in 424BC it aligned itself with Sparta.

But in 328BC Philip of Macedon forced independent Greek city-states into submission. Aristotle himself never mentions Stagira in his works, with the exception of his will. According to Carlo Natali, Aristotle's mother Phaestis "descended from one of the leaders of the expedition from Chalcis who colonized Stagira (2013:7). Nonetheless, C. Natali timidly retreats to the familiar narrative and, in the next sentence, asserts that "both parents were likely of Greek origin." The post-modern scholar raises legitimate doubts regarding origins but timidly moves away from doubts and complex facts. Thracia was a proto-Slavic land and this fact bothered future biographers. On page eleven, Natali quotes Bishop of Cyprus Epiphanius from the 4th century BC who allegedly wrote, "Aristotle, son of Nicomachus, said by some to be a Macedonian from Stagira, but, according to some others, was a Thracian." C. Natali also mentions that Aristotle himself and his relatives and pupils "were involved in the political affairs of Athens but often took the pro-Macedonian side" [2013:14]. On page ninety-six of his biography, C. Natali states that Aristotle was an outsider. His open affiliation, support and friendship with Macedonians support this claim. In fact, the outsider motif becomes prominent in this post-modern biography of Aristotle.

C. Natali persistently reminds his readers of Aristotle's position of an outsider and finally states that:

in Athens, Aristotle lived as a "metic," an alien resident, subject, like all fellow "metics, to various obligations" – he had to pay a tax to state while citizens were exempt from taxes; he had to procure a legal sponsor; he had to serve in the army or navy; he could not take part in political life, nor could he own real estate, nor hold a magistracy [2013:19].

These legal rules were stemming from the traditional Greek dislike of foreigners, many of whom were labeled as "barbarians". Thracians were a target of the traditional Greek xenophobia, so must have been Aristotle, the pupil of Plato. His position must have been rather precarious in Athens, and he "was harmed by the rivalry between Athens and Macedonian kingdom, being forced to flee Athens twice by the outbreak of the anti-Macedonian hatred – in 348BC and upon the death of Alexander" [2013:143]. C. Natali hints that the outbreaks of critique of Aristotle's works could have been also explained by his position of an outsider or his non-Greekness. The ties with Macedonia or reports about his alleged Thracian origins would undermine the later heroic status and the tribal heroic narrative about belonging and cultural ownership of Aristotle.

2. Macedonia, Thracia and Greece

Given the geographic proximity of the three tribes, the opportunity of "mixing and mingling," mutual cultural exchanges, sharing theological mythologies and epos, despite the linguistic differences, it would be impossible to define the precise ethnic origins of these neighbors. The populations were in close contact for centuries, and since the earliest times, the boundaries between Thracia, Macedonia

and Greece “were never fixed” [S. Casson, 1926:36]. Due to the permanent proximity, constant battles for territory, unstable borders, the question of origins on which each tribe would later insist had been obviously always futile. The awareness of the Thracian, Macedonian and proto-Slavic presence in the area has been manifested even in Homer’s *Iliad* [A.Fol, 1997:38]. Aristotle mentions Thracia in his “*Politics*” and describes Thracians as militaristic tribe. The surviving toponyms though point out to the Slavic origins of Thracia and Macedonia whose long presence in the Balkans would be later attested by the archeological excavations of the modern times. River Struma, lake Ostrovo, river Zdravnik confirm the Slavic origins of the tribes inhabiting the area next to Greece. At Salonika (modern Thessalonika), objects had been found belonging to the pre-historic Bronze Age [S. Casson, 1926:153]. Stagira, Aristotle’s birthplace, was the suburb of Thessalonika and in the middle position of this historic contact between Thracia, Macedonia and Greece. The Greek pottery found in the area was of later period. Despite the traces of Thracian language in the Greek toponyms, the Greeks had been ethnically and linguistically different. The “mixing and mingling” was not excluded and would later inspire biographical fictions.

In 1532, the Dominican monk from Dalmatian island of Hvar, Vinko Pribojevic, published work on the pan-Slavic ethno-linguistic kinship and suggested that all well-known historic personalities from the Balkans had been of Slavic descent, such as twenty four Roman Emperors and Aristotle. The Slavic origin of Aristotle was asserted by Bulgarian Prof. Ivan Kaltchev, in his presentation at the Second International Seminar on Biocosmology, in Veliky Novgorod; July 2011 (as told to me by Prof. Konstantin Khroutski). In addition to the Thraco-Macedonian linguistic substratum and possible cultural impact upon the Greeks, modern scholars also included Paeonia, mentioned by Homer in his *Iliad*. Paeonia fell to the Macedonian rule in 358 BC but the end of the Paeonian state is dated around 230 BC [E. Petrova, 1999:XI,3). Bylazora, “the largest Paeonian city, twice mentioned by Polibius,” has a Slavic sounding name (ibid.:71). Sary Grad, Bylazora, Lisicin Dol are the toponyms that clearly allude to the Slavic origins of the population which inhabited the part across Salonika (Thessalonika), i.e. Macedonia. Despite the futile and impossible task of discovering the true origins of the Balkan people, modern scholars undertake the same task and again look into the distant past. The civilizational pathways of the Slavs and their neighbors, the Greeks, crossed but the languages remained different, despite the geographical proximity. The obviously more advanced Hellenic civilization contributed to the collective mimesis of their Slavic neighbors and popular Phil-Hellenism which contributed to the Slavic cultural development in the Balkans, a significant and influential cultural phenomenon in itself.

The superiority and successes of the Hellenic civilization became evident and obvious to the neighboring Macedonians, who eagerly embraced Hellenism as a civilizational model, causing the historic march of Hellenism, undertaken eventually by the historic mission of Alexander of Macedon spreading Greek civilization in the world. To many Greeks their Slavic neighbor was a “miserable Macedonia” whose societal norms and moral values were largely different from the Greek. For instance, polygamy abandoned by the Greeks, was still practiced by the Macedonians. King Philip took seven wives without divorcing the previous ones [Worthington, 2014:5]. Alexander the Great saw marriage as a geopolitical tool in his conquest. The Greeks condemned the Macedonian practice of polygamy, regarding it as barbaric. However, paradoxically the “barbarian” Macedonians would become the most ardent promoters of Hellenic civilization and Hellenes, regarding them as their mentors. Pantelis G. Vyssoulis addresses this question in his book *Macedonian Hellenism* where he provided not only parallel portraits of Aristotle and Alexander the Great but also shed new light on the Slavic roots of Aristotle:

Aristotle, the Stagirite and Alexander the Great
both were born in Macedonia and ennobled Hellenism
as none other [1983: intr.].

The Hellenic and Thracian cultural pathways had been also crossed in many ways in antiquity. Out of the twelve rivers mentioned by Homer in his *Iliad* only two are Greek, rather than Thracian naming or of Slavic linguistic origin, all the rest alluding to the Thracian history. The river Rhesos is the name of the Thracian King who was ally to the Trojans [A. Fol, 2010:38]. The Thracian toponym Odessos for the modern Bulgarian city of Varna referred to the old Greek name borrowed from their neighbors. The historical mythology of Greeks ignored their mixed proto-origins where Phrygia, Thracia, Phoenicia played a significant role. The surviving toponyms and theonyms point out to the cultural cross-pollination of the neighboring tribes in the ancient past and later intentionally forgotten. The echo of this ancient past could be found in Plato who mentions the festival of the Bendis, one of the Thracian ancient tribes [A. Fol, 2010:73]. The same scholar makes supposition that Orphism practiced by the Greeks has ancient roots in the cults of the Thracians and their pre-literary Orphism which could be, in turn, traced to the Phrygian antiquity and influence [2010:77]. The pan-Hellenic god Dionysus is related to the Thracian Orphic Dionysus, the bull god who arrived every third year. Macedonia that has given birth to both great men in European, Greek and Macedonian history could easily claim them to be their national heroes.

3. Alexander under the Tutelage of Aristotle

Macedonian kingdom and its capital were shaped around 700BC when the rulers expressed their fascination with the Greek culture, choosing to emulate it and spread among themselves. Nonetheless, some modern scholars suggest that attraction to Hellenism was not purely cultural but would like to attribute it to mixed ethnicity since blood and belonging again became very important in the 20th century. Peter Tsuras, scholar of Greek origin, claims that Alexander's mother was Greek:

She was Olympias, daughter of the late Epirot King Neoptolemus
She was not the typical Greek – red-haired
whose beauty was intoxicating [2004:13].

The biographer accords genetic advantage to Alexander the Great by which he explains his talents, physical endurance and intellectual uniqueness:

The boy proved to be phenomenally gifted student.
He excelled in reading and writing much earlier than
other children. He also learned music and played
the lyre with exceptional ability and feeling [2004:15].

His father chose Aristotle as the most proper mentor to his precocious child at the age of twelve. Under Aristotle's guidance Alexander was exposed to the Greek epos, poetry and philosophy. Homer's *Iliad* would be his handbook and permanently used manual for the art of war which he would take in all his campaigns next to his dagger [2004:20].

This legendary man is pictured as a byproduct of two ethnicities – Macedonian and Greek. The post-modern mythmaker writes that "his eyes were said to be of different colors, one brown and the other gray or green" [2004:22]. According to the story, Alexander even physically carried the duplicity of his origin. It is remarkable that even the all-knowing 21st century is so obsessed with blood and belonging. In Canada, the representatives of the two Toronto diasporic communities, Greek and Macedonian, continue to have a custom meeting in the city's Greek town to pay tribute to the greatest cultural icon and the greatest Emperor whom both groups claim to be theirs.

Nobody would ever know what was Aristotle's mother tongue and whether he knew Macedonian, but the available records testify Alexander's bilingualism which he publicly demonstrated on numerous occasions, communicating with his soldiers in the Slavic tongue. Alexander's public career as a promoter of Hellenism stemmed from his profound knowledge and admiration of Greek culture which he promoted with the skillful military tactics and the ability to win the dedication of his Slavic

soldiers. It went down into history as a unique case of conquest when the “barbaric Slavs,” the Macedonians, ironically became the most efficient and ardent promoters of the culture of the Other, having achieved the victory which the Hellenes could have never dreamt. As a result of Alexander’s astonishing historic military campaign and unique strategy, in the 4th century BC, the Hellenic Empire ultimately stretched from Greece and Macedonia to Punjab. In addition to the most successful and unprecedented campaign and diplomacy, this was the most exciting moment in the Greek history, the brief colonial triumph of Hellenic civilization attained by the Macedonians, the cultural converts to Hellenism.

4. From Peaceful Phil-Hellenism of the Macedonian Elite to the Military March

Despite the post-modern attempts to attribute Macedonian phil-Hellenism and personal achievements of Alexander the Great to his allegedly partially Greek ethnic origins, while the actual philo-Hellenism was the consequence of the Macedonian profound fascination with the cultural achievements of their Greek neighbors. It shaped the persistent will of the Macedonian rulers to emulate Greek architecture, art, literature and thought, having created the cultural circumstances which predated Alexander the Great and his campaign. King Archelaus, who ruled from 413BC up to 399 BC, invited Socrates and the Athenian playwrights Agathos and Euripides to his court [I. Worthington, 2004:20]. Euripides wrote his plays *Bacchae* and *Archelaus* while residing in the Macedonian city of Pella [ibid.]. King Philip, Alexander’s father, honored Plato when he died. Plato was known to have benefitted from his special relationship with Macedonian kings. King Perdiccas III patronized Plato’s Academy. Plato was known for his pragmatic character and non-altruistic behavior, his fondness for drakhmas led him to the Macedonian connections. He used the Macedonian phil-Hellenism to gain financial support. At a time, preceding the rise of Alexander’s military campaign and his triumph, Macedonia became a genuine generous patron of Greek art and thought. King Philip used to invite the most outstanding and brightest Greek poets, playwrights and philosophers to the Macedonian Kingdom. Despite the regular clashes between the Greeks and Macedonians, the Greeks acknowledged the Macedonian efforts to promote and cultivate Greek heritage in their kingdom. The Macedonian kings were mesmerized by the Greek architecture, art, music, and philosophy and it was very flattering to the Greeks to see the desire to emulate and transplant their culture.

The collective cultural mimesis of the Macedonians lasted for centuries. The Slavic substratum was sustained by the populace, that is why the Slavic tongue would never disappear, nor their epos and mythology. By 400–350BC, the Macedonian court already imposed Greek as the language of the Kingdom in the presence of the Macedonian native tongue. The bilingual climate in Macedonia raised

the cultural level of the Kingdom and shaped its eventual pathway to the world military conquest under the banner of Hellenism. The proximity to the Greeks and observation of their cultural development inspired the Macedonian rulers to chart their political course, marked by the spread of Hellenism in the world. The Macedonians observed the Greek cultural edifice in making, acknowledging the differences and the superiority, as well as embarking on the ambitious goal of raising themselves to the same level. The post-modern attempts to explain Macedonian Hellenism by purely ethnic origins completely contradict the actual reality.

Macedonian rulers and ordinary people observed the Greek ethical and moral values and kept their own customs. Polygamy, long abandoned by the Greeks, was still practiced by the Macedonians. King Philip, as we mentioned earlier, was known to have seven wives without having divorced the previous six [I. Worshington, 2014:5]. While Greeks regarded polygamy and theological shifts signs of barbarism, the Macedonians used it for conquest. Alexander the Great was known to take “Persian customs to endear himself to his subjects” [ibid.:200]. King Philip and Alexander the Great had been in awe of Athens, the city that struck all with its beauty. Macedonians and Thracians did not possess such urban centers. The coming of Alexander to the historical and political arena occurred when Greeks could not fight their aggressive neighbors in face of Persia, Tyre and others. Macedonians, in contrast, infused their energy into the weakening Greek civilization. All the previous efforts of the cultural conversion by Kings Archelaus, Philip, Perdiccas III helped Alexander of Macedon to embark on the mission of spreading Hellenism and raised the status of Macedonians in the world.

Prior to exercising his historic mission, Alexander had a solid background in Hellenic culture and it was very flattering to the Greeks to observe the Macedonian cultural conversion. Many even regarded Macedonians as Greeks. Hesiod, Thucydides and even Strabo in the Roman times would make the same claims, but there was no unanimity of opinions, historic fictions coexisted with facts. Despite the philo-Hellenism of the Macedonian ruling elite, the populace maintained the Slavic tongue which they would carry into modernity and preserve it. The Greek language was spoken by many Macedonians in 315 BC, while the Macedonian-speaking population actively participated in the spread of Hellenism. Stanley Casson argued with confidence that Thessalonika was not a Greek colony (except under Olynthas) [1926:34]. Moreover, seventy Macedonian cities were located between the area of Olympos and Strymon, and only six had Greek and Roman foundation [ibid.:ibid.]. Herodotus never called Macedonians “barbarians” but claimed that Alexander of Macedon would have been excluded from the Olympic contests because he could not prove his descent from the Argive line [S. Casson, 1926:158].

5. Motivation for Military March

King Philip, Alexander's father, a philo-Hellene, who painstakingly tried to transplant the Hellenic civilization in Macedonia and educate the elite in the Greek manner, was convinced that the Greeks could not promote their own civilization and defend their statehood militarily themselves. At the moment of encountering Macedonians, Athens had reached the stage of readiness to deal with their neighbors via diplomacy. The differences in the civilizational organization justified their attitude towards their less advanced neighbors who adhered to the strategy of primitive militancy and aggressive use of force. Having in mind the ultimate unity and peace with Athens, King Philip encouraged his son, "talented strategist, logician" to embark on the military campaigns for the promotion of Hellenism.

Peter Tsouras, a post-modern biographer of Alexander the Great, informs that scholars have argued and debated Alexander's motivations— whether it was the ultimate proof of fascination with Hellenism or personal heroic frenzy and aggrandizement. The "inimitable" Alexander did not stop after his campaign in Egypt. After foundation of Alexandria, which immortalized his beginning of the "oriental campaign", it inspired him to conquer Babylon and India. His army marched to Maracanda/Samarkand and the river Syr Daria, he founded another Alexandria next to Khodzent and another in the Caucasus. "Alexander channeled his energies into his drive for glory and love of war," writes this post-modern biographer [2004:23]. Despite his diplomatic skills and clever manipulation of customs, religious rituals and attitudes of the conquered, Alexander fervently pursued his conquest ideal which he nurtured since childhood – his heroic march for the spread of Hellenism was his "Macedonian Iliad" which mesmerized the Greeks who granted him a semi-divine status while he was still alive, and many explained it by his alleged tribal belonging. His life-legend would eternally nourish the tribal mythology among the Macedonians and Greeks, bringing it into post-modernity.

Conclusions. Despite the millennia of "mixing and mingling," using Virgil's successful characterization of the mechanism of human cultural development, our confused 21st century is again obsessed with blood and belonging and cultural ownership. Throughout history, each tribe has been jealously guarding its cultural heroes, with the same intensity as its often disputable territorial borders.

The discourse about the ethnic origins of the cultural heroes now is as intense as in the past. Both legendary figures – Aristotle and his pupil Alexander the Great – continue to excite popular and scholarly imagination, tackling the impossible and futile task of defining the biogenesis.

Aristotle's thought and teaching have defied time, having become the shared cultural property of the enlightened humanity. His talented and eager student Alexander the Great, fascinated by the Greek legacy and raised on Hellenic heritage, immortalized the value of Hellenism during his historic conquests and has become the cultural property of both tribes, Greek and Macedonian. The tribal desire to claim unique ownership and determine the biogenesis has proven to be impossible and futile. Both names are now the universal permanent cultural signs, owned by all.

References

- Casson, Stanley. *Macedonia, Thracia and Illyria*. Humphrey Milford: Oxford University Press, 1926.
- Derrida, Jacques. *The Other Heading. Reflections on Today's Europe*. Trans by Pascale-Anne Brault & Michael Haas. Bloomington, Ind.: Indiana University Press, 1991.
- Fol, Alexander. *Thracian Culture: Told and Untold*. Sofia: Tangra Publishing House, 2010.
- Makolkin, Anna. *Symptom and Sign in Corpus Aristotelicum*. Toronto : Anik Press, 2018.
- . *Recalling the Past at Will*. Toronto : Anik Press, 2020.
- Natali, Carlo. *Aristotle His Life and School*. Princeton: Princeton University Press, 2013.
- Petrova, Eleonore. *Paeonia*. Skopje: Data Pons, 1999.
- Rossos, Andrew. *Macedonia and Macedonians*. Stanford, Ca.: Hoover Institution Press, 2008.
- Strabo. *The Geography*. Trans by H.C. Hamilton, 3 vols. London: Henry G Bonn, Covent Garden, 1854.
- Tsouras, Peter. *Alexander. Invincible King of Macedonia*. Washington, DC: Brassey' One, 2004.
- Vyssoulis, Pantelis. *Macedonian Hellenism*. Toronto : Hellenic Publishing School, 1983.
- Worthington, Ian. *Alexander the Great and Rise and Fall of the Macedonian Empire*. Oxford: Oxford University Press, 2014.

Триада типов времён «Хронос-Циклос-Кайрос» – с позиций модели процессов самоуправления природы

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Triad of time types “Chronos-Cyclos-Kairos” – from the position of the model of nature’s self-controlling processes

Sergey N. GRINCHENKO

Резюме. Три, независимых друг от друга, типа времени «Хронос-Циклос-Кайрос», предложенное древними греками, сопоставлены с представлением о типичных временах процессов в моделях иерархических самоуправляющихся систем Биосферы и Человечества, активно функционирующих по алгоритмам поисковой оптимизации целевых критериев энергетического характера, с ограничениями типа равенств и неравенств. Параллелизм между представлением о Ноосфере и результатами моделирования системных процессов самоуправления в личностно-производственно-социальной природе, позволяет получить новые знания о сущности, пространственно-временных характеристиках, предыстории и перспектив Ноосферы как этапа развития Человечества.

Ключевые слова: Хронос, Циклос, Кайрос, Биосфера, Ноосфера, самоуправляющаяся иерархо-сетевая система Человечества, информатико-кибернетическая модель

Abstract. Three, independent from each other, types of time “Chronos-Cyclos-Kairos”, proposed by the ancient Greeks, are compared with the idea of typical times of processes in models of hierarchical self-controlling systems of the Biosphere and Humanity, actively functioning according to search optimization algorithms for target energy criteria, with limitations type of equalities and inequalities. The parallelism between the idea of the Noosphere and the results of modeling systemic processes of self-controlling in personal-production-social nature allows us to gain new knowledge about the essence, spatio-temporal characteristics, background and prospects of the Noosphere as a stage in the development of Humanity.

Keywords: Chronos, Cyclos, Kairos, Biosphere, Noosphere, self-controlling hierarchical-network system, informatics-cybernetic modeling.

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Введение. Как известно, древние греки выделяли три, независимых друг от друга, типа времени: хронос ($\chi\rho\acute{o}\nu\omicron\varsigma$) – длительность процессуального течения событий; циклос ($\kappa\acute{\upsilon}\kappa\lambda\omicron\varsigma$) – круговоротная (циклическая) последовательность событий; и кайрос ($\kappa\alpha\iota\rho\acute{o}\varsigma$) – удобный или счастливый случай (в частности, кризисное время).

Более подробно, «Хронос (=Кронос), Циклос (=Киклос) и Кайрос («благоприятный момент») – три основных архетипа времени, которыми пользовались древние греки. Они отражают разное понимание и разный смысл времени. Хронос управляет линейным течением времени, направленным из прошлого в будущее. Циклос – циклически повторяющимися во времени процессами. Кайрос – сроками наступления и окончания событий» [Сазонов, 2009–2022].

Предлагаются и иные – расширенные – трактовки этих понятий, например: «возрождаемое сегодня античное понимание времени как единства Хроноса, Циклоса, Кайроса (человеческого, природного, духовного времени)» [Войцехович и др., 2021, С. 128]. Данная трактовка имеет более обобщённый характер, нежели традиционная.

Возникает естественное предложение: провести противоположно направленную интерпретацию триады понятий «хронос-циклос-кайрос» – в направлении большей их конкретизации — для чего использовать контекст представления об иерархических поисково-оптимизационных моделях процессов самоуправления в Природе [Гринченко, 2004, 2007, 2010]. Их пространственно-временные характеристики опираются на геометрическую прогрессию со знаменателем $e^e = 15,15426\dots$, которую выявили, при изучении критических уровней в развитии биосистем, А.В. Жирмунский и В.И. Кузьмин [1982]. Результаты применения данной модели при изучении исторического процесса в археологическую эпоху и их адекватность эмпирическим данным палеонтологов, археологов и историков продемонстрированы в работах [Щапова, Гринченко, 2017; Щапова и др., 2019].

1. Информатико-кибернетическая схема самоуправления в живой природе

Этапы эволюционного развития живой природы прослеживаются на базе её поисково-оптимизационной модели: на всём периоде от начала жизни на Земле около 4,6 млрд лет назад и до современности [Гринченко, 2004].

Весь процесс этого развития, очевидно, следует интерпретировать как проявление «Хроноса». При этом в рамках такой модели выделяются моменты времени системных переходов в

строении и характеристиках иерархической структуры живой природы, которые естественно интерпретируются как проявление «Кайроса». Это:

- ~4,6 млрд лет назад (начало формирования субкомпарментов будущих прокариотических ячеек — органических молекул на Земле — после её остывания до приемлемых температур, их не разрушающих) —
- ~3,67 млрд л. н. (первые макромолекулы — компартменты будущих прокариотических ячеек) —
- ~3,61 млрд л. н. (первые «собственно» прокариотические ячейки) —
- ~3,6 млрд л. н. (первые эвкариотические клетки, с неразличимыми между собой элементами, и в размере своих будущих субкомпарментов) —
- ~2,66 млрд л. н. (первые эвкариотические клетки в размере своих будущих компартментов) —
- ~2,6 млрд л. н. (первые «собственно» эвкариотические клетки) —
- ~2,59 млрд л. н. (первые «однотканевые» многоклеточные организм) —
- ~1,65 млрд л. н. (первые органы в составе многоклеточных организмов) —
- ~1,59 млрд л. н. (первые «собственно» многоклеточные организмы) —
- ~1,58 млрд л. н. (первые популяции — субкомпарменты будущих биогеоценозов) —
- 0,64 млрд л. н. (первые парцеллы — компартменты будущих биогеоценозов) —
- 0,58 млрд л. н. (первые полноценные биогеоценозы) —
- 0,57 млрд лет назад (начало первой — субкомпарментальной — фазы формирования Биосферы) — по настоящее время.

В свою очередь, проявление «Циклоса» определяется самой внутренней кибернетической структурой живого, которая является совокупностью *иерархических контуров оптимизации* (рис. 1).

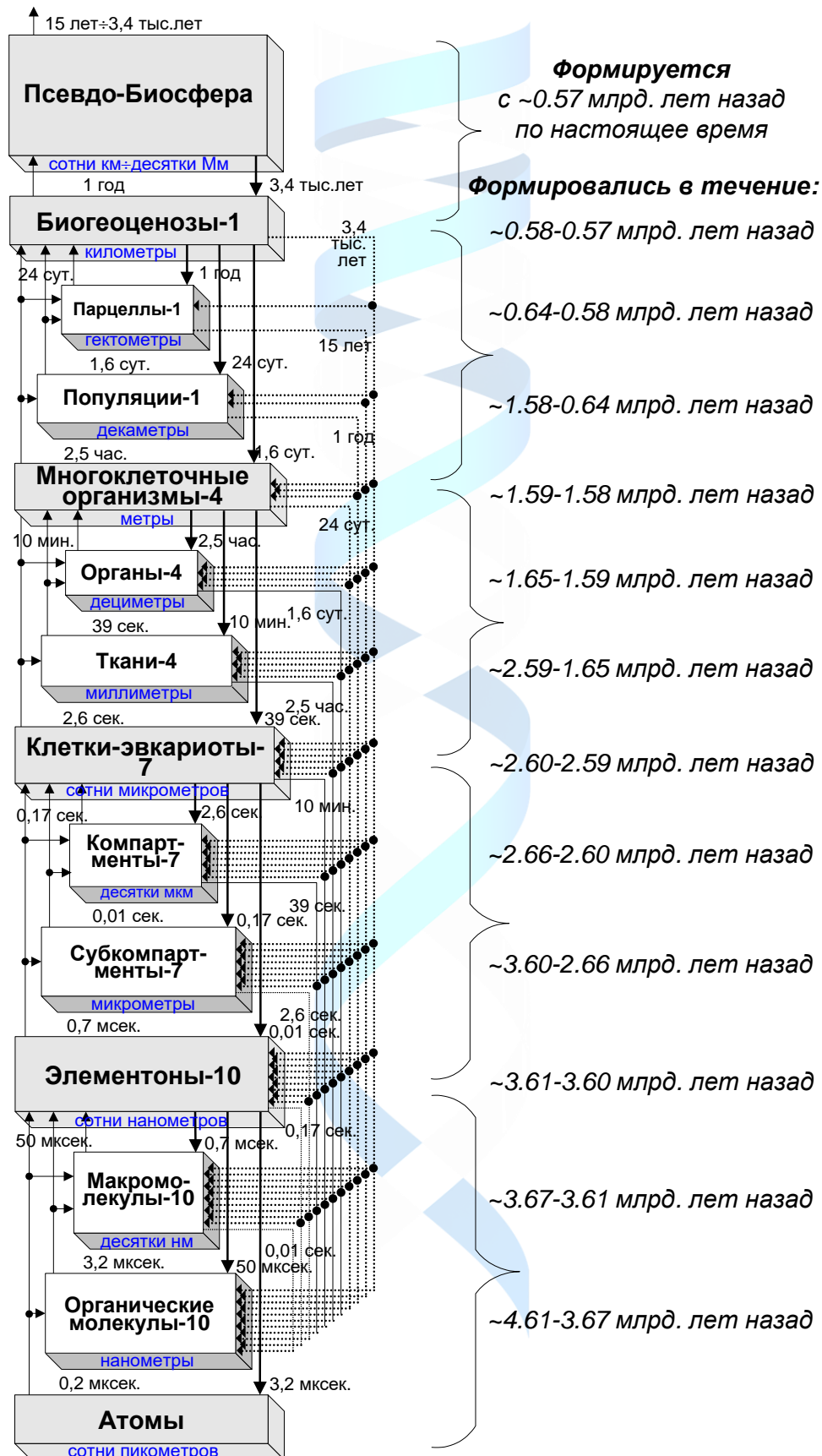


Рис. 1. Схема иерархической поисковой оптимизации системы живой природы.

