

# BIOCOSMOLOGY – NEO-ARISTOTELISM

Abbreviated key title: *Biocosmol. – neo-Aristot.*

Parallel title: *Биокосмология – неο-Аристотелизм*

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

ISSN: 2225-1820

Volume 7, Number 2, Spring 2017

*Official organ of the Biocosmological Association* – <http://en.biocosmology.ru/>

*Place and time of origination:*

*At the Novgorod State University named after Yaroslav-the-Wise,  
Veliky Novgorod, Russia;  
On the July 24th, 2010*



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A peer reviewed journal

Published by the *Biocosmological Association*, Since December 2010, 4 times a year

Texts of the articles are available in the rubric – “Issues of the Journal”

**Журнал зарегистрирован Федеральной службой по надзору в сфере связи, информационных технологий и массовых коммуникаций (Роскомнадзор) – Свидетельство о регистрации СМИ – Эл № ФС77-43048 от 15.12.2010.**

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## Editorial

The Spring (2017) BCnA-Issue is opened by the paper of Ana Bazac, entitled as “Three concepts in the history of the knowledge of the world (cause, consequence, *telos*) and a conclusion”. In her work, the author aims at a deeper understanding of “Causality as a way of Knowing” and the notion of “Telos”, in its relation to Aristotle’s (super)system of rational knowledge – all this is really topical for BCA development.

“Biocosmology – neo-Aristotelism” Vol.7, No.2-Issue is likewise characterized by the interesting works that were previously planned and expected. These are the article of Anna Makolkin, which is devoted to one of the most prominent neo-Aristotelians of the Renaissance (Pietro Pomponazzi) who promoted Aristotle’s natural philosophy, contrasted with the thought of Plato, thus continuing the ongoing comparative analysis of Platonism and Aristotelism. The title of this work is “Pietro Pomponazzi – the most representative Aristotelian of the Italian Renaissance”. Another worth considering work (that contributes to the important study of Pitirim A. Sorokin’s scholarly heritage) belongs to Vladimir Alalykin-Izvekov, and is entitled “The anatomy of a sociocultural crisis: calamities in Pitirim A. Sorokin’s philosophy of history”.

In a particular way, we express our satisfaction with the fact that two leading Japanese scholars – Kiyokazu Nakatomi and Makoto Ozaki – continue to develop their in-depth research on the achievements of the Kyoto School of Philosophy. Their new works are presented in this Issue, and are entitled, respectively – “The Dialectical Unification of Christianity, Marxism and Japanese Buddhism: on the Basis of Tanabe’s Philosophy of Nothingness”; and “The Asymmetry of Historical Actuality: its Double Focusing Elliptic Structure”. It is noteworthy that in the section “Criticism and Bibliography” there is a discussion precisely on the recently published book by Professor Nakatomi. The author of the review is Georges Chapouthier; the title of the author’s book is “Philosophy of Nothingness and Love (Building a New World of Philosophy)”. The next paper (in the section “Bibliography and criticism”) is prepared by Hans-Martin Sass, its title: “Dynamism in Integrated Bios: A comment on ‘Challenging Integralism’”. In his work, the author reflects on the article by Josef Bremer, Konstantin S. Khroutski, Rudolf Klimek, and Ryszard Tadeusiewicz: “Challenging integralism, Aristotelian *entelecheia*, *hyle* and *morphe* (form), and contemporary concepts of information, touching upon the aetiological issues of carcinogenesis (with reflecting feedbacks of Paul Beaulieu, Ana Bazac, Anna Makolkin, Leonardo Chiatti, Milan Tasić and Dariusz Szkutnik)”; published in the journal *Biocosmology – Neo-Aristotelism* Vol. 7, No. 1 (Winter 2017):8–111.

A special moment is the publication of Book of Abstracts (in the section “Scientific life”) – of the World Congress “Biocosmology and Cancer”, which is held, concurrently with the 14ISBC, in Cracow, Poland, on July 14-15, 2017. 14th International Symposium on Biocosmology is entitled as “Recognizing Teleological and Integralist approaches in contemporary biology, medicine and health sciences; and reinstating Aristotle’s scientific Organicism (Entelechial naturalism, teleological physics)”.

Finally, in the section “Discussion Forum” – the groundbreaking paper of Victor B. Kudrin is placed, which title is “Fibonacci sequence as universal genetic code of cosmos”; herein the author develops the “hyletic” method and approaches the substantiation of “future hyletic information technology”.

June 18, 2017

Konstantin S. Khroutski, Editor

## Редакторская статья

Весенний (2017) ВСнА-выпуск открывает статья Аны Базак, которая озаглавлена как «Три понятия в истории познания мира (причина, следствие, *телос*) и заключение». В своей работе автор стремится к более глубокому пониманию «Причинности как способа познания» и понятия «Телос», и его связи с системой рационального познания Аристотеля – все это действительно актуально для развития БКА!

Этот выпуск также характеризуется интересными работами, которые ранее нами планировались и ожидались. Это статья Анны Маколкин, посвященная одному из самых выдающихся представителей неоаристотелевского знания эпохи Возрождения (Пьетро Помпонацци), который пропагандировал естественную философию Аристотеля, противопоставляя ей «идеи» Платона, и таким образом продолжая и развивая сравнительный анализ Платонизма и Аристотелизма. Название этой работы – «Пьетро Помпонацци – самый представительный последователь Аристотеля в итальянском Возрождении». Другой заслуживающий внимания труд (который способствует изучению научного наследия П.А. Сорокина, что важно для развития БКА) принадлежит Владимиру Алалыкину-Извекову, его название – «Анатомия социокультурного кризиса: бедствия в философии истории Питирима А. Сорокина».

Отдельным образом, мы выражаем свое удовлетворение тем фактом, что двое видных японских ученых – Киёказу Накатоми и Макото Озаки – продолжают развитие своих глубоких исследований в отношении к достижениям Киотской школы философии, и их новые работы представлены в этом Выпуске. Они озаглавлены, соответственно, как «The Dialectical Unification of Christianity, Marxism and Japanese Buddhism: on the Basis of Tanabe's Philosophy of Nothingness»; и «The Asymmetry of Historical Actuality: its Double Focusing Elliptic Structure». Примечательно, что в разделе «Критика и библиография» как раз происходит обсуждение недавно опубликованной книги профессора Накатоми. Автором рецензии является Жорж Чапуотьер, а названием авторской книги является – «Philosophy of Nothingness and Love (Building a New World of Philosophy)». Следующая статья в этом разделе подготовлена Хансом-Мартинном Сассом, ее название «Dynamism in Integrated Bios: A comment on 'Challenging Integralism'». В своей работе автор размышляет над статьей Йозефа Бремера, Константина С. Хруцкого, Рудольфа Климека и Рышарда Тадеусевича: «Challenging integralism, Aristotelian *entelecheia*, *hyle* and *morphe* (form), and contemporary concepts of information, touching upon the aetiological issues of carcinogenesis (with reflecting feedbacks of Paul Beaulieu, Ana Bazac, Anna Makolkin, Leonardo Chiatti, Milan Tasić and Dariusz Szkutnik)», опубликованной в журнале *Biocosmology – Neo-Aristotelism* Vol. 7, No. 1 (Winter 2017):8–111.

Особым моментом является публикация (в разделе «Научная жизнь») Сборника тезисов – Всемирного конгресса «Биокосмология и рак», который проводится, наряду с 14ISBC, в Кракове, Польша, 14-15 июля 2017 г. 14-й Международный симпозиум по Биокосмологии озаглавлен здесь как «Признание Телеологических и Интегралистских подходов в современной биологии, медицине и науках о здоровье, и в целом восстановление научного Органицизма Аристотеля (его Энтелехиального натурализма, телеологической физики)». Наконец, в разделе «Дискуссионный форум» помещена новаторская (открывающая новые горизонты) статья Виктора Б. Кудрина, название которой – «Ряд Фибоначчи – универсальный код космоса»; здесь автор развивает «гилетический» метод и приближается к обоснованию «будущей гилетической информационной технологии».

18 июня 2017 г.

К.С. Хруцкий, Редактор

# THREE CONCEPTS IN THE HISTORY OF THE KNOWLEDGE OF THE WORLD (CAUSE, CONSEQUENCE, *TELOS*) AND A CONCLUSION

Ana BAZAC<sup>1</sup>

**ABSTRACT.** *The present paper provides an epistemological analysis that is related and refers to an ontological perspective because ontology depends on the human being, and on praxis or the human action.*

*By discussing the three concepts mentioned in the title, a relevant review of the history of knowledge is sketched: the history of the understanding of the world, people's manner of approaching the world, and integrating this manner within as part that contributes to its equilibrium and persistence. To be aware of the efforts and vicissitudes of this phenomenon in history means to learn from it.*

**KEYWORDS:** *philosophy, science, cause, consequence, telos, concept, Aristotle, biological determinism, modernity, sociological determinism, anticipation*

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<sup>1</sup> Polytechnic University of Bucharest, ROMANIA.

## Introduction: Warning about philosophy and its treatment of concepts

One cannot underestimate the role of philosophy, particularly in view of the growing strong tendency of the present science tackling the complexity of the world in a coherent, unitary way. It is illustrated by the multiple growing expressive inter, multi and trans-disciplinary studies which reveal the complexity of the world and at the same time its principles and laws referring to the common and the distinct, continuity and discontinuity, similarity and difference, in a more and more fascinating manner. Obviously, modern science demonstrates, measures, substantiates its hypotheses: this is the reason of its persuasive force. But, in fact, philosophy has always and long ago envisaged and “foreknown” many findings of the present science. This is the reason they appear to us as being obvious, “commonsensical”, quite intuitive – and not counter-intuitive –. See, for example, the general characteristics of the all sorts of material objects (from mega to micro, from inanimate to animate) as they are demonstrated by the up-to-date research: between them *The capacity for development, self-preservation and self-organization; the laws of the age stages/phases of object’s life; the rule of ‘block assemblage’ in evolution; the unevenness and catastrophes (gradualism and catastrophism); the coexistence and logic of the typical and the unique objects; the recombination, or the circulation of matter of similar class in nature* [Grinin and Korotayev, 2015, pp. 7-11]; at least the first were anticipated already by the ancient philosophers. The development of the philosophical ideas, their continuity or neglecting (as the Hellenistic *conatus*, that was, however, implicit in Aristotle’s philosophy of organism) is, thus, important not only for the professional history of philosophy, but also for the progress of sciences and, actually, of the present world.

The philosophical concepts – as invention of the *universal* (and even of the *universalizable*, if we do not forget Aristotle’s ethics) – unify the variety and differences, and the world does no longer appear as a farrago, but as ordered and coherent. And this image of the external world is not (only) a question of learned ontological knowledge, even less interesting for the everyday life, but just the argument of the human optimism: people *can know* the world and by knowing, they can *make* it pleasant for *all of them*, and for *nature* as well.

Philosophically, every concept should be questioned. But ordinarily people are taught to not question the concepts and worldviews they bring. In fact, to question is difficult: not only because the concepts are parts of the language-jacket that seems to not allow to see the content; but to understand the history of concepts and reality – as they both show and hide it – needs a holistic experience (that is not transmitted in the mainstream education); and epistemologically, because the concepts are not only objects of inquiry but also stakes and criteria of analysis, and thus a kind of logical circularity makes people feel uncomfortable.

The philosophical analysis may be done on the basis of different assumptions: the same concepts may, eventually, be used as veils of the reality they pretend to disclose, for the bearer of such analysis deduces the reality from the hidden standing through these concepts. On the other hand, the non-speculative way of thinking uses the concepts just for understanding how had they been constructed, what reality did

they “represent”, and what increment had been brought by their use for the knowledge and actions of the human beings. Actually, every concept should be treated in this “pragmatic” manner that questions and emphasises its *telos*.

This means that philosophy discloses and attacks the *reductionism* professed in the mainstream education where the concepts are used as promoters of simple alternatives /disjunctions which would be the only comparable situations considered by the decision-makers in the present domination-submission based world society. In turn, by questioning the concepts as such, philosophy shows their potential to light that there are not only two alternatives, the bad and the worse. But for behaving in such a manner, philosophy must no longer be the *ancilla* of power relations: not even in an unconscious manner.

Seeing the present state of the world, we all are horrified and at the same time amazed at how the *Homo sapiens* could torture and destroy himself and his environment. On the one hand, he is the only possessor of logical intelligence on the earth, arriving to create artificial objects and the marvellous world of culture, as well as to project and act in accordance with values of love and generosity beyond the individual’s circle; on the other hand, the overall results of this premise are more than ‘contradictory’ – as some ones like to turn away from the intolerable face of the humans’ deeds –: they are malignant to annihilation, since the moments of joy – as *joy of life* as, ultimately, *joy of creation*, in Bergson’s terms – are overwhelmed by incommensurable suffering and unnecessary and untimely deaths [Polya] and devastation: where the nuclear winter is only the model [Mills, Toon, Lee-Taylor, Robock, 2014; Starr, 2016] of the condition of definitive disappearance of the *germ* plasma, thus of the *immortality* of man and living beings [Wald 1970].

Obviously, philosophy may emphasise the paradoxes of this state of things, and may describe the various aspects of the dialectic of life and society, but – since it aims at grasping the significances of all of these aspects – it does tackle their *whole*, developing the *concrete* universal/concept (let’s remember Hegel), and especially the relations between their *knowledge* and the human *practice*: the different and reciprocal transitions between *knowledge* and *action*.

In this regard, the present paper provides an epistemological analysis that is related and refers to an ontological perspective, because ontology depends on the human being, and to praxis /the human action.

By discussing around the three concepts, mentioned in the title, a review of the history of knowledge is sketched: the history of the understanding of the world, of people’s manner of approaching the world, in order to integrate this history within as a part that contributes to its equilibrium and persistence. And to be aware of the efforts and vicissitudes of such interpreted history means to learn from it.

## 1. Causality as a Way of Knowing

### 1.1. *From the Mythical Abstract Causality to the Philosophical One*

According to Aristotle, to know is to *apply* the cognizance – actually, as the ancient Greek epistemological optimism praising the human *logos* resounded, if one arrives to know (this, again, meaning to know the truth, otherwise we cannot speak

about knowledge) one will act accordingly –: otherwise knowledge is barren, ineffective, even inexistent, or existing only *potentially*. Or things, between them knowledge, exist only in *actuality*, their essence is manifesting only as *actuality*: only in this actual/realized form are things – and certainly cognizance, the ideas – describable, approachable.

As we know, the first idea about the surrounding environment was that of its existence: it was, that's all. For the humanisable animals/humans the problem was to fit to this environment and to survive within it: namely, to use the gifts it offered and to put the different natural *things* (stones, branches, animal skin) to do what the humans could not do/not in due time/not as easily and quickly they needed: thus, to transform them into *objects* (having human ends) [Canguilhem, 1952, p. 105]. All of these (the idea, the contemplation of nature, the effort to live, the manufacturing of tools) have occurred within the human society, through the *relations* between humans [Marx, Engels; but also Soete and Dobbelaere, 2016]. Indeed, the fabrication and use of tools is highly intertwined with/even depends on the “communication to others, particularly in the succeeding generation, of the know-how” [Medawar, 1973]. In this process has the *logos* developed, because to *communicate* means at the same time to *learn*, and for learning humans have developed all the signs, including the articulated ones. By transmitting words, the humans have increased the *cultural* world they had created, including with the specific “world 3” (of concepts, ideas, logic), as Popper has named it, and this specific world, the intellectual instruments, have progressed geometrically until to the level they seemed to be *autonomous* towards humans. And, in fact, they are, determining the physical existence since everything significant for man exists through the medium of ideas – and their expressions – about it: but the autonomy is relative, as it's easy to understand, because no idea has a transformative power without being promoted – directly and indirectly, through artefacts and artificial intelligence – by humans. Consequently, no harmful (and logically harmful, even purposively harmful) facts might be imputed to other beings than the humans, or to entities without (the existence of) human beings.

By answering to the external conditions in a more and more *human* way – i. e. social and spoken, by communicating, memorizing, creating objects, being empathic and collaborating, thus developing the social *logos* that gave the *discontinuity* of man [Silk et al., 2005; Vonk et al., 2008; Henrich, 2008; Brosnan et al., 2009; Riedl, Jensen, Call, Tomasello, 2012; but especially House, Henrich, Brosnan, Silk, 2012] towards the *continuity* of emotional/emphatic behaviour in mammals and anyway in primates [McGrew, 2004; Mirabella et al., 2007; de Waal, 2008, 2010; Frey, Störmer, Willführ, 2010] – the humans have behaved as a *collective brain* and have developed their ideas about the world [Muthukrishna and Henrich, 2016]. These ideas reflected particular, specific relations with specific things and objects in their environment and have emphasized *concrete particular* causal links. But at the same time and in the process of cultural evolution, humans have arrived to *abstract* concepts, generalizing the particular causal networks. And because they did not know but direct and visible phenomena, and because the most intuitive pattern of thinking was that of the human relationships, firstly, they constructed a *mythical* view where the unknown *causes*

were *animated* forces – as they, humans, were – and the need to be protected and cared as well as the power of protecting and caring were transfigured as omnipotent spirits/ later gods.

Therefore, what we are to understand here is just the idea of *Cause* and its development.

### **1.2. Aristotle's new paradigmatic way of tackling causality**

The *mythical* causality was the first type of general, abstract causes. But, if on the one hand, the mythical causality stems the questions (the theoretical solution being given), on the other hand, it is insufficient: if people wield their reason.

Thus, the second type of general, abstract causality was the *rational, philosophical* one. Yes, gods had generated the world of humans and their whole environment, but once existent, this world had to be explained with mundane causes, since the humans have logic, intentions, unforeseeable reactions but also values and conformist penchant [Henrich and Boyd, 1998; Muthukrishna, Morgan, Henrich, 2016]. Thus, the humans as such construct their world, once it is given.

The philosophers wanted to understand the actions of the humans but also their natural environment only through the exercise of reason, or only “within the bounds of bare reason”/ “within the limits of reason alone” as later on has Kant expressed this will of philosophers.

Consequently, they did not stop at the mythical solution of gods as creators of the world, but have imagined: 1) some last concrete *material* bricks/causes (as Thales, Empedocles, Parmenides, Heraclitus), or *matter* as an abstract concept (Anaximander, Antiphon, Zeno of Citium, Zeno of Elea), or *matter* as substance (Aristotle), or *matter* as atoms (Leucippus, Democritus, Epicurus), 2) as well as the original transformative *forces* (love and strife, Empedocles). So, on the one hand, the philosophers as people who went further than the appearances grasped with the sense organs, have put the problem of the *origin* other than the gods; as a result, they have gradually constructed the above-mentioned tableaux where, since they were interested in the *origin / principle* (ἀρχή)/ roots (Empedocles) / seeds (Anaxagoras), they logically or normally had arrived to the *material substrate / cause* of the visible things. On the other hand, the philosophers felt that only the material substrate was not enough: the problem was to move and transform this substrate. The old mythical theism solved the problem by claiming that the gods had this power, and the entire primitive animism, considering the existence of a spirit in every material thing, was the basis of this ancient religion.

But the logical construction erected by the philosophers has annulled the religious view, rather “returning” to animism: as explaining factor, the material principle was prior than a mover since, in order to move something, just this something was needed, was it not?, but *the moving force was not separated from the material principle*. Neither water nor fire, nor the other elements, including the atoms, are motionless and inert, but just on the contrary. Hence, from an *absolute* ontological standpoint, one could have thought, as Thales, that “the world is animate and full of divinities” [Diogenes Laertius, Book I, 1, [27]]: but here 'divinities' were

no longer objects of adoration, but *principles within the material one/the material world*.

From another, *soft* ontological standpoint, the original elements – fire and earth, as the creator and the matter (Parmenides) – are but elementary/rudimentary components within people’s simple deductive imagination. In reality, the human *thinking* is capable to understand the *principle* of the world, beyond every immediate or sophisticated principle: the fact that this is *one*, the *existence* or *being*. Even though people think that it would be about two opposite states/substances [Parmenides, a. VIII, 50, 55, and IX], in fact the existence is *one*, and it is so just because it is *thought* (since what cannot be thought does not exist [Parmenides, b. 6. 1-2, 8.3-10]): *not-created*, *indivisible* as a principle, and *stable* [Parmenides, b. 8. 29-30]. The same is in Heraclitus who spoke about the *logos* (reason, order) inherent to matter (fire)/inside it/the world. The same is in Anaximander who gave us the first philosophical concept of matter, *the unlimited/ άπειρον* as abstract principle.

And so on and so forth.

### 1.3. *The new bricks of the existence*

On the other hand, the problem of origin as *model of thinking the world* was not only to arrive to the last material substrate and the force driving it – something too unrelated to the real world, is it? – but to give a more concrete emphasis to *what is in every thing and behaviour/action*: i.e. to pass from the first bricks – the substrate and its mover – to the model of *the concrete*. Here, Aristotle was the founding genius:

- yes, there are the five elements (fire, earth, water, air, ether) which may move themselves without an external force when they are in a different place than their initial one; but these are only original manifestations of the substrate matter (that is an abstraction, don’t forget) – *ύλη /hyle* – and do not explain what the concrete things are; these things – all the things/phenomena/actions, a quite revolutionary standpoint since it unifies the inanimate and the animate – are always concrete, then they cannot be explained only with the abstract principle of matter, even if or even more it is reduced to a concrete appearance as water etc.;

- therefore, the new concepts introduced are the *form* that gives the concreteness of every thing and – pay attention – not the substrate matter, but the concrete matter of every thing, the *substance*; the essence of the substance – *ουσία* – is just that the concrete things exist (so it’s no longer enough to speak about the substrate matter) / that the existence has different appearances; therefore, every thing is the unity of a certain form and the substance. A bed is its matter, the wood, *and* its form. Not the concept of substrate matter is interesting – since it does not lead to the understanding of concrete things – but the concept of substance; while the form is the general model/scheme/quality of every thing; and because things even in the same class are different from one another, there is also a “form of the form”, the concrete form (*σύνολον*)/ the archetype of that thing, that gives its specific;

- it is obvious that not this archetype (for instance, a certain style of beds) explains the essence of a concrete thing, but its form that is the *specific functionality /quality* of the thing (that people are lying and sleeping on the bed). Nevertheless,

σύνολον / the concrete transposition of the form is almost as important as the form: because only the general functionality is not enough for explaining the essence of things: for example, “if we intend to construct a bridge, we cannot design the structure of the bridge without cognisance about the environment, conditions, specific tasks, material possibilities and alternatives: thus without designing *ab initio* the bridge according to all of these which require and generate a *specific* set of qualities (‘form’) of the bridge”, “or that of adequacy of medical protocols (the form) to patients (matter) – adequacy manifested through matching the protocols to the concrete patient (resulting personalised treatments/ σύνολον)” [Bazac, 2014 and 2015a].

Substance, form, σύνολον are (abstract) *concepts* explaining the concrete things, and they are helped by other concepts about movement: *actuality* and *potentiality* (δύναμις), the movement/transformation/actualization (ένεργεία) of concrete states/objects being just the transition from potentiality to actuality; the movement itself is έντελέχεια because it has in itself the finality of that movement, and the result of movement /actualization is the complete and stable state/έντελέχεια, also.

Therefore, there is an order/reason of things that may be understood with, ultimately, an abstract logical causality. This causality – determining, in fact, making intelligible the movement – is showed by the *logical force/reason* that, though born by the human mind, can be logically separated from it, as it can be separated from the things thought by it: in this sense the Reason appears as *primum movens immobile/suprema causa*, as a “divine” substance deriving “its *excellence* from the act of thinking” [Aristotle, 1989, Book 12, 9, 1074b24; my italics] and being (somehow preceding the Kantian epistemological turn) as a “thinking of thinking” [ibidem, 41-42] or identity between the thought objects and the thinking as such [ibidem, 1075a5-7]. Just and only the reason can grasp and, at the same time, create the reason/logic/order of things and its principles and “laws” (form, matter, concrete matter, σύνολον, transition from potentiality to actuality) /the necessity that govern the whole existence. The creation supposes also the emphasising of abstract philosophical causes as origin/tools of the general understanding of things, or as their general framework.

#### 1.4. The four causes

However, only the above-mentioned principles are not enough to explain the concrete things/substances, as well as their constitution and transformation. Therefore, the general principles were only the one of Aristotle’s preoccupations: because philosophy cannot remain science – έπιστήμη, scientific/reasonable emphasising of the causes of things, thus covering a specific domain of knowledge, presenting this domain (of reality and its knowledge) in an ordered, coherent manner – if it stands on only within a heaven distant from reality. Consequently, the Stagirite has developed the well-known theory of four causes: the material, the formal, the efficient and the *telos*.

Obviously, it's not necessary here to elaborate them. What is important is that their development was realised in the process of scientific research: of many domains (the inanimate and the animate, the human relationships in various frames).

From a standpoint, this was the inherent evolution of philosophy: from abstract sketches to concrete researches, and in this respect Aristotle was the great personified standard of this process. The scientific knowledge was not only philosophy but sciences too, both opposing to the mythical comprehension, irrespective of how interesting are its intuitions and how significant its metaphors.

On the other hand, philosophy was/is an intelligible construction, not a counterintuitive one. To remain in the heaven of abstractions meant to get away from the requirement of intelligibility and necessity for the real life of people. And sciences too have evolved from observations and intuitive explanations to even counterintuitive ones but – as Aristotle has pointed out – which represent new and more appropriate deciphers of things, new viewpoints illuminating the *complexity* showing itself as the unity of or the unified “strata”/domains/”levels” of reality. Actually, there is about new aspects and significances of the visible and intuitively intelligible “strata”. What is important is to not remain within abstract disputes and obscure jargons which are not intuitive or intentionally remain non-intuitive: Aristotle’s lesson should not be forgotten nowadays.

All the four causes were demonstrated by Aristotle in his scientific fathoming of the inanimate physical things as well as the animate beings. The first two causes were the main goals of the modern sciences, together with the third one that has put man as creator of objects as the only demiurge on Earth. Only the *telos* delayed from the philosophical and scientific images of the world.

## 2. The consequence

### 2.1. *Common Sense and the Aristotelian Interdependence*

The second concept is the effect or consequence. Obviously, it is related to the cause – as Hill [1965] has reminded us again from the standpoint of medical statistics, then of scientific research: that the effect size of causes does not annul their existence. When the size is small, the proof of effects is dependent on the reproducibility of experiments, and the association between factors and effects must be specific. Also the temporal succession between phenomena puts the problem of causation of the latter from the first ones when the succession is repeated (and may be measured). And the concrete relationships between phenomena may emphasise the causation, and the causation mechanism must be plausible (but certainly it is related to the level of cognisance), and the controlled experiments must be coherent with the empirical findings. And “in some circumstances, it would be fair to judge by analogy”, and sometimes the tests of significance “are totally unnecessary – because the difference is grotesquely obvious, or negligible, or because, whether formally significant or not, it is too small to be of any practical importance”. This last idea was suggested by Durkheim in reference to the sociological explanations where the empirical research is not useful when it supplies new examples that add nothing to the theory [1967, p. 77] – but, as we know, regarding the order/succession of

empirical research and theory to each other, there is a difference between their both common and first scientific grasping and, on the other hand, their logical position both in philosophy and science.

People have begun understand how things are, from effects to causes: the first visible data were the rustle of leaves and the waving of grass, and only after the causes, the wind or the movement of animals. Aristotle observed the parts of animals and then, on this basis, their intertwining and presumable reasons of this fact. Actually, the old popular tradition of 1) beginning with the effects, 2) mastering the causes and 3) relating causes and effects in a *unitary* view, was assumed by the ancient thinkers.

The outlining of the four causes has demonstrated that Aristotle knew [Aristotle, Book V, 2, 1013b, 1014a] that: 1) all causes are not only inter-related but also they are different aspects of the *same* thing/phenomenon; 2) then, the causes are coexistent, because they are different aspects through which we approach things and they are presenting to us; 3) more, each type of cause is somehow the cause – and this means, the *effect* – of another/of the other types of causes; 4) consequently, from each cause derives an *effect* that is only one face of the thing; 5) the causes may be mutual, but not in the same sense; 6) the causes may determine contrary effects, as well as the presence or the lack of causes; 7) there are simultaneously immediate, intermediary and distant causes, or – from the standpoint of their importance in the constitution of the phenomenon – particular and more general causes towards which the first are subordinated; 8) there are necessary and accidental causes, but 9) all this kinds of causes overlap, 10) and they may be potential and actual.

## 2.2. *Linear consequences*

The modern sciences have developed the succession cause-effect in the *inherent* linear way because they were at the (modern) beginning of scientific research. Thus, they *fragmented* reality and, while scientists as such never forgot the surrounding environment of the considered fragment, the general *Zeitgeist* was that only the results of the fragmented views were “The science” and mattered. Every research has put in parentheses everything was outside the object of the research, and consequently a *reductionism* has evolved: just opposite to Aristotle.

In this framework, the *precautionary principle* that is indestructibly related to the scientific spirit – since knowledge aims first at not harming and thus, at improving people’s understanding and actions in the world – was *neglected*, and sometimes in an absolute manner.

There are, obviously, *epistemological* and *sociological* causes – they themselves interrelated – of this fact. By being a tool of power within the domination-submission social relations and organisation, thus by being appropriated by the leading strata, science became firstly the tool of *private* power: so, the effects of things were considered through the lens of their usefulness for the private interests. This is the reason of incessant scientific search for more, more, more private profit.

By being subordinated to the precautionary principle, science considers the *whole* well-being of the system taken into account, and certainly of man, but the

private instrumentalization of science means to look at the private interest as much more valuable than the system. After witnessing the tragedy of thalidomide, Hill [ibidem] could warn that “on relatively slight evidence we might decide to restrict the use of a drug for early-morning sickness in pregnant women. If we are wrong in deducing causation from association no great harm will be done”, i.e., the results of the scientific discoveries must be parsimoniously applied before their reverse being gainsaid, as the true experiments ascertain their truth according to Popper: what is more important than to apply, is to not harm.

And that does not mean to stop the scientific research and the spring of technology: the good is not in the past, but in our capability to fit the discoveries to the requirement of harmonious development of the whole.

But as we know – and with all the warnings of some scientists –, the precautionary principle of knowledge collides with the private control of science. There is, obviously, an anti-precautionary tendency in the scientific research – one is interested to see and to arrive at the last consequences of the theory submitted to experiments – but this tendency could be harmful rather to researchers than to the general public, since not only the theories about causes, but also the effects are experimented (as in medicine and pharmacology). The hurrying of scientific procedures, the neglecting of counter-evidence [Novotny, 2015] (till to making vulnerable the theories [Arabatzis, 2012]), the fake scientific research [Ioannidis, 2005], and the promotion of insufficiently tested/non-tested products [Benson, 2015] are not at all the ‘inherent’ consequences of the present scientific era/of the ‘omnipotent technology’, but of the private control over science and technology, including over the logic of academic world: more precisely, of the subordination of the logic of scientific research to the logic of quest and war for profit.

Therefore, in the modern science the effects were treated in an *isolated* and narrow manner (as effects of reactions and processes, direct, rather immediate, and anyway out of context), as the causes were. The multiplication of causes, i.e. the analysis of phenomena from different and more and more points of view, has enriched the tableau of consequences, but they were treated separately, because the main purpose of scientific research was to construct scientific disciplines with their own tenets, measurements, serious verification, theories and autonomy of each other.

### ***2.3. The “post-modern” science: the multi, inter and trans-disciplinary studies of causes and consequences***

The agglomeration of the results of the modern science has led to its crisis, i.e. the evidence of contradictions between different results. Consequently, a paradigm shift has occurred: from the absolute separation between the subject and the object (see the difference between natural sciences and humanities [Bazac, 2015b]) to their Kantian tradition Einsteinian intertwining; and from this a more and more holistic approach has evolved (faster [Khroutski, 2014] or slower). In the trail of the *suggestion of holism*, many new fields/disciplines have appeared: actually, the majority were/are only “studies”, because, first, they do not have specific laws, methods, even objects, since they are only new standpoints about existing

objects/domains, and secondly, they are in the phase of accumulation. At any rate, and although some studies treat a wider range of causes and consequences than before but nevertheless isolated from other ones outside the given multi and interdisciplinary area of research, the most fruitful results of the present science are just those of inter, multi and trans-disciplinary view. The modesty of their own self-denomination – as “studies”/relations between different fields of reality and research (as biophysics etc.) – only hides the big results that reveal new *laws/deterministic regularities* [Vogel, 1996; Bejan, 2016], just opposed to the superficial understanding of post-modern science as statement of indeterminism.

And what is equally important is that only through these studies can we understand that the consequences should be treated in an *integral* way: just because the real phenomena are integral, forming the *holos*. In this perspective, it appeared that only now, as a result of this manner to treat phenomena and consequences, have we understood what before would have been unimaginable: for instance, that good things/signs of progress, like (too much) lighting, cause harmful effects too (light pollution [Bogard, 2014]), or that the air pollution produce harmful effects not only on the respiratory tract, but also on brain and behaviour [Fonken et al., 2011], or that the modern development produces harmful effects in the natural environment [Van Damme and Banfield, 2011].

We arrive to understand only now, but at the same time the exogenous conditions of science hinder us to apply this knowledge, and even distort it: see the use of psychic enhancement in warfare contexts [Nelson et al., 2016].

The warnings, the *holistic* view, the awareness of harmful feedbacks of apparently good phenomena were developed already in the second half of the 19<sup>th</sup> century (Marx) and in consonance with the latter Einsteinian overthrowing of the naively optimistic image about the modern transformations [Lankester, 1920]. And since in the first half of the 20<sup>th</sup> century the traditional separation of disciplines and the overconfidence in the progress of capitalism as the only system accommodating to the human nature were dominant, different scientific views about causes and consequences were accidental and, as a result, their lack, including the lack of the holistic view in science, was substituted with philosophy. But there was a good philosophy – as Whitehead’s *Process and Reality* in 1929, and Hartmann’s ontology of levels of reality – and a bad one that considered that metaphors about the deep mystery of the world in front of which the human being is an absolute vulnerable entity would be the solution to criticise the state of sciences and social relations, and to offer “the truth”.

At all events, the delay of holistic approach of consequences has led to their aggravation: as the world looks today.

### 3. The *TELOS*

#### 3.1. *What it is and is not*

The less focused on problem in the history of scholarly knowledge was – and still is – the *telos*. This is the *reason to be* of things: the question put in order to emphasise it is not “why”, and less “with what result”, but “what for”. This question

implicitly includes the causes and results of things or phenomena, but overtakes them because it unites them *and* the final states of things or phenomena. The *telos* has an explicit holistic sense.

Consequently, though the *telos* may be simplified as *function* – since the function as such sends to holism, because the function of a thing does not consist only in its preservation (taken isolated), but in its preservation *within* the whole/system it is part of, so in the preservation of that whole – actually, it is more than function: for the function is only *a means* for the realisation of the *final state within the whole*, therefore supposing internal harmony of this whole. To ask “what for” means to understand (or question) “for the sake of what”, as Aristotle said, is the thing, or is the existence as such.

The “what” from the above question (“for the sake of what”) signals just the reason or *logos* or order of things: in accordance with the human reason. So: for the sake of the accordance with the human reason. Yes, on the one hand, the objective *logos* of the world is anterior to us and may be understood if we are logical persons. But on the other hand, since without being reasonable, thus without treating the existence in a rational manner, we do not understand it (or the things do not exist *for us* without focusing on them, being aware of them and trying to understand them), it results in that, for Aristotle, the correspondence between the *logos* of the world and the human *logos* may be tackled from any standpoint assumed, the above-mentioned objectivist one or the “Kantian”/constructivist one. The human *telos* is just reason, has Aristotle showed, i.e. since every thing have a specific (a “function” as *specific activity* of the living beings [see Aristotle, 2000, VI, 2, 1139a 18]) and in fact without this specific there is no reason the thing to exist, then the human specific is reason. And reason means to do every deed reasonably, i.e. *as good as one can do*. Simply put, to do one’s best, and thus, reason means both virtue/excellence and to think and to make the good.

Consequently, the *telos* can be reduced neither to the fragmented and isolated causes nor to the subjective motivations of fragmented actions. And obviously, it does not exist only in the virtual intentions: since the good is manifesting only in the actuality of things and actions.

### 3.2. *Telos and Science*

As already mentioned, the *telos* was rather exterior to the preoccupations of both philosophy and the modern science. Forgetting the forefather’s creation of the concept, both science and philosophy were interested in the “why” and, to a lesser extent, in the “with what result”. The few exceptions (as for example, Spinoza) have suggested a holistic approach (see Spinoza’s *multitudo*/community that was not a grey uniform mass but “a *plurality which persists as such in the public scene*, in collective action, in the handling of communal affairs, without converging into a One, without evaporating within a centripetal form of motion. Multitude is the form of social and political existence for the many, seen as being many: a permanent form, not an episodic or interstitial form” [Virno, 2004, p. 21]).

Indeed, why does the thing exist? What is its reason or *telos*? It is not the immediate individual end of man considering that thing – that is, the thing does not exist because it is an individual instrument, but as a part in the world over which the whole world and the whole human community had and have an approach governed by the *Good* of both the whole and its parts: all are related to all and are for the sake of the *whole* [Aristotle, 1989, Book I, 982b 1-5, 7-8; Book XI, 10, 1075a 17-27]. If so, the *telos* – as the other two concepts, moreover – requires and professes “pluralism”: to consider and recognize other individual standpoints, other approaches.

The research of things is thus the research of the Good: i.e., one cannot research without being aware of the Good of things. However, as we know, a big part of researches has neglected this. A “quantitative” aspect in the research of things according to their *telos* (and not according to their causes) is important: the equilibrium, the “mean” in Aristotle, shows the harmful character of the *too much* and the *too little*. As the equilibrium, the excesses, too, were and are historically determined, but epistemologically they have appeared because the research has not considered and related the things within the whole, but according to fragmentary, isolated and many times individualistic interests. The delay of the consideration of *telos* has generated the bad plight the world is.

### 3.3. *Telos and anticipation*

To consider the causes and consequences only in the habitual fragmented view about fragmented objects means to have no ability to anticipate. Anticipation – that is a perspective in which one goes from the future to the present – is not tantamount to the projects and projections of objects / prefiguring the future states, as this venturing was and is traditional in any engineering (Nadin, 2015). The projecting / designing, as bio-physiological human ability within the process of knowing, is related to *every* human beginning of effort to know and act: thus, it is naturally focused on *individual / fragmented* things. However, because of the social character of man, the projecting is not only fragmented, and in the process of communicating, knowing, acting (and fabricating tools) and relating to each other in empathy, the general concepts and views have evolved: man is not (only) a selfish animal, it is – as Aristotle has demonstrated: the only animal who “has perception of good and bad and right and wrong and the other moral qualities” [Aristotle, 1944, I, 1253a 18-19] and thus, although “Men think that it is in their power to act unjustly... really this is not so... to do them as a result of a certain disposition of mind is not easy, and is not in one's power” [Aristotle, 2000, V, 13, 1137a 6-7, 10-11] – a social rational being/rational social being. The *telos* of man is to behave in both a rational and social manner.

The concrete manifestation of the *telos* of man is to construct ideas and transpose them in such a way as they fit to and realise a world lasting, coherent and pleasant to *every* human being. The concrete manifestation of the human *telos* is not at all to simply project objects. Not in this enterprise consists the human *telos*. Consequently, the anticipative power of man goes *beyond the simple projects* – which transpose the individual will, fantasy and knowledge into a desired, ideal model, thus which go from the present to the future – and its development challenges the

egotistic, fragmented view that equates anticipation and projection: anticipations suggests and needs *holism*, and arrives to be holistic.

As we know, according to Aristotle, action/activity (as transition from potentiality to actuality) was considered as decisive for the human being, its internal harmony as well as its harmony with the world. And this harmony needed a clear image of and search for the harmony of society as such, as an environment conducive to the exercise of excellence of all men. Obviously, the human activity means to humanly know, and if possible – as the model of philosopher shows – to know the causes and *teloi* of things. The crisis of the ancient world led to the idea of bracketing this requirement of necessity and possibility of deep knowledge and consistent activity for the sake of society: the only salvation of man was the individual, fragmentary, isolated reasonable projecting and deeds.

The birth of Western modernity was related and led to the celebration of the *individual* projection of welfare. But Adam Smith has warned against the reductionism of this view and emphasised the necessity to compensate the harshness of private property with virtuous sentiments regarding the whole community [Smith, 2010-2015]. The warning was, obviously, not considered, and the egotistic view has prevailed and, inherently, criticised from different standpoints (see Kierkegaard and Nietzsche). However, the maturity of criticism is acquired when there are also (theoretically substantiated) solutions (as in Marx who did not work within the frame of the speculative philosophy that relates only concepts; he paid attention to the existential conditions of the human action, knowledge and morality, and thus he solved the concepts through *practice*): and this means, at the level of our discussion, to search for and understand the causes, the consequences and the *teloi* in a *unitary* and *dialectic* perspective.

Anticipation means to be aware of the *mediation* of concepts (and, generally, representations about the world) between the world as such and our conscience that arrives to the conclusion that things exists and they are only in the way described by concepts: as Marx pointed out the *ideology* in both its meanings as false conscience and conscience according to the concrete complex social positions of people, and three decades later Nietzsche the *mechanistic* and at the same time *idealistic science* [Nietzsche, 2001, § 112, p. 113]. Actually, the interface of concepts which are constructed – as not simple mirrors of the objective world – imposes our *fatalistic* representation: “this is life”, “the world is as it is given to us through the stories/concepts automatically assumed by us”. However, “life is not an argument” [Nietzsche, 2001, § 121, p. 117], so not all our reactions to the world are “natural”.

Therefore, only by understanding and realising the *telos* of things can people anticipate in a both rational and realistic way. Although only when the bad consequences are agglomerating, do people begin to think to the reason of things – thus, until this moment they made projects without caring about their global consequences (or even ‘externalising’ some consequences/costs – and this is the logic of private enterprise) – actually, only by thinking *first* to the *telos*, and so to the general consequences, and not only to the individual and immediate, may people

have a coherent and anticipative view about their presence in the world. And obviously, the anticipative view is good only when it is suitable for the human *telos*.

### **3.4. The universal telos and teleological drive of entities does not annul the freedom and responsibility of man**

As it is already demonstrated, the teleological impulse in the existence and movement of entities – from quanta (see the Romanian S. Comorosan’s researches), atoms, molecules and cells to the social structures of living beings and humans – is not an absurd anthropological reduction, because the reality of entities is composed not only of *matter* and *energy*, but also of *information* [Goodwin, 1978; Kováč, 2006; Suteanu, 2013; Klimek, 2014). And since information means relation and reaction, it means also “learning”: and “learning” means to adapt to the conditions of existence, i.e., to being in-formed again through this “learning” and to in-form the milieu as a result of this “learning”.

The manifestation of information in the micro-world (quanta-cells) generates, on the one hand, the impression that “matter” is living (thus, the transition from an-organic to organic matter would be denied)/matter is conscious/the spirit is before matter; and on the other hand, the successive understanding of “interaction” of these (only?) three modes of the existence (matter-energy-information) at the level of micro-world is of cardinal importance for the explanation of behaviour of the living macro-world. (For instance, today we got to know that molecules have memory generated just by the flux of information and its feedbacks at the sub-cellular level, and that this memory transposes as memory of cells and organelles, that there are areas and networks of cells (neurons), as well as connections, responsible for/projecting at the surface/visible level of consciousness different types of memories, representations (as mirrors of reality), conduct. But what amazing was before this knowledge to contemplate that dogs and cats playing with little children who sometimes took them in a painful manner knew very well that the intention of children was not bad. Today we begin to know how is this possible [Schmelz, Call, Tomasello, 2010; de Waal, Ferrari, 2010].

We thus arrive to understand the *basis* of what is common in the behaviour of animals (mammals) and man. We arrive to understand that at the surface, the behaviour – that is complex – would be only the reflection of the deep processes. The design of these processes, though they are multi-levels and a cobweb of relations, is nevertheless simple: because the aim of every entities and complex of entities at this micro-world is to persist (*conatus*), the development is always thrifty/economical, i.e. follows the minimum effort. This model of design is transmitting in the entire natural world: we could formulate even the law that *the natural construction is always minimalist, except the cases minimalism doesn’t work or is harmful for the entities*.

But if many deep processes are similar in the animal and human world, we might assume a certain mechanistic theory of the fundamental determinism that governs us, humans, too. However, this assumption is false: because as the level of complexity increases through the new and new interactions (and “learning”/adaptation) of the forming macro-world (organs, organisms, structures of

living organism) with the environment, as the superior commandments prevail over the inferior ones. One does not explain the human behaviour through the information processing at the level of molecules and cells – nor at the level of matter processing in the chemical interactions and the constitution and function of some specific molecules as the proteins –, but at the level of complex social relationships. And though the molecular biology is more and more explaining consciousness – even, again, the objective teleological phenomenon at the level of biomolecules [Spasov, 1998] – the *human behaviour* is determined by the superior level of reality, the “world 3”, as Pooper has said. Namely: even though the explanation of the biology of living beings has to integrate the physico-chemical explanations (thus, the epistemological pattern is here from the lower to the superior levels of organization) and the teleological ones which proceed from the intrinsic superior/teleological commandment of molecules and cells to the lower level of physico-chemical relations [Spasov, 1998], this teleological commandment involving information, the explanation of human behaviour, viz. language, meanings, the entire world 3, affects, attitudes, action cannot and must not be reduced to the lower basic bio-physico-chemical and informational level.

The human *telos* may well reflect the fundamental *telos*/the “good” of every material entity/even every energetic circuit at the most basic level, but it is not at all reducible to it. Even the human *conatus* is determined by the human conscience/*meanings* created within the human conscience which supply to man the reasons to live. And as the human *telos* cannot be reduced to the other causes – or, for example, to the subjective motivations/intentions of individuals – as it cannot be reduced to the *teloi* of the hierarchy of elements (from quanta to organism) which constitutes man.

Consequently, information at the basic micro-world level is not tantamount to the human meanings created in the historical and social development of cultures and societies. Just these meanings – and the struggle between so many meanings – are forming the different human *teloi*/beliefs concerning the *raison d'être* of creations, policies, relationships, behaviours which explain, ultimately, the limits and *freedom* of man; and its *responsibility*.

Nowadays, freedom and responsibility do no longer reside in fragmented “decent” viewpoints about the world: the present information already warns against the *geocide* committed not “by man” (so not by all human beings, as in the speculative modern philosophy that has criticised the inherent fall of man under the power of objects/technology), but by *concrete* “people in charge of world affairs”. And if so: a counter human force is needed [George, 2016]. Nowadays, this obvious conclusion – in the trail of Marx and Lenin – is more on the fore than even before. As well as the momentary function of the countering human force: that of being first a “destituent power” that deactivates the present governance and law [Agamben, 2013]. But if this function does not transform *in due time* in a “constituent power” able to construct a better and human law, and even though the objective conditions of a radical transformation in order to institute the human *telos* are ripe, “society decays, and this process of decay sometimes drags on for very many years” [Lenin, 1905].

### Instead of conclusions

The concepts are not “isms”, covering the things and being objects only of TV chats in the model of Hermann Hesse’s Feuilletonistic Age (*The Glass Bead Game*, 1943). If the concepts are used as veils of the real – and not as instruments of disclosing it – they hide the complexity of causes and consequences of facts, as well as the main cause of this hiding and of the disintegration of intelligibility of the world with the tools of reason: the private property and the domination-submission power relations. In the present sketch, this cause transfigures in the *inexistence* of the *respect* and *ensuring* of the human *telos*.

Though the epistemological causes of the neglecting of interdependent causes, consequences and *teloi* cannot be denied, the social ones (the capitalist way of modernization and progress, the destruction of the social whole by the private interest) are more striking. But their result is the *present* refuse – by the out-of-date style of thinking that egotistically instrumentalises the objects of studies – of interdependence of causes, consequences and the human *telos*. Actually, what does this refuse mean? It means the reduction of knowledge to *information*, subjected to manipulation engineering. But knowledge is *value*, too, the meanings of information – involving causes, consequences and the *telos* – and their neglecting /the reduction of knowledge to information directly contribute to rendering humankind more vulnerable.

