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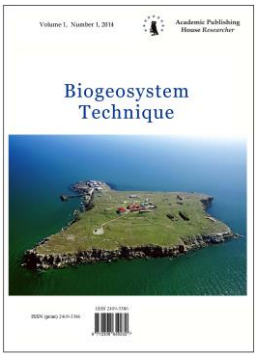

Relevant Topic

Bioethics: Reincarnation of Natural Philosophy in Modern Science

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Abstract

The theory of evolution of complex and comprising of human systems and algorithm for its constructing are the synthesis of evolutionary epistemology, philosophical anthropology and concrete scientific empirical basis in modern (transdisciplinary) science. «Trans-disciplinary» in the context is interpreted as a completely new epistemological situation, which is fraught with the initiation of a civilizational crisis. Philosophy and ideology of technogenic civilization is based on the possibility of unambiguous demarcation of public value and descriptive scientific discourses (1), and the object and subject of the cognitive process (2). Both of these attributes are no longer valid. For mass, everyday consciousness and institutional philosophical tradition it is intuitively obvious that having the ability to control the evolutionary process, Homo sapiens came close to the borders of their own biological and cultural identity. The spontaneous coevolutionary process of interaction between the «subject» (rational living organisms) and the «object» (material world), is the teleological trend of the movement towards the complete rationalization of the World as It Is, its merger with the World of Due. The stratification of the global evolutionary process into selective and semantic (teleological) coevolutionary and therefore ontologically inseparable components follows. With the entry of anthropogenic civilization into the stage of the information society, firsty, the post-academic phase of the historical evolution of scientific rationality began, the attributes of which are the specific methodology of scientific knowledge, scientific ethos and ontology. Bioethics as a phenomenon of intellectual culture represents a natural philosophical core of modern post-academic (human-dimensional) science, in which the ethical neutrality of scientific theory principle is inapplicable, and elements of public-axiological and scientific-descriptive discourses are integrated into a single logic construction. As result, hermeneutics precedes epistemology not only methodologically, but also meaningfully, and natural philosophy is regaining the status of the backbone of the theory of evolution – in an explicit form.

Keywords: bioethics, natural philosophy, post-academic science, gene-technological risk.

1. Introduction

What is the phenomenon of bioethics? The question, in our opinion is by no means trivial, and rhetorical. According to the English version of Wikipedia **«Bioethics** is the study of the typically controversial ethical issues emerging from new situations and possibilities brought about

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by advances in biology and medicine. It is also moral discernment as it relates to medical policy and practice. Bioethicists are concerned with the ethical questions that arise in the relationships among life sciences, biotechnology, medicine, politics, law, and philosophy. It also includes the study of the more commonplace questions of values («ethics of the ordinary») which arise in primary care and other branches of medicine» (https://en.wikipedia.org/wiki/Bioethics). According to the Russian version of the same website "Bioethics – the doctrine of the moral side of human activities in medicine and biology" (Bioetika, 2017 a).

And finally on one of the educational portals bioethics is characterized as "interdisciplinary studies of ethical, philosophical and anthropological problems arising from the progress of biomedical science and the introduction of new technologies in healthcare practice" (Bioetika, 2017b).

2. Methods

So, in the modern mentality the content and the meaning of "bioethics" as a category imply its "hybridity", a synthesis or, at least, a comparison of cognitive-epistemological ("bio-" as a symbol of rational methods of manipulation with living objects), and communicative-ethical ("ethics" as a symbol of good or malicious outcome of such manipulation for human).

Thus, bioethics as a scientific discipline in any case goes beyond the actual ethics – in the sphere of social practice and in the sphere of natural philosophical comprehension of its potential and actual results.

3. Discussion

Natural philosophy and theoretical natural science in classical epistemology, i.e., since the times of L. Wittgeshtein and Karl Popper, were considered as antagonists, whose paradigms create incompatible logical constructs and whose methodological principles of constructing of explanatory models are also incompatible: natural philosophy describes this world as the result of the realization of a certain personalized rationalistic project (in theological interpretation – "*Intellectual Design*"); positivist and post-positivist epistemology as the actions of the objectified impersonal Laws of Nature ("*Evolution*"). In other words, "*Evolution/Intellectual Design*" is the basic philosophical antinomy of the theory of cognition of the modern era and in the classical science the first member of this logical opposition – *Evolution* – clearly prevailed. At the same time, classical theoretical science, due to the peculiarities of its conceptual and terminological apparatus and the accepted criteria of validity and reliability, was aimed at finding precisely "*natural*" causes of the observed phenomena and processes that do not have an *intellectual* nature. The researcher did not feel satisfied until he excluded the existence of the Creator (not necessarily transcendental, simply the being with the Reason and the intention to transform his own environment) as the reason for the observed facts. That is why all attempts to find evidence of the existence of extraterrestrial civilizations prove to be ineffective.