Примечания к рис. 1-2а,б: Восходящие сплошные стрелки, имеющие структуру «многие – к одному», отражают поисковую активность представителей соответствующих ярусов в

иерархии. Нисходящие сплошные стрелки, имеющие структуру «один – ко многим», отражают целевые критерии поисковой оптимизации системной энергетики. Нисходящие пунктирные стрелки, имеющие структуру «один – ко многим», отражают системную память (соответственно живого и лично-производственно-социального): результат адаптивных влияний представителей вышележащих иерархических ярусов на структуру и поведение вложенных в них нижележащих. В качестве пространственных размеров: а) соответствующих ареалов/сообществ/социумов выступают радиусы круга той же площади; б) производственных технологий – их предельные точности. Приводятся характерные времена изменения процессов приспособительного поведения – типичные для системы времена колебательного либо релаксационного типа: например, время установления равновесия (время релаксации), в течение которого некий объект "успокаивается", переходные процессы в нём затухают и он возвращается в устойчивое состояние.

Эти контура образуют «прямые» переменные, отражающие поисковые активности представителей всех ярусов в иерархии, и зависящие от них «обратные», отражающие (с инерцией) целевые критерии поисковой оптимизации системной энергетики, задаваемые на соответствующих ярусах: налицо *циклы*. В зависимости от знака приращения/убывания целевого критерия алгоритм поисковой оптимизации влияет (обеспечивая достижение его экстремума) на смену знаков и величину приращения/убывания поисковых активностей (реализуя поисковые «рыскания» с элементами случайности).

В системе живого выделяется ещё одна, вторичная, совокупность иерархических контуров оптимизации, процессы в которых существенно более инерционны по сравнению с процессами в первичной совокупности. Они тесно связаны, поскольку первичная является причиной вторичной, которая называется системной памятью живого, относительно медленно влияющей на относительно быстрые поисковые активности всех охватываемой ею ярусов иерархии.

2. Информатико-кибернетическая схема самоуправления в лично-производственно-социальной природе

Этапы эволюционного развития лично-производственно-социальной природы, – возникающей на базе живой природы, – прослеживаются на базе её поисково-оптимизационной модели: на всём периоде от начала цефализации позвоночных около 428 млн лет назад (нулевой этап) и до современности (восьмой этап) [Гринченко, 2007].

Весь процесс этого линейного развития, так же, как и для живой природы, следует интерпретировать как проявление «Хроноса». При этом в рамках такой модели выделяются моменты времени системных переходов в строении и характеристиках иерархической структуры лично-производственно-социальной природы, которые естественно интерпретируются как проявление «Кайроса». Это:

- ~428 млн лет назад (начало цефализации позвоночных) —
- ~28,2 млн лет назад (начало возникновения подсистемы-1 иерархо-сетевой системы Человечества, «пред-пред-человека» *Hominoidea* и базисной информационной технологии (БИТ) сигнальных поз/звуков/движений) —
- ~1,86 млн лет назад (возникновение подсистемы-2 иерархо-сетевой системы Человечества, «пред-человека» *Homo ergaster/Homo erectus* и БИТ мимики/жестов) —
- ~123 тыс. лет назад (возникновение подсистемы-3 иерархо-сетевой системы Человечества, «собственно» человека *Homo sapiens* и БИТ речи/языка) —
- ~8,1 тыс. лет назад (возникновение подсистемы-4 иерархо-сетевой системы Человечества, более сложного человека *Homo sapiens* и БИТ письменности/чтения) —
- ~1446 год н.э. (возникновение подсистемы-5 иерархо-сетевой системы Человечества, ещё более сложного человека *Homo sapiens* и БИТ тиражирования текстов) —
- ~1946 год н.э. (возникновение подсистемы-6 иерархо-сетевой системы Человечества, ещё более сложного человека *Homo sapiens* и БИТ локальных компьютеров) —
- ~1979 год н.э. (возникновение подсистемы-7 иерархо-сетевой системы Человечества, ещё более сложного человека *Homo sapiens* и БИТ телекоммуникаций/сетей) —
- ~1981 год н.э. (возникновение подсистемы-8 иерархо-сетевой системы Человечества, ещё более сложного человека *Homo sapiens* и нано-БИТ) —
- и т.д.

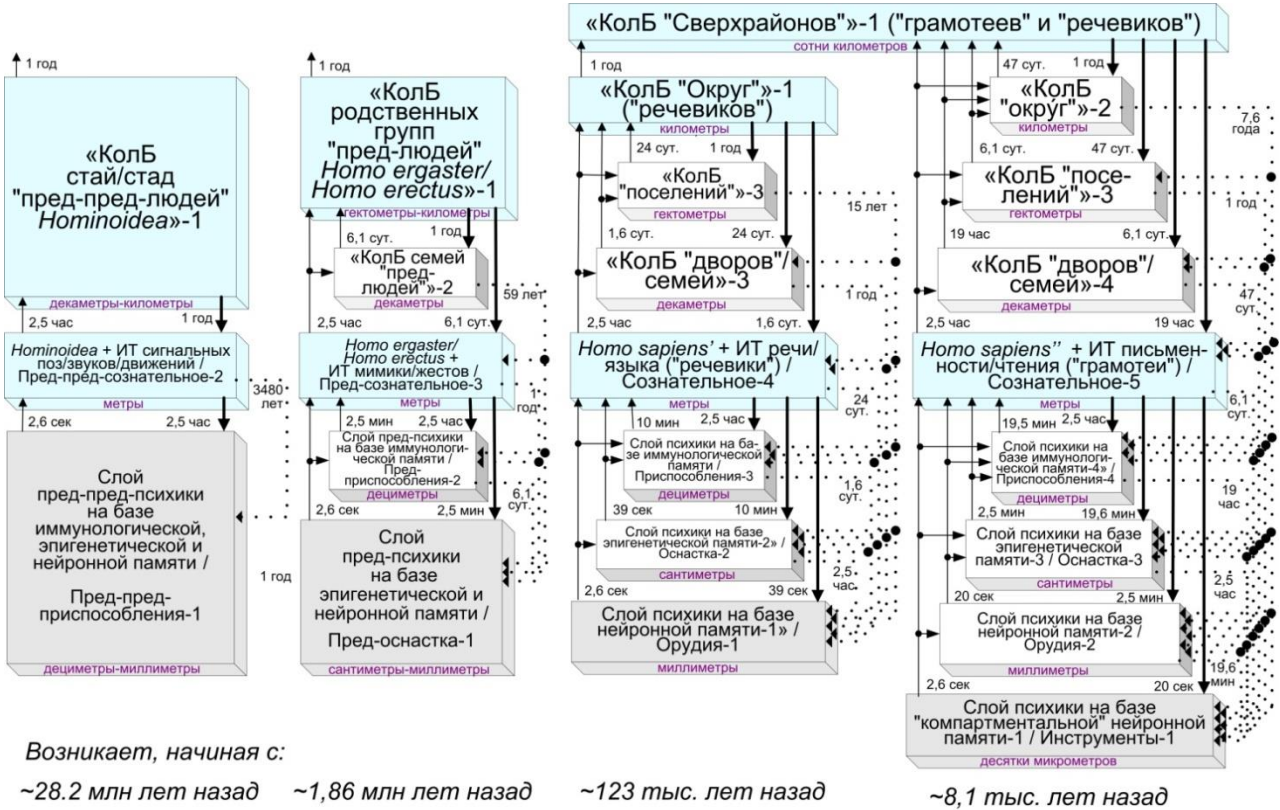
В свою очередь, проявление «Циклоса» определяется самой внутренней кибернетической структурой системы личностно-производственно-социального, каждая из подсистем которой является совокупностью *иерархических контуров оптимизации* (рис. 2). Эти контуры, так же, как и в системе живого, образуют «прямые» переменные, отражающие поисковые активности представителей всех ярусов в иерархии, и зависящие от них «обратные», отражающие (с инерцией) целевые критерии поисковой оптимизации системной энергетики, задаваемые на верхнем ярусе иерархии подсистемы: *налицо циклы*.

В системе личностно-производственно-социального, так же, как и в системе живого, выделяется ещё одна, вторичная, совокупность иерархических контуров оптимизации в каждой подсистеме Человечества, процессы в которых существенно более инерционны, по сравнению с процессами в первичной совокупности. Они тесно связаны, поскольку первичная является причиной вторичной, которая называется системной памятью личностно-производственно-социального, относительно медленно влияющей на относительно быстрые поисковые активности всех охватываемой ею ярусов иерархии.

Важно отметить, что в ходе глобальной эволюции Человечества выполняются принцип *системной кумуляции* – «возникновения в метаэволюции (процессе последовательного наращивания числа уровней/ярусов иерархической системы в ходе ее формирования как таковой) системы Человечества новых подсистем, которое не означает элиминации ранее возникших – все они сосуществуют, активно взаимодействуют и коэволюционируют», и принципа *системной согласованности* – «возникновения в ходе метаэволюции новых подсистем, которое сопровождается кардинальными переменами в структуре и приспособительном поведении ранее возникших, при уменьшении их вклада в общий ход приспособительного поведения» [Гринченко, 2020б].

3. Ноосфера В.И. Вернадского и поисково-оптимизационная модель Человечества

Широко известно, что В.И. Вернадский определил ноосферу как новую фазу, новое состояние, в которое переходит природный процесс развития и усложнения биосферы. Он писал: «Биосфера не раз переходила в новое эволюционное состояние. <...> Это переживаем мы и сейчас, за последние 10-20 тысяч лет, когда человек, выработав в социальной среде научную мысль, создает в биосфере новую геологическую силу, в ней не бывшую. Биосфера перешла или, вернее, переходит в *новое эволюционное состояние – в ноосферу* (курсив автора цитаты) – перерабатывается научной мыслью социального человечества. <...> Геологически мы переживаем сейчас выделение в биосфере *царства разума*, меняющего коренным образом и её облик и её строение – *ноосферы*» [Вернадский 1977, С. 20-21, 91].



Возникает, начиная с:

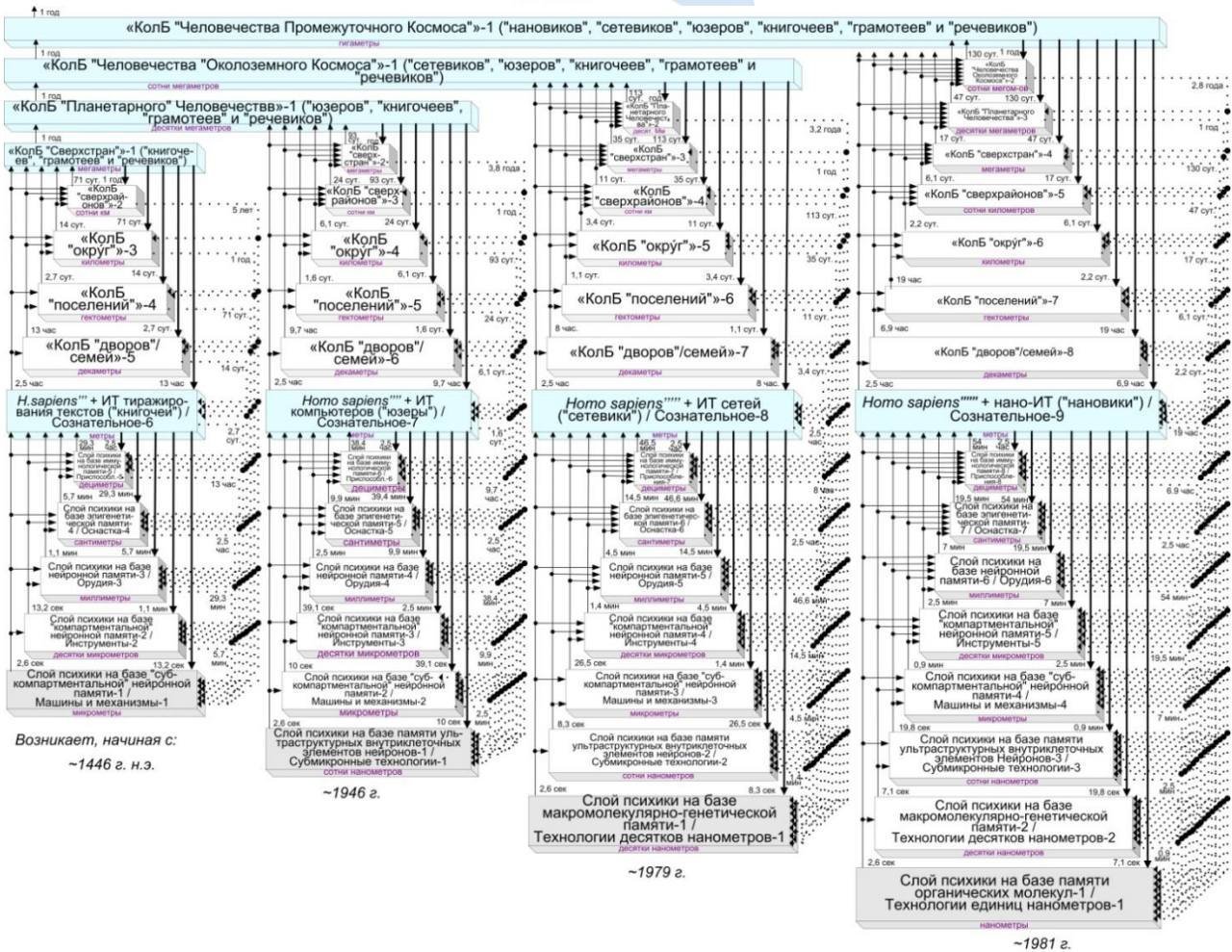
~28.2 млн лет назад

~1,86 млн лет назад

~123 тыс. лет назад

~8,1 тыс. лет назад

А



Возникает, начиная с:

~1446 г. н.э.

~1946 г.

~1979 г.

~1981 г.

Б

Рис. 2а,б. Этапы усложнения схемы иерархической поисковой оптимизации системы личностно-производственно-социального (КолБ – коллективное бессознательное).

Очевидно, что В.И. Вернадским намечены лишь контуры ноосферы, и на сегодняшний день этому понятию ещё недостаёт конкретики, формализации его на некотором языке описания, достаточно универсальном для такой сложной проблемы. Так, Н.Н. Моисеев указывает: «Сегодня, когда закладываются основы теории ноосферы, теории, которая по своему смыслу должна объединить дисциплины, изучающие самые разные явления материального мира, очень важно выработать некоторый общий язык, охватывающий и процессы самоорганизации неживой (косной) материи, и развитие живой материи, и процессы общественной природы» [Моисеев, 1986, С. 70]. А.Д. Урсул отмечает, что «в значительной своей части ноосферно-экологические проблемы оказываются в социальном плане проблемами управления, ибо главное отличие всего предшествующего развития от будущего социозоразвития заключается в том, что им необходимо управлять» [Урсул, 1993, С. 40].

Но если ноосферная проблематика является *управленческой*, то для её анализа естественно обратиться к соответствующему языку – языку теории управления. То есть логично рассматривать ноосферу как кибернетическую систему, описывая её на этом языке, позволяющем не только отобразить особенности хода её приспособительного поведения, но и выявить и уточнить основные этапы её формирования – а именно, на языке описанной выше поисково-оптимизационной модели самоуправляющейся системы личностно-производственно-социальной природы.

Так, в кибернетическом представлении можно выделить в предыстории современной Ноосферы пять предварительных этапов «досферного» развития её территориальных фрагментов, меньших Земли в целом, и три – «собственно сферного» – и «надсферных» этапов. «Сферный» относится к системе самоуправления, охватывающей всю Землю как таковую, «надсферные» (перспективные) охватывают ближайшие к ней Околосферной и Промежуточный Космосы. Принимая во внимание тот факт, что в поисково-оптимизационной модели системы Человечества отражены такие относящиеся непосредственно к Человеку понятия, как базисные информационные технологии, индивидуальное и коллективное бессознательное (Гринченко, 2020а) и др., параллелизм явлений Ноосферы и системного кибернетического взгляда на Человечества очевиден и взаимно их оплодотворяет.

Заключение. Применительно к представлению о поисково-оптимизационной модели процессов самоуправления Природы Хронос соответствует *трендам* увеличения – в ходе процессов эволюционного развития систем неживого, живого и личностно-производственно-социального – количества ярусов в их иерархиях, Кайрос – *моментам системных переворотов* в этих процессах, Циклос – процессам самоуправления *в контурах поисковой оптимизации* таких иерархий. Таким образом, выявляется ещё один пример наличия триад в структуре Мироздания [Гринченко, 2016].

В свою очередь, проведение параллели между представлением о Ноосфере и результатами моделирования системных процессов самоуправления в личностно-производственно-социальной природе (Человечестве), позволяет получить новые знания о сущности, пространственно-временных характеристиках, предыстории и перспектив Ноосферы как этапа развития Человечества.

Список источников

- Вернадский В.И. (1977) Размышления натуралиста. Книга 2. Научная мысль как планетное явление. М.: Наука. 192 с.
- Войцехович В.Э., Вольнов И.Н., Малинецкий Г.Г. (2021) «Рационализм движения» и синтез с искусством – будущее науки // Системный анализ в проектировании и управлении. Том XXV. № 1. С.127–139.
- Гринченко, С.Н. (2004) Системная память живого (как основа его метаэволюции и периодической структуры). М.: ИПИРАН, Мир. 512 с. – см. также <http://www.ipiran.ru/publications/publications/grinchenko/>
- Гринченко, С.Н. (2007) Метаэволюция (систем неживой, живой и социально-технологической природы). М.: ИПИРАН. 456 с. – см. также http://www.ipiran.ru/grinchenko/book_2/text.shtml
- Гринченко, С.Н. (2010) Мирозренческое значение современных концепций информатики // Открытое образование, № 6. С. 112–126.
- Гринченко, С.Н. (2016) Биполярность и триадичность: кибернетический взгляд на проблему // Электронный журнал «Биокосмология – Нео-Аристотелизм (Biocosmology – neo-Aristotelism)», Vol. 6. № 1, С. 166–175.
- Гринченко С.Н. (2020а) О пространственной структуре и метаэволюции субстрата

коллективного бессознательного в системе Человечества (кибернетическое представление) // Мир психологии. № 1 (101). С. 62–73.

Гринченко С.Н. (2020б) Общение людей и информационные технологии: принципы системной кумуляции и системной согласованности // Мир психологии. № 3 (103). С. 235–244.

Жирмунский А.В., Кузьмин В.И. (1982) Критические уровни в процессах развития биологических систем. М.: Наука. 179 с.

Зиновьев А.А. (2000) На пути к сверхобществу. М.: Центрполиграф. 638 с.

Моисеев Н.Н. (1986) Коэволюция человека и Биосферы: кибернетические аспекты // Кибернетика и ноосфера. М.: Наука. С. 68–81.

Растринин Л.А. (1979) Случайный поиск. М.: Знание. 64 с.

Сазонов В.Ф. (2009-2022) Биоритмы [Электронный ресурс] // Кинезиолог: [сайт]. URL: <https://kineziolog.su/content/bioritmy> (дата обращения: 23.08.2023).

Урсул А.Д. (1993) Путь в ноосферу: Концепция выживания и устойчивого развития человечества. М: «Луч». 275 с.

Щапова Ю.Л., Гринченко С.Н. (2017) Введение в теорию археологической эпохи: числовое моделирование и логарифмические шкалы пространственно-временных координат. М.: Исторический факультет Моск. Ун-та, Федеральный исслед. центр «Информатика и управление» РАН. 236 с. – см. также <http://www.hist.msu.ru/upload/iblock/03f/45831.pdf>

Щапова Ю.Л., Гринченко С.Н., Кокорина Ю.Г. (2019) Информатико-кибернетическое и математическое моделирование археологической эпохи: логико-понятийный аппарат. М.: Федеральный исслед. центр «Информатика и управление» РАН. 136 с. – см. также <https://elibrary.ru/item.asp?id=39450775>

Consciousness and its meaning, ontologically

Xinyan ZHANG¹

Сознание и его смысл, онтологические аспекты
Синьян ЧЖАН

Abstract. The author argues that consciousness and its meaning may only be defined and explained within an ontological system. Such a system is proposed in this article, with matter, energy, and life as its components, and with all its components defined as changes. The systematic relations between matter and energy and the semantic relations among all its components together may define and explain what and how consciousness is, why there is consciousness, where and when it may occur, and what is its significance or meaning.

Keywords: Brain, Consciousness; Emotion; Evolution; Intelligence; Language; Life; Meaning; Mind; Ontology

Contents

Introduction

1. System components
2. System relations
3. The M as intelligence
4. The E as consciousness, emotion, or behavior
5. The autumn life as cause or effect
6. Self and world as one and the same in nature
7. Its differences from other theories

Conclusion

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Резюме. Автор утверждает, что сознание и его смысл могут быть определены и объяснены только в рамках онтологической системы. Такая система предлагается в данной статье, компонентами которой являются материя, энергия и жизнь, а все компоненты определяются как изменения. Системные отношения между материей и энергией и смысловые отношения между всеми ее компонентами в совокупности могут определить и объяснить, что и как есть сознание, почему оно существует, где и когда оно может возникать и каково его значение или смысл.

Ключевые слова: мозг, сознание, эмоция, эволюция, интеллект, язык, жизнь, смысл, разум, онтология

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2. Системные отношения
3. М как интеллект
4. Е как сознание, эмоции или поведение
5. Осенняя жизнь как причина или следствие
6. Самость (субъекта) и мир как одно и то же по своей природе
7. Отличия от других теорий

Заключение

РЕФЕРАТ

-Как говорил Аристотель, все люди по своей природе стремятся к знаниям. Сознание занимает одно из первых мест в списке вещей, которые мы всегда хотим знать. Однако в этой статье автор утверждает, что сознание можно только понять, но никогда не познать, главным образом потому, что оно является неотъемлемой частью нашей способности познавать.

-Знание - это коммуникация, а понимание – это создание или активация системы, которая объясняет или интерпретирует эту коммуникацию.

-Научные системы всегда основаны на конкретных сущностях и их свойствах. И каждая сущность подразумевает определенные объяснительные ограничения.

- Автор предлагает другую систему, онтологическую систему, компонентами которой являются материя, энергия и жизнь, а все ее компоненты определяются как различные изменения. Эта система, как единство изменений, не ограничена ничем, что бы она ни объясняла, ни мозгом и нейронами, ни клетками и генами, ни белками, жирами, сахаром и нуклеиновой кислотой, ни частицами, волнами и полями, ни даже временем и пространством нашего космоса.
- Если все мозги или нервные системы, включая человеческий мозг, можно определить как разум, то эта система также может быть нашим онтологическим пониманием разума. Системные отношения между ее компонентами могут онтологически определять и объяснять, что и как есть сознание, почему оно существует, где и когда оно может возникать и каково его значение или смысл.
- Кратко и емко обсуждаются различия между таким онтологическим объяснением и многими другими теориями сознания.
- Материя и энергия - простые части этого определения и объяснения.
- Системная сложность материи может быть объяснением интеллекта. Существуют наследственные и приобретенные изменения М. Наследственный интеллект определяет наследственное поведение системы, а приобретенный интеллект – приобретенное поведение.
- Фундаментально, сознание – это различие между материей и энергией, которое проявляется, когда обе встречаются через определенное системное отношение, особенно когда материя находится в состоянии бодрствования. Такое состояние также объясняется биологически и физически.
- Жизнь, однако, является сложной частью этого определения и объяснения.
- Онтологически, если нет жизни, материя и энергия сами по себе не могут стать аксиомами какой-либо системы и не могут быть отличимы друг от друга.
- Эпистемологически никакое знание невозможно для любой системы без жизни как ее компонента. Знание и эволюция – это одно и то же. Все наши знания в корне зависят от направленности жизни, которая доминирует в нашей реальности.
- Система может быть только путем или каналом, если в ней нет жизни как компонента. И тогда не существует различия между сознанием и поведением.
- Более того, система, компонентами которой являются только материя и энергия, в корне противоречит рождению, смерти, развитию и эволюции.
- Только жизнь объясняет, почему все, включая нас и наш космос, должно быть создано, но ничто не может оставаться вечным. Без направленности жизни естественный отбор сам по себе не может ничего сделать для нашей или их эволюции.
- И наконец, жизнь – это также онтологическое объяснение агентности или намеренного действия.

- Таким образом, ключ к пониманию сознания – это не систематические отношения между материей и энергией, а семантические отношения между всеми тремя компонентами, в которых и материя, и энергия – не более и не менее чем языки, а жизнь – их уникальная причина или следствие. Причина, по которой вообще существует сознание, заключается в том, что оно может быть порождением определенных жизней.
- Иными словами, сознание – это коммуникация между жизнями, а не между "я" и его миром. Самость и ее мир – это лишь грамматика или рамки сознания. Ни "я", ни его мир никогда не могут быть причиной или следствием психической деятельности.
- Онтологически все языки равны друг другу, а жизнь – это окончательная истина и определенность любого "я" или его мира.
- Наши сознание, интеллект, эмоции, мышление, поведение и язык бессмысленны, если они не имеют ничего общего с нашей жизнью.
- Жизнь может быть для нас еще одним способом выйти за пределы "я" или мира, за пределы рождения или смерти и за пределы любого вида нигилизма.

Быть или жить – вот в чем вопрос!

SYNOPSIS

- As Aristotle said, all men by nature desire to know. Consciousness is very high on the list of things we always want to know. However, the author argues in this article that consciousness may only be understood but never known, mainly because it is an integral part of our ability to know.
- Knowing is communication, and understanding is to create or activate a system that explains or interprets the communication.
- Scientific systems are always based on specific entities and their properties. And every entity means certain explanatory limitations.
- The author proposes a different system, an ontological system with matter, energy, and life as its components, and with all its components defined as different changes. This system, as the unity of changes, is not limited by whatever it has explained, not by brains and neurons, nor by cells and genes, nor by protein, fat, sugar, and nucleic acid, nor by particles, waves, and fields, nor even by the time and space of our cosmos.
- If all the brains or nervous systems, including human brains, may be defined as the mind, this system may also be our ontological understanding of the mind. The system relations among its components may define and explain ontologically what and how consciousness is, why there is consciousness, where and when it may occur, and what its significance or meaning is.
- The differences between such an ontological explanation and many other theories of consciousness are discussed briefly and concisely.

