

**A PLEADING FOR THE CONSISTENT THEORY OF INFORMATION
BASED ON THE BIOCOSMOLOGY (NEO-ARISTOTELISM)**

– Review of the article by **Konstantin S. Khroutski & Rudolf Klimek:**
**“Biocosmological definition of Information and its Naturalist causative
significance, approaching to evolve the World Information University (WIU),”¹**
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Milan TASIĆ²

The authors of the paper endeavor convincingly to confirm the need for a comprehensive and consistent scientific theory – both of the living and non-living world – as well as of our knowledge of it, finding that the farthest instance in the dissolution of all phenomena and processes in nature, on which it rests everything that exists is – information. When a global picture of the world they persistently plead for would be labeled as “Biocosmology” (neo-Aristotelism), having a power point in Aristotle's organicism, but this time reinterpreted in the spirit of modern scientific achievements – from evolution to medicine. The matter is of a particular “triadological approach”, which respects “all three types of rationality: now dominating the dualist method, but equally other two types – the cosmologies and methodologies of the organicist (or neo-Aristotelian) method, and an Integralist (or information) method of scientific endeavor”. Based on this, they define several key concepts of their project, such as information, information cause, resonance cause, information rays etc.

More specifically, on the path to the notion of information in the living world, the authors start from zygote, as a fertilized egg cell, which sums up all unrepeatability of the future individual (its identity), so that what they reach in the analysis would be “information rays”, which fill the entire space, acting in it with matter and energy. According to them, the universe is a part of its parts as a “self-realized” information, in which rule the principle of equivalence of mass, energy, and information, expressed by the formula $E = mc^2$, as a particular “addition” of the well-known Einstein's formula. And about the very nature of the information they will say that it is deprived of each of properties: color, taste, smell, etc., being chemically and physically not perceptible, although they can be observed as an “information graph”. Information is expressed as a medium that “organizes, adapts and acts on all elements and forces in nature”, getting so the basic (and the primal) role in the cognitive process in the manner of the mentioned “information rays”. Just because the sensual beings are able to perceive the information rays coming from objects. In this way, the

¹ See the screenshot of the article's first page below.

² University of Niš, SERBIA.

human being, as a social unit, according to the authors, would reside on the “information level”, in his original unity with the free will, with his diverse actions and the environment. And what is here illustrated in the case of carcinogenesis, when by “the exchange of matter, energy, and information” the human organism would comport contrary to the second law of thermodynamics, not increasing his entropy as a measure of disorder, but doing it with his neg-entropy, as a measure of order of it as a whole.

Just by following basic principles in nature: dynamics, polarity and cyclicity (triadicity), the organism, on the path of its own self-evolving, would achieve ever greater and greater degree of complexity in terms of assigning specific functions to particular cells and organs. The point of view that approaches Aristotle's hylemorphism – but this time “supplemented” by the notion of information, as well as by modern achievements in science – after which things and phenomena are as an organism, whose parts, however, rule autonomously, but are subjected to the laws of the whole. It is about an original concept of the Biocosmological association (BCA), labeled as “neo-Aristotelism”, which, on the trail of Aristotle's term “κατά συμβεβηκός, finds that to our knowledge of the world's being is favorable rather a trivalent (dialectical) logic and ternary informatics (Brusentsov), than the now prevailing dual (static) logic, when an “integralist” (informatics) principle should emerge in the result of their unity. The first of the approaches is designated here as “organic”, “teleological”, “dynamic”, etc., and the second one as “Platonic”, “Cartesian”, “mathematical” etc. In this sense, somewhat other terms will be found here, for example, for four Aristotle's types of physical causes: material, formal, efficient and final, which are now replaced by “informational causes”: hyletic, organic, genetic and telic as it follows. And which, in their characters, are hylemorphic and entelechic, acting from inside, not from outside, and so on.