The logical incompatibility of both paradigmatic concepts stems from the incompatibility of their projective intentions: the first concept (*Intellectual Design*) is focused on getting the answer to the question "What for? For what purpose? ", i.e. from the goal-setting causality according to Aristotle; the second concept (*Laws of Nature*) as the basis of reality presupposes the acting causal determination ("How? In what way?"). In other words, in the first case, the basis of the conceptual framework is the intention of goal-setting is realized through the categorical subjectively-projective categorical opposition "Good" *versus* "Evil", in the second case – the instrumental intention is realized through the objectively-descriptive opposition "Truth" *versus* "Delusion".

Thus, both members are the basis of two independent discourses, equally necessary for the sustainable functioning of anthropogenic civilization. In the latter, the first type of discourse dominates in the designation of socially and individually significant activity goals of reality transformation (sociocultural and sociopolitical public discourse), the second type prevails in the development of means (technique) and methods (technology) for the realization of these goals.

For the industrial phase of the development of technogenic civilization in its Western (Transatlantic) variant, a trend for ensuring a clear demarcation of the conceptual fields of imperative-axiological (public) and descriptive-epistemological (scientific) discourses as a necessary prerequisite for its sustainable development is typical. It simultaneously is the basic attribute of classical scientific rationality (the "principle of ethical neutrality of scientific

knowledge") and the classical (industrial) phase of the development of anthropogenic civilization, which is based on the Kantian-Hume methodological dichotomy of "the world of the due" (ethics) and the "world of being" (cognition). According to the modern sociologist and philosopher of science Bruno de Latour, "the two branches of power that both Boyle and Hobbes develop in their turn, have power only if they are clearly separated from each other: the state of Hobbes is powerless without the science of technology, ... Boyle's science is powerless without a strict delimitation of the religious, scientific and political spheres" (Латур, 2006: 92).

Everything changed with the transition of the technogenic civilization to the phase of the risk society and bioethics as a social and epistemological phenomenon became the symptom of it. From an epistemological point of view, bioethics is the result of the crossing and subsequent combination of the conceptual fields of metaphysics, epistemology, social and political philosophy, ethics itself, theoretical and clinical medicine, ecology, and theory of law. This combination of disciplinary matrices was explained not only by the peculiarities of the subject matter of bioethics itself, but also by the professional training of specialists who used methodologies and schemes for solving normative problems developed in the relevant disciplines and research areas. At the same time, the connections both logical and institutional between bioethics and the philosophy of science were insignificant, and the author's political beliefs played a huge role in the formation of bioethical theoretical constructs (Lewens, 2015: 1–3).

At this stage, biological facts were the material for assessing and developing of measures of social control. Biological unequal significance of human individuals faced the thesis of their social equality The latter, in the dominant views of Western mentality of the last quarter of the twentieth century, was focused on the theory of social justice by J.B. Rawls, that postulated the necessity to maintain a constant biological "human nature", with the possibility of moral improvement of "humanity" determined by the culture to maintain social homeostasis (as a key category of the political doctrine of liberalism since the time of Thomas Hobbes). Hence the obvious criterion of ethical admissibility, neutrality or inadmissibility of specific technological manipulations with the concrete biological signs of a human and evolving systems including a human being was derived. It seems obvious at first glance that «opposition to human enhancement does not inadvertently rule out efforts to correct congenital disease by appealing to a distinction between medical interventions that allow natural capacities to flourish and medical interventions that instead override natural capacities» (Lewens, 2015: 3). However, this thesis entails not a biological and not purely ethical, but the actual metaphysical and natural philosophical problem: «which biological facts make it the case that some of the potentially attainable developmental outcomes for a given individual are to count as instances of the individual flourishing, while others are to count as augmentations that go beyond those limits» (Lewens, 2015: 3)? Along with the biological core of the disciplinary matrix, the natural-philosophical core begins to form and their conceptual fields coincide or overlap.