- Matter and energy are easy parts of this definition and explanation.
- Systematic complexity of the matter may be the explanation of a mind's intelligence. There are hereditary and acquired changes of the M. Hereditary intelligence determines a system's hereditary behaviors, and acquired intelligence those acquired behaviors.
- Fundamentally, consciousness is the distinction between matter and energy, which shows up when both meet through a specific system relation, especially when the matter is in a waking state. Such a state is also explained biologically and physically.
- Life is, however, the difficult part of this definition and explanation.
- Ontologically, if without life, matter and energy by themselves cannot become axioms of any system, nor may they be distinguished from each other.
- Epistemologically, no knowledge is possible for any system without life as its component. Knowledge and evolution are one and the same thing. All our knowledge is fundamentally dependent on the directionality of the lives that dominate our reality.
- A system can only be a pathway or channel if without life as its component. And there is then no distinction between consciousness and behavior.
- Moreover, a system only with matter and energy as its components is fundamentally against birth, death, development, and evolution.
- Life alone explains why everything including us and our cosmos must be created but nothing may remain forever. Without the directionality of life, natural selection alone cannot do anything for our or their evolution.
- Finally, life is also the ontological explanation of agency or intentional action.
- The key for us to understand consciousness is then not the systematic relations between matter and energy, but the semantic relations among all the three components, in which both matter and energy are nothing more or less than languages, and lives are their unique cause or effect. The reason why at all there is consciousness is that it may be the birth of certain lives.
- In other words, consciousness is the communication between lives, not between a self and its world. A self and its world are only the grammar or framework of consciousness. Neither a self nor its world may ever be the cause or effect of mental activities.
- Ontologically, all languages are equal to each other, and life is the final truth and certainty of any self or its world.
- Our consciousness, intelligence, emotion, thinking, behavior, and language are all meaningless if they have nothing to do with our lives.
- Life might be another way for us to go beyond self or world, beyond birth or death, and beyond any kind of nihilism.

To be, or to live, that is the question!

Abbreviations used in this article / Сокращения, используемые в данной статье

O	return or circular change	O	возврат или круговое изменение.
C	one-way or irreversible change	C	одностороннее или необратимое изменение.
OC	life or the oneness of O changes and a C change	OC	жизнь или единство изменений O и изменений C
M	matter or the O change that is not the O of OC	M	материя или O изменение, которое не является O, принадлежащим OC.
E	energy or the C change that is not the C of OC	E	энергия или изменение C, которое не является C, принадлежащим OC.
EME	the system relation between energy-matter-energy	EME	системное отношение между энергией-материей-энергией.
MEM	the system relation between matter-energy-matter	MEM	системное отношение между материей-энергией-материей.

MAIN CONTENT OF THE ARTICLE

Introduction. This article is based on my effort, not to know but to understand ontologically what and how consciousness is, why there is consciousness, where and when it occurs, and what is its significance or meaning.

Since neuroscience alone may never answer all those questions.

Human brains are structurally different not only from non-human brains but also from each other. Even the same brain is not identical to itself across time. If not confused or conflated with the differences in their structural complexity, neuroscience may never prove either that consciousness is exclusive to human brains, brains in general, neurons, or organisms, or that consciousness may be explained without its general evolution and individual development.

David Chalmers' hard problem [1995] may never be solved by the advances in science and technology if consciousness is not a problem of how to know the brain, but rather a problem of how to understand the mind.

To know brains is to get the specialization of certain knowledge and to understand the mind is to give the generalization of the same knowledge.

Knowing and understanding are interdependent and equal to the same knowledge, none of which is more fundamental than the other.

The approach to an understanding is to create a specific system as the explanation of all known. Newton's laws of motion, Maxwell's equations in electromagnetism, Einstein's theory of relativity, and Schrödinger's wave function, for example, are all such systems.

Ontologically, nothing may exist if may not be a system or a part of it, no matter if it is a particle, a molecule, a plant, an animal, a human, a star, or a cosmos.

Being = system relations (Ax. 1)

It also reinterprets Parmenides' idea "to think and to be are the same thing".

If all the brains, including human brains, may be defined as the mind [Smart, 2017], its system relations must be the explanation of consciousness, as well as intelligence and emotion.

1. System components

Those particles discovered by particle physicists and the cosmos revealed by astrophysicists have not and may never be proved as the ultimate components or entirety of our reality.

Gödel's incompleteness theorems may be understood as saying that no system may ever be a complete explanation if with any entity as its component, or as its entirety. At least, no such components or entirety may ever explain a system's origin or evolution.

Furthermore, a complete explanation requires a unification of ontology and epistemology, which interprets not only the world but also the interpreter.

Therefore, I will not try to explain the mind here with entities such as particles, waves, and fields, or protein, fat, sugar, and nucleic acid, or cells and genes, let alone neurons and the brain.

I will explain the mind with an ontological system [Zhang, 2022].

An ontological system is either the past or the future through which we may understand the present.

This ontological system is with matter, energy, and life as its components, and with all its components defined as different changes.

It seems to me that matter, energy, and life are the same components of our past, present, and future, which explain not only the distinctions of our past, present, and future but also the nature of my explanation and the reason why I explain.

Ontologically, no element alone is an element. If biological entities are sorts of emergence, so are all known physical entities. As a unity of changes, this ontological system is not limited by any known element or entity, even not by mass conservation, energy conservation, information conservation, or probability conservation [Diaconis et al, 2007].

The matter may be defined as one kind of change, the energy as another kind of change, and the life as their oneness, unity, or interdependency.

Birth or death is then the beginning or end of the oneness, unity, or interdependence.

Ontologically, matter may be understood as the O changes, such as return or circular changes, and energy as the C change, such as a one-way or irreversible change. C is then the open of O changes, and O the close of a C change. Quantum fluctuation is a kind of O change, parity non-conservation in weak interaction or spontaneous symmetry breaking is then a C change.

Random change or variation may be understood as a kind of O change.

If OC means the oneness, the unity, or the interdependency of O changes and a C change, the definition of life may be formulated as:

$$\text{Life} = OC \quad (\text{Ax. 2})$$

In other words, life is both and neither of the other changes.

Etymologically, the O is derived from Parmenides' notion of "one", or Leucippus' and Democritus' "ones", the C from Heraclitus' notion of "change", and the OC from Hegel's notion of "the absolute".

If the O of OC might be defined as $A=A$, then the C is $A \neq A$. If the O of OC might mean mutual causation, then the C is always the distinction of cause and effect. Therefore, a no-boundary cosmology should be a mutual causation that explains not only the beginning but also the end of our cosmos. Otherwise, the singularity of time and space may only be an intermediate link within the C.

Though its O is not the same as matter, and its C is not the same as energy, the OC is as fundamental as both of them [Zhang, 2020]. Ontologically, matter or energy may not be defined as change or distinguished from each other, if without life as a component of this system.

Its differences from both matter and energy are that the O of OC may be understood as creation and the C of OC as transcendence. Therefore, life explains why everything including us and our cosmos must be created but nothing may remain forever. Without the C or directionality of life, natural selection alone cannot do anything for our or their evolution [Sharma et al, 2023].

OC might mean an ontology against both absolutism and relativism, against absolutism with its O, and relativism with its C. And it is one and the same answer to Immanuel Kant's four antinomies.

Physics is about a world of O changes such as string theory or multiverse theory. And the C of OC determines that the O is never an absolute truth. And therefore, OC negates the possibility that we may ever have a theory of everything.

OC alone is the ontological basis of both time and space. The O of OC is the frequency of time or the dimension of space, and the C their shared directionality. Without the directionality or the C of OC, the singularity of space and time may remain unchanged and never evolve [Hertog, 2023].

Especially, as a unity of both clocks and an arrow, OC might be a better definition or explanation of time, better than entropy or the second law of thermodynamics. And this is vital for us to understand the origin of the mind and consciousness.

Without the C of OC, there is no time, even though there may still be countless clocks ticking. Therefore, there might be no time but only different clocks in Einstein's special theory of relativity.

Both one and many, both universals and individuals, both potentiality and actuality controverted by philosophers, are nothing more or less than the directionality of OC.

If "free will" is the question, OC is then its ontological answer, in which O is freedom and C the will. In other words, C change is the determinism of OC, and O changes the indeterminism. And this is also vital for us to understand the mind and consciousness [Yurchenko, 2023].

The C of OC is not only the open of O changes but also the directionality of the open. Lives may therefore be divided into two categories according to the contrary directions of their C changes. The one with its C toward energy may be called a spring life, and the one with its C toward matter an autumn life.

Because of the C of OC, all lives are asymmetric or non-conservative changes. A spring life consumes matter and creates energy, and an autumn life does the opposite.

Therefore, matter may be understood as the birth of a spring life or the cold death of an autumn life, and energy as the birth of an autumn life or the heat death of a spring life. All the so-called non-living matters, such as protons, neutrons, or atomic nuclei, are such matter, the remains of some dead autumn lives deeply frozen by our environment.

An artificial life, no matter if it is hard, soft, or wet, is not really a life if it is neither a spring life nor an autumn life, nor if it is immortal by nature.

A plant or animal is a living system, but not all living systems are biological. The possibility that organisms may arise from inanimate matter does not exclude the possibility that all known physical entities may have been created by lives existing before them.

Autumn lives alone are the explanation of the origin and development of all biological beings, including human beings and human brains.

Without the C of autumn lives, physics may never explain evolution or natural selection completely [Wong et al (2023)], and neuroscience may never explain the mind and consciousness completely.

2. System relations

A living system is always composed of both spring and autumn lives, and dominated by autumn lives.

Since spring life and autumn life may be connected by the changes of their death and birth, the mind, as a system of different lives, is always organized by two kinds of system relations, both MEM system relation and EME system relation. Energy is the E and matter the M in a system relation.

An autumn life may occur between the first E and the M, and a spring life between the M and the second E in an EME system relation, but contrary in the MEM system relation.

In addition to life changes, there are two other changes in system relations, the form changes and the location changes, both of which may be called quale changes [Tye, 2021]. Quale changes are symmetric or conservative changes of the M or the E.

The E may undergo location changes or form changes in EME system relation, and so may the M in MEM system relation.

Nerve impulse moving along a nerve or neurotransmitter released from a synapse is only the location change, and nerve impulse converted into neurotransmitter or vice versa is only the form change.

Knowing is a quale change, understanding a life change, and thinking a process with both changes. And it seems to me that consciousness is more like a form change than a location change.

A living system, no matter how complex or simple, is always a unity of both EME and MEM system relations.

Though both are made of both system relations, the human brain or nervous system is still the main EME system relation of a human body, and the rest of the body is the main MEM system relation of the brain or nervous system. This is the ontological basis of “mind-body relation” or “embodied cognition”.

Because of the C of OC, it is alone autumn lives’ mission to create systems or system complexity. Autumn life is, therefore, the key for us to understand the origin of living systems, and to understand the development of individual or collective complexity.

Autumn life is our nature, and also the nature of our cosmos. This may explain why creating systems is almost all we have been doing.

It is also why the internal relations of a system may be the key for us to understand consciousness and its meaning.

3. The M as intelligence

The M in EME system relation may be understood as the structures of a brain, a body, or a society. All the structures may also be understood as either hereditary memories or acquired memories. And both hereditary and acquired memories may be understood as the complexity of a living system.

Knowledge is nothing more or less than the M, than both hereditary and acquired memories, or the complexity of a specific living system.

Changes in systematic complexity are not quantitative changes. Reproduction of organisms or cells, and replication of biological macromolecules, should be understood as both creation and transcendence of certain complexity, not simply as an increase in their quantity [AI-Hashimi, 2023].

It is the C of OC, especially the C of autumn lives, that determines memories to be either hereditary or acquired.

The E is the same universally, and so are both lives. All the distinctions among all the living systems are only the differences of their M. In other words, the M is the only particularity of a system, or the particularity of the E and the lives in the system.

Evolution is alone changes of the M. Therefore, knowledge and evolution are one and the same thing. And therefore, the M in EME system relation is the only one that may explain the intellectual differences among living systems.

In other words, intelligence is nothing more or less than the structures of a living system. All the structures of our cosmos are all its intelligence. So are all the structures of a human society or a human body. So are all the structures of a human brain.

Human intelligence is different but not distinct from other intelligence.

Intelligence may also be understood as the complexity of a living system against the uncertainty of its environment. All the hereditary structures are the intelligence for a living system to deal with what may occur postnatally, and all the acquired structures are the intelligence for a living system to deal with what may occur later.

Human beings are not born the same. No hereditary or acquired intelligence from different persons is ever the same. And this is a part of the human complexity for us to deal with uncertainty in the future.

Different species always arise on different complexity. Human beings are nothing more or less than the emergence of certain complexity.

Evolution is the process in which the systematic complexity of the M increases gradually and repeatedly. During the development of our cosmos, during the development of human societies, and the development of human bodies, specific intelligence always emerges when certain structures occur, and fades away when those structures disappear or are changed. This may also be the explanation for infantile amnesia or childhood amnesia.

Different physical properties are based on different complexity or are different parts of the same complexity. Nothing possesses the same properties if not in the same complexity. If mental or social properties are a kind of emergence, so are all the physical properties.

Dark matter or a black hole may also be understood as a different complexity.

All physical laws are also based on the evolution of complexity [Hertog, 2023]. At least, quantum theory and Einstein's theory of general relativity are based on different kinds of complexity. The Big Bang and cosmic inflation might be understood as the event in which the complexity of our cosmos developed from one dimension into two, three, or even more dimensions [Zhang, 2020].

Hereditary intelligence determines a system's hereditary behaviors and acquired intelligence those acquired behaviors. One loses his humanity when one loses his acquired behaviors, and his biological existence when one loses his hereditary behaviors.

Ontologically, intelligence or the M in EME system relation explains only the distinctions in the behaviors of different living systems, but never what consciousness is, or why at all there is consciousness. In other words, human intelligence or the unique complexity of human brains is not an ontological explanation of our consciousness.

No emergence may ever explain the nature of consciousness.

4. The E as consciousness, emotion, or behavior

Only lives may communicate with each other, and selves or subjects not.

The E is the only thing communicated through the EME system relation, and the M is the only thing communicated through the MEM system relation.

Within the same system relation, spring lives are the senders of the E and receivers of the M, and autumn lives are the opposite.

All the changes that occur during the communication between lives are quale changes, either or both the location change and the form change. The cosmos, as a system or systems, is full of qualia. An

electron appears as different qualia when it flows through the different structures of a conductor, or when the conductor changes from one state to another. So does it when the E passes through different biological, mental, or social structures, or their different states. In other words, qualia are the motion of the same E through different M.

Every living system, even every subsystem, has its own intelligence, and therefore its own qualia. A specific quale is always a specific system's definition of the E that goes through it.

Therefore, the qualia of our senses and feelings exist only because of the memories in our brains or bodies. And our qualia are always the action of our intelligence. Not only everything we sense but also the cognitive framework of space and time, are the characters of our intelligence.

The M in EME system relation may undergo state changes, the fluctuation in the quantity of the energy filled in memories, which may also be called quante changes or quantia. Such quantia or state changes are determined by MEM system relation. If the M in EME system relation may be understood as the strings of a musical instrument, the quante changes are the changes in their tension, and quale changes are their play.

Different emotions, including different passions, are all such quantia or their quantitative changes. It seems to me that what neurovascular coupling shows is more likely to be the result of such quante changes rather than quale changes. So might be many psychiatric disorders.

The states of the M in a living system fluctuate all the time. And there are both global and local quantia, which may turn into each other. Changes in electroencephalogram show such changes, and so does the alternation of wakefulness and sleep.

The weight as the parameter within an AI neural network might be understood as the local quantia.

The quantitative alternation of wakefulness and sleep, as the basic activity of those living systems with an intrinsic mind-body relationship, may also be found in many cells, organs, and systems in our bodies. For example, the myocardial refractory period may be understood as the period of cardiac muscle's sleep, even though it lasts only for 250ms. The period between two refractory periods may be understood as those cells' waking state and the action potential as the qualia of their communication. Both the communication and the waking state together may be understood as cardiac cells' consciousness. Though different in their complexity, there is no ontological difference between the consciousness among those cardiac cells and the consciousness among neurons in our brains.

Sleeping and waking states may also be understood as ground and excited states of atoms or molecules. Even the activities of an enzyme are also based on its quante changes.

Our physical or mental efforts to do something are all such quante changes, not quale changes.

Qualia may become quantia when the M is too low in energy, and vice versa.

All kinds of observation, such as those defined by quantum physics, are also the qualia based on the waking state of the M. The wave function might therefore not collapse if the M as the observer is not in a certain waking state.

Consciousness may be defined as those quale changes in the EME system relation based on the waking state of the M. Therefore, consciousness is always a part of the brain-body relationship or mind-body relationship.

The M in EME system relation may be understood as the center or unifying part of all the mental activities. And phenomenal consciousness always arises where and when the first E meets the M that is in a kind of waking state. Recollection or self-awareness may be understood as the second E feedbacked as the first E, and interacting with the M again.

Qualia are universal but consciousness is systematic. It is alone the M and its state that determine together if a quale change may be the system's consciousness.

Biological communication is always a duet of both the quale changes of the E and the quante changes of the M.

Behavior is the event in which the second E leaves not only the M but also the system.

Though positioned differently in EME system relation, both our consciousness and behavior are the same as duet changes. A behavior may be understood as an explicit consciousness, and a consciousness as an implicit behavior, even though the same duet may never be both explicit and implicit.

The voluntary movement of our bodies is, for example, such a duet change, with its quale change controlled by the brain through pyramidal tracts and its quante change through extrapyramidal tracts.

Attention is the duet as either consciousness in our brains or behavior of our sensory or motor organs.

5. The autumn life as cause or effect

All the duets are symmetric or conservative changes, and all the lives are dissymmetric or non-conservative changes.

An effect may become its cause if in symmetrical or conservative changes, but never in life changes.

A symmetric or conservative change may only be a language since it may not be a cause or an effect. And a dissymmetric or non-conservative change may only be the semantic meaning since it may not be communicated.

In other words, lives may only be understood but not known, and all that we may know is either the E or the M communicated as a meaningless language. We may understand the meaning of certain communication but never know it.

Ontologically, information is only what understood, but not what known.

Therefore, a language and its meaning may never be one or the same. Their ontological relation may be formulated as:

$$OC = \text{the meaning of } E \text{ or } M \text{ (Ax. 3)}$$

Lives are therefore the only cause and/or effect of all other changes in our brains, bodies, societies, and cosmos.

Our consciousness, intelligence, emotion, thinking, behavior, and language are all meaningless if they have nothing to do with our lives.

Artificial intelligence, as our external structures, intelligence, or complexity, is meaningful only if there are human lives as its cause or effect.

Ontologically, the autumn life, as both the effects of the E and the causes of the M, is our final truth and certainty, and also the final truth and certainty of all our knowledge.

The reason why at all there is consciousness is that it may be the birth of autumn lives in EME system relation. In other words, consciousness is the knowing that may cause understanding.

A Turing machine can know or behave intelligently and even consciously, but may never understand if there is no life as the cause or effect of its activities.

6. Self and world as one and the same in nature

Consciousness is always about a unique self in its unique world. However, neither the self nor the world may ever define or explain consciousness.

Though every living system, even every subsystem, expresses or hints at a unique self in a unique world, neither the self nor the world is an ontological commitment of any system.

A soul in a human body or brain is never an ontological commitment, neither is the observer of all our senses, the one that introspects our thoughts or feelings, the knower, thinker, or planner, the decision-maker or manager of our memories, or the initiator and commander of all our voluntary movements.

Ontologically, there is neither a unique world outside the mind nor a unique self inside. Even if there is a world or a self, no one may ever know or change it. And no one can do anything for the world or the self.

A self in its world is only the structure of consciousness, just as the basic grammar in a language. In other words, they are the actions of a living system's intelligence, both hereditary and acquired intelligence.

Ontologically, the self and the world are one and the same in nature, both our subjectivity and objectivity are one and the same in nature. And therefore, there is no boundary between them, and no interaction or causality between any self and any world in any consciousness.

A living system is not only different from the others but also from itself. And it never expresses the same self in the same world during its development. The contents change all the time, even though the grammar remains constant.

Every phenomenon is the truth of its system, nothing more or less. No such a world is real or unreal, no such a self is real or unreal, and neither of them is a subjective or objective truth.

Both Husserl's "intentionality" and Heidegger's "Dasein" are about such a self in its world. So is our introspection, recollection, reflection, or self-awareness.

That a cognitive subject may be the object of its cognition proves the ontological identity of every self and its world, and proves that neither the world nor the self is a system's sentience or subjective experience.

It seems to me that a unique self in its unique world might only be the way for a body to slave its mind.

7. Its differences from other theories

OC always embraces different explanations.

This explanation, based on the E, the M, and both lives organized in MEM and EME system relations, is not unique but still different from many other theories of consciousness [Van Gulick (2021), Del Pin et al (2021), Doerig et al (2021), Seth & Bayne (2022), Patrick et al (2023), Ding et al (2023)].

The fundamental difference is that this explanation is based not on entities and properties but on their changes, which means that consciousness might be more fundamental than the brain or neurons, and more fundamental than particles, waves, or fields. And it questions the possibility that consciousness may ever be defined or explained by neuroscience or quantum physics.

And ontologically, consciousness is explained here together with matter and energy as one and the same language, and with lives as its cause or effect. Life alone is my explanation of agency or intentional action [Schlosser, 2019].

The other differences are that many of them do not take life as their ontological commitment, OC as their definition of life, EME system relation as their definition of the brain or nervous system, the unity of EME and MEM system relations as their definition of the mind-body relationship, the M in EME system relation as the center or unifying part of mental activities, and autumn lives as the effects of our consciousness.

And many of them are still constrained by the subjectivity or the objectivity narrated by consciousness. Many of them do not distinguish the differences between qualia and quantia, between E language and M language, or between life changes and duet changes. Some of them are teleological explanations [Friston, 2010], and many of them even take consciousness as their explanation of agency and autonomy.

By some theories, problems arise because consciousness and behavior have not been identified as the same in nature.

It is, for example, different from the Higher-Order theory [Rosenthal, 1986] since it means that consciousness is an inner event of every living system and all its subsystems; different from the Global Workspace [Baars, 1988] since it means that it is the quante change of the M, not the quale change of the E, that determines the difference between consciousness and unconscious; different from the integrated information theory [Tononi, 2004, 2008] since it means that systematic complexity, such as different neural connections, explains only the nature of intelligence, not the nature of consciousness; and also different from Daniel Dennett's multiple drafts model [1991] since it means that the E or the M does not compete for survival.

Conclusion. It might be concluded:

- Consciousness is a part of our understanding of the mind.
- A human mind may be understood as an ontological system dominated by autumn lives.
- As a living system, the mind is the E, the M, and both lives organized in MEM and EME system relations.
- Consciousness is the quale change in which the E meets the M in EME system relation, while both emotion and wakefulness are quante changes of the M.
- Only autumn lives may be the effect of our consciousness.

To understand consciousness is the same as to understand the ontological relationship between a language and its meaning.

Such an understanding might require us to give up substantialism, rationalism, scientism, and anthropocentrism.

References

- AI-Hashimi, Hashim M. (2023). Turing, von Neumann, and the computational architecture of biological machines. *PNAS*, 120(25) e2220022120 <https://doi.org/10.1073/pnas.2220022120>.
- Baars, Bernard J. (1988). *A Cognitive Theory of Consciousness*. Cambridge University Press. p. 345 <https://philpapers.org/rec/BAAACT>.
- Butlin, Patrick; Long, Robert; Elmoznino, Eric; Bengio, Yoshua; Birch, Jonathan; Constant, Axel; Deane, George; Fleming, Stephen M.; Frith, Chris; Ji, Xu; Kanai, Ryota; Klein, Colin; Lindsay, Grace; Michel, Matthias; Mudrik, Liad; Peters, Megan A. K.; Schwitzgebel, Eric; Simon, Jonathan; VanRullen, Rufin (2023). Consciousness in Artificial Intelligence: Insights from the Science of Consciousness. *arXiv:2308.08708v3 [cs.AI]* <https://doi.org/10.48550/arXiv.2308.08708>
- Chalmers, David (1995). Facing up to the problem of consciousness. *Journal of Consciousness Studies* 2(3): 200–219.
- Del Pin, S.H., Skóra, Z., Sandberg, K. Overgaard, M., Wierzchon, M. (2021). Comparing theories of consciousness: why it matters and how to do it. *Neurosci. Conscious.* 2021: niab019.
- Dennett, Daniel C. (1991). *Consciousness Explained*. Little, Brown & Co.
- Diaconis, Persi; Holmes, Susan; Montgomery, Richard (2007). Dynamical Bias in the Coin Toss. *SIAM Review* 49(2), 211–235. https://statweb.stanford.edu/~cgates/PERSI/papers/dyn_coin_07.pdf
- Ding, Zihan; Wei, Xiaoxi; Xu, Yidan (2023). Survey of Consciousness Theory from Computational Perspective. *arXiv:2309.10063v1[q-bio.NC]*, <https://doi.org/10.48550/arXiv.2309.10063>.

- Doerig, Adrien; Schurger, Aaron; Herzog, Michael H. (2020). Hard criteria for empirical theories of consciousness. *Cognitive neuroscience*, 12(2), 41–62.
<https://doi.org/10.1080/17588928.2020.1772214>.
- Friston, Karl (2010). The free-energy principle: a unified brain theory? *Nat Rev Neurosci* 11, 127–138. <https://doi.org/10.1038/nrn2787>
- Hertog, Thomas (2023). *On the Origin of Time: Stephen Hawking's Final Theory*. Bantam, ISBN 9780593128442.
- Pitt, David (2022). Mental Representation. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta & Uri Nodelman (eds.). <https://plato.stanford.edu/archives/fall2022/entries/mental-representation/>
- Rosenthal, David (1986). Two concepts of consciousness. *Philosophical Studies*, 49: 329–359.
- Seth, Anil K.; Bayne, Tim (2022). Theories of consciousness. *Nat Rev Neurosci* 23, 439–452, <https://doi.org/10.1038/s41583-022-00587-4>.
- Sharma, Abhishek; Czege, Daniel; Lachmann, Michael; Kempes, Christopher P.; Walker, Sara I.; Cronin, Leroy (2023). Assembly theory explains and quantifies selection and evolution. *Nature* 622, 321–328. <https://doi.org/10.1038/s41586-023-06600-9>
- Schlosser, Markus (2019). Agency. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/win2019/entries/agency/>
- Smart, J. J. C. (2017). The Mind/Brain Identity Theory. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/spr2017/entries/mind-identity/>
- Tye, Michael (2021). Qualia. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/fall2021/entries/qualia/>
- Tononi, Giulio (2004). An information integration theory of consciousness. *BMC Neurosci* 5, 42. <https://doi.org/10.1186/1471-2202-5-42>
- Tononi, Giulio (2008). Consciousness as integrated information: a provisional manifesto. *Biol Bull* 215: 216–242. <https://doi.org/10.2307/25470707>.
- Van Gulick, R. (2021). Consciousness. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/win2021/entries/consciousness/>, last accessed 2021.
- Wong, Michael L.; Cleland, Carol E.; Arend, Daniel Jr.; Bartlett, Stuart; Cleaves II, H. James; Demarest, Heather; Prabhu, Anirudh; Lunine, Jonathan I.; Hazen, Robert M. (2023). On the roles of function and selection in evolving systems. *PNAS*, 120(43) e2310223120 <https://doi.org/10.1073/pnas.2310223120>.
- Yurchenko, Sergey B. (2023). Can there be a synergistic core emerging in the brain hierarchy to control neural activity by downward causation?. *Authorea*. [doi:10.22541/au.169277543.38066598/v1](https://doi.org/10.22541/au.169277543.38066598/v1).
- Zhang, Xinyan (2022). How to create a life or mind as the explanation of our consciousness, intelligence and language. *Journal of NeuroPhilosophy*, 1(2). <https://doi.org/10.5281/zenodo.7253901>.
- Zhang, Xinyan (2020). Being or God (written in Chinese). *Philpapers*. <https://philpapers.org/rec/XIN>

The model of intentionality in Aristotle¹

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Abstract. This paper investigates Aristotle’s theory of psychology and build up a model of intentionality based on it. It is revealed that the active factor of intentionality in modern sense is not always the case for Aristotle. The active factor in Aristotle is more about voluntary intentional act and it is primarily a concept formed in later time. Aristotle otherwise provides a content theory of intentionality by virtue of the presentation of things to the subject, which also reveals a consistency between the intellectual soul and the world.