By opposing the popular culture where holism and prudence/anticipation were constitutive, the modern science has developed mostly isolated solutions and remedies to fragmented and isolated parts of the existence. This type of consequences of science has substituted the holistic and rational understanding of things. But do not forget: the modern science has developed in capitalism/ with the development of capitalism.

However, the accumulation of scientific and technological results has led to the epistemological feeling that the fragmented manner is no longer sufficient, and that it is even harmful. Therefore, only now we begin to (re)understand the logic of things, but the application of this process is still very slow.

Seemingly, the present scientific age emphasises a multitude of causes, analysed from different viewpoints. However, because of the power relations framework, their consequences are still isolated to each other. And not because their verification needs more and more experiments and measurements, since this verification does not bring anything new to the fact that the human *telos* is infringed.

*Geocide* is, as Susan George has shown, an absolutely new phenomenon on Earth: that a species – and I add, the only one with consciousness – transforms its habitat (that is, the whole Earth) in a non-habitable place, destroying the life of both all other living species and its own. There are, obviously, social, economic causes which we should not afraid to summarize as the structural capitalist relations and their inexorable logic; there are, obviously, concrete cultural and historical causes. But there is also the *logic of thinking* we have to decompose in order not only to understand genocide, but also to fight against it. This logic comes from the traditional modern/induced by capitalism *fragmentary* view that assumes that the whole may

absorb/counterbalance/even annul the evils made by humans in different fragments of reality. Or, as we experience, it is not the case: the whole does have limits, as the fragments do.

However, only by understanding the “phenomenology” – which is not superposing to the psychology, as we know from Husserl and Merleau-Ponty – of phenomena is not enough; only to understand the ideas and concepts people share, and thus the images of the world they have and share, is not enough. One must arrive to the *causes* (whose complexity must not annul the necessity to treat them from the standpoint of their interdependence, consequences and *teloi*). The neglecting of this requirement is, in fact, the weakness of phenomenology or rather of its isolation from other philosophical schools.

Anyway, the present world is characterised by the *exponential change* induced by the activity of humans organised within the private profit driven and domination-submission relationships. And though the mainstream ideologies try to induce the idea that the change would be natural or only because of the technology that shapes us ordering the entire life, and that *only* by technology can we transform the “natural” malign change into a beneficial one, actually, they are denied just by the dominant private profit driven technology. The alternative solution is not the disdain of technology and its reduction: technology is necessary – its hypothetical extinction would lead to an apocalyptic return to the Stone Age – but not as overplus, as excessive agglomeration of man’s environments with gadgets whose *telos* is subordinated to the private profit.

Many intellectuals are confused: and between them not only those from humanities, who inflate the minorities identity studies in a mainstream, liberal manner, but also those from technology: actually, all able to understand and manipulate epistemologically/in engineering manner the causes, if not the consequences and the *telos* of things, too. They think that their technical expertise – as neutrally expressed as they can – would compensate the ignoring of the human *telos*. They hide behind metaphors (as, for instance, the ‘knowledge/informational society’) and are blind in front of the fact that metaphors and sophisticated representations do no substitute the real knowledge and cannot veil the instrumentalized and fragmented knowledge opposed to the human *telos* and the *telos* of things. Therefore, humans have science – so, they have power, we must not forget the old Bacon’s inference – but the use of science is privately confiscated. This is the main reason of the *absurdity* (in Camus’ understanding) of *wasted* human science.

However, the inherent logic of science that leads to its convergence with philosophy, and the ancient wisdom promoted by Aristotle are denying this course of absurdity. Aristotle’s complex of *excellence* in thinking (*creativity*) and *virtuous action* is the optimistic substantiation of the surmounting of the historical crises we are overwhelmed. Without action to apply this model, we only float in the realm of potentiality.

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# THE DIALECTICAL UNIFICATION OF CHRISTIANITY, MARXISM AND JAPANESE BUDDHISM: ON THE BASIS OF TANABE'S PHILOSOPHY OF NOTHINGNESS

Kiyokazu NAKATOMI<sup>1</sup>

**ABSTRACT.** *Hajime Tanabe (1885–1962) was the successor of the philosophy of Kitarō Nishida and established various academic studies in Japan. Sometimes it is said that as the characteristic of the philosophy of Nishida is intuition of pure experience, it is Platonic. On the other hand, as the characteristic of the philosophy of Tanabe is dialectic, it is Aristotelian. A symbol of Tanabe is mutual negative mediation. The first result is the establishment of Logic of Species in terms of which he always thought dialectically of individual, species of race or the state and universality of humankind. That is his original theory of the state. The second result was to open the road of philosophy of science in Japan. His main contribution is to propose the integration of the theory of relativity and the quantum theory. The third result was the dialectical unification of religions and sciences. Especially, 'Christianity, Marxism and Japanese Buddhism – Anticipation of the Second Religious Reformation' is a very unique attempt. For a long time, it has not been received in the spot light, but now it is discussed by the international contributions of Emeritus Prof. Makoto Ozaki at Sanyo Gakuen University, Japan. From the view point of my original philosophy, 'A philosophical synthesis of Christianity, Buddhism and Islam' which was published by several international journals in various countries, I want to propose the difference between the philosophy of Tanabe and my philosophy. Through our confrontation, I wish to find a new road and thought. It is the opening of a new dimension by mutual negative mediation between the philosophy of Tanabe and my own.*

**KEYWORDS:** *Hajime Tanabe, Dialectic of Aristotle, Unification, Christianity, Marxism, Japanese Buddhism, Anticipation of The Second Religious Reformation, Makoto Ozaki, Mutual Negative Mediation*

## Contents

### Introduction

1. Characteristics of the Philosophy of Tanabe
2. Christianity, Marxism and Japanese Buddhism by the Philosophy of Tanabe
3. Christianity and Marxism
4. On Japanese Buddhism – Zen and Nianfo Buddhism
5. World Religions
6. A philosophical Synthesis of Christianity, Buddhism and Islam by Nakatomi

### Conclusion

<sup>1</sup> Chiba Kita Prefectural High School Japan.

## Introduction

The relation between Nishida and Tanabe could be compared with the relation between Plato and Aristotle. That is adequate to both the philosophical contents and personal relationships. A famous *cliché*, “I respect Aristotle, but I love truth more than him.” Tanabe respects Nishida, but loves truth more than him. Although Tanabe succeeded in using the notion of nothingness of the philosophy of Nishida, nevertheless, he did not inherit the notion of pure experience. According to Prof. Makoto Ozaki, Tanabe hardly used the word experience. Far from that, it is very difficult to find the word in his numerous works [Makoto Ozaki, *Individuum, Society, Humankind: The Triadic Logic of Species according to Hajime Tanabe*, Brill, 2001, p.107]. Tanabe does not think in terms of experience but think in terms of logic. This is a profound difference between them [ibid. p.107]. The difference between them became clear as soon as Nishida retired as professor of Kyoto University. The successor, Prof. Tanabe, began to criticize strongly the theory of Nishida as the philosophy of Nishida was static and far from real society. For instance, Tanabe said to Nishida, “Master, therefore you cannot understand dialectic!” in a meeting with some disciples [Hisashi Ueda, *Continued Grand Father Kitarō Nishida*, Nansōsha, Tokyo, 1983, p.157]. That is similar to the situation between Aristotle and Plato. In a sense, it seems that the Japanese Philosophy is a model of the Greek Philosophy. But, this is not the case. This is the destiny of the development of philosophy. Affirmative and negative exist together. Our thought depends upon nothingness as negative word. For instance, we suppose that there is a dog. In this judgment, nothingness as negative word functions. This is not a cat. On the basis of the judgment, nothingness as negative word works. When the degree of opposition increases, affirmation and negation are emphasized. Then, ‘These’ and ‘Antithese’ appear and these are synthesized. This is the process of dialectic. This process is the principle of our thought. Tanabe’s criticism of Nishida and Aristotle’s of Plato occurred inevitably by the principle of thought. Only through the criticisms that are called as negative mediation by Tanabe, sciences can develop. The following is the dialectical development of Tanabe.

### 1. Characteristics of the Philosophy of Tanabe

As the sentences of Tanabe are long and classic, they are difficult to read. And because the philosophy of Tanabe is based on the philosophy of Nishida, only researchers who grasp the whole of philosophy of Nishida can undertake the study of the philosophy of Tanabe. Further the philosophy of Nishida is inspired by the European philosophy and Nishida’s style is complex. Therefore, the difficulty is triple and the researchers of the philosophy of Tanabe are few. The study of Tanabe was not widely spread. In recent years, Prof. Makoto Ozaki obtained Ph.D. from Leiden University, the Netherlands, and published two books<sup>2</sup> on Tanabe in Europe.

<sup>2</sup> Makoto Ozaki:

-*Introduction to the Philosophy of Tanabe: According to the English Translation of the Seventh Chapter of the Demonstratio of Christianity*, Editions Rodopi B.V., Amsterdam – Atlanta, GA Eerdmans Publishing Company, Grand Rapids, Mich. Netherlands, 1990;

Sometimes he participated in international congresses and was engaged in research at Cambridge University, Munich University and Harvard University, and so on. The results of Prof. Ozaki and of Tanabe have been hardly spread in the world. This paper is inspired by his achievements<sup>3</sup>. If our research goes ahead, the true appreciation of Prof. Makoto Ozaki may arise.

On the study of Tanabe, I selected only some papers of Tanabe, for instance, ‘A proposal for a new methodology in theoretical physics’<sup>4</sup>, ‘My Philosophical view of Shōbōgenzō’ and ‘The Dialectical Unification of Christianity, Marxism and Japanese Buddhism’. Though my research is limited, I wish to expose my personal view.

The logic of Tanabe is both intuitive and dialectical in methodology. For the intuitive method, he succeeded to further develop the logic of nothingness of Nishida. On the other hand, as Nishida studied the dialectical method through Aristotle and Hegel, Tanabe also accepted and developed the dialectical method thoroughly. In a dialogue, dialectic reaches to new dimensions through the movement of negation (nothingness of the negative word) in the way of thesis (These) → antithesis (Antithese) → synthesis (Synthese). In this, nothingness functions as negation. In the first place, nothingness as a form of negation works in our thought and nothingness constitutes our thought. In the judgment, “There is a dog”, there are uncountable things that are not a dog. Through the continuity of uncountable negations, the recognition of a dog is constituted. In the dialectic, nothingness functions. If the function of nothingness works strongly, the thing is abstracted and treated by thought. That is, thesis is at first set up, then antithesis appears and lastly synthesis is brought about. This is the movement of thought by the function of nothingness as the negative word. Tanabe used dialectic thoroughly and established the original expression of ‘mutual negative mediation’. Still more, though Tanabe unified Idealist dialectic and Materialist dialectic, as he insisted on Absolute dialectic. This is the main difference between the Absolute Dialectic of Tanabe and the dialectics of Aristotle and Hegel.

## 2. Christianity, Marxism and Japanese Buddhism as proposed by the Philosophy of Tanabe

Tanabe described that ‘Dialectical Unification of Christianity, Marxism and Japanese Buddhism’<sup>5</sup> was absurd from the view point of the same quality logic. Christianity and Japanese Buddhism are religions.

On the other hand, the quality of Marxism is economics and sociology.

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- *Individuum, Society, Humankind – The Triadic Logic of Species according to Hajime Tanabe*, Brill Leiden – Boston – Köln, 2001.

<sup>3</sup> Makoto Ozaki, ‘Tanabe’s Idea of World Religion in Relation to Whitehead’, *Biocosmology – Neo Aristotelism*, 2016, Autumn

<sup>4</sup> Prof. Makoto Ozaki treated this paper in his ‘Scientific thought as culture – Toward a unification of the theory of relativity and quantum theory’, *Diverse aspects of culture*, 1997, University education publication, Okayama, Japan. Prof. Ozaki’s paper inspired my paper ‘On the synthesis of the theory of relativity and quantum theory’, *New Horizon of Sciences by the Principle of Nothingness and Love*, Lambert Academic Publishing, Saarbrücken, 2012

<sup>5</sup> Hajime Tanabe, *Philosophy of Mediate Independence Introduction of the philosophy of Tanabe*, Shoshi-Shinsui Company, Tokyo, 2013 pp. 159-217

Especially, Marx denied religion as the “opium for the masses”.

From the view of Materialism, religion is excluded. How can one unify Marxism and religion? At a glance, we cannot find the fusion point. To do so, there may be a key, i.e., the idealist dialectic.

On the other hand, there is the problem of the fusion of Christianity and Japanese Buddhism. How can man connect Christianity and Buddhism? How can man fuse the different religions? Christianity is the doctrine of Yahweh, Jesus and the Spirit, the Trinity. On the other hand, Buddhism is the teaching of Buddha. It attains to Satori, Enlightenment. At a glance, we cannot find the fusion point there, too.

Here, Tanabe found another key. That is the ‘sole existence’ (single person, individual) of Kierkegaard. The existence is a human who is troubled and suffering from difficulties. To escape from the difficulties, man believes in Buddhism. By this existence, Christianity and Buddhism are connected. Kierkegaard preached three stages of life. The first is the esthetic stage where man seeks the pleasures of life. As the desire of man is infinite, man seeks the pleasures of infinite life. Infinite desire reaches to nothingness and despair. The second stage is the ethical existence where man seeks morality and justice. But as man is imperfect, he would despair of his imperfection. Finally, the third stage is the religious existence. He only believes in God and faces the judgment of God. This is the existential dialectic.

In the previous part, I showed that Marxism embraces materialist dialectic. This dialectic is common. The religions of Christianity and Buddhism are different from Marxism. But by the dialectic, religions and Marxism are integrated. This is the logic of Tanabe. The keyword is ‘mutual negative mediation’.

### 3. Christianity and Marxism

We cannot go ahead at a stretch. There is no bridge from Marxism to Christianity. From Christianity, the bridge is made by Karl Barth (1886-1968). He was inclined to socialism. But he faced the limitation of socialism and abandoned it. He became a Protestant theologian and the philosophy of Kierkegaard was his base. Tanabe became cool to Catholicism as Catholicism led to a fixed and feudal society. Barth thought a great deal of individual faith as the sole existence before God. Jesus carried the original sin of all humans and was crucified by the Romans and the Jews for the atonement. He died and became nothingness. This was the realization of God’s love.

Tanabe called it ‘the logic of instant nothingness as love’<sup>6</sup> and further believed in the Resurrection of Jesus. Jesus was real and ideal type, Messiah of Humankind. As he could forsake his life for humankind, he was free perfectly. Though he had perfect deprivation, he was free perfectly. He proved that perfect deprivation was perfect freedom. This is the self-identity of absolute contradictories. Tanabe described that “Existence is constituted by the principle of nothingness and existence can realize freedom in love.”<sup>7</sup>

<sup>6</sup> Japanese ‘mu souk ai’ 無即愛 *ibid.* p.180.

<sup>7</sup> *Ibid.* pp. 175-176.

Here, he drew such opposite schema as God-Man, Spirit-Flesh and Faith-World. Humans cannot live only by faith. They must live with their body, flesh. Now society appears and the confrontations of individual and society occur. In modern age, Protestantism produced Capitalism and preached the significance of work and recommended saving. By these thought the capitalist society developed. On the other hand, the confrontation between the class of capitalists and the class of workers occurred. The class of workers was oppressed by the class of capitalists and was the object of exploitation by the upper class. Marxism aimed to solve the confrontation. Marx denied religions and established the ideal that worker be free from labor. But it was not enough as a human theory to be free from labor. The state in which one satisfies his economic desires is the same as the esthetic stage of Kierkegaard. After a while, the laborer falls into fatigue and despair. Tanabe insisted that man should not persist in wealth (prosperity and status) but should aim to establish the communities and societies with *philia* through self-negation and self-sacrifice<sup>8</sup>. This is the realization of neighborly love and gratitude in Buddhism. For Tanabe, Marxism and Socialism are completed by the acceptance and awareness of the principle of love. About Socialism, it seemed that Socialism lost significance with the collapse of the Soviet Union. But after that, capitalists declared the victory of Capitalism and preached the logic that profit is the best. It was called greed Capitalism. It gave birth to the great depression of the Lehman Shock. Though Socialism collapsed once, there is an increasing review of Socialism since Capitalism is increasing the economic disparities and vigorous confrontation of the rich class and the pauper class. The notion of equality is still necessary.

#### 4. On Japanese Buddhism – Zen and Nianfo Buddhism

Tanabe regarded Zen<sup>9</sup> and Nianfo Buddhism<sup>10</sup> as the main types of Japanese Buddhism. Zen had the transcendent quality of nothingness and recognized the bottom of existence. Tanabe appreciated the philosophy of Dōgen. The title of the paper is ‘My Philosophical view of Dōgen’ From the view point of Zen, all theories of philosophy are abandoned. The essence of Zen is beyond the words and theories. The basic thought is ‘*furyumonji*’ (不立文字). Therefore, most Japanese philosophers did not refer to the philosophical significance of Zen. But Tanabe elaborated the signification of Sōto Zen by ‘My Philosophical view of Shōbōgenzō’. That is the first-class essay about Shōbōgenzō, Dōgen. As the attitude of ‘mind and body fall

<sup>8</sup> Ibid., p. 189.

<sup>9</sup> Zen Buddhism consists of two sects: One is Sōto Zen and another is Rinzai Zen. As Sōto Zen is near the thought of love for people of Land Pure Buddhism, Tanabe expects the activity of Sōto Zen (ibid. p.190). The founder of Sōto Zen was Dōgen (1200-1253).

<sup>10</sup> Nianfo is Nembutsu, a chanting practice, *Namu Amida butsu* (南無阿弥陀仏). According to Shinran, one can only be saved by chanting practices all day. It means that one takes refuge in Amitab Buddha or one believes in Amita Buddha. Amita is the meaning of “Infinite Light”. Amita Buddha expresses immeasurable Life and Light. Therefore, the color of Buddha statues is gold.

off<sup>11</sup> man overcomes life and death, this leads to the concept of ‘anticipatory resoluteness (vorlaufende Entschlossenheit) of Heidegger. The philosophy of opening of reality and nothingness in the later Heidegger has an affinity with the Zazen experience. This is the technique in which nothingness as reality occurs. Generally, one says that Martin Heidegger was influenced by the thought of Japanese Zen [cf. Kiyokazu Nakatomi, *Philosophy of Nothingness and Love*, Lambert Academic Publishing, Saarbrücken, Germany, 2016, chapter 1]. But Zen had no character of mercy due to its self-liberation and lacked a dialogue between ‘I’ and ‘You’ owing to its self-practice. The practice of Zen of ‘mind and body fall off’ aims to unite the transcendental being of all things. It was passive religion as Zen was mysterious intuition. In Zen one practices as one forgets oneself. Zen inclined to appear as self-persistence to aim to forget oneself. There, it is impossible to be selfless. Zen is a practice of one person, and hence needs mutual negative mediation between self-liberation and other-liberation.

However, there is no mythos in Zen, and therefore Zen is compatible with science<sup>12</sup>. Tanabe had a hope in the doctrine of Shinran (1173-1263) that aimed to save the people rather than Zen of self-liberation. The most important thing is to recite Nianfo. Tanabe wanted to connect Nianfo Buddhism and Zen Buddhism. It is to practice Zen through reciting Nianfo. It means to recite with cast off and mind and to practice with Nianfo. Tanabe found the essence of Japanese Buddhism in the unity of Zen and Pure Land Buddhism. He proposed Nianfo Zen. But though religious communities of Zen and Pure Land Buddhism were the largest in Japan, they were mere façades and lost their religious power. What is the true and world signification of Japanese Buddhism? The thought of nothingness is effective in the future. Since Buddhism does not have mythical eschatology, Buddhism can purify Christianity. Tanabe identified the entry to the God Land, Buddha land and Pure Land with ‘the entry to universal human society of existence in cooperation’ and ‘the belonging to the church of Christianity’<sup>13</sup>. It can be said that identifying Buddha land with the Church is inclined to Christianity.

## 5. World Religions

I argued for Buddhism and Marxism. As a matter of fact, what is the true religion for Tanabe? From the context, it is Christianity. He recognized Jesus as the Messiah for Humankind and accepted the Death and the Resurrection of Jesus. Jesus practiced the love of God. On this point, there is the clear historical reality. After the resurrection, the disciples undertook a world mission. Then we recognized the working and real power of the Holy Spirit. The sole problem is its mythical

<sup>11</sup> Shinshin toturaku (心身脱落). It means “nothing but precisely sitting”. The essence of his thought is ‘oneness of practice – enlightenment’. There is no gap between practice and enlightenment or Zazen and daily life. From the view point of Tanabe, if one practices Zazen and Nembutsu chanting practices in daily life, Nembutsuzen will be new and true Buddhism.

<sup>12</sup> Hajime Tanabe, *Philosophy of Mediate Independence Introduction of the philosophy of Tanabe*, p.195, p.197.

<sup>13</sup> *ibid.*, p.195

eschatology. But it would be purified by the introduction of Buddhism. Further Marxism would be effective for the gap and confrontation between the rich class and the pauper class. Zen as a thought can teach the logic of nothingness and Pure Land Buddhism can preach the teaching of love of Christianity with logics. Both Zen and Pure Land Buddhism will live and become a power motor of history in Christianity. Japanese Buddhism, Christianity, and Marxism will be unified dialectically through mutual negative mediations. This is the second religious reformation. That is the ‘trimo-unity, ‘triadic unity’, like the trinity in Christianity and the realization of absolute religion as hold by Hegel.

In this line of thought Tanabe stated that the concrete movement of nations did depend on the cooperation among the USA, the Soviet Union and Japan<sup>14</sup>.

## 6. A Philosophical Synthesis of Christianity, Buddhism and Islam by Nakatomi

Now I want to argue for the difference between the theory of Tanabe and my thoughts expressed in my publication ‘A Philosophical Synthesis of Christianity, Buddhism and Islam’<sup>15</sup>. The first point of the divergence is the opportunity. The most important reason of this paper was to suggest a solution to the suicide bombings acts in the Middle East and elsewhere and the conflicts between developed nations and the Muslim World. These suicide bombings and terror acts occurred also in Europe, Asia and the USA often. There we can witness to the problem of the difference of religions. Islam is now in the spot light. At one time, President George Bush even said, “Christian countries are good, but Islamic countries are bad.” Then he ordered to attack Iraq and overcame the government of President Saddam Hussein. But after the attack, the Middle East became unstable. Instead of Saddam Hussein, the Islamic State controlled large parts of Iraq and Syria. Now, terror occurs daily. It is impossible to solve this terror by political and military powers. We must establish dialogues. To achieve these dialogues there is a need for common notions and religious words. In this situation, such assertions as ‘Jesus is good’, ‘Allah is good’ and ‘The teaching of Buddha is good’ could not help to build a meaningful dialogue. At least, man should not use the name of God. Instead of God, man uses the transcendent being. First, I mentioned the life of religious founders and their existences. Then I built upon the essence and common concepts of religions. In Christianity, I gave the spot light of the existence of Jesus in Gethsemane. He wanted and prayed to escape the cross twice. But he was crucified for atonement and resurrected. In the part about Buddhism, I treated of the existence of Buddha who was tested by the sexual temptations of young women. Through the victory over the temptations, he attained to Satori, enlightenment. In the part about Islam, I argued for the life of Muhammad and the revelation that is the dialogue between Allah and him.

Through the process, the synthesis was constituted. In this paper, I did not treat of the differences between Protestantism and Catholicism. In Buddhism, I did not

<sup>14</sup> Ibid., p.212.

<sup>15</sup> Kiyokazu Nakatomi, ‘A Philosophical Synthesis of Christianity, Buddhism and Islam’, *New Horizon of Sciences by the Principle of Nothingness and Love*, Lambert Academic Publishing, Saarbrücken, 2012. This paper was published by universities and academies cited in references.

treat of the Japanese Buddhism, Zen and Pure Land Buddhism. Marxism is more concerned with the problem of economics and sociology. In other papers, 'Bushido of the Enterprise', 'A Theory of Justice by Confucius', 'Theory of Peace of Confucius' and 'Social Freedom and Deprivation', I also argued for economics and sociology. These papers are cited in references.

### Conclusion

Did Tanabe succeed in the theory of unification? I wish to point out three problems. The first problem is the unification of Christianity and Buddhism. The difference of the two religions is important. But through their differences, Tanabe proposed the higher level of synthesis of two religions. He attempts at a unification of two religions in the dialectical way. This is his achievement. But there is no confrontations and dialogues for Jesus and Buddha. It is the lack of existential confrontation. Tanabe treated of the life of Jesus and the Cross. But he did not treat of the life and distress of Buddha. And he did not describe the scene of struggle of temptation and suffering. Instead of the life of Buddha, Tanabe wrote about the characteristics and development of Zen and Shinran. Why did he treat only of Zen and Shinran, Pure Land Buddhism? There are various forms of Buddhism, for instance, to mention a few, Chinese Buddhism, Thai Burma Buddhism, Korean Buddhism and in Japan Shingon, Tendai, and Nichiren Buddhism. His focus of Buddhism is very limited. It means that the theme of Buddhism of Tanabe is not international. This is one problem.

The second problem is the unification of religions and Marxism. He indicated the method to unify the different qualities by the dialectic. In a sense, he could unify water and oil. The formal method is successful. But is the condition that mixes water and oil in a cup true unification? It is the problem of quality which requires economic and sociological theories. From the view point of Marxism, the most important problem is the economic difference between the wealthy class and the pauper class. Here we need the theory of distribution that is based on modern economics and macro-economic theories. But it is not sufficient for the principle of love and relief of Christianity.

The third problem is the mediation between Buddhism and Marxism. Zen and Pure Land Buddhism are unified by formal dialectic. But there is no mediation between Buddhism and Marxism. For instance, Karl Barth advocated a mediation between Christianity and Marxism, socialism. Tanabe's theory lacks the thought of a key person. Tanabe's theory needs a concrete economic impulse, for instance, the Grameen Bank in Bangladesh offering loans without interest which adheres to the principle of charity of Islam. This is the bank where women invest small amounts of money and which lends small amounts to them to start businesses. This is an innovative banking system for the weak and poor people. The bank and people believe in Allah and work together to save the poor people. The founder is Dr. Muhammad Yunus. He received the Nobel Peace Prize in 2006. He is working and acting between economics and religion. Tanabe's theory lacks concrete method and idea. The idea of Tanabe, even now, remains unfinished. The success of the

unification proposed by Tanabe and its development depends on our attitude, efforts and discussions with the guide of Prof. Makoto Ozaki.

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# PIETRO POMPONAZZI – THE MOST REPRESENTATIVE ARISTOTELIAN OF THE ITALIAN RENAISSANCE

Anna MAKOLKIN<sup>1</sup>

**ABSTRACT.** *In European cultural history, the name of Pietro Pomponazzi (1462-1525) is associated with the re-birth of the ancient pagan Graeco-Roman cultural legacy and the revival of the ancient natural philosophy, as well with the debate over the power of Man and God. He is also one of the most prominent neo-Aristotelians of the Renaissance who promoted Aristotle's natural philosophy, contrasted with the thought of Plato, thus continuing the ongoing comparative analysis of Platonism and Aristotelianism.*

*Pomponazzi who claimed that "a philosopher has to be a heretic" entered European cultural history as a truly radical thinker, having turned his advocacy of Aristotle into a weapon against the Church dogma, Mediaeval scholasticism, theological main arguments, and religion in general. The Renaissance neo-Aristotelianism is unthinkable without Pomponazzi's battle for the materiality of cosmos and human body, without his denunciation of the immortality of the soul – the main premise of Christian ideology and mythology – that was going on nearly a100 years prior to the burning of Giordano Bruno.*

*This paper brings to the surface of the current philosophical discourse this less known but an extremely significant Renaissance thinker, an alumnus of the University of Padua, "the cradle of Aristotelianism" during the High Renaissance.*

**KEY WORDS:** *Aristotle, Aristotelianism, natural philosophy, organic essence, Faith, Reason, heresy, heretic, Plato(nism), immortality of the soul, religious myth, Cosmos*

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<sup>1</sup> University of Toronto.

*Religion breeds wickedness and has  
given rise to wrongful deeds  
Lucretius, De rerum natura*

## Introduction

The label, “the most representative Aristotelian of the Italian Renaissance,” was coined by Paul Oskar Kristeller, one of the leading students of the Italian and European Renaissance, in his 1967-lecture. His student Martin Pine would name Pietro Pomponazzi “the most radical philosopher of the Renaissance” (1986). This paper not only presents the image of Pomponazzi, his views on Cosmos and Man, but also evokes the cultural context which made him a radical thinker and a noted Renaissance neo-Aristotelian. Our recourse to Pomponazzi is particularly proper and significant during the current postmodern resurgence of the religious that has opened the old intellectual wounds, having renewed the battle for the minds and souls of people who should have resolved by now the problems of God and Man, but it regrettably has not happened. In this regard, Aristotle and neo-Aristotelians of all times are as relevant as before, including Pietro Pomponazzi who carried the torch of secularism and materialism, natural philosophy and who passionately defended human sacred right to think freely and critically in the presence of the powerful Church and the religious crusades for “the right god” and most correct religious ritual.

### 1. Biography of a Heretic

Pietro Pomponazzi (1462–1525), a native of Mantua, educated at the University of Padua from where he obtained both of his Doctorates, in Arts (1487) and in Medicine (1495), started his academic career at the same institution, by teaching such major Aristotle’s texts as *De Anima*, *De Cielo*, *Physics* and *Meteorology* (M.Pine, 1986:44). “The Mantuan,” as Pomponazzi was fondly called, soon became known as a passionate Aristotelian, his lectures were very popular and he was liked by his students. In 1496, he left Padua for Ferrara where he taught privately for the Court of Ferrara and studied under Alberto Pio. In 1499, Pomponazzi was recalled to Padua where he remained until 1509. Then he again was invited by the Duke of Ferrara to head the Chair of Philosophy at the University of Ferrara but this post lasted only for one academic year due to the war and closure of the University [F.Borsetti in M.Pine, 1986:45]. Then he returned to Padua for another year and was invited to teach at the University of Bologna where he taught until his death in 1525.

In 1518, Pomponazzi attained two honors: he was freed from the obligation of lecturing with concurrents (something which all beginning professors had to endure for a while) and was given an opportunity to choose his own instruction materials and specific texts “which he wished to expound in his lectures” [ibid.:46]. This freedom and intellectual autonomy came to Pomponazzi after years of being “an effective teacher” and a series of confrontations with various university authorities in Bologna, Pisa, Florence and Padua. Once the University of Bologna even froze his bank deposits when he wanted to move to another city and those were released only after

the interference by Marchese of Mantua (ibid. ibid.). Freezing of his bank funds was a nuisance and a minor punishing measure. Eventually, his famed major work *De immortalitate animae* (1516) was condemned to public burning in Venice. The Papal warning was given on June 13th, 1518, after the inquiry into the blasphemous book “against faith” conducted by Cardinal Legate Giulio de Medici. The Church authorities wanted to know who had authorized the publication because in Bologna such an act would be illegal. 1516-19 were the years of public denunciation of Pomponazzi by his university colleagues and by the Church fathers, and were wasted on defending his own name in print.

Thanks to the positive intervention of Cardinal Pietro Bembo, the heresy proceedings were stopped but Pomponazzi’s important works, such as *De incantationibus* and *De fato* “would be published only posthumously, in 1556 and 1567 respectively” [ibid.,:47]. Pomponazzi had to endure brutal attacks on his views, mockery of his philosophical choices and condemnation of his consistent promotion of Aristotelianism not only by the Church Fathers, but also by his colleagues, neo-Platonists. Among the most vehement opponents and ideological foes was Agostino Nifo who took Pomponazzi’s post at Padua and who was playing the key role in the entire notorious **immortality controversy**. Pomponazzi bravely fought against his ideological opponents, neo-platonists, believers or pretenders to believe in god, unwilling to compromise his materialistic/Aristotelian outlook on Nature, Cosmos, cosmic Order and Man in it. Numerous historians attributed to Pomponazzi the saying, “in philosophy, it is necessary to be a heretic” [M.Pine, 1986:18; Oliva, Cesare, 1926:274]. According to Bruno Nardi, Pomponazzi “indeed pushed his rational insights further than most other Renaissance Aristotelians” [ibid.,:18].

## 2. Italy – the most Preserved Archive of Aristotelianism

Italy, the former heart of the Roman Empire that completed the ascent of Europe as a civilization, remained the cultural avant-garde up until the 17<sup>th</sup> century. It was famous for the freest atmosphere of thought, the most perfect art and aestheticism, creativity, sophisticated governance, urbanity and, thus, the most conducive atmosphere for the cultivation of sciences and philosophy. Even upon adoption of Christianity, Italy had sustained a unique or even paradoxical condition of duality – the secular and theological were in a state of unusual social symbiosis. The heirs of pagan secular Rome continued to look at religion with their characteristic condescension, the same way their forefathers did in antiquity. Anti-clericalism in Renaissance Italy was quite prominent. According to Gene Brucker, “The Priest was a figure of contempt, menace to the community” [1969:180]. The cultural past fostered the paradoxical existential tradition of **a split cultural identity** – secular/religious – and a cultural expression when pagan and Christian attitudes, values and modes of thinking co-existed side by side. Italy’s Universities were the oldest in Europe, attracting numerous students from various countries, were the only ones that did not have the faculties of theology, censoring the curriculum; the powerful Catholic church did not have dominance in the academe. The Italian Renaissance was not only embodied in the names of Giotto, Cavalcanti, Dante,

Massaccio, Botticelli, Leonardo, Michelangelo, Rafael and Caravaggio, but also it was characterized by the intense scientific research Italy's cultural climate was the richest in Europe and the best minds gravitated towards it, next to artists and aspiring composers. The Italian Universities, the first in Europe, had been the conservatories of scientific discoveries.

Italy was the first to have initiated the transmission of Greek philosophy in Europe, and particularly Aristotelianism, contrary to the modern mythology about the Arabic transmission ("the Arabs had given Aristotle back to Europeans"), having received it from Byzantine and earlier from Romans studying in Greece. Even Cicero studied Aristotle and Greek philosophy in Athens. Later, monks, priests and scholars, migrating from Athens, Alexandria, Syria, Asia Minor and Constantinople came to Rome with the flow of the ongoing migration. Eventually, all these treasures became the cultural property of Italy and the depositories of her rich museums, libraries and universities. Due to the specific cultural circumstances, it was possible in Italy to hold variety of views and preserve different religious traditions – to maintain Christian or even Hebrew rituals next to the pagan ones, to be an atheist, follow Plato or Aristotle. The Italian Universities had the departments of Hebrew and Greek studies, as well as natural philosophy of Aristotle. Italian cultural climate continued to foster the old Roman traditions of free thought. Dialogue was maintained and cultivated more extensively and profoundly than anywhere in Europe. The Italian were eager to remember their own multicultural secular Roman past and examine it freely and broadmindedly. The legacy of Athens was cherished and studied next to Ovid, Cicero, Virgil, Lucretius ... Passionate atheists, materialists, atomists, Platonists, neo-Platonists, Averroists, Thomists and Aristotelians, neo-Aristotelians, Hebrew revisionists and adjustors of Judaism and Christianity – all had been living side by side up to the Renaissance [P.O.Kristeller,1996;1979].

Italy's Renaissance was not the only period when antiquity was at the centre or when Aristotle was at the focus of the scholarly debates. It was simply intensified during the 1200–1600 century, with the development of arts, science and the renewed interest in Man, his creative powers, Intellect, as well as his place in Cosmos. However, this period saw not only the intense explosion of creativity but also the intensified battle between Faith and Reason, the intensified religious fanaticism and attacks on Reason. This was the era that also gave birth to Pietro Pomponazzi as a staunch advocate of secularism and Aristotle, natural philosopher and the atheist of antiquity. It is interesting that Pomponazzi, a Renaissance neo-Aristotelian, could express himself next to Ficino, a fanatical neo-Platonist, and how these contrasting views could be at the centre of Italy's discourse and in the curriculum of the most prominent Italian Universities where the Dominicans and members of the Franciscan Order also had a voice, next to the lay Aristotelians and atheists.

### **3. Padua – Pomponazzi's *Alma Mater***

The city of Padua came to be known both for its secular spirit and as the "citadel of scholastic Aristotelianism" [Jill, Kaye, 2002:VI,100]. P.Kristeller brings the following fact from Padua's history to prove his point:

*When Petrus de Vineus addressed the citizens of Padua in the name of Emperor Frederick II, so we are told by the chronist, he began his speech with a line from Ovid as his theme*  
 [P.Kristeller, 1979:238; A.Hilub Hortis, Trieste, 1874:311]

The University of Padua, like all others, had no Department of Theology, nor did it have the tradition of referring to the Christian theologians, but, as it appears, the city of Padua had a quite pronounced secular Roman cultural tradition and Ovid was still regarded as a cultural icon. Herman Randall distinguished the role of the Paduan University among others in Italy, as far as framing European and Italian scholarly minds, training them in sciences and medicine (1961). It happened due to the popularity of the ancient materialism in general, and of Aristotle's natural philosophy in particular among the Paduan professors and students. The best medical doctors in Italy had been trained in Padua, as well as the most numerous Italian neo-Aristotelians of the Renaissance, with Pomponazzi among them.

The free and broad Paduan University curriculum framed Pomponazzi's mind, having trained him for his academic career and ultimately for shaping him into a "heretic" philosopher and ardent transmitter of Aristotle's teaching. Since medicine was the most solid department at Padua, the university never abandoned offering courses on Aristotle, paving the way to the modern sciences. Martin Pine distinguishes three major influences upon Pomponazzi's scholarly interests and views during his first years, between 1484 and 1487 – Francesco Neritone, Professor of Thomistic Metaphysics, Pietro Trapolino, Professor of Natural philosophy, and Pietro Rocobonella, Professor of Medicine. One can see that Pomponazzi's training (both at the Faculty of Arts and Medicine) was similar to that of Aristotle himself who was also qualified in both areas. Pomponazzi's future conflicts with the colleagues-Platonists and with the Church Fathers, and Christian theologians stem from his materialistic approach to the natural phenomena, and his denial of the divine intervention.

The Aristotelian studies at the Paduan science-oriented University curriculum had acquired a solid place and tradition. The University was founded in 1222. By the 1484, the time when Pomponazzi came to Padua, he had the opportunity to study numerous translations and commentaries on Aristotle, accumulated from the Greek, Byzantine, Latin and Arabic sources over the centuries. Originally a Law School, the University of Padua had been transformed into a prominent multidisciplinary institution, with such leading fields as Medicine, Astronomy, Natural philosophy, Biology, Physics and Chemistry. It would be also the *alma mater* of such outstanding scholars and scientists as Galileo Galilei, Nicolaus Copernicus, Gabriele Fallopio, Andreas Vessalius – all of whom benefitted from the old intellectual traditions at Padua and academic freedom of this renowned institutions that fostered free inquiry, debate and daring intellectual pursuits since the Middle Ages, and clearly along the Aristotelian mode of inquiry.

#### 4. Aristotle in Italy

The Aristotelian studies in Italy had never been interrupted since the Roman times, having gained particular prominence in the 13<sup>th</sup> century, having become then the central parts of the general university curriculum, along with the natural philosophy, medicine, biology, chemistry, physics and mathematics. The Italian Renaissance or rebirth of the pagan Graeco-Roman antiquity during 1300-1600 brought back to the surface pagan thinking, materialistic philosophy, and with it the re-interpretation of Aristotle who had never disappeared from the Italian cultural horizon. The Italian favorable cultural and intellectual climate of the Renaissance simply induced the separation of Aristotle's teaching from the Medieval scholasticism which had appropriated his concepts for the promotion of their own religious ideology and their own interpretation of human existence and its connection to cosmos via the divine. According to Jill Kraye, "the scholastic commentary of Aristotle was a part of the legacy bequeathed to the Renaissance by the Middle Ages" [2002,VI:141]. But teaching of Aristotle, as per Paul Oskar Kristeller, was pursued on a very large scale at least with the 13<sup>th</sup> century. This teaching was connected with that of medicine and theology which applied Aristotle both to the Biblical exegesis and ideology of Christianity (1974:44). The University of Padua and Florence did not even offer theology course every year (1974:33). The Graeco-Roman pagan traditions, the cultural foundation of the Roman Empire, had never been erased in Italy, even with the advent of Christianity and birth of theology. The Italians, the heirs of the Roman Empire, were still being raised on Ovid, Virgil, Seneca, Cicero and Lucretius, having to live with the **split cultural and existential identity** even in the post-Christian times, from the 4<sup>th</sup> up to the 13<sup>th</sup> centuries. And Aristotle had been a permanent part of this split Italian cultural identity, sustained by the ongoing translation and re-translations of his works from Greek into Latin, as well as from the selective Arabic commentaries and translations from Greek. The Roman past could never be destroyed as the **cultural foundation**.

The memory of the pagan Rome, and with it the awareness about Aristotle, had always posed a challenge for the scholastic philosophers, the Church Fathers and the Catholic Church in particular, who had to invent the ways of keeping the religious myth alive in new cultural context and in the process of the advancement of sciences and general knowledge. The Italian Renaissance signaled not only the triumph of human imagination and creativity, but also the triumph of Intellect over Faith, at least temporarily, the victory of secularism over the religious dogmatism. Dante's *Divine Comedy* embodied this triumph. Despite the protestations of most Dante modern scholars, this work was a **metaphoric denunciation of religion** in general, and a gesture of rebellion against the Catholic establishment in particular. In the area of philosophy, the blatant juxtaposition of Platonism and Aristotelianism in favor of the latter became prominent in the intellectual debates on Italian university campuses, in scholarly literature and daily press. It demanded new society, with the restored secular concepts of antiquity, values and conceptual principles, essentially based on Aristotelianism. The traditional free Italian spirit had always kept **Dialogue** and **Debate** alive but it was particularly intensified during the Renaissance, from the 11<sup>th</sup>

century on. The individuals and institutions had been openly proclaiming their positions. But the affiliations and preferences had been divided across Italy – if Florence became the centre of neo-Platonism, Padua chose neo-Aristotelianism, and all Renaissance intellectuals subscribed to two different major conceptual systems. Poet, philosopher Petrarch (1304–1374) sang, for instance, panegyric to Plato in his *Triumph of Fame*, according Aristotle a distant place:

Volsimi da man manca, e vidi Plato  
 Che in quella schiera ando piu press al segno  
 Al quale aggiunge, ciu dal cielo e dato.  
 Aristotle, poi pien d'alto indegno  
 (Leaning to me is heaven and Plato appears  
 Who in his sphere moves and sends a sign  
 Which helps to decipher what's in the sky  
 Then adding to what is given,  
 Aristotle appears, undeservingly full of fame  
 [Italian text in E.Cassirer, 1963:15].

The neo-Platonists accepted the dominance and rule of the church and were prepared to compromise the Intellect for the sake of Faith and allegiance to the powerful class. It was essentially **an obscurantist submission to the Religious** and betrayal of Reason. The students and scholars at Padua whose focus was on Medicine, Biology, Physics, Chemistry and Natural philosophy embraced Aristotle, openly defending their materialist and secular position. The Paduan focus on Nature was logically and organically intertwined with the Natural Philosophy of Aristotle, a physician and philosopher, and it found its reflection in the curriculum at the University of Padua and the research interests of the scholarly community. Pietro Pomponazzi who chose to pursue his studies and eventually his academic career at Padua was able to follow the established traditions and continue to promote Aristotelianism. By the time Pomponazzi arrived in Padua, his future *alma mater* had already had nearly two centuries of Aristotle studies and was cognizant of millennium of different commentaries on Aristotle and different perspectives of analysis of his teaching. The continuity of Aristotelian scholarship in Italy was secured by the centuries-old ongoing ties between Athens, Naples, Alexandria, and Rome, the volumes of translations from Greek, Syriac, Aramaic and Arabic into Latin. Aristotle's treatises influenced Cicero, the Byzantine jurists, policy makers, and later, Christian theologians, historians, governors and Church leaders. The pagans and Christians had been living with Aristotle for centuries, absorbing his practical wisdom, scientific insights, and philosophy.

Contrary to the historical mythology, the Greek texts had never disappeared, the scholars insisted on going back to the original Aristotle, transmitted by migrant scholars, lay men, monks and priests. The first Latin text had been allegedly made by Wilhelm Morbeck in 1260 AD and was first published in Venice in 1498 as per V.Bibikhin [1983:760]. But Cicero (106-43 BC) who studied Aristotle in Athens and was bilingual, fluent in both Greek and Latin, already advocated the transmission of

Aristotle in his time among the Romans. Thus, translations go far back to the pre-Christian times.

### 5. Pomponazzi's Blasphemous Concept of the Soul

Pomponazzi started and ended his academic career with teaching Aristotle and commenting on his works, as much as it had been tied to the cardinal questions of Christianity. He enjoyed and benefitted from the favorable free-spirited climate at University of Padua and that of the Italian Renaissance in general. It enabled him to participate in the popular in those days debate over the existence of God and immortality of the soul. Christianity seduced most believers precisely with the myth of immortality, the eternal life, having utterly re-defined the purpose and meaning of life. Here and Now meant not much but the promise of Then and After completely altered and re-described life and human society. The promise of eternal life minimized the function of Reason in one's life time, absolutely contradicting the biological reality and functioning of an organism – according to common, as well as biological and medical knowledge, body stops functioning after death and decay is a normal phase of life in any living form. The Renaissance philosophers and scientists had to face and participate in the irrational debate, the so-called “battle for the soul,” actively pursued by many well educated and rather sophisticated thinkers, during 1300-1600 AD, who could not accept the myth of immortality and were not willing to accept Faith as an existential credo. This, in turn, energized and inspired the neo-Aristotelians to revisit Aristotle's work *De Anima* taught at major Italian Universities and revive the debate on the material essence of the soul.

Pomponazzi not only taught *De Anima* since the very beginning of his career, i.e. since 1487-88, but he also made the Discourse on the Soul the central argument against Platonism and Christianity, basing his arguments on the Aristotelian premises and his materialism. For Aristotle, it was important to separate man from animals, then, to dwell on the intellectual component of human life. He consistently emphasized the distance between humans and animals. In book III of *De Anima*, Aristotle argued that

The soul of animals is characterized by two faculties, the faculty of discrimination which is the work of thought and sense, and the faculty of originating the local movement [1984, vol.I:687].

If animals were capable of using thought and sense and plan local movement, according to Aristotle, humans were able to do the same, but even on a more sophisticated level. Similarly to Aristotle, Pomponazzi believed that soul was in the body and was a force to be destroyed after death. The immortality of the soul was an integral and central part of the Christian myth and ideology, something which Pomponazzi could not accept and vehemently derided:

These things (concerning immortality) have been said so irrationally, they do not appear fitting for men devoting themselves to philosophy, but rather for poets, common men and even religious law makers, not concerned with

truth but with making men good and compliant... from fear of punishment  
 [*Trattato sull'immortalita dell'anima*, in M.Pine, 1986:200].

Pomponazzi's blasphemous treatise *Trattato sull'immortalita dell'anima* (1516) was dedicated to the Venetian patrician Marcantorio Flavo Contarini, "his dearest friend", a one time student at the University of Padua in 1506, according to the modern Italian translator Vittoria P. Compagni [1999:3]. The treatise, aiming at denunciation of the central point and fundamental ideology, is also essentially an anti-Platonian discourse. Throughout his entire essay, Pomponazzi makes recourse to various works by Aristotle, using the as an instrument in his demolishing the essentially religious Platonic idea as the cause of the irrational belief. The running motif of Pomponazzi's essay is based on Aristotle's position articulated in his *De Anima*, that the intellectual operation takes place **inside** the human body, therefore, is organic, physical and material in form. He bases all his arguments on the general **organicist Aristotelian arguments**, on the organic nature of thought and psychic processes and posits them against the Platonian ideas or his immateriality.