However, with the course of time it turned out that the emergence of the phenomenon of bioethics at first as a social practice (from the mid-1960s) and then as a hybrid (ethical-epistemological) (Stepke, 2016) philosophical paradigm acted simultaneously as a precursor and premise of civilizational transmutation – the transgression of anthropogenic civilization in the phase of "information society". The latter does not accidentally have another name – a "risk society", since it is the NBIC technological complex at its core is the technological schemes of controlled evolution of human and ecosocial systems, where he (human) is the central element.

The general outline of the genesis of this social phenomenon looks as follows:

1. After the Second World War as a result of mental transmutation in the sociocultural discourse of the West, the highest status in the field of value predispositions was occupied by the right and the possibility of personal self-realization (an individual existential project, self-determination of one's social status, image and lifestyle, etc.);
2. At the same time in the natural-scientific discourse (evolutionary theory) a paradigm shift in the concept of a biological speciestakes place, i.e. a typological concept according to which each species is associated with a prototype (a system of basic signs-attributes of species identity) is replaced by a relativistic (populational) concept claiming that a specie is a set of individuals with a common gene pool;
3. The synergistic informational interaction of both discourses leads to a crisis of the concept of natural human rights based on the typological paradigm (human rights are determined

by its belonging to humanity, that is, they are, so to speak, the specific determinant of Homo sapiens) and the assertion of the category of sociocultural and genetic diversity (and " individual existential project " in sociology) as the basic features of humanity in the sociocultural and evolutionary plasticity in the scientific types of discourses. The incorporation of a new conceptual categorical framework into the sociopolitical theory of human rights was made largely due to the great American geneticist and evolutionary of Ukrainian-Russian origin F. Dobzhansky (1956);

4. In connection with the development of biomedical technology in the early 1960s, ethical committees were initially set up in American hospitals (Seattle), the composition of these committees had to reflect the social composition of the population on ethnic, property and religious grounds that had to solve issues related to patients' access to limited biomedical resources (Поттер, 2002: 45–48);

5. In 1970 in a series of works, and then in his book American oncologist Ronceler Van Potter (Поттер, 2002; Potter Van R., 1988) developed the philosophical basis not so much ethical as the global humanitarian problems of technogenic civilization associated with the implementation of biotechnologies, and he was the first who used the term bioethics in the modern sense of the word (first it was used by Fritz Jahr as far back as 1926, but with regard to the problems of using animals in biological studies);

6. The beginning of the development of a genetic engineering toolkit in 1975 led to the declaration of a voluntary moratorium on genetic engineering research and improvement of recombinant DNA technologies; and later to the development of clear rules of biosafety by the Asilomar Conference (USA, California). Since that year, bioethical issues have reached a level of awareness of the existential risk of modern technologies (global bioethics in the Potter's (Potter Van R., 1988) understanding or «ethics of the specie» (Habermas, 2003) of J. Habermas). With the beginning of the third millennium, an era is approaching when the theoretical investigations of biotechnologists have come close to the so-called evolutionary singularity, i.e., to applied development of the construction and improvement of human nature (Human enhancement). The publication of two UNESCO Declarations became the border crossing which resulted in awareness of the global evolutionary consequences of the development of genetic engineering and other High Hume technologies. The first of them is the "Universal Declaration on the Human Genome and Human Rights" (November 11, 1997)" by its Article 1 proclaims (United Nations..., 1998: 41–47): «The human genome underlies the fundamental unity of all members of the human family, as well as the recognition of their inherent dignity and diversity. In a symbolic sense, it is the heritage of humanity». Thus for the first time consciously recognized the interdependence of cultural and biological forms of self-identification rights. The content of the declaration leaves no doubt that technological intrusion in genetic information needs to be controlled by the basic standards of the system of human rights and social institutions. It is implicitly believed that such an intrusion is potentially capable to destroy universal values as the spiritual basis of human civilization. To denote the admissibility of a technologically controlled change in the flow of the evolutionary process in relation to human, in the Declaration we may find the term "human dignity" which is translated into the language of natural scientific description with some difficulties. Subsequently, this trend towards a subjective-humanistic assessment of the results of the objective process of evolution was developed in the Universal Declaration on Bioethics and Human Rights (October 19, 2005) (United Nations..., 2005: 74). Thus, culture has become a factor in evolution, giving the latter a clear integral teleologicity in accordance with the value priorities and despite the original objective spontaneity.