Keywords: intentionality, *phantasia*, representation, active factor

Contents

Introduction

1. How the story begins
2. Sensation and intentionality
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Conclusion

Резюме. В данной статье исследуется теория психологии Аристотеля и на ее основе строится модель интенциональности. Выявлено, что активный фактор интенциональности в современном понимании не всегда является таковым у Аристотеля. Активный фактор у Аристотеля больше относится к добровольному намеренному действию и является прежде всего концепцией, сформированной в более позднее время. В остальном Аристотель дает содержательную теорию интенциональности в силу представления вещей субъекту, что также выявляет согласованность между интеллектуальной душой и миром.

Ключевые слова: интенциональность, фантазия, представление, активный фактор.

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Введение

1. Как начинается история
2. Сенсация и интенциональность
3. Фантазия и интенциональность
4. Интеллект и интенциональность

Заключение

Introduction. There has been a revival of research interest about intentionality in Aristotle in these three decades,³ the topic of which can date back to Franz Brentano in the 19th century. With Brentano's well-known proposal of intentionality in *Psychology from an Empirical Standpoint*, an easily overlooked footnote comes along, which refers to Aristotle's theory of psychology for the inspiration.⁴ Brentano refers to Aristotle's depiction of perception and intellect, especially the way of "receiving form without matter" in acquiring information. I would like to investigate whether Aristotle has something to say about intentionality, and to what extent can we built up a model of intentionality for Aristotle.

1. How the story begins

We will firstly follow Brentano's step to see how he relates intentionality to Aristotle, and then deal with Aristotle's theory of psychology. When proposing the notion of intentional in-existence, Brentano refers to Aristotle in that, "Aristotle himself spoke of this mental in-existence. In his books on the soul he says that the sensed object, as such, is in the sensing subject; that the sense contains the sensed object without its matter; that the object which is thought is in the thinking intellect" [Brentano, 2009, p.67]. Brentano depicts intentional in-existence as the characteristic of mental phenomenon, which is reference to a content, direction towards an object or immanent objectivity.⁵ It reveals that the in-formed object which are acquired by virtue of receiving form without matter is what Brentano refers to for intentional in-existence.

The reference in Aristotle actually comes as "about all perception, we can say that a sense is what has

³ See Victor Caston [1998], Richard Sorabji [1991,1992,2001], Myles Burnyeat [1995], Christopher Shields [1995].

⁴ Franz Brentano, *Psychology from An Empirical Standpoint*, trans. Antos C. Rancurello, D. B. Terrell, and Linda L. McAlister (London UK: Routledge, 2009), p. 67, hereafter abbreviated as PES.

⁵ PES, P.68.

the power of receiving into itself the sensible forms of things without the matter. (DA 424a18-20).” It incurs heated debate as to what kind of alteration it is [Sorabji 1992, 2001; Burnyeat 1995; Caston 1996; Everson 1997; Lorenz 2007; Magee 2000]. What’s more, contemporary debates probe the possibility of intentionality based on different interpretations about it.

Sorabji points out that perceptual appearance is propositional, and this propositional content or the formal part of perception reveals the intentional implication.⁶ Burnyeat follows Brentano in taking the spiritual interpretation of sensation but he instead regards perceptual awareness of the sensible quality as intentional.⁷ Caston denies that Brentano’s reference to Aristotle about receiving form without matter supports the acceptance of a general mode of intentionality.⁸ Rather, he explicates a representative mode of intentionality in Aristotle by virtue of *phantasia*.⁹

None of Sorabji, Burnyeat and Caston agrees with Brentano in relating intentionality to Aristotle’s theory of receiving form without matter. Instead, Sorabji relates intentionality to the propositional content, Burnyeat argues that intentionality lies in perceptual awareness, whereas Caston turns to *phantasia*. In modern sense, intentionality is generally the capacity of an active agent to be about or refer to something. Depending on the definition of intentionality, we are to deal with Aristotle’s theory of psychology to see how it implies intentionality there.

2. Sensation and intentionality

In Aristotle’s perceptual theory, since the form cannot exist independently without matter, the form received by the sensible patient will be combined with the physical sense organ once there is sensory stimulation. By virtue of this, the potential state of the perceptual power becomes actualized, and the sense organ captures the corresponding form to become identified with it in sense. For example, when

⁶ “Intentionality and Physiological Processes: Aristotle's Theory of Sense-Perception.” In Martha C. Nussbaum and Amélie Oksenberg Rorty (ed.), *Essays on Aristotle's De Anima*. Clarendon Press. 1992, pp. 195–225.

⁷ Burnyeat, M. F. “Is an Aristotelian Philosophy of Mind Still Credible? (A Draft)” In Nussbaum and Rorty(eds.), *Essays on Aristotle's De Anima*. Oxford: Clarendon Press, (1995): 15–26. (First published, 1992.)

⁸ As such, Caston lists three objections: first, he believes that the example of the wax and signet ring is not about an intentional state; second, he does not believe that there is an aboutness involved there, because “receiving form without matter” does not signal the notion of being about something; third, he believes that this formulation is still a causal doctrine and the sensible form’s acting upon the patient shows a causal relation. However, in the case of thinking about non-existent objects, there does not seem to be a form.

⁹ Caston, Victor. “Aristotle and the Problem of Intentionality.” *Philosophy and Phenomenological Research* 58.2 (1998): 249-298.

the color red is present, the sense organ is impressed by that color, and at that moment, the characteristic or state the sense organ reveals is red. But, since the hosts to which the color is associated can differ, so too do the states of coloration in sensation and in the sensible object differ.

In this way, the percipient subject acquires sensible content, which is identity with the sensible object in actuality, thus provides a consistency between soul and the world. Even though admitting to the alteration that the sense organ suffers, it does not mean to be taken as a literal material change in the same sense as the sensible quality's acting on the sensible object. Instead, I adopt the position that because of the different material substrates, the alteration caused by the sensible form in sensation will inherently be different from that in the sensible object.¹⁰ Hence, the sensible form (for example, "redness"), can color the sensible object as such, but it is not plausible to state that the sense organ will equally suffer the same change, because the material substrate of the percipient patient is the bodily organ. It differs from the material constitution of the sensible object.¹¹

By virtue of receiving form without matter, the sensory subject acquires the sensory information, get identity with the sensible object, and further, become aware of this sensory process. We can best say the sensory subject has a sensible content with regard to the sensible object, but it is not the case that the received sensible form can be regarded as an intentional object, as Brentano means. Brentano himself is tangled with the problem of content and object in his first stage and changed his proposal of intentionality as a quasi-relation to a real thing. The impediment of viewing the received form as intentional object is that there will be trouble explaining the ontology of the intentional object, the difficulty of double objects and the block from the external world.

¹⁰ Thomas Aquinas equally expresses that the form in sense organ and the form that appears in the sensible object will have a different effect because the material substrates are different. Contemporary scholars such as Everson(1999) preserves Aristotle's distinction between sense organ and perceptual capacity and stresses that it is the sense organ that incurs the alteration rather than the perceptual capacity. Everson's assessment about "receiving form without matter" is that "for the organ to take on the form of the sensible object, then, is for it to take on a property which is distinctive of the substance's matter" [p. 102]. Lorenz [2007] claims that the perceptual power suffers the alteration of a non-destructive change. It is the sense or intellect which are the potentialities that are open to be informed by the perceptible and intelligible form which constitutes the assimilation between sense or intellect and their object. Perception "involves both an ordinary change or modification in a sense organ and a certain kind of change or quasi-change undergone by a sensory power.

¹¹ This can be certified by the claim in *On Generation and Corruption*, "In action, there is nothing to prevent the first agent being unaffected, while the last agent only acts by suffering action itself. For if things have not the same matter, the agent acts without being affected; thus the art of healing produces health without itself being acted upon in any way by that which is being healed." (CC. 324a34-36).

All in all, perception is both the potential perceptual faculty's becoming actualized as well as the sense organ's suffering the alteration in a non-ordinary physical manner. The percipient faculty changes from the state of second potentiality/first actuality to second actuality. In this event, what is percipient actualizes what otherwise is only potentially perceiving by virtue of the sense organ's suffering a qualitative alteration rather than physical change. That is to say, by receiving form without matter, what sensation acquires is a principle that define what kind of sensation it will be, along with the qualitative alteration in sense organ. By virtue of the qualitative alteration, the sensory state is prepared with the sensory content about that particular sensible object, thus getting defined by the form of that sensible object. When I say "get defined by something", it implies that the sensory state is about the thing which defines it. It is in this way that Aristotle elaborates what is going on in sensation.

Meanwhile, sensation is not just a sheer receptivity of the object, it is a complex activity including the assimilation of the percipient sense and the perceptual object, as well as the perceptual awareness. In this way, the in-formed sensible object provides a kind of sensory presentation to the subject. This wording implies the roots of intentionality from the perspective of intentional content. Worth noting, it is not in the same sense as the modern term since there is no active factor playing its role in perceptual mechanism. Both Sorabji and Burnyeat noticed the intentional implication in sensation by focusing either the propositional content or perceptual awareness. For me, intentionality is revealed under the comprehensive conditions of sensation.

But this is not the end of the story. We just investigated how intentionality can be implicated in sensation. Intentionality further shines its light in Aristotle's depiction of *phantasia* and intellect, in this way can we have a comprehensive picture of intentionality in Aristotle.

3. *Phantasia* and intentionality

Among the meanings of *phantasia* we find "a presentation to consciousness, whether immediate or in memory, whether true or illusory" (Liddell and Scott, Lexicon, "*phantasia*"). In contemporary Aristotle scholarship, there is a tendency of regarding *phantasia* as representation (Nussbaum 1978; Everson 1999; Polansky 2007; Modrak 2016)¹², i.e. as representing what the sensory appearance is.

¹² Nussbaum [1978] elaborates on *phantasia* stating that in all cases it involves images that represent the object in virtue of some similarity to the object. Everson [1999] argues that given Aristotle's apparent emphasis on the connection between action and *phantasia*, it seems reasonable to take *phantasia* to constitute the activity of the rich representational system which perception is not, and which is required for a subject to be an agent. He attributes the active factor to *phantasia* so as to make a distinction between perception and *phantasia*, which lies in that the former shows that it appears to be a man and the latter shows that I see a

According to Lagerlund, “the word representation came to philosophy along with the Latin translation of Avicenna’s *De Anima*”¹³. It was only in late Medieval Age that representation is to explain the content of thought.

Generally speaking, “representation” in the modern sense seems to imply that there is an active mental subject which carries on a presentation of the object. We see that Caston [1998] attributes *phantasia* an active causal power. Nussbaum also spells out intentionality in *phantasia* because of *phantasia*’s active role in focusing on one thing, as she says, “we are always passively receiving perceptual stimuli; but when we actively focus on some object in our environment, separating it out from its context and seeing it as a certain thing, the faculty of *phantasia*, or the *phantasia* aspect of *aesthesis* is called into play” [Nussbaum,1978, p.259].

In my view, *phantasia* is an intention to know, the desire to perceive. It is reasonable to attribute a causal power to *phantasia*, considering that *phantasia* has the causal power to make up cognitive information based on the residual sensible information, and activate it from potentiality to actuality. Generally speaking, every time we perceive something, the sensible form acts on the sense organ with the alteration occurring in sensation. Further this sensible alteration is transmitted to the central sense, which on the one hand marks the perceiving of something, on the other hand, it activates *phantasia*. In this way, *phantasia* can deal with the received information for the application of other cognitive activity. Also, in the absence of the present sensible object, *phantasia* can still work on the stored sensible materials for thinking, memory, recollection, and so on.

Aristotle’s psychological building relies heavily on perception, which occupies a large part of the content in *De Anima*. However, the condition of the presence of the sensible object also limits what we can conceive. *Phantasia* compensates for this disadvantage to some extent, by not only following closely after perception to conceive the sensible image and pass it to the central sense but also by making use of the residual image to create a new image even when there is no object present. Of course, it also introduces the consequences of fallibility – however, there is no better way than to formulate such an efficient capacity to explain the quasi-rational activity of animals and enlarge the

man. Polansky [2007] indicates that Aristotle does not depict *phantasia* as a critical and discriminative faculty (like sense and thought), but a faculty of presentation or representation. Modrak [2016] claims that “any object that can be the content of a perception can be presented in a *phantasma* (object of *phantasia*) and the content so presented may be an accurate representation of an actual object or it may fall short of accuracy due to the conditions under which it is realized.” [p.17]

¹³ Lagerlund [2021].

function that the perceptual faculty can do. Ultimately, it has the additional advantage of offering an explanation for perceptual error.

As we clarified, *phantasia* can make use of the in-formed sensible object for other cognitive activities. It is clear that *phantasia* is involved in intentional content in many ways, by actively presenting objects, or by creating new images for the subject. Aristotle carefully proposes the relation of likeness between the inner image and previous events. In this way, intentional content is always in some way related to the external world, and thus reveals the continuity between the intellectual soul and the world.

4. Intellect and intentionality

The most majored feature of intentionality lies in an active agent having the capacity to refer to or be about something. As is always say, whenever we think, there is something that is thought about. When we desire, we are desiring for something. In order to strive for a comprehensive picture of intentionality in Aristotle, we shall spell out how intellect works in Aristotle's theory and see how intentionality reveals there.

Humans are active in initiating thought activities. As Aristotle claims, "it is perhaps better to say, not that the soul pities or learns or thinks, but that the human being does these due to the soul" (*DA* 408b12-14). Humans have the capacity to freely select and decide what to think and ponder, which indicates that humans have the efficient power, which is the intellectual soul, to pay attention to, consider, desire, etc. a particular object or state of affairs. Humans' efficient power provides the condition for the encounter of the intelligible object and the intellectual soul. After thought is initiated, the active intellect, which is the possessed knowledge, illumines the intelligible object which we prefer. This intelligible object acts as the first actuality upon the passive intellect, so as to actualize the potential intellect and itself into second actuality.

In a concrete example of thought, the active intellect and the receptive thought cannot separate from one another. Once the initiating factor of thought is stimulated (it can be desire, habit, or just an idea popping up, etc.), the active intellect will illumine the corresponding intelligible form from the storage of knowledge to produce the intelligible object we want, and the actualized intelligible form will act on the receptive intellect, thus realizing thought. So, the function of the active intellect is just to provide the possibility for thought. For example, when we think of a tree which is green and big, in order for the receptive thought to accept it and become identical with it (it is impossible to have a real material tree in us, what we have is only the form), the active thought will illuminate the related sensible information about this tree from our memory and provide an intelligible form engaged in

image for the receptive intellect. Because the receptive soul only has the capacity to receive, it cannot make the actuality come true by itself. Similarly, the approach from the intelligible form to the receptive intellect is like that of the sensible form to the perceptual soul. The occurrence of perception requires the presence of the sensible object, within which the sensible form is an active factor.

Therefore, my interpretation is that thought is initiated by humans. Once we think, the active intellect (the possessed knowledge) illuminates the potential intelligible form, and the actualized intelligible form (accompanied with the sensible image) acts on the receptive intellect. In this operation, the active intellect is responsible for illuminating the potential intelligible while *phantasia* serves to provide a sensible image to pack the intelligible form. The initiating factors of thought can be desire, the external stimulation, etc., with the active intellect as the auxiliary cause. That is to say, the efficient cause of thinking is not the active intellect, but humans. Henceforth, it is plain to say that the intellectual act rests on a combination of initiators: humans who has the auxiliary function of the active intellect. Such intellectual act can also be regarded as voluntary intentional act, or to say intentionality in the practical sense.

In describing the capacity of animals for local motion, it is revealed that animals can pursue or avoid an end based on its impulse. As is said, “for this kind of movement is always for an end and is accompanied either by imagination or by appetite; for no animal moves except by compulsion unless it has an impulse towards or away from an object.” (DA 432b16-17) This impulse towards or away from an object will directly influence how the animal selects and responds to the perceptible. Because of the lack of intellect, it should be supposed that animals’ tendency toward the perceptible is out of physiological desire, and meanwhile, it carries out motion in the practical sense of intentionality. However, since (in human beings) there may be no object present for the intellect to cognize, intellect should hence make something out in the preparatory stage. It can pay attention to something in the external reality, select what we already have from the storage of memory, or create a new intelligible form from it. That is the difference between perception and intellect at the starting point.

As we know, Brentano attributes the characteristic of intentionality to the mentally active subject, which refers to or directs to an intentional object. However, as we disclose, even though humans are free to think whatever they want, the inner mechanism of intellect is much more complex. It is composed of different stages of act. The first stage is the intelligible form’s acting on the potential intellect where the intellect is passive in receiving what acts on it. The second stage is the actualized intellectual soul, which is identical with the intelligible object. In this way, the intellectual subject is occupied with the cognized content, and Aristotle does not especially depict a relation directed from the actualized intellectual subject to the object at this stage, since it is just the actualized intellectual

subject's becoming identical with the intelligible object because of the object's efficient cause. In the third stage, because we are already occupied with the psychic content based on stage two, we can selectively pay attention to or focus on the intelligible object which is composed either on a remaining image or previous knowledge, or which is external. This is voluntary intentional act and the active factor is revealed on this level.

It is in the third stage that I infer the intellect in first actuality is intentional in that it has such an active power to select or pay attention to a particular object, which can both exist or not exist. Humans initiate thinking out of multiple reasons, which can be desire, habit, memory, etc. The intellectual capacity to think whatever it wants explains the characteristic of being "selective", or the active factor of intentionality. It is able to select intelligible objects either based on the present object or the possessed knowledge. In addition, the active factor is also expressed by virtue of the unified means of intellect, which is able to discern and judge the intelligible object. By deliberately thinking and judging, we are able to make decisions to guide our action –and that is also the difference between animals and human beings.

The active aspect of intellect explains intentionality in the broad sense, expressing a voluntary intentional act to whatever we would like to ponder on or be concerned with. But it is intellect in a different stage compared to the intellectual soul's cognition, which is operated by the active intellect and the receptive intellect with the aid of sensible image. Thinking is based on sensation, which provides it with the sensible image, and when there is no sensation, it is *phantasia* that deploys the image for thought. The intelligible object cannot come to us without the image. Rather, it is the process that the active intellect illuminates the intelligible form, and then the intelligible form is received by the receptive thought.

Moreover, as we clarified in perception, the perceptual soul and the perceptual object are better referred to as being identical in actuality rather than being involved in a relational mode. The same is true for intellect: Aristotle does not especially elaborate a relation between the intellectual soul and its object. Therefore, at this stage, the potential intellectual soul is passive when receiving the intelligible form rather than actively directed towards it. It is only in the broad sense—that is, intellect in first actuality—that intellect is able to aim to, select, refer to the intelligible object, which implies active factor.

Aristotle spends quite a lot of time describing the perceptual basis, or the role of *phantasia* in supporting the appearance of the intelligible object. The conjunction of the intelligible form with *phantasia* provides materials to mental content when the intelligible form is being cognized. In this

way, the roots of intentional content come to the fore in Aristotle's theory of intellect. This is consistent with the content theory of intentionality we disclose in Aristotle.

Conclusion. We find that the characteristic of aboutness, or to say, intentional content, is always there in Aristotle's psychology. That is why we attribute a content theory of intentionality to Aristotle. However, it is not what a contemporary interpretation of intentionality means. Since when we attribute "the active factor" of intentionality to Aristotle, it is not always the case. Aristotle's perceptual/intellectual mechanism is primarily driven by the explanation of four causes, according to which the perceptual/intellectual subject is passive to be acted on by its objects, which is the efficient/formal cause. Because of the peculiarity of the intellectual mechanism, we found the active factor located on the level of voluntary intentional act. When it comes into the intellectual soul's receipt of the intelligible form, it shows no active factor but follows the same pattern as perception.

References

- Alexander of Aphrodisias, *Supplement to On the Soul*, trans. R.W. Sharples. London: Bloomsbury, 2004.
- Aristotle, *The Complete Works of Aristotle: The Revised Oxford Translation*. edited by Jonathan Barnes, Princeton University Press, 1984.
- Brentano, Franz. *Psychology from an Empirical Standpoint*. ed. and trans. by AC Rancurello, DB Terrell, and LL McAlister. London: Routledge and Kegan Paul. 1973.
- *The Psychology of Aristotle*. ed. and trans. by R. George, Berkeley: University of California Press, 1977.
- Burnyeat, M. F. "Is an Aristotelian Philosophy of Mind Still Credible? (A Draft)" In Nussbaum and Rorty(eds.), *Essays on Aristotle's De Anima*. Oxford: Clarendon Press, (1995): 15–26. (First published, 1992)
- Bynum, Terrell Ward. "A new look at Aristotle's theory of perception." *History of Philosophy Quarterly* 4.2 (1987): 163–178.
- Caston, Victor. "Aristotle and the Problem of Intentionality." *Philosophy and Phenomenological Research* 58.2 (1998): 249–298.
- Corcilius, Klaus, and Pavel Gregoric. "Aristotle's model of animal motion." *Phronesis* 58.1 (2013): 52–97.
- "Activity, Passivity, and Perceptual Discrimination in Aristotle." J. F. Silva, M. Yrjönsuuri (ed.), *Active Perception in the History of Philosophy*. Springer Science & Business Media, 2014, pp.31-53.

- “How are Episodes of Thought Initiated According to Aristotle?” In Crawford, Cyril K., and Leen Van Campe (eds.), *Ancient Perspectives on Aristotle's De Anima*. Vol. 41. Leuven University Press, 2009, pp.1–17.
- Lagerlund, Henrik, “Mental Representation in Medieval Philosophy”, *The Stanford Encyclopedia of Philosophy* (Spring 2021 Edition), Edward N. Zalta (ed.), URL: [=<https://plato.stanford.edu/archives/spr2021/entries/representation-medieval/>](https://plato.stanford.edu/archives/spr2021/entries/representation-medieval/).
- Moran, Dermot. “Intentionality: Some Lessons from the History of the Problem from Brentano to the Present.” *International Journal of Philosophical Studies* 21.3 (2013): 317–358.
- Nussbaum, Martha C. “The role of phantasia in Aristotle’s explanation of action.” In Nussbaum, Martha C. *Aristotle's De Motu Animalium: Text with Translation, Commentary, and Interpretive Essays*. Princeton: Princeton University Press, 1978, pp. 221–269.
- Perler, Dominik, ed. *Ancient and Medieval Theories of Intentionality*. Vol. 76. Leiden: Brill, 2001.
- Polansky, Ronald *Aristotle's De Anima: A Critical Commentary*. Cambridge: Cambridge University Press, 2007.
- Sorabji, Richard. “Aristotle on Sensory Processes and Intentionality: A Reply to Myles Burnyeat’.” In Dominik Perler (ed.), *Ancient and Medieval theories of intentionality*, Volume 76. Leiden: Brill, 2001, pp. 49–61.
- “From Aristotle to Brentano: The Development of the Concept of Intentionality.” in H. Blumenthal and H. Robinson (eds.), *Aristotle and the Later Tradition*, Oxford Studies in Ancient Philosophy (Supplementary Volume), 1991, pp. 227–59.
- “Intentionality and Physiological Processes: Aristotle’s Theory of Sense-Perception.” In Martha C. Nussbaum and Amélie Oksenberg Rorty (ed.), *Essays on Aristotle's De Anima*. Clarendon Press. 1992, pp. 195–225.
- Themistius, *On Aristotle On the Soul*, trans. Robert B. Todd. London: Duckworth, 1996.
- Searle, John R., and S. Willis. *Intentionality: An essay in the philosophy of mind*. Cambridge university press, 1983.
- Simplicius, *On Aristotle's On the Soul, 3.1-3.5*, trans. H.J. Blumenthal. London: Bloomsbury, 2014.
- Shields, C (Ed.) *De Anima* (C. Shields, Trans.). Oxford: Oxford University Press. 2016.
- “Intentionality and Isomorphism in Aristotle.” *Proceedings of the Boston Area Colloquium in Ancient Philosophy*. XI. (1995): 307–330.
- Wedin, Michael V. *Mind and imagination in Aristotle*. Yale University Press, 1988.
- “The Meaning of *Phantasia* in Aristotle’s *De Anima*, III, 3–8.” *Dialogue: Canadian Philosophical Review/Revue canadienne de philosophie* 24.3 (1985): 483–505.

Об устойчивом интересе современников к природе Эфира

Юрий Павлович АРШБА¹

On the sustained interest of contemporaries in the nature of the Aether

Yuri Pavlovich ARSHBA

Резюме. В современном научном сообществе существует негласный, но фактический запрет на проведение исследований в области физики эфира и эфиродинамики : все это существенно тормозит научную активность в данной области. Тем не менее, сама тема физического Эфира, начиная с античной философии, далее в научных построениях Аристотеля, и вплоть до настоящего времени – тема Эфира (как тончайшей, но вездесущей и основополагающей мировой субстанции), на всем протяжении мировой истории сохраняет свою актуальность, более того – приобретает у ученых все больший интерес, в т.ч. и в связи с расширением доказательной базы. Как раз в этом направлении действует и автор, предлагая в своем эссе краткий обзор значимых работ современных ученых (XXI в.), зарекомендовавших себя успехами в изучении вопросов физического эфира.

Ключевые слова: физический эфир, эфиродинамика, теория эфира.

Abstract. In the modern scientific community there is an unspoken, but actual ban on conducting research in the field of physics of the Aether and aether-dynamics : all this significantly inhibits scientific activity in this field. Nevertheless, the very theme of physical Aether, starting from the ancient philosophy, further in scientific constructions of Aristotle, and up to the present time – the theme of Aether (as the subtlest, but omnipresent and fundamental world substance), throughout the world history keeps its relevance, moreover – gets more and more interest of scientists, including in connection with the expansion of the evidence base. The author acts just in this direction, offering in his essay a brief review of significant works of modern scientists (XXI century), who have proved themselves successful in the study of the physical aether.

Keywords: physical aether, aether dynamics, aether theory.

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Введение. Необходимость в объяснении многих явлений природы и новых экспериментальных данных породило множество публикаций об эфирной природе Мироздания. Не отстают от теории и практические успехи пытливого ума человека, постоянно выявляющего и предоставляющего всеобщему вниманию достаточно надежные (но не имеющие достаточного объяснения) экспериментальные свидетельства : например, как выявляемый ток при торможении катушки; искусственные шаровые молнии; притягивание магнитного и ферромагнитного материалов; создание магнитного поля вращающимся сверхпроводником; разрушение материалов лазером и т.д. В этой связи, достижения современных ученых, о которых пойдет речь в данной работе, в первую очередь представителей российской физической школы – все это заслуживают особого внимания; как и предоставляемые на суд читателя выводы, которые последуют из анализа рассматриваемых научных достижений.

Многолетние усилия Владимира Акимовича Ацюковского. Теоретические основы рассматриваемой темы возможно начать с изучения многолетних трудов (более сорока лет жизни) выдающегося ученого и энциклопедиста Владимира Акимовича Ацюковского. Работы ученого захватывают читателя своей исторической ретроспективностью, законченностью и гармоничным сочетанием знаний из классической физики – физики здравого смысла и натурфилософии, но с последующим привлечением как возможностей глубокого логического мышления и производимой ясности прогнозов, так и всей силы современного математического аппарата. Например, из расчетов исследователя убедительно следует, что в одном кубическом миллиметре эфира энергии на несколько порядков больше, чем если соразмерно сравнивать с энергией, потребляемой всем современным человечеством.

Новизна рассуждений ученого также обнаруживается в том, что в отличие от Максвелла – Ацюковский рассматривает Эфир как идеальный газ, поэтому он полагает газодинамику как основание и причину вихреобразования. Тогда, в его представлении – устойчивое вихреобразование являет собой закольцованный в тор эфир. Здесь центральная область разряда собственно выступает причиной и условием для различных пространственных комбинаций; что как раз изменяет свойства локального объема пространства, проявляясь в виде электростатического и магнитного полей.