For these reasons, the authors of the paper plead for an integral approach in the sciences to be conceived on the broadest cognitive-theoretical scale as a (dialectical) unity of the three types of rationality: of Plato's dualism (as bipolar and static), of Aristotle's organicism (teleological and dynamic) until a new paradigm of “integralism”, this time as a scientific method based on the notion of “information”. It would find a reflection, for example, in a practical science, medicine, because in words, for example, of Bernard Aschner, “the majority of all diseases do not come from without ... but from within” [Khroutski & Klimek, p. 227], and when biomedicine should have the task to “disclose and rationalize the aetiogenesis of chronic diseases”. Otherwise, to these principles, which in essence are organicist, refer also the diverse notions with prefixes such as: self, re, co, etc., say in the words: self-realization, re-generation, co-ordination, etc. during history. Given that the physical world so far, as a rule, was more or less devoid of considerations of any telic activities, for the account of ruling things and beings according to static (mechanical)

laws of inert matter, and which are often transferred to biology and medicine. On the basis of all this, the ideas of an informational medicine, as example of an integral science, as well as of a triune bipolar medicine and a synthesizing integral axis, are interpreted here, as based on the method of so called “essential metaphor”. This method is also recognized in the case of metasymphathetic nervous system of the Russian physiologist Nozdrachev, in the tradition of Russian organicism and cosmism.

Then on the path of building a valid Biocosmological notion of information, the authors find to be necessary to re-formulate each of the basic notions of Aristotelian physics, such as: matter, form, energy, entelechy, etc. in the spirit of organicism. This time it would be after them: “a natural ability to maintain a stable equilibrium of all the united polarities ... and their entelechist potencies; and further apply their natural forces (causes) to the realization of the biorhythmic cycle of consistent phases of the ontogenetic growth of the organism and its functionalist self-realization. The information appears here as a naturalist law, with its two aspects of existence: intrinsic (from within) and extrinsic (from without), in the way of flux which again and again searches and finds ways to realize its own ontogenetic goals in the best way. In the same frame would be recognized also the basic settings of the eastern philosophies: Taoism, Buddhism, ... – although the matter is here about a rationalistic construction, which brings together contemporary scientific achievements.

They will say after that in the sense described above information is viewed as “the golden mean” (*mesostasis*) as an “intermediate fundamental integrative nature, which is capable of striking the right balance between the polar potencies and activities (within the triadic whole of the thing's life organization)” [*ibidem*, p. 237]. The information is, therefore, like Aristotle's third agent κατά συμβεβηκός between two opposites, or in his words: “It was first said that only the contraries were starting points, but later that something must also underlie them and that they must be three” [*ibid*, p. 232]. Critically speaking, however, it would be appropriate to take into account also the degrees of those (measurable) properties belonging to each of them, as Aristotle's “somewhat third” might have been multiple and diverse and equally of different intensity – from minimum to maximum. It can also be said about the term “information resonance” of two authors, such as “synchronization of a source with its reactive subject,” and whose description should be supplemented by such an insight into their nature. In conclusion of their considerations, the authors bring the following, Biocosmological definition of the notion “information”:

Information is the naturalist law and entity, and its essence is the subject's inherent realization of the functionalist triadological (and in all semiotic realms) triunity of the essential polarities (potencies) and their homeostatic integrity (integral basis), and which is equally ontogenetic axis for the

subject's (living thing's) whole life route (entelechist and hylemorphist) self-evolving actualization [ibid, p. 240].