Pomponazzi reiterated his concept of mortality in his *Defensorium* while defending his views and replying to his attacker and rival neo-Platonian Nifo [M.Pine, 1986: 201]. As a materialist and natural philosopher, Pomponazzi found the idea of immortality or traveling soul simply ridiculous. In his "battle for the soul," Pomponazzi simply enlightened the neo-Platonists and believers about the natural processes which included decay and death as a part of life and living organisms. Pomponazzi provoked the Church Fathers to engage in condemnation of his theories by having published his famed and notorious essay *De immortalite animae* and its sequel *Apologia* (1518). In 1517, Ambrosius Flandirus, suffragan Bishop of Mantua, publicly attacked Pomponazzi in a Latin Sermon, having noted that "a certain man, struck with senility and acting with delirious mind, wrote a worthless piece in which he asserted that souls are mortal" [ibid.,:124]. Pomponazzi tried to engage the Bishop into an open public debate but he underestimated the seriousness of the accusations and the power of the church at the beginning of the 16<sup>th</sup> century. The Church correctly interpreted Pomponazzi's essay – his rejection of immortality of the soul was also the rejection of Resurrection of Christ since a mortal soul could not have transformed, and could not have been eternal. The Bishops, the friars of Venice, with Dominicans and Franciscans among them, were extremely good readers, masters of detecting the minute signs of anti-Christian thinking. They correctly interpreted Pomponazzi's often subtle text and read masterfully in between the lines. The diagnosis was blasphemy. His book was correctly identified as "a book against Faith" since to deny immortality meant to destroy the principal postulates of Christianity.

Pomponazzi lectured his students:

No philosopher can study religious laws for they are things of no consequence. A true, just philosopher cannot heed such things. Truth makes its own way; the philosopher knows the truth; the religious laws are false because they are not known per se or reduced to things known ["Prologue to Physics II" in M.Pine, 1986:117-18].

He openly charted the frontiers between philosophy and religion, as between Fact and Fiction. In his mind, philosophy was based on reality while religion on myth, just the same way as some pre-Socratics and Aristotle thought. For Pomponazzi, body and intellect are inseparable [1999:45]. “*L’Anima intellectiva, e materiale*”/ Soul is intellect and it is material in its nature, he wrote (1999:33). Soul needs body to start functioning, i.e. producing thoughts. “Soul is the function, the act of the body”, he claimed. Relying on Aristotle, Pomponazzi wrote, “*l’anima non-conosce mai senza un’immagine sensibile*”/Soul does not comprehend without the sensed images or without the senses produced by the body which nourishes the soul and activates cognition:

BODY – SOUL – SENSE – SOUL – COGNITION

Moreover, he also stated that “*esso no pensa senza imagine sensibile*”/ no thought appears without the sensed or apprehended images” [1999:58]. Pomponazzi consistently argues, relying on the same text by Aristotle, maintaining that Organic Body is the locus of intellect, and, thus, is essentially material in its essence— “*L’anima e il luogo dell forme, non tutta, ma l’intelletto*”/ soul is the locus of form, not all but for intellect [1999:65]. His argument about corporeality of Intellect and Thought is strictly Aristotelian, simultaneously debunking Plato, all scholastics and multiple Christian theologians. Pomponazzi revived during the High Renaissance all the material causes of Cosmos, articulated by Aristotle and his Academy, claiming the special place for Man in Cosmos, so contrary to the theological explanations and Christian dogmatics. His canonical treatise “On immortality of the Soul” was a defiant gesture against the entire Medieval scholasticism, having painstakingly adjusted Aristotle to their own dogmatism, the Biblical exegesis and religious mythology.

In this blasphemous treatise, Pomponazzi accomplished several goals – he denounced and destroyed the religious myth, the misuse and misinterpretation of Aristotle, debunked Plato and neo-Platonists, having placed Aristotle in the centre of the High Renaissance discourse on the eve of the birth of modern science, supporting Copernicus and antedating Kepler. Relying on Aristotle’s *Metaphysics*, Pomponazzi argued that “the end of philosophy was to teach truth” while the purpose of theology was to disseminate falsehood. He argued

The philosopher’s desire to assert truth while many religions prohibit disputations and philosophers are not Christians: philosophers have been held in hatred: Socrates drank poison, Zeno was tortured, Aristotle went into exile [Pomponazzi’s “Commentary on the Prologue to the Physics III in M. Pine, 1986:119].

Enjoying the relatively free atmosphere in Italian society of the early 16<sup>th</sup> century, Pomponazzi naively hoped to win his debate on immortality, the purpose of philosophy vis-a-vis religion, and the triumph of materialism, natural philosophy over Platonism and neo-Platonism. His century would end with the tragic burning of

Giordano Bruno and the victory of the religious fanaticism. But the beginning or High Renaissance or Pomponazzi's day still seemed to be the most appropriate moment for Debate and proving the validity of Aristotelianism as "the most comprehensive view of nature" [ibid.:123]. But the Church continued to censor the discourse in society and stifle the imagination "by teaching immortality and offering it as a medicine to the masses" [ibid.] The immortality issue and controversy aroused by it took a lot of Pomponazzi's creative energy and time, but they were not as radical as his denunciation of miracles, paradise and hell which were a part of his *De incantationibus*, published only posthumously. In this truly radical treatise, Pomponazzi addressed the masses of believers, mocking their beliefs and admitting the efficacy of the religious indoctrination. In his view, the complexity of Cosmos could be the contributing factor to the proliferation of mythologies – all the dramatic changes of the heavenly bodies and the fall of kingdoms, new state formations could be found related in myth. Rather than seek other explanations, it is much easier to invent and rely on phantasy:

If we consider the marvelous and occult properties of nature, the power of the heavenly bodies, God, and the Intelligencies who care for man and the lower world, we will see that there is no need for demons or of other Intelligencies. For we will see that everything can be the work of the cited forces [in ibid.: 198, from *De incantationibus*].

Given the miraculous presence and natural processes in Cosmos, Pomponazzi thought that one cannot be surprised at human myth of the Marvelous and attribution of the cosmic processes to the unknown forces. It is easy for the simplistic Religious myth to invade human imagination, it may hide behind the wondrous images of Cosmos. The picture is so marvelous that it is very hard to explain its origins, the causes of Wonder while it is much easier to accept, believe and rely on Myth, the power of the fantastic.

Much like Aristotle, Pomponazzi did not believe into the intellectual equality of all men and left the intellectual pursuits to a minority of truth seekers, reconciling with the fact that masses are satisfied with primitive myth and that the majority of humanity are either unwilling, or incapable to exercise their own mind and be rational. And that is why the myth makers could be so successful and "proclaim openly the truth and solidity of the Christian religion and do it so efficaciously" [ibid:257]. Pomponazzi argues that miracles "do violate the order of Created Nature" but regrettably religion is more successful in convincing the masses than philosophers. The truth seekers, the philosophers and the best of them, even Aristotle, in his view had been unable to deliver their arguments to the believers and sway their belief. It was much easier to adopt the myth than to try to understand the contra-arguments of the learned atheists. Pomponazzi clearly tries to deliver his doctrine of the truth seekers and that of Aristotle during the High Renaissance, hoping to succeed in changing the indoctrinated minds. His numerous commentaries on Aristotle evidence that. He made an attempt to perfect the efficacy of the Aristotelian teaching

and to create his own doctrine in the process.

## 6. Pomponazzi, an Aristotelian, *Contra Aristotle*

A materialist secular thinker and natural philosopher and dedicated neo-Aristotelian of the Renaissance, Pomponazzi still felt, in his day, compelled to say something new and push Aristotelianism towards the new heights. Not being a blind follower and driven by the impulse to renovate and update Aristotle, Pomponazzi paid attention to what appeared to him as inconsistencies in the thought of the Stagerite:

He says. At times that it [soul] is material and mixed or not separable, while, at other times that it is immaterial and separable. For in definition of the soul, it is held the act of the physical body; but at times he says that it is not the act of any body. These state-ments seem to be contradictory. Wherefore interpreters have taken this in different ways, and some have thought that Aristotle did not understand himself... [Ibid.:76].

Without quoting Aristotle, Pomponazzi makes claims about inconsistencies. The ambitious Mantovan wants to pass his critique of the Stagerite and somewhat demote his status, but he fails to accomplish that without the textual proof, the arguments are just opinions. Aristotle is so abundantly and profoundly clear in his definitions that nobody could ever demolish his arguments through the millennia of commentaries. In fact, the lucidity of Aristotle's thought remains unchallenged, towering over two millennia of daring commentators. In his work *On the Soul/De Anima*, he states:

The soul is inseparable from the body [1984, vol.I:657];  
 The soul cannot be without the body [ibid.:659];  
 The knowledge of the soul admittedly contributes greatly to the advance of truth [ibid.: 641];  
 The soul, it is said is in movement [ibid.:648];  
 The soul is a kind of harmony [ibid.:650];  
 The soul may perceive and come to know everything [ibid.: 653];  
 The soul is the power to know [ibid.].

If Pomponazzi, for the sake of the debates with the Church and “battle for the soul” is fixated on mortality of the body and soul, Aristotle's soul is not simply part of the material body, but it is also **a natural sign** of multiple meanings, unraveling the inner universal world of thinking man. It is comprehensive, pointing out to the materiality of the body and partly corporeal essence of the soul, the producer of Culture and *sopra* layer over Nature. Aristotle's soul is not merely a proof of biological origins, but also **an instrument of cognition**, “power to know,” a constructive device for creation of civilization, a psychological factor in attitudes and relationships of Man and Nature, and of Man to Man.

Pomponazzi attempted to create his own doctrine of the soul in the context of the strict religious censorship. But first, he had to demolish the central tenet of

Christianity with the help of Aristotle's natural philosophy and general teaching. Unfortunately, his project was not completed, being stopped by the Church right in the middle. Second, Pomponazzi had to convince that "Aristotle was a man and could err" ["Lecture in 1500, in M.Pine, 1986:96]. In the process, he even dared to repeat some ridiculous commentaries on Aristotle such as "Aristotle's Doctrine on intellectual soul was highly chimerical and bestial" [ibid.]. In Pomponazzi's philosophy, man is not in the centre of the universe, but a part of Nature, subject to birth, growth, decay and eventual death which he can never escape [ibid.,:157]. In his battle with the tyrannical monotheism and Catholic Church, Pomponazzi armed himself with the single Aristotelian postulate – the biological imperative of human condition, without elevating Reason and human intellect. Fighting the Church, he needed to prove the mortality of man as a biological creature, a part of Cosmos and denounce the afterlife, resurrection and condemn miracles promoted by all three Abrahamic religions.

### **7. Pomponazzi Using Aristotle for His Fight with the Church**

The Mantuan anticipates Le Bon's treatise *The Crowd* by several centuries and argues that the gullible and ignorant crowd needs fictions, mythological primitive explanations of reality. Pomponazzi called theologians "holy doctors" who treat the masses with their tales. Trying to demolish the religious doctrine, Pomponazzi even resorts to Plato:

Plato taught the existence of angels and demons not because he believed in them but because it was his aim to instruct the ignorant [*De incantationibus*, ibid: 264].

Having taken the pathway of dissuading the ignorant and gullible, Pomponazzi often directed his arguments against Aristotle, making them rather unconvincing and vague. Trying to assert himself as a producer of the new paradigm, Pomponazzi extracted from Aristotle's classical text on the Soul solely the concept of mortality in order to carry out his battle against the Church. He left only the organic essence of the soul, its death. Despite his alleged fidelity to Aristotle, Pomponazzi simply adjusted the biological imperative of his teaching to his own anti-clerical battle, having ignored the active intellect, central to Aristotle. Fearful of losing the "battle for the soul," Pomponazzi peels off only the surface from the Aristotelian polysemantic and polyvalent universe of the psyche/*anima*/soul, fixating solely on mortality and physicality of the body and its part, the soul. Consequently, his fidelity to Aristotle is only partial and selective. He concentrates on the material frame of the intellect and cognition as a process which is the result of the body's material, natural functioning. He writes to this effect:

But although the human intellect, as has been considered, does not use quantity in knowing, nevertheless, since it is joined to a sense, it cannot be released entirely from the matter and quantity, since it never knows without a phantasm, as Aristotle says in *De Anima*, III. "The soul does not know at

all without a phantasm” Hence, it thus needs the body as object [*Tractatus de immortalitate animae* in *ibid*, *ibid*: 65].

Pomponazzi who knew no Greek relied on the translations into Latin and memory of others. Aristotle does talk in *De anima*, Book III, about the corporeality and natural origin of fantasy. In Aristotle’s view, the name fantasy/*fantasia* has been formed from *faos*, meaning “light” [1984, vol.I:682]. He asserts that the perceived and imagined objects have the original material or natural origins. His primary cause is in the organic or natural body. Pomponazzi argues that Intellect cannot be measured and that quantity of knowledge cannot be determined but it is still related to a sense:

BODY      SENSE      INTELLECT  
FANTASY

The released image of the world, in this system, is first sensed, perceived, processed and then becomes the part of the shared communal property of all other thinking bodies, but without completely leaving the body which had produced it to begin with. All Pomponazzi’s arguments pursue the ultimate goal of denouncing the Christian dogma, the myth of resurrection and immortality of the soul. Pomponazzi, a philosopher-heretic, appeals to the minds of his students, colleagues, and the rest of society in order to reject what seemed and appeared to be preposterous, while using his innate wit:

Everything which is affirmed by canonical Scripture and deduced universally by the Holy Catholic Church, it is necessary to hold completely as established and necessary without the least hesitation. On the contrary, everything she condemns we must reject. [Pomponazzi, *De incantationibus*, in *ibid*, *ibid*: 318]

The myth of the Christians, their dogma was a fact, the reality of the 16<sup>th</sup> century life, as well as the role of the Catholic Church. It was a given existential framework but a rational intellect had to reject all the Church commandments, starting from the resurrection and immortality, challenging the three major manipulators and “the greatest tricksters such as Moses, Christ and Muhammad” [A.Gorfinkel, 1977: 123]. As an heir to the Romans, Pomponazzi accepted the existence of the Church side by side with the universities, or the religious smyth next to logical reasoning. But he wanted the masses to reject all that church condemned – paganism, mortality of man, decay of nature and body, materialism and the material causes of cosmos. Pomponazzi, an Aristotelian and follower of Lucretius, rejected God as the creator of Cosmos, the divine intervention in the life of all species, including Man. He mocked miracles and devils created by the Hebrew-Christian imagination, but he could do it only in the works published posthumously, left for posterity, his intellectual soul, paradoxically, remaining long after his death. But Pomponazzi’s entire life campaign against irrationality of resurrection and religious mythology was not limited to the

late writings. In 1522, Pomponazzi, lecturing on *De generatione et corruptione* by Aristotle, dared to utter publicly and firmly, "if the soul is mortal, according to the philosopher, we can never hope to resurrected" [M.Pine, 1986:351]. The Christian myth was nothing but a fable, imagined to offer the impossible to the living and Pomponazzi, an atheist and natural philosopher, the Renaissance neo-Aristotelian, was interested only in the real and proven, or in Truth alone.

### Conclusions

Pomponazzi's academic career reflects the specific cultural climate of the pre-Inquisition Italy, when Christianity, paganism, atheism and natural philosophy could exist side by side. Despite his blasphemous writings and public statements, Pomponazzi survived the attacks and public denunciation. He was fortunate to die before 1542 when the Inquisition Tribunal was instituted. Had he died later, his predicament would have been the same as that of Giordano Bruno. He went down into history as a 16<sup>th</sup>-century neo-Aristotelian, who symbolizes the vitality and continuum of Aristotelianism in the era of advanced science. Pomponazzi promoted the organic theory of cognition and that "soul depended on the organ of its operation" as well as natural philosophical postulates in the age of evolving biology, physics, astronomy and medicine. His exegesis of Aristotle did not result in a new doctrine, as he intended, nor did he manage to advance Aristotle's multidisciplinary teaching, but Pomponazzi continued his battle for Reason and freedom of human soul against Faith and blind Belief. This battle placed Pomponazzi into the long row of intellectual revolutionaries and martyrs for Truth. Descartes, Bacon, Locke, Spinoza, Kant and Leibnitz have their precursors in Pomponazzi, Telesio, Bruno, Vanini, Campanella and Cesalpino who had proved that Italian Renaissance was not only a parade of Art and high aestheticism, but also the most intense intellectual re-assessment of the past for the benefits of the future.

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**Note.** English quotations from Pomponazzi's Latin *Trattatus de immortalitate animae* are taken from Martin Pine's 1986-monograph; English translations from the 1999 – Italian translation of the same Pomponazzi's text were done by the author.

# THE ANATOMY OF A SOCIOCULTURAL CRISIS: CALAMITIES IN PITIRIM A. SOROKIN'S PHILOSOPHY OF HISTORY

Vladimir ALALYKIN-IZVEKOV<sup>1</sup>

**ABSTRACT:** *Revolutions, wars, and other social upheavals fascinated and intrigued great scholars and thinkers of all times. One of the most remarkable thinkers to study them has been the Russian-American sociologist and philosopher Pitirim Sorokin. In his early works the young scholar considers social upheavals no more than giant nuisances on the path of the humanity's inexorable progress to the social and cultural perfection. However, the ordeal of the World War I (1914-1918), the Russian Revolution (1917), and the Russian Civil War (1917-1923) soon dramatically alters this optimistic outlook.*

*What, then, is a possible way to alleviation of the humanity's seemingly endless suffering? After a lengthy and careful analysis, the scholar arrives to the conclusion that the problem is essentially "systemic" in nature, in other words, periods of crisis arrive when a society is misbalanced and un-integrated. This paper follows an extraordinary evolution of the Pitirim Sorokin's views on the subject by analyzing a number of the scholar's milestone works, published over the span of more than 50 years.*

**KEYWORDS:** *Pitirim A. Sorokin, calamities, crisis, philosophy of history*

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<sup>1</sup> International Society for the Comparative Study of Civilizations (ISCSC).

*“There’s no big apocalypse. Just an endless procession of little ones.”*

– Neil Gaiman, *Signal to Noise*.

*“Hate begets hate, violence engenders violence, hypocrisy is answered by hypocrisy, war generates war, and love creates love. ... Only the power of unbounded love practiced in regard to all human beings can defeat the forces of interhuman strife, and can prevent the pending extermination of man by man on this planet. Without love, no armament, no war, no diplomatic machinations, no coercive police force, no school education, no economic or political measures, not even hydrogen bombs can prevent the pending catastrophe.”*

Pitirim A. Sorokin

## **Introduction**

Revolutions, wars, and other social upheavals fascinated and intrigued great scholars and thinkers of all times. One of the most remarkable thinkers to study them has been the Russian-American sociologist and philosopher Pitirim Sorokin. In his early works the young scholar considers social upheavals no more than giant nuisances on the path of the humanity’s inexorable progress to the social and cultural perfection. However, the ordeal of the World War I (1914–1918), the Russian Revolution (1917), and the Russian Civil War (1917–1923) soon dramatically alters this optimistic outlook.

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### **1. The Evolution of Pitirim A. Sorokin’s Philosophy of History**

Revolutions, wars, and other social upheavals fascinated and intrigued great scholars and thinkers of all times. One of the most remarkable thinkers to study them has been the Russian-American sociologist and philosopher Pitirim Sorokin. During his long and prolific academic career the scholar published about forty books and some five-hundred articles and essays [Johnston, 1999, p. 25; Sorokin 1991, p. VI], and his scholarly legacy continues to attract new followers every day.

Barry V. Johnston, the author of Sorokin’s scholarly biography, notes: “Sorokin was one of sociology’s most stimulating and controversial statesmen. In a six-decade career his works opened new fields and broadened traditional sociological concerns. Sorokin crafted major contributions to the study of social mobility, war and revolution, altruism, social change, rural sociology, the sociology of science and knowledge, and sociological theory.” [Johnston, 1995, p. IX].

In his early works the young scholar considers social upheavals no more than giant nuisances on the path of the humanity’s inexorable progress to the social and cultural perfection. However, the ordeal of the World War I (1914–1918), the Russian

Revolution (1917), and the Russian Civil War (1917–1923) soon dramatically alters this optimistic outlook.

In the process of his continuing quest for the “Holy Grail” of sociocultural universe, the scholar proposes a concept of “cultural supersystem,” the theory of which he brilliantly and richly develops. This concept becomes a centerpiece of the thinker’s philosophy of history. From now on, according to P.A. Sorokin, history is a magnificent, if at times horrifying parade of juggernauts of “cultural supersystems,” eternally replacing each other in the process of sociocultural evolution. According to this highly original and fascinating paradigm, revolutions, wars, and other sociocultural upheavals punctuate history during the periods of change and crisis. Furthermore, they are often interconnected, triggering each other in the prolonged cycles of horrifying human suffering. Having analyzed ideas of some of the greatest philosophers of history of all times, Sorokin arrives to the conclusion that they all share a surprising and significant number of similarities.

What, then, is a possible way to alleviation of the humanity’s seemingly endless suffering? After a lengthy and careful analysis, the scholar arrives to the conclusion that the problem is essentially “systemic” in nature, in other words, periods of crisis arrive when a society is misbalanced and un-integrated. For example, during the last centuries humanity made significant strides in the fields of knowledge (Truth) and arts (Beauty), however, lags in altruistic and creative love (Goodness). As a result, the heavily influenced by the West human civilization is presently in great peril.

Of course, P.A. Sorokin is not alone within the Russian philosophical tradition in his critique of the Western sensate civilization. Much of this line of thought takes root in Slavophilia – an intellectual movement originating from 19th century that wanted the Russian society to develop upon values and institutions derived from its early history. In the mid-19<sup>th</sup> century, Russia is beginning to absorb the ideas and culture of Western Europe at an accelerated pace which promptly creates an unstable sociocultural and socioeconomic climate. There is a tremendous growth in revolutionary activity accompanying a general restructuring of tsardom where liberal reforms, enacted by an unwieldy autocracy, induces a sense of tension in both politics and civil society. That is why Slavophiles vigorously oppose dissemination of the Western values and institutions in Russia.

Some of the founders of the Slavophiles movement are *littérateur* Ivan S. Aksakov (1823–1886), his brother, critic and writer Konstantin S. Aksakov (1817–1860), religious poet Aleksey S. Khomyakov (1804–1860), literary critic and philosopher Ivan V. Kireyevsky (1806–1856), historian and journalist Mikhail P. Pogodin (1800–1875), one of the architects of the Emancipation reform of 1861 Yuri Samarin (1819–1876), great Romantic poet Fyodor I. Tyutchev (1803–1873), and poet Nikolay M. Yazykov (1803–1846).

Among prominent Russian thinkers influenced by Slavophiles ideology are, for example, naturalist, ethnologist, philosopher, and historian Nikolay Ya. Danilevsky (1822–1885), author and philosopher Konstantin N. Leontyev (1831–1891), writer and philosopher Fyodor M. Dostoyevsky (1821–1881), writer and philosopher Leo N.

Tolstoy, as well as 20<sup>th</sup> century novelist and historian Aleksandr I. Solzhenitsyn (1918–2008).

Nikolay Ya. Danilevsky publishes his classic book “Russia and Europe,” initially as a series of journal articles, in 1869. The thinker suggests that history is not a linear development of events and ideas, and divides all peoples, past and present, into three main classes: 1) the positive agents of history, i.e. the peoples who created great civilizations or “historico-cultural types”; 2) the negative agents of history, i.e. the peoples and tribes who did not create great civilizations, but as “whips of God” delivered the *coup de grace* to the dying civilizations; and 3) the ethnographic material, i.e. the peoples and tribes whose creative elan was for some reason arrested at an early stage of their development. Only comparatively few peoples or tribes are able to create great civilizations, says Danilevsky. In the fourth chapter of his book the thinker lists ten “historico-cultural types,” such as Chaldean, Hebrew, Arabic, Indian, Persian, Greek, Roman, Germanic, Egyptian, and Chinese (which includes Japanese culture). To these the thinker also adds Mexican and Peruvian types, as well as the future Slavic type (“new Slavic civilization”).

Philosopher, publicist and literary critic Nikolay N. Strakhov (1828–1896) calls the book “the catechism” and “the code” of Slavophilia. While consistently promulgating slavophilian ideas about the primordial originality of Russia, Danilevsky not only elevates it onto the level of absolute exclusivity, but puts forward a requirement of a peculiar isolationism. Russia, in his view, is not only different from Europe, but it is completely alien to the German-Roman world which finds itself is in the state of a deep crisis.

Often called the “Russian Nietzsche,” Konstantin N. Leontyev is a fierce critique of the West. Almost simultaneously with Danilevsky, he creates an original theory of civilizations, based on their cyclicity and multi-linear evolution. After offering a comparative analysis of life-careers of various biological and sociocultural phenomena, the thinker proposes the “law of cyclicity of historical development” according to which every historically significant human community proceeds through three stages: 1) initial simplicity; 2) flourishing complexity; 3) secondary simplicity. The average longevity of “states” is being suggested by the thinker to be 1000-1200 years long. Leontyev notes, that “cultures” and “civilizations” generally survive “states” to which they belong “by a long time,” as well as precedes Spengler in the definition of civilization as a sophisticated, however ossified, “dead” stage of a culture development.

The thinker expresses apprehensive views toward emanating from the West scientific and technical progress, which is capable to destroy the environment as well as cause other catastrophes and calamities. The thinker grimly and prophetically comments on calamitous and dangerous consequences of a fast-paced sociocultural experimentation: “On the pink water and sugar such fundamental upheavals are not prepared: they are offered to the humankind always by the way of iron, fire, blood, and weeping.” Those fears, as the 20 century experience clearly illustrates, proved to be far from unfounded.

Another prominent thinker who criticizes the West is Fyodor M. Dostoyevsky. His literary works explore human psychology in the troubled political, social, and spiritual atmosphere of 19th-century Russia, and engage with a variety of philosophical and religious themes. The thinker sees in the phenomenon of Western capitalism a specter of coming disintegration of society as a result of loss of its main basis – union of individuals for the advantage of everyone and of all.

If Dostoyevsky's works analyze rapid changes during the initial stages of capitalism through the eyes of lower- and middle-class city dwellers, Leo N. Tolstoy shows us the same processes from the point of view of land-owners and peasants. The thinker creates his own religious and ethical school of thought about the world, humanity, purpose of life, and the needed reorganization of society – the Tolstoyan movement.

One of the most outspoken critics of the West in the 20 century is Aleksandr I. Solzhenitsyn. In his commencement address at Harvard University in 1978, he proclaims that despite impressive technological and material achievements, the Western society is spiritually weak and mired in vulgar materialism. The thinker proceeds to explain the underlying reasons:

“This means that the mistake must be at the root, at the very basis of human thinking in the past centuries. I refer to the prevailing Western view of the world which was first born during the Renaissance and found its political expression from the period of the Enlightenment. It became the basis for government and social science and could be defined as rationalistic humanism or humanistic autonomy: the proclaimed and enforced autonomy of man from any higher force above him. It could also be called anthropocentricity, with man seen as the center of everything that exists.... The West ended up by truly enforcing human rights, sometimes even excessively, but man's sense of responsibility to God and society grew dimmer and dimmer. In the past decades, the legalistically selfish aspect of Western approach and thinking has reached its final dimension and the world wound up in a harsh spiritual crisis and a political impasse. All the glorified technological achievements of Progress, including the conquest of outer space, do not redeem the 20th century's moral poverty which no one could imagine even as late as in the 19th Century.”

What, then, distinguishes Sorokin from the Slavophiles and representatives of other similar schools of thought? First of all, P.A. Sorokin thinks and operates within a scientific paradigm of what he himself calls integralistic philosophy. As will be shown below, Sorokin devises and thoroughly substantiates a theory of the integrated sociocultural systems as very different from un-integrated entities. At the basis of this theoretical construct are the principle of immanent changes and the principle of limits. Based on this thoroughly developed paradigm, Sorokin objectively addresses deficiencies and flaws of not only overripe sensate stage of the Western civilization, but of any decaying sociocultural system – sensate, ideational, idealistic, or any integrated synthesis of thereof.

And so, returning now to the subject of calamities and upheavals. The thinker finds the key to these eternal problems on a higher plane of human thought and endeavor by proposing a number of highly controversial and seemingly paradoxical, yet in essence eternal and universal concepts.

One of those fundamental concepts is Triadological theory the main scientific foundation of which is eternal existence of three synchronous types of all-encompassing sociocultural organization (thus, which exist in Triunity), and which are essentially dynamic (self-evolving *from within*) and cyclical – i.e. interchanging each other, by turn, in their predominance over the other two types. Konstantin Khroutski proposes to denote these Types (in abbreviation) as T\_SCSS – Types of SocioCultural SuperSystems [Khroutski, 2015]. Another Sorokin's gift to all of us is his fundamental concept of creative altruism that seems to promise a better future for the rapidly globalizing humanity.

This paper follows an extraordinary evolution of Pitirim Sorokin's views on the subject by analyzing a number of the scholar's milestone works, published over the span of more than 50 years, such as "Crime and Punishment" (1914), "System of Sociology" (1920), "Hunger as a Factor" (1922), "Sociology of Revolution" (1925), "Contemporary Sociological Theories," "Social and Cultural Dynamics" (1937), "Man and Society in Calamity" (1942), "Society, Culture, Personality. Their Structure and Dynamics: A System of General Sociology" (1947), "The Ways and Power of Love" (1954), "Integralism – My Philosophy (1957), "Modern Historical and Social Philosophies" (1963), and "Sociological Theories of Today" (1966). In those seminal works the scholar introduces a sophisticated analytical apparatus into the sociocultural theory and research, achieving a more systemic understanding of a number of highly complex phenomena. In general, Sorokin's notion "sociocultural" directly points to the organic unity of all the social and cultural phenomena and processes (and of the corresponding Type of their rational knowledge) into the whole (one of the Three, of actual existence) type of a supersystem – Sensate, Ideational, or Integral.

To help analyze the evolution of Pitirim Sorokin's analysis of calamities, the evolution of his philosophy of history could be divided into six periods: 1) Christian-Ideational; 2) Positivistic-Behaviorist; 3) Transitional; 4) Integralistic; 5) Altruistic, and 6) Generalizing.

## 2. Christian-Ideational Period (1889–1905)

The first period in the development of the world-view of the young Pitirim (before 1905 and after living his childhood years among the native Komi people of northern Russia) could be called Christian-Ideational. The *Weltanschauung* of the future scholar represents a synthesis of the teleological philosophy of Christianity with pre-Christian beliefs of the Komi people. Sorokin would later observe, that "the moral precepts of Christianity, especially the Sermon on the Mount and the Beatitudes, decisively conditioned my moral values not only in youth but for the rest of my life." [Sorokin, 1998, p. 3].

The way of thinking of the young Pitirim is described in detail in the Sorokin's autobiographical works.<sup>2</sup> He writes:

The morality and mores of the Komi communities were rooted in the precepts of the Golden Rule, the Ten Commandments, and mutual aid. These moral principles were regarded as God-given, unconditionally binding upon all. As such they were not only preached but widely practiced. The same applied to the common law of peasants. The norms of this law were not so much recorded in the court-books as they were in the hearts and actions of my neighbors. They were obeyed not through fear of punishment but as deeply internalized “categorical imperatives. [Sorokin, 1963, p. 14]

### 3. Positivistic Period (1905-1920s)

During the second, positivistic period (approximately from 1905 to 1920) P.A. Sorokin undergoes through disintegration of his Christian-Ideational thinking and, subsequently, constructs a new, mainly positivistic and behaviouristic paradigm. The scholar vividly describes results of various formational influences on him as a young seminarist during those politically charged times in the pre-revolutionary Russia:

The combined effect of all these forces was so powerful that within two years after my enrollment at the school most of my previous religious, philosophical, political, economic, and social ideologies had collapsed. My previous religiosity was supplanted by a semi-atheistic rejection of the theologies and rituals of the Russian Orthodox Church. Compulsory attendance at Church services, imposed by the school, notably stimulated this revolt. My previous *Weltanschauung* and values were replaced by “scientific theories of evolution” and “natural science philosophy.” My former acceptance of the Czarist monarchical regime and its “capitalist” economy was replaced by republican, democratic, and socialist views. Previous political indifference gave way to revolutionary zeal. [Sorokin, 1963, pp. 43-44]

Later, during the years of study in the Psychoneurological Institute and the Saint-Petersburg University, Pitirim adds to his earlier education a substantial knowledge of philosophy, psychology, ethics, history, and natural sciences, as well as, importantly, sociology and law. He notes:

Along with the enrichment of my knowledge in these disciplines, I continued the work of integrating this knowledge into a unified, more or less consistent system or *Weltanschauung*. Philosophically the emerging system was a variety of empirical neopositivism or critical realism based upon logical and empirical scientific methods. Sociologically it represented

<sup>2</sup> See Russian diary, 1917–1922. – L. – 310 p. 1925; Leaves from a Russian Diary. – N.Y. – 310 p. 1927; Leaves from a Russian Diary and Thirty Years after. – Boston. – 346 p. 1950; A Long Journey: The Autobiography of Pitirim Sorokin. – New Haven. – 327 p. 1963.

a sort of synthesis of the Comptean-Spencerian sociology of evolution-progress corrected and supplemented by the theories of N. Mikhailovsky, P. Lavrov, E. de Roberty, L. Petrajitzky, M. Kovalevsky, M. Rostovtzeff, P. Kropotkin, among the Russian social thinkers, and by the theories of G. Tarde, E. Durkheim, G. Simmel, M. Weber, R. Stammler, K. Marx, V. Pareto and other western social scientists. Politically, it was a form of socialistic ideology, founded upon the ethics of solidarity, mutual aid, and freedom. All in all, it was an optimistic *Weltanschauung* fairly similar to the prevalent “world-view” of a majority of the Russian and Western thinkers of the pre-catastrophic decade of the twentieth century. [Sorokin, 1963, pp. 75-76]

Sorokin’s creative output during this period starts with his first publications in 1910. He creates such works as “Crime and Punishment: Service and Reward: A Sociological Etude about the Main Forms of Social Behavior and Morals,” (1914), “Suicide as a Social Phenomenon (1913), “Subject and Boundaries of Sociology” (1913), “L.N. Tolstoy as a Philosopher” (1915), and “System of Sociology,” as well as a large number of political and analytical publications, which represent a prescient, and in many ways scientific chronicle of the Russian Revolution.

His master’s dissertation, which is published in 1914 as the monograph “Crime and Punishment: Sociological Etude about the Main Forms of Social Behavior and Morality” becomes his programmatic work of this period. As well as a number of other works of this period, it represents a creative synthesis of neo-positivism and behaviorism. In based on his master’s thesis 493-pages monograph “Crime and Punishment: Service and Reward” (1914) the young scholar not only presents his philosophical and legal considerations on the society’s evolution, but espouses his contemporary world-view.<sup>3</sup> N.F. Zyuzev notes:

The author depicts a large-scale, full of historic details picture of appearance and development of morals, while narrating his own theory of society and the laws of its functioning. All this rests on a solid methodological foundation. In essence, this is first – and at once very serious – experience of creating not only sociological, but also a philosophical theory of society. [Zyuzev, 2004, p. 44]

According to the young scholar, revolutions, trying to establish new ideals by violent methods, play a reactionary role. The alternative to violent legal methods P.A. Sorokin sees in the ideal of the law based on sociable and benevolent behavior. Its essence consists in mutual solidarity and love of people to each other, and in a gradual rapprochement to this ideal P.A. Sorokin sees the future of mankind. He finishes his “politico-legal” utopia with the following words:

<sup>3</sup> The book appears in 1913, when Sorokin was just 24 years old. On the books cover, however, it is marked by the year 1914.

Superhuman, who stands above the contemporary good and evil, law and morals, who does not know the imposed from outside “duty,” and is full of effective love to the fellow humans, this is the limit, to which leads the humanity’s history. Such is the conclusion of this work, and such are perspectives, which open before us from the point of view of the developed above propositions. [Sorokin, 1914, p. 493]

Perhaps, no other utopia disintegrated so rapidly, as this one. A few months after the release of “Crime and Punishment” the World War I erupted which put a bloody end to optimistic theories of progress, utopias of eternal peace, as well as to naïve and sentimental believes into humans who are supposedly kind by nature.

#### 4. Transitional Period (1922–1929)

The third, Transitional period (1922–1929) is characterized by inclusion of the new, integralistic themes into the previous paradigm. Sorokin shares with us:

Before continuing with my life story, perhaps at this point it is advisable to say a few words about a new crisis in, and reintegration of my philosophical and psycho-sociological views and value system. Already World War I had made some fissures in the positivistic, “scientific,” and humanistic *Weltanschauung* I had held before the War. The Revolution of 1917 enormously enlarged these fissures and eventually shattered this world-outlook with its positivistic philosophy and sociology, its utilitarian system of values, and its conception of historical process as a progressive evolution toward an ever better man, society, and culture. Instead of increasingly enlightened, morally ennobled, aesthetically refined, and creatively developed humanity, these events unleashed in man “the worst of the beasts” and displayed on the historical stage – side by side with the noble, wise, and creative minority – a gigantic world of irrational human animals blindly murdering each other, indiscriminately destroying the great values, overthrowing the immortal achievements of genius, and glorifying vulgarity in its worst form. This unexpected world-wide explosion of the forces of death, bestiality, and ignorance in the supposedly civilized humanity of the twentieth century categorically contradicted all “sweet” theories of progressive evolution of man from ignorance to science and wisdom, from bestiality to noble morality, from barbarism to civilization, from the “theological” to the “positive” stage, from tyranny to freedom, from poverty and disease to unlimited prosperity and health, from ugliness to ever finer beauty, from the man-beast to the superman-god.

This decisive contradiction forced me, as it did many others, to sternly re-examine my pre-war *Weltanschauung*. My personal experiences during the years 1914-22 powerfully reinforced the need for this re-examination. During these years I experienced and observed much too much of hate, hypocrisy, blindness, bestiality, and mass-murder to leave my “cheerful” views intact. It was these historical and “existential” conditions which started the weighing of my values and the reconstruction of my views and of my very self. This reconstruction took place slowly during five years in

Communist Russia and then, after my banishment, in Europe and the United States. By the end of the 1920's this painfully blissful process was matured in its essential features. It resulted in what I now call the *integral system* of philosophy, sociology, psychology, ethics, and values. Some indications of it are already noticeable in my Russian *Sistema Soziologii* and in the works published in Czechoslovakia. They are more evident in my volumes published in America during the years 1924-29. In their mature form the basic principles of Integralism are systematically stated in my volumes published during the last three decades. [Sorokin, 1963, pp. 204-205]

During this period the scholar deeply analyses a number of perennial problems of humanity in such works as “System of Sociology” (1920), “Popular Textbook of Sociology” (1920), “Hunger as a Factor” (1922) and “Sociology of Revolution” (1925). At the same time P.A. Sorokin is continuing to develop his theory of “social stratification” and “social mobility,” which will eventually find its most complete elaboration in the monograph “Social and Cultural Mobility” (1927). Towards the end of this period, in search of solutions for increasingly globalizing problems of humanity, he turns to a kind of “inventory” of existing at the time sociocultural theories in his monograph “Contemporary Sociological Theories” (1928). Again, just like in his previous work “System of Sociology,” the scholar arrives to the conclusion that only a combination of methods, some kind of integral approach will be an effective path to solve the problems of the rapidly globalizing humanity.

In 1920 the scholar publishes two volumes of the monograph “System of Sociology.”<sup>4</sup> According to his own confession, the monograph represents the foundational stone of all his subsequent sociocultural theories. Sorokin notes:

Some forty-four years have now elapsed since the publication of my *System of Sociology*. Unless there is an urgent need for it, I rarely reread my books after they are published. During these forty-four years, while writing my volumes: *Social and Cultural Dynamics* (1937-41); *Social Mobility* (1927); *Contemporary Sociological Theories* (1928); and *Society, Culture and Personality* (1947), I had to reread various parts of these volumes. As a result of these rereading I find that, despite several defects, the volumes gave what appears to me the first logically systematic and empirically detailed theory of social structures: “The Structure of the Elementary Social Systems,” developed in Volume I, and “The Structure of the Complex (Multibonded) Social Systems,” expounded in Volume II.

If in these later works I virtually reiterated in concise form the theory developed in my *Sistema Soziologii*, the reason for such repetition was that

<sup>4</sup> P.A. Sorokin planned to publish ten volumes of “System of Sociology.” Because of many reasons, including his expulsion from Soviet Russia in 1922, this plan remained on the “drawing board.” However, main ideas of the unpublished third volume of the “System” were presented in the “Popular Textbook of Sociology” (1920). It also needs to be said that in a certain sense the scholar continued work on his “system of sociology” throughout his life. Having been reflected in many of his subsequent works, it eventually included many aspects of his scientific analysis of the sociocultural universe.

I found my early theory more logically consistent, more empirically valid, and more scientifically adequate than any other theory of the social structure in the world literature of sociology and social sciences. [Sorokin, 1963, *A Long Journey*, p. 96]

The beginning of the pluralistic understanding of the structure and evolution of the sociocultural universe has been made and the scholar with his characteristic directness notes: “It is time to stop considering complicated historical processes as an equation with one unknown. Of course, such simplification makes the work of the analysis of social phenomena exceedingly easy. However, not every simplicity is holy. Sometimes simplicity may be different. To put it more precisely and softly – such simplification is wrong and untrue.” [Sorokin, 1963, *A Long Journey*, p. 96].

In 1922 the monograph “Hunger as a Factor” sees the light of day. It represents, in the author’s words: “the analysis of social role of nutrition in general, and hunger, in particular.” In the book P.A. Sorokin undertakes a profound and extremely bold philosophical and historical analysis of the phenomenon of hunger based on the extensive amount of historical material from various eras of many societies.

The immediate motivation to write it was the famine of the years 1921-1922 in Russia which, according to some sources, claimed from three to five millions lives. These circumstances encourage Sorokin to unfold a separate chapter of “System of Sociology” into a separate volume. (Then, in turn, the last chapter of “Hunger as a Factor” turns into a separate large volume “Sociology of Revolution”).

The scholar himself testifies: “This monograph emerges from one chapter of the third volume of my *System of Sociology*. Both the theoretical and the practical importance of the problem of nutrition as a factor caused the development of a single chapter into a whole volume.” [Sorokin, 1975, p. XXXVII]. The book is written based on the results of the developed in collaboration with I.P. Pavlov and V.M. Bekhterev research and observations during the winter of 1921 in the starving areas of the Saratov and the Samara regions.

Predating many of his later revelations, the scholar sternly warns that social upheavals do not forebode well for imperfectly integrated society in crisis: “That which many people think is unusual and absolutely new has occurred before many, many times. Only the actors, the stage settings, the costumes, the places, and the times are different; but the play itself is very old, repeated time after time in the history of mankind. History presents very old things and ideas in new dresses, it is like an old writer, who has exhausted his creative ability and therefore repeats himself.” [Sorokin, 1975, pp. 318-319].

Since P.A. Sorokin is a witness, a participant, and, in many ways a victim of the revolutionary events in Russia, it comes as no surprise that his views on the revolutionary theory appear in many of his works. One of the most remarkable works on the subject is his monograph “Sociology of Revolution” (1923). The scholar writes it and publishes in the Russian in Czechoslovakia in 1923, and then republishes it in the English in the US in 1925. In the book he presents and develops

on the basis of an extensive historic background the first scientific theory of revolution.

Sorokin, for example, identifies the typical phases of major revolutions, distinguishing essentially three “inseparable” stages. He calls the first period the phase of revolutionary upsurge, the second – revolutionary dictatorship, and the third one – reaction.<sup>5</sup> According to the scholar, the first stages usually involve disintegration of existing legal, moral, religious, and other “reflexes,” while the last one – their reconstruction on a new basis. [Sorokin, 2008, p. 30, 155]. He writes:

In the full development of their life-cycle all great revolutions seem to pass through three typical phases. The first phase is usually of short duration. It is marked by the joys of liberation from the tyranny of the old regime and by great expectations of the reforms promised by all revolutions. This initial stage is radiant, its government humanitarian and benign, its policies mild, vacillating, and fairly impotent. “The worst of the beasts” in man begins to awaken. This short overture is ordinarily succeeded by the second, destructive phase. The great revolution now turns into a furious tornado indiscriminately destroying everything in its path. It pitilessly uproots not only the obsolescent institutions but also the vigorous ones which it destroys along with the dead or moribund values; it murders not only the uncreative power elite of the old regime but also a multitude of creative persons and groups. The revolutionary government at this stage is ruthless, tyrannical, and bloodthirsty. Its policies are mainly destructive, coercive, and terroristic. If the tornado phase does not utterly ruin the nation, its revolution eventually enters the third, constructive phase. With the destruction of all counter-revolutionary forces, it now begins to build a new social, cultural, and personal order. This order is constructed not only of new, revolutionary ideals but includes the restoration of the more vital of the pre-revolutionary institutions, values, and ways of life which had been temporarily destroyed by the second phase of revolution and which revive and reassert themselves regardless of the wishes of the revolutionary government. The post-revolutionary order, therefore, usually represents a blending of the new patterns and way of life with old but vital and creative patterns of pre-revolutionary times. [Sorokin, 1963, pp. 105-106]

According to Sorokin, revolution leads to the destructive consequences for the involved in it society – collapse of its legal and moral supports, cruelty and aggression, unseen previously levels of crime, disintegration of family values, mass immigration, mass murder of people as a result of various acts of violence, hunger, epidemics and suicides. The alternative to the destructive revolutionary chaos the scholar sees in gradual reforms. He grimly warns:

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<sup>5</sup> This pattern then becomes a model for the classic four-stage schema of Crane Brinton. More on evolution of revolutionary theory see Alalykin-Izvekov, Vladimir N., Satkiewicz, Stephen. (2014). From Brinton to Goldstone: A Scientific Civilizational Perspective on the Theory of Revolution. *Comparative Civilizations Review*, 71, Fall, 67–89.

If famine, war and despotism lead to revolution, and revolution lead to still greater famine, war, despotism, do we not face a tragic historical circuit from which no outlet can be found? How shall we unravel the question? Exceedingly simply and for all deep-rooted revolutions in a very stereotyped, uniform manner. The question is not unraveled. It is solved at one stroke. Death solves it. This outlet never betrays and is always at the disposal of man. A society which has not known how to live, which has been incapable of carrying through adequate reforms, but has thrown itself into the arms of revolution – has to pay the penalty for its sins by the death of a considerable proportion of its members; it has to pay the contribution demanded by that all-powerful Sovereign. [Sorokin, 1967, p. 412]

The Sorokin's concept of revolution in this sense is organically woven into his philosophy of history. Researchers therefore note that on the example of development of the Sorokin's theory of revolution one may be able to trace the evolution of his scholarly world-view. [Lomonosova, 2006, p.162].

In 1928 the 783-pages monograph under the title “Contemporary Sociological Theories” sees the light of day. A well-known American sociologist Robert K. Merton notes:

The fact is, and this is widely recognized by American sociologists, I believe, that no other book has fully superseded Sorokin's.... There have been a dozen or more histories of social thought since Sorokin's magisterial volume. But for the period covered by Sorokin's work, none of these contains the same remarkably comprehensive details about the writings of sociologists and social thinkers. [Sorokin, 1956, p. 783]

The book represents a review of the principal types of social theories of the end of the 19<sup>th</sup>- beginning of the 20<sup>th</sup> century with the goal to establish to what extent they are scientifically valid. The theories of the surveyed period are divided into a certain amount of the main schools of thought. In turn, those are divided into their varieties and each variety is represented by a number of the most typical works. At the beginning of each school, or its variety, a short paragraph about its predecessors is given to connect the present sociology with its past. A characterization of the principles of the school or theory is followed by a critical paragraph to show its fallacies or shortcomings.

As it is obvious, in search of solutions to the problems of his time, the scholar turns to a kind of “inventory” of existing sociocultural theories. As in his earlier work “System of Sociology” the scholar arrives to the conclusion that only a combination of scientifically valid methods, some integral approach will be an effective way of addressing the problems of the rapidly globalizing humanity.

### **5. Integralistic Period (1929–1950s)**

The fourth, Integralistic period (1929–1950s) is characterized by radical revision of the views of the scientist. He begins to consider the evolution of society, culture

and personality as inseparably linked. The result is creation of the integralistic world view and, as a part of it, of the integralistic philosophy of history.

This period (30–50s of the 20<sup>th</sup> century) represents the peak of the scholar's scientific creativity. Such classic works as “Social and Cultural Dynamics,” “Society, Culture, and Personality,” “Man and Society in Calamity,” and many others bring him a long-deserved world fame.

### **5.1. “Social and Cultural Dynamics” – a breakthrough of Triadologic scholarly approach in the world science development**

The results of the scientist's 10-year long *tour de force* effort to explain the “governing dynamics” of sociocultural universe became known as the four-volume *opus magnum* “Social and Cultural Dynamics” (1937–1941).