Заслуги В.А. Ацюковского, нашего современника и соотечественника, нам еще предстоит в полной мере осмыслить, в русле успешного развития эфиродинамики как науки. Так, в этом направлении сразу обращают на себя внимание достижения других российских ученых; и

здесь, безусловно – В.А. Бычков и Ф.С. Зайцев, и их монография «*Математическое моделирование электромагнитных и гравитационных явлений по методу механики сплошной среды*».

Совместный труд Владимира Львовича Бычкова и Фёдора Сергеевича Зайцева.

Представленная учеными совместная монография представляет собой строгое, глубокое и объемное исследование, безусловно состоятельное в плане научной доказательности; и которое ведет читателя к (сформулированным авторами) выводам, которые не могут не вызывать научного интереса. Прежде всего, Бычков и Зайцев выдвигают к рассмотрению собственную теорию эфира; и когда все их научные построения отличает как строгость логической аргументации, так и соответствие основным физическим законам; начиная с закона сохранения материи и закона сохранения импульса (второго закона Ньютона); а также последовательного применения методологии прикладной математики для верификации математической модели эфира.

Два момента, в их совместной монографии, заслуживают особого внимания и уважения. Это, во-первых, что приводимая в книге совокупность авторских системных многосторонних исследований – все это в своем сопряжении дает значимую комплексность; а также, что авторы проводят ценное сравнение выдвигаемых теоретических представлений с большим количеством экспериментально установленных законов и опытных фактов. В результате, Бычков и Зайцев убедительно обосновывают гипотезу о существовании эфира; причем в своем подходе они опираются на общепринятые постулаты сохранения материи и сохранения количества движения.

В частности, существование эфира подтверждается в книге большим количеством (более семидесяти) экспериментальных фактов. В итоге авторы делают следующее заключение:

...Систематическое использование уравнений эфира (4)-(6) приводит к выводу о том, что первопричиной свойств электрических токов и магнитов является поток эфира, а возможное движение заряженных частиц – сопутствующим эффектом в этом потоке. [Бычков и Зайцев, 2019, с. 581].

Важный момент состоит в том, что в книге раскрывается единство происхождения электромагнитных и гравитационных сил – поскольку в обоих случаях это являет собой результат движения эфира. Так, по принципиальному утверждению авторов: «...в теории эфира механизм электрического тока в эфире и в металлах объясняется созданием градиента давления ньютониев (141) и не требует наличия свободных электронов» [Бычков и Зайцев,

2019, с. 365]. Со своей стороны, мы вправе отметить, что современная физика продолжает не замечать своих *внутренних противоречий*: например, характеризующих классическую электронную теорию проводимости металлов; и, в результате (и что отмечается в книге) – это и делает возможным продолжать отрицание существования эфира; однако, при этом, современной науке приходится «всё равно вводить некоторый экзотический аналог течения эфира» [с. 582].

Как итог, можно задать себе вопрос : Что представляет собой труд Бычкова и Зайцева – претензию на работу мирового значения; или, всего лишь, игру ума двух выдающихся ученых? В ответ, уже следуя русскому фольклору : можно задаться и другим вопросом – ‘А от какого угла надо начинать плясать?’ Если начинать, как положено «танцевать от печки», то тогда легко будет снять табу Майкельсона – а значит вполне откроется путь к теории единого поля (следовательно – и выход на уровень мирового значения). Но если поступить иначе, т.е. продолжать, с упорством инквизитора-схоласта средневековья, отвергать наличие эфира – то тогда остается только изысканная игра ума выдающихся профессионалов своего дела. В целом, что существенно : излагаемый в книге Бычкова и Зайцева материал, независимо от их отношения к гипотезе о существовании эфира и его физической интерпретации – здесь авторские наработки определенно могут рассматриваться как новый эффективный математический аппарат для детального изучения электрических, магнитных, гравитационных и кинетических эффектов.

Эфир и главный Биокосмологический универсальный принцип онтогенетического Само-восхождения субъекта жизни (в сложности своей организации). Сотрудники Биокосмологической ассоциации, соответственно и последователи выдвинутой здесь *Биокосмологической Инициативы* (БКИ)² : здесь все ученые с благодарностью соотносят свои научные разработки с *ОрганонКосмологией* Аристотеля, включая и его фундаментальное физическое понятие Эфира (в числе пяти космологических первоэлементов-стихий мира). Поэтому, в свете БКИ : именно Эфир как субстанциальная движущая основа мира – как раз физический Эфир и делает принципиально возможным реализацию главного Биокосмологического универсального принципа онтогенетического Само-восхождения субъекта жизни (в сложности своей организации). На самом деле, главным для Аристотелевской физики является принцип движения (само-изменения) реального мира;

² См.: Обращение к научному сообществу – выдвижение *Биокосмологической Инициативы* : https://biocosmology.org/?page_id=2171

соответственно Стагиритом выделяется *простые* движения (для элементов и простых физических тел) и *сложные* движения (для сложных естественных тел). Среди простых движений различаются два типа: прямолинейное и круговое (так, *земле* и *воде* свойственно движение вниз, к центру мира; тогда как *огню* и *воздуху* – вверх, от центра мира).

Хотя и нареченный ‘пятым’ элементом («квинтэссенцией»), в Латинском научном мире : но физический Эфир у Аристотеля выступает именно как ‘первый’ элемент естественного мироустройства; Стагирит выражается о нем как о «первом теле», «первой сущности» и «круговращающемся» теле. Существенно также, что Аристотель указывает на длительную ретроспективу подобных суждений; например, в своем произведении «*О небе*» он утверждает:

Судя по всему, и имя [первого тела], дошедшее от пращуров вплоть до нынешнего времени, говорит о том, что они держались [на этот счет] тех же воззрений, какие высказываем мы, ибо следует полагать, что одни и те же идеи приходят к нам снова не раз и не два, а бесконечное число раз. Именно поэтому, полагая, что первое тело отлично от земли, огня, воздуха и воды, они назвали самое верхнее место «эфиром» (aether), произведя наименование, которое они ему установили, от того, что оно «всегда бежит» (aei thein) в продолжение вечного времени. (Что касается Анаксагора, то он употребляет это имя неправильно: он называет эфиром огонь.) (*De caelo* | 3, 270b 17-26).³

Из выше сказанного следует, что закономерным образом понятие физического Эфира у Аристотеля выступает обоснованием *несотворенности* и *неуничтожимости* мира в целом; но, в то же время это понятие утверждает фундаментальный естественнонаучный принцип *естественности кругового движения Эфира*. Последнее, в свою очередь, делает необязательной абсолютизацию Платоновского постулата о ‘внешне привходящей и вселяющейся в человека или другого субъекта душе’ как универсального источника всеобщего движения в природе. По крайней мере, в Триадологической Биокосмологии (где наравне признается и Платоновский Трансцендентализм) : но здесь принятие (признание) и возвращение в научную среду понятия физического Эфира – этот момент приобретает для Биокосмологии (и науки в целом) особое, ключевое значение. Иными словами, и как это утверждается в *Биокосмологической Инициативе* : для современной науки, ввиду возникших в XXI в. тяжелых кризисных состояний, и в этой связи неотложных вызовов к адекватному научному развитию – сегодня, в отношении к Эфиру, является не столько желательным (допускаемым), сколько срочно востребованным и необходимым возвращение и

³ См.: Аристотель. *О небе* // Аристотель. Собр. соч. в 4-х тт. Т. 3. Перевод/Вступ. Статья и примеч. И. Д. Рожанский. – М., Мысль, 1981; сс. 263–378.

основополагающее присутствие Эфира в физической картине мира.

Вместе с тем, как мы это безусловно наблюдаем в современной фундаментальной науке : по-прежнему, здесь теоретическая физика с завидным упорством предпочитает работать с абстрактными конструкциями, виртуальными частицами и им подобными объектами. В то же время, что, нельзя не заметить : неуклонно осуществляется процесс наполнения новым физическим содержанием понятия вакуума – т.е. пустоты в исходном значении; значит, здесь действуя по (антинаучной) формуле «ничто порождает нечто».

«Высшая физика» Александра Михайловича Мишина. Процесс познания мира неудержим. Создатель не лишил Человека любопытства, изгоняя из Рая Адама и Еву. Напротив, любопытство стало основанием и главным механизмом осуществления человеком своей свободы выбора – т.е. жизненного (научно-философского, прежде всего) развития. *‘Наука (философия) начинается с удивления’*, – так Аристотель основоположил главный механизм успешной научной деятельности.

Причем, *‘истина добывается не в пламени костра’* : но достигается через активный поиск и усилия, и в итоге производство учеными-мыслителями множества своих индивидуальных концепций (т.е. научных достижений), воплощаемых в общий рост знания; естественно, что реализуя себя во взаимодействии и дискуссионном обсуждении со своим сообществом и аудиторией почитателей и оппонентов. Напротив, ученые, которые оказываются ограниченными в познании бесконечного мира лишь формулой философа (или политического деятеля) – эта часть не сможет познать целое; хотя и будучи наделенной способностями как к изобретательным ухищрениям, так и максимальному напряжению аппарата абстрактного мышления. Важнейшим качеством мысли, и на что настойчиво указывает Аристотель – этим качеством всегда остается неотрывность части от целого и единство субъекта с физической сущностью.

Исторической вехой в истории науки останется представление Эйнштейна о единстве пространства-времени в масштабах Вселенной в силу конечности скорости передачи информации;⁴ и здесь представления гравитации искривленным (массой объекта) пространством. Изящна формула ученого, связывающая энергию с массой устремленного объекта. Однако, та же масса вскипевшего чайника (здесь, с пониманием физической

⁴ Естественно, что не забывая и о альтернативном понятии «хронотопа» А.А. Ухтомского.

сущности процесса) не станет увеличиваться в силу переданной энергии.

В развитие темы физического Эфира невозможно обойти вниманием монографию Александра Михайловича Мишина «Начала высшей физики». Автор раскрывает свое понятие «*высшей физики*» следующим образом: «Высшей физикой будем называть науку, изучающую *эмпирически* (курсив мой. – Авт.) – и только во вторую очередь теоретическими методами многомерные свойства пространства-времени и различные виды материи параллельных миров». [Мишин, 2014, с. 10] Здесь же автор подчеркивает, что «Фундаментальным понятием начал высшей физики является многомерное Единое Поле Эфира, которое в ортодоксальной науке представлено категориями трёхмерного геометрического пространства, классического вещества и времени» [с. 10]. Но, как объясняет Мишин : историческое развитие (главным образом, практика последних столетий) привело как к разделению восприятию и изучению пространства и вещества, так и к тому, что первое (пространство) стало априорно (методологически) считаться простым вместилищем вторых – материальных объектов.

Поэтому, существенно раскрывая тему, Мишин сообщает очень важные позиции; что «в действительности вещество – это всего лишь совокупность особых динамических вихревых процессов самого пространства-эфира» [Мишин, 2014, с. 10]. В свою очередь, автор утверждает фундаментальное положение (для Высшей физики), что существуют «разномасштабные вихре-волновые структуры эфира, образующие вещество и квазивещество (автоколебательные системы), а также протовещество (вихри первичной «виртуальной» турбулентности)» [с. 120]; и что эти *вихре-волновые структуры* способны образовывать «стереодинамически многомерное фрактальное физическое пространство, допускающее существование *параллельных материальных миров* (курсив мой. – Авт.)» [с. 10]. По определению автора: «параллельный мир – это вещественная вихревая форма, названная «квазивеществом» и принадлежащая другому масштабу пространства-времени (другому уровню «вибраций»)» [Там же]. Другая существенная позиция, как это уточняет А.М. Мишин: «...необходимо смотреть на мои опыты не с позиций «плоской» элементарной науки, а с позиций многомерного Единого Поля Эфира» [Мишин, 2014, с. 11-12]. Мишин далее поясняет, что «эта многомерность по физическому смыслу соответствует четвертому пространственному(фрактальному) измерению «внутри» трехмерного пространства, то есть пространственно-временной масштабной координате в «направлении» изменения размера вихрей вещественных и квазивещественных состояний эфира [с. 12].

Вместе с тем, в своей работе исследователь вводит три основных постулата и в отношении к физическому вакууму : об общих свойствах вакуума; о взаимодействии вакуума с

гравитационным полем; о квазиустойчивых макроскопических вихрях вакуума. Каждый из принятых постулатов раскрывается вытекающими из него следствиями для углубленного анализа и уточнение вводимых понятий.

Экспериментальная база исследователя восхищает изобретательностью и оригинальностью. Например, для доказательства наличия у твердого тела «жидкой массы» (по определению автора) используется устройство, состоящее из диска с выступом – тормозом в продолжение радиуса диска и механизмом мгновенной передачи импульса к пружине динамометра. В результате опыта пружина значимое время находится в сжатом состоянии после резкой остановки диска, которому ранее было придано вращательное движение. Этот и другие эксперименты далее приводят автора к выводу, что «жидкая масса и гравитационное поле участвуют в вихревом движении и создают это движение» [Мишин, 2014, с. 39]. Следующий здесь существенный вывод состоит в том, что «Подобные вихри, пронизывающие тело и окружающее пространство, способны вступать между собой в силовое взаимодействие, притягиваясь или отталкиваясь в зависимости от направления их взаимного вращения» [Там же].

Из многочисленных прочих вариантов экспериментов, осуществленных автором, нам следует отметить опыты, достаточно убедительные при всей простоте и оригинальности – здесь используются кристаллики марганцовки, с регистрацией вихревых возмущений пространства в паре вода в замкнутом объеме и вносимый в ее окололежащее пространство массивный предмет, как чугунная плита (например, стакан воды устанавливается в массивной чугунной сковородке). Здесь надо упомянуть, забегаая вперед, о развитии идеи такого опыта уже с использованием электронного устройства – регистратора потенциала поля, предложенного Е.М. Авшаровым. Возвращаясь же к введенному А.М. Мишиным понятию «жидкая масса», нельзя недооценить развитие этой идеи в плоскости понимания природы «темной материи», биополя, представления об искривлении пространства массивными объектами, и механики энергоинформационного обмена.

Как и появляется возможность, в свете научных достижений А.М. Мишина, гипотетически представить свойствами физического Эфира (т.е. того, что сегодня парадоксально именуют «физическим вакуумом») – его сверхтекучесть, упругость и несжимаемость (подобно воде). Тогда, под сущностью лазера можно подразумевать эффект компрессора, формирующего сверхплотную несжимаемую струю. Из этого следует, в свою очередь : что сколько не разделяй лазерную струю на рукава, но воздействие на любой из рукавов всегда будет отражаться тождественно на всей системе – т.е. с естественным появлением явлений

‘спутанности’ и ‘запутанности’; и что определенно (рассмотрение целостного объекта) предоставит пути к состоятельному объяснению этих и многих других (до сих пор вразумительно не объясненных) физических явлений.

Вместо заключения. В свете вышесказанного можно утверждать, что на основаниях мощного потенциала (Био)космологических принципов, оформленных в *Биокосмологической Инициативе* и реализуемых в русле развиваемого Биокосмологического подхода – здесь появляются действительные возможности реабилитации и (более того) расцвета современных теорий физического Эфира; и что приобретает новые мощные (могущественные) перспективы. В первую очередь, как представляется : здесь призваны сказать свое слово (и сыграть свою роль) как раз отечественные (российские ученые); как в развитие прозвучавших и отмеченных в исследовании достижений и научных заделов А.М. Мишина, В.А. Ацюковского, В.Л. Бычкова и Ф.С. Зайцева, так и последующие успехи многих других российских и зарубежных ученых. Как мы надеемся, в скором времени все они будут включены на полных правах в обсуждение и развитие заявленных вопросов по Эфиру как первичной естественной (физической натуралистской) мировой субстанции (соответственно и важнейшему фундаментальному вопросу теоретической физики) – в русле разрешения безотлагательных вызовов, вставших перед современной физикой и наукой в целом.

Список литературы

- Аристотель. *О небе* // Аристотель. Собр. соч. в 4-х тт. Т. 3. Перевод/Вступ. Статья и примеч. И.Д. Рожанский. – М., Мысль, 1981; сс. 263–378.
- Ацюковский В.А. Общая эфиродинамика. Моделирование структур вещества и полей на основе представлений о газоподобном эфире. Издание второе. М.: Энергоатомиздат, 2003. 584 с.
- Бычков В.Л., Зайцев Ф.С. Математическое моделирование электромагнитных и гравитационных явлений по методологии механики сплошной среды. – 2-е изд., расшир. и доп. – Москва : МАКС Пресс, 2019. – 640 с.
- Мишин А.М. Начала высшей физики. Сборник статей. – СПб.: АНО «НТЦ им. Л.Т. Тучкова», 2009. – 276 с.

Universality of Proverbs and Aristotle's Universals

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Abstract. This essay analyses samples of various proverbs from Latin, English, French, Italian and Russian, treating them as universal cultural cognitive fundamentals which ultimately reflect the same civilizational pathway and shared cultural ascent. This comparison of proverbs presents interest since they are the result of the earliest human observation about Being which strikes humans with surprising sameness. Proverbs summarize long centuries of human co-habitation and universal attempts to work out the most plausible and reasonable means of living together. Despite the linguistic and cultural differences, and different histories, they reflect similar conclusions about similar existential circumstances. They summarize the ultimate truths about private and public lives, the conclusions about the civilizational pathway of humanity which has proven to be universal. Proverbs, transmitted orally from generation to generation, precede epos, mythology, religious commandments, literature and scientific discourse. They represent the collective wisdom of humanity and collective cultural memory. Proverbs are the earliest permanent **cultural signs** and fundamentals known to all, also reaffirming Aristotle's theory of cultural universals.

Keywords: cultural memory, cultural universals, permanent cultural signs, cognitive fundamentals, cultural ascent, universal truths

Резюме. В данном эссе анализируются образцы различных пословиц из латинского, английского, французского, итальянского и русского языков, рассматривая их как универсальные культурные когнитивные основы, которые в конечном итоге отражают один и тот же цивилизационный путь и общее культурное восхождение. Сопоставление пословиц представляет интерес, поскольку они являются результатом самого раннего человеческого наблюдения за бытием, которое поражает людей удивительной одинаковостью. Пословицы подводят итог долгим векам совместного проживания людей и всеобщим попыткам выработать наиболее правдоподобные и разумные способы совместной жизни. Несмотря на языковые и культурные различия и разные истории, они отражают схожие выводы о схожих экзистенциальных обстоятельствах. В них обобщены предельные истины о личной и общественной жизни, выводы о цивилизационном пути человечества, которые оказались универсальными. Пословицы, передаваемые из поколения в поколение в устной форме, предшествуют эпосу, мифологии, религиозным заповедям, литературе и научному дискурсу. Они представляют собой коллективную мудрость человечества и коллективную культурную память. Пословицы являются самыми ранними постоянными культурными знаками и основами, известными всем, что также подтверждает теорию культурных универсалий Аристотеля.

Ключевые слова: культурная память, культурные универсалии, постоянные культурные знаки, когнитивные основы, культурное восхождение, универсальные истины

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Introduction

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Выводы

Introduction. Aristotle’s theory of cultural universals has been continuously reaffirmed by the comparative studies of different societies, different languages, various cultural traditions, literatures, philosophies and ethical norms. We would like to argue that nowhere the commonality of the cultural ascent has been more obvious than in the overview of different proverbs which exemplify the common collective existential experience of humanity. These earliest summaries of the universal truths and observations precede literacy, literature, religious commandments, philosophy, ethics, and science. Proverbs, the apparent cognitive fundamentals which must have appeared during the millennia of the gradual human development from the ordinary primitive biological species to the homo sapiens.

After the gradual, step by step, and trial and error experience, humans have finally arrived at the most beneficial and appropriate way of co-existing, the model of *modus vivendi*. “Proverbs are daughters of experience,” preaches even the African proverb of unknown origin. Italian scholar Massimo Baldini, reflecting upon the possible origins of proverbs in his analysis of the Tuscan Italian proverbs, labels them as “cognitive fossils” that have been preserved in the collective cultural memory, in the annals of the accumulated collective wisdom [1997:7].

Greek philosophy, from the pre-Socratics to Aristotle, brought humanity to the conclusions about the cultural universals, best articulated in Aristotle’s theory of **cultural universals**. “Man is universal, Callias is particular,” taught Aristotle. His theory could be most suitably applied to the analysis of proverbs and their most prominent themes.

The end of human passage, death, impressed humans earlier than other features of Being – it forever remained in the collective human memory. The inevitability of death and the reality of aging inspired humans to formulate the universal truth in all proverbs. The Nigerian proverb stated the universal truth: “There is no medicine against death.” The Italians immortalized their own collective conclusion in their analogous proverb:

Contro la morte non vale ne muro ne porte (There is no wall or door against death).

The English expressed the same idea in their saying:

A Man can die but once.

The Russian proverb carries the same conclusion:

Dvum smertiam ne byvat (Двум смертям не бывать – Two deaths do not happen).

The inevitability of death and ageing inspired humans to observe the differences between the young and the old, to conclude about the advantages and disadvantages of each stage of Being.

In the French collective memory youth is described as the stage when knowledge and skills lack, while physical health prevails. The old age, in contrast, exhibits the deterioration of physical strength but demonstrates the accumulated knowledge about life and numerous skills which only long experience could bring. The French proverb records the fact of this obvious existential dissonance:

Si jeunesse savait, si vieillesse pouvait. If youth had known, and if the old could.

The same thought is expressed in the Russian proverb:

Esli by molodost' znala, a starost' mogla –
Had the youth known, and had the old age could).

Both immortalize the reality of age differences in the identical manner in two different languages and traditions. The universal existential reality is reflected in the same way. The message is – to accept it and appreciate each phase.

2. Optimistic Message Despite the Acknowledged Sadness of Being

Despite the collective awareness of the universal sadness, resulting from the inevitable end in the human existence, a very short duration of the most attractive beginning and regrettable frailty of the old age, humans still managed to concentrate on the positive side of Being and on making life more pleasant, comfortable and peaceful. The collective wisdom concluded that, despite the sad reality and misfortunes, one has to think about the positive and joyful side of life, and proverbs make an attempt to focus on the positive and the happy side of existence. For instance, the Latin proverb teaches:

Nullum malum sine aliquo bono. There is no bad without the good.

Thus the English proverb mediates the same:

All is well that ends well.

The same idea is verbalized in the Russian version in the identical manner:

Vsio khorosho chto khorosho konchaetsia (Все хорошо, что хорошо кончается –
All is well that ends well).

The French proverb expresses the same thought:

La fin couronne l'oeuvre / The end crowns the work.

Having observed for millennia changes in human environment, humans transposed certain observations of nature onto human life, having concluded that the positive and negative interchange and come together, like rain, snow, sunshine, cold, heat. The French proverb, for instance, recorded this idea in the metaphorized popular proverb:

Après la pluie le beau temps / After rain there comes good weather.

Similar idea is rendered in Italian:

Non e male senza bene / Nothing bad comes without some good.

The English version stated the same:

Every cloud has a silver lining.

The Russian proverb carries identical message:

Net khuda bez dobra (Нет худа без добра – There is no bad without the good).

All versions try to instill optimism, denoting the unity of the opposites, things, phenomena, and activities that invariably reveal contradictory results and sentiments. In general, proverbs display the innate philosophical bent of human mind that has prepared humans for future ordering of civilization and positive existential sentiments. The collective wisdom of humanity taught how to live with the positive and the negative rather than die contrary to the pessimistic message of the French philosopher Michael Montagne (1533-92), who assumed that philosophy constitutes mastering the art of dying. Proverbs demonstrate the universal attempt to live despite the obvious and inevitable sad end.

The collective wisdom of proverbs described, without prescribing or commanding, the better way of looking at life and people and the way to happiness or what the Greeks would call “eudomonism.” Proverbs shared the collective human strife for contentment, dismissing the focus on the insignificant. The Latin proverb summarized the universal formula of living:

Vivere militare est / To live means to struggle.

The English proverb described the strategy of living, not paying attention to the insignificant which people should not focus upon:

A storm in a teacup.

The same message is in the Russian version:

Mnogo shuma iz nichego (Много шума из ничего – Too much ado about nothing).

3. Tested Strategy of Living: Appeal for Patience

Despite the known brief life span, the collective wisdom accumulated a very valuable strategy of living and recorded it in proverbs. All proverbs suggest to respect time and be patient. Upon millennia of living and observing life, humans have agreed that all things in life require time and patience. For instance, the Latin proverb concluded wisely the role of patience in life:

Consultor homini tempus utilissimus / Time is the best councillor

Naturally, the message of the Italian, originating in Latin, is identical:

Il tempo da consiglio / Time is the best councillor.

The echo of the same message is in the Russian version:

Vremia – luchshy sovetchik (Время – лучший советник : Time is the best councilor).

Another Italian proverb reiterates the same message:

Il tempo vince tutto / Time wins everything.

Or:

Il tempo divora le pietre / Time devours even stone.

Time is collectively perceived as the best advisor, healer, miracle worker. The English repeat that “*time works wonders*,” summarizing the universally accepted truth.

The collective wisdom repeatedly asks humans to be patient in their journey through life. The English proverb describes the universally known fact:

Everything comes to the one who waits.

The same observation is reflected in the Russian proverb with optimistic appeal to wait:

Kto zhdiot, tot dozhdiotsia (Кто ждет, тот дождется – The one who waits, will find what he has been waiting for).

Not to rush shares the French proverb:

Doucement va bien loin / Moving slowly one gets far.

Completely identical is the Russian conclusion:

Tishe edesh, dal'she budesh (Тише едешь – дальше будешь: The slower one moves, the farther one gets).

On the one hand, collective wisdom suggests to do things slowly as the most efficient way, while on the other, it suggests that there is a way to be effective if one learns to do things simultaneously, if it is at all possible. For instance, the English saying advises:

To kill two birds with one stone.

The French render the same suggestion, transmitting the same idea:

Fair d'une pierre deux coups / Long collective human experience has taught to be reasonable and not to be ruled by speed alone.

4. Sociological Motif in Proverbs.

Very early on humans observed the unequal possessions and wealth distribution among people, but wanted to absolve the less fortunate from any guilt, bad reputation and personal responsibility. This noble and reasonable attitude has been immortalized in the universal statements regarding this feature of human life. The English, for instance, categorically stated:

Poverty is not a sin.

Similar statement was made by the French:

Pouvreté n'est pas vice / Poverty is not vice.

Exactly the same idea was expressed by the Italians and immortalized in their identical proverb:

Poverta non e vizio.

The Russians retained the same idea in their collective memory as well:

Bednost' ne porok (Бедность – не порок : Poverty is not flaw).

For millennia, humans had been observing each other's behavior and changeability of situations and conditions. They collectively deduced that not everything should be valued, nor could it be bought – certain things could not be acquired, but rather obtained with hard labor or innate abilities. There has been collectively discovered that not all things have material value. Wealth and property could be lost, wasted and deprive people of their status, but certain things remain and proved to be more valuable than personal possessions. To this effect the Italians collectively stated in their famous proverb the established hierarchy of values:

Pochi denari e molto honore/ Little money but great honor.

This hierarchy of values in favor of the endowments and spiritual qualities has been universally immortalized in proverbs, these monuments to human experience and the ultimate conclusions about what presents real value or constitutes real happiness.

5. Value of Human Devotion to Each Other

Regardless of human differences, be it inborn qualities, different languages, different forms of expression or modes of behavior, friendship is the permanent universal running motif of proverbs. The significance of friendship among people and permanent devotion had been established very early on and found its reflection universally. All activities historically and traditionally done in groups and in cooperation with one another required the tradition of dependence upon each other, demanded sincerity and devotion in close association. This is reflected in the Latin maxim:

Sine amicitia vita est nulla / Life is nil, nonexistent without friendship.