Next, in drawing a certain parallel, they point out at the development of such an idea during the history, starting from Aristotle, through Kant to Prigogine and Thomas Kuhn. Namely, according to Prigogine and Singers: “The theory of dissipative structures moves us closer to Aristotle’s conception” [ibid, p. 243], and we have also that Thomas Kuhn says: “Einstein's general theory of relativity is closer to Aristotle than any of them is to Newton's, and what led him to the notion of “paradigm” in the methodology of sciences” [ibid, p. 227]. All this suggests that the teaching of Aristotle about nature (*Physics, On the Heavens*, etc.) is largely approaching modern theories within several scientific fields. And not only that. The Biocosmological viewpoint not only excites a comprehensive cognitive-theoretical interest, but, in the words of Xiaoting Liu, also favors a well-defined philosophy of life, linked to the “Mother Earth” In the vicinity of it would be also a rich tradition of Russian cosmism, whose prominent representative was Vladimir Vernadsky, the creator of the theory of biosphere and noosphere, as an “unique organicistic and dynamic totality”. But there is no doubt that the notion of noosphere is a naturalist product, like the “sphere of human thought”, close to the BCA understanding of the whole reality. Close to this are the teachings of Nikolay Ja. Danilevsky about the “inherent principles of civilization”, of “goal directedness” of evolutionary processes by Karl Ernst von Baer, of “tectology as a universal science of organization” by Alexander A. Bogdanov, as well as to many others, which are all “reduced to nature-centrism (anthropocosmism) and essentially include the leading significance of organicist intrinsic cyclic activity and the whole-organizing and inherent (*entelechist*) teleo-driven causes (similar to the Aristotelian telic causes)” [ibid, p. 250].

Finally, all the aforementioned teachings, like many others, have the highest strongpoint in the hylemorphism, and the authors of the paper find possible to be spoken of five phases of Aristotle's organicist type of rationality: from his original teaching (1.0), through Medieval (2.0), Renaissance and New Age one (3.0), until Russian cosmism (4.0) and at last to the Biocosmological project (5.0). In the latter case, as we have pointed out, it is about a synthetic effort, on the basis of the principles of information, in the same key to be interpreted two existing types of rationality: the mathematical formalism and the teleological organicist physics, based on Aristotelian dynamic naturalism. A task which could not be realized without “the complete rehabilitation, recognition and reintegration in the contemporary scientific life of the biological (Biocosmological – neo-Aristotelian)”. At the same time, then, according to the authors, it should abandon the existing “scientific method”, as a prevailing paradigm of creativity in the science today, just as once the ancient scholarship had been replaced by the scholasticism, or the scholasticism by the New-age one. This time it would be “Aristotelian *Organon*Kosmology as a matrix for all

the scientists involved in organicist and integralist studies”. When the original meaning of Aristotle's *Physics* should be rehabilitated, as well as all the original meanings of the basic notions of his science of being.

At the end of the article, lastly, the authors plead to establish the World University as a higher institution of education for information at the global level, where such scientific programs would contribute to the construction of a new scientific paradigm, as it is truly needed at the present moment of scientific development. The word is undoubtedly about a complex and a comprehensive (multidisciplinary) project, which should cover the most diverse areas of knowledge – from natural to social sciences and everyday life – in order to reach in the result to the unique “common” denominator, as a definition of the term “information”, able to serve in the explanation of phenomena and in handling them. And insofar as the nature of this notion is complex in many ways, what has been remarked by the “father of information theory”, Claude Shannon: “The word information, he says, has been given different meanings by various writers in the general field of information today. It is easy to say that at least a number of these will prove to be sufficiently useful in certain applications to deserve further study and permanent recognition. It's hardly to be expected that a single concept of information would satisfactorily account for the many possible applications of this general field” [cit. after Floridi, p.1].

Three aspects of nature of information are also indicated by Warren Weaver, one of the pioneers of machine translation, which are: technical problems related to its quantification, next semantic problems related to the meaning and truth, as well as problems of the efficiency of information received in the sphere of humanity. There is no doubt that today is in the act an information revolution, at a global level, owing primarily to information and communication technologies (ICTs) (Alan Turing et al.), and what significantly contributes to the development of each of the human communities³. But just that very complexity of this notion requires also the need for a valid philosophy of information, to what goes in favor the article of the two scholars we have in view. Namely, for the time being, we are talking about information as semantic, economic, biological, physical, mathematical, normative, pragmatic, everyday, etc., and to the complexity of attributing the meaning to a word (in the case of semantic information) pointed yet Socrates, in the dialogue *Phaedrus*:

Writing, *Phaedrus*, has this strange quality, and is very like painting; for the creatures of painting stand like living beings, but if one asks them a question, they preserve a solemn silence. And so it is with written words; you might think they spoke like they had intelligence, but if you question

³ We call information society all members of the G7 Group, because at least 70% of their gross domestic product (GPD) depends on information related goods. Or else: in order to develop, society needs more information today, than humanity has had them throughout all its history.

them, wanting to know about their sayings, they always say only one and the same thing” [Plato, 275 d].