The scientist solemnly deliberates his experiences in the Preface of this monumental achievement: “This work has grown out of my efforts to understand something of what has been happening in the social and cultural world about me. I am not ashamed to confess that the World War and most of what took place after it were bewildering to one who, in conformity with the dominant currents of social thought of the earlier twentieth century, had believed in progress, revolution, socialism, democracy, scientific positivism, and many other “isms” of the same sort. For good or ill, I fought for these values and paid the penalty. I expected the progress of peace but not of war; the bloodless reconstruction of society but not bloody revolutions; humanitarianism in nobler disguise but not mass murders; an even finer form of democracy but not autocratic dictatorships; the advance of science but not of propaganda and authoritarian *dicta* in lieu of truth; the many-sided improvement of man but not his relapse into barbarism. The war was the first blow to these conceptions. The grim realities of the Russian Revolution provided the second. If anybody had seriously predicted in 1913 a small fraction of what has actually taken place since, he would have been branded then as mad. And yet what then appeared to be absolutely impossible has indeed happened. [Sorokin, 1937, p. IX]

Sorokin continues on the evolution of his concept: “All this naturally gave rise to insistent questioning. What were the reasons, the causes, and the meaning of these surprises? The leading principles of the social science that I had learned did not help much in my attempt to understand. Quietly, sincerely, only for myself, I began to meditate, to study, and to look for the answer. This personal quest has continued for a number of years. For a long time I was groping in darkness. Various hypotheses were tried and found inadequate. After many trials and errors the central idea of this work emerged. Step by step it developed and crystallized. After preliminary tests of its truth, I undertook its systematic elaboration ... The result is the present group of volumes.” [Sorokin, 1937, p. IX]

While laboring on his monumental task, the scientist has discovered, that the “unchartered territory” where the quest for the “ultimate truth” has taken him, had been a “playground of other giants,” and, willingly or not, found himself in the illustrious company of “philosophers of history.” He contemplates the field of expertise which he was cultivating: “Of the semi-historical disciplines which it

resembles, it is nearest to what often is styled Philosophy of History. Since almost all great sociological systems are a brand of philosophy of history, and since most of the great philosophies of history are a sort of sociology of cultural change, I do not have any objection to the use of this name by anyone who fancies it to describe the present work.” [Sorokin, 1937, p. X]

Once having realized, that his own “philosophy of history” is but one of macrotheories attempting to explain the evolution of sociocultural universe from various perspectives and angles, Sorokin never tired to analyze his predecessors and contemporaries scholarly and creative achievements, as well as in the attempts to reconcile his concepts with other theories of large sociocultural entities and systems. Some of the most influential, and comparable in scale to the Sorokin’s, works in the field of “philosophy of history” at the time have been the treaties on origin and evolution of civilizations by Nikolai Danilevsky, Oswald Spengler, and Arnold Toynbee. Yet, initially, Sorokin finds their concepts of civilization vague, un-systemic, and, therefore, “unscientific.” In fact, the subject “civilization” in “Dynamics” cannot even be found in the monograph’s Index and, instead, the reader is referred to “culture.” [Sorokin, 1937, p. 713]. In its stead, the scholar proposes a concept of “cultural supersystem,” the theory of which he brilliantly and richly develops. Michele Richard reminds us the main precepts of the theory in his Introduction to “Dynamics” as follows.

Sorokin’s data on Graeco-Roman and Western civilization exhibit a pattern of current fluctuation between what he calls “sensate” and “ideational” value-systems. During a sensate period all aspects of life are dominated by a materialistic world view, and economic and scientific activities flourish, particularly during the “active” sensate phase. During the “passive” phase hedonistic values prevail, and in the final “cynical” stage the sensate mentality negates everything including itself. Ideational periods, in contrast, are spiritually oriented, and social relationships are familistic rather than contractual. Ideational periods move from the “ascetic” to the “active” (expansionistic) mentality, but finally degenerate into “fideism” (a desperate will to believe).

When civilization shifts from one of these “supersystems” to the other, there is a stormy period of transition marked by increases in the intensity and magnitude of wars and revolutions, and by general social disorganization (increasing rates of crime and mental illness, breakdown in family structure, etc.). Sorokin’s “law of polarization” states that during such periods violence and egoistic behavior increase, but there is a counterbalancing increase in altruistic behavior (love, self-sacrifice, and mutual aid). At the same time, government becomes increasingly coercive during these periods. Sometimes, however, there is a harmonious combination of the best elements of the two supersystems; a blend of faith, reason, and empiricism. These “idealistic” periods seem to be of shorter duration than the other two supersystems, but in any case the time frame is variable for all three. History does not repeat itself in detail (as Nietzsche suggested) but only in its general conformations.

But what causes these shifts to take place? Sorokin invokes two principles to account for change. The first is the principle of “immanent determinism”; a sociocultural system, like a biological system, unfolds according to its inherent potentialities. The latter (“immanent determinism” and the inherent potentialities of a sociocultural system) can be understood and explained exclusively from the position of Aristotle’s teleological physics (Organicist cosmology – Functionalist naturalism). However, currently (at modern time) Aristotle’s scientific Organicism is taboo (forbidden in the modern scholarly community. Essentially, this is now the main task of the Biocosmological Association (BCA) – to contribute to the reinstatement of Aristotle’s Organicist science foundations and conceptual framework, thus rehabilitating the teleological physics of Stagirite and developing ourselves for effective meeting and successful resolution of the sociocultural challenges of our 21<sup>st</sup> century.

Sorokin writes:

External factors can only serve to accelerate or retard the system’s growth, but they cannot alter the nature of the system itself ... The second is the “principle of limits,” which states that the number of basic cultural forms is small, and that growth cannot continue indefinitely in one direction. Both the sensate and the ideational principles are one-sided and incomplete; the more exclusive and dominant one principle becomes, the more limited it becomes. Finally, it exhausts its creativity and begins to wane, permitting its complementary opposite to ascend once more.” [Sorokin, 1991, pp. VIII-XI]

Such, according to Sorokin, is the true solution to the problem of “philosophy of history,” which, in the scholar’s mind, is a magnificent, if at times horrifying parade of juggernauts of “sociocultural supersystems,” eternally replacing each other in the process of sociocultural evolution. Elsewhere, we elaborate on the Sorokin’s approach in much detail, as well as visualize it in a number of conceptual models [Alalykin-Izvekov, 2009].

The title itself of the Pitirim Sorokin’s *magnum opus* – “Social and Cultural Dynamics” – clearly points to the Sociocultural (i.e. covering all human conscious task-oriented activities, phenomena and processes) and Dynamics (originally, Aristotle’s *dunamis*, i.e. inherent potentials), thus basically referring to the all-encompassing self-development of sociocultural systems and supersystems (basing his efforts on the comparative analysis of various “cultures”, that is the synonym of “civilization”, and the study of their, as types, inherent cyclic growth and hierarchical mapping). Essentially, due to Sorokin, all cultures (civilizations), besides their cultural and historical uniqueness – they all have the general (the universal – atemporal and ahistorical) cycles – of the Three interrelated (but self-dependent) Types of sociocultural supersystems (T\_SCSS): two radically diverse T\_SCSS; and the third intermediate – Integral T\_SCSS.

Still, however, Pitirim Sorokin’s Triadological approach is out of a due concern. The reason is evident, we call it in BCA as the current ‘cosmological insufficiency’

(the lack of due foundations for science). Therefore, BCA earnestly tackles this task. However, the given study strives to shed light on the historical aspects of the issue of “calamities” in P.A. Sorokin’s works, and which is beyond the significant exploration of Sorokin’s foundational Triadological approach.

### **5.2. Other Sorokin’s works of Integralistic period**

In the midst of World War II the scholar returns to the themes of crisis and disasters in his classic 319-pages monograph “Man and Society in Calamity” (1942), however this time within the framework of his on his new integralistic paradigm. He writes:

Among the manifold and diverse calamities that have befallen mankind, four have probably proved the most frequent, most destructive, most terrible, and at the same time, most instructive and significant – namely, war and revolution, famine, and pestilence. These four monsters are the subject of this investigation, in so far as they affect our minds and behavior, our social organization, and our cultural life.” [Sorokin, 1968, p. 13]

The key to the solution of the perennial problems of calamities the scholars sees in a well-integrated in a scientific, religious, moral, and social and other aspects society. Characteristically, he concludes regarding the phenomenon of famine:

“The practical lesson of history is this: the orderly ways of an integral society are always more successful and less costly in dealing with famine than are the various disorderly modes resulting in huge mortality. If the starving society is wise, if its governing and well-to-do classes are unselfish, it will always seek a combination of the rational and less painful ways out of the famine, never would it turn to revolutions, war, and other similar “medicines” which cure the sickness by killing the patient. Unfortunately, many a society does not possess this wisdom of temporary sacrifice. They turn to pseudo-measures and pay the terrible penalty for their foolishness and egotism, their lack of sociality and mutual help. [Sorokin, 1968, p. 298]

In the Introduction to the encyclopedia-size, 742-pages volume “Society, Culture, Personality. Their Structure and Dynamics: A System of General Sociology” (1947) Sorokin writes: “So much fact-finding sociological work has been done during the past few decades that the greatest need of contemporary sociology is not so much a further collection of facts as assimilating the existing data, presenting them in a sound, logical order, and rebuilding the framework of sociology as a systematic science.” [Sorokin, 194, p. XIII]. This task is brilliantly accomplished since the monograph is, perhaps the most systematic presentation of the scholar’s integralistic theory of the structure and evolution of the sociocultural universe to date.

In 1957 the light of day sees a compact, but very important article “Integralism – My Philosophy.” In this work the scholar defines integralism as a complex, synthetic

approach to the study of society, culture, and personality. The scientist, in particular, states that during the last few centuries, the activities of humanity in the field of Truth (scientific discoveries) and Beauty (arts) rushed ahead of activities in the field of Goodness (altruistic love). The path out of this crisis P.A. Sorokin envisions in the ways of increase of the unselfish creative love and solidarity ethics in the society.

Hence his interest to the theory of creative altruism, which he develops in the 40s and 50s of the 20<sup>th</sup> century. At the end of the same, Integralistic Period, the scholar also turns to the cyclical concepts of the sociocultural evolution. The Sorokin's recurring theme about the loss of relevance by the notion of endless historical progress originates precisely during this time.

## **6. Altruistic Period (1950s)**

During the fifth, Altruistic Period (1950s) the thinker turns directly to the solution of the global problems of humanity. The scholar proposes the program of saving humanity on the basis of unselfish love, and at his initiative the Harvard Research Center in Creative Altruism opens its doors.

During this period the scholar publishes one book after another: "Social Philosophies of an Age of Crisis" (1950), "Altruistic Love" (1950), "Explorations in the Field of Altruistic Love and Behavior" (1950), "The Ways and Power of Love" (1954), "Fads and Foibles in Modern Sociology and Related Sciences" (1956), "American Sexual Revolution" (1957), "Power and Morality" (1959) and others.

In 1954 the scholar publishes 552-pages monograph "The Ways and Power of Love." He presents in it the doctrine of "creative altruism" which the scholar considers the most important instrument for overcoming the lack of spirituality in the modern, sensate civilization. Based on the extensive research and analysis, the thinker concludes that neither democratic reforms, nor even creation of international political instruments like the United Nations by themselves cannot prevent wars and conflicts. The tasks of human survival, warns Sorokin, demand altruistic re-education of the society's leaders and its citizens.

## **7. Generalizing Period (1960s)**

In the 1960s, during the sixth, Generalizing Period of his scholarly activity P.A. Sorokin again "inventories" contemporary theories of philosophy of history and social sciences in search of effective workable means and tools for solution of the humanity's eternal problems.

The scholar finds many "points of reference" between his theories and the concepts of other "titans of philosophy of history" [Alalykin-Izvekov, 2011] and actively polemicizes with a number of them.

During this period the scholar writes such works as "Modern Historical and Social Philosophies (1963 г.), "The Basic Tendencies of Our Time" (1964), and "Sociological Theories of Today" (1966 г.). To this period relates also the autobiographical essay "The Long Journey" (1963).

In April of 1950 the scholar presents a course of lectures entitled "Modern Philosophy of History" at the Vanderbilt University. The extended version of these

lectures is being published in 1950 under the title “Social Philosophy in the Age of Crisis,” and in 1963 they see the light of day already under the title “Modern Historical and Social Philosophies.”

Tellingly, the original title of the 345-pages book used to be “Social Philosophies of an Age of Crisis.” [Sorokin, 1950, 1952] Reminding us of the scholar’s turbulent experience with history-making as a prominent revolutionary, a leading social scholar, a high-profile politician, and a top-level political “expellee,” Sorokin does not hesitate to observe that “philosophies of history” always were a characteristic feature of an age of change, transition, and crisis – an astute observation, which seems to be acutely relevant in the 21 century.

The scientist starts with a review of “philosophies of history” in the chapter entitled “Man’s Reflection on Man’s Destiny in an Age of Crisis.” It provides us with a brief, but comprehensive survey of them through the ages – from “The Admonitions of an Egyptian Sage,” to the Ibn Khaldun’s “Prolegomena,” to the Giambattista Vico’s “New Science” and other seminal works of the past. In the subsequent chapters author analyzes the theories of giants of contemporary civilizational thought, such as Nikolai Danilevsky, Oswald Spengler, Arnold Toynbee, Walter Schubart, Nikolai Berdyaev, F.S.C. Northrop, Alfred L. Kroeber and Albert Schweitzer.

It is easy to see, that in “Philosophies” Sorokin analyzes the sociocultural theories in a less categorical and, instead, more conciliatory fashion, depicting an epic quest of many scholars for the Holy Grail of truth. The scholar notes: “It looks as though all these authors vaguely feel and partly know that there is a kind of vast cultural entity or deep cultural undercurrent, which largely determines most of the surface ripples of the sociocultural ocean. The authors try to grasp its properties, to map its course and area and to clarify its influence upon the surface of cultural phenomena. They seem to agree in some points and in others not; but underlying all discussion is the fundamental agreement that some sort of vast unified cultural systems live and function in the sociocultural ocean.” [Sorokin, 1963, p. 276]

Tellingly, the scholar introduces six (later to become thirteen) briefly outlined below “points of agreement” between the analyzed “historical and social philosophies”: 1) civilizations do exist as and along with other vast cultural entities and systems; 2) the number of those has always been very small; 3) each of these basic types of cultural prototypes is different from the others; 4) each of the vast cultural systems is based upon some “major premise” or “philosophical presupposition” or “prime symbol” or “ultimate value” which the supersystem or civilization articulates, develops, and realizes in all its main compartments, or parts, in the process of its life-career; 5) each of these supersystems, after its objectification and socialization in empirical reality, becomes a meaningful-causal unity; 6) civilizations and other vast cultural entities and supersystems share certain common properties. [Sorokin, 1963, pp. 276–279]

Accordingly, Sorokin ends his deliberation of the “modern historical and social philosophies” with the following rather inclusive statement: “These general characteristics, systematically studied in my works, are explicitly or implicitly

present in all the theories discussed. In the case of a few of these traits the authors differ somewhat as to details; but these minor disagreements do not abridge the major agreement in regard to the characteristics mentioned.” [Sorokin, 1963, p. 279]

The 676-pages volume “Sociological Theories of Today” (1966) in many ways concludes the Sorokin’s long, illustrious and in many ways unique scholarly career. In it, the scholar summarizes his analysis of structure and evolution of psychosocial and sociocultural universe.

Having introduced a rigorous scientific apparatus in the form and shape of the classification of existing sociocultural theories, Sorokin presents us now with concisely outlined below thirteen “points of agreement” between them:

1. In the boundless ocean of sociocultural phenomena there exist vast cultural systems, supersystems, or civilizations that live and function as real unities. Danilevsky calls these supersystems “cultural-historical types”; Spengler calls them “high cultures”; Toynbee refers to them as “civilizations”; Kroeber as “high-value patterns”; Schubart, as the “prototypes of culture”; Northrop as “world cultures”; Berdyaev, as “great cultures”; Sorokin calls them “cultural supersystems.”

2. Due to the triple interdependence of the whole system and its parts, these vast supersystems tangibly condition most of the surface rippling of the sociocultural ocean.

3. Without an adequate knowledge of the supersystem we can hardly understand the structural and dynamic properties of all its important parts, just as without a sufficient knowledge of a whole organism, of its gross anatomy and gross physiology of its organs, tissues, and cells.

4. The macrosociological theories give to us, speaking figuratively, a gross anatomy and physiology of the whole cultural universe.

5. The theories agree that the total number of vast cultural supersystems has in the whole human culture been small. The total number of Danilevsky-Spengler-Toynbee’s “civilizations” does not exceed some 30; R. Westcott gives to us a list of about 300, but the list includes not only world civilizations but also continental, national, provincial, and local civilizations. The world civilizations in this list do not exceed 15. If we take the vastest cultural supersystems or prototypes, most of the examined theories offer to us only two: Northrop’s aesthetic-theoretic; Becker’s sacral-secular; Ortega’s classic-crisis; the dichotomists’ material-nonmaterial; civilization-culture, technological-ideological; Kroeber’s reality-culture and value-culture; Sorokin’s ideational, idealistic, and sensate (plus eclectic); and Schubart’s harmonious, heroic, ascetic and messianic. If instead we take other classifications of vast cultural formations, such as Paleolithic-Neolithic-copper-bronze-iron-machine civilizations or hunting-pastoral-agricultural-industrial or “rural-urban” or any other classification base either upon main types of religion or of economy or of the type of family and kinship or of government or of solidarity (*Gemeinschaft-Gesellschaft*, “mechanical-organic”) or Saint-Simon’s critical-organic or Comte’s theological-metaphysical-positive or Vico’s civilizations “of the age of gods, of heroes, and of man,” the number of the basic types still remains very small.

6. Each of the vast cultural systems is based upon some major premise or philosophical presupposition or prime symbol or ultimate value that the supersystem or civilization articulates, develops, and realizes in the process of its life-career in all its main compartments or subsystems.

7. Each of these supersystems, after its objectification and socialization in empirical reality, becomes a meaningful-causal unity.

8. The theories agree on the general characteristics of systems, supersystems, and civilizations. Explicitly or implicitly almost all the examined theories ascribe to it the following properties: a reality different from that of its parts; individuality; triple (general and differential) interdependence of parts upon one another and upon the whole system and of the whole system upon its parts; the preservation of its individuality or its “sameness” in spite of a change of its parts; the change in togetherness of all important parts; the self-directing (immanent) change and self-determination of its life-career with external forces either accelerating or slowing up, facilitating or hindering the unfolding and realization of the potentialities of a system or supersystem, sometimes even destroying it, but hardly ever transforming it into something radically different from its inherent potentialities; the selectivity of a system or supersystem in taking in the congenial and in rejecting the uncongenial elements of the external world; and the limited variability of a system or supersystem.

9. The theories agree in their rejection of the linear conception of the life-course of systems and supersystems and of historical processes generally in favor of either cyclical or rhythmical or continuously varying conceptions.

10. The theories all have a tangible similarity of the “phases” or “prototypes” of cultural supersystems or civilizations surveyed. The phase of growth or “spring” of Danilevsky-Spengler-Toynbee’s civilizations is similar in several traits with Sorokin’s ideational, Schubart’s ascetic-messianic, Kroeber’s “religiously dominated,” Northrop’s dominantly aesthetic, Berdyaev’s barbaric-religious, and Becker’s sacral prototypes. The phase of decline of civilizations in Danilevsky-Spengler-Toynbee-Koneczny’s theory resembles Sorokin’s overripe sensate, Schubart’s heroic, Northrop’s theoretic, Kroeber’s secular, Berdyaev’s humanistic-secular, Schweitzer’s decline of civilizations, and Ortega’s crisis civilization.

11. The eleventh similarity consists in an affirmation by most of the theories examined (with the exception of Danilevsky’s and Spengler’s) that the whole life-process of various civilizations, supersystems, or prototypes follows different courses in their genesis, growth, life-patterns, life-span, blossoming and withering, decline and resurrection.

12. The theories examined unanimously diagnose our time as the time of the greatest crisis, as the end of the epoch of domination of the sensate–theoretic-secular–Promethean-scientific-technological culture dominant during the last four or five centuries and as a transition period toward a now emerging messianic-integral-new medieval-aesthetic-theoretic prototype of civilization or culture.

13. All theories stress the coming reevaluation of hitherto dominant values, including a radical reconsideration of methods and ways of cognition. Practically all the theories expect, in the culture to come, a reunification of the supreme values of

Truth, Beauty, and Goodness – hitherto separated from one another – into one “*summum bonum*.” [Sorokin, 1966, pp. 378–382]

The scholar concludes his analysis of similarities and uniformities in the examined culturological theories with these remarkably conciliatory and compromising remarks: “Agreement in these thirteen items strongly suggests the rough validity of these conclusions: Otherwise, a concordance could hardly be achieved on the part of distinguished scholars so different from one another in their philosophical background and their methods, in the starting points and the materials of their study, in their mentality, personal preferences, and life-history. Despite the shortcomings of these theories, each of them brings into the open one or more important aspects of cultural realities; each of them enriches our understanding of the structure and nature, relationships, and processes of macrocultural unities and, consequently, of the whole cultural universe, including our own personality and behavior.” [Sorokin, 1966, pp. 378–382]

## Conclusions

1. Pitirim Sorokin’s unique circumstances of life motivate him towards continual improvement of his intellectual abilities and skills with the goal of achieving a comprehensive knowledge of structure and evolution of the sociocultural universe. Despite enormous challenges that befall him, the thinker steadily follows his moral compass towards the universal ideals of Truth, Goodness, and Beauty. Learning from the best minds of his generation and possessing one of the most powerful intellects of his time he confidently masters accumulated by the humanity scientific, intellectual, historic, cultural, and aesthetic treasures. Continuously absorbing the best achievements of the world of thought and constantly analyzing the surrounding sociocultural universe, the thinker forms a holistic and scientific picture of its structure, evolution, and the perspectives of its development. During his lifetime, the scholar’s world-view proceeds through six stages: 1) Christian-Ideational; 2) Positivistic-Behaviorist; 3) Transitional; 4) Integralistic; 5) Altruistic, and 6) Generalizing.

2. The scholar makes a significant, often pioneering contributions to such areas of expertise as the subject and method of sociology, sociology of crime and punishment, sociology of jurisprudence, sociology of religion and morality, sociology of revolution, sociology of family and marriage, sociology of human behavior in extreme conditions (war, hunger, pestilence, etc.), history of sociology, social philosophy, and philosophy of history. He also develops a number of new scientific concepts, theories and paradigms, including theory of social and cultural stratification and mobility, theory of social and cultural dynamics, theory of integralism, theory of convergence, and theory of creative altruism.

3. One of the most significant contributions of P.A. Sorokin to human knowledge is in the field of philosophy of history. In fact, the scholar was a philosopher of history throughout his unique and extensive scholarly career, analyzing the structure and evolution of the sociocultural universe through the prism of a number of paradigms. Having contributed a significant and still not completely

appreciated contribution to the human thought, Sorokin develops a unique, integral paradigm of philosophy of history. It includes theory of integrated evolution of society, culture, and personality; theory of calamities, theory of cultural supersystems, theory of convergence, principle of immanent change; principle of limits, and other important theories and concepts.

4. Through the centuries every major thinker analyzed the sociocultural universe from a unique point, angle, or perspective. Despite significant differences in their views, they all contributed mightily to philosophy of history, having enriched it with their concepts, theories, and paradigms. Having analyzed a colossal amount of scholarly sources, and maintaining an active scholarly dialogue with major thinkers of his day, P.A. Sorokin concludes that, despite separating them significant differences, their ideas, concepts, theories, and paradigms display significant similarities.

5. The scholar deeply and brilliantly develops an original integral approach to the structure and evolution of the sociocultural universe, making a lasting contribution to the theory of the macro-level sociocultural phenomena and the long-term sociocultural processes. One of the more developed aspects of the Sorokin's philosophy of history is his theory of "sociocultural supersystems" as the macro-units of historical development. Having developed theoretical foundations of the integral study of social development, the scholar has put it on a scientific basis. The essential part of this integral paradigm is his theory of revolutions, wars, hunger, epidemics, and other major calamities and catastrophes. By making those phenomena more transparent and predictable, the scientific analysis can help to alleviate some of their most horrific consequences.

6. In his early works the young scholar considers social upheavals no more than giant nuisances on the path of the humanity's inexorable progress to the social and cultural perfection. However, the ordeal of the World War I (1914–1918), the Russian Revolution (1917), and the Russian Civil War (1917–1923) soon dramatically alters this optimistic outlook. In the process of his continuing quest for the "Holy Grail" of sociocultural universe, the scholar proposes a concept of "sociocultural supersystem," the theory of which he brilliantly and richly develops. This concept becomes a centerpiece of the thinker's philosophy of history. According to this highly original and fascinating paradigm, revolutions, wars, and other sociocultural upheavals punctuate history during the periods of change and crisis. Furthermore, they are often interconnected, triggering each other in the prolonged cycles of horrifying human suffering. After a careful analysis, the scholar arrives to the conclusion that the problem is essentially "systemic" in nature, in other words, periods of crisis arrive when a society is misbalanced and un-integrated. For example, during the last centuries the Western civilization made significant strides in the fields of knowledge (Truth) and art (Beauty), however, lags in altruistic and creative love (Goodness). As a result, civilization itself is in peril. The thinker finds the key to those eternal problems on a higher plane of human thought and endeavor by proposing a number of highly controversial and seemingly paradoxical, yet in essence

eternal concepts of unselfish, creative love and a balanced society with a developed system of well integrated, altruistic values.

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# THE ASYMMETRY OF HISTORICAL ACTUALITY: ITS DOUBLE FOCUSING ELLIPTIC STRUCTURE

Makoto OZAKI<sup>1</sup>

**ABSTRACT.** *The classical Chinese idea of change, composed of negativity and positivity in opposition, implies the asymmetric rotation of the universe with the attainment of a higher triadic unity of the opposed elements. In modern physics the universe is conceived of as the distorted elliptic space with the double focus, being generated from the collapse of the symmetric balance between matter and contra-matter in the primary inception. In western intellectual history Plato's eternal ideas are contrasted to the Aristotelian actual individual as substance. For Hegel, history is the self-manifesting process of God, in which essence appears and potentiality becomes actuality, arriving at the state existence, and Heidegger prepares and waits for the coming of the last God in the other beginning concealed in the depth of the first beginning. As Schleiermacher and A. Ritschl expound, Christianity has the double focus of Jesus and the Kingdom of God in prolongation to the eschatological future. The Buddhist logic of non-duality does not exclude duality as well in alteration of the Buddha qua the effect and the Bodhisattva qua the cause in history. Nishida's notion of self-identity of absolute contradistinction as symmetry in the vertical static dimension of the eternal present differs from Tanabe's negative conversion in action aiming at a higher unification of the opposed, e.g. relativity and quantum theories, Christianity and Buddhism in the historical development. For Tanabe, eternity in potentiality occurs as an actual event in history through the mediation of human subjective action in the way of self-negation. The fact that the hidden eternal origin is revealed by the historical Buddha might bear a resemblance to the retroactive establishment of the eternal divinity of the human Jesus from the historical perspective. All these facts are indicative of the asymmetry of the elliptic structure of historical actuality with the double focus.*

**KEYWORDS:** *asymmetry, double focusing ellipsis, Jesus/Kingdom of God, change, Buddha/Bodhisattva, cause/effect, eternity/history*

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<sup>1</sup> Sanyo Gakuen University, Okayama, JAPAN.

## Introduction

Why do the sun and the moon change alternately? This fact is fundamental to the ancient Chinese thought of change which is composed of negativity and positivity and applicable to not only natural phenomena but also human affairs in general. The mutual rotating movement of the sun and the moon is supposed to be caused not by the symmetry of a perfect circle with the only one central point, but by the asymmetry of the double focusing elliptic structure of the cosmos. This may also be supported by the modern physical theories of relativity and disparity. Whitehead's analysis of experience into subject and object with the irreversibly asymmetric time of the immortal past accumulation is a speculative cosmology reflective of modern relativity and quantum theories.

The elliptic structure of the cosmos with the double focus might be analogous to the Christian theological scheme of Jesus and the Kingdom of God prolonged to the future end as well. The fact that the human way of thinking is prevailed by the dichotomy may be suggestive of such a double focusing movement in history which is analyzable into the opposition or reaction between, e.g., Plato and Aristotle, Confucianism and Taoism, Nishida and Tanabe in the modern Japanese philosophy, and so on. Heidegger's ideas of the other beginning and the last God vis-à-vis the first beginning might correspond to the double focusing asymmetric structure in the Christian theological background. The Buddhist logic of non-duality and duality, Emptiness and appearance, might also be not exempted from such a scheme. The Aristotelian concepts of potentiality and actuality, together with the triadic unity of them, i.e. *entelecheia*, are highly significant in consideration of the matter in question. In keeping with the general strategy of the Biocosmological Association, Aristotle's *Organon* Kosmology (among the Three main Types of rationality) – is treated as “essentially bipolar, dynamic, cyclic, inherently changeable (driven *from within*), triadic, ascending; while the latter (Monolinear) is unipolar (reducible to Plato's Dualism) and uniform, and static (although progressive), and which is driven *from without* (by external causes and forces).”<sup>2</sup>

All this might be parallel to the idea of change entailing the integration of opposed elements in the prototypical dialectic. The idea of Incarnation, i.e. God's eternal being in historical becoming in the double focus of potentiality and actuality might be implicit of the elliptic structure of the moving universe. The history of human ideas displays the dichotomic opposition and its further development of the triadic unification in the asymmetric direction of the elliptic movement.

### 1. Change and motion (μεταβολή και κίνηση)

Einstein's general theory of relativity expresses the universe as the double focusing elliptic space, i.e., the Riemannian space. According to the theory of disparity advocated by the two Japanese Nobel prize physicists Dr. Kobayashi and Dr. Masukawa, although matter and contra-matter were equally balanced, i.e., symmetric, at the very beginning of the cosmos, nevertheless, then matter has

<sup>2</sup> Khroutski, 2016, p. 398.

prevailed over contra-matter with the result of presenting our cosmos. This idea might be implicitly influenced by the most ancient Chinese thought of change which is entailed by the alternation of the positive and the negative elements. Therefore, the idea of God (kami) originally means the infinite multiplicity of change in the whole universe, i.e., the immanent principle, contrary to the western idea of the transcendent God.

The idea of change, constituted by the opposed elements of the positive and the negative, is the proto-type of the dialectic integrating the opposed elements into a higher stage. But, why does change occur? This is because the entire universe is prevailed by the alternation of the opposed elements of the negative and the positive, and they are not in the symmetric balance but rather in the asymmetric movement. If the universe were the perfect circle with the one center, then there would be no movement. But, on the contrary, the universe is always in the movement, and this is entailed by the disparity or asymmetry of the opposed elements. As a matter of fact, the cosmos is not static but dynamic in character as shown in the fact that the sun and the moon alternately change into each other.

The ancient Chinese idea of change is based upon the observation of their rotary movement. The natural fact is also reflected on the human behavior as well, particularly in the language in which the sentences are structured by the pair, and hence the way of thinking is expressed in terms of the pair of the opposed elements such as principle and fact, matter and spirit, essence and appearance, substance and activity, cause and effect, origin and trace, eternity and time or history, potentiality and actuality, being and becoming or event, identity and difference, subject and object, and so on. These two opposed elements are not equally retained, but on the contrary, move and change into a higher dimension of the integration of them with the attainment of a harmony as peace resulted from the opposition or conflict. This is the proto-type of the subsequent course of intellectual history, including even Buddhist thought.

## 2. Essence and Appearance

The Buddhist logic of non-duality signifies the symmetry of the intrinsic essence, while at the same time displaying the duality in the extrinsic appearance. If the Buddha or God and human beings were identical to each other, i.e., symmetric, then there would be no need for Him to incarnate in the human form. Even though God or the Buddha and man are essentially identical with each other, however, as a matter of fact they are different from each other, and the difference should be elevated to the level of identifying of them. Although they are identical to each other in essence, nevertheless, they are separated from each other in actuality, and in need of further unification of them to realize the original essence of self-identity. There arises the movement of realizing the potentiality into actuality, essence into appearance in the space-time dimension of existence. When the self-identity of essence and appearance, potentiality and actuality, without difference, is realized, it is the perfect symmetry of them in a circle with the one center: in other words, the eternal present or the Aristotelian concept of *entelecheia* as the opposed unity of

potentiality and actuality.

In the temporal course of actuality, however, there is always the difference between them, and this entails the delay of attainment of self-identity of them. In fact, there are the two focal points in Christianity, i.e., Jesus and the Kingdom of God; whereas Jesus believes in the imminent coming of the Kingdom of God on earth, the latter is postponed to the indefinite future end of the world history accompanied by the second coming of Jesus as the Christ. There is a delay as the difference between Jesus himself and the future coming of the Kingdom of God. Christianity has the double focusing structure of the asymmetric ellipsis in the actual course of history. The difference between Jesus and the future coming of the Kingdom of God is termed *différance* à la Derrida. The self-identity of God or the Buddha and human beings in the eternal original essence is to be realized as the reconciliation of them in the historical existence of space and time as the telos or aim of history as the recovery or retrieval of the lost identity.

### 3. The Other Beginning

The double focusing structure of ellipsis is relevant to Heidegger's idea of the other beginning vis-à-vis the first beginning as the pre-Socratic origin of western history of metaphysics. For Heidegger, Being itself at the first beginning has not yet fully been revealed but still deeply hidden up to now, and hence is expected to reveal itself completely in the present era of a new history whereby the last God may appear. The tension between the first and the other beginning has been strained and remained until the present time, and hence the other beginning as well as the last God are delayed in history. Even though the other beginning is not different from the first one in the original depth, however, they are distinct from each other on the surface. When the other beginning is realized, it is no other than the first beginning as fully revealed, and this is the *entelecheia* as the complete reality à la Aristotle. But in effect the other beginning is still potential in the present. Therefore, in so far as the first and the other beginnings are opposed to each other, they are asymmetric in structure in the historical process. If they come to convergence, they are turned out into the perfect same one circle. In the temporal process of sequent events they are different or even *différance* à la Derrida, while being essentially identical with each other in the deep original dimension the realization of which is anticipated to come in the indefinite future.

There might be a parallel between the Christian dichotomy of Jesus and the Kingdom of God and the Heideggerian opposition of the first and the other beginning on the historical horizon. When the Kingdom of God is realized in history, Jesus comes again as the resurrected Christ, and hence there is no tension or delay as the difference between them. So, when the last God comes to us, it is the actualization of potentiality in fullness. In other words, the hidden origin of the first beginning is realized as the other beginning of a new history together with the coming of the last God. The hidden essence of the first beginning is transited into the other beginning as the same one ultimately. This is the dialectical development of the duality of the first and the other beginning, culminating in the appearance of the last God so far unseen.

The transition and movement from the asymmetry of the double focus in ellipsis to the symmetry of the one centered circle is the triadic unification of the double focal point in the end.

#### 4. Identity and Difference

The double focusing elliptic structure of history may be found out in the appearances of the Indian Vedantic philosophy of Sankara's doctrine of *Advaita*, i.e., non-duality, and the subsequent Ramanuja's doctrine of the limited non-duality, Confucius represented by being vis-à-vis Lao-tzu and Chuang-tzu asserting nothingness, Shushigaku in search of the universal principle vis-à-vis Yomeigaku orienting towards practice, and Nishida's contemplation of truth vis-a-vis Tanabe's active mediation in history within the ambit of modern Japanese Kyoto School, etc. For example, whereas Nishida's basic idea of the self-identity of absolute contradistinction reflects the symmetric static circle, Tanabe's concept of perpetual negative conversion refers to the asymmetric movement of subjective action towards the future as a reaction to the former. Nishida's starting point of pure experience of non-duality of subject and object is the symmetry in structure before diverging into opposition, while Tanabe stands by practical action in the direction of the future ideal to be realized. Therefore, on the one hand, Nishida stresses the eternal now in which the past and the future are in coincidence with each other without distinction, i.e., the perfect symmetric circle, and on the other hand, Tanabe places the emphasis on the subjective free action of the individual in cooperation with the others in the socio-historical dimension of human existence. History has the linear structure from the past to the future as the cumulative propensity for irreversible current. On this point, Tanabe's thought may be akin to A.N. Whitehead's concept of process as the irreversible time towards the future based upon the past objective immortality. While Nishida contemplates the inner truth of the historical world with intuitive wisdom, Tanabe strives to realize the truth by practical action in the actual extension of space and time. In contrast to Nishida's symmetric position of the vertical dimension of essential non-duality, Tanabe's one pertains to the asymmetric horizontal direction towards the future in the form of a triadic dialectical unification of the opposition between the ideal and the real, perpetually attaining the opposed unity of potentiality and actuality in every present time of history in the last analysis.

Even though Heidegger's idea of the other beginning vis-à-vis the first beginning is asymmetric in character, however, as Habermas and Marcuse point out, his search for Being itself tends to be involved in the concept of essence as a-temporal static origin without historicity. And this criticism may be valid to Nishida's standpoint of the integral intuition of the whole in which opposition is the same as coincidence, difference or contradistinction is nothing but identity as the symmetric structure of a perfect circle, despite his allegation of the historical formation of the world. In contrast, Tanabe's standpoint is the active mediation of the past to the future in and through negation as an infinitesimal realization of eternity in the ever present with the asymmetric tendency of irreversible time. So, Tanabe's grand project of a dialectical unification of Christianity, Japanese Buddhism and Marxism has the

propensity for asymmetric integration into which the three elements or moments are negated and sublated in the historical development with the attainment of a complete reality of hidden potentiality in anticipation. Even if so, however, it has not yet arrived at in history in the same way as the Heideggerian last God. By contrast, in Nishida's perspective, there is no such a creation of a new form of world religion resulting from historical progress, but rather he merely remains to contemplate his own inner essence intensively, i.e., the Zen practice.

## 5. Cause and Effect

The contrast between Nishida and Tanabe may be parallel to the opposed standpoints of the Lotus Sutra: one is truth as appearance and the other is the revelation of eternity in history. The former is static and symmetric, whereas the latter refers to dynamic movement from potential eternity to actual event in history with the asymmetric structure, and hence the Lotus Sutra constitutes the self-identification of difference and identity. While the former is expressed by the Tendai's position of intellectual contemplation of truth, the latter is represented by Nichiren who proclaims the reincarnation of the anticipated Bodhisattva in attainment to come in the post-perishing of the historical Buddha *Sakyamuni* as the attained effect. In terms of the relationship between eternity and time, the latter perspective might be highly significant in the consideration of the historical entity and eternal origin in their reciprocal mediation in and through the personal activity of human existence. According to Hegel, although cause and effect are identical with each other, the cause is more primal than the effect resulted from the cause. Here it is obvious that causality has the double structure of non-duality and duality, i.e. symmetry as well as asymmetry within itself. The relation of the Buddha and the Bodhisattva corresponds to causality in terms of the double focusing elliptic asymmetry on the historical horizon: the Buddha on the ontological status of effect and the Bodhisattva on the ontological status of cause, making asymmetry between them, though being identical with each other ultimately. After completing the saving activity of the Buddha, he turns out to transform himself into the Bodhisattva as the cause evoking the potentiality to actuality in action as the norm or paradigm to follow up of others in his salvation history. In other words, the Buddha is converted into the Bodhisattva in and through self-negation in terms of the principle of Emptiness (*sunyata*) which perpetually empties itself. This negative conversion from effect to cause signifies the return to the origin from which effect arose, and this occurs on the cosmic scale beyond human history on earth, according to the Lotus Sutra. As Heidegger asserts that the primordial origin occurs at the end and Hegel holds that only at the end is the beginning first achieved, the Buddha attained should be returned to his primordial origin of the Bodhisattva in attainment to recommence his saving activity for others in the entire universe.

Even in Christian theology, God does not directly operate in the human world but only through the mediation of Jesus Christ as the Incarnation of God which is the self-negated other form, i.e. *kenosis*. The Buddha also takes the secondary form of the Bodhisattva indirectly to save human beings who are situated in the place of

innocence without hearing any Buddha's voice or teaching. As God humiliates Himself in the form of human being, so the Buddha also does not directly appear as such, but rather assimilates himself to human beings, transfiguring himself into the other mode of existence. This is the *upaya* (hoben), i.e. the expedient being vis-à-vis the true being with the aim of promoting other beings to attain their own potential Buddhahood, and this is the way of the Bodhisattva practice. Even though the Bodhisattva is inferior to the Buddha on the rank, nonetheless, they are identical with each other in essence, but only in appearance differing from each other with the asymmetric direction of striving to realize the potentiality as the actuality.

## 6. Eternity and History

History is the field where eternity is revealed through the mediation of human action, and this triadic structure is symbolized by the Bodhisattva who is in search of attaining Buddhahood. For Hegel, too, God emanates Himself in different modes of being, manifesting Himself in other forms in history through the negative mediation, maintaining the self-identity in otherness; the last form of the Divine self-manifestations is supposed to be the state existence in his time which is assumed to be in accord with the realization of the Kingdom of God on earth.

As Heidegger's other beginning is the repetition and retrieval of the hidden origin of the first beginning more primordially, so upon the Buddha's termination of salvific activity at the last time of revealing his own eternal origin hidden so far, he stands on the same status as ordinary human beings in the other form of the Bodhisattva than himself to repeat the soteriological activity of attainment of enlightenment to extend his fruit to all other beings who remain in the future after the extinction of the Buddha attained. This might be tenable in terms of the self-negating conversion in action entailed by the principle of Emptiness *qua* eternity performing its perpetual self-negation in history. When the historical Buddha's eternal origin is revealed, the event of the eternal return of the same occurs in such a way that the Buddha restarts his new course of salvation for those who have never attained enlightenment. This is the coincidence of the eternal origin and the historical present as the cyclic return of the effect to its cause as the primordial origin for opening of a new era of the following history.

The return of the end to the beginning, of the last to the first, is also the general principle of ontological time commonly elucidated in classical Chinese such as Confucius, Lao-tzu and so on, though classical Chinese thought never goes beyond the mundane world affairs contrary to Buddhist thought. In this regard, Heidegger also confines his scope of view within western history, i.e. finitude, never reaching infinite eternity.

In Hegel, the Infinite Absolute appears in the finite relative existence as the self-becoming of truth in the historical process, i.e. the self-manifestations of essence in appearance. This may echo to the Buddhist relationship between essence and appearance, substance and activity in such a way that the eternal Absolute can appear in diversity of relative finite beings, and hence truth as essence and its multiple appearances in space and time are identical to each other in the ultimate dimension.

Therefore, it is even asserted by Nichiren that all saints and wise men born in the world are none other than the transfigurations of the one eternal original Buddha in the end. This assertion is obviously entailed by the logic of non-duality of the mutual identity of one and many, though actually truth as essence and its appearance as operation are different on the plane of space and time, i.e., on the horizontal process of history with the asymmetric direction structured by the double focus. That is, essence does not appear at once as a whole, but rather gradually step by step achieves its aim in the temporal process of the world. Even so, however, in Hegel the Absolute Infinite is presupposed at the outset and emanates Itself in history in and through self-negation, whereas in Buddhist thought the eternal origin has been concealed until the historical Buddha discloses and reveals it at the last stage of his soteriological activity of the immensely long journey. In short, the perspectives are contrary to each other: from above of eternity or from below of history.

## 7. Religion Itself and its Concrete Forms

Schleiermacher makes a distinction between religion itself and its multiplicity of forms, i.e. individual historical religions from the perspective of individual's expression and embodiment of the infinite divine reality. Although those concrete religions appeared in history may contribute to the whole of self-manifestations of divine reality, it may be uncertain whether there is the difference or the same in value, in the formation of the subsequent development of different religions, according to Goichi Miyake. The Swedish philosopher of religion Boström also distinguishes religion as such from its historical appearances in terms of substance and activity, and claims the superiority of Christianity among them. This kind of distinction of religion as such and its particularized forms in history might be parallel to the Buddhist logic of non-duality and duality, essence and appearance, in that the eternal original Buddha assumes the diverse forms in history for edifying human beings to attain their own Buddhahood by their own practice of the Bodhisattva way in accordance with their own cultural and historical circumstances.

Schelling also holds the multiplicity of advancing self-revelations of God in history, and this is compatible with the Indo-Buddhist idea of incarnation or *avatara* in general. For Vedantic thought, even Jesus is included in the series of incarnations of God, and hence it is not curious for Indians but suspicious of its only oneness. Even within Judeo-Christian tradition, there are the two opposed views of Jesus: one is the prophet, and the other the Christ as the Incarnation of God. While Judaism is in search of the Messiah in the infinitely prolonged future, Christianity recognized Jesus as the expected Messiah already come in the present. The difference between them has the affinity with the Buddhist view of the possibility of reincarnation of the eternal original Buddha on the turning point of history in the post-era of the perished Buddha. In terms of essence and appearance, substance and activity, it would be tenable to assert such a claim in comparison to Heidegger's idea of the other beginning as the potential to be activated to actual entity as well as in analogy with the Aristotelian concept of *entelecheia* as the dynamic unification of the potentiality and actuality in the movement.

The double focusing elliptic structure of movement might be applicable to the relationship between the Buddha and the Bodhisattva, the effect and the cause in reverse, by returning to the primordial origin from the attained actuality, as the cyclic return of the universe or multiverse, as suggested by the Oxford physicist Dr. Penrose's theory of the identity of the beginning and the end of the universe as cycles of time. Even Jesus's divinity is retrospectively recognized from the viewpoint of the resurrection, though the ontological order is reversed from the epistemological one. From below of history, from the end of the world as the given fact, we can recognize the ontological priority in the way of return in retrospection. This might be because human beings are inevitably involved in the asymmetric situation of historical actuality with the double focus in the last resort.

### Conclusion

Plato's transcendent eternal ideas vis-à-vis Aristotle's individual existence as substance immanent in actuality, the eternal God and the historical Jesus, Jesus and the Kingdom of God to come in the future end, the other beginning vis-à-vis the first beginning in Heidegger, Karl Barth's idea of the eternal pre-existence of Jesus in the vertical static dimension vis-à-vis the Messianic expectation for the future arrival in Moltmann and Pannenberg, the irreversibly asymmetric future-oriented time based upon the accumulation of the objective immortality of the past in Whitehead, the Buddha as the past effect and the Bodhisattva as the cause in action and the eternal return of the same, Nishida's concept of the Place of Absolute Nothingness as the self-identity of contradistinction vis-à-vis Tanabe's active conversion in negation in the historical process, might be comparable to the double focusing elliptic structure in asymmetry reflecting the rotary movement of the universe, which is constituted by the opposition between the positive and the negative elements with the triadic integration of them in the changing process, as suggested by the classical Chinese idea of Change and the modern relativity and disparity physics as well.

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# РЯД ФИБОНАЧЧИ – УНИВЕРСАЛЬНЫЙ КОД КОСМОСА

Виктор Борисович КУДРИН<sup>1</sup>

## FIBONACCI SEQUENCE AS UNIVERSAL GENETIC CODE OF COSMOS

Victor Borisovich KUDRIN

**РЕЗЮМЕ.** В статье рассматривается ряд Фибоначчи в качестве универсального «генетического кода» Космоса, выражаемого гилетическим числом. Золотая Пропорция – предельный элемент гармонии Вселенной – предстаёт в качестве целевой причины рождения и жизни Космоса

**КЛЮЧЕВЫЕ СЛОВА:** гилетика, корреляция, археологическая эпоха, ряд Фибоначчи, Золотая Пропорция, энтелехия

**ABSTRACT:** This article discusses the Fibonacci sequence, which is understood as a universal “genetic code” of Cosmos, it be viewed as a single hyletic number in which the elements of that sequence represent the instances of the temporal component of this number shaping the appearance of the Cosmos, striving towards the Golden Mean, as the specific reason for its existence.

**KEYWORDS:** hyletics, correlation, archeological era, Fibonacci sequence, Golden Proportion, entelechy

### Содержание статьи

*Введение.* Актуальность поиска математического выражения единого «генетического кода» Космоса

1. Физическое пространство – частный случай пространства гилетического
2. Корреляция как мера телеологической причинности
3. Ряд Фибоначчи в археологии и в космогонии
4. Гилетическая природа памяти
5. Кодирование по ряду Фибоначчи и перспективы гилетической информатики

*Заключение*

<sup>1</sup> Библиотека истории русской философии и культуры (Дом А. Ф. Лосева), г. Москва.