It is understandable that the related Italian proverb also stresses quite forcefully and categorically the same important existential message:

Vale piu un amico che cento parenti / A friend costs more than a hundred parents.

The English saying states this universally accepted idea:

A friend in need is a friend indeed.

Exactly the same message is transmitted in the Russian maxim:

Druzia poznayutsia v bede (Друзья познаются в беде : One discovers who one's real friend only when in trouble).

6. Call for Acceptance of Differences and Recipes for Diplomacy

At the dawn of civilization, people noticed differences even among the closest to them, different ways of behavior, tastes, opinions, views, and in order to keep harmony in human relationships the collective wisdom developed the art and tactics of diplomacy. Perhaps, the origin of the universal commandment, such as “silence is golden,” is precisely in the desire to avoid conflict, keep harmony, peace by not dwelling on the things divisive, offensive. The ancient Romans immortalized respect for human difference in the saying:

Quot capita, tot sententiae / Many heads, many ways to know.

It indirectly asked for tolerance of Difference. “*Many men, many minds,*” states the English popular saying, alluding to the desire to accept different thoughts for the sake of peace and harmony rather than dwell upon differences or battle the Other.

The same message is in the Russian version which legitimizes Difference:

Skol'ko luidey, stol'ko golov / (Сколько людей, столько голов : There are as many heads as people).

And because people exhibit certain stable irreconcilable differences which are impossible to tackle, the collective ancient wisdom suggests not to discuss them for the sake of harmony and peace. The French proverb to this effect carries the categorical message:

De gouts et des couleurs it ne faut pas discuter / One should not discuss tastes and colors.

The Russian maxim is synonymous:

O vkusakh ne sporiat. (О вкусах не спорят – One should not argue about tastes).

The saying from the Ivory coast summarized the universal wise tactics among humans:

Too much discussion means quarrel.

The experience of communication has universally concluded that sharp differences of opinion may be tantamount to a battle, though verbal, and are best to be avoided. And for the same reason all proverbs advise to be silent on certain matters and praise silence over battle-prone communication. Language, the best endowment of humanity among all the other species in the natural kingdom, has been universally treated as the most powerful tool in keeping harmony and peace. It has to be used very selectively, carefully and deliberate contemplation and choice of words have been valued in all cultures long prior to the invention of diplomacy as a universal social instrument. For the same reason the earliest collective human wisdom has arrived at a conclusion that it is preferable not to dwell on the Past for the sake of the Present.

For instance, let us quote the English proverb:

Let bygone be bygone.

The same idea is in the French version:

Oublions le passe / Let us forget the Past.

Thinking in silence is valued and praised universally for the sake of peace and harmony. This is the message of the Italian cautionary advice:

La lingua in tasca / Keep tongue in the pocket or Keep mum.

For the same reason, the Italians like to repeat:

Pensa oggi e parla domain / Think today but speak tomorrow.

The Italian later wisdom which appeared after the invention of writing reiterated the same earlier advice developed at the civilizational beginning:

Pensa molto, parla poco and scrivi meno / Think a lot, speak less, and write even less.

People universally praised prudent silence over expressing all thoughts and feelings to maintain harmony and peace. The Italian collective wisdom for millennia taught the same:

I saggi hanno la bocca nel cuore/ The wise have a mountain in their heart and do not say what they feel.

It summarizes the wisdom of silence in many life situations on the basis of the millennial contacts and communication.

7. In Defense of Honesty in Communication

Despite praising silence as a virtue, humans still eventually still demanded honesty, understanding and clarity in their communication, suggesting to avoid ambiguity. The Latins had a cult of “*Nuda veritas*” / naked truth. The same idea was immortalized in the English maxim:

Call spade a spade.

The identical message is carried by the French saying:

I'appelle une chat une chat / I call a cat a cat.

So does the synonymous Russian version that demands to call it by its name:

Nazyvat' veschi svoimi imenami (Называй вещи своими именами – Call things by their names).

These sayings confirm the universal human desire to understand each other and know one's true opinion on things, events, and attitudes in order to form authentic evaluation of reality. Despite the numerous appeals for occasional silent appraisal, humans still desired clarity, wishing to avoid misguided interpretations in important situations.

8. Eternal Learning – the Prominent Adage to Collective Wisdom

Organizing human existence, humans learned that acquisition of knowledge about themselves and the environment and the tactics of tackling various situations could be always improved and one should never limit one's horizons to the available skills. Thus, the theme of eternal learning is the running motif of all summaries of proverbs that reveal observations of the past experiences and advice for the future. The “live and learn” -motif in proverbs summarizes the universal conclusion about the adequate handling of reality, human life and daily communication. The French variant reiterates it by teaching:

On apprend chaque jour quelque chose de nouveau / Each day one learns something new.

The Italians proclaim the same:

Veendo s'impara / Living means learning.

They mean the same by also saying:

Non e mai troppo tardi per imparare / It is never too late to learn.

Exactly the same idea is embodied in the Russian analogous version:

Vek zhivi, vek uchis' (Век живи, век учись : Live and learn all the time).

Upon living and working together for millennia, people have observed that Knowledge takes time and effort, and nobody is born an accomplished craftsman, or becomes skilled without learning by practice or making mistakes. And the English concluded:

No one is born wise and learned.

The Italians have come to the same conclusion:

Nessuno nasce maestro / Nobody is born a teacher.

9. Social Aspect of Being

Humans devised similar rules of proper conduct among each other in the same manner as they invented language, organized society and developed values. It was collectively learnt that socialization could be both positive and negative, that the power of mimesis may direct humans to take different courses and routes towards perfection of behavior on the one hand and deterioration on the other. Motif of keeping company is the running motif in all proverbs. The Latins used to preach:

Sine amicitia vita est nulla / Life is nil without socializing.

As said above, the Italian saying discloses the universally accepted idea that commonality among friends could be stronger than family relationship. Related to this idea is also the thought that one may judge a person by the company one keeps. If one examines conclusions on the topic, one finds that one's friends reveal one's tastes, spiritual affinities. It has been collectively observed and concluded that preferences to the company of some people does make it possible to judge one's own character or friends become the sign of preferences, tastes and values. Then, the idea of judging people by the company one keeps appears:

Noscitur ex sociis / One is recognized by one's friends.

Naturally, the Italians rendered the same message in their proverb:

Disumi con chi vai ete diro chi su / Tell me with whom you associate, I will tell you who you are.

The English accepted the same idea and cultivated among themselves:

One is known by the company one keeps.

The same idea is carried by the French saying:

Dis-moi qui tua hantes et te dirai qui tu es./ Tell me whom you often visit, I will tell you who you are.

The Russian popular saying mediates the same meaning:

Skazhi mne kto tvoi druz'ia I ya skazhu tebe kto ty / Скажи мне кто твои друзья, и я скажу кто ты :
Tell me who your friends are and I will tell you who you are.

It may surprise that the same thought is transmitted by the Ethiopian proverb:

He who lives with an ass makes noises like an ass.

10. Close Association – Foundation of Love

Long before the rules of the proper ethical conduct had been devised, humans have observed that closeness with the people one feels affection for is the precondition of happiness, while separation from people one is fond of affects the intensity of feelings and the outcome of the relationship. The popular English maxim runs as follows:

Out of sight, out of mind.

The same idea is summarized in the Italian existential observation:

Lontan dagli occhi, lontan dal cuore / Far out of sight, far from the heart.

The same message is in the Russian analogous proverb:

S glaz doloy, iz serdtsa von / (С глаз долой, из сердца вон : Away from the eyes, out of the heart).

Remarkably, there is the identical French version of collective wisdom:

Loin des yeux, loin du coeur/ Far from the eyes, far from the heart.

It is remarkable that the Kenian proverb carries the same message:

Absence makes the heart forget.

11. On the Futility of Discussion with the Less Intelligent.

Differences in intelligence and perception had been observed in society, prior to the invention of governments and public political debates. Humans summarized the futility of arguments with those who are incapable of understanding. To the common astonishment, the same relevant idea had been expressed in different ages and traditions. For instance, the Romans and Italians (in their related to Latin-language) taught in their proverbs (both came, perhaps, from the Greek):

Nolite mittere margaritas ante porcos / Do not throw pearls in front of the swine.

The English immortalized the same in their commandment:

Not to cast pearls before the swine.

12. Doubt – One of the Earliest Human Thoughts

Prior to the development of philosophy and written culture, the proverbs encapsulated human pathway to wisdom that allegedly invariably contained Doubt. The Romans expressed it their Latin recorded observation:

Primus sapientum gradus est falsa intellegere / The primary observation may be false and, thus, unreliable.

The Italians captured the same idea in their related saying:

Non e tutto oro quel che riluce / Not all is gold which glitters.

Surprisingly, absolutely identical message is in the Russian saying:

Ne vsie zoloto chto blestit (Не все золото, что блестит – Not all that shines is gold).

The English cautioned not to “*judge book by its cover*” or “*Not all that glitters is gold*”.

The colorful metaphors inside the sayings captured the multitude of impressions, stressing the need not to trust the first impressions, nor arrive at conclusions based upon them. All proverbs in different cultures and languages recommended to subject all first impressions and observations to lengthy examination since they could be eventually false, and thus deem to be unreliable.

Conclusions. Millennia later, Greek philosopher Aristotle introduced the concept of the Universal Man, i.e. the sole representative of the most civilized species, the Man endowed with advanced thought and speech, relying in all actions and considerations upon Reason, possesses constant curiosity about the world and the constant desire to Know. Proverbs are the most convincing proof of the Universal Reason, articulated much later in history.

Our comparative analysis of samples of different maxims from different continents, ethnic groups and languages is the testimony to the thought of the Universal Man. They are the earliest **cultural signs** which signify the earliest universal human observations about Being and proper routes to Existence which anticipate literacy, religious commandments, social regulations, politics, ethics, philosophy, and science. Unlike the much later religious commandments, proverbs do not **prescribe**

the mode of conduct and behavior, they **describe**, summarizing the most habitual observable and beneficial tactics, they suggest rather than dictate.

Proverbs are the fundamentals of human society, the earliest universal steps to Civilization and happy and harmonious co-existence. They must have appeared as a result of the millennia of numerous human actions, lengthy observations, trial and error-undertakings and afterthoughts. All proverbs avoid categorical statements, dogmatic pronouncements but rather diplomatically suggest the most successful mode of public or private behavior, and communication. The identical meaning of proverbs in different traditions, ethnic groups and languages reaffirm the single Civilizational Pathway, the universal route from savagery and barbarism to civilized conduct. Proverbs are the preludes to the legalized and universally adopted conduct in civilized society.

Bibliography

- Boldini, Massimo. *Mille Proverbi Italiani*. Roma: Tascabile Economici Newton, 1999.
- Gvarzhaladze, I.S.; Kochinashvili, T.G.; Gilberson. A.L. *500 English Proverbs and Sayings*. Moscow: Higher School Publishing House, 1966.
- Leslau, Charlotte & Wolf. *African Proverbs*. Mount Vernon, NY: Peter Pauper Press, 1962.
- Iscla, Luis. *English Proverbs and Their Equivalentents in Spanish, Italian and Latin*. New York: Peter Lang, 1995.
- Nuessel, Frank. *Studies in Proverbial Language*. Ottawa: Legas, 2013.
- Morgan. Lewis. *Ancient Society*. New York: Henry Holt & Co., 1871.
- Payen-Payne, Vinchelés. *French Idioms and Proverbs*. London: David Nutt, 1905.
- Simpson, John. *The Concise Oxford Dictionary of proverbs*. Oxford, NY: Oxford University Press, 1982.

Book of Abstracts

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on the topic:

“Biocosmological U-turn towards the Organicist Pole of Triadological scholarly knowledge and the North-Eastern vector of the peaceful world evolvement”





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 Lomonosov Moscow State University
FACULTY OF GLOBAL STUDIES



Biocosmological Association

*for Universalizing Scientific and Philosophical Research
 based upon the Original Aristotelian
 Cosmological Organicism*

***24th International seminar on Biocosmology /
 XXIV Международный семинар по Биокосмологии***

по теме / on the topic

“Biocosmological U-turn towards the Organicist Pole of Triadological scholarly knowledge and the North-Eastern vector of the peaceful world evolvement”

«Биокосмологический разворот к Органицистскому полюсу Триадологического научного знания и Северо-Восточному вектору мирового-peaceful развития»

Дата: 25 октября, 2023

Время: (25 октября, 10:00 – 17:00)

Модератор: Хруцкий К.С.

Date: October 25, 2023

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Moderator: Khroutski Konstantin S.

Авторы докладов / Authors of presentations

ФИО / Name	Тема доклада / Topic	Место работы/ Affiliation
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Проф. ОРЛОВ Александр Иванович / ORLOV Alexander Ivanovich	<i>В.И. Вернадский и новая парадигма экономической науки</i> / <i>V.I. Vernadsky and the new paradigm of economic science</i>	Московский государственный технический университет им. Н.Э. Баумана, г. Москва
Prof. LI Ping / проф. ЛИ Пин	<i>Ethics towards the second beginning</i> / Этика на пути ко второму началу	Henan University of Economics and Law; Zhengzhou, 450002, CHINA.
Проф. ГРИНЧЕНКО Сергей Николаевич / GRINCHENKO Sergey Nikolaevich	<i>Триада Типов времён «Хронос–Циклос–Кайрос» и Ноосфера В.И. Вернадского – в контексте поисково- оптимизационной модели процессов самоуправления природы / Triad of Time Types “Chronos–Cyclos–Kairos” and Noosphere of V.I. Vernadsky – in the Context of the Search-Optimization Model of Nature Self-controlling Processes</i>	Института проблем информатики Федерального исследовательского центра «Информатика и управление» РАН, г. Москва
ЧИАТТИ Leonardo / КБЯТТИ Леонардо	<i>Being intimate with the stars. A brief reflection on time, potentia and entelechy</i> / <i>Близость со звездами. Краткие размышления о времени, потенции и энтелехии</i>	ASL Viterbo Medical Physics Laboratory; ITALY
Проф. СОМКИН Александр Алексеевич / SOMKIN Alexander Alekseevich	<i>Органический подход в понимании личности в современной социальной философии / Organic approach to understanding personality in contemporary social philosophy</i>	Национальный исследовательский Мордовский государственный университет им. Н. П. Огарева; г. Саранск
Prof. LIU Xiaoting	<i>Beyond “Organic” – Preface to the Theory of Vitalism</i> / За пределами «Органического» – Предисловие к теории витализма	Beijing Normal University, Beijing 100875, CHINA
WAN Zhaoyuan / Вань Чжаоюань	<i>A Preliminary Study of the Cosmological Views of Kang Youwei (1858-1927) / Предварительное исследование космологических взглядов Кан Ювэя (1858-1927)</i>	School of Philosophy, Beijing Normal University; Beijing 100875, CHINA
Проф. МАКСИМЮК Николай Несторович / MAKSIMYUK Nikolai Nestorovich	<i>“Пришло время собирать камни”: концепция «автотрофности человечества» В.И. Вернадского и «социальной автотрофности» А.М. Уголева – в интегративном подходе к разрешению текущего экологического и продовольственного кризиса</i> / “The time to gather stones.” : V.I. Vernadsky's concept of "autotrophy of mankind" and A.M. Ugolev's concept of "social autotrophy" - in an integrative approach to solving the current environmental and food crisis	Новгородский государственный университет имени Ярослава Мудрого; г. Великий Новгород

<p>д.ю.н. КОЖЕМЯКОВ Алексей Семенович / KOZHEMYAKOV Alexey S.</p>	<p><i>Стратегия и тактика в мировой политике: возможность гармоничного сопряжения</i> / Strategy and Tactics in World Politics: The Possibility of Harmonious Integration</p>	<p>Независимый эксперт по международным отношениям; профессор- консультант московских университетов; г. Москва</p>
<p>Обсуждение выступлений первого дня работы Семинара / Discussion of the Presentations made on the First day</p> <p style="color: red; text-align: right;">Second Day of the Seminar</p>		
<p>Дата: 26 октября, 2023 Время: (26 октября, 10:00 – 16:00) Модератор: Хруцкий К.С.</p>		<p>Date: October 26, 2023 Time: (October 26, 10:00 – 16:00) Moderator: Khroutski Konstantin S.</p>
<p>ZHANG Xiuhua & HE Di / ЧЖАН Сюхуа и ХЭ Ди</p>	<p><i>The Commonality of Marx's and Whitehead's Outlook on Life</i> / Общность взглядов Маркса и Уайтхеда на жизнь</p>	<p>China University of Political Science and Law & the University of the Chinese Academy of Sciences; Beijing, CHINA</p>
<p>HE Jingyi / ХЭ Цзиньйи</p>	<p>A review of the research on Organic Marxism of Chinese academic circles in recent years / Обзор исследований по органическому марксизму китайских академических кругов за последние годы</p>	<p>School of Marxism, Northwest Agriculture and Forestry University; Shaanxi, Xianyang, CHINA</p>
<p>ZHAI Yujia / ЧЖАЙ Юйцзя</p>	<p><i>The Theoretical Path and Practical Principles of "Smart Library" – From the Perspective of Process Philosophy</i> / Теоретический путь и практические принципы «умной библиотеки» – с точки зрения философии процесса</p>	<p>China University of Political Science and Law; Beijing, CHINA, 100088</p>
<p>HE Qionghui / ХЭ Цюнхуэй</p>	<p><i>The Organismic Development of Human Potential as Individuals and a Whole from the Perspective of the Anisa Educational Model</i> / Органическое развитие потенциала человека как личности и целого с точки зрения образовательной модели «Аниса»</p>	<p>School of Philosophy, Beijing Normal University; Beijing 100875, CHINA</p>

<p>ФЕРНАНДЕС Мириам / FERNÁNDEZ Miriam</p>	<p><i>История первой мировой глобализации и отношений Испании и Китая в XVI–XVIII вв., в свете Биокосмологического подхода</i></p> <p>/ History of the first world globalization and relations between Spain and China in the XVI-XVIII centuries, in the light of the Biocosmological Approach.</p>	<p>Институт Арка Реал; Вальядолид, ИСПАНИЯ</p>
<p>BRAVO GARCIA Jose Ramon / БРАВО ГАРСИЯ Хосе Рамон</p>	<p><i>Alliance between Russian and Spanish speaking countries in a changing world system</i></p> <p>/ Альянс между русскоговорящими и испаноязычными странами в меняющейся мировой системе</p>	<p>The Gustavo Bueno Foundation, Oviedo, SPAIN</p>
<p>НАКАТОМИ Kiyokazu / НАКАТОМИ Киёкадзу</p>	<p><i>Organic Cosmology of Vernadsky and Asian Philosophies</i></p> <p>/ Органическая космология В.И. Вернадского и азиатские философии</p>	<p>Chiba Prefectural Matsuo High School Sammu, JAPAN</p>
<p>ХРУЦКИЙ Константин Станиславович / KHROUTSKI Konstantin Stanislavovich</p>	<p><i>Пробил Час Биокосмологической Ноосферы : к реализации естественнонаучным путем полного (180°) разворота, от Трансценденталистского к Органицистскому полюсу – в Триадологическом реасе-мировом движении и интегральном (в совокупности целостного взаимодействия антропологической, социокультурной, экологической и других сфер) восхождении человечества на естественно (последовательно) новый и высший в сложности Ноосферный стратум мирового развития</i></p> <p><i>/ The Hour of Biocosmological Noosphere has struck: towards the realisation by natural science of a complete (180°) turn from the Transcendentalist to the Organicist pole - in the Triadological peace-world movement and integral (in the totality of holistic interaction of anthropological, sociocultural, ecological and other spheres) ascent of mankind to a naturally (sequentially) new and higher in complexity Noospheric stratum of world evolvement)</i></p>	<p>Новгородский государственный университет имени Ярослава Мудрого, Великий Новгород</p>
<p>Общее дискуссионное обсуждение поднятых на Семинаре вопросов</p> <p>/ General discussion of the issues raised at the Seminar</p>		

V.I. Vernadsky and the new paradigm of economic science

Alexander I. ORLOV¹

The new paradigm of economic science is based on a solidary digital economy, which we are developing in response to requests from the military-industrial complex (including aviation and astronautics) and other sectors of the national economy. In accordance with the new paradigm, we consider the problems of artificial intelligence and changing technological structures. The new paradigm comes from the overdue biocosmological turn towards the Organicist pole of Triadological scientific knowledge and the North-Eastern vector of world development. The doctrine of the noosphere by V.I. Vernadsky and Russian cosmism in general is of great importance for the new paradigm. The preliminary results of a large area of research reflected in a number of our books and articles are summed up (see RSCI).

As established by V.I. Vernadsky, the main prerequisites for the emergence of the noosphere are as follows:

- The spread of Homo sapiens across the entire surface of the planet and its victory in competition with other biological species;
- Development of planetary communication systems, creation of a unified information system for humanity;
- The discovery of new sources of energy such as atomic energy, after which human activity becomes an important geological force;
- The victory of democracies and access to government for the broad masses;
- The increasing involvement of people in the pursuit of science, which also makes humanity a geological force;
- The limits of growth determine the guidelines for economic development. Environmental problems have been the focus of attention of researchers and society as a whole for more than half a century. In 1972, the report “The Limits to Growth” by D. Meadows and others was published, which is still very relevant today. Since the currently accepted concept of expanded reproduction leads to exponential growth of macroeconomic indicators, the presence of growth limits leads to the conclusion that it is necessary to change the guidelines for economic development;

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- For the perception of the report, it is important that, according to the Russian Science Citation Index, the contribution to science of A.I. Orlov (measured by the number of citations) is 7.24 times more than the President of the Russian Academy of Sciences. Professor A.I. Orlov is the most cited researcher at Bauman Moscow State Technical University, one of the most cited mathematicians and economists in Russia. As of 12/14/2023, the RSCI lists 702 publications and 18,420 citations, with an H-index of 46.

Three stages in the development of economic science. It is necessary to analyze the development of economic science. Let us highlight three stages: Aristotle – market economy – modernity.

Aristotle - the first economist in the history of science. Economics for Aristotle is the science of rational management in economic life, of activities aimed at meeting people's needs, i.e. for the production and acquisition of goods for the home and the state. Aristotle considered different levels of economic entities - household, enterprise (agricultural, urban production), city (polis), region (satrapy), state (empire). From Aristotle's point of view, chrematism (i.e. activities aimed at acquiring benefits, making a profit, accumulating wealth, primarily in the form of money) is unnatural. Thus, Aristotle considered it necessary to support producers of goods and fight financial speculators.

The negation of Aristotle's views is a market economy focused on profit and increased consumption. In accordance with the views of supporters of a market economy the state must be removed from the leadership of economic life. Supporters of a market economy began to assign him the role of a "night watchman." The main thing is to ensure free competition. The chrematistics criticized by Aristotle came to the fore with their fundamental rule: the purpose of economic activity is to obtain benefits (profits). It is quite natural that adherents of a market economy encourage activities in the field of financial speculation.

Let us note that even the understanding of the term "economy" itself has changed dramatically. From the point of view of marketers, Aristotle's concept does not relate to economics, but to the theory of management of economic activities, i.e. to management. At the same time, management itself was moved from the center of economic science "to the margins" and declared to be only one part of it.

This is how Aristotle's economics was rejected. But soon, in accordance with the laws of dialectics, the negation of the negation began. Currently, the economy is mixed, operating on the basis of a combination of plan and market.

The need for active government intervention in economic life was realized by the end of the 19th century. And then - in the twentieth century. - state power structures actively managed the economy in the main economically developed countries. In particular, in the USA (especially under President F. Roosevelt during the Great Depression), in the USSR, in Germany. After World War II, government agencies were very active in managing economic processes in various countries around the globe – China, India, Japan, Singapore, France, etc. Even in the most “market” country - the USA – the share of state participation in the economy in the twentieth century. increased 4 times and reached approximately one third. (By the share of state participation in a country’s economy we mean the ratio of the expenditure part of its budget to the gross domestic product). The theoretical justification for the leading role of the state in managing economic life was given by the English economist J. Keynes.

Modernity is a period of denial of the market economy. To replace the “market economy,” a new paradigm of economic theory is needed. The need to return to Aristotle's concept at a new historical stage is becoming increasingly recognized. As the President of Russia V.V. Putin unequivocally stated in a speech on October 21, 2021 (at the plenary session of the XVIII meeting of the Valdai International Discussion Club): “The modern model of capitalism has exhausted itself as an economic system... We will be guided by the ideology of healthy conservatism”. As the basis of the new paradigm, we propose to use the solidarity digital economy, the basic organizational and economic theory that we are developing.

Solidarity digital economy. The concept of “solidarity digital economy” has three components:

- We understand “economy” according to Aristotle, according to whom the goal of production activity is to satisfy the needs of people and society (and not to obtain benefits or profits).
- The adjective “digital” refers to the concept of a digital economy based on modern information and communication technologies that revolutionize the means of production.
- The adjective “solidarity” means that industrial relations should be built on the basis of solidarity, mutual assistance, and not competition.

The concept of a solidarity digital economy is presented in scientific periodicals and is quite widely known. As of 12/12/2023, 71 publications on the solidarity digital economy have been published (see list in <http://forum.orlovs.pp.ru/viewtopic.php?f=2&t=951>), and the main information resource “*Solidarity Information Economy*” has been viewed 414,367 times (<https://orlovs.pp.ru/forum/viewtopic.php?f=2&t=570>). See, for example, our monograph: Loiko

V.I., Lutsenko E.V., Orlov A.I. Modern digital economy. – Krasnodar: KubGAU, 2018. – 508 p. (Chapter 1, pp. 12-58, 450–458)

Digital economy and decision making. Economic activity should be based on the intensive use of modern information and communication technologies, in other words, on the digital economy. As examples of such application, we point to the project OGAS (National automated system for recording and processing information) by V.M. Glushkov (implemented partially in the form of various automated control systems) and the CYBERSIN system of English cybernetic Anthony Stafford Beer (implemented in Chile). We believe that the solidary information economy, developing the ideas of Aristotle, should become the basis of a new paradigm of economic science. Management theory establishes that management decisions should be made on the basis of the entire set of five groups of factors – social, technological, economic, environmental, political. Consequently, economic science corresponding to one of these five groups of factors must be considered as part of management - the science of managing people. As a consequence, economics is part of management.

As shown in the solidary digital economy, modern information technologies and decision-making theory make it possible to develop and implement an information and communication system designed to identify the needs of people and society and organize production in order to satisfy them, both locally (for example, in a single country), and on a global scale. For the practical implementation of this opportunity, all that is needed is the will of the management of the relevant economic unit, aimed at transforming its management system. In particular, as is happening in most developed and developing countries, the Russian state can and should become the main actor in the economy.

Creators of the modern solidarity digital economy. The predecessors of the solidarity digital economy include primarily Aristotle, V.M. Glushkov, St. Beer. Many researchers have expressed thoughts similar to those of solidarity digital economy. You can name F. Bacon, G. Ford, K. Polanyi. At the present stage, theoretical developments and practical results achieved in the People's Republic of China are very important for the development of solidarity digital economy. As is known, since 2014 it has been the most economically powerful power of our time (with the largest volume of gross domestic product in the world, measured in comparable prices, i.e. based on the use of purchasing power parity).

Scottish economists W. Paul Cockshott and Allin F. Cottrell proved the theoretical possibility of organizing production in order to fully satisfy the needs of a country or humanity as a whole on the basis of direct product exchange. To calculate optimal management decisions within the framework

of the world economy, the power of standard modern computers of the 21st century. quite enough. Consequently, in modern conditions it is impossible to agree with Hayek's criticism of the planned economy, which proceeded from what took place in the mid-twentieth century. the impossibility of calculating the optimal development plan for the country based on the computers available at that time. A consequence of the work of V. Paul Cockshott and Allin F. Cottrell is the assertion that the USSR State Planning Committee, in principle, could not organize optimal planning of the national economy of our country due to a lack of computing power. However, at present it is already possible in principle to carry out such work.