Or a certain inconsistency between scientific and everyday information was established, as it was noted also, within the theory of semantic information, the so-called “assignment paradox”, according to whom the attribution of certain properties to an object leads to an unexpected effect in two different domains. Etc.

These several problems indicate that if it is already happily noticed once and by the same word is labeled a notion, the notion of information, various aspects of its nature indicate the need to construct a synthetic and consistent theory of information in a multidisciplinary way, which would be conceived on the basis of a particular philosophical theory. In the work we have just reviewed, it is pointed out such a need, as well as its philosophical basis would be this time a comprehensive and powerful philosophical system of the organicist type – “Biocosmology – neo-Aristotelism”.

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BIOCOSMOLOGICAL DEFINITION OF INFORMATION AND ITS NATURALIST CAUSATIVE SIGNIFICANCE, APPROACHING TO EVOLVE THE WORLD INFORMATION UNIVERSITY (WIU)

Konstantin S. KHROUTSKI¹ and Rudolf KLIMEK²

**БИОКОСМОЛОГИЧЕСКОЕ ОПРЕДЕЛЕНИЕ ИНФОРМАЦИИ И ЕЕ
НАТУРАЛИСТСКОЕ КАУЗАЛЬНОЕ ЗНАЧЕНИЕ, СТРЕМЯСЬ К РАЗВИТИЮ
ВСЕМИРНОГО ИНФОРМАЦИОННОГО УНИВЕРСИТЕТА (ВИУ)
Константин С. ХРУЦКИЙ и Рудольф КЛИМЕК**

Abstract. In this paper, in the context of their preceding explorations [Klimek 1981–2018; Khroutski 2001–2017], the authors use and unite their groundworks in the perspective of advancing the bases for evolving the contemporary Integralist approaches in scientific pursuits, firstly focusing at the Information³ foundations of scholarly endeavors. Realizing their efforts, substantially, authors apply the general Triadological approach (that is basic for the Biocosmological Association) – for achieving the objectives of research, finally aiming at the formulation of the basic tenets of the World Information University (WIU)-activities, which is the global, newly launched and under evolvement institution of Integralist knowledge.

Keywords: Information medicine; carcinogenesis; definition of Information; Information cause, Organicism; the Aristotelian *Organon* Kosmology; Naturalist aetiological causes; resonance cause; Integralist science; Triadological approach; Biocosmology; Aristotle 5.0; Russian organicism; ‘cosmological insufficiency’

Резюме. В этой статье, в контексте своих предыдущих исследований [Klimek 1981–2018; Khroutski 2001–2017], авторы стремятся использовать и объединить все свои наработки и достижения в перспективе продвижения оснований для развития современных Интегралистских подходов в научных исследованиях, в первую очередь, сосредотачиваясь на Информационных основах научных исследований. В реализации своих усилия, существенным образом, авторы применяют общий Триадологический подход (который является основным для Биокосмологической ассоциации) – для достижения целей исследований, в конечном итоге направленных на формулирование основных принципов деятельности Всемирного Информационного Университета (ВИУ), который является глобальным, недавно запущенным и развивающимся институтом Интегралистских знаний.

Ключевые слова: Информационная медицина; канцерогенез; определение Информации; Информационная причина, Органицизм; Аристотелевская *Органон*-Космология; Натуралистские этиологические причины; резонансная причина; Интегралистская наука; Триадологический подход; Биокосмологии; Аристотель 5,0; Русский органицизм; ‘космологическая недостаточность’