### *SYNOPSIS*

The research of scientists working in very different fields of natural sciences – the biologist L.S. Berg, the biochemist N.I. Kobozev, the archeologist Yu.L. Shchapova, the mathematicians N.P. Brusentsov, A.P. Stakhov, S.V. Petukhov, S.N. Grinchenko – point to the existence of universal laws of formation of complex systems to which both living organisms and objects of very different scale levels are subject.

According to Yu. L. Shchapova, “the model of chronology and periodization of the archeological era is based on the Fibonacci sequence, well known in mathematics, arranged in reverse order”. Together with S.N. Grinchenko, Yu.L. Shchapova developed the ‘Fibonacci’ model of chronology and periodization of the archeological era (FMAE), which established that a proper description of chronostratic characteristics of the process of development of life on Earth through various versions of the Fibonacci sequence permits to detect the essential attribute of such a process: its organization in accordance with the golden mean law. This lets us come to a conclusion about the harmonious progress of the biological and biosocial development determined by the fundamental laws of the Universe.

At first glance, the Fibonacci sequence being arranged specifically in reverse order may leave us perplexed: after all, if we consider the achievement of complete harmony as the specific reason for the evolution of life on Earth, then the more precisely the Fibonacci sequence is calculated, the more fully it is achieved. It seems to us that the key to this apparent paradox is that the harmony principle inherent in the Fibonacci sequence can be revealed both in the flow of the “current” causality and in the flow of the teleological one. By being “situated” at the very beginning of the sequence we are not really further from full harmony than at any distance from its beginning.

However, the principles developed by archeology are applicable not only to the planet Earth but to the Cosmos as a whole. The more distant luminaries we are seeing, the more remote is their state that we are observing. Studying the “past” of the Cosmos, instead of plunging into the depth of Earth we delve into the depth of the four-dimension Hypersphere. This gives us an opportunity to extrapolate the data on past states of remote space objects (nebulosities, star clusters, galaxies) to the past states of our own star system. It would seem that the methods and tools of archeology and astronomy are completely different. What could an archeologist’s spade and the Hubble telescope have in common? However, both moving down from the Earth surface and soaring in the opposite direction, towards the depths of Space, we dive into more and more ancient layers of the “past”. The processes of development, which are common for both our planet and the star systems, can be represented as the projection into our world of a unified process of forming the “past” taking place in a world with a higher number of dimensions, which we observe from various perspectives.

Therefore, the Fibonacci sequence represents a certain analog of the “genetic code” managing the growth of a certain “superorganism” of the Cosmic Space uniting all the processes taking place within it, notwithstanding their scale levels and their belonging to specific academic disciplines. At the same time the Fibonacci

sequence can be viewed as a single hyletic number in which the elements of that sequence represent the instances of the temporal component of this number shaping the appearance of the Cosmos, striving towards the Golden Mean, as the specific reason for its existence.

The consistent patterns of the Fibonacci sequence also generate new approaches to constructing information systems. In the middle of the 1970s S.V. Petukhov developed the theory of the matrix essence of the golden mean, which determines the unity of the genetic code common for all the living organisms, from bacteria to humans.

The results of the research by mathematicians, biologists and archeologists give reasons to state that not only is everything alive within the Cosmos organized in accordance with the Golden Proportion, but this proportion is also destined to become the basis for the future hyletic informational technology.

### ***РЕФЕРАТ СТАТЬИ***

Исследования учёных, работавших в самых различных областях естественных наук: биолога Л.С. Берга, биохимика Н.И. Кобозева, археолога Ю.Л. Щаповой, математиков Н.П. Брусенцова, А.П. Стахова, С.В. Петухова, С.Н. Гринченко – указывают на существование универсальных законов формирования сложных систем, которым подчиняются и живые организмы, и объекты самых различных масштабных уровней.

С.Н. Гринченко и Ю.Л. Щапова разработали «Фибоначчиеву» модель хронологии и периодизации археологической эпохи (ФМАЭ), в которой установлено, что адекватное описание хроностратиграфических характеристик процесса развития жизни на Земле различными вариантами ряда Фибоначчи позволяет выявить основной признак такого процесса: его организацию по закону «золотого сечения». Это позволяет сделать вывод о гармоничном ходе биологического и биосоциального развития, определяемом фундаментальными законами Мироздания. Согласно Ю.Л. Щаповой, «модель хронологии и периодизации Археологической Эпохи опирается на известный в математике ряд Фибоначчи, выстроенный в обратном порядке».

На первый взгляд, расположение ряда Фибоначчи именно в обратном порядке может вызвать недоумение: ведь если считать целевой причиной эволюцию жизни на Земле достижение полной гармонии, то она достигается тем полнее, чем более точно вычислен ряд Фибоначчи! Нам представляется, что разгадка этого видимого парадокса в том, что заложенный в ряду Фибоначчи принцип гармонии может раскрываться как в потоке «действующей», так и в потоке телеологической причинности. «Находясь» в самом начале ряда, мы ничуть не дальше от полной гармонии, чем на любом «отдалении» от его начала.

Но принципы, выработанные археологией, применимы не только к планете Земля, но и к Космосу в целом. Чем более отдалённые от нас светила мы видим, тем более давнее их состояние мы наблюдаем. Изучая «прошлое» Космоса, мы, вместо погружения в толщу Земли, погружаемся в толщу четырёхмерной

Гиперсферы. Это даёт возможность экстраполировать данные о прошлых состояниях отдалённых космических объектов (туманностей, звёздных скоплений, галактик) на прошлые состояния нашей собственной звёздной системы. Казалось бы, методы и инструменты археологии и астрономии совершенно различны. Что общего между лопатой археолога и телескопом «Хаббл»? Но, и двигаясь от поверхности Земли вниз, и устремляясь в противоположном направлении, в глубины Космоса – мы в любом случае погружаемся во всё более и более древние слои «прошлого». Процессы развития, общие и для нашей планеты, и для звёздных систем, можно представить, как проекции в наш мир единого процесса формирования «прошлого», происходящего в мире более высокого числа измерений, наблюдаемые нами под различными «углами зрения».

Таким образом, ряд Фибоначчи представляет собой некий аналог «генетического кода», управляющего выращиванием некоего «сверхорганизма» Космоса, объединяющего все происходящие в нём процессы, независимо от их масштабных уровней и их принадлежности к отдельным научным дисциплинам. Вместе с тем, ряд Фибоначчи можно рассматривать и как единое гилетическое число, в котором элементы этого ряда представляют собой моменты временной составляющей этого числа, формирующего облик Космоса, стремящегося к Золотой Пропорции, как целевой причине своего существования.

Закономерности ряда Фибоначчи порождают и новые подходы к построению информационных систем. В середине семидесятых годов прошлого столетия С.В. Петухов разработал теорию матричной сущности золотого сечения, определяющей единство генетического кода, общего для всех живых организмов – от бактерии до человека.

Результаты исследований математиков, биологов и археологов дают основания утверждать: не только всё живое в Космосе организовано в соответствии с Золотой Пропорцией, но она призвана стать основой грядущей гилетической информационной технологии.

### *ОСНОВНОЙ ТЕКСТ СТАТЬИ*

#### **Введение. Актуальность поиска математического выражения единого «генетического кода» Космоса**

Исследования учёных, работавших в самых различных областях естественных наук: математика А. Пуанкаре, биолога Л.С. Берга, биохимика Н.И. Кобозева, а также – наших современников: археолога Ю.Л. Щаповой, математиков С.Н. Гринченко и С.В. Петухова – указывают на существование универсального закона формирования сложных систем, которому подчиняются и живые организмы, и объекты самых различных масштабных уровней. В предлагаемом обзоре мы попытаемся выяснить математическую

природу этого закона и наметить дальнейшие пути его применения, в частности – в информационной технологии.

### **1. Физическое пространство – частный случай пространства гилетического**

В одной из предыдущих публикаций [Кудрин, 2015] мы уже рассматривали термин «гилетика» (от греческого слова ὑλή = hyle = вещество), впервые введённый в философию Аристотелем (Аристотель, 2006), а в новое время – использованный Эдмундом Гуссерлем в работе «Идеи к чистой феноменологии и феноменологической философии» [Гуссерль, 1999]. А.Ф. Лосев впервые применил этот термин к числу. Согласно Лосеву, «гилетическое число выражает момент иного, меонального размыва и подвижности, смысловой текучести и жизненности эйдоса, т.е. самого предмета» [Лосев, 2011].

Платоник Цицерон перевёл ὑλή, латинским словом materia, введя его в философский лексикон. Но materia – это ὑλή, взятое в момент наблюдения, а ὑλή включает в себя все моменты существования вещественного предмета, всю его биографию. Хотя в современных европейских языках есть и восходящие к латинскому термины material и Materie, смысл греческого слова ὑλή гораздо более адекватно передают английское stuff и немецкое Stoff.

Как известно, в «пространстве Минковского» (и всех последующих моделях физического пространства) мир мыслится состоящим не из частиц, а из событий. Ряд последовательных событий можно рассматривать как гилетическое число, а совокупность этих рядов – как гилетическое пространство.

### **2. Корреляция как мера телеологической причинности**

Числовое пространство столь же гилетично, как и пространство физическое. Можно сказать, что это – одно и то же пространство, но числовым оно является тогда, когда оно математизировано, то есть представлено с максимальной точностью.

Актуализировать предметы потенциально сущего – значит, и открывать их для мира актуально сущего и, вместе с тем – творить их! (При этом грань между уже существующим, но «не открытым», и творимым заново – становится неразличимой).

Интуитивная уверенность в реальности числа, адекватно отображающего не только состоявшееся («прошлое») и настоящее, но и будущее (что следует из учения Аристотеля об энтелехии) – делает гилетическое число органичной частью суперсистемы знаний Аристотеля, в которой ὑλή является целеорганизованной субстанцией, в числе четырёх причин Бытия, постулированных Аристотелем.

Согласно Лосеву, детерминизму противостоит не хаос, а корреляция действующей и телеологической причин [Лосев, 2013]. Поэтому мерой взаимодействия гилетических чисел можно считать не функцию, а корреляцию. Классическая теория вероятности дает возможность интерпретировать любое

ненулевое значение корреляции в качестве меры информации, передаваемой и принимаемой гилетическим числом. Именно математика корреляции (в обоих смыслах этого слова – и математическом, и физическом) призвана стать важным дополнением к стандартному математическому аппарату квантовой физики. Её предметом станет корреляционное взаимодействие чисел, вместо искусственно сконструированного (подобно пресловутым «эпициклам» в геоцентрических системах) громоздкого математического аппарата, основанного на математике функций. Такого рода «корреляционное исчисление» не может быть сведено к применяемому в математической статистике корреляционному анализу. Любое событие можно рассматривать как сохранение информации в несепарабельном (нелокализованном) состоянии числа, то есть в его памяти. Информация о каждом событии присутствует в любой точке пространственно-временного континуума. В классической теории информации, базирующейся на классической математике и «доквантовой» физике, рассматривается передача информации «из точки А в точку В», но не локализация. Воспроизведение информации, «вспоминание», – это новая локализация, придание ей геометрической формы, реализованной в пространстве (предмет изобразительного искусства, письменный текст) или во времени (музыка, устная речь).

Научившись производить любые операции, в том числе и несводимые, мы сможем не только творить новые числовые пространства любых измерений, но и осуществить прорыв в другие измерения реального физического мира.

«Классическая» теория информации предполагает ее передачу в пределах трехмерной сферы, без выхода в непротяженный мир сознания («механические» или «электронные» методы применяются – в данном случае несущественно). При этом связь мыслится односторонней: даже при диалоге «в режиме реального времени» предполагаются прямой и обратный каналы передачи информации. Корреляционная теория информации предполагает взаимодействие наблюдателя и наблюдаемого.

### **3. Ряд Фибоначчи в археологии и в космогонии**

Восходящий к Аристотелю целевой подход к эволюции, предложенный С.Н. Гринченко [2010], нашёл новое подтверждение и конкретизацию в разработанной им, совместно с Ю.Л. Щаповой, «фибоначчиевой» модели Археологической Эпохи [Гринченко и Щапова, 2016]. Согласно Ю.Л. Щаповой, «модель хронологии и периодизации Археологической Эпохи опирается на известный в математике ряд Фибоначчи, выстроенный в обратном порядке» [Щапова, 2010, с. 15].

В только что вышедшей новой работе авторы [Гринченко и Щапова, 2017] продолжили разработку числовой модели хронологии и периодизации археологической эпохи, использующей обратный ряд Фибоначчи. Авторы делают вывод о «гармоничном ходе биологического и биосоциального развития, определяемом фундаментальными законами Мироздания» [Ibid., с. 112].

На первый взгляд, расположение ряда Фибоначчи именно в обратном порядке может вызвать недоумение: ведь если считать целевой причиной эволюцию жизни на Земле достижение полной гармонии, то она достигается тем полнее, чем более точно вычислен ряд Фибоначчи! Нам представляется, что разгадка этого видимого парадокса в том, что заложенный в ряду Фибоначчи принцип гармонии может раскрываться как в потоке «действующей», так и в потоке телеологической причинности. «Находясь» в самом начале ряда, мы ничуть не дальше от полной гармонии, чем на любом «отдалении» от его начала.

Помимо известных базовых понятий длины, массы и времени, Ю.Л. Щапова вводит понятие меры сложности системы и доказывает, что эта мера возрастает при любом естественном процессе пропорционально ряду Фибоначчи. За основу взят ряд Фибоначчи с шагом в 1000 лет в сторону убывания времени.

Но принципы, выработанные археологией, применимы не только к планете Земля, но и к Космосу в целом. Чем более отдалённые от нас светила мы видим, тем более давнее их состояние мы наблюдаем. Изучая «прошлое» Космоса, мы, вместо погружения в толщу Земли, погружаемся в толщу четырёхмерной Гиперсферы. Это даёт возможность экстраполировать данные о прошлых состояниях отдалённых космических объектов (туманностей, звёздных скоплений, галактик) на прошлые состояния нашей собственной звёздной системы. Казалось бы, методы и инструменты археологии и астрономии совершенно различны. Что общего между лопатой археолога и телескопом «Хаббл»? Но, и двигаясь от поверхности Земли вниз, и устремляясь в противоположном направлении, в глубины Космоса – мы в любом случае погружаемся во всё более и более древние слои «прошлого». Процессы развития, общие и для нашей планеты, и для звёздных систем, можно представить, как проекции в наш мир единого процесса формирования «прошлого», происходящего в мире более высокого числа измерений, наблюдаемые нами под различными «углами зрения».

Но можно ли свести процессы развития к изучаемым современной физикой обратимым процессам?

Вопрос о необратимости реального времени рассмотрел Н. Винер: «...если снять кинофильм движения планет, ускоренного так, чтобы изменения их положения были заметны, и затем запустить этот фильм в обратном направлении, то картина движения планет была бы все же возможной и согласной с механикой Ньютона. Напротив, если бы мы сняли кинофильм турбулентного движения облаков в области фронта грозы и пустили бы этот фильм в обратном направлении, то получилась бы совершенно неверная картина. Мы увидели бы нисходящие токи там, где должны быть восходящие; размеры турбулентных образований увеличивались бы; молния предшествовала бы тем изменениям строения тучи, за которыми она обычно следует, и т.д. до бесконечности. Обратимыми можно считать перемещение мячика или какой-то частицы. Они естественным образом могут перемещаться по экрану и справа

налево, и наоборот. Это прежде всего и означает демонстрацию обратимого процесса. Картина необратимости очень характерна для чисто физических процессов. Второй закон фактически утверждает, что для необратимых процессов возможно лишь одно направление во времени, а именно то, при котором возрастает функция состояния, называемая энтропией» [Винер, 1983].

По формулировке П. Эткинса, «второе начало термодинамики устанавливает наличие в природе фундаментальной асимметрии, т.е. однонаправленности всех происходящих в ней самопроизвольных процессов» [Эткинс П., 1987, с. 20]. Но главное проявление необратимости времени – это то, что при всех процессах эволюции, протекающих с возрастанием меры сложности, информация никогда не исчезает, но всегда накапливается. Если обратимые физические процессы удобно моделировать числами натурального ряда, то для необратимых процессов, идущих с возрастанием меры сложности, в качестве модели этой меры более подходит ряд Фибоначчи, предел которого – Золотое сечение – можно считать и предельным элементом универсальной гармонии мира, названную А. Пуанкаре «единственной настоящей объективной реальностью и источником всякой красоты» [Пуанкаре, 1982, с. 157–158].

К таким необратимым процессам относится номогенез, открытый и изученный Л.С. Бергом (придерживавшим Аристотелевского учения об органичности Космоса), и получивший дальнейшее подтверждение в трудах таких выдающихся учёных, как А.А. Любищев и С.В. Мейен. Л.С. Берг показал, что эволюция починается единому Закону, который не может быть сведён к мальтузианско-дарвиновской теории «борьбы за существование»:

«Эволюция не сплошь есть развертывание; она слагается из трех процессов: 1) повторения уже существующих форм, 2) образования новых, 3) предварения будущих. Насколько я могу судить в настоящее время, образование новых признаков совершается главным образом в процессе географического обособления организмов (приспособления их к среде). Во всяком случае явлению предварения признаков принадлежит в эволюции весьма заметная роль, и мы можем утверждать, что эволюция в значительной степени основана на развертывании уже имеющихся налицо задатков» [Берг, 1922; Назаров, 2012].

#### **4. Гилетическая природа памяти**

Со времён античности роль науки принято сводить к изучению изменений, происходящих в видимом мире, в «точечном моменте» «настоящего». Эти изменения можно сравнить с «рябью» на трёхмерной поверхности физического пространства. При этом память представляется неким «следом» происшедших событий, сохраняющимся некоторое время на этой поверхности. Эта трехмерность даже скорее двумерна, это лишь образы на стене платоновской пещеры, этом прототипе экрана ТВ или компьютера. В этой модели объем – лишь спецэффект двумерного мировидения. Это совершенно подобно тому, как если бы изучение реального исторического события подменялось изучением киноплёнки, на которую это событие было заснято, а смена кадров этой

киноплёнки выдавалась бы за реальное течение этого события. При этом утверждалось бы, будто само событие, если и имело место, то «кануло в Лету», а единственное, что от него осталось – это как раз предъявленная киноплёнка, а когда киноплёнка сгорит, то от него не останется совершенно ничего, и будет совершенно безразлично, происходило оно вообще когда-нибудь, или нет!

Н.И. Кобозев подверг критике квантовую физику Э. Шредингера, построенную на энтропии, равной мере хаоса, как неприемлемую для описания развития и специфичности живой природы [Кобозев, 1971].

Кобозев доказал, что память, сознание и разум не могут быть объяснены в рамках господствующей ныне теории информации и второго начала термодинамики.

По замечанию А.С. Харитонов, «Системы, постоянно накапливающие энергию, изменяют свойства своих динамических элементов, поэтому усреднённое описание природы на модели материальной точки, принятой в основе классической, квантовой, релятивистской физики и электродинамики Дж. Максвелла, не описывает их эволюцию. Общество, как сложная система, может ускоренно изменять свои свойства, переходя от одного к другому состоянию равновесия по золотой пропорции. Переходы же между разными состояниями общества могут быть описаны рядом Фибоначчи. <...> Модель ускоренного развития общества, разработанная Ю.Л. Щаповой и С.Н. Гринченко может быть основой для разработки новой антропоморфной холистической парадигмы, описывающей развитие природы, человека и общества на модели равновесия по золотой пропорции, и содержащей иные закономерности открытых сложных систем, чем те, что используются в неравновесной статистической механике, термодинамике диссипативных процессов и современной синергетике» [Гринченко С.Н. и Щапова Ю.Л., 2016; Харитонов, 2017].

Реальный физический мир есть мир прирастающий, а не преходящий мир предыдущей научной парадигмы, ограничивавшейся лишь поверхностью явлений. Господствующий ныне математический аппарат теории информации непригоден для моделирования процессов запоминания и воспроизведения информации, а также – решения «обратной задачи» – воссоздания из памяти (воспринятых некогда индивидом впечатлений) – самих предметов, вызвавших эти впечатления. Эта задача под силу лишь совершенно новой математике, отражающей не только изменения, происходящие на трёхмерной поверхности видимого мира, но и реальное взаимодействие видимого и невидимого миров, осуществляющееся во всём объёме Гиперферы. Это – не связанная ограничениями видов математических операций гилетическая математика, мысль об актуальности, которой уже высказывалась на страницах нашего журнала. В гилетической математике сами числа обладают памятью – «археологической составляющей» и, в силу этого, обладают универсальной пригодностью для моделирования любых необратимых процессов, идущих с повышением меры сложности.

Это делает возможным применение гилетических методов не только в археологии, но и во всех науках о прошлом.

Прежде всего, попробуем представить возникновение Космоса в целом как возникновение числового пространства, в котором мир физический – одно из проявлений мира математического. Георг Кантор писал французскому математику Шарлю Эрмиту: «...Для меня реальность и абсолютная закономерность целых чисел кажется более сильной, чем реальность чувственного мира... Целые числа и отдельно, и в своей актуально бесконечной целостности, как и вечные идеи, существуют в высшей степени реальности *in intellectu Divino*» [Катасонов, 1999, с. 44].

Представив начальное «Ничто» как число 0, первое сотворённое «Нечто» как 1, а их синтез как сумму  $0 + 1 = 1$ , мы получим три следующих друг за другом числа: 0; 1; 1 ..., то есть начало того же самого ряда Фибоначчи! Всё дальнейшее творение Космоса можно представить, как дальнейшее «развёртывание» Числа, повинующееся ряду Фибоначчи! И чем дальше от момента начала творения, тем точнее проявляется золотая пропорция. По словам Ю.С. Владимирова, «... математические истины первичны (по Платону), отражающие их физические реальности – вторичны, Большой взрыв – физический отзвук математического «взрыва», вызванного диалектическим напряжением между 0 и 1, «взрыва», который, подобно взрывной технологии в технике, спаял, приварил друг к другу 0 и 1, превратил тезис и антитезис в единый синтез – единицу».

Таким образом, ряд Фибоначчи представляет собой некий аналог «генетического кода», управляющего выращиванием некоего «сверхорганизма» Космоса, объединяющего все происходящие в нём процессы, независимо от их масштабных уровней и их принадлежности к отдельным научным дисциплинам. Вместе с тем, ряд Фибоначчи можно рассматривать и как единое гилетическое число, в котором элементы этого ряда представляют собой моменты временной составляющей этого числа, формирующего облик Космоса, стремящегося к Золотой Пропорции, как целевой причине своего существования.

## **5. Кодирование по ряду Фибоначчи и перспективы гилетической информатики**

В 1950-х годах Александр Петрович Брусенцов создал первую в мире вычислительную машину «Сетунь», реализующую трехзначную логику Аристотеля. По убеждению Н.П. Брусенцова, «классическая» двужначная логика и двоичная информатика препятствуют становлению творческого интеллекта. «Логике надлежит быть трехзначной, а компьютерам – троичными» [Брусенцов, 2003]. Эти идеи развивал А.П. Стахов. В своей статье «Brousentsov's Ternary Principle, Bergman's Number System and Ternary Mirror-

symmetrical Arithmetic” [2002]<sup>2</sup> он уделяет основное внимание «троичной зеркально-симметричной системе счисления, которая может стать основой создания новых самоконтролирующихся компьютеров, основанных на «троичном принципе Брусенцова»<sup>3</sup>. А.П. Стахов также предложил проект «компьютера Фибоначчи», основанный на обобщенных числах Фибоначчи или  $p$ -числах Фибоначчи [Стахов, 1984].

В середине 70-х годов XX столетия С.В. Петухов разработал теорию матричной сущности золотого сечения, определяющей единство генетического кода, общего для всех живых организмов – от бактерии до человека. «Организмы представляют собой информационные сущности. Они существуют потому, что получают наследственную информацию от своих предков и живут для того, чтобы передать свой информационный генетический код потомкам. При таком подходе все остальные физические и химические механизмы, представленные в живых организмах, можно трактовать как вспомогательные, способствующие реализации этой основной – информационной – задачи. <...> Выдвинутое положение о матричном определении и матричной сущности золотого сечения дает эвристическую возможность рассмотреть весь этот материал на предмет его содержательной интерпретации с принципиально новой – матричной – точки зрения. Автор полагает, что многие реализации золотого сечения в живой и неживой природе связаны именно с матричной сущностью и матричным представлением золотого сечения. Математика золотых матриц – новая математическая веточка, изучающая, в частности, рекуррентные соотношения между рядами золотых матриц, а также моделирование с их помощью природных систем и процессов» [Петухов, 2006].

Согласно С.В. Петухову, двойное отношение четырех точек прямой линии ABCD –  $W = ab/cd$ , где  $a=AB+BC$ ,  $b=BC+CD$ ,  $c=BC$ ,  $d=AB+BC+CD$ ;  $W$  может иметь значения от 1 до бесконечности. Величина  $W=1,309$  связана с золотым числом 1,618 через выражение  $W=\Phi^2/2=1,309\dots$  и соответствует случаю, когда имеет место геометрическая прогрессия:  $AB=1,618a$ ,  $BC=1,6182a$ ,  $CD=1,6183a$ , где  $a$  – любое положительное число. С.В. Петухов назвал величину 1,309 золотым вурфом. Золотой вурф инвариантен по отношению к конформным преобразованиям тела и конечностей человека, млекопитающих, птиц и насекомых [Петухов, 2006].

## Заключение

Из приведённого в настоящем обзоре материала можно сделать вывод: не только всё живое в Космосе организовано в соответствии с Золотой

<sup>2</sup> См.: Stakhov AP. Brousentsov's ternary principle, Bergman's number system and ternary mirror-symmetrical arithmetic/ A.P. Stakhov // The Computer Journal 2002, Vol. 45, No. 2: 222–236.

<sup>3</sup> Цит. по: Стахов А.П. Троичный принцип Брусенцова, система счисления Бергмана и «золотая» троичная зеркально-симметричная арифметика // «Академия Тринитаризма», М., Эл № 77-6567, публ.12355, 15.08.2005

Пропорцией, но она станет и основным кодом новейшей информационной технологии, использующей принципы гилетической математики.

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**Review of Kiyokazu Nakatomi's,  
 "Philosophy of Nothingness and Love (Building a New World of  
 Philosophy), Lap Lambert Academic Publishing, Germany, 2016"  
 ISBN 978-3-659-82458-6**

**Georges CHAPOUTHIER<sup>1</sup>**

In his book, the Japanese philosopher Kiyokazu Nakatomi aims at merging two current trends that are often unrelated to each other: oriental religious traditions and occidental philosophy. This objective draws him inevitably near to Nishida.

Out of this emerges the connecting theme which is Nishida's nothingness, a real negative cover on all that exists and even includes the being and its existence, since, according to the oriental stand, nothingness is not emptiness but fullness. It is, in a certain manner, pregnant of the being, a source of reality and "a source of creation" (p. 19). Therefore, the starting point of this reflection is the buddhist-taoist concept of "the path" and besides, the entire first part of the book consists of an in-depth analysis of this idea and its correlative implications, without hesitating nonetheless to expound the analogies with modern philosophical theories such as Nietzsche's nihilism, Bergson's creative evolution or Heidegger's existential anxiety that binds Dasein to nothingness. Without hesitating also to demonstrate the analogies with modern scientific theories, it is suggested that at the occurrence of the Big Bang, a kind of preliminary nothingness emerged in the universe, similar to the first chapter of the Bible, when God created light from darkness. This persisting nothingness also appears in the perception of the human being as negligible dust in the ladder of the cosmos; "misery, vanity and desperation of us, humans living in the dark and cruel universe" (p. 241), of which the author analyses the evidence in the Bible and in Pascal's belief, and this gives an interesting buddhist view on Pascal's stance.

According to Nakatomi, evolution of the universe can be defined around *Sunyata* (or *Kû* in Japanese) and that means, the fundamental non-existence of things, as entities are independent of each other and they do not really have their own existence. Here is then a position that could also closely correspond to the reflection of Simondon and underlines the relationship between things and not the classical hylomorphism of Aristotle. On the other hand, in this process that moves from nothingness to state of being, there where "phenomena keep on undergoing an endless process of changes, which does not halt even for a moment" (p. 123) or where "human life flows, passes and never comes back" (p. 125) and "where no living creature possess a body that never changes its form" (p. 133), the author, who is not so far from Heraclitus and Engels, could have benefited from the usage of the occidental concept of "dialectics of nature". Regarding the area of the human

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<sup>1</sup> The French National Center for Scientific Research (Centre national de la recherche scientifique, CNRS), Paris, FRANCE.

consciousness, Nakatomi binds with elegance oriental nothingness and the affirmation of Socrates “I know that I know nothing” as well as Descartes’ doubt. For the author, ontology that supports occidental philosophy and assumes that all is founded in the existence of things, that finds its peak in contemporary phenomenology, leads to an impasse: “European philosophy has clung to this infinitesimal area of existing phenomena so it should not come as a surprise that it has been in a prolonged state of impasse” (p. 399).

Thus, the facets of occidental philosophy would be, in the end, just microscopic tesserae of a vast and global metaphysical vision that would also be that of oriental nothingness? Not at all, and it is here that lies the second major idea of Nakatomi’s work: the permanent creation of being from nothingness is love, in a concept that does not exclude occidental views, or even christian views. Here the author refers to the theories of Kierkegaard and Bergson. Paradoxically he deciphers in the same manner Nietzsche’s proposals: despite his virulent attacks on christianity, Nietzsche’s proposals, according to Nakatomi “ended in failure, Nietzsche himself unconsciously turning into a missionary” (p. 367). Love includes benevolence that is rooted in the teachings of Confucius: “benevolence *sensu largo* basically means love of the people” (p. 430), “Confucian holiness, Christ’s cross and Buddha’s mercy are all expressions of universal love of all people” (p. 465). “The cross of Jesus Christ is the summit of the philosophy of love” (p. 484), concluded Nakatomi, and this end is quite original in a piece of work mainly devoted to the analytical account of buddhist or oriental theories. Finally, the author quotes the case of Ayako Miura for whom the “awakening to nothingness” (p. 515) ended in her conversion to christianity. More specifically Nakatomi’s (and Nishida’s) concept of “nothingness” fits both the Western (mainly static) Platonic world outlook (applied *from without*); and the Aristotelian basic Potentiality/Actuality theory, and, generally – his dynamic and cyclic (*from within*) approach to the real world. Thus “nothingness” is close to his central notion of *Dynamis*.

Even if they do not apparently share the religious orientations of the author, many occidental philosophers today would undoubtedly appreciate this original attempt that seeks to define the place of their philosophy in the close relationship between nothingness and source of love.

## DYNAMISM IN INTEGRATED BIOS

**A comment on ‘Challenging Integralism’ – the article by Josef Bremer, Konstantin S. Khroutski, Rudolf Klimek, and Ryszard Tadeusiewicz: “Challenging integralism, Aristotelian *entelecheia*, *hyle* and *morphe* form), and contemporary concepts of information, touching upon the aetiological issues of carcinogenesis (with reflecting feedbacks of Paul Beaulieu, Ana Bazac, Anna Makolkin, Leonardo Chiatti, Milan Tasić and Dariusz Szkutnik)”;**  
published in the *Biocosmology – Neo-Aristotelism* Vol. 7, No. 1 (Winter 2017):8–111.

**Hans-Martin SASS<sup>1</sup>**

The position paper “*Challenging Integralism*”<sup>2</sup> by four leading thinkers in biocosmology (J. Bremer, K. Khroutski, R. Klimek, R. Tadeusiewicz) is a major breakthrough in applying traditional Aristotelian philosophy of nature and bios to issues of modern science and life, and in improving our understandings of the dynamic cycles of information and health and disease. They identify *telos*, *dynamis* and *entelecheia* as the general and basic powers of being, of all beings, of all bios and all biotopes. Such a rediscovery of Aristotle succeeds in making the many shapes and fields of interdisciplinary and intercultural discourses more productive for both, scientific and interdisciplinary *theory* and for social and political *practice*. There are different shapes of complexity and integratedness such as dynamisms in the universe-multiverse, in inorganic self-organizing bios, in organic individuals, in communities and in biotopes. Following, I comment briefly on the following Aristotelian terms *integratedness*, *telos*, *dynamics*, *entelecheia* and refer for further details to my recent publication “Cultures in Bioethics”<sup>3</sup>.

**INTEGRATEDNESS:** Contemporary philosophies, attitudes and lifestyles lay strong emphasis on ‘autonomy’, following Kant’s and other enlightened philosophers understanding of the ‘free will’ and the request for ‘self-determination’ as a moral demand and an emancipating tool for individual and social cultures against dominating and suppressive powers of religious and political rulers. If understood within the narrow biotopes of social, political and spiritual self-determination and autonomy, such as vision definitely has not lost any of its emancipatorial greatness. But at the same time we have forgotten our basic biological and cultural integratedness which is cause and part of our natural bios: Our ‘free will’ cannot stop

<sup>1</sup> Ruhr-University Bochum, GERMANY.

<sup>2</sup> See: Bremer, Josef; Khroutski, Konstantin S.; Klimek, Rudolf and Tadeusiewicz, Ryszard. (2017). “Challenging integralism, Aristotelian *entelecheia*, *hyle* and *morphe* (form), and contemporary concepts of information, touching upon the aetiological issues of carcinogenesis (with reflecting feedbacks of Paul Beaulieu, Ana Bazac, Anna Makolkin, Leonardo Chiatti, Milan Tasić and Dariusz Szkutnik),” *Biocosmology – Neo-Aristotelism* Vol. 7, No. 1 (Winter 2017):8–111.

<sup>3</sup> Sass, H.M. 2016. *Cultures in Bioethics*, Zuerich: Lit.

breathing for only 10 minutes, even we want to; we cannot stop eating, drinking, sleeping beyond naturally given limits. We would not survive without the microbes in our gut that protect us against infections; we cannot digest any foodstuff without the mutual aid and benefit of billions of microbes in our intestine. We cannot change the seasons, but we can build homes and wear clothing for protection in different climates and seasons. We need healthy and sustainable agricultural and social biotopes in order to live, to live healthy and to survive as individuals, families and neighborhoods. We don't exist out of our free will; we all have a mother and a father. We cannot live a fully solitary life, we need social and economic support, the division of labor, exchange of goods, social coherence, networks of support and of mutual enjoyment, we need mutual aid, health care and social and political protection from burglars, terrorists, military aggression. We need peace of mind and social and cultural peace in order to thrive and to be healthy and happy individually and collectively. Immanuel Kant in 1784 defined 'Enlightenment' (Aufklaerung) as 'the human's release from self-incurred immaturity'. Aristotle and other great philosophers of the past in all cultures would agree, if for the 21th century and for the healthy bios of future generations and biotopes we hold, that the road of escape from self-incurred immaturity and slavery is not a one-way street from the past to the future, but also a recognition of lost maturity and capability due to individual and collective relapses of already gained maturity, wisdom and sustaining power. The Holocaust and other unspeakable horrors during the last decades are witness to the circularity of integrated bios.

TELOS: All individual and species bios has its individual and species forms and shapes; so have natural and cultural and political biotopes. *Telos* is the special and natural gift to species and individuals; it is rarely a finished property and is flexible in different shapes and shades, of different flexibility in species and also in individuals within a species. The Siberian woolen mammoth did not survive a changing Siberian climate while other species did; the spotted owl in Oregon's timber forests is threatened by our lumber industry harvesting woods for building human homes, but here as well the biotopes and many other species are successful in changing their integration and interaction within the boundaries of their inherited telos. As far as the telos of us humans is concerned, there seems to be an extremely broad inheritance of great adaptability and flexibility. Since hundreds of thousands of years ago we humans and our clans have left the trees of the African forests, we have demonstrated that we inherit an extremely rich telos in creating a wide variety of cultures, religions, settlement, tools, cities, corporations and states of different structures and successes. Iranian Sufi mystic Rumi described the different shapes and shades of this special telos of human bios this way: 'Allah the Most High created the Angels and placed within them intellect. He created the beasts and placed within them sensuality. And he created the children of Adam and placed within them both intellect and sensuality. So, he whose intellect donates sensuality is higher than the angels, and he whose

sensuality dominates his intellect, is lower than the beast.’<sup>4</sup> It is here where integrated bioethics in its various branches such as in environmental ethics, medical ethics, research ethics, academic ethics, business ethics, religious ethics, social ethics and political comes into play and calls for cultivating the various actually given biotopes.

DYNAMICS: We don’t know how far and whether at all the dynamics of the bios in general are principle-based; if there are those principles then most likely they are those of trial-and-error and struggle-for-life. If a cat ‘plays’ with a mouse prior to finally king and eating her, this looks like play and is fun for the cat, but it is deadly torture for the victim. On the other hand, we have read about human babies found and adopted by wolves in the Indian jungle; this seems to be instinctual behavior of ‘*groupie*’ species, not a special expression of principle based ‘ethics’ as we would define it for humans. Wolves can be and indeed are cruel to other wolves as well within their clan for other reasons than they behave towards other species. When Hobbes wrote ‘*homo homini lupus*’ he referred to those innergroup dynamics of dominating and caring, of killing and protecting, which have been beneficial for the health and culture of the group. While the Beatle’s slogan ‘make love, no war’ and Jesus’ ‘love God and love your neighbor’ seem to be the preferred and successful dynamics in good and healthy survival; but sometimes nations and communities have to use deadly weapons to defend their people and communities. It was not without having the *telos of humans and human cultures* in mind, that Fritz Jahr 1926 defined the “*Bioethics Imperative: Respect every living being in general as an end in itself and treat it, if possible, as such.*” In a later article he adds: “And if someone does not accept the validity of this principle, as far as it is concerned with animals and plants, then in repeating what already was said, one nevertheless should follow in recognition of the moral obligation towards human society in general ... Our entire life and activity in politics, in administration, in the laboratory, in the workshop, in the fields is ... in its reasoning and goals not focused on love in the first place, quite often rather focused on struggle with some sort of fellow competitors. Quite often we don’t recognize it, as long as such struggle is without hate and in a legally accepted way. As much as we cannot avoid the struggle with fellow humans, similarly the struggle for life with other living beings is unavoidable. Nevertheless, neither in the first nor in the second case, we will lose the idea of moral obligations as a principle.”<sup>5</sup> Thus, it seems that the millennia old Vedic commandment ‘*tat tvam asi, this is also you*’ – i.e. the plant, the tiger, the rat, the suffering fellow human, the natural habitat, the social and corporate environment – in the long run will support prosperity and stability in applying, what I have called the ‘8 C’s’<sup>6</sup>: *communication and cooperation, competence and competition, contemplation and calculation, compassion and cultivation*. In different shapes and shades we find all these eight competencies in one

<sup>4</sup> Quoted in Sass, 2016, p. 46.

<sup>5</sup> Jahr, F. (2013). *Essays in Bioethics*; Miller I and Sass HM eds, Muenster: Lit, 21; 39.f

<sup>6</sup> Author’s “8 C” likewise refers to the following 8 words starting with a C: “Communication, Cooperation, Competence, Compassion and Cultivation as principles in Clinical Care and Clinical ethics, and all the fields of integrated bios and bioethics”.

way or the other in other species and also within biotopes, but for the human bios they seem to be the essential properties who have made our cultures and ourselves the way we are and which we need to guide our human dynamics for stabilizing and furthering our cultures and our telos in integratedness and the 8 C dynamics in human application.<sup>7</sup>

CONTENT AND GOAL OF ENTELECHEIA: Is there any definite and precisely definable *entelecheia* in human bios, individual or collective? History tells us that great scientific, technical, social, environmental, spiritual, political successes have been achieved for over 5000 years of human history; but also great fallbacks, disappointments, distortions and exploitation have occurred. Nothing is ‘written in stone’ neither in human DNA nor in the telos of any other bios or biotope. But a certain and special dynamic vision of *human telos* can be identified in the libraries and manifested action of many cultures, one of them is the challenge to the personal telos of each and every human as suggested by Lao Zi 2500 years ago: “Cultivate virtue in yourself and virtue will be real. Cultivate it in the family and virtue will be abound. Cultivate it in the village and virtue will grow. Cultivate it in the nation, and it will be abundant. Cultivate it throughout the world, and virtue will be everywhere”.<sup>8</sup> But for good and healthy survival and successful and sustainable cultivation, however, there does not seem to be one single recipe only; diversity and flexibility seems to be a survival skill in all bios, not all least in human bios and its cultures. Writes devoted Rabbi and enlightened philosopher Moses Mendelsohn: ‘Brethren, if you want true peacefulness in God, let us not lie about consensus when plurality seems to have been the plan and the goal of providence. No one among us reasons and feels precisely the same way the fellow-human does. Why do we hide from each other in the most important issues of our lives, as God not without reason has given each of us his/her own image and face’<sup>9</sup>. In the Qu’ran we read similarly: “And if the Lord truly had wanted, he would have made humankind one single community (*ummawaqhida*); but they are still arguing (*muhtalifun*), except those in the grace of God (*rahima*)”<sup>10</sup>. The influential Muslim Hanafi law school argues similarly in favor of diversity and discourse: “Differences of opinion in the congregation must be considered as a special grace of Allah”.<sup>11</sup> The future is open, that seems to be the telos in the dynamic of bios, including the human bios integrated into the many other shades and shapes of bios and integrated bios. Thus, in paraphrasing a slogan of Karl Marx of 1848, we may say ‘*bioethicists of all cultures unite* in the protection and cultivation of our own and all integrated bios as good as we can!’ This is best done by applying and cultivating the eight C’s – communication and cooperation, competence and competition, contemplation and calculation, compassion and cultivation – in our specific human shapes.

<sup>7</sup> See Sass 2016, 41–56.

<sup>8</sup> HouCai, 2017, *The Guodian Bamboo Slips*; Miller I, Sass HM eds, Zuerich: Lit 2017, 91.

<sup>9</sup> Mendelsohn, M. 1819 *Jerusalem oder ueber die Macht und Judentum*, Ofen: Burian, 201.

<sup>10</sup> Sura 11:118f.

<sup>11</sup> Quoted in Sass 2016, 53.

## Contributors (Авторы)

**Ana BAZAC** : Professor, Ph.D., Polytechnic University of Bucharest; Division of Logic, Methodology and Philosophy of Science, Romanian Committee of History and Philosophy of Science and Technology, Romanian Academy; Bucharest, ROMANIA; *Email: [ana\\_bazac@hotmail.com](mailto:ana_bazac@hotmail.com)*

**Anna MAKOLKIN** : Professor, Ph.D., University of Toronto, Toronto, CANADA; *Email: [anna.makolkin@utoronto.ca](mailto:anna.makolkin@utoronto.ca)*

**Kiyokazu NAKATOMI** : Ph.D., Professor, Chiba Kita Prefectural High School, Chiba, JAPAN; *Email: [k-nakatomi@proof.ocn.ne.jp](mailto:k-nakatomi@proof.ocn.ne.jp)*

**Vlad ALALYKIN-IZVEKOV** : International Society for the Comparative Study of Civilizations (ISCSC), Board of Directors Member; Pro-Rector, International University for the Societal Development; Washington, the USA; *Email: [vlad\\_ai@yahoo.com](mailto:vlad_ai@yahoo.com)*

**Makoto OZAKI** : Ph.D. in Philosophy (University of Leiden), Emeritus Professor of Philosophy and Religion at Sanyo Gakuen University, Okayama, JAPAN; *Email: [orig57eter@orion.ocn.ne.jp](mailto:orig57eter@orion.ocn.ne.jp)*

**Виктор Борисович КУДРИН** : независимый исследователь; главный библиотекарь Дома А.Ф. Лосева (Библиотеки истории русской философии и культуры) в 2002–2011 гг., Москва; *Email: [victorkudrin@mail.ru](mailto:victorkudrin@mail.ru)*  
**(Viktor B. KUDRIN** : Chief Librarian of the House of A.F. Losev (2002–2011), independent researcher; Moscow, RUSSIA; *Email: [victorkudrin@mail.ru](mailto:victorkudrin@mail.ru)*)

**Georges CHAPOUTHIER** : Directeur de Recherche Emerite, “Centre Emotion” (USR 3246 CNRS) & IHPST (UMR 8590 CNRS – Paris1 – Ecole Normale Supérieure); Paris, FRANCE; *Email: [georges.chapouthier@upmc.fr](mailto:georges.chapouthier@upmc.fr)*

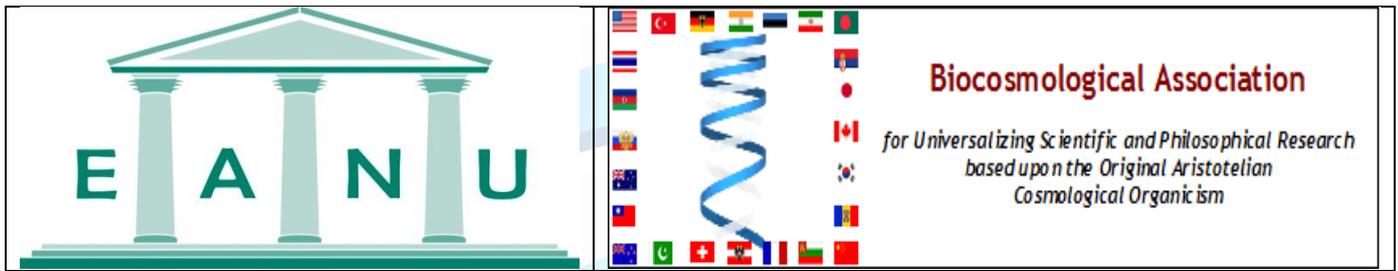
**Hans-Martin SASS** : Ph.D., Senior Research Scholar Emeritus at the Kennedy Institute of Ethics, Georgetown University, Washington DC 20057, USA; and Professor Emeritus, Department of Philosophy, Ruhr Universitaet NABF 04/297 D-44780 Bochum, GERMANY; *Email: [sasshm@aol.com](mailto:sasshm@aol.com)*

**BOOK OF ABSTRACTS****World Congress: *Biocosmology and Cancer***  
*concurrently with the***14th International Symposium on Biocosmology (14ISBC), on**

*recognizing Teleological and Integralist approaches in contemporary biology, medicine and health sciences;  
and reinstating Aristotle's scientific Organicism (Entelechial naturalism, teleological physics)*



**14-15 of July, 2017,  
Sheraton Grand Hotel,  
Cracow, POLAND**



CALL FOR PAPERS

**14<sup>th</sup> International Symposium on Biocosmology (14ISBC), in collaboration with the Europäischen Akademie für Naturheilverfahren und Umweltmedizin (Berlin), Cracow universities and the Polish Society of Hyperthermia**  
 July 14-15, 2017, Sheraton Grand Hotel, Cracow, Poland

***Biocosmology and Cancer:  
 recognizing Teleological and Integralist approaches in contemporary biology, medicine  
 and health sciences: and reinstating the Aristotelian scientific Organicism  
 (Entelechial naturalism, teleological physics)***

Objective scientific knowledge (naturalist evidence) in biological, medical and health sciences is full of facts that point out (to) and prove the reality – the life activity of living things (subjects) universally is reduced to inherency, and basically is *telic* (i.e. the needed results of life activity essentially oriented – *teleological*). All thus fully corresponds to Aristotle’s (super)system of knowledge – all-encompassing (Bio)cosmology (or *Organon*Kosmology), wherein *Organon*, from the Greek – means “the instrument”. i.e., the Function, and wherein *hyle* (matter), *morphofunctional* potency and activity (energy), and *entelechial* organization (information) – all are aimed at the continued stability and success in development, and eventual goal (the perfect result of activity) attainment. Therefore, Aristotle’s (Father of science) Biocosmology is Entelechial naturalism (the universalizing teleological physics and metaphysics), in this stressing that as much the philosophy of Stagirate, as his natural and social sciences – all are the cognate comprehensive Bio-sciences.