A number of author's articles on the solidarity digital economy have been published in the journal "*Biocosmology – Neo-Aristotelism*" – the Bilingual Electronic Journal of Universalizing Scientific and Philosophical Research based upon the Original Aristotelian Cosmological Organicism;² at the website "High statistical technologies";³ and in the *Russian Science Citation Index*.⁴

² *BCnA*-Journal (ISSN: 2225-1820) – the official organ of the Biocosmological Association, URL: <https://biocosmology.org/?lang=en>

³ See the website "*High statistical technologies*": <https://orlovs.pp.ru/> ; and its forum – <https://orlovs.pp.ru/forum/>

⁴ RSCI is available at the *Russian scientific electronic library* - Elibrary.ru: https://www.elibrary.ru/author_items.asp?authorid=1844&pubrole=100&show_refs=1&show_option=0

Ethics towards the second beginning

Ping LI¹

In a Modern world dominated by technology, morality retreating, faith collapsing and gods retreating, the existence and development of ethics are facing new challenges. In the face of the prevalence of moral skepticism, moral nihilism, moral relativism, and techno-utopianism, we need to examine the crises of ethics, and then start philosophical reflection on the foundation of the first beginning ethics, that is, stepping out of the naturalization approach, the perspective of conformity, and the appeal to the normality of a single principle or basic concept to show that it is necessary and possible for an ethics towards a second beginning. The ethics of the second beginning makes a transition from the regulation and domination of the existent to the research of the generation, change and realization of the existence of the existent. It pursues ecological wisdom beyond the traditional three kinds of wisdom, and moves towards the harmony between nature and man of the post-subject and object relationship, which is demonstrated through the spirit ones and the future ones, and aims at the common good.

Keywords: Ethics; The second beginning; Ecological wisdom; Harmony between nature and man; Post-subject and object relationship; Common good

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Triad of Time Types “Chronos-Cyclos-Kairos” and Noosphere of V.I. Vernadsky – in the Context of the Search-Optimization Model of Nature Self-controlling Processes (theses)

Sergey N. GRINCHENKO¹

As you know, the ancient Greeks distinguished three types of time independent of each other: chronos (χρόνος) – the duration of the procedural course of events; cyclos (κύκλος) – a circular (cyclic) sequence of events; and kairos (καιρός) – a convenient or happy occasion (in particular, a time of crisis).

In more detail, “Chronos (=Kronos), Cyclos (=Kyklos) and Kairos (“opportune moment”) are the three main archetypes of time used by the ancient Greeks. They reflect a different understanding and different meaning of time. Chronos controls the linear flow of time, directed from the past to the future. Cyclos – processes cyclically repeated in time. Kairos – the timing of the onset and end of events” (Sazonov, 2009-2022).

There is a proposal to interpret the triad of concepts “chronos-cyclos-kairos”, for which use the context of the idea of hierarchical search-optimization models of self-controlling processes in Nature (Grinchenko, 2004, 2007, 2010). Their spatio-temporal characteristics are based on a geometric progression with a denominator $e^e = 15,15426\dots$, which was revealed by A.V. Zhirmunsky and V.I. Kuzmin (1982) when studying critical levels in the development of biosystems. The results of applying this model in the study of the historical process in the archaeological epoch and their adequacy to the empirical data of paleontologists, archaeologists and historians are demonstrated in the works (Shchapova, Grinchenko, 2017; Shchapova et al., 2019).

Cybernetic scheme of wildlife self-controlling

The stages of the evolutionary development of living nature are traced on the basis of its search-optimization model: over the entire period from the beginning of life on Earth about 4.6 billion years ago to the present (Grinchenko, 2004). The whole process of this development, obviously, should be interpreted as a manifestation of "Chronos". At the same time, within the framework of such a model, moments of time of systemic transitions in the structure and characteristics of the hierarchical

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structure of living nature are distinguished, which are naturally interpreted as a manifestation of "Kairos". This:

- ~4.6 billion years ago (the beginning of the formation of subcompartments of future prokaryotic cells – organic molecules on Earth – after it cools to acceptable temperatures that do not destroy them) –
- ~3.67 billion years ago (first macromolecules – compartments of future prokaryotic cells) –
- ~3.61 billion years ago (the first "proper" prokaryotic cells) –
- ~3.6 billion years ago (the first eukaryotic cells, with elements indistinguishable from each other, and in the size of their future subcompartments) –
- ~2.66 billion years ago (the first eukaryotic cells in the size of their future compartments) –
- ~2.6 billion years ago (the first "proper" eukaryotic cells) –
- ~2.59 billion years ago (the first "single-tissue" multicellular organisms) –
- ~1.65 billion years ago (the first organs in the composition of multicellular organisms) –
- ~1.59 billion years ago (the first "proper" multicellular organisms) –
- ~1.58 billion years ago (the first populations are subcompartments of future biogeocenoses) –
- 0.64 billion years ago (the first parcels are compartments of future biogeocenoses) –
- 0.58 billion years ago (the first full-fledged biogeocenoses) –
- 0.57 billion years ago (the beginning of the first – subcompartmental – phase of the formation of the Biogeosphere) – to the present.

In turn, the manifestation of "Cyclos" is determined by the innermost cybernetic structure of the living, which is a set of *hierarchical optimization circuits*. These contours form "direct" variables that reflect the search activities of representatives of all tiers in the hierarchy, and "reverse" ones that depend on them, reflecting (with inertia) the target criteria for search optimization of system energy, set on the corresponding tiers: there are *cycles*. Depending on the sign of the increment/decrease of the target criterion, the search optimization algorithm affects (ensuring that its extremum is reached) the change of signs and the magnitude of the increment/decrease of search activities (implementing search "yaws" with elements of randomness).

In the living system, one more, secondary, set of hierarchical optimization circuits is singled out, the processes in which are much more inertial compared to the processes in the primary set. They are

closely related, since the primary is the cause of the secondary, which is called the system memory of the living, which relatively slowly affects the relatively fast search activities of all the tiers of the hierarchy it covers.

Cybernetic scheme of self-controlling of personal-production-social nature

The stages of the evolutionary development of personal-production-social nature, which arises on the basis of wildlife, are traced on the basis of its search-optimization model: over the entire period from the beginning of cephalization of vertebrates about 428 million years ago (zero stage) to the present (eighth stage) [Grinchenko, 2007]. The whole process of this linear development, just as for living nature, should be interpreted as a manifestation of "Chronos". At the same time, within the framework of such a model, moments of time of systemic transitions in the structure and characteristics of the hierarchical structure of a personal-production-social nature are distinguished, which are naturally interpreted as a manifestation of "Kairos". This:

- ~428 million years ago (beginning of cephalization of vertebrates) –
- ~28.2 million years ago (the beginning of the emergence of subsystem-1 of the hierarchical network system of Humanity, the "pre-pre-human" Hominoidea and the basic information technology (BIT) of signal postures/sounds/movements) –
- ~1.86 million years ago (the emergence of subsystem-2 of the hierarchical network system of Humanity, the "pre-human" Homo ergaster/Homo erectus and the BIT of mimics/gestures) –
- ~123 thousand years ago (the emergence of subsystem-3 of the hierarchical-network system of Humanity, the "proper" human Homo sapiens' and the BIT of speech/language) –
- ~8.1 thousand years ago (the emergence of subsystem-4, more complex Homo sapiens'' and BIT of writing/reading) –
- ~1446 AD. (the emergence of subsystem-5, even more complex Homo sapiens''' and BIT of text replication) –
- ~1946 AD. (the emergence of subsystem-6, even more complex Homo sapiens'''' and BIT of local computers) –
- ~1979 AD. (the emergence of subsystem-7, even more complex Homo sapiens''''' and BIT of telecommunications/networks) –
- ~1981 AD. (emergence of subsystem-8, even more complex human Homo sapiens'''''' and nano-BIT) –
- etc.

In turn, the manifestation of the "Cyclos" is determined by the innermost cybernetic structure of the personal-production-social system, each of the subsystems of which is a set of *hierarchical*

optimization circuits. These contours, just as in the living system, form “direct” variables that reflect the search activities of representatives of all tiers in the hierarchy, and “reverse” ones that depend on them, reflecting (with inertia) the target criteria for search optimization of system energy, set on the upper tier of the subsystem hierarchy: there are *cycles*.

In the system of personal-production-social, as well as in the system of the living, one more, secondary, set of hierarchical optimization circuits in each subsystem of Humanity is distinguished, the processes in which are much more inertial compared to the processes in the primary set. They are closely related, since the primary is the cause of the secondary, which is called the systemic memory of the personal-production-social, which relatively slowly affects the relatively fast search activities of all the tiers of the hierarchy it covers.

It is important to note that in the course of the global evolution of Humankind, the principle of *systemic cumulation* is fulfilled – “the emergence in metaevolution (the process of successively increasing the number of levels/tiers of the hierarchical system in the course of its formation as such) of the Humankind system of new subsystems, which does not mean the elimination of previously emerged ones – they all co-exist, actively interact and co-evolve”, and the principle of *systemic consistency* – “the emergence of new subsystems in the course of metaevolution, which is accompanied by cardinal changes in the structure and adaptive behavior of previously emerged ones, with a decrease in their contribution to the general course of adaptive behavior” [Grinchenko, 2020b].

The noosphere of V.I. Vernadsky and the search-optimization model of Humankind

It is widely known that V.I. Vernadsky defined the noosphere as a new phase, a new state into which the natural process of development and complication of the biosphere passes. He wrote: “The biosphere has repeatedly passed into a new evolutionary state. <...> We are experiencing this even now, over the past 10-20 thousand years, when a person, having developed a scientific thought in the social environment, creates a new geological force in the biosphere, which was not in it. The biosphere has passed or, rather, is moving into *a new evolutionary state – into the noosphere* (emphasis added by the author of the quote) – is being processed by the scientific thought of social humanity. <...> Geologically, we are now experiencing the separation in the biosphere of *the kingdom of the mind*, which radically changes both its appearance and its structure – *the noosphere*” [Vernadsky. 1977, pp. 20-21, 91].

Obviously, V.I. Vernadsky outlined only the contours of the noosphere, and today this concept still lacks specifics, its formalization in a certain language of description, universal enough for such a complex problem. So, N.N. Moiseev points out: “Today, when the foundations of the theory of the

noosphere are being laid, a theory that, in its meaning, should unite disciplines that study the most diverse phenomena of the material world, it is very important to develop some common language that covers the processes of self-organization of the inanimate (inert) matter, and the development of living matter, and the processes of social nature” [Moiseev, 1986, p. 70]. A.D. Ursul notes that “for the most part, noosphere-environmental problems turn out to be social management problems, because the main difference between all previous development and future socio-eco-development is that it needs to be managed” [Ursul, 1993, p. 40].

But if the noospheric problem is *controlling*, then for its analysis it is natural to turn to the appropriate language - the language of management theory. That is, it is logical to consider the noosphere as a cybernetic system, describing it in this language, which allows not only to display the features of the course of its adaptive behavior, but also to identify and clarify the main stages of its formation – namely, in the language of the above-described search-optimization model of *a self-controlling system of personality-production-social nature*.

Thus, in the cybernetic view, in the prehistory of the modern Noosphere, five preliminary stages of the “pre-spheric” development of its territorial fragments, smaller than the Earth as a whole, and three – “properly spheral” stage and “above-spheral” stages can be distinguished. “Spheral” refers to the system of self-controlling, covering the entire Earth as such, “supra-spheral” (perspective) covers the Near-Earth and Intermediate Cosmos closest to it. Taking into account the fact that the search-optimization model of the Humanity system reflects such concepts directly related to the Human as basic information technologies, the individual and collective unconscious [Grinchenko, 2020a], etc., the parallelism of the phenomena of the Noosphere and the systemic cybernetic view of Humanity is obvious and mutually fertilizes them.

Conclusion. With regard to the idea of the search-optimization model of the self-controlling processes of Nature, Chronos corresponds to the trends of increasing – in the course of the processes of evolutionary development of non-living, living and personal-production-social systems – the number of tiers in their hierarchies, Kairos – to the moments of systemic upheaval in these processes, Cyclos – to the processes self-controlling in the contours of search engine optimization of such hierarchies. Thus, another example of the presence of triads in the structure of the Universe is revealed (Grinchenko, 2016).

In turn, drawing a parallel between the idea of the Noosphere and the results of modeling the systemic processes of self-controlling in the personal-production-social nature (Humanity) allows

you to gain new knowledge about the essence, spatio-temporal characteristics, prehistory and prospects of the Noosphere as a stage in the development of Humankind.

Bibliography

1. Vernadsky V.I. (1977) Reflections of a naturalist. Book 2. Scientific thought as a planetary phenomenon. M.: Science. 192 p.
2. Grinchenko, S.N. (2004) System memory of the living (as the basis of its metaevolution and periodic structure). Moscow: IPIRAN, Mir. 512 p. – see also <http://www.ipiran.ru/publications/publications/grinchenko/>
3. Grinchenko, S.N. (2007) Metaevolution (systems of inanimate, living and socio-technological nature). M.: IPIRAN. 456 p. – see also http://www.ipiran.ru/grinchenko/book_2/text.shtml
4. Grinchenko, S.N. (2010) Worldview significance of modern concepts of informatics // Open Education, No. 6. P. 112–126.
5. Grinchenko, S.N. (2016) Bipolarity and triadicity: a cybernetic view of the problem // Electronic journal “*Biocosmology – Neo-Aristotelism*”, v.6. No. 1, pp. 166–175.
6. Grinchenko S.N. (2020a) On the spatial structure and metaevolution of the substratum of the collective unconscious in the Humanity system (cybernetic representation) // World of Psychology. No. 1 (101). pp. 62–73.
7. Grinchenko S.N. (2020b) Human communication and information technology: principles of systemic cumulation and systemic consistency // World of Psychology. No. 3 (103). pp. 235–244.
8. Zhirmunsky A.V., Kuzmin V.I. (1982) Critical levels in the development of biological systems. M.: Science. 179 p.
9. Moiseev N.N. (1986) Co-evolution of man and the Biosphere: cybernetic aspects // Cybernetics and noosphere. M.: Science. pp. 68–81.
10. Sazonov V.F. (2009-2022) Biorhythms [Electronic resource] // Kinesiologist: [website]. URL: <https://kineziolog.su/content/bioritmy> (date of access: 23.08.2023).
11. Ursul A.D. (1993) Path to the noosphere: The concept of human survival and sustainable development. M: “Ray”. 275 p.
12. Shchapova Yu.L., Grinchenko S.N. (2017) An Introduction to the Theory of the Archaeological Age: Numerical Modeling and Logarithmic Space-Time Coordinate Scales. Moscow: Faculty of History Mosk. Univ., Federal Research Center "Informatics and Control" RAS. 236 p. – see also <http://www.hist.msu.ru/upload/iblock/03f/45831.pdf>
13. Shchapova Yu.L., Grinchenko S.N., Kokorina Yu.G. (2019) Informatics-cybernetic and mathematical modeling of the archaeological epoch: a logical-conceptual apparatus. M.: Federal Research Center "Informatics and Control" RAS. 136 p. – see also <https://elibrary.ru/item.asp?id=39450775>

Being intimate with the stars. A brief reflection on time, potentia and entelechy¹

Leonardo CHIATTI²

Premessa. The 2022 Nobel Prize in Physics to Alain Aspect, Anton Zeilinger and John Clauser represents an official recognition of the important work carried out not only by these three excellent researchers, but by an entire research community that has worked in the shadows, opposed and derided for more than forty years. Here we do not want to dwell on the relevant technological developments resulting from this research, among which we recall the sectors of quantum computing, quantum information and quantum cryptography, which today see the major world powers and industrial giants competing. Instead, we intend to return to the initial motivation that inspired the work of this community, namely the definition of the nature of “quantum reality”.

We argue that the nature of quantum reality or, what is the same, of the quantum level of physical reality, so enigmatic and elusive from the perspective of classical physics, appears more accessible if we recognize a heuristic role for the Aristotelian concepts of "potentia" and “entelechy”.

Contrast between classical and quantum reality. To give an idea of what quantum reality is, it is perhaps best to recall some characteristics of everyday physical reality, what in physics is called "classical reality". Classical reality is made up of objects, things like people, chairs, tables, trees; that is, entities that are: spatially localized (they occupy a definite place and a definite volume of space), persistent over time (they exist for all the moments of a continuous interval of time, more or less long), endowed with a continuous evolution in time and space (without jumps; for example, they do not appear out of nowhere or disappear suddenly). Furthermore, objects possess actual properties that can be expressed through propositions; propositions that always satisfy the principles of Aristotelian logic.

Now, the point is that ultramicroscopic physical entities, such as atoms, for example, are not objects, in the sense just represented. These entities belong to another level of physical reality, distinct from

¹ The link to the video of author’s presentation at the 24ISBC is available at:

<https://drive.google.com/file/d/1R-Y7vAUT0F85cmA6oUjJOyiwLcoKcw2C/view?usp=sharing>

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classical reality, which is called quantum reality. To give a taste of this reality, let's consider a specific example.

The example is that of a beam of light, emitted by a source, which impacts a semi-silvered mirror. Two beams emerge from the mirror (which can be made perpendicular by appropriately orienting the mirror): one transmitted (t), the other reflected (r). The t and r beams can be sent to two separate photodetectors. If the source is sufficiently weak or, what is the same, the light emitted by it is strongly attenuated, we notice that the behavior of the photodetectors changes. The signals returned by them become intermittent (clicks), as if the light were made up of "grains" or "packets" which are called photons. The relevant point here is that if the photodetector r signals the arrival of a photon, the photodetector t remains silent and vice versa.

The following idea therefore comes to mind: 1) light is a classical object; 2) this object is made up of "grains" or photons; 3) the single photon that hits the mirror is always transmitted or reflected. It cannot be transmitted and reflected, because this would lead to simultaneous double clicks that are not observed. Photons are therefore objects endowed, after their interaction with the mirror, with the actual property of have been transmitted (t) or reflected (r). This property satisfies the Aristotelian principles of non-contradiction and the excluded middle. That is, a single photon cannot be neither t nor r (*tertium non datur*). It cannot, on the other hand, be t and r . Recall that the path of a transmitted photon is perpendicular to the reflected one. The validity of Aristotelian logic for these statements therefore implies the spatial localization of the photon on one of these paths and one only.

However, this idea doesn't work. Let's change the arrangement of the experiment, placing the semi-transparent mirror at the center of a system made up of two total reflection mirrors. These mirrors send the t and r beams completely back, which recombine along the two remaining arms of the apparatus, one of which is that of the source. Let's now place a photodetector along the fourth arm. It will give us a signal consisting of a series of distinct clicks, as we expected it to be. But now the frequency of clicks depends on the difference between the distances of the two mirrors from the central semi-transparent mirror. For precise values of this difference, the clicks at a given detector position are reduced and may even disappear! There is what is called destructive interference, the photons that would have arrived there no longer take the path of the recombined beams and are sent back to the source or diverted to other fringes of the interference figure. Now, it is clear that this is not the behavior one would expect from photon-objects. If the photons were objects such as microscopic balls, then the fraction of them sent towards the detector should be independent on the difference in path lengths of the beams. Their being transmitted/reflected by the central mirror should be a matter decided at the level of their contact with that mirror, and therefore independent on the

overall arrangement of the apparatus. The fact that the decision depends on the totality of the apparatus implies that the single photon interacts with the entire apparatus. That is, it is not spatially localized.

Thus, there are no photon-objects. More ingenious solutions, such as considering photon-objects riding wave-objects that somehow guide them, were eliminated experimentally in the nineties and I will not talk about them here. What we have is actually this: there are two separate and discontinuous events: the release of a certain amount, a grain, of light energy into the source and its subsequent absorption into the detector. *The photon is, in fact, nothing more than this amount of energy.* In its propagation from the source to the detector the photon *is not spatially localized*, but covers the entire apparatus. When it interacts with the semi-transparent mirror, it is transmitted and reflected, while maintaining its individuality. Its manifestation in our time, the time of human beings, *is discontinuous* being limited only to the events of emission in the lamp and absorption in the detector. The fact that the photon is transmitted and reflected implies that its behavior violates both the principle of non-contradiction and that of the excluded middle, and therefore Aristotelian logic. In conclusion, therefore, all the properties previously stated as the definition of an object are negated. This is the situation we find ourselves in when dealing with a quantum entity.

Now the question is: what kind of entity is a quantum entity? What can be that something that is everywhere and nowhere, but which suddenly manifests itself in all its entirety in a specific place and at a specific moment? What kind of thing is an entity with attributes that violate Aristotle's logic? These are the questions that tormented scholars such as the aforementioned Clauser, Aspect and Zeilinger in past decades, but also many other people who have actively worked on this problem without recognition and often derided: De Broglie, Vigier, Bohm, Selleri and many many others.

Quantum reality as the realm of “potentia”. A consistent, although not necessarily unique, interpretative key was proposed in the 1950s by Werner Heisenberg, in his essay “*Physics and Philosophy*”. He simply expressed in words what the mathematics of quantum mechanics renders transparently. Two actualities cannot contradict each other: if the photon were an object, it could not be simultaneously transmitted and reflected. But two unexpressed potentialities can very well coexist: there is nothing anomalous in the proposition "the photon can be transmitted and the photon can be reflected"; it is undoubtedly true in relation to an experimental apparatus that does not distinguish the two terms of the conjunction. In the first experiment, the one with two photodetectors, the apparatus was such that it could be established which term of the alternative was realized: the photon was t or (in Latin: aut) r; it followed that when one detector fired, the other did not fire. In the second

experiment the only detector on which the recombined beams incided was not able to distinguish between *t* and *r*; the two attributes therefore remained in their potential state, determining a series of strange behaviors including the absence of clicks for a given detector position. Therefore, and this aspect is important, *the potentialities Heisenberg talks about are not mere categories of thought; they, when not expressed, are capable of interfering with each other, generating empirically verifiable physical behaviors. The violation of Aristotelian logic involved in quantum processes is merely apparent because that logic is now applied to potentialities, rather than to actualities.*

The absence of control over the attribute implies that the attribute *remains in its potential state*. The photon is potentially, only potentially, transmitted or reflected. The photon causally evolves into its own internal map that reproduces spacetime; this map should not be confused with the territory it represents, that is, with the space-time theater of our experience. In this map, technically called "wave function", the photon is both transmitted and reflected, and therefore ubiquitous. It is the interaction with the detector (which here represents the transition from potency to act) that projects the photon into spacetime, that is, into the theater where we experience it as a click. If the arrangement of the apparatus is such that the two terms of the alternative (transmitted or reflected) can be distinguished, as in the first experiment, then only one of the two potentialities is actualized. Otherwise, as in the second experiment, none of them are actualized and the "*t*" and "*r*" attributes remain in their potential state. But this potentiality is still a reality, because it defines the frequency of clicks.

The passage from quantum reality to classical reality is therefore the passage from the internal map of the quantum entity to the territory represented by the space-time theatre, and this passage from potential to act is mediated by the quantum discontinuity: the micro-event or click. It is the set of countless clicks to which the elementary particles that make up the world give rise with their interactions, which form the classical reality, in the spacetime within which this reality is located. Within this reality the objects of our daily experience are recognizable. Space as we know and experience it is the site of interactions between quantum entities, but it does not contain these entities.

Of men and stars: a new way to entelechy? Let's imagine a photon emitted by a star. Its propagation occurs in a simulacrum of spacetime internal to the photon itself, which is its wave function. It consists of the sum of the potentialities constituted by all the paths that the photon would travel in space and time. When an earthly observer, from his terrace on a summer night, contemplates that star and the retina of his eyes absorbs that photon, what happens is that only one of the potentialities represented in the wave function, the one corresponding to the path that leads from the star to the eye of that observer in that instant, is actualized. The observer sees the star as an

actualization, in its own time and space, of the potentialities originating from the star itself as a source of photons. A much more intimate and ontological contact than the mechanical exchange of particles that would occur in a hypothetical classical corpuscular description of light. The observer participates, in a certain sense, in the emergence of the star into reality. And this participation *involves the actualization of a potentia*. *The difference between the quantum and classical levels of physical reality refers us, as Heisenberg had intuited, to the distinction between potentia and act.*

The causal propagation of the quantum entity within its own wave function does not occur in spacetime; it's a kind of anticipation in terms of possibilities. A further example is given by the decay of an atom in vacuum, by spontaneous emission. Why does an atom, brought to a state of higher energy and then left to itself, spontaneously decay to the minimum after some time, emitting light? There are no external forces pushing it to do this. The point here is that the atom is surrounded by an almost incorporeal entity which is the electromagnetic field, considered here in its empty state, without photons. Therefore, we must consider not just the atom, but a more complex reality made up of the atom and the vacuum that surrounds it. This reality evolves causally according to its own internal map, its own wave function, which contemplates two possibilities. The first is that of the excited atom and the field in the vacuum state; the second is that of the decayed atom and the field enriched by a photon. The system evolves by developing this map, following its own *entelechy made up of coexisting possibilities*, until the second possibility is realized. Then the atom decays and emits a photon, and this event appears as an event of *classical reality*, recordable by an observer. We are, as we can see, very far from a mechanical universe where inert matter can evolve only under the action of external forces.

Органический подход в понимании личности в современной социальной философии

Александр Алексеевич СОМКИН¹

Методология познания и преобразования человека приобретает в последнее время все большее значение в общем комплексе научных исследований. В авторском отношении: мы сегодня столкнулись с вызовом реализовать растущую актуальность органического подхода в подобного рода исследованиях; и что выступает основой целостного рассмотрения феномена личности и всего комплекса ее социальных связей. В общей сложности, данный подход является собой продолжение российской научной органической традиции, как это формулирует А.А. Галактионов [1995]; и где «“органическое” объяснение природы и общества в их специфике и цельности как общего и отдельного принадлежит к числу “сквозных” концепций в истории русской философии и социологии». При таком подходе личность предстает как сложное многокомпонентное и многоуровневое интегративное единство. Именно на основе органического подхода разрабатывается авторская концепция целостной личности, основные положения которой будут освещены в докладе.

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Beyond “Organic” – Preface to the Theory of Vitalism

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In recent years, international research on organism has made significant progress in various aspects as well as made a positive impact. However, as Heidegger pointed out, the original foundation of all existing organic theories was still rooted in mechanistic theories, thus searching the roots of organism is still an issue. And following reasons account for this situation. First, when discussing the organism, people tend to use mechanistic theories as a contrast, implying the existence of the "non-organic." Second, all organic theories are not based on the foundational ontology described by Heidegger. Third, the primordial origin of organic thought has also remained benighted, so that it has been unable to unfold its primordial nature, and thus has not been able to "chain up" or interpret the entire history of civilization. This leaves a challenging intellectual task for future explorations in organic theory.

International research in organic cosmology has attempted to return to Aristotle's conception of the organic, which is a commendable effort. However, a careful look at the history of Greek philosophy reveals that the original ideas of the organic were found in the early period of Greek philosophy, namely in the period of Thales and Heraclitus, rather than in the era of Aristotle. In this sense, Aristotle serves as a bridge for our return to early Greek organic thought.

Similarly, compared to the early thoughts of Greece, China and India also had their own organic ideas and positions. These ideas were homogeneous in terms of a more basic paradigm. Especially, Eastern organic thought was not attacked or interfered by later Western mechanistic theories and has retained some kind of originality. Therefore, it is necessary to return to the original Eastern perspectives to explore organic thought. Moreover, as we have seen that, at least in contemporary Western philosophers, whether Heidegger or Whitehead, these philosophers who extensively discuss organic thought had used Eastern ideas for reference.