The Biocosmological Association (BCA) has introduced and develops the Triadologic approach to scholarly endeavors (referring to the biological evidence; and Pitirim A. Sorokin’s triadologic sociocultural findings, see his four-volume *magnum opus*, “Social and cultural dynamics”; 1937–1941). Therefore, BCA associates the scholars who recognize the existence and the essential equal significance of the Three synchronous autonomic Types of knowledges (Types of cosmologies): Two polar (opposite to each other); and the Third (or the First, in significance) that is intermediate and Integralist (and which unites the totally opposite means, for achieving homeostatic harmony). As for the polar Types, the first of them always is characterized by the (aetiologically) main causes and forces that act *from within* (this is Aristotle’s – Organicist and Naturalist Type); while the second pole always is reduced ultimately to the type of causes and forces that act *from without* (and which is

essentially the Platonic – Dualist and Idealist/Materialist Type). The intermediate Type – of Integralist knowledge (usually, now, referring to complex systems theories and contemporary holistic approaches) – is *in-between* poles, but cosmologically is self-sufficient (and, wherein, contemporary theories of information and Eastern cosmologies are increasingly important).

Each Integralist Type takes knowledge (and its rational means) equally from both poles, and synthesizes from them ‘a golden mean’ – the Integralist (autonomic substantive) system of knowledge that is built on its own cosmological foundation. Prof. Rudolf Klimek’s concept of the “informational diseases” and his modification of A.Einstein’s famous formula into  $E=i mc^2$  – can serve as a sample of the Integralist approach. Notably, it is significant that Integralism is the main scope of the BCA activities.

The crux is, however, up to now (from the XVII-th century, in our conventional milieu of scholarly endeavors) – we have established and still use exclusively the unipolar and monolinear realm of rational knowledge (the so-called Western science and philosophy, and its “scientific method” that continues to ban Aristotle’s teleological physics), and that is based on (ultimately is reduced to) the Platonic Dualism (Idealism/Materialism) – mathematical physicalism and anthropocentrism, thus having really the un-natural essence. Indeed, the time is ripe to reinstate the true (Aristotle’s *entelechia*) naturalism and the natural state of things – to reintroduce the Biocosmological Triadologic approach and actualize all the Three Types of scholarly endeavors. First and foremost, we look forward to the full rehabilitation of the natural laws that are based (in their comprehension) on Aristotle’s foundational principles of *entelechia* and *hylemorphism*, a cornerstone for the natural laws of Bipolarity, Dynamicity and Cyclicity – Triadicity, which universally are reduced and point to the inherency (the primary substances that *from within* generate the *telic* activities) of all real (tangible) things (subjects) and processes in our world (Cosmos). Likewise, the inherent Changeability (that is ontogenetic and telic) is the omnipresent natural Organicist principle. Thereby, in respect to all the subjects of our real Cosmos – they all (at all levels) have the internally determined and disposed (*from within*) potencies (*energies*) and *hylemorphist* structures (*matter*), which are *entelechially* organized (*information*) – for the self-realization of their entelechial ontogeneses that are (as Aristotle’s *Kosmos* on the whole) essentially Hierarchical, Heterogeneous, and Finite.

All these basic principles (laws) have the same (indispensable) significance for contemporary science and philosophy, as (for instance) the laws of Gravity and Electromagnetism have for modern physics. As a result, consequently, not applying the natural (Organicist) laws – we inevitably have arrived today at a troublesome situation, which we call as the ‘cosmological insufficiency’. Indeed, the evident result (of this ‘insufficiency’), for instance, is that modern (conventional) medicine is unable to deal with the aetiological causes of chronic non-infectious and non-traumatic diseases (the so-called “civilizational diseases”), including cancer. However, in the present, Aristotle’s *Organon* Kosmology, i.e. his theoretical foundations and conceptual constructions, based on the Organicist principles of internal telic aetiology, gnoseology, methodology, anthropology, as well as relating sociocultural and evolutionary studies and practices, and which ought to be taken as the whole Type of rationality (of Organicist cosmology) – still are factually prohibited (under taboo), and not allowed to be used in the contemporary scholarly milieu.

Francis Bacon (1561–1626), while struggling against Aristotle and approaching to the “the new scientific method” – but he concluded then, in the 1620, in his famous “*Novum Organum*”, that “truth is rightly called the daughter of time and not of authority”; and that scientific gentlemen (of his time) were under “the spell of antiquity, of authors and of consent”, which had “so shackled men’s courage that (as if bewitched) they have been unable to get close to things themselves.” Precisely in the same way, however, we (four centuries later) – and facing our challenges of the XXI-st century – still continue to stubbornly use exclusively the foundations (of) and approaches in science that were established yet in the XVII-th century. Hopefully, our Symposium will be able to address this highly dangerous situation, otherwise the number of challenges in health and favorable sociocultural development will continue to grow, while our scientific capabilities inevitably decline (in respect to human health and social wellbeing). All the more we hope that our scholarly community (the colleagues that could come together around the aims and scope of Cracow’s meeting, starting with tackling the issues of cancer) – will strongly contribute to promoting the contemporary Organicist and Integralist endeavors, their genuine foundations and effective methods.

### Abstract

*Deadline for Abstract Submission* (to the addresses below) is before **May 31, 2017**.

Preferably, the abstracts do not exceed 2 pages, and must include:

1. Title of the contribution;
2. Names, academic titles, affiliation (departments, institutes/universities, and cities of authors), email address of corresponding author;
3. Key words (3-5);
4. Text (Font – Times New Roman, single spaced, size – 14, margins – 2 cm).
5. Language (of the whole Symposium) is English.

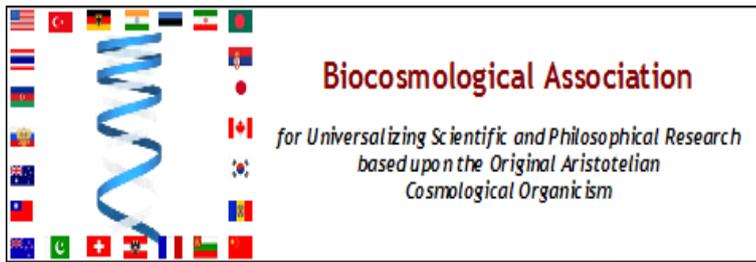
**Full papers** of presentations (in the form of scientific articles and scholarly essays) are kindly invited to be prepared and sent to Dr. Konstantin Khroutski, editor of the journal “*Biocosmology – neo-Aristotelism*” (due to the Journal’s guidelines – <http://en.biocosmology.ru/electronic-journal-biocosmology---neo-aristotelism/guidelines-for-authors> )

With kindest regards,

**Rudolf KLIMEK**, Ph. D., Professor, Chairman of the 14ISBC;  
D.h.c., M.D., FWLA; Fertility Centre, Cracow; Board Member of the Biocosmological Association;  
Cracow, *POLAND*; *Email: [mmklimek@cyf-kr.edu.pl](mailto:mmklimek@cyf-kr.edu.pl)*

**Xiaoting LIU**, Ph. D., President, the Biocosmological Association – <http://en.biocosmology.ru/>  
Professor, College of Philosophy and Sociology, Beijing Normal University;  
Director of the BNU Institute of History and Philosophy of Science;  
Beijing, CHINA; *Email: [liuxiaoting@bnu.edu.cn](mailto:liuxiaoting@bnu.edu.cn)*

**Konstantin S. KHROUTSKI**, Ph. D.  
Secretary of the Biocosmological Association – <http://en.biocosmology.ru/>  
Editor, “*Biocosmology – neo-Aristotelism*”;  
Docent at the Novgorod State University after Yaroslav-the-Wise; Veliky Novgorod, RUSSIA  
Academician of the International Academy of Science (Russian Section);  
*Email: [konstantin.khrutsky@novsu.ru](mailto:konstantin.khrutsky@novsu.ru), [biocosmolog@gmail.com](mailto:biocosmolog@gmail.com)*



**Biocosmological Association, Europäische Akademie für Naturheilverfahren und Umweltmedizin, Polish Hyperthermal Society, Cracow Universities**

**World Congress: *Biocosmology and Cancer***

**concurrently with the 14<sup>th</sup> International Symposium on Biocosmology (14ISBC), on recognizing Teleological and Integralist approaches in contemporary biology, medicine and health sciences; and reinstating the Aristotelian scientific Organicism (Entelechial naturalism, teleological physics)**

**14-15 of July, 2017  
Sheraton Grand Hotel,  
Cracow, Poland**

**Friday, July 14, 2017**

**8:30–9:00 : Registration**

**9:00–9:20 Opening Ceremony: Welcome addresses**

Rudolf KLIMEK, Poland	Chairman of the Congress
Xiaoting LIU, China	President of the Biocosmological Association
Josef G. SCHENKER, Israel	President of the International Academy of Human Reproduction
<i>photo session</i>	
<b>9:30–11:30 Introductory session : Triadological Essence of the Contemporary Science: Autonomy and Unity of the Naturalist, Dualist, and Integralist Foundations of Science; and Rehabilitating Aristotle's Scientific Naturalism</b> <i>Chairman : Ana Bazac</i>	
Konstantin KHROUTSKI, Russia	Triadological essence of the contemporary science: And why we do actually need the rehabilitation of the Aristotelian archetype of rational <i>OrganonKosmology</i>
Karl W. KRATKY, Austria	Ayurvedic doshas (regulatory types) compared to human enterotypes
Dariusz SZKUTNIK, Poland	To the theoretical substantiation of a dynamic developmental factor that integrates life processes: Biocosmological aspects
Xiaoting LIU, China	Chinese Earth-Mother Philosophy in the Biocosmological perspective
<b>11:30–13:30 Debate on the : Integrative Medicine: General Issues (part 1, introductory presentations)</b> <i>Chairmen : Josef Bremer, Josef G. Schenker</i>	
Josef BREMER and Rudolf KLIMEK, Poland	The informational turn and the philosophy of information
Peter HEUSSER, Germany	Do colours and sounds exist in the world or are they products of sensory and neurophysiological mechanisms? A new and integrative approach to sensory physiology
Li TONG, China	Recognizing Integralist approaches in Meridians and Collaterals : Experience of Traditional Chinese Medicine and Future
Walter KOFLER, Austria	The need of and a proposal for a paradigm shift for health and sustainability

<i>13:30–14:30 LUNCH</i>	
<i>14:30–16:00 Debate on the : <b>Integrative Medicine: General Issues (part 2 )</b></i> <i>Chairmen : Josef Bremer, Josef G. Schenker, Walter Kofler</i>	
a free-flowing, interactive participation in the discussion of all participants, moderated by the chairmen and aimed at debating the key topical issues	
<i>16:00–18:30 Session 2 : <b>Biocosmological Aspects of the Contemporary Studies on Integralist and Naturalist Issues (part 1)</b></i> <i>Chairman : Konstantin Khroutski</i>	
Xiuhua ZHANG, China	Whitehead's Inheritance and Transcendence on Leibniz's Organic Cosmology
Leonardo CHIATTI, Italy	Spacetime and beyond. some considerations about information and <i>potentia</i>
Milan TASIĆ, Serbia	Anthropoidity as an Overall Cause in the Interpretation of the World
Chunyu DONG, China	The strategies for several issues to understand the complexity of the time direction
Piotr KAROCKI, Poland	Christian body and soul
Sijia WANG, China	The Constitutive Way of Biocosmology in Chinese Primitive Mythology
<b>Saturday, July 15, 2017</b>	
<i>10:00–13:00 <b>Hermes symposium: Prevention and therapy of cancers</b></i> <i>Chairmen : Rudolf Klimek, Ryszard Tadeusiewicz, Andreas Wasylewski</i>	
Joseph G. SCHENKER, Israel	Medical Science and Jewish Law (Halakha)
Rudolf KLIMEK, Andrzej WASYLEWSKI, Poland	German-Polish roots of the thermodynamic carcinogenesis and its fever therapy
Ana BAZAC, Romania	What is natural and what is non-natural in cancer?
Dariusz JASICZEK, Rudolf KLIMEK, Poland	Lactobacillus vaccine (Lactobim) in prevention and therapy of cancers
a free-flowing, interactive participation in the discussion of all participants, moderated by the chairmen and aimed at debating the key topical issues	
<i>13:00–14:00 LUNCH</i>	
<i>14:00–17:00 Session 3 : <b>Biocosmological Aspects of the Contemporary Studies on Integralist and Naturalist Issues (part 2 )</b></i> <i>Chairman : Xiuhua Zhang</i>	
Włodzimierz ŁUGOWSKI, Poland	Philosophical foundations of the theories of life's origin
Tianmin WANG, China	The Organic Beauty of the Thought of Confucianism about the Virtue of Benevolence and Its Formation
Aijun ZHANG, Zequan ZHAO, Shuhong LIU and Xiaoqi QIN, China	On Marx's Organic Whole Theory
Sergey N. GRINCHENKO, Russia; <i>online presentation</i>	About Teleological and Integralist Approaches in Theoretical Evolutionary Biology
Jing GUO, China	The Existential Meaning of Zhuangzi's Philosophy of Language from the Naturalism Perspective
Liyuan LIU, China	On Xunzi's View of Heaven and Man in Ancient
Milana TASIĆ, France	On the classification of animals according to biological functions, after Aristotle
<i>17:00 –18:00 : <b>Closing session and BCA organizational issues</b></i> <i>Chairman : Xiaoting Liu</i>	

**WELCOME ADDRESS**  
**of Prof. Rudolf KLIMEK,**  
**the “Biocosmology and Cancer” Congress Chairman**

The book “Psychoneurocybernetic conquest of carcinogenesis and cancers”, published by Nova Science Publishers, Inc. New York 2015 - is a complementary updated volume of the following editions: “Explained cause of cancer” (Klimek R, Jasiczek, Stencl J. 2013), “Cancer and infertility. Truth and myth of medicine” (Hodorowicz S, Jasiczek D, Klimek R, Tadeusiewicz R. 2011), “Cancer – neoplasms and neoplastic diseases” (Klimek R, Madej JM, Sieroń A. 2006), “Monitoring of pregnancy and prediction of birth date” (Klimek R. 1994), “Conquering cancer ourselves” (Klimek R. 1990), “Cancer – cause, determinants and host-defense” (Klimek R. 1985), being a continuation of an uninterrupted scientific cooperation since international symposium “Oxytocin and its analogs”, which occurred in Cracow in 1963. Medicine is the undivided human knowledge dealing with theoretical principles how to protect or restore health and simultaneously putting them into practice. This monograph should be of special interest to physicians, health-care givers and laymen, who want to know about the latest knowledge concerning the true cause of cancer and infertility, their prevention, diagnosis and modern therapy, because its content was main subject of World Congress “Biocosmology and Cancer” in Cracow (July 2017).

It will also surely inform and entertaining anyone who cares about ethics in medicine or the funding of medical research, including through referencing to the original scientific and popular literature closely linked to certain human behaviors and procreation. For example, now current cesarean section rate is of over 30% despite evidence that a rate of 5% to 10% would be optimal, but numerous caesarean deliveries are performed simply due to maternal request, what may incur several risks none only for the baby, but also are related to appearance of cervical cancer of mother. Cancer cell grows in multicellular organism increasing dissipation of matter, information and energy in its environment, by which it kills normal cells and healthy tissues. According to general, not only medical knowledge, the book based upon multi years own experiences of the authors in conservative, surgical, thermo- and radiotherapy of neoplasms. They have presented the dissipative nature of cancers so that everyone could understand the neoplastic diseases, the modern rules of psycho-oncology and the primary significance of own life style in the formation and progress of cancer along with importance of caring about the environment inhabited by people.

They have summarized the public reactions to cancer and infertility in relation to historic discovery of natural psychoneurocybernetic cause of cancer, mathematical interpretation of its cause, obstetrical prevention of human cancers and psychoneuroendocrine therapy of diseases, especially caused by baneful information.

As chairman of the congress it is my great pleasure to welcome you in Cracow to the world congress of “Biocosmology and Cancer” concurrently with the 14<sup>th</sup> International Symposium on Biocosmology and Hermes Management Symposium: Prevention and therapy of cancers, a truly international meeting of scientists and clinicians who are working in their respective countries. The congress will focus on the activities of biocosmologists promoting excellence and goal to bridge gaps between the expansion of information and its implantation in medical practice. Today Cracow is a modern city and central place in the history of Poland, a significant place of Vitelano, Nicolas Copernicus and John Paul II.

Our grand worthy aim is the rehabilitation of the natural Aristotle’s approach into the scientific world using for the first time his entelecheia as virtual information which integrates cosmic matter and energy of always triune beings for achieving homeostatic harmony. Each word is the informational part of world and, as it is rightly mentioned in the note to the Book of Abstract about each person and her/his mirror pattern form. Mathematicians have used advanced mathematical methods to study unusual phases or states of matter, such as superconductors, super fluids and thin magnetic films not only in thin layers and threads, but also in ordinary three-dimensional materials. Gases, liquids and solids are the usual phases of matter, in which quantum effects are often hidden by random atomic movements. In extreme cold (close to absolute zero) quantum physics suddenly becomes visible when all moving particles cease. Information waves fill all space, known e.g. as Higgs’s field that allowed them to pass thought it and interact with matter and energy. Universe seems to be composed of 4.9% atomic matter, 26.6% dark matter and 69.5% dark energy.

Rudolf KLIMEK, Ph. D., Professor, Chairman of the “Biocosmology and Cancer” Congress,  
with the 14ISBC, Cracow, Poland, 14-15 July, 2017;  
D.h.c., M.D., FWLA; Fertility Centre, Cracow;  
Board Member of the Biocosmological Association; Cracow, POLAND.

## TRIADOLOGICAL ESSENCE OF THE CONTEMPORARY SCIENCE: AND WHY WE DO ACTUALLY NEED THE REHABILITATION OF THE ARISTOTELIAN ARCHETYPE OF RATIONAL *ORGANON*KOSMOLOGY

**Konstantin S. KHROUTSKI<sup>1</sup>**

**Keywords:** *Aristotle's Dynamic naturalism, based on the foundational principles of Entelechism and Hylemorphism; the all-encompassing OrganonKosmology of Stagirite, laws of Intrinsic Changeability, Dynamicity, Bipolarity and Cyclicity – Triadicity, the three main autonomic Types of rationality (Aristotelian, Platonic, Integralist)*

Francis Bacon's gave rise (in his "Novum Organum", 1620) to the intolerance of teleological physics (scientific Naturalism) of Aristotle – Father of science, and who marked the history of contemporary scientific evolution. This intolerance further greatly increased, especially during the late period of Modern era – up to the modern full prohibition (*taboo* in the modern globalized scientific community) of the use of Aristotle's cosmological principles of *entelechism* and *hylemorphism* in scholarly endeavors. Modern experts in the philosophy and history of science identify numerous reasons on which final causation or teleological explanation has been held to be unacceptable to scientific pursuits. However, all this is worthy for attention solely from the angle of Modern dominating (or, rather dictating) Platonic Dualism (Idealism/Materialism basis) in realizing the current scientific activities. On the contrary, the modern taboo of Aristotle's Dynamic (Entelechial) naturalism totally fails in respect to Aristotle's own archetype (supersystem) of rational knowledge – his foundational naturalist framework (overall rational cosmological construction) of coherent aetiological, gnoseological, methodological, anthropological, etc. principles and laws.

We (in BCA) call this (super)system and the archetype of rational knowledge (generated to the world culture by the Greek genius of Aristotle) as *OrganonKosmology*, wherein "kosmology" (from the Greek κόσμος – world; and λόγος – reason) is the all-encompassing realm of intelligence; and "organon" (ὄργανο) means in Greek the instrument (organ, function) – thus, the rational study of naturally telic (functionalist) things in the one whole Organicist world. In turn, Biocosmology chiefly refers to the study of βίος (life), which main property is the purposefulness (determination to have things done) of all living beings, and which relates to the higher levels of Stagirite's Kosmic hierarchy. In fact, still the so-called (in the modern state of arts) "natural laws" chiefly refer to the inanimate (inorganic, abiotic) level of actual being, or, at best, to nutritive (vegetative) and sensitive (animalist) hierarchical levels of existence (if to follow the Kosmist hierarchy of Stagirite). In all cases, in the view of a modern naturalist – "rational soul" (as a higher level) always is beyond the natural(ist) cognition.

All this is certainly the paradoxical and inadmissible state of art in modern science that must have been overcome. Especially that the scientific evidence is (and, in particular, which is abundantly clear within the contemporary data of objective

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<sup>1</sup> Novgorod State University after Yaroslav-the-Wise, Veliky Novgorod, RUSSIA.

biological and medical knowledge) –of the evidently universal natural(ist) laws of Dynamicity, Bipolarity and Cyclicity – Triadicity, as well as of the Evolutionary (Ontogenetically) Spontaneous and Ascending self-genesis and self-evolvment, and the resulting (organically) Heterogeneous and Hierarchical order of the cosmos (or Kosmos, but not space). Contemporarily, all this is a matter of fact, but not an issue for discussion. But the pressing issue is why (so far, for at least the last four centuries) these evident scientific facts still are beyond the due attention of our modern scholarly community. Moreover, during the modern era – Aristotle and his *Organon*Kosmology (Organicist Type of rationality) have been entirely “forgotten”, or “hidden” behind the modern tremendous (technological) successes of the use of the Platonic Type of rationality, i.e. the application of unipolar and uniform (of mathematical physicalism) – Dualist (Idealist/Materialist, i.e. non-Naturalist) approaches. In this, the whole cosmological archetype of Aristotle’s (super)system of rational knowledge was disassembled entirely – disunited into separate parts or fragmented, and the parts (as “bricks”) were resubordinated and anew used under the principles (instead of its own) of the polar Platonic Dualist cosmology.

Thus, the genuine language of Aristotle’s *Organon*Kosmology has been lost (for instance, “entelecheia” – the cornerstone Dynamic notion of Stagirite – was replaced into “actuality” that basically has the opposite – Static – meaning). We disclose this situation in our work (Bremer, Khroutski, Klimek, and Tadeusiewicz, 2017), and, therein – require its immediate redress, as well as the full rehabilitation of Aristotle’s Dynamic (Entelechial, Hylemorphist) naturalism, taken as the autonomic (one of the Three) Type of (Organicist) rationality. Otherwise, acting separately from the Triadological approach – the essential contemporary Information concepts (in the paper, we consider the conceptions of Rudolf Klimek and Ryszard Tadeusiewicz, and their formulas: Klimek’s –  $E = i mc^2$  ; and, Tadeusiewicz’s –  $T = I C$ ) might lose their sustainability, thereby exposing themselves to the risks of becoming vulnerable to various influences, including the impact of incomplete, contradictory information (i.e. misinformation – dissemination and impact of false information).

On this account, primarily, to become a basic rational (foundational – scholarly) notion, to my mind – Information (as the truly Integralist notion) ought to be imbedded into the contemporary Triadological reality (i.e., in respect to rational knowledge – of the equal applying not only and solely the Platonian Dualist mathematical-physicalism, but, equally – the Aristotelian Dynamic Entelechial naturalism as well). Therefore, first of all, not focusing on Aristotle’s historical system of knowledge (i.e. in its historical and hermeneutical concreteness) – but we claim the full rehabilitation of precisely the Aristotelian genuine archetype of scientific Naturalism. Why is it so topical? The point is that this is the sole self-sufficient (super)system of rational cosmological (all-encompassing) knowledge, i.e. that is substantially based on its own foundational principles and conceptual frameworks. All other (that deal with Organicist and Holistic issues) just partially serve the intended purpose of realizing all-encompassing Organicist cosmology of the real world. Especially (at present), in sober fact – nobody (single-handed) is able to reinvent a new cosmological (all-encompassing) system, of Aristotle's

caliber, for the modern science is enormous and boundless, and hugely specialized, consisting of the innumerable amount of disciplines and their vast objective data.

Therefore, just the Aristotelian archetype of the all-encompassing *Organon*Kosmology could serve best of all as the matrix for generating the contemporary (and, essential for our time) – needed and effective – systems of Organicist and Integralist knowledge (thus serving as the *matrix* – framework of reference – of contemporary Organicist Type of rationality). Still, however, Aristotle’s *Organon*Kosmology and his foundational notion of Intellect (*Nous*), hence – the evolutionary “law of cephalization”, and the natural emergence and significance of mankind’s rational activities; and, in general, of the Noospheric level of life activity, in cognizing and implementing the wholesome realities, under the cosmist (natural Organicist) laws – still all this is beyond the scrutiny of modern scholars, and, basically, beyond the agenda of the modern established educational and scientific institutions. Such a situation is apparently both inadmissible and dangerous. In fact, no one can neglect the natural laws (without compromising her/his well-being), including our current cultural development. We (in BCA) call this situation as the contemporary “cosmological insufficiency”, i.e., basically – the ‘intellectual insufficiency’, in effective comprehending the realities of the human ontogenesis and the whole world cultural evolution.

From the very beginning (since the launching of BCA in July 2010) – we endeavor to introduce the Triadological approach, i.e. of the existence of Three ahistorical (atemporal) Types of rationality; and, accordingly – the Three Types of cosmology: two polar types (our proposal is to call them the Aristotelian and Platonic); and the intermediate – Integralist (that unites the polar means, but each time on its own cosmological bases). In this, in BCA, we categorically distinguish between the Aristotelian naturalism and modern materialism (strenuously arguing that the latter is based on Platonic Dualism, and which essentially demands the elimination of Aristotle’s *hylomorphism* and its inherent Telic causes; i.e., in essence, which rejects the teleological physics of Stagirite) In other words, we substantially draw a very clear distinction between modern materialism and the Aristotelian Dynamic naturalism that is based on the foundational principles of Entelechism and Hylemorphism.

In general, however, this task has proven to be enormously complex, for modern scholars (who are normally the product of the established modern system of education and science) – they are entirely embedded into the One cosmology (One science, One method) – One Type of mentality (Type of rationality) – which, of course, ultimately is reduced to Platonic Dualism and Idealist/Materialist relation to the real world. Our experience has shown that the continued inertia of modern scholars’ (unipolar and uniform) mentality factually represents a huge force and the great challenge.

A matter of fact is, however, that although we always have foundationally the Three basic Types of real world (cosmos), but, among them – only the Two polar Types of the whole world (but the third is Integralist realm that unites both poles; and which generates its own cosmological structures and functionalist effects, mainly using the polar means); thus, accordingly – only the Two poles of the rational knowledge (that can

be reduced and are reduced to their own fundamental – universal and indivisible – basic elements of the rational scholarly knowledge, of the polar Aristotelian and Platonic essence; while, naturally, Integralist rationality does not have its own “elements”). These two polar Types (which we call the Aristotelian and Platonic poles) – for all times they are the Types of all-encompassing knowledge that (each) has its own foundational rational (scholarly) elements: fundamental principles and laws; notions and conceptions; and the essential conceptual frameworks in aetiology, gnoseology, methodology, anthropology, etc. As for *Organon*Kosmology (Aristotle’s RealKosmism, or Biocosmism) and scientific Organicist knowledge, this Type is based on the *Four-causal telic* aetiology (which causes are intrinsic and *telos*-driven), *Integral* gnoseology, *Functionalist telic* methodology; *bio-socio-Cosmist* anthropology; and universalizing *Bio*-metaphysics and *Bio*-physics (*Bio*-sciences of all classes: natural, human and social, formal, applied).

Therefore, we (in BCA) strongly propose to distinguish three main autonomic Types of rationality, which are:

**A-Type** – that is the Aristotelian Dynamic Organicist (Entelechial) naturalism (and naturalist – teleological – physics), wherein the ultimate causes and forces are essentially internal and operate *from within*;

**antiA-Type** – is the opposing (polar) Type of Platonic Dualist (Idealist/Materialist) approach – essentially the mathematical-physicalist Type of scientific activity (that is now dominating, or, rather dictating the norms for scientific work), and wherein the main aetiological causes and forces are driven *from without*;

**A-and-antiA-Type** – is the third autonomic (basic, axial) universal Type of knowledge, that is based on its own (equally to the polar Types) cosmological foundations; but which does not possess its own basic rational elements, and, instead – for the sake of Homeostatic stableness (the ‘Golden mean harmony’) –actively uses (equally from both poles of rational knowledge) and synthesizes the needed – Integralist – rational means.

Thus, in one the same time – we always have the Three actual Types of knowledge – the Two polar Types, and the Third (basal, axial) intermediate Type. Aristotle substantiates in the *Physics* that “...it is clear that something must underlie the contraries and the contraries must be two” (191 a 4-5); so, “it was said first that only the contraries were starting points, but later that something must also underlie them and that they must be three;” (191 a 17-18). Of course, the Triadological approach is essentially complex, as it demands the bearing in mind of all the Three Types of reality, and, accordingly – the Three Types of rational knowledge. However, Stagirite provides the clue to this complexity, stressing that “the underlying nature is knowable through analogy:” (191 a 9). Thereby, the contemporary physiology of human organism and the modern objective data of biology and medicine can provide us (“by analogy”) with all the needed (qualitative) answers to the substantial issues of the Triadological approach.

It is likewise important to point out that since the Classic ancient era – i.e. since the genesis of rational scholarly knowledge (that is reduced to its own foundational elements and conceptual frameworks) – we naturally have all the Three main Types of rationality.

For instance, since the Classic era, we (scholars of the world) had equally as the polar supersystems (Aristotle's vs Plato's); as the Integral cosmologies (that synthesize the polar means on their own cosmological foundations), like Democritus' materialism; or the Integral materialistic doctrine of Epicurus, or the philosophy of Plotinus – at that era all the Three Types of rational knowledge lived alongside each other in peace, and fruitfully interacted with each other.

However, since the Age of Enlightenment (the so-called Age of Reason) and the Modern era ascent – the situation has changed cardinally. Astronomers such as Copernicus and Galileo began to share and build upon their experiments, and religious reformers began to publicize new – and increasingly radical (that rejected naturalist approaches) – protestant ideas. For instance, in respect to education, Martin Luther categorically substantiated and demanded “to completely remove Aristotle's books: *Physicorum, Metaphysica, De Anima, Ethicorum*, which until now were considered the best, along with all others, glorifying natural things, although on the basis of them one cannot study either natural or spiritual objects...”, and concluded that his “heart mourns that the accursed, arrogant, crafty pagan (i.e. Aristotle. – K.K.) with his false words seduced and fooled so many true Christians.” [citing Piama Gaidenko, 2000]. Thus, in a mutually beneficial relationship, the Protestant Reformation and the Scientific Revolution encouraged philosophers to discover all they could about nature as a way to learn more about God, an undertaking that promoted a break with past authorities, and, accordingly – the rejection of the foundational principles of the Aristotelian Organicism (his teleological physics – Entelechial naturalism).

Francis Bacon (and his fellow-fighters) had finalized this overturn (in the type of rational knowledge), from Naturalist/Entelechial (of teleological physics) – to Idealist/Materialist (of mathematical physicalism) foundations of scholarly endeavors. Simultaneously, Modern European thinkers had reduced the types of rationality (that are allowed for education and scientific activities) from natural Three Types (that can be denoted as the polar Aristotelian and Platonic Types, and the intermediate – Integralist Type) – to the One (and the only authorized) Type that is referred to the modern “scientific” and is radically Anthropocentric – Transcendent(al), i.e. ultimately is based on the Platonic Dualism. In the result, Aristotle's (the Farther of science) Dynamic naturalism (teleological physics) is categorically forbidden (under taboo) in the contemporary scholarly milieu. We treat this as “cosmological insufficiency” (or ‘intellectual insufficiency’) that poses a serious threat to the existence of entire humankind.

Indeed, and what is indisputable – the modern Scientific Revolution had given birth to an Industrial Revolution that dramatically transformed (bringing about the decent living conditions for) the daily lives of people around the world. In this, in fact, Western (and modern global) society has been moving forward on Bacon's model for the past four hundred years. At the same time, the Dualist Type of rationality is evidently unable to face all the present pressing challenges and effectively resolve the problems of the future of the human being and the mankind as a whole. On the contrary, it becomes increasingly apparent, if basing on the solely Dualist foundations of rationality – that we

are moving into the future of world wars and the reduction of world population, and cyborgization (dehumanization) of the remaining amount of people, thus categorically withstanding the natural(ist) (cosmist) laws of the real Universe (Kosmos). Our inability to understand the causes of the chronic non-infectious (and non-traumatic) diseases, first of all – the aetiogenesis of cancer – is related to the same fundamental reason, of our (still) existing “cosmological insufficiency”.

Our grand worthy aim, therefore, could be the rehabilitation of the natural Triadological approach into the world scholarly endeavors, and, thus – the full (legal) recognition and return (into the agenda of the contemporary world scientific community) of the Aristotelian Entelechial naturalism (teleological physics). In very deed, while in the 17th century Bacon and his fellow-fighters had combatted against Aristotle (and won), and further succeeded to reduce the Three to One – having transformed the Three natural Types of rational scholarly knowledge into the One “scientific method” (of Dualist and Positivist – non-Naturalist – of Idealist/Materialist, mathematical-physicalist essence); but the world is factually dynamic, bipolar and cyclic – thus spirally ascending; and now the time really is ripe to unfold back One into Three (firstly, realizing and implementing the Integralist tasks, with a special focus on Information concepts). Thereby, the natural position should be reinstated – all the Three Types of rationality are always autonomic and actual, and equal (to each other).

In this perspective, we must remember that Francis Bacon himself (although in the opposite direction) – he substantially claimed (in the 1620, in his famous “Novum Organum”) that “truth is rightly called the daughter of time and not of authority”; and further sharply criticized those scientific gentlemen (of his time) who were under “the spell of antiquity, of authors and of consent”, and which had “so shackled men’s courage that (as if bewitched) they have been unable to get close to things themselves.” [Bacon, 2000, p. 69]. In sober fact, already in our 21st century – the time really has come to revive all the Three natural Types of rationality, starting from the Dynamic (Entelechial) naturalism of Aristotle (the Father of science) that is the essential second pillar for the genuine Integralist (intermediate) Type of rationality.

Herein, another essential moment is that the scholarly endeavors of contemporary Asian researchers who often base their activities on (or include the constituents of) the Eastern truly naturalist cosmologies – they, in principle, will not realize (rationalize into the contemporary scientific language that is intelligible to each scholar) their great investigative and constructive potencies and endeavors – without the rehabilitation of the genuine (neo)Aristotelism and construction of the effective Triadological approach within the contemporary world scientific and philosophical activities.

## AYURVEDIC DOSHAS (REGULATORY TYPES) COMPARED TO HUMAN ENTEROTYPES

Karl W. KRATKY<sup>1</sup>

**Keywords:** *Principles, doshas, enterotypes, statistical techniques*

In Ayurveda and *Tibetan medicine*, three basic principles are considered (doshas, *nyes pas*). These principles are regulatory types and can be found generally in nature and specifically in humans. Two of them are complementary to each other: kapha (*beken*) cold – pitta (*tripa*) hot. The third one, vata (*lung*), is cool. It is kind of integration of the other two and is of prime importance. Altogether, a triad emerges. In the following, we confine ourselves to the Indian expressions.

Each individual is characterized by a specific combination of these three principles. According to the dominating dosha, there are kapha, pitta and vata human types. As such, they define each individual for the whole life, but there are modifications according to daytime, season, age of life and a potential disease. For Ayurveda and Tibetan medicine, the digestion is of paramount importance for health and disease in humans. In general, kapha has a slow digestion with a tendency to overweight, pitta has a fast digestion with a tendency to “overheating”, and vata has an intermittent digestion. In a more detailed classification, mixed types are taken into account: the 6 combinations of 2 doshas each and a balanced 3-dosha type; ending up in 7 types.

In Kratky (2008, Chs.8-9), geometric representations of the mentioned types are developed, the focus being on 2 dimensions (health disc). This is only adequate when the 3 doshas are correlated. If they are independent, however, a 3-dimensional model is indicated. In this case, the health disc can be interpreted as a projection of the 3-dimensional model to 2 dimensions. Then, some information is lost, which may result in inconsistencies, cf. Kratky (2017a, Fig.11). From a scientific viewpoint (complex systems theory), one would not expect that a low-dimensional model can be helpful when interpreting the health status of a person. If one models physiological processes with differential equations, a high number of variables has to be taken into account. This results in a high number  $N$  of equations defining an  $N$ -dimensional abstract space (Kratky 2017b). Even if there are correlations and one can reduce  $N$  to an effective lower  $N$  via statistical techniques like the principal component analysis, it seems improbable that a 2- or 3-dimensional geometrical representation is helpful.

In this context we turn to the gut human microbiome which is dominated by bacteria. There are up to 1000 different species of gut bacteria. One may think that modeling the activity and co-operation of them results in a high dimensional space. However, this is not the case; see Arumugam et al (2011). A principal component

<sup>1</sup> University of Vienna, Faculty of Physics, Vienna, AUSTRIA.

analysis showed that the bacteria clustered, resulting in 3 groups (bacteroides, prevotella, ruminococcus), i.e. 3 human enterotypes.

Since digestion is very important in Ayurveda, one may collate the 3 (western) enterotypes with the 3 (eastern) doshas – each dosha corresponding to a specific enterotype. If this proves to be true, this has an interesting consequence: If a person has not his/her “corresponding” gut bacteria distribution, ill health may follow from that. Another point is that intake of antibiotics reduces the number and the changes the distribution of gut bacteria significantly. Thus it is necessary to restore the previous state, e.g. via prebiotics and probiotics. However, one should take into account that different enterotypes need different nurture.

The enterotypes primarily refer to healthy persons. In case of enteropathy, the distribution of gut bacteria may deviate considerable from the usual enterotypes. Then, fecal transplantation (using feces of a healthy person) may help. In fact, this works mostly in the case of *Clostridium difficile* infection. For ulcerative colitis, however, the success rate is much smaller. This may have two reasons: i) The feces do not change the sick bacteria distribution to a large extent, ii) donor and recipient represent unlike enterotypes. Then the transplantation is a mismatch, which may be compared to different blood groups of a blood donor and recipient.

It should be mentioned that the number of enterotypes depends on the statistical techniques applied, the number of enterotypes varying from 2 to 5 in recent papers; cf. Enders (2016, Ch.3). This is reminiscent of the differing number of further principles or types across complementary medicine, the so-called elements; cf. Kratky (2017a). It is not the question which number is really true, but which system of principles works well in connection with pathophysiology.

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## TO THE THEORETICAL SUBSTANTIATION OF A DYNAMIC DEVELOPMENTAL FACTOR THAT INTEGRATES LIFE PROCESSES: BIOCOSMOLOGICAL ASPECTS

**Dariusz Adam SZKUTNIK<sup>1</sup>**

The history of bio-philosophical considerations shows the methodological development of scientific research on the specificity of processes in living organisms. Such researches often are focused not only on the recognition of related life phenomena but, primarily, on searching for the cause that explains their comprehensive and intentional course.

It is essential to use the language of holistic Teleology to describe these phenomena which I will be consciously using, and which is permanently eliminated by the modern scientific physicalism within the broadly understood life sciences.

The history of scientific research also shows the paths of considerations and investigation of different researchers who gave the empirical facts an incorrect cognitive interpretation. It is enough e.g. to mention the misunderstanding of the Aristotelian bio-philosophy or the mechanical interpretation of organic phenomena by Wilhelm Roux or the inclusion of metaphysical elements to the interpretation of the scientific facts by Hans Driesch.

Well-established experimental studies should continually focus on the casual relationship between totipotent processes in living organisms<sup>2</sup>, Totipotentiality is still a key concept in biology of development and experimental facts derived from it should lead scholars to new conclusions and philosophical generalizations bringing them nearer to fuller understanding of these phenomena.

Precise cognition of the relationship and potential abilities of individual cells in the living system, especially the clear definition of their targeted developmental integration, could lead to many practical solutions in regenerative medicine, e.g. it could clearly determine how to redirect pathological cancer cells to normal development.

In this context, the question arises about a dynamic developmental factor that integrates life processes, e.g. during organic regeneration, which in the history of science was variously named (entelecheia-substance – Aristotle, Entelecheia – Hans Driesch, organizer – Hans Spemann, dynamic genome – Piotr Lenartowicz) and differently defined its way of acting.

Presently, in science, it is going to assign the cybernetic information a leading informative role in the course of organic phenomena. However, the scientific question that arises in this context is: What ultimately substantiates the individual cells to be ultimately targeted and established under holistic development? Getting to know the programming mechanism of particular functions and cellular tasks would lead the scientists to be successful not only in regenerative medicine, but also in the area of plant regeneration and transplantation.

<sup>1</sup> Member of the Biocosmological Association, Łańcut, POLAND.

<sup>2</sup> This phenomenon is most noticeable among plants.

## WHY IS THE EARTH? CHINESE EARTH-MOTHER PHILOSOPHY IN THE IOCOSMOLOGICAL PERSPECTIVE

Xiaoting LIU<sup>1</sup>

At present, we stand on the doorstep of historic change in setting priorities for our contemporary scholarly endeavors and developing relevant scientific pursuits. Among them, the development of Integralist (Holistic) conceptions has a special place, including the studies on the Earth topic. The latter, of course, has a long history. In Modern time, yet in the beginning of the 20th century, the theory of biosphere was developed by the Russian scholar Vladimir Ivanovich Vernadsky (in the 1920s). Notably, Vernadsky defined ecology as the science of the biosphere. The latter (biosphere) is described by Vladimir I. Vernadsky as the region on Earth for the transformation of cosmic energy. In his *Biosphere* (1998 [1926]) Vernadsky studies “the Biosphere in the Cosmic Medium” and “The Biosphere as a Region of Transformation of Cosmic Energy”; and that “Cosmic energy determines the pressure of life that can be regarded as the transmission of solar energy to the Earth’s surface.” [p.76]; and, in the Foreword, the authors stress that “Life, as he (Vernadsky. – X.L.) viewed it, was a cosmic phenomenon which was to be understood by the same universal laws...” [p. 15].

Another valuable achievement of the 20th century is the theory of Noosphere. The word “noosphere” derives from the Greek νοῦς (nous – “mind”) and σφαῖρα (sphaira – “sphere”), in lexical analogy to “biosphere”. This term was coined by Édouard Le Roy (1870–1954), who together with Teilhard de Chardin was listening to lectures of V. I. Vernadsky at the Sorbonne. In theoretical aspect, “noosphere” was introduced by Pierre Teilhard de Chardin, in 1922, in his *Cosmogenesis*. In 1930s, Vernadsky developed the theory of noosphere, within his own approach. His ideas of *noosphere* were an important contribution to Russian cosmism. In general, V. Vernadsky’s concept of the Biosphere and Noosphere as a planetary and cosmic phenomenon could become a cornerstone for contemporary Biocosmological developments. Still, however, Vernadsky’s great discovery that the “Biosphere is the domain of life on Earth, – a *biogeochemical* evolving system with a cosmic significance,” [Vernadsky, 1998, p.25-26] – still remains to be a scientific novelty unwelcomed by mainstream science, and which (largely) remains neglected (already a century long!)

<sup>1</sup> Beijing Normal University, Beijing, CHINA.

Further, the American philosopher Aldo Leopold has put forward the thought of Land Ethics in 1933, his thoughts were soon drowned in the smoke of the Second World War. After the war, the thought of land or earth began to attract attention because of the deterioration of environmental problems. Especially since 1960s, a number of ideas and writings about the earth sprang up like bamboo shoots after a spring rain, such as the famous *Silent Spring*, written by Rachel Carson, the *Gaia Hypothesis*, put forward by James Lovelock, *Philosophy Gone Wild*, written by Holmes Rolston III and many other works of natural literature. These explorations have restored the power and authority of the earth in the western context, and established organic holistic life view of the earth. Such efforts are reaction and effective warning to industrial society and industrial civilization.

In fact, the philosophy of agricultural society is mostly based on the wisdom of the earth. From the immemorial past, the earth has been regarded as a kind of God or an object to worship, namely God of the Earth. The God of the Earth is often seen as the Mother God because of its full production and breeding ability. Myths about God of the Earth can be found everywhere in ancient myths. The philosophy of Mother Earth is the oldest and most systematic in Chinese philosophy of the earth due to the coherence of Chinese civilization and the possibility of close observation.

The idea of mother earth has long existed in ancient China. For example, in Zhou Yi the first two hexagrams of the 64 hexagrams is *Qian* and *Kun*, which means heaven and earth. And there is an interpretation about the two hexagrams in Zhou Yi Xici: “As heaven maintains vigor through movements, a gentleman should constantly strive for self-perfection. As earth's condition is receptive devotion, a gentleman should hold the outer world with broad mind”. This thought can be regarded as the general principle of Chinese civilization since tenth Century B.C. The second example is Taoism established by Laozi, which directly regards the earth as a mother, human as babies, and treats mountains, rivers and vegetation as the limbs and the skin of the earth. Man and nature have primitive high layer identity.

However, the most essential manifestation of the thought of Earth-Mother in China is the so-called Almanac of Earth-Mother, which is a kind of Chinese traditional calendar based on lunar calendar. There are 365 pages in the almanac, with each page corresponding one day of a year. Compared with today's calendar, more information like seasons, weather, farming time, farming works, as well as the historical events are recorded in this almanac in order to guide the agriculture, animal husbandry, fishery, sericulture, aquaculture and pest prevention. It is a must read and a practical encyclopedia in the agricultural age of china. Almanac of Mother Earth is lunar calendar, the dominant type of experience is Chinese earth experience, because it is based on the farming works. One thing need to be emphasized is that the earth

and the heaven in Almanac of Mother Earth are all concrete and sensible, which means both of them are accessible personified existent.

Almanac of Earth-Mother and Zhou Yi have fundamental structure and parallel connections of history. From the perspective of Neo-Aristotelian, the mere emphasis on status and value of the earth and regarding the earth as a living organism, is just a kind of theoretical description. Earth, as a concrete and sensible existence, is not only the object of experience and the basis of life, but is also co-existence with man, which means the life of man is connected with the life of earth. Man have to be accustomed to earth and experience earth so as to maintain a relationship with the world and to have a poetic dwelling. It's hard to imagine whether it make any sense to talk about different kinds of problems without the earth. It is in this view that Heidegger revisited the concepts of land and earth, and deepened the meaning of construction and dwelling, and put forward the thought of poetic dwelling in his later years. He believes that “dwelling is a way of human existence on the earth”, “dwelling itself must always be a stay with all things on earth”, and only then “on the earth and in the earth, historical people laid the foundation of his dwelling in the world. (Poetry, Language, Thought, p.147-148, 148–151, 45–45).

All these efforts show that nowadays we should draw on the contemporary theory of land and re-examine the traditional earth thoughts and reconstruct the new earth philosophy through the Biocosmological perspectives, after all the twists and turns.

## THE INFORMATIONAL TURN AND THE PHILOSOPHY OF INFORMATION

Josef BREMER<sup>1</sup> and Rudolf KLIMEK<sup>2</sup>

**Virtual information.** For some time now, contemporary philosophers have been engaged in investigating the new intellectual issues emerging from the world of information and the information society, and in this respect the philosophy of information, as a sub-discipline, actively seeks to broaden the existing boundaries of philosophical research. At the same time, it does so not by comparing or merging previously discussed topics – such as the principle of being (*arche*), the interdependency of being and consciousness, or existential questions – but rather by reorganizing the program of philosophical inquiry itself, opening up and initiating new areas of philosophical research and seeking out new research methodologies.<sup>3</sup>

Hence, the following question arises: can the philosophy of information as it stands today be considered a mature field of properly conceived research? One can only hope so. In this regard, on the one hand, we are driven mainly by our contemporary, globalized culture, and the increasing dependence of society on information technology, while on the other, this shift impacts upon our understanding of the history of philosophy itself, and of the dynamic forces that regulate the development of philosophical systems. So what kind of philosophy of information is to be expected? To answer this question, we must on the one hand strive for a clearer view of the philosophy of information as it relates to the history of human thought, and on the other keep track of developments in modern science. Here we can only offer an outline sketch of the sort of path of inquiry that can be foreseen in this regard.

Philosophy continues to grow because it limits the areas of its own research, handing some of them over to particular branches of science.<sup>4</sup> The more complex the world and the task of its scientific description become, the more important must seem the level of philosophical discourse understood as *prima philosophia* – i.e. that which distances itself from all unwarranted assumptions and misleading forms of inquiry, such as may wrongly be thought to belong within the normative heuristic activity of conceptual modelling. This discourse must be cognizant of research in the history of philosophy, in order to accomplish a transcendental move as far as the research associated with the philosophy of information is concerned: that of moving into the

<sup>1</sup> Academia Ignatianum Cracow, POLAND.

<sup>2</sup> Fertility Centre, Cracow, POLAND.