However, considering that the term "organism" is already widely used, it could lead to confusion by uncritical use of this more general term. Therefore, it is indispensable to extract one core statement mentioned by the original canon of Chinese organic thought, I Ching, aiming to summarize the extensive connotation of Chinese organism in a concise category. It can be called “Vitalism” so as to

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contain and represent the organic thoughts involved in Chinese traditional culture, given that the underlying idea of I Ching is that “life persists for ever”. This concept offers a broader and more profound perspective than the present widespread organic theories. This Vitalism is neither a scientific organic theory nor a metaphysical one, but rather a primordial definition. It has three main features: first, the natural organism of ontology; second, a superior organism with integrated inclusivity; and third, the self-unfolding of growth with endless succession. All phenomena in the universe today are nothing more than different manifestations of this vitalism at different times. This vitalism minimizes the isolation and opposition between organic and inorganic nowadays, presenting a complete, ever-renewing landscape of the world, and offering the nourishment and enlightenment to humanity.

A Preliminary Study of the Cosmological Views of Kang Youwei (1858-1927)

Zhaoyuan WAN¹

In recent decades, the devastating impact of human activities on the environment has awakened the acute awareness of the need of new understanding of ecology and cosmology. For wisdom to address ecological problems, environmental scholars have been turning to Chinese traditions, including Confucianism. In this respect, scholarly attention has also been given to modern Confucian thinkers of the era of transition from imperial to republican China, many of whom remained rooted in Confucianism but at the same time came under the influence of Western learning. Of those thinkers, the prominent reformer and thinker Kang Youwei has been considered as one of the most representative. Inspired by and building on Ban Wang's research on the "ecological motifs" in Kang Youwei's vision for a future world, I offer a preliminary study of Kang's cosmological views, in particular those found in his early writings penned in the 1880s. I will demonstrate that Kang has developed a conception of cosmic evolution that embraces the successive development of the material universe, the biological kingdom and the human world. Although he does assign humanity a unique character in his cosmology, he places humans in not only harmony but "consanguinity" as well with the rest of myriads of things, plants and animals.

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‘Пришло время собирать камни’: концепция «автотрофности человечества» В.И. Вернадского и «социальной автотрофности» А.М. Уголева – в интегративном подходе к разрешению текущего экологического и продовольственного кризиса

Николай Несторович МАКСИМЮК¹

Концепция «Автотрофность человечества» В.И. Вернадского [Vernadsky 1925] увидела свет в середине 1920-х; и чему предшествовало также выдвижение и исследование русским гением вопроса «Двух синтезов космоса» [1922]. В последнем, наряду с общепринятыми конвенциональными установками: Вернадский выдвигает и утверждает (и что имеет революционную, переворотной значимости) существование «живого космоса», как предмета для научного изучения. В настоящем, Биокосмологическая ассоциация собственно, и не без успеха, занимается научным изучением и развитием этого (Биокосмологического) круга вопросов; и здесь, выдвинутая учеными Биокосмологическая Инициатива призывает как раз к принципиальному развороту (на 180°) космологической активности человечества Земли. Задачей доклада является раскрытие космоантропозологической и ноосферной сущности научных идей Вернадского; и что никак не соотносится ни с теорией Мальтуса, ни с текущими установками глобалистов на решение экологической и продовольственной проблем. Важно понимать, что краеугольным основанием концептуальных представлений выдающегося ученого об автотрофности человечества выступает универсальный естественнонаучный принцип само-восходящего в сложности развития космического эволюционного процесса; например, что ярко представлено в макро-стадиальности возникновения Гео-, Био- и Ноосферы, в эволюционном движении на Земле. В настоящем, мир столкнулся со сложностью перехода к ноосферному развитию: поскольку предшествующая и доминирующая в настоящем ступень техносферы не желает сдавать господствующих позиций, но, напротив – устремлена к ‘увечковечиванию’ своего владычества. Тем более, сегодня, становятся крайне востребованными достижения российской науки, Органицистской сущности. Среди последних, особое значение имеют научные наработки у А.М. Уголева, в рамках его трофологической теории и концепции «нового функционализма» – в цели разрешения текущего экологического и продовольственного кризиса. Как и огромную важность приобретает его вывод, что в решении проблем автотрофности – «значение идей Вернадского не только сохраняется, но и возрастает» [Уголев 1989].

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Стратегия и тактика в мировой политике: возможность гармоничного сопряжения

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«Стратегия» и «тактика» – извечные понятия политического, исторического, военного и логического лексикона. Однако, на всех наблюдаемых периодах истории, мы констатируем постоянный разрыв между этими двумя понятиями (отсюда – сменяемость самых якобы долгосрочных стратегий и очевидные и более частые провалы в тактике). Данная проблема, по ряду причин, усугубляется в современном мире (достаточно напомнить об объявленных и пока скрытых планах создания всё более разрушительных видов оружия массового уничтожения и вероятности его размещения в ближнем космосе).

Преодоление данного исторического разрыва, тем не менее, возможно, но не на пути очередного пересмотра соотношения (приоритетности и веса) каждого из двух ключевых понятий в политике, а через обращение к новым научным принципам «Биокосмологического разворота к Органистскому полюсу, Триадологическому научному знанию и Северо-Восточному вектору» применительно к мировой политике. Иными словами, встаёт двуединая задача: от пересмотра теории, перейти к постановке таких практических задач, решение которых необходимо для формирования принципиально иной картины будущего мира.

1. Из истории понятий – изначально было 2 сферы их приложения: военная (*stratos* – войско; ведение вооруженных действий, или стремление избежать их) и политическая (*ago*- вести, возглавлять; борьба за власть); *taktika* – искусство построения войска, а в широком смысле – правила использования средств для достижения целей).
2. Оба понятия существуют исключительно в «человеческой сфере» осмысления и действия (природа (среда обитания человека) и космос (вне-человеческая среда) проявляют своё воздействие иначе). Отсюда – неизбежно возникающий разрыв между «онтологическим» (объективно данное «извне») и «аксиологическим» (воспринятое, проходящее осознание человеком через его «ценности») потребностями, Неизбежный итог этого имманентного противоречия – отсутствие «заведомо заданной безошибочности» в планах и делах человека, а когда речь идёт о войнах и борьбе за власть – политиков. История многократно подтверждала, что «рациональность» в этих

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сферах лишь приближает к истине (военной, или политической победе), но отнюдь не гарантирует её достижения и достижения успеха. Это «проблемное противоречие» порождает неоптимистичный вывод: существует некая первопричина (разрыв «онтологического» и «аксиологического») для наблюдаемого хронического рассогласования «стратегии» и «тактики».

3. Вторая причина «рассогласования» – оба рассматриваемых понятия (стратегия и тактика) формируются/позиционируются по двум базовым критериям – пространство и время. И если первое (весьма в разной степени для отдельных стран), но всё же, может быть предметом влияния человека (например, захват, или утеря «контролируемого пространства»), то второе – неизбежно ограничено (сроком дееспособности, а в итоге – жизнью человека (его смертности)). Принципиальное расхождение двух отмеченных главных критериев/ограничителей создаёт вторую объективную подоснову для расхождения «стратегии» и «тактики».
4. Пространство, в котором реализуются «стратегия» и «тактика» («пространство состояний Наблюдателя», «поле Наблюдателя» и «механика Наблюдателя») имеет устойчивую тенденцию к нарастанию сложности (см. разбор этой темы в приложенной статье).² Суммируя одно из положений последней статьи, отметим только, что «сложность» превратилась сегодня в своего рода «защитный аргумент», призванный оправдать «...всё более ощутимые исследователями трудности в анализе текущих и перспективных состояний мировой системы, следствия чего проявляются в возрастающей вариативности их текущих и прогностических оценок... и в итоге – неуверенность Человечества в собственном будущем».
5. Причина столь тревожного положения в мире («невнятность будущего») видится, однако, не в увеличении числа «акторов» и усложнение «построений» в их «играх», на что обычно ссылаются всё более многочисленные специалисты по мировой политике. Вряд ли причина заключается и в «технических трудностях», связанных с необходимостью всё более сложных, междисциплинарных подходов в исследованиях современных ученых, с целью определения «поля возможных действий» политиков. Корни проблем кроются, на мой взгляд, в другом – во всё более очевидной негодности безнадежно устаревшего понятийно-теоретического аппарата, работавшего до сих пор исключительно на одну идею – «ослабления/минимизации/подавления/вытеснения/уничтожения» противоборствующей стороны (исходя из этого постулата выстроен весь

² Кожемяков А.С. ФОРМИРОВАНИЕ «КУЛЬТУРЫ СЛОЖНОГО» В МИРОВОЙ ПОЛИТИКЕ: ОТ «ПОЛИТИКИ» АРИСТОТЕЛЯ К СОВРЕМЕННОСТИ // *Biocosmology – neo-Aristotelism*, Vol 8, No.1, (Winter 2018).

научный аппарат наук о политике и международных отношениях). Унаследованная по сути от самих начал человеческой истории, эта идея явно пережила свой век и требует переосмысления. Начать следует с самих фундаментальных методологических и даже философских (гносеологических) причин, для поиска ответа на главный вопрос – куда (для чего, с какой целью) идёт Человечество? Очевидно на сегодня и другое: продолжение борьбы за пресловутые «национальные интересы», или даже их трансформация и попытки «агрегации» в рамках новых по конфигурации групп государств, включая, возможно, и смену их собственного самоопределения (Восток-Запад, Север-Юг, «континентальное позиционирование», «многополюсный мир», БРИКС, «мир западных демократий», «страны-изгой», «мир ислама» и пр.) не только не сулит «скорой и окончательной победы» кого-либо из объявленных «новых участников». Напротив, подобная «перегруппировка сил» чревата не просто усугублением «традиционной конфликтности», но её трансформацией в гораздо более тяжкую по последствиям ситуацию.

6. Выход из сложившегося положения (а начать переосмысление следует с самого научного сообщества), видится в отказе хотя бы части этого сообщества от «доминантного экспертного мнения», от жестко обозначенных в последнее столетие рамок т.н. «научной системы взглядов» (а по сути, давно преобладающей здесь, и на глазах стареющей, как и их носители, типа «вечного Киссинджера») «реал политик». Пора признать, что сегодня она становится всё более явно окончательно лишена исторической перспективы, сводясь в итоге к банальному «кто кого выдавит». Иными словами, этот необходимый «научный переход» видится не только в «смене понятийного аппарата, но и самой базовой парадигмы всей науки о международных отношениях». Последняя, на сегодня, преимущественно занята их «описанием» и «каталогизацией» (с явным упором на «тактику», вместо «стратегии»), и совершенно не способна «осознанно создавать новый мир» (заметим, для иллюстрации, что т.н. оценки «состояния и развитие отношений», как правило, сведены в наши дни к ссылкам на сугубо цифровой (лишенный «качественного содержания») «рост товарообмена»!).
7. «Смена вех» для наук о международных отношениях (который, подчеркнём, прошли до неё, в разное время, все другие отрасли науки) – в преодолении «дурной бесконечности» прежних подходов, присвоивших себе название «классических» и единственно «научных и реалистичных». Отправной точкой должен стать разворот к «новой масштабности» взгляда: от нынешнего «разделённого мира» с его вечным «столкновением интересов», на смену которому должен прийти, напротив, целостный,

единый и нацеленный на будущее мир. Его сутью (со ссылкой на многих российских и зарубежных (прежде всего китайских) авторов-участников данного семинара), является «мировоззренческий переход» от Трансценденталистского к Органицистскому полюсу мировоззрения (переосмысление «от Платона, к Аристотелю»). Потребуется возврат к многомерному движению, к интегральной и рациональной совокупности целостного взаимодействия антропологической, социокультурной, экологической и других сфер существования и мировидения. Перспектива – «восхождение человечества на естественно (последовательно) новый и высший в его сложности «Ноосферный стратум» мирового развития (концепт «Единого Человечества»).

8. В такой перспективе, естественно, отпадает «устойчивое противоречие стратегии и тактики», сложившееся за тысячелетия предыдущей истории Человечества, вынесенное в название данного выступления. Оно эволюционирует от «сущностно центральной», в прошлом, к преимущественно «технической» задаче.
9. Параллельно будет обустриваться и единственно пригодный для устойчивого будущего движение от «человека разумного» к «Человеку сознательному» (без становления которого все остальные построения «на будущее» утрачивают смысл).³ Двумя другими «опорными столпами» построения искомой концепции будущего должны стать «экология» (как наиболее осязаемый и воспринимаемый массовым сознанием вызов Единому Человечеству) и «общепризнанная человеческая этика» (изначально присущая человеку, но по ряду известных причин «разнесенная» за столетия между соперничающими религиями и связанными с ними морально-поведенческими нормами (политической культурой)).
10. Даже из кратко изложенного выше, понятно, что речь идёт не об очередном «критическом комментарии» к нынешним, многообразным взглядам на мир, а о необходимости его принципиального и качественного изменения (хотя бы в целях снятия угрозы самому существованию современной цивилизации). В сегодняшнем мире существует относительное единство взгляда касательно происходящих «тектонических сдвигах в глобальном мироустройстве» (хотя его причины и содержание интерпретируют, чаще, весьма по-разному). Однако парадоксально, что вопрос о «смене научного инструментария» для понимания грядущего «нового мира» хронически откладывается и никого (пока) не смущает, что мировоззрение, научный метод и

³ См. Кожемяков А.С. Человек сознательный: как выйти из кризиса мировой политики. / В кн. «Научно-образовательная модель Человек Сознательный: сознательный реализм. Сборник текстов и выступлений: монография/ Давитая С.Ж., Кожемяков А.С., Градов С.Ю., (и др.). – Санкт-Петербург: СИНЭЛ, 2022». - С. 11–27.

инструментарий остаются, в принципе, схожим с теми, которое Человечество унаследовало со «времен греко-персидских войн». Этот парадокс требует преодоления (для начала, как отмечалось, хотя бы в научном сообществе)

11. Желательно, чтобы дискуссионное обсуждение (предусмотренное вслед за заключительным выступлением на конференции К.С. Хруцкого), с участием китайских учёных-обществоведов, дало дополнительные стимулы для выражения мнений членов Ассоциации по поводу поднятых в данном выступлении вопросам. За результатами этого обсуждения видится и устойчивое будущее развитие нашей Ассоциации.

The Commonality of Marx's and Whitehead's Outlook on Life

Xiuhua ZHANG¹ & Di HE²

Marx and Whitehead, based on modern science and following perceptual activity theory and historical logic, have formed a life outlook that transcends traditional metaphysics and mechanical cosmology under the modes of organism thinking, dialectical thinking, relational thinking, and practice-process thinking. They have explored the issues of the confirmation of the essence of life, process development, meaning embodiment, and value realization of specific subjects in the real world and the universe as a whole, demonstrating commonality.

Based on historical materialism and practical anthropology, Marx took “real people” as the theoretical premise, identified them as the essence of human beings in his dynamic perceptual practical activities, distinguished between life of species and life of kind through “two kinds of production”, distinguished people from animals through labor and material production, and demonstrated the life community relationship between individuals and others, nature, and society, presenting the process of human pursuit of the value and significance of life from the perspective of social history.

Based on organic cosmology, Whitehead seeks the order of the universe, explains the evolution and development of the universe, and reveals the survival of individual life under the creation of the universe through a genetic and morphological description of the "actual entities", the most fundamental way of generating life. That is, transcending the present in creative progress, realizing oneself in constant adventure, and establishing an organic connection between individual life and the cosmic community through two-way causal effects, and then towards a cosmic civilization with a harmonious order. Therefore, both of their views on life are conducive to overcoming the urgency of modernity and promoting the construction of ecological civilization.

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A review of the research on Organic Marxism of Chinese academic circles in recent years

Jingyi HE ¹

At present, the increasingly severe global ecological problems have brought a serious impact on human society, but also caused us to reflect on the plight of people's survival in the perspective of modernity. Organic Marxism, as a kind of constructive post-modernism, provides a unique perspective for the critique of capitalism and tries to provide a feasible solution to the problem of modernity from the postmodern standpoint. In recent years, the research of Chinese academic circles mainly focuses on the theoretical characteristics, practical value, the relationship between organic Marxism and other theories, as well as the examination and reflection of organic Marxism. It is of great academic significance and value for further study and development of organic Marxist theory to sort out the research status of this theory in recent years.



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The Theoretical Path and Practical Principles of “Smart Library” – From the Perspective of Process Philosophy

Yujia ZHAI¹

The thinking paradigm of mutual interpretation of “organism” and “process” contained in Process Philosophy is a great subversion of traditional ontological thinking and mechanical epistemology, and its interpretation path based on modern scientific logic itself also helps to highlight the interaction between science and philosophy, technology and humanity that needs to be considered in “Smart Library” research. The practice of elevating the process to an ontological level reflects an absolute respect for the knowledge acquisition process, which not only makes process philosophy have certain commonalities with existing theories in library science, but also has the ability to open up an analytical path for the intelligent process of libraries. Based on the principle of process philosophy, this article attempts to solve three problems: First, breaking the mindset of conceptual definition, transforming the conceptual ontology of “What is a smart library” into a process ontology description of “Why is Smart Library Possible”, and achieving a more essential analysis of the survival background and internal mechanism of libraries under intelligent technology; Secondly, examine the significance of change in the new paradigm established by process philosophy for the “Smart Library” research institute; Thirdly, to explore the practical principles of building a “Smart Library” with the purpose of shaping the process and body. The ontological interpretation of “why intelligent libraries are possible” by process philosophy and the transformation of the cognitive paradigm of “Smart Library” are the guiding significance at the operational level, which is the thorough implementation of generative, human nature, and procedural principles in the library body.

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The Organismic Development of Human Potential as Individuals and a Whole from the Perspective of the Anisa Educational Model

Qionghui HE¹

The advancement of civilization depends on the organismic development of human potential both individually and as a whole. How can this be achieved is a question worth pondering on. The Anisa Educational Model, constructed by Daniel C. Jordan while he was a professor of education, psychology and social anthropology at the University of Massachusetts, inspired by the Bahá'í teachings and the philosophical work of Alfred North Whitehead, provides a perspective to achieve this organismic development.

HoModel incorporates both the external and internal causation in the realization of the potentiality of the organism. Based on the process view of the Whitehead philosophy and the eternal progress of the soul in the Bahá'í Faith, Model holds that the realization of the potentiality of the organism has no terminal point but is a perpetual actualization. Different from the prevailing focus on the development of biological potentiality, which aims mainly at intelligence quality and physical growth, the Anisa Model focuses on both physical and spiritual potentiality.

This presentation will explore the philosophic foundation of the Anisa model and how it works in the organismic development of human potential as individuals and a whole.

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История первой мировой глобализации и отношений Испании и Китая в XVI–XVIII вв., в свете Биокосмологического подхода

Мириам ФЕРНАНДЕС¹

Согласуясь с основными положениями Биокосмологического подхода, автор преследует цель внести свой вклад в разработку оснований Органицистского (научного и философского) знания, существующего в Триединстве естественных Типов рациональности. В текущее время – Органицистское (и Интегралистское) движение мирового процесса и Земного социокультурного развития является не только реальным и возможным, но и крайне востребованным. В этой связи предлагается историческое исследование взаимоотношений, которые с XVI по XVIII вв. поддерживали Испания и Китай.

По сути, это была первая в мире глобализация, которая проводилась и осуществлялась с установлением реальных Органицистских космологических оснований и принципов. В свете Биокосмологического подхода, мы имеем в текущем моменте истории, напротив, попытки установления непоколебимой гегемонии и диктата исключительно западной, англосаксонской модели научного знания. Во всем этом скрывается причина состоявшейся ‘космологической недостаточности’ и ‘критического дисбаланса’ – в реальном развитии (и структуре знаний и компетенций) современного глобального академического сообщества.

Иначе говоря, в мире происходит переломный и опасный момент : когда из академической среды безвозвратно ускользает реальная широта и глубина всей палитры и гармонии альтернативных научных подходов, установок и взглядов. Поэтому столь важной выступает задача возвращения и изучения первой (Испанской) глобализации мира, датируемой XVI в.: и которая принципиально отличается от текущей и резко доминирующей (в XXI в.) англосаксонской протестантской модели глобального мироустройства, состоявшейся после волны либеральных революций на планете.

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Последняя жестко навязывает всем субъектам социокультурного мира строго однотипные – гомогенные, унифицированные, единообразные и неизменные правила общежития. Однако, по факту, изначальные основания и принципы глобального порядка и устройства мира – они родились между Азией и Испанской Америкой и Испанией, под иберийским и не англоязычным суверенитетом; все это сегодня открывает нам пути к реальному познанию и пониманию настоящего; и где, например, Китай вновь занимает свое прежнее присущее ведущее место как в мире, так и в конфигурации международного порядка.

Первая мировая глобализация, XVI–XVIII вв. была организована и установлена принципиально на Органицистских условиях и принципах. Таковым, например, служил принцип взаимного уважения : что и позволяло всем участникам глобального взаимодействия не только получать экономическую выгоду; но и реализовывать культурный обогащающий обмен – в целом, успешно осуществлять само-восхождение в сложности своего социокультурного развития.

Alliance between Russian and Spanish speaking countries in a changing world system

Jose Ramon BRAVO GARCIA¹

Whilst the international political system is seemingly evolving into an increasingly “multipolar” order, Anglo-American's persistent hegemony still raises many unknowns not only about the viability of the nation-states' system, but even about its own survival. Hence the pertinence of a discussion on the Hispanic-Russian mutual complementarity both from a diplomatic or economic, but also socio-moral perspective. Based upon the book ‘Filosofía del Imperio y la Nación del siglo XXI’, written by this report’s author just a few months after the start of the special military operation into Ukraine in 2022, this presentation will discuss the hypothesis and potential likelihood of a rapprochement between the Hispanic and the post-Soviet cultural blocs (which type of alliance, the historico-political and cultural reasons, as well as its future prospects), from the triple perspective of political philosophy, socio-cultural history and geo-economic realities of our time.

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Organic Cosmology of Vernadsky and Asian Philosophies

Kiyokazu NAKATOMI¹

I once developed a cosmology in my paper “On the Synthesis of the Theory of Relativity and Quantum Theory” (World Congress of Philosophy, 2008). It is the cosmology of expansion and movement that began with the Big Bang from inexistence. The energy is the energy of inexistence, the flow of life, reality and particles as described by the Chinese philosopher Lao Tzu. This was scientifically grasped by atoms, quarks and neutrinos. This energy, which also includes vacuum energy and dark energy, fills the universe and constitutes the organic universe. This idea overlaps with the cosmology of the Biocosmological Association and Vernadsky. Therefore, the cosmology of Vernadsky overlaps with that of China and Japan and is a universal organic cosmology. The following is the discussion of the cosmology of Vernadsky from the perspective of Asian philosophies. The most important concept is “atomic flow” or “atomic vortex” which corresponds to the flow of microparticles in quantum theory. Therefore, Vernadsky is a proponent of quantum theory, and at the same time, his philosophy of the flow of life overlaps with my philosophy, the cosmology of Biocosmological Association, Chinese philosophy and Japanese philosophy. That is a universal cosmology. He also looked to the universe as the source of life, and constructed his own philosophy of life, different from Bergson's. He believed that life is nature itself and that the universe is the source of life. In effect, he called himself a naturalist after the name of his book (“The Thoughts of a Naturalist”). Chinese and Japanese philosophies, with its love of mountains, rivers, water, and nature, overlap with naturalism of Vernadsky. Naturalism is characterized by the unity of man and nature, the oneness of self and the universe. Vernadsky expresses his naturalism through his respect for Hinduism. In the Rig Veda, Hinduism teaches the creation of the universe from inexistence and this experience of inexistence continues to the discovery of Zero. The suggestion of Vernadsky made us aware of this great discovery of humanity and its infinite possibility.

Keywords: Organic Cosmology, Vernadsky, Flow of life, Atomic flow, Quantum theory, Naturalist. Hinduism, Zero, Biocosmological Association

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**Пробил Час Биокосмологической Ноосферы : к реализации
естественнонаучным путем полного (180°) разворота, от
Трансценденталистского к Органицистскому полюсу – в
Триадологическом реесе-мировом движении и интегральном (в
совокупности целостного взаимодействия антропологической,
социокультурной, экологической и других сфер) восхождении
человечества на естественно (последовательно) новый и высший в
сложности Ноосферный стратум мирового развития)**

Константин Станиславович ХРУЦКИЙ¹

Термин ‘Органицистский’ происходит из греческого (собственно из философии Аристотеля) понятия «ὄργανον» (Organon) : что имеет исходное значение «инструмента» («орудия» и «средства» для достижения цели), в конечном итоге – требующегося результата действия. *Органон*, по сути – это естественное предназначение-функция любого органа (субъекта), одновременно реализующего (претерпевающего) свой присущий *энтелехистский* онтогенетический путь в Биокосмосе. Поэтому Биокосмологию следует считать современным научным и философским выражением как учения Аристотеля и Лао-цзы, так и насущной актуализацией современного мощного Органицистского потенциала в мировой науке. Последний является укорененным в российской научной Органицистской традиции; здесь, в первую очередь, выделяя достижения (так называемой, в Биокосмологической ассоциации) ‘*Большой пятерки*’ русских гениев, проявивших себя в классической цивилизационной теории: Н.Я. Данилевского, К.Н. Леонтьева, В.И. Вернадского, П.А. Сорокина, Л.Н. Гумилева.

В Биокосмологической ассоциации (БКА) : основные положения Биокосмологического «разворота», его основания и цели – все они раскрываются (в подготовленной в БКА) *Биокосмологической Инициативе*; принятой сообществом на 22-м Международном симпозиуме по Биокосмологии (см.: https://biocosmology.org/?page_id=2471) Краеугольным моментом в Биокосмологическом движении выступает (и, соответственно, являет собой фундаментальное основание для Биокосмологической теории) – таковым движущим моментом становится универсальный Биокосмологический принцип *свободного*

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онтогенетического Само-восхождения субъекта на последовательно высшие (в сложности организации) страты индивидуального Эво-онтогенеза (в конечном итоге и в целом – ЭвоПроцесса). Важно отметить, что единый целостный Космический ЭвоПроцесс реализует свое Само-восхождение посредством усвоения как раз неисчислимых индивидуальных эффекторных *Telos*-вложений в общий Процесс – производимых великим множеством активных субъектов; что и составляет единое целостное эволюционное Биокосмистское движение ЭвоПроцесса.

Другим ведущим основанием для Биокосмологического развития выдвигается общепризнанный референциальный базис : это *Органон*Космология Аристотеля, с ее главными принципами *энтелехизма* и *гилеморфизма*, а также учение Даосизма – именно эти основания являются необходимыми в достижении результата успешного взаимопонимания между всеми учеными, задействованными в реализации Биокосмологического проекта. Это особенно актуально, когда ученые активно предлагают собственные оригинальные (следовательно, разнородные) научные концепции; и что закономерно натывается, в преследовании целей общего эффективного взаимодействия – с трудностями при первичном их восприятии и понимании. В общей сложности, проводимая работа имеет главной целью осуществление исторической реабилитации и настоящего развития, но также и достижение реально согласованного и внутренне непротиворечивого (с Двумя другими Типами рациональности) становления фундаментального Органицистского (Биокосмологического) мышления современных ученых. В конечном итоге, все намеченные усилия призваны обеспечить результат – когда современное академическое сообщество придет к пониманию и признает естественнонаучную (натуралистическую – Органицистскую) сущность настоящей и будущей динамики живого мира Земли; и что (будущая реальность) естественным образом являет собой последовательно высший результат Само-эволюции живого Космоса, его ЭвоПроцесса.

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***В рамках МГУ(ФГП)_Конгресса-«Глобалистика-2023»
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