<sup>3</sup> Cf. L. Floridi, What is the Philosophy of Information? *Metaphilosophy*, 33, 2002, 123–145.

<sup>4</sup> Cf. Kun Wu, The Interaction and Convergence of the Philosophy and Science of Information, IS4IS Summit, Vienna, 2015.

more and more abstract and optimized conditions pertaining to new possible areas of study, while keeping in mind not only scientific forms of explanation but also modifications to them, and innovations, stemming from philosophy.

The scientific revolution, brought about by the scientists and philosophers of the 17<sup>th</sup> century (Galileo, Descartes), drew attention to both the mathematization of the laws of nature and the perceptual laws distinctive of the subject. The Cartesian “philosophical turn” of that time involved a transition away from the nature of the object of Aristotelian knowledge and towards a focus on the epistemic relationship between the object and the knowing subject: i.e. a shift from metaphysics to epistemology. The growth of the information society that can be observed today is connected with the emergence of the info sphere: a contemporary informational space defined by two concepts, cyberspace and the biosphere.<sup>5</sup> To put it in the most general terms, it is about the syntactico-semantic-pragmatic environment in which many billions of people are living today. This development has led contemporary philosophy to privilege forms of critical reflection focused on the area of internally structured cognition, as represented through event memory and language broadly construed. The infosphere is modelled and managed using both of these two instruments – and along with this a transition is accomplished from epistemology to linguistic philosophy and modern logic, and subsequently to a concern with the nature of that which underlies them, which is information itself.

Information has become another basic concept, just like “being,” “knowledge,” “life,” “meaning,” “consciousness,” or “good and evil.” All of these are central concepts standing in relations of interdependency with the notion of “information,” which therefore in its own right demands to be independently studied and investigated. It is, moreover, a still more basic concept – one in terms of which the other aforementioned concepts can themselves be expressed, combined or even defined. We are referring here, *inter alia*, to such familiar expressions as “Being and truth are interchangeable”, “I think, therefore I am”, and so on.

We should thus accept that there is in fact a more basic concept than that of “knowledge”, which is what philosophers have focused on up to now, and that it is “information”. Much of this information is socially acquired, mediated through perception, retained in the memory of individuals, and typically transmitted through language – be it natural or artificial. Information may, for example, also be obtained without requiring that someone be there to apprehend it in the sense of entertaining judgements and assertions that embody it.

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<sup>5</sup> The term infosphere appears in scientific publications concerned with human functioning in the world of information and with the notion of the developing information society. In Poland, the concept was first put forward by J. L. Kulikowski, as including “the totality of information available to man through his consciousness that he can potentially use to accomplish his life goals”. See J. L. Kulikowski, *Man and infosphere. Problems*, 3 (384), 1978, pp. 2–6 (especially p. 2).

The exchange of information in artificial or biological systems is subject to other criteria. That is why it is necessary to focus on this concept first, before one addresses the philosophical notions of being and knowledge. The information stream operates on a more basic level than the acquisition or transmission of knowledge. This type of approach requires more far-reaching research of an interdisciplinary kind, and differs significantly from the methods of traditional ontology and epistemology.

Hence the philosophy of information can be viewed as the foundational and “first” philosophy (*prima philosophia*) of the future – both in Aristotle’s sense of the primacy of its object (information), considered by philosophy (in this case the philosophy of information) to be a fundamental component in every environment, and in the Cartesian sense of the primordial of its methodological stance and problems, as well as in the sense of a social philosophy that affirms social being as what determines consciousness itself. The philosophy of information aims, then, at defining what will count as both the most valuable and the most condensed approach to philosophical inquiry. The philosophy of “integrated information,”<sup>6</sup> construed as foundational philosophy, can illuminate and lead to a radical reconstruction of our natural and social environment, furnishing a systematic treatment of new conceptual foundations. It allows humanism to find meaning in the world and create a deeper sense of responsibility, reaching a new level in the systematization of being.

If what has been said here is correct, while the contemporary development of the philosophy of information may here and there encounter setbacks of one kind or another, it will remain of essential importance as something not to be passed over. Its presence will affect both our behaviour and, in equal measure, the general way in which we go about dealing with both new and existing scientific and philosophical problems, leading to deep-level changes in our understanding of philosophy and its practice. This will come to be known as the “informational turn”, much as we now speak in philosophy of the “linguistic turn.” In any case, the philosophy of information certainly promises to be one of the more fruitful areas of contemporary philosophic-scientific research of reality.

**The philosophy of being.** Every discrete part of reality (the universe) considered to constitute a system is a being (the quantum of the threefold, indivisible material-informational-energetical reality, or its multiple), whose mass is informationally balanced with its current and potential energy, and with its simultaneous coupling with its surroundings. The law of equivalence of the mass, information and energy of the universe expresses the raising of the equation  $E = mc^2$  to the power of information, in which matter and energy are understood to constitute two aspects of that information, construed as something causally efficacious<sup>5,6</sup>. The equation settles

<sup>6</sup> Cf. G. Brüntrup, Emergent Panpsychism, in: G. Brüntrup, L. Jaskolla (eds.) Panpsychism. Contemporary Perspectives, Oxford: Oxford University Press, 2017, pp. 48–74 (especially pp. 57, 67).

the centuries-long dispute over the essential and existential essence of each being: the understanding of which has been invested in its constantly varying names, limiting it to some merely informational conception – as, simply, an immaterial word deprived of energy. First of all it is necessary to understand what this word ‘being’ really refers to: a word which, according to encyclopaedias and dictionaries, denotes the entirety of everything that in any way, or in some specified way, exists in a narrow sense – i.e. the essential (most essential, most important, just that constituting the essence) or the existential (that which exists, the very fact of its existence), both as the whole of reality (the universe) and in the form of any part of it (a system). A fundamental difference obtains between any sort of real being and its merely abstractly conceived existence (in human thought), where the latter is increasingly often misleadingly referred to as a ‘virtual’ one, the problem being that this term is itself derived from the Latin expression used to denote virtues or powers<sup>7,8</sup>. Metaphysical abstraction is something already described by Aristotle when, starting out from some particular particle of reality, he would abstractly subtract all its individual qualities from it in order to arrive at either a physical abstraction (e.g. describing some species) or a mathematical one (capturing its quantitative aspect). Modern mathematicians hold that there is nothing in the material world that cannot be captured mathematically, while mathematical models may show up sometimes quite simply regardless of the intentions of researchers. According to them, the causal relationships that exist in the world are cognizable precisely through mathematical connections, while matter and form are different names for the same thing.

Proceeding on a cybernetic basis, it is possible to identify beings as the smallest parts of reality without needing to take into account their constantly varying nomenclature. Such a part of reality as this metaphysical abstraction of Aristotle, thus denuded of all of its particular specificities, corresponds to the term ‘being’ when construed as that which defines the smallest part of the universe or its multiple. Each being is, therefore, tantamount to a material-informational-energetical concept. For example, every word is a being in the human verbal world, and its power can be expressed, say, by the response to it of crowds – in whom, in accordance with the principle of information waves, it may resonate with motivations for action, or discouraging factors, relevant to each and any of the persons there. Unfortunately, this is also the basis for what happens in cases of informational pathology, where the affected person reacts uncritically to the information transmitted, a classic example being the treating of false medical information as veridical<sup>9,10,11</sup>.

Reality (the universe) is a self-realizing of information (ideas) in accordance with the principle of equivalence of mass, energy and information mathematically expressed as an informational resonance feedback wave by the formula  $E = mc^2$ . Matter and energy are just two aspects of the threefold informational essence of the universe, and because of this fact information, as the realization of the perfect idea, counts as more important than either of them<sup>12,13</sup>. Images and sounds act on the

human senses directly, but when already in the form of written or spoken words we are required to understand their content: namely, the informational resonance of the person who, as with every being, exists and acts in accordance with the unbreachable law of equivalence of mass, information and energy. The display of letters, numerals or musical notation is a conventionally agreed informational human construct serving to convey some content or other to suitably initiated persons, reflecting the fact that letters composed in some order form words that are only properly understandable in a specific language. Numerals relate to many languages, yet very few people can distinguish notes, and not many of these, in turn, are able either to read and convert them into sounds or to simply feel the beauty exhibited by the relations obtaining between parts of a whole, and between these and the whole itself, where this marks the transition from a concrete to an increasingly abstract being. Each such display is, however, regardless of the degree of understanding involved, no less part of the field of information available to every consciously responsive human being, subject to the state of his or her health, upbringing and education.

As far back as Socrates, we encounter the claim that if he is entirely focused on intense love, man can attain eternal truth, dignity and beauty (Plato, “Phaedrus”). Eternal truth has no limits, whereas people set out to define the truth for themselves within the terms of their own limited language. That is exactly the reason why mathematics has become the main tool employed by the natural sciences, and in the end by medicine too, to disseminate ideas without taking the trouble to ensure their broad-based, substantive justification. This is where ideology, as a set of human views meant to be of use in our overall interpretation and transformation of the world, differs from religion, conceived as a system of beliefs and practices operative in the space between the divine sphere and society (understood as the culmination of the development of culture). Man lives and acts according to natural laws, but he himself decides on their selection, following the guidance of philosophical thought, in which words play the most essential justificatory role, in respect of what purpose they are meant to serve, and in what manner and to what effect they are employed.

Language creates the informational basis for our individual and social life, and so it is difficult to tear it away from these in order to describe it separately. With language you can do something, convince someone, change situations, alter moods, create social institutions, etc., in order to bring someone into some permanent state, to exert a decisive influence on him or her, or create a world that exists by virtue of being spoken. For example, according B. Lown, *Words are the most powerful tools a doctor has, but words, like a two-edged sword, can maim as well as heal*<sup>14</sup>. Already, in Plato’s dialogue “Gorgias”, two ways of using and understanding language are distinguished: descriptive language, informing us about something, and the language of the rhetoric of Socrates, understood as “the inventor of persuasion”.<sup>15</sup>

# DO COLORS AND SOUNDS EXIST IN THE WORLD OR ARE THEY PRODUCTS OF SENSORY AND NEUROPHYSIOLOGICAL MECHANISMS? A NEW AND INTEGRATIVE APPROACH TO SENSORY PHYSIOLOGY

Peter HEUSSER<sup>1</sup>

The present common understanding of sensory physiology is based on a reductionist interpretation of psycho-physiological processes. In this interpretation colors, sounds and other sensory experiences are believed to be the ultimate effect of the cascades of physical and physiological processes which propagate from the respective objects to the sensory organs and from there via the sensory nerves into the brain. The brain then processes the incoming physical “signals” and thereby supposedly produces colors, sounds or other perceptions. Thus, colors and sounds are considered to be illusions, with no reality in the world out there. Furthermore, the nature of sensory processes is believed to be a machine-like mechanism of physical and physiological actions, without an experiencing mind as such.

In contrast to this widely held belief this contribution intends to demonstrate and defend – on empirical and logical grounds – the following theses:

1. The reductionist view of sensory physiology is a theoretical stance which does not correspond to the empirical facts.
2. Colors and sounds do exist out there in the external world.
3. Despite their qualitative nature, colors and sounds are just as real as the cascade of physical waves and physiological processes.
4. These cascades do not cause, but only mediate the sensory experiences.
5. The process of experiencing is not physical, but mental in nature.
6. The process of sensory perception is an integrative psycho-physiological process in which the human mind reaches existing sensory qualities in the external world through the mediation of the physical and physiological cascades.

This integrative approach to sensory physiology leads to a more humanistic understanding of ourselves and our relation to nature.

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<sup>1</sup> Institute of Integrative Medicine, Faculty of Health, Witten/Herdecke University, GERMANY.

# RECOGNIZING INTEGRALIST APPROACHES IN MERIDIANS AND COLLATERALS: EXPERIENCE OF TRADITIONAL CHINESE MEDICINE AND FUTURE WAY OF LIFE

LI TONG<sup>1</sup>

**Keywords:** *Meridians and Collaterals; Integral Theory; Chinese medical experience; future life*

The paper explores the integral and organic view of traditional Chinese medicine (TCM) from the integralist understanding of Chinese Meridians and Collaterals (M&C). It expounds the traditional practice, the thinking features and the source meridian and collateral theory, and expounds the relationship between M&C and human body, the disease manifestation, the prevention and treatment. It puts forward that the understanding of the integral theory of M&C is of an empirical integralist perspective. From the “philosophical nature of Chinese medicine” and “philosophy of Chinese medicine”, this paper explores and sums up the experience of Chinese medicine by attributing it to the traditional Chinese philosophy. With the help of traditional Chinese philosophy, combined with organic cosmology, it discusses the philosophical meaning of TCM experience and the prospect of TCM in the future. It advocates achieving the integrity of TCM practice under the guidance of organic integral perspective and spreading the integralist view of TCM and proposes the future way of life and the ecological nature of the global future in accordance with Chinese medical experience.

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<sup>1</sup> School of Medicine at Qinghai University, Xining City, CHINA.

## THE NEED OF AND A PROPOSAL FOR A PARADIGM SHIFT FOR HEALTH AND SUSTAINABILITY

Walter W. KOFLER<sup>1</sup>

**Keywords:** *comprehensive model for health, evolution, paradigm shift, theory of principles*

The urgent need of a paradigm shift is latest since the classic paper of Engels in science 1977 without contradiction<sup>2</sup>. Engels deduced conclusively the incompatibility of the given paradigm to justify medicine as a whole as scientifically based on the examples of information and meaning related (psychiatric) diseases. Engels expected a solution on the basis of a hierarchical evolution understanding and the General System Theory (Bertalanffy). But his proposal to win such a “biopsychosocial model” could not be realized in an epistemologically sufficient way: One reason was the incompatibility of identical terms with different contents within the different evolutionary levels of a human person as a biopsychosocio... (eco-cultural... etc.) person<sup>3</sup>. Another reason is the lack on a proposal to link energetical and information related aspects in living and not living entities.<sup>4</sup> Klimek proposed actually a powerful proposal to handle such a linkage.<sup>5</sup>

The key for the solution can be seen in a new paradigm which can cover all the health related scientific disciplines. Einstein handled a similar problem: Two parts of physics seemed to be incompatible: mechanics and electromagnetism. The incompatibility was based in a different paradigmatic position. Therefore the contents of the identical wording (“movement”) were incompatible. Einstein was able to invent a more basic physical movement without solid matters (mechanics) and electromagnetic fields (electromagnetism). This was a view on physics just based on

<sup>1</sup> Moscow State Medical University, RUSSIA; International Academy of Sciences – Health and Ecology, Innsbruck, AUSTRIA.

<sup>2</sup> Engel GL: The need for a New Medical Model: A Challenge for Biomedicine, *Science*, 196, 4286, 129–196, 1977.

<sup>3</sup> Tress W., B. Junker: Psychosomatische Medizin zwischen Naturwissenschaft und Geisteswissenschaft – Tertium non datur?, *Psychother Psychosom Med Psychol* 42:400-407, 1992.

<sup>4</sup> Kofler W. The relevance of Sechenov for the development of the theory of an “Extended view” of a human person as a social being, Russian Acad. Science et al (eds.) Sechenov Honor Lectures 2004, Moscow, 3–68, 2005.

<sup>5</sup> Klimek R.: Threefold material-informational energetic reality, *Biocosmology-Neo-Aristotelism*, 4(4):403–415, 2014.

energetical field. The former paradigmatic positions are not falsified. Their applicability is further on used for all “classic cases”.<sup>6</sup> Einstein’s procedure gives a hope to unify medicine. (The next step of Einstein is never so relevant for medicine: To invent the formulas of Relativity Theory which covers electromagnetism and mechanics.)

The “Extended View” is such a Theory of Principles. It offers two aspects:

1. A comprehensive paradigm which allows to offer a joint frame to the distinct distributed ontologies of medicine: comparable with an emigration of different powerful companies from small houses in a one palace. All companies can use the traditional offers as before but have the chance to adapt them: As mechanics and electromagnetism within Relativity Theories.
2. The new paradigm offers in principle new applications, e.g. because of the conclusions which are implicit integrated within the old paradigms.

An identical wording with not identical but “familiar” contents is the starting point for a Theory of Principles. We use the term “evolution”. Therefore we had to find a one characterization for the different processes which can be communicated with the term “evolution”.<sup>7</sup> So Darwin’s position is now a special case. But remember: His understanding of evolution was much wider as this of many of his followers. Darwin accepted as well the evolution of emotion e.g. of the earthworm as all four Aristotelian causes inclusive *causa finalis*. The proposal of Einstein can be understood also as based on an evolutionary process: Then “beyond” of an universe with electromagnetic fields and solid matter can be seen an universe “evolutionary before” without solid matter but electromagnetic field as such. And “before” that an universe without electromagnetic fields but just energetical fields. “Quanta” can be understood as the name for the situation, in which two energetical fields (one playing the role of electric and one of magnetic field) are crossing as close as possible. Einstein’s formula  $E=mc^2$  expresses just the energetical aspect of the self-guiding electric fields. There is a need to integrate the additional qualification of energetical fields and their descendants. Klimek made such a conclusive proposal.

Medicine deals usually just with so called „ light matter” according to the standard model of cosmology. But the standard model integrates inflation and Big Bang. We made “*free inventions of the human mind*” even for these periods. They seem not in contradiction to the actual stay of knowledge. They allow to deduce the paradigmatic shift for the self-organization of atoms, from them the autopoiesis of

<sup>6</sup> Schilpp PA (ed.): ALBERT EINSTEIN philosopher-scientist, Library of the living philosophers, 7, Evanston, Ill., 1949.

<sup>7</sup> Kofler W: Epistemological and ontological tools for an Extended View of a human person as a social being and its environments, part 1: Considerations about ontological and epistemological options and restrictions, *Biocosmology – Neo-Aristotelism*, 2(4), 273–292, 2012.

single cellular and from to more and more complex living beings thanks to their guidance on realizations. Outside observers can characterize these processes with “purpose orientation”. The next step enabled the occurrence of individuals thanks to the focus on meaning oriented relationalities. From them the human person as a social and final oriented being can be deduced. This evolutionary process (from “*Big Bang to Big Mac*”) focus on the needs and must. It is integrated within the so called “General Extended View”. The Special Extended View is focused on the evolutionary processes of meaning and information (From “*exchange particle to the WWW*”) for the understanding of the person with a focus on the wishes, options and hopes. These two views allow an extended paradigmatic view on physiology as the joint fundament for so many specialist disciplines. (Health oriented applied Extended View). Einstein demonstrated successfully the application of his “extended” paradigm for physics for the Relativity theories. This is an invitation for the application on sectoral disciplines. I worked on the field of Comprehensive understood Social Medicine (CES), Extended View of Public Health and Extended View on Comprehensive Sustainability. All these aspects are part of the Research and teaching activities in First Moscow State Medical University and the International Academy of Sciences. Just a short introduction can be given.

# WHITEHEAD'S INHERITANCE AND TRANSCENDENCE ON LEIBNIZ'S ORGANIC COSMOLOGY

Xiuhua ZHANG<sup>1</sup>

**Keywords:** *Whitehead; Leibniz; theory of process; monadology; organic cosmology; civilization*

Although Leibniz and Whitehead lived in different ages and different states, they shared common aspects in many academic fields. They are both mathematicians, and researched philosophy of science and philosophy of nature, moreover, they constructed their own distinctive organic universal views based on metaphysics of realism according to the principle of subjectivity. However, Whitehead as a founder of the constructive postmodernism affirmed Leibniz as modern thinker, meanwhile, he also tried to transcend Leibniz's understanding of the universe, namely, the "windowless monads" are replaced by the "actual occasions" as empirical subjects; the "substantive thinking" is replaced by the "process thinking"; the pure spiritual "appetitions, perceptions, representations" are replaced by the activities of "dipolar prehensions"; the "properties" and "changes" of substances are replaced by the "becoming" and "relationships" of actual entities; the omnipotent Creator is replaced by the poetic God; the predetermined harmony is replaced by actualizing universal civilization through the creative "concrecence" and "evolution". Therefore, several issues will be discussed as follows: (1) the critiques of space-time view and natural view of mechanism: a shift on the paradigm of ontology; (2) the emphasis for spiritual dimension: a return on the internal teleology; (3) the reviving for the organism, holism and dialectics: a reform of methodology; (4) the dependence of approaches of the ultimate existence and its value: an inquiry of cosmic theory of civilization, in the comparative perspective.

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<sup>1</sup> China University of Political Science and Law, Beijing 100088, CHINA.

## SPACETIME AND BEYOND. SOME CONSIDERATIONS ABOUT INFORMATION AND *POTENTIA*

Leonardo CHIATTI<sup>1</sup>

With the advent of relativity and quantum mechanics in the early decades of the twentieth century, ideas of space and time became more and more problematic. In particular, the developments of relativity have led to the formulation of the unified concept of “space-time”, which has received considerable attention in the philosophical field. Several scholars (especially Putnam and Rietdijk) have proposed an “eternalist” interpretation of this concept, giving rise to a dispute that has not yet been resolved. The “super-causality” implicated by the eternalist view has been welcomed by some scholars (e.g. Fantappiè, Hoyle, de Beauregard) as the re-affirmation of the final cause in physics. Others see in it an unrealistic denial of freedom and creativity.

However, quantum mechanics clearly introduces, with the concept of “collapse of the wave function,” the idea that elementary physical events are *manifested*, that is, emergent from a “potential” state or condition. It is therefore natural to interpret the events that populate the relativistic space-time as those actually actualized and this reduces the space-time to nothing more than a map of the results of the actualizations.

Of course, this map is “lifeless” because the real life of the physical world is in the process of actualization that, as the quantum mechanics teaches us, is random and therefore free although conditioned. Consequently, the “potential” state from which events emerge as well as the process of their actualization *cannot be represented* in space-time. This fact reduces the efficient causality that connects the actualized events on the space-time to a particular aspect of the formal causation associated with their actualization. Creativity is thus reintroduced into the physical world.

In addition, when it comes to information, it is necessary to distinguish between information related to the patterns of actualized events and information associated with their actualization. The first is the “dead” information denoted, for example, by thermodynamics as “(neg)entropy”. The second is the “active information” discussed by scholars such as Bohm, Hiley, Pylkkänen. The latter is nothing but a special case of the Aristotelian *causa formalis*.

Although this reasoning relates to physics and the physical world, it is immediately transportable to any other level of the manifestation (emotional, mental, etc.) as argued, for example, by Pylkkänen. In our view, this export is a necessary step for understanding psycho-somatic unity (in the imprecise Anglo-Saxon terms: the mind-body problem) and therefore for an aware refoundation of medical practice, as underlined in the title of this meeting.

In fact, the “potential” substrate is not only not represented in the space-time of physics, but it represents the world to itself through a self-reflexive actualization process. Therefore, the subjective, inner and living dimensions of the world coexist with the external and objective dimension.

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<sup>1</sup> Medical Physics Laboratory, Viterbo, ITALY.

## ANTHROPOIDITY AS A OVERALL CAUSE IN THE INTERPRETATION OF THE WORLD

Milan TASIĆ<sup>1</sup>

**Keywords:** *anthropic, anthropoid, inorganic, organic, machine, society, concept, fuzzy sets*

Our idea of anthropoidity, both in the ontological, and in epistemological sphere, has a character of principle, regulatory in nature, but possessing a particular heuristic and cognitive potential. We express it by the words: “In everything that occurs, nature (and the man himself) is trying to create entities with anthropoid characteristics” (*The anthropoid principle*). It comes after the so-called. “anthropic principle” [Carter, 1965], which in its "strong form" reads: “The Universe (and then the fundamental parameters on which it depends) must be such as to admit the creation of observers within it at some stage”. Such a statement expresses the belief that not only the emergence of organic life on Earth is legal, but also the emergence of man – of ratio, of consciousness – in the role of an “observer”, or the being who is capable what is outside him to do as a part of himself. Namely, when the values of basic constants in nature were calculated: the speed of light, the gravitational force, the elementary charge, etc., upon which repose all relatively stable laws (changes) in the macro and micro world, it was seen that just minor deviations from these values would made impossible the emergence of carbon and heavy elements, and then of life itself on earth. For example, if gravity was (slightly) higher, and the electromagnetic force (slightly) smaller, the star would formerly burn and become a red giant or red dwarf, as follows.

Our anthropoid principle seeks to show that the vector of evolution has only one direction, which is in it to create an organism, mind, consciousness, what in the case of human being has been really confirmed. The course of evolution, therefore, could not be either other, or different, but this single and only one, so that the highest form of organization of matter achieved (so far) in man, might indirectly serve to distinguish its laws, the laws of evolution. They have “done” out of inert matter, over several transitional forms, gradually to develop forms of life we know today. What equally helps us (at least) schematically to describe the phenomenon of life and living

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<sup>1</sup> University of Niš, SERBIA.

being in general, and then, having in mind the reason and consciousness as a finality in nature to determine more purposefully our overall activity.

In the following sense, for example, in the products of human hands one can recognize the contours of the same traits, which characterize himself as a being endowed with intellect, a social being, devoted to beauty, justice, etc., and what we see really has place in the case of machines, institutions, cities, community groups and others. This could possibly fit by analogy Haeckel's law about "ontogenesis as a brief recapitulation of phylogeny". Namely, that the objects of our knowledge "follow" moments of man's origins, no matter to what extent and which way, as well as the genesis of world's being, in doing it equally when it comes to knowledge. For, in the latter case, we are asking about an object we learn rather "from ourselves", than on the basis of itself, so that in this way the knowing of the objective reality would be rather subjective, than objective one. What spoke about mostly philosophers from Parmenides to Hume, Kant, Schelling ...

Or that machines "resemble" the people it can be seen of it that their functions are as in humans, as will many philosophers will stand on the position that "man is machine" (Descartes, Malebranche etc.). Namely, a predominant part of what a man does is mechanical in character, as it is especially indicated by hardware and software in information technology today, whose algorithmic – that is, mechanical – structure has succeed to reconstruct the movement, the color, the sound, or, say, methods of artificial intelligence. And in that way machines could learn, as well as to be curious, to adapt, to remember etc., all in the way of software which would be entered since the beginning in them, although, with the development of automation and auto regulation, they would gain a growing degree of autonomy in decision-making. Let's say also that we can attribute characteristics of moral to machines, that they can avoid to injury another, or to "recognize" its/his intentions, and even – no matter how rudimentary it would be – to "speak". And these are all their anthropoid features, thus those originally related to the human being.

Next, when it is matter, say, of human communities, we have that their organization, in various occasions, is compared to an organism. Aristotle would say, for example, in *The Politics* that the ratio of higher and lower classes, masters and slaves, is like the relationship of body and soul, of intellect and passion in humans, as the harmony in the community he compares with the harmony of body and soul. At the same time, Herbert Spencer will explicitly say: "Society is an organism", because what is the cell in a body is the family in a society, or as blood vessels food organs of the body, it is done by roads and railways in an ordered state, where the nervous system in man would correspond to the system of power in a country and so on. Or, as in the body there is a growing differentiation of organs and their functions during

evolution, it would be the same case with a society, and with the division of labor in it, etc.

In general, all these analogies, with many difficulties, between human body and social “organism” talk, rather, of a certain distant (common) model, as a border, towards which the overall living world tends in its development, in the evolutionary sense. That’s why our anthropoid principle “requires” that all human creations and nature itself, exhibit traces of a total human being.

We sketch in this sense a personalistic theory of knowledge by “completing” Socratic definition of a concept, as simply set of essential labels entering its composition, in the following way: we attribute – from some point of view – a certain degree (weight, ponder, value) , from its minimum 0 to its maximum value 1, in which it does so. In this way we build complex concepts also, starting from the simple ones: complement, union, intersection, and others in doing this equally with regard to the truth values of complex statements, or rules of inference: starting from lie 0, through this, or that probability between zero and one, until the truth 1. All of it would help us, by using different models of reality, to follow only the messages that are optimal for us and for the community to which we belong.

## **THE STRATEGIES FOR SEVERAL ISSUES TO UNDERSTAND THE COMPLEXITY OF THE TIME DIRECTION**

**Chunyu DONG<sup>1</sup>**

***Keywords:*** *Direction of Time; Second Law of Thermodynamics; Complexity*

This thesis first analyses the different representations of the direction of time and the difficulties of theoretic description to explain the direction of time, then expatiates up on the specificity, hierarchy, reducibility and definitiveness of the direction of time, and the Layer-Layer progressive relationship between them. On this basis, we lead the discussion about the direction of time to the height of philosophy by the attractor, wholeness and purposiveness, enlighten people on understanding the essence of the direction of time, and size up the rationality and limitations of the theory to describe the direction of time.

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<sup>1</sup> Beijing Normal University, CHINA.

## CHRISTIAN BODY AND SOUL

Piotr KAROCKI<sup>1</sup>

How the physical equation  $E = mc^2$  is related to the philosophical notion of entelecheia? And how about the philosophical and theological concept of soul? To answer this question one has to determine the meaning of the term “soul” as one of the basic concepts of anthropology (in its philosophical rather than natural manner). This Congress is attended by people brought up in different cultures throughout the world, and there is a completely different view of man, a completely different anthropology in each of them. This article will try to present a brief Christian anthropology, in the Catholic version.

First, I would make some methodology remarks, differentiate methods of natural sciences and humanities, as we shouldn't mismatch method and researched aspect of reality. Within some of them, we can prepare experiments, but subject of some of them are not measurable. Not all science domains' statements are even verifiable (in Popper sense).

Then I present how Christian's differentiation between body and soul was formed, and whether we can say that body and soul have independent existence. Starting with ancient Greece and Orphism beliefs, than Plato's three level of soul and four levels found in Aristotle's works, and adding Semitic anthropology, we get first Christian view. This view was “under evolution”, via (among others) saint Augustine of Hippo, then St. Thomas Aquinas. Last would be Pierre Teilhard de Chardin, with his all-evolution view of cosmos.

After this, I quickly recapitulate current dogmatic statements related to our Congress, basing on current Catechism of the Catholic Church and some Councils documents.

All these leads to undeniable conclusion about relation of soul and unmodified equation:  $E = mc^2$ , or modified version:  $E = i mc^2$ .

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<sup>1</sup> Pontifical University of John Paul II in Cracow, POLAND.

## THE CONSTITUTIVE WAY OF BIOCOSMOLOGY IN CHINESE PRIMITIVE MYTHOLOGY

Sijia WANG<sup>1</sup>

*Keywords: biocosmology; primitive mythology; order; holism*

As far as we know, mythology is a kind of knowledge which concerns the relationship between human beings and cosmos, including the constitutive way to biocosmology. For primitive people, every nation or tribe has their own myth. **1.** The most important topic in myth is creationism. In the early stages of primitive mythology in China, the universe was not described in great detail. The foundation of creation lies in the formation of order. In the Shanhaijing, “create” only means the separation of heaven and earth, until the Han Dynasty, heaven and earth was conceived as a network structure, while the formation of the universe mode of operation. For example, Nv Wa, who is considered as the creating god of human beings in Shanhaijing, in fact, “creates” human beings twice because she reforms the order of cosmos. Some people think that, according to “Huainanzi”, Nv Wa actually repairs the sky with stone needle. **2.** There are three main perspectives of cosmos of ancient Chinese: Huntian theory, Gaitian theory and Xuanye theory. These conjectures reflect a comprehensive understanding of the universe, including not only the earth, the sun and the moon, but also the whole universe system. Cosmology concerns the structure of the system and the relationships of everything, so it’s essential for human beings to verify its status in cosmos at the same time. In other words, human self-consciousness is determined by interaction and association with the natural environment. **3.** Another feature of myth is the coexistence of god and man, and the coexistence of everything. This coexistence is not anthropocentrism but holistic. In Shanhaijing, god and man can get together by some holy mountains or trees. In Guoyu, god and man can no longer communicate directly, but at the same time, human beings and the world have another form of spiritual communication. They are united by the real origin of the world, Tao, and get their own order or status, which indicates their virtues and responsibilities. In mythology, the universe is an orderly system in which everything forms an inner relationship with each other. **4.** It should be noted that this connection is not in a physical sense, but a more important sacred relationship.

Unlike philosophy and religion, the concept of “sacred” in myth is more arbitrary and broad. According to the logic of mythology, everything can be associated with their common divine origin. When we try to analyze the causal relationship in the mythology, we will find it difficult to understand with scientific thinking. For example, Shanjing, which is the main part of Shanhaijing, recorded a lot of special effects of peculiar animals or plants. The reason why these effects are convincible for primitive people maybe is the substantive united relationship from the holy correspondence. Unlike Aristotle, the understanding of the original mythology in China is not functionalism, but the common origin of all things at the metaphysical level. What’s more, the conceptive form is substituted by the correspondence and specificity in myth. In a word, the notion of order, connection and the switch from conceptive to substantive constitute an organic cosmology view of Chinese primitive myth.

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<sup>1</sup> Beijing Normal University, Beijing, CHINA.

## MEDICAL SCIENCE AND JEWISH LAW (HALAKHA)

Joseph G. SCHENKER<sup>1</sup>

**The Jewish law (Halakha).** Halakha – the word is derived from the Hebrew root that means “to go or to walk” is the collective body of Jewish religious law, including the biblical law (the 613 *mitzvot*, or commandments) and the later Talmudic and rabbinic law as customs and traditions. The Jewish religion is characterized by a strict association between the faith and practical religious rulings. In order to understand the Jewish cultural developments, it is essential to have a deep insight into the various components of the halakhic literature – the Jewish law. In principle, the halakhic literature is composed of two divisions: 1. The Written Law and 2. The Oral Law.

The foundation of the Written Law is the Torah – the first five books of the Scripture which are the origin of authority. The Oral Law interprets and elucidates the written-Torah and regulates new rules and customs. Its authority is derived from the written –Torah. Likewise, the authority of the “*poskim*” – the rabbinical scholars that represent the Oral Law toward the public – is derived from the Torah (The oral Torah, including thousands of books, owes its name to the old prohibition to write its recollections (Babylonian Talmud.). This prohibition practice ended about 1700 years ago as a result of the difficulties caused by the suppressed by Jewish liberty in Israel (Maimonides. Introduction to the Code). The dominant parts of the Oral Law are: 1. the Mishnah, 2. the Talmud, 3. the Post-Talmudic codes and 4. the Responsa.

The Written Law is defined as the origin of authority. This definition is derived from the ancient tradition and the belief concerning the original revelation on Mount Sinai, when God ascribed the Torah to Moses and to the Jewish people. The Torah is not an ordinary text of law. It is an expression of God's revelation, teaching and guidance for man. The attitude to the Torah is therefore as to a unique and holy divine text, which includes moral values as well as practical laws. The Oral Law interprets, expands and elucidates the written Torah and regulates new rules and customs. Its authority is derived from the written Torah.

**Relationship: Halakha-Medicine.** A mutually respectful relationship exists between halakha and medicine. Halakha recognizes the sacred duty of healing and uses medical knowledge in the solution of halakhic problems. Medicine draws ethical principles and legal concepts from the halakha. From a practical viewpoint, conflicts occasionally arise between halakha and medicine. The Tora permitted the physician to heal and gave healing the status of mitzvah. Medical practice is accepted as law by

<sup>1</sup> Hebrew University, Hadassah Medical Center, Jerusalem, ISRAEL.

all halakhic authorities. Since the ultimate goals of both halakha and medicine are identical, appropriate and acceptable solutions can be found. Throughout the generations, many of Jewish religion authorities had extensive knowledge in medicine.

**Jewish law (halakha) and reproduction.** Jewish attitudes toward infertility can be discerned from the fact that the first command from God to Adam was, “Be fruitful and multiply” after he was created (Gen. 1:28). This commandment has been interpreted as an obligation on the part of the man to reproduce. A Talmudic saying from the 2nd century states, “Any man who has no children is considered as dead.” This position arises from the Bible itself and refers to the words of Rachel, who was barren: “Give me children or else I am dead” (Gen. 30:2). Indeed, many halakhic authorities view infertility as illness. The laws of Shabbat are intricate and form an integral part of the life of the halakhic-committed Jew. However, in cases where life is threatened, these laws are suspended. Many halakhic authorities maintain that infertile couples are considered to be in the category of those who are dangerously ill but whose lives are not in danger. Therefore, it is permitted to ask a non-Jew to perform work, to provide infertility treatment on Shabbat for such a person even when a biblical prohibition is involved.

A directive is given in Isaiah 45:18, which reads, “He did not create the world to be isolate, but rather inhabited.” The quote from Isaiah, commentators have explained, pertains both to men and women – thus, women are included in the obligation to fill the world. Marriage is a legal contract between a man and a woman. The couple commits themselves to their mutual duties and creates between them a binding religious relationship that also affects others. From a practical perspective, marriage is a religious duty, and is considered to be among the most useful means of preventing sexual sins. It is also the proper framework in which to fulfill God's command to be-fruitful and multiply. The duty to marry and procreate is independent of social status or religious position.

The Jewish approach to sex as a part of human life has always been free, healthy and lacking frustration and Jewish law recognizes sexual desire. Each partner has conjugal duties toward the other. The wife has conjugal rights based on the elementary duties of the husband: supporting his wife with food and clothing. The frequency of sexual relations to which she is entitled depends on the man's occupation and his style of life.

**The beginning of human life.** The consensus about the time when human life really begins is still not reached among scientists, philosophers, ethicists, sociologists. Procreation is acknowledged in the Bible to be the gift of God, but the Bible does not

make any direct references regarding the beginning of human life. Life began for human being when God breathed breath into him (Gen. 2.7). The Bible does not make any other direct references regarding the beginning of human life.

The response literature concludes that complete human life does not begin at the embryonic or fetal stage of development. The Jewish Talmudic law assumes that the full title to life arises only at birth. The legal text states that if “the greater part” of the fetus has already been delivered, the fetus should not be killed. This is based on the belief that the fetus becomes a person only when most of its body emerges from the birth canal. After the forehead has emerged from the birth canal, the fetus is regarded as a person, and neither the baby nor the mother can be killed to save the life of the other. Some Jewish authorities have asserted that if the fetus placed its mother's life at risk, the mother should be permitted to kill the fetus to save herself, even if the greater portion of its body has already emerged from the birth canal. Such a child, being in pursuit of the mother's life, may be destroyed as an aggressor following the general principle of self-defense.

Objection to abortion in Jewish law is strong but not absolute. It is not permitted even if the fetus carries a genetic conditions or other congenital malformation, nor for social reasons. Abortions are not permitted for economic reasons, to avoid career inconveniences, or because the woman is unmarried. However, some rabbinical authorities have been known to approve abortion in the early stages of gestation, within the first 40 days. Afterward, it is considered subhuman until it is born. The fetus has great value because it is potentially a human life. It gains “full human status at birth only.”

Various criteria exist in Jewish law, which determine the status of a fetus or an embryo. Man's creation “in the image of G-d” confers infinite value on every human life and renders its destruction a capital offence. The Talmudic status of “40 days embryo” has significant implication in ART like: preimplantation diagnosis (PGD), cryopreservation, sex preselection, embryo research, use of embryonic stem cells for regenerative medicine etc. The destruction or use of a pre-implantation pre-embryo for research is forbidden, as long as it has the potential to implant. It is permitted to create in vitro pre-implantation pre-embryos for research if there are real chances that the sperm owner may benefit and have a child as a result of this research. This view is largely based on historical tradition and sacred writings, which largely focus on human destiny. The Jewish tradition emphasizes that man is in partnership with God. In Judaism, religious status is passed down through the mother and tribal designation is passed down through the father. Thus, a child needs both a mother and a father to save and preserve human life.

**Definition of Death.** The definition of death has serious medical, legal, moral and theological significance. The definition of death in Jewish law is first mentioned in the fifth-century Babylonian Talmud that: Up to his heart, life manifests itself primarily through the nose, as it is written: In whose nostrils was the breath of the spirit of life. The renowned biblical commentator Rashi explains that if no air emanates from his nostrils, he is certainly dead. The classic definition of death in Judaism is the absence of spontaneous respiration and heartbeat in a patient with no bodily motion. A brief waiting period of a few minutes to a half hour after breathing has ceased is also required. Donation of an organ from a living person to save another's life, where the donor's health will not appreciably suffer, is permitted and encouraged in Jewish law. Recently Chief Rabbinate accepted brain stem death, but heart transplantation is still Halakhic problem, because The Torah prohibits the unnecessary mutilation of the dead, postponement of burial, benefiting from the dead. Also the practice of euthanasia is contrary to the teachings of Judaism. Any positive act designed to hasten the death of the patient is equated with murder in Jewish law, even if the death is hastened only by a matter of minutes. The physician must make use of any medical resources which are available, not hazardous to prolong patient's life.

**Conclusion.** A mutually respectful relationship exists between halakha and medicine. From a practical viewpoint, conflicts occasionally arise between halakha and medicine. Since the ultimate goals of both halakha and medicine are identical appropriate and acceptable solutions were found by Jewish religion authorities.

## GERMAN-POLISH ROOTS OF THE THERMODYNAMIC CARCINOGENESIS AND ITS FEVER THERAPY

Rudolf KLIMEK<sup>1</sup> and Andrzej WASYLEWSKI<sup>2</sup>

Heat is a potent measure of effect on the level of biophysical repair reactions of the body and has been used for centuries to treat many diseases, including cancers. Increased body temperature is a natural symptom of not only the body's fight of a cold or a viral and/or bacterial infection, but it combats the emergence or existence of cancer cells in the effective prevention and treatment of neoplastic diseases as well as in confirmation of the thermodynamic causes of carcinogenesis, which is mathematically described as the generative entropy in the information equivalence of mass and energy  $E = mc^2$  [4]. Each of the body cells must produce hormones, enzymes, antibodies etc. to maintain among other the whole body optimum temperature (36.6° Celsius). The steady increase of the temperature harms the patient who can prevent it using only the cellular structures which are not necessary to maintain their own metabolism and whose mass they may turn in some cells the energy necessary in order to maintain their own life in the adverse conditions. Therefore, when the ambient temperature of the body increases by a few degrees, the new tumor cells must die in the absence of their potential energy sources, which are the other normal cells own the organism [1-3]. The therapeutic aim is not only to destroy cancer cells without harming healthy tissues, but also to strengthen the fight against cancerogenic processes already in precancerous cells.

Information is an integral part of the reasons for identifying the occurrence of each material event, as well as a part of each structure, and each process in its surrounding.<sup>3</sup> It is the basis of the universe and at the same time essential for understanding the material and energy changes of reality. The equation  $E = mc^2$  mathematically expresses the triad of the matter- information-energy reality (the universe) combining, among others, the views about the world of Socrates, Plato and

<sup>1</sup> Fertility Centre, 31-011 Cracow, Pl.Szczepański, POLAND.

<sup>2</sup> Europäischen Akademie für Naturheilverfahren und Umweltmedizin (EANU), Berlin, GERMANY.

<sup>3</sup> On the occasion of the Biocosmology Congress it is worth recalling the scientific achievements in the last century within the walls of Krakow Alma Mater Cracoviensis regardless of the state status of our country and the size of the Polish diaspora around the world. In Krakow hundred years ago the world-renowned scholar Charles Olszewski, in his "records its death" wrote, "I am experiencing the toughest moments of my life because of the disease, and also because of the terrible national calamities." Together with Zygmunt Wroblewski, for the first time in the world, he liquefied constituents of air- 29/03/1883 – oxygen and 04.13.1883 – nitrogen and carbon monoxide by sharing this information on 04.16.1889 at a meeting of the French Academy of Sciences. He remained in direct contact with the most eminent scientists of his era, and was nominated several times for the Nobel Prize in chemistry and physics. In the field of cryogenics Krakow was known as the 'cold pole' due to him obtaining the world's lowest temperature of minus 225 degrees Celsius.

Aristotle as the eternal human dream of easily understandable explanation of observed world events, i.e. the formation, existence and interaction of structures and processes. [7,8]. For this the cells use only the intracellular structures, which are not necessary to maintain their own metabolism.

The universe exists due to the eternal, progressively more known and understood natural laws, that is, due to – information, e.g. the newly discovered law of natural dissipative self-organization was understood and described [1,2]. Reducing the activity of biophysical and / or biochemical changes in a cell can result in a multicellular organism's risk of existence, but can also help to control the further growth of the species in depending on the state of reproductive health, which plays a decisive role in the intergenerational transmission of human life with the participation of information that even can ... be seen! [21,24]. For example every man sees in his own image mirror only his informational form (formed of informational resonating atoms), because in a mirrored appearance there is not even one of the atoms forming the real body.

Biology considers information only as describing the structure and function of cells instead of also identifying the causative role of information both within each and the whole universe (reality). Information is virtual (from the Latin: *virtualis* – effective, *virtus* – power, virtue) and is concerned with what is theoretically possible (potential) to occur, actualizing the conversion of matter and energy through the pure informational resonance. From the point of view of teleology in the cause of each event there is information in the form of a program, a potential target, awaiting its execution.

Neoplasms form from the original cells of the patient, who did not provide the necessary conditions for cellular metabolism. On the example of cervical cancer we generalize a German-Polish collaboration, initiated by two of the first gynecological university clinics in Europe – 1751 in Göttingen, followed by Cracow in 1779 (e.g. Vienna 1785, Prague 1789 and Berlin 1817) and worldwide known for theoretical and clinical biochemical oncology, presented in the tome “Biochemie der Tumoren” (1942) written by the German prof. Hans von Euler, a Nobel laureate of 1929, as well as the pole prof. Bolesław Skarżyński, the discoverer of estriol in the flowers of the willow in 1934. As scientists of Stockholm University, with this book (translated to Italian in 1945), they ushered in a new epoch in all of oncology. The importance of ongoing human cooperation is demonstrated by the fate of our gynecologists in the creation of the Polish Gynecological Society at the European medical congress in Berlin during the partition of Poland, and during regular meetings in Krakow of German colleagues separated by the Berlin Wall, which we already began to demolish in theory in 1985, and in fact in 1987 while attending a common meeting in Berlin. This scientific collaboration has led not only to the explanation of the nature of carcinogenesis, but also to the documentation of the role of cervical cancer in keeping the natural character of human procreation [2]. The goal of this text is to demonstrate the effects of the collaboration of not only theoreticians, but also of clinicians working on enzymes (Emil and Rudolf Abderhaldens, Kurt Semm, Hans Tuppy) and hormones (A.V.Schally, K.Dietrich, G.Dörner), biophysics

(M.Skłodowska-Curie, L.Marchlewski, E.Saling, A.Sieroń, R.Tadeusiewicz, P.Lauterbur, H. zur Hausen), surgery (Heinrich and Gerhard Martiusowie, W.Pschyrembel, W.Stoeckel, A.Mikulicz-Radecki, A.Rosner, S.Schwarz, J.Zubrzycki, J.Madej, A.Skręt, M.Klimek, H.Ludwig) and conservative treatment (A.Kępiński, A.Dudenhause, W.Holzgrave, T.Pisarski, P.Fedor-Freybergh, W.Szymański, K.Czajkowski, JG.Schenker). For example, the introduction of the relative duration of pregnancy in humans we attribute to H. Hoseman, who, in the 20<sup>th</sup> century, studied pregnancies conceived during the so-called 'trench vacations' of German soldiers (Normale und Abnormale Schwangerschaftsdauer in Biologie und Pathologie des Weibes, 1952), due to which the true development time of the fetus could be determined, since there are more births in the eleventh calendar month than the tenth month of pregnancy duration counted from the last menstruation (Oxytocin and its analogues, Cracow PTE 1963). Lately, the recognition of cancer as “Caesar of all diseases” has gained new importance when the biography of cervical cancer, originally known as mothers' cancer and/or premature sexual intercourse cancer, was linked with the termination of pregnancy via cesarean section performed without obstetric indications [10].

Preventing any illness lowers the oncological risk, and the physiological progress of a pregnancy promotes not only health, but because of preventing the plague of cesarean sections serves as an example of oncological prevention. New analytic techniques allow for a qualitative and quantitative analysis of circulating cells and their structures for answering clinical questions and the exploration of molecular phenomena in individual cells. It is important to see the emergence of neoplasm as a natural phenomenon from self-organizing mother cells. One must understand that information is the third aspect of reality (together with mass and energy).

In treating neoplasms doctors use scalpels, lasers, radioactive radiation and poisons as effective tools, part of which is also language, made up of words, which are understandable by patients. The word itself is even enough when treating an informationosis, but only a necessary factor in medical prevention and prophylaxis. A special place is taken by heredity and the upbringing of a person, who, due to his free will, lives according to his own autoteleological scale of values and rules of social life. In this view, self-organizing dissipative neoplastic structures appear as the basic regulator of not only the existence and development of a person, but through selective elimination of individuals least suited to the environment guarantee the continuous development of the Homo sapiens species. A special role in this is played by gynecologists responsible for the protection of human procreation. This is why our international collaboration based on the Hippocratic tradition and the social health of humans is so essential.

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## WHAT IS NATURAL AND WHAT IS NON-NATURAL IN CANCER?

Ana BAZAC<sup>1</sup>

*Keywords: cancer, telos, measurement, fragmentariness, naturalness and un-naturalness, irreversibility, social ideal*

My paper is constructed from both a philosophical and lay person standpoint. It starts by describing why cancer is almost the most *terrifying*, mysterious and important illness of man. Cancer means death, while other diseases – only unpleasant episodes.

On the other hand, cancer is the *model* of the illness: a state – but a sudden, unexpected and never expected transformed state – that interrupts the sweet routine of life, a *limit situation* when someone is pushed in a brutal manner to think to the meaning of life just in a moment when he/she can no longer change the projects and course.

The *measurement* of cancer as the modern view on it is developed in the first chapter: but only as a basis of the ethical message that follows.

Actually, the methodological presumptions of the paper are: (1) that cancer is a *natural* phenomenon, and in this frame the investigation of its manifestation and functioning, its “essence” and the stressing of its naturalness and un-naturalness;

(2) the presumption of its harmful, even malefic character – and in this frame the analysis of *treatments* and *prophylaxis*; in fact, this direction is the most difficult, including because of the *intertwining of the inner logic of scientific approach and the logic of extra-science/logic exterior to the inner requirements of science*; anyway, this was and is the first space of the research of cancer, because it is practical and answers to practical and immediate healing problems: the development of this space has led and leads to the upstream space of theory (1) as well as to the downstream space that follows (3);

(3) the presumption of the necessity to “*compensate*” cancer at the level of “*trans-medical*” *tackling* (at the level of psychology and ethics), either because it cannot be healed and its advancement implies horribly painful feelings linked to the coming of the final moment of life, or because it is prevented by an “alternative” view about health and the human life (and death).

Cancer as a natural and un-natural phenomenon is discussed by emphasising both the physical-chemical and the teleological origin of cancer. If the natural causality of /within the living organisms is *complex and/but explainable in natural terms* – something which was not yet during Kant’s time – and on the other hand the ideas of the reflexive judgement/intellect faculty of man (as purposefulness) are only regulatory and not reflections of the real objective states as the determinative faculty of judgement arrives at, we must think the *naturalness* of the biological states neither as reducible to bottom up mechanical relations nor as a simple normativity introduced by the reason of

<sup>1</sup> Polytechnic University of Bucharest and Romanian Academy, Bucharest, ROMANIA.

medical doctors and researchers, but as Aristotle conceived of, as a state/"situation" of the whole organism felt and judged from the standpoint of the subject/the human as such.

The naturalness is *felt* and after, is *thought*: consequently, it is both subjective and objective, both considered from within and from without. On the other hand, naturalness is somehow tantamount to the *good/useful/valuable* – and this is the Aristotelian/ancient basis of the treatment of diseases – and thus, to the *normal* state of the functioning of the organism and organs of the individual and, ultimately, felt as such by it. This normalcy of functioning depends, on its turn, on concrete conditions, and relevant situations of normalcy send to a larger picture of what is natural/normal/good from the standpoint of health than that supplied by a statistical analysis.

Cancer is felt as an *un-natural* state. From an ontological point of view, for the human being the *criterion* of naturalness is life, so health as the *sine qua non* condition of life, how finite it may be, and as a main condition of human creation and development of meanings by humans. Then cancer is the questioning of the telic character of the human organism. The leading *telos* is that of the whole organism (Aristotle) and this means the subordination of the *teloi* of the parts to the *telos* of the whole. But there *are teloi* of cells etc., and there is a complex *intersection* of all the *teloi*. Cancer arrives at the level of cells. They seem to “forget” the previous normal pattern of functioning, and normal even with bad inputs. A new law of functioning appears. Nevertheless, for a while the *telos* of the whole organism is stronger. But then, it is defeated.

The main cause of the image of cancer as the most terrifying disease is its *irreversibility*. It is not (fully) understood and thus not controlled.

Actually, the point of my paper is the last chapter – How to fight cancer; and it demonstrates that if man is a *species being*, then the dialectic of the *human individual* and the *human species* must be considered. The ill man, and even more the cancerous person, struggle with the disease as an individual. But in order to being serene, the cancerous person must consider himself/herself as a part of the human species. In order to really/consciously be a part of the species, the individual must be preoccupied about the *social* problems and behave as an “activist”. Only if people consider themselves as members of the human species, they know that they do not/will not fully die: they *will survive through the form of /within the human community*. And, the more they were preoccupied for its issues, the more they fought the factors limiting the humanity of all the human persons, the more they feel as future survivors.

The means to attain this view is the *social ideal*, the altruistic wish related – more than to the individual well-being or happiness – to the creative development of *all* human beings. To have as a permanent priority the social ideal allows both the enrichment of the *content* of life and *resources to fight the suffering of a final illness*. To surpass the generalised model of selfish individual may be a strong compensatory factor of the shock and suffering of illness. But to do this is a difficult educative and transformative process.

To fight cancer is a very un-natural phenomenon: it is cultural, of course. But the content of culture is the responsibility of humans.

## LACTOBACILLUS VACCINE (LACTOBIM) IN PREVENTION AND THERAPY OF CANCERS

Dariusz JASICZEK<sup>1</sup> and Rudolf KLIMEK<sup>2</sup>

The lack of significant progress in combating cancer is the result of focusing on the molecular biology of cancer, as genetic, chemical, physical and biological factors, without the use of basic knowledge, mainly that of quantum thermodynamics. A lot of oncogenetic theories are concerned with various estimations of the same phenomena, which has created the necessity of their generalisation through the presentation of neoplasm as an informational self-organizing dissipative structure, dispersing the matter, information and energy in the host organism – it's biological environment. This brings about the uniqueness of each one of them. The neoplastic disease is caused by a neoplasm which is a different, thermodynamically more efficient, biological system than the host organism tissue which it originates from. A sufficient condition for the neoplastic transformation of the cell in multicellular organisms is the dissipathogenic status of the cell, which, unless it dies, then organizes into a new dissipative structure. The inflammation is always evidence that there is a local and/or general insufficiency of the organisms independent of the causes and reasons leading to such unstable states. The task of medicine, apart from destroying the existing neoplasm, is to remove dissipathogenic areas in the body, as the causes of neogenesis. Dissipathogenic states are diagnosed by clinical symptoms and disorders as well as nucleomagnetic imaging, taking into account oncogenic factors in the past (obstetric haemorrhage, infections, shortened lactation, drug addiction, etc.) and/or the hereditary and socio-economic factors.

Quantum thermodynamics combines matter, energy and information while technical quantization in a novel way differentiates precancerous states as the dissipathogenic ones from the neoplasms as the newly formed dissipative structures. Therefore general rules of therapy focus mainly on: 1) prevention and therapy of the dissipathogenic states; 2) strengthening of the regenerative and defensive mechanisms of the organisms and; 3) finally removal of neoplastic changes as widely as necessary but also as sparingly as possible. For too long time these rules have been used in reverse order.

Human organism defends against pathogenic microorganisms (virus, bacteria etc) not only by informational, physical, chemical, biochemical and immunological means, but also with aid of special own mobile cells (leucocytes, lymphocytes,

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<sup>1</sup> Hermes Management S.A., Aubonne, SWITZERLAND.

<sup>2</sup> Fertility Centre, Cracow, POLAND.

macrophages). All these defensive mechanisms are supported by natural saprophytic bacteria, e.g. *Lactobacillus* living in digestive and urogenital tracts. Lactobim-vaccine contains three types of *Lactobacillus* including in their bodies also antigens of pathogenic microbes and strongly supports local and total human antibodies. The lactobacilli vaccine has an immunogenic effect in microorganisms by restoration of normal flora and transfer of surface antigens by plasmids. On the other hand the lack in human body of saprophytic *Lactobacilli* manifests victory of pathogens owing to loss of their help, especially in cases of neurohormonal insufficiency.

A high incidence of cervical cancer and high mortality rate is caused by low prevention, detection and therapy of precancerous lesions with neuroendocrinal and obstetrical origins. 20% of such women have cervical precancerous changes. Cervical cancer can be promoted by many non-specific factors, including such gynecological ones as: faulty prediction and determination of birth date, instrumental instead of possible natural labor, reduction of lactation, early sexual life, wrong hormonal therapy, long lasting prescription of pills, infrequent diagnosis and wrong therapy of hypothalamic conditioned abortions and premature deliveries, eradication of neoplastic lesion without normalization of its environment. Thus cervical cancer, as any other cancer, is not related only to one virus or to neuroendocrine and metabolic internal state of women, but also to the presence and activity of symbiotic flora, as well as host's lifestyle.

Infections with bacteria or viruses may, but do not have to lead to the diseases generally referred to as "infections" in which an intensity of the symptoms and affections depends on the internal state of the organisms. R. Klimek has introduced immunotherapy of cervical intraepithelial neoplasia (CIN) during the 2<sup>nd</sup> EAGO Meeting in Paris after its first presentation during Jubilee Congress of Polish Gynecologists (1985). CIN was cytologically diagnosed and proved by colposcopy and in questionable cases diagnosis was confirmed by biopsy. The treatment consists of three injections every second week of 0.5 ml Gynatren (Solco-Trichovac) containing  $7.10^8$  lyophilized coccid forms of *Lactobacillus acidophilus*. The lactobacilli vaccine has an immunogenic effect in serum and locally in the vagina as a natural protection against many foreign pathogenic microorganisms by restoration of normal flora and transfer of surface antigens by plasmids. This effect is apparently stronger in women without CIN as well as two weeks after the third injection. Lactobim vaccination connotes to advise all women with Pap test abnormalities or after treatment of already established dysplasia. Again, first of all, it has to be advised that in such cases there exists an effective immunotherapy using *Lactobacillus* vaccine.

Natural capability of the viral and bacterial antigens to induce immune response is being used to develop a preventive vaccine against infection by microbes

causing a wide spectrum of proliferate benign, precancerous and cancerous lesions. Clinical trials of this vaccine have shown its efficacy in the prevention of cervical precancerous lesions. Routine vaccination is recommended for women and men to prevent as well as to protect and treat genital infections and neoplasia. Rare adverse reactions are of transient character and usually disappeared within a few days after administration. Infections are most common sexually transmitted disease and a significant epidemiological problem all over the world. Lactobim-vaccine use to prevent infection is an element of primary prevention to decrease the incidence of diseases caused by infection, whereas the superior goal is primary prevention of cancer. Moreover, the vaccine brings about additional economic benefits for the health care system in the form of decreased number of biopsies and other invasive procedures related to the confirmation of abnormal cytological tests.

Going further on this track, it can be stated that money must be a kind of derivative energy (because this is the information). This energy is derivative, because it arises from the conversion of something real to something functioning in the information dimension. At the same time, it is worth to remember the interaction of information with the human mind, along with its cognitive and biological limitations. Information during its interpretation by the human mind is subject to greater or less (but always some) filtering. These in turn are the source of unpredictable human behavior, making all predictions very imprecise. Attempts to correct them often over-regulated – introduce further ‘echoes’, which makes it difficult to analyze and improve the forecasting apparatus. Money also provides information on the status of the holder, not only as a determinant but also as a means of controlling the ability of a particular person to seize a particular social position. When the holder has acquired them by means of specific rules of the game of economic activity, the fact that he has obtained certain privileges does not raise major tensions in society. However, if the acquisition of these funds and privileges take place through succession and without sacrifice, then social disturbances occur. The game must be replayed each time in accordance with the same rules, giving the world a liberal breath. After all, it is a means of improving humanity. We know, however, that such facts do not take place in society anymore – for reasons of the lack of natural empathy. Consequently, cumulated money’s energy degenerates the original society and causes the formation of cancer-like mutations.

Immunotherapy can be compared to the regression of lesions on the cervix of women with hypothalamic insufficiency under the influence of normalization of their state with natural hypothalamic hormones. Women with neurohormonal hypothalamic insufficiency have cytological detected precancerous states in more than 10% of cases, and twice as often when detected via colposcopy. When cervical intraepithelial neoplasia (CIN) was found, it was shown that in 67% of cases there

was obstetric hemorrhage, 52% have had a shortened lactation and, 70% of cases showed cervical “erosion”. In contrast, in the absence of CIN, patients show statistically significantly less hemorrhage (25%), disorders of lactation (7%) and the existence of erosions (36%). Thus the need for limitation of iatrogenic conditions of cervical cancer, among which there are: infrequent diagnosis and wrong treatment of hypothalamic syndromes and the resulting miscarriages and premature births, excessive births via operation instead of births via the natural method, shortening of post-partum lactation instead of promoting it, or long term use of hormonal contraception, especially among young girls. Thus the need for limitation has not only of iatrogenic causes. So, it can be also summarized as (1) “back to nature” call: less pharmaceutical, less penetrating (not only surgery, also not as much invasive as it is); (2) “more holistic view”: cure person, not cure this tissue or that cells at specified time; cure person as unity of soul (at least, psyche) and body, and cure person as entity stretched between babyhood and old age.

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## PHILOSOPHICAL FOUNDATIONS OF THE THEORIES OF LIFE'S ORIGIN

Włodzimierz ŁUGOWSKI<sup>1</sup>

The study of the origin-of-life is already a few decades old. Therefore, it may seem astonishing that considerable achievements in this branch of knowledge (in the last sixty years more than 250 theories of biogenesis has been published) paves its way with difficulty not only to the wider public, but even to the circles of specialists. One may sometimes have the impression that the realization of theoretical achievements in the field of biogenesis-research is hindered by something, which is deeply rooted in the basis of this branch of science (rooted not deeply enough to prevent empirical research in this field, however, perceptible in theoretical discourse). The problem of philosophical foundations of the theories of life's origin has been vividly discussed in the recent years in theoretical-biological journals. As it outcomes, the opinion according which a 'mature' kind of science can and should be 'philosophy-free' (expressed by academic philosophers) is unfortunately shared sometimes also by scientists themselves.

I shall try to show that the lack of philosophical consciousness by some origin-of-life researchers may cause deeply erroneous presentation of this branch of science. I take the view that the inclusion of the problem of life's origin in the field of scientific research was a philosophical breakthrough. In the ontological aspect it required the rejection of understanding matter as an inert substance an instead of that the matter had to be perceived as active. In the epistemological aspect – it meant abandoning scientific criteria connected with classical physics for the ones offered by evolutionary biology. The common denominator of the current theories of biogenesis may be expressed briefly: life is a natural emergent property of matter. It is nothing more and nothing less than the essence of the new (non-mechanistic) philosophy of nature, as postulated by Ilya Prigogine: "Nature must be described in such a way that man's very existence becomes understandable".

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<sup>1</sup> Institute of Philosophy and Sociology of the Polish Academy of Sciences, Warsaw, POLAND.

## THE ORGANIC BEAUTY OF THE THOUGHT OF CONFUCIANISM ABOUT THE VIRTUE OF BENEVOLENCE AND ITS FORMATION

Tianmin WANG<sup>1</sup>

*Keywords: Confucianism, the Virtue of Benevolence, Organic, Beauty*

The thought about the virtue of benevolence as the foundation and the core concept of Confucianism theory system, fundamentally shape the aesthetic ideas of Confucianism. Confucianism benevolence thought system includes three basic level aspects, such as the structural style “Mosaic”, the basic meaning of “be oneself” and the practice mode of “extrapolation”. These three levels are all highlighted the organic properties sufficiently. The structural style “Mosaic” means that the Virtue of Benevolence as the kindheartedness and loyalty character is presented among interpersonal relationship just as Confucius said, ‘the benevolent love people,’ ‘Give others what you want, what you are dislike don’t give others.’ The basic meaning of “be oneself” means that practicing “the Virtue of Benevolence” is from the individual wish, depends on self will, for the improvement of oneself. Just like what Confucius said, ‘benevolence depending on oneself’, ‘benevolence coming when you want it,’ ‘Doing according benevolence is duty of oneself.’ The practice mode of “extrapolation” means the process of building the Virtue of Benevolence is from self to others, firstly self, then others. Just as Confucius said, ‘being leader in doing justice,’ ‘Requiring being of others after your being, can you ban others only if you are not doing.’

These organic properties of Confucianism thought system about the virtue of benevolence embodied in three aspects fully highlights “organic” attribute of Confucianism aesthetic idea. “Organic” attribute of Confucianism aesthetic idea also embodies in three aspects, namely the generating beauty of “the enriched virtue of benevolence”, the harmonious beauty of “the coordination between literary and simple”, the natural beauty of “the unity of monastery and willfulness”.

Confucianism thought that beauty of image and temperament come from rich and plenty of inner spirit, Enrich oneself with the spirit of the noble and elegant temperament is an important path to win a beautiful image and qualitative. Just as Mencius said ‘Reasonable requirement means good, physically means belief, enrichment means beauty.’ The beauty of image and temperament means that plain

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<sup>1</sup> Beijing Normal University, Beijing, CHINA.

natural beauty and man-made modification complement each other in the style and scale of its embodiment. Just as Confucius said ,‘decorative more than plain means vain, plain more than decorative means wild , coordination of decorative and plain means beauty.’ The metaphysics trend of the beauty of image and temperament is suit to nature and ‘tao’, It is said “Destiny means character, fully reveal personality means being in line with ‘tao’, practicing ‘tao’ means enlightenment.” Nature and willfulness, suitable for ‘tao’, transforming destiny into self-character sufficiently, and keep Justice and awe-inspiring temperament, can achieve “full and glorious” beautiful image spontaneously.

The organic properties of the thought of Confucianism about the Virtue of Benevolence and the organic characteristics of Confucianism aesthetic founded by the former fundamentally defines Confucianism education of ‘to be human’ must follow the concept of organic formed by the unity of beauty and goodness. On the one hand, education of ‘to be human’ must strengthen the foundation of moral, civilize glorious image and good temperament through the enrichment of the Virtue of Benevolence and improvement of quality ;On the other hand, education of ‘to be human’ must strengthen the edification of aesthetic ,motivate and lead the cultivating of moral and spirit. So that making “moral education” and “aesthetic education” being united organically, working coordinated ,and Cultivating a generation of talented people with the characteristics of the unity of beautiful and good, excellent quality , beautiful image, harmonious and comprehensive development.

## ON MARX'S ORGANIC WHOLE THEORY

Aijun ZHANG<sup>1</sup>, Zequan ZHAO<sup>2</sup>, Shuhong LIU<sup>2</sup>, and Xiaoqi QIN<sup>2</sup>

*Keywords: Marx; Organic theory; Naturalism*

According to Aristotle's organic whole theory, the world as a whole, and organically united. Nature is a movement, not a static one. On the one hand, he inherits and emphasizes the naturalistic view of generative nature, regards the nature and the society as an organic whole, and points out the naturalism of the society and nature. On the other hand, he points out that the natural movement and social change are not mechanically physical movements. Nature and society are not only rational and orderly, but also accord with the reality, which are also oppose to the transcendence of nature and society. In addition, he established the natural existence of the reality as the active and substantive existence of freedom, self-development and self-movement. The organic development of society, not only is a part of nature, but also has its unique characteristics.

Marx's theory is also a theory of organic whole. Marx, not only inherits the views of Aristotle, but also develops the views of the Aristotle. Marxist theory is an organic theory, which is composed of nature, society and thought. According to Marx, the world is material and substances in the word are in motion. What's more, the material movement obeys the rule. Human being is a product of nature with the property of biology. Besides, the human society which is made up of human beings is a product of nature, obeying the developmental rules of biology and society. Therefore, human thought has both the animal's thought and the social one. The developmental process of human society and thought are first to be that of natural history. Although the organic relation between human society and thought is limited to organicity of nature itself, it embodies on the unique aspects of human society and thought. Marx integrates nature, society and thought organically to build an organic philosophical theory in which he emphasizes the organic harmony of human society and nature as well as the organic unification of human thought and nature. As a result, Marx underlines that naturalism is humanism and humanism is naturalism. Naturalism shows the equality and justice on the basis of humanism. It is the equality and justice that embody on the property of humanism. As Marx says: "Nature of

<sup>1</sup> Northwestern Political Science and Law University, CHINA.

<sup>2</sup> Liaoning Normal University, Dalian, CHINA.

humanism is the existence on the premise of social people. Because only in society, nature is the bond of connecting a man with another man. The existence of nature is for that of others and the existence of others is for that of nature. Only in society, nature is the basis for people's existence and the living element of the realization of human beings. Only in society, human beings natural existence can be the existence for themselves and nature can be called the human being for human beings. Hence, society is the completed essential unification between human beings and nature and the real resurgence of nature. And it is the realized naturalism of human beings and realized humanism of nature." Marx makes the unification of nature and humanism, as well as nature and the nature of human beings, whose essence or core is for the realization of the harmony between human beings and nature and for avoiding alienation and contradiction between human beings and nature. Moreover, Marx especially emphasizes that the realization of human nature comes from social practice, and at the same time, the progress of social practice is the progress of self-realization.

## ABOUT TELEOLOGICAL AND INTEGRALIST APPROACHES IN THEORETICAL EVOLUTIONAL BIOLOGY

Sergey N. GRINCHENKO<sup>1</sup>

**Keywords:** *Nature system search-optimization conception, teleological and integralist approaches, theoretical evolutionary biology, neo-Darwinism, nomogenesis*

Important stage of implementing of teleological and integralist approaches in advanced science [Khroutski, 2016] ensues the concrete definition of their methods and means with reference to this or that knowledge subject field. This can come about, e.g., in terms of system search-optimizational (cybernetic) Nature conception [Grinchenko, 2004, 2007, 2012]. With its positions three fundamental components of hierarchic *animate natural system* have following meaning – in terms of biological evolutionism and philosophy (fig 1):

1) *searching activities* of all hierarchic system component (rising arrows in scheme) – this ***motion of matter***;

2) *goal criteria* of target-defining component (descending continuous arrows) – this, actually, ***causa finalis*** on Aristotle;

3) *interstitial system memory* as *property* of memorizing and reproduction of past experience about the process of hierarchic search optimization in system, and realizing its *mechanism* of restrictions on search optimizational processes introduction, occurring on regarded and at all embedded thereinto (underlying in hierarchy) levels/tiers (descending stroked arrows) – this system-forming, more accurately ***hierarchy-forming***, factor; “the channelity” evolution on Lamarck and “nomogenesis” on Berg is realizing; take place only at systems of animate and personal-production-social nature (it there is no in system of inanimate nature, which ensues not hierarchic, but “chained” – analogue in medieval West-European history: “vassal of my vassal – not mine vassal”).

Red wide arrows and numbers in circles in given in fig. 1 – neo-Darwinism scheme specified: 1 – “**changeability**”, developable by genes; 2 – ontogenesis process (of organism individual development), reflecting “**heredity**”; 3 – manifestation of organisms *specific behavior* within frameworks of corresponding populations; 4 – “**natural selection**” based on criterion “**fitness**”; 5 – message process of negative result selection on organism level; 6 – procedure “**exclusion**” of organism from population; 7 – “*outer addition*”, that is outer nonspecific action on organism (e. g., of catastrophic character), also resulting to its elimination from population. “**The orientation**” of evolution in this scheme is denied.

The comparison of schemes of hierarchic animate natural system and above mentioned neo-Darwinism discovers the fact that last merges evolutionarily

<sup>1</sup> Institute of Informatics Problems, Federal Research Centre “Computer Science and Control” of the Russian Academy of Sciences, Moscow, RUSSIA.

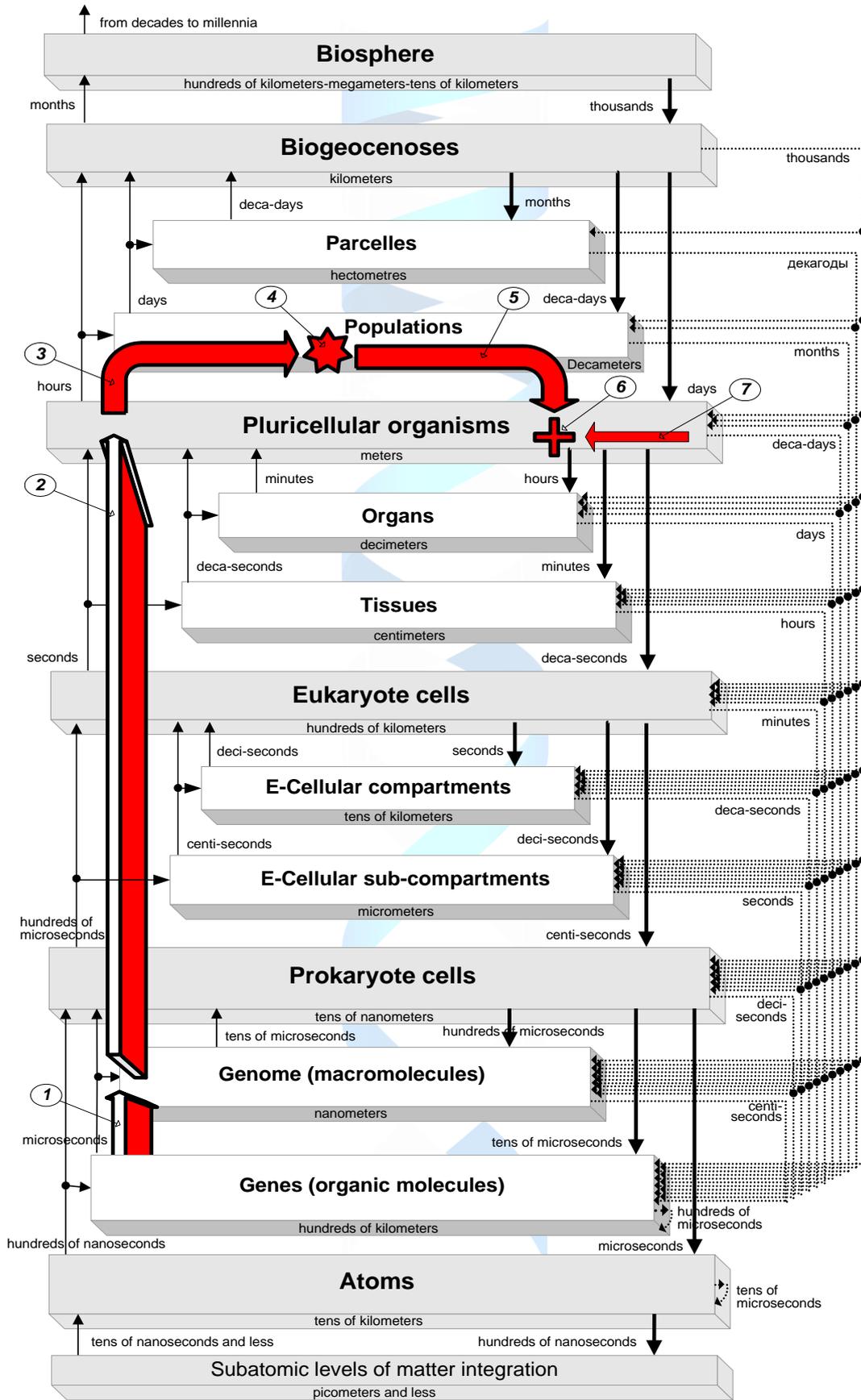
significant processes only to two hierarchy tiers: variability attribute only to genomic, but selection – to population. I.e. with reference to mentioned processes (seven!) tiers in animate system hierarchy, playing in them the enormous role, practically are ignored. In turn, the randomness role in the evolution is denied in model of nomogenesis.

The search-optimizational systemic conception of animate nature directly denotes on integration necessity of both models of evolution, neo-Darwinism and nomogenetic, in the common synthetic model, realizing, hereby, teleological and integralist approaches. Naturally, during this is necessary to realize corresponding corrections of neo-Darwinism scheme: to extend the spectrum of “changeability” generators, to change the type of goal criterion, by changing empirically nonmeasurable “fitness” (“...rather to underscore that about “fitness” could speak only in relation to *own* ecological nich, in order to had become clear the ineligibility of biological progress determination through fitness degree” [Korogodin, 1991: 127]) on optimum hierarchy of energy character goal function, etc.

Finally, need to specify, that opinions about consistency, compatibility and mutual complementarity of neo-Darwinism and nomogenetic evolution conceptions was expressed many times: “...evolution contrasting as a result of natural selection and evolution, as realization special regularities absolutely incorrectly. Regularity of evolutionary trajectories – obligatory consequence, but not darwinism contradiction (...) here we are talking not about mysterious “inherent system” laws, but about physical, chemical, biological, available to rational analysis regularities” [Shnol, 1979: 16], “...discussion between nomogenesis and Darwinian approach supporters based on misunderstanding that these conceptions complementary, but not mutually excluding” [Zherikhin, Rautian, 1997], and others. Possibly, systemic “cybernetic” reading of these evolutionary theories shall give the fresh impetus for their integration?

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Note: arrows pointing upwards have a structure (reflect the relation) "many to one" and downwards - "one to many".

Fig 1. Reconstructing projection of the “neo-Darwinism” model of biological evolution on the optimization mechanism scheme of dynamic hierarchic search.

## THE EXISTENTIAL MEANING OF ZHUANGZI'S PHILOSOPHY OF LANGUAGE FROM THE NATURALISM PERSPECTIVE

Jing GUO<sup>1</sup>

**Keywords:** *language, existence, Zhuangzi, existentialism, naturalism*

The relationship between language and existence is a very important issue in existentialism. Zhuangzi talked a lot on this issue. Zhuangzi's viewpoint contained an organic naturalism which has deep correlation with existential naturalism enrooted in Aristotle's naturalism.

The relationship between the language and existence could be thought in two ways. One way is to ask how language relates to existence. Another way is to ask how existence relates to language.

In the first way the main question whether language could describe existence is mainly discussed. For Zhuangzi, it is the question about whether language could talk about Dao. Zhuangzi thought that Dao could not be talked because Dao could never be defined. Speech by its very nature cannot express the absolute. Perfect Tao cannot be given a name. So beyond the limits of the external world, the Sage knows that it exists, but does not talk about it. This idea is in common with Martin Heidegger's view about "the silence". In the silence, Heidegger pointed to the double sides of the language. One side, if language was viewed as a tool to express the mind or behavior, then language would be a cover. Because it not only covers the essence of the language itself but also covers the existence. Just as Zhuangzi said, "Tao is obscured by our inadequate understanding, and words are obscured by flowery expressions." The other side, there would be uncovered where there were the cover. To uncover is to discover existence in the essence of language. Just in this meaning, language is very important to Zhuangzi and other existential philosophers. Studying language is to bring us onto the essence of language to discover existence. How could existence be discovered in the essence of language ?

This will turn to the second way to ask the relationship between language and existence. That is to ask how existence relates to language. Zhuangzi and other existential philosophers thought that seeking the essence of language is to find the ultimate source of language. For them, language comes from existence. Therefore the

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<sup>1</sup> Beijing University of Chemical Technology, Beijing, CHINA.

essence of language is not a tool, but is an unusual and extraordinary event to discover the existence.

The event is to come back to the internal emergence nature. This is naturalism which has three kind of levels. Firstly, nature is the internal innate status. Another existentialist Martin Buber also put forward that “the unity of each thing determines in itself the manner and nature of this thing”. Same to Zhuangzi, “Knowledge of the action of the natural and of the artificial has its basis in the natural its destination in virtue.” Secondly, nature is emergence can be experienced everywhere. Buber said, “The unity that verifies itself not only in the manifoldness of things but also in the successive moments in the life of each thing.” Zhuangzi said, “The universe and I came into being together; I and everything therein are One.” Furthermore, “This emerging and standing-out-in-itself-from-itself may not be taken as just one process among others that we observe in beings. ” Just as Heidegger said, “Nature is Being itself, by virtue of which beings first become and remain observable.” Thirdly, the genuine life is to fulfill and converge into the dynamic organic nature. So Buber put forward, “The perfect revelation is therefore not the man who goes his way without alteration, but the man who combines the maximum of change with the purest unity.” Zhuangzi also said, “Let your heart journey in simplicity. Be one with that which is beyond definition. Let things be what they are.”

Through this event, existence is discovered. About this journey of this event, for Heidegger is poem, for Martin Buber is the dialogue between I and you, for Zhuangzi is parable. This kind of way of saying is different from what is said. So there is a transformation of language. Existence is discovered by the transformation of language.

So the discuss about the relationship between language and existence, not only can dig out the contribution of Zhuangzi’s philosophy of language to the existentialism, but also can build a bridge connecting the western philosophy and the eastern philosophy, more important can open up the pathway to discover the existence.

## ON XUNZI'S VIEW OF HEAVEN AND MAN IN ANCIENT CHINA

Liyuan LIU<sup>1</sup>

*Keywords: Xunzi, View of heaven and man, distinction between heaven and man, nature and society*

In the period of Warring States the Yin-Yang school and Yi Zhuan Philosophy had proposed a global schema, attempting to do a unified description of the whole world and tending to emphasize the connection and unity of heaven and man. By contrast, the characteristic of Xunzi's theory was that it did not mention the world schema and he emphasized the distinction between heaven and man. Besides, instead of regarding the heaven as a heaven with personality, which was the source the all moral will and value, he saw it just as nature and nature law itself. In Xunzi's view heaven and man have different properties. As we known, it was a distinctive thought in that period, for Chinese philosopher clearly declare the separation between heaven and man for the first time, which affect the latter cosmology or universe view profoundly. In this paper, I will try to study the following three questions: (1) Why Xunzi proposed this idea? (2) What was the core idea in his theory system of view of heaven and man? (3) How this thought influenced the latter philosophers in regarding to the views of relationship of nature and society?

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<sup>1</sup> Beijing Normal University, Beijing, CHINA.

## ON THE CLASSIFICATION OF ANIMALS ACCORDING TO BIOLOGICAL FUNCTIONS, AFTER ARISTOTLE

Milana TASIĆ<sup>1</sup>

*Keywords: function, organ, reproduction, classification, principle*

**Functions of animals.** At the beginning of his work *Meteorology* [338 a], Aristotle has expressed his intention in the way he spoke in *Physics* about “the first causes of nature, and all natural motion, also the stars ordered in the motion of the heavens” and the like, to see “what account we can give, in accordance with the method we have followed of animal and plants, both generally and in detail” [*ibidem*]. Then the science of natural life, biology, would be part of one and the same science of nature, physics, when it would be talk about the living world in the (same) terms of the causes, consequences, space, time and the like.

When it is about the vital organs and functions in animals, he finds that they basically have a common “order”, even if particular organs are called differently, while their purpose was the same. When he speaks, for example, about the liquid nourishing the body, he will say that it is “blood” or “what corresponds to it”, and about the organ from which it spreads, to be the “heart, or what is in this place”. As to the manner in which he interprets the digestion of food in the body, he will say that it happens only due to the internal heat, the heat of stomach, which is acting on the food to pass through it.

According to Aristotle, blood, milk and other organic “secretions” are due to frequent process of digestion of food, particularly, as a result of a particular extraction from it. Blood is the end product of nutrients in the body, it easily finds its way to all parts of the body, feeding the body to its growth, as well as body organs are composed of it. According to him, the heart heat warms the blood, which by spreading – like liquid that boils – “shock” to heart valves, so to arise heart rates.

Next, Aristotle believes that water and food are introduced into the body in order to cool the interior of the body. Breathing is intended to balance the heat of the heart, and the brain, which is cold itself, and does not contain blood, serves for cooling too.

Otherwise, there are two ways to become a new being: the first is of parents that are similar, and the second – spontaneously. According to Aristotle, form of the embryo comes from the sperm of male and the matter of female, since all that exists

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<sup>1</sup> University of Strasbourg, FRANCE.

is unity of matter and form. Aristotle speaks of conception without parents, as a kind of a creation *ex nihilo*. Here the matter is, according to him, of the lower organisms and insects, such as aphids, ticks, horse flies, caterpillars and others. These parasites result from manure, from sludge ...

***On the classification of animals in general.*** Speaking about the parts (organs) of animals, Aristotle, first of all, puts them into two groups: those that are similar to the whole to which they belong (*homeomeria*) and those who are different from it (*aneomeria*). For example, a part of the bone is (still) bone, but a part of the eye is not the eye itself. After, the second main division of all animals, according to him, would be in the blood and bloodless ones. However, in his works we do not find a completed classification of animal species. In any case, he certainly appreciates what essentially defines them, such as lifestyle, which recognizes to be “wild” or “tame” ones etc.

However, the difficulties encountered in this area are mostly from insufficient differentiation of terms *eidōs* and *genos*. For example, when it comes to genus, he notices the difficulty of attributing identical properties to different species, but he basically realizes that only the essential traits are of importance whether the species belongs to a genus, or not. The definition of the latter concept would be after him: “Groups that only differ in degree, and in the more or less of an identical element that they possess, are aggregated under a single class; groups whose attributes are not identical but analogous are separated”. [*On the Parts of Animals* I, 644a].

He, therefore, does not attempt to find a new scientific term for a particular biological group, resorting to the words of ordinary language, and what later will be the merit of biologist Line, who will use for each individual, both in the case of flora, and the case of fauna, together with the name for the species, the name for the genus too. After all, according to Cuvier: “Aristotle has established the zoological classification which left quite a few things to complete in the centuries after him. His major divisions and subdivisions in the animal kingdom are surprisingly accurate and they all resisted to the later developments in sciences”.

If the property to “have” or “do not have” blood was the first principle of division of all animals, when it comes to blood animals, he divides all of them first according the way they reproduce. Such a first dichotomous division is in class of viviparous and class of oviparous animals.

***On the principles in the world of living beings.*** Finally, let us ask whether Aristotle was on the trail of, say, the theory of transformism of Lamarck or Darwin's theory of evolution of species? Insofar as the degree of complexity of organisms appears in his works as some sequence that “suggests” that species in the lower place in the

hierarchy (as) “tend” to pass into those immediately above them. The answer is certainly negative. In him the species do not pass one into another, but they exist as eternal and constant in a place that belongs to them in nature, and such a view in biology is denoted as “absolute fixism”.

After Aristotle, there are more principles that nature follows in the living world, acting completely and perfectly. The first is that it “does nothing in vain”, or that it “always create what is best”, etc. The second would be “compensation principle”, which is in that when nature abridges something on the one hand, it compensates it on the other. This is the case, say, with the brain, which, as cold, is being connected to the spinal cord, which is warm. Next, it is spoken about “the principle of specialization”, which consists in the fact that only certain organs perform certain functions. Aristotle explains also the "principle of economy" of nature, for if it gave to some species certain means of defense: claws, horns, etc., it will not "multiply" them in the same species, as well as to leave some species without them and the like.

Basically, it can be said that the aim of Aristotle is first to point out the importance of formal and final causes for the organ function, in contrast, say, to mechanists, who make it with the material, and efficient cause. Of course, the final cause would receive here a supreme importance, and hence Aristotle will say, for example, that the hands of a corpse, or an arm of stone, are only it as homonyms, and not by their functions.

## *Contributors*

**Ana BAZAC** : Ph.D., Professor, Polytechnic University of Bucharest; Division of Logic, Methodology and Philosophy of Science (Romanian Committee of the History and Philosophy of Science and Technology) Romanian Academy; Bucharest, Romania; *Email:* [ana\\_bazac@hotmail.com](mailto:ana_bazac@hotmail.com)

**Josef BREMER** : Ph.D., Professor, Dr. hab., Academia Ignatianum Cracow, Poland; *Email:* [jozef.bremer@ignatianum.edu.pl](mailto:jozef.bremer@ignatianum.edu.pl)

**Leonardo CHIATTI** : Ph.D., Head of the Medical Physics Laboratory ASL VT Medical Physics Laboratory, Viterbo, Italy; *Email:* [chiatti@ejtp.info](mailto:chiatti@ejtp.info)

**Chunyu DONG** : Ph. D., Professor, Research center for value and culture of MOE; College of Philosophy, BNU, Beijing 100875, China; *Email:* [dongchunyu@bnu.edu.cn](mailto:dongchunyu@bnu.edu.cn)

**Sergey N. GRINCHENKO** : Ph.D., Full professor, doctor of technical sciences, principal scientific researcher at the Institute of Informatics Problems, Federal Research Centre “Computer Science and Control” of the Russian Academy of Sciences, Moscow, Russia; *Email:* [sgrinchenko@ipiran.ru](mailto:sgrinchenko@ipiran.ru)

**Jing GUO** : Ph.D., Associate professor, STS research institution, Beijing University of chemical technology, Beijing, China: *Email:* [guojing336@163.com](mailto:guojing336@163.com)

**Peter HEUSSER** : MD, MME, Univ.-Prof., Senior Professor for Medical Anthropology, Institute of Integrative Medicine, Faculty of Health, Witten/Herdecke University, DE-58313 Herdecke, Germany; *Email:* [peter.heusser@uni-wh.de](mailto:peter.heusser@uni-wh.de)

**Dariusz JASICZEK** : MD, CEO of Hermes Management S.A., Aubonne, Switzerland;

**Piotr KAROCKI** : Pontifical University of John Paul II in Cracow, Poland;

**Konstantin S. KHROUTSKI** : Ph.D., Associate Professor, Novgorod State University named after Yaroslav-the-Wise, Veliky Novgorod, Russia; *Email:* [Konstantin.Khrutsky@novsu.ru](mailto:Konstantin.Khrutsky@novsu.ru)

**Rudolf KLIMEK** : Professor, Dr. hab. med., Fertility Centre, Cracow, Poland; *Email:* [mmklimek@cyf-kr.edu.pl](mailto:mmklimek@cyf-kr.edu.pl)

**Walter W. KOFLER** : MD, Professor, Moscow State Medical University, Institute for Normal Physiology, 6 B. Nikitskaya Str., 103009 Moscow, Russia; President of the International Academy of Sciences – Health and Ecology, Innsbruck, Austria; *Email:* [walter.kofler@ias-he.com](mailto:walter.kofler@ias-he.com)

**Karl W. KRATKY** : Professor, Ph.D., University of Vienna, Faculty of Physics Boltzmannngasse 5, A-1090 Vienna, Austria; *Email:* [karl.kratky@univie.ac.at](mailto:karl.kratky@univie.ac.at)

**Liyuan LIU** : Ph.D. student, Beijing Normal University, China: *Email:* [liuliyuan0504@126.com](mailto:liuliyuan0504@126.com)

**Shuhong LIU** : Ph.D. candidate at the Marxism College, Liaoning Normal University, Dalian, China; Email: [liushuhong2013@126.com](mailto:liushuhong2013@126.com)

**Xiaoting LIU** : Ph. D., Professor, President of the Biocosmological Association, College of Philosophy and Sociology, Beijing Normal University; Director of the BNU Institute of History and Philosophy of Science; Beijing, China; *Email:* [liuxiaoting@bnu.edu.cn](mailto:liuxiaoting@bnu.edu.cn)

**Włodzimierz ŁUGOWSKI** : Ph.D., Professor, Institute of Philosophy and Sociology of the Polish Academy of Sciences, Warsaw, Poland; *Email:* [wlugowsk@ifispan.waw.pl](mailto:wlugowsk@ifispan.waw.pl)

**Xiaoqi QIN** : Ph.D., candidate at the Marxism College, Liaoning Normal University, Dalian, China; Email: [15084105201@163.com](mailto:15084105201@163.com)

**Joseph G. SCHENKER** : Ph.D., Professor, President of the International Academy of Human Reproduction, emeritus Chairman of Obstetrics and Gynecology Department in Hadassah-University Hospital, Jerusalem, Israel; *Email:* [joseph.schenker@mail.huji.ac.il](mailto:joseph.schenker@mail.huji.ac.il)

**Dariusz Adam SZKUTNIK** : Ph. D., Member of the Biocosmological Association, Łańcut, Poland; *Email:* [theskutnik@gmail.com](mailto:theskutnik@gmail.com)

**Ryszard TADEUSIEWICZ** : Professor, Dr. hab. eng., AGH University of Science and Technology, Cracow, Poland; *Email:* [rtad@agh.edu.pl](mailto:rtad@agh.edu.pl)

**Milan TASIĆ** : Ph.D., Professor, University of Niš, Serbia; *Email:* [esse.homo.mtd@gmail.com](mailto:esse.homo.mtd@gmail.com)

**Milana TASIĆ** : Faculty of Life Sciences, University of Strasbourg, France; Email: [milanatasic@yahoo.com](mailto:milanatasic@yahoo.com)

**Li TONG** : MD, School of Medicine at Qinghai University, Xining City, China; *Email:* [qhtongli@126.com](mailto:qhtongli@126.com)

**Sijia WANG** : Undergraduate Student; Beijing Normal University, China; *Email:* [sakurajia@sina.cn](mailto:sakurajia@sina.cn)

**Tianmin WANG** : Ph.D., Professor, Marxism School of Beijing Normal University, Beijing 100875, China; *Email:* [wtm@bnu.edu.cn](mailto:wtm@bnu.edu.cn)

**Andreas WASYLEWSKI** : MD, CEO of Europäischen Akademie für Naturheilverfahren und Umweltmedizin (EANU), Berlin, Germany;

**Aijun ZHANG** : Ph.D., supervisor at the Political and Public Administration College, Northwest Political Science and Law University, China; *Email:* [zaj6622@126.com](mailto:zaj6622@126.com)

**Xiuhua ZHANG** : Ph. D., Professor, School of Marxism, China University of Political Science and Law, Beijing 100088, China; *Email:* [xiuhuaz@cupl.edu.cn](mailto:xiuhuaz@cupl.edu.cn)

**Zequan ZHAO** : graduate student at the Politics and Administration College, Liaoning Normal University, Dalian, China; Email: [924846054@qq.com](mailto:924846054@qq.com)

*Notes:*

i. On the first page of the Book of Abstracts there is a photo, wherein Prof. Rudolf Klimek demonstrates the two, synchronously opposite types of the same information – “each person can immediately see their own informational image by looking in a mirror in which her/his picture seen (the mirror pattern form) does not contain a single atom of his body, but is only the resonant result of feedback information.” In the collective article [Bremer, Khroutski, Klimek, and Tadeusiewicz, 2017, pp. 42–44], an attempt is realized to distinguish the two types of information: “Animate (natural, *entelechia* – *from within*) and inanimate (artificial, *idealist* – *from without*) Types of information; and their relation to carcinogenesis aetiology”. In other words, in general – the proposal was made to distinguish between dead (cold, inanimate – *from without*) and quick (alive, animate – natural, *from within*) patterns of: matter (and the animate *hyle* – ὕλη); energy (and the animate potency – δύναμη; and activity – ενέργεια); and information (that is a modern synthesizing notion; and which deeply corresponds to the Aristotelian *entelecheia* – ἐντελέχεια). Therefore, we always have (at one the same time) – the viable (*entelechia* – animate – endogeneous natural) pattern of information that has its/her/his dynamic *entelecheia* (i.e. its/her/his dynamic potency and activity); and the inanimate (*abstract* – dead – exogenous idealist) pattern. Likewise, in an emphatic manner – the same example is given in the demonstrative video-film<sup>1</sup>, created by the Polish Society of Hyperthermia.

ii. On the last page of the Book of Abstracts, the photo of Sheraton Grand Hotel is placed – the venue of Cracow’s “Biocosmology and Cancer” Congress, concurrently with the 14ISBC.

iii. Bibliography (example): Bremer, Josef & Klimek, Rudolf (2017). “The informational turn and the philosophy of information” // The abstract in the Book of abstracts: World Congress: “Biocosmology and Cancer”, with the 14ISBC; Cracow, Poland, July 14-15, 2017, pp. 277–281. In: *Biocosmology – neo-Aristotelism*, Vol. 7, No.2 (Spring 2017), pp. 259–325.

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<sup>1</sup> The link to this film –

<https://drive.google.com/file/d/0ByqSCLVIMFtcMHJUSjEyX0dOM3M/view>



*Book of Abstracts*

**World Congress: *Biocosmology and Cancer*, concurrently with the  
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health sciences; and reinstating Aristotle's scientific Organicism  
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**14-15 of July, 2017,  
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