Bioethics with a tail of associated conceptual fields (bioprospect, bioeconomics, biohistory, etc.) turned out to be not just the only external rationalized regulator of the process of biological and sociocultural evolution. It became a part of the methodology and theoretical foundation of theoretical natural science, forming a kind of inseparable amalgam of the concepts of humanitarian and scientific discourse (post-nonclassical or post-academic science).

In accordance with the basic principle of modern post academic science with human dimension, a classic example of which are biotechnology and bioethics: scientific theory of complex self-organizing systems, including the carriers of creative intelligence, the theory and algorithm of its construction is necessarily a synthesis of evolutionary epistemology and philosophical anthropology with a specifically scientific empirical base.

In the modern disciplinary matrix of the theory of evolution and systemic ecology (in the "theory of designing of the ecological niche") a single conceptual framework is formed, consisting of three independent theoretical constructs – eco-evo-ethics (Cheshko et al., 2015: 45-50).

In the formal logical aspect, the first two members of this triad relate to descriptive (scientific) discourse, and the latter (ethics) to its sociohumanistic and therefore value antagonist. As a result of the hybrid nature of this construct between the three autonomous modules (due to the proliferation of the terminological apparatus into the interior of the module alien to it) and within each module, logical contradictions are inevitable.

In the content aspect, the members of the above-described complex refer to the influence of modern technologies of controlled evolution on the system of ecological relations between human and his environment (i.e., the medical and hygienic aspect of self-construction of human and human-dimensional eco-systems (biota); The preservation of the self-identity of Homo sapiens in the course of any technological manipulations with his genetic code (i.e. the evolutionary survival of the biological species of Homo sapiens) and the preservation of the socio-cultural identity of human civilization (i.e. basic, "universal" value norms during the implementation of new technological schemes and their indirect or direct influence on the continuity of the socio-cultural tradition).

In any case, such a transdisciplinary concept assumes, firstly, a projective-axiological intention: the initial component of the theory and practice of the technologies of controlled evolution is the ideal image of the future cultural and environmental niche and the "human" (the carrier of reason with his inherent value system priorities as its system-forming component). We call it the humanitarian paradigmatic core; the desriptive paradigmatic core serves as a diagnostic tool for discrepancies between the ideal image of future and reality; applied genetic and socio-engineering developments are the means of elimination of these differences (Чешко, 2012; United Nations..., 2005).

Secondly, the result of evolutionary development of the systems with human dimension (in reality – the Earth and near-Earth space, physically accessible to anthropogenic influence) is the result of the parallel and contraversional or/and conflicting some times (Cuomo, 2017a, 2017b) action of spontaneous Laws of Evolution and the realization of the Intelligent Design. Due to the latter circumstance, the methodology of scientific research should somehow synchronize the methods of classical natural science (physical intelligence) and hermeneutics, based on social (Machiavellianistic) intelligence. In other words, the scientific theory of evolution becomes equally natural philosophy of Nature, since the evolutionary trajectory is determined simultaneously by subjective (evolutionary correctness) and objective (evolutionary efficiency, or inclusive adaptivity) factors. The product of evolution becomes its creator. However, its evolutionary destiny depends not only on the survival of the evolving populations of biological (perhaps, not necessarily – biological) individuals, but also on their Will and Desire to preserve what is considered the basis of their self-identification (humanity). The evolutionary risk of technogenic civilization asymptotically tends to unity.

Let's pay attention to one more circumstance – the three-membered phenomenological structure of the logically not yet crystallized content of natural philosophy of biotechnology (eco-evol-ethics). In our opinion, this is the key to solve the problem of choosing the descriptive-scientific core of this concept (the global bioethics clearly serves as a humanistic one). Such a scheme may prove to be the theoretical model of the three-module stable evolutionary strategy of Homo sapiens.

We assume (Чешко, 2012; Cheshko et al., 2015; Cheshko et al., 2014):

- ***Biological adaptations*** – encoded in the genome features of the structural and functional organization of the individual, increasing the likelihood of fixation and replication of the fragments of genetic information that determine their emergence;
- ***Cultural adaptations*** – behavioral stereotypes prevalent in this social group as a result of imitation and communication between individuals and increasing the probability of its (group) survival and growth in the number of fixation and replication of fragments of information that determine their emergence through emotional and symbolic communication;
- ***Rationalistic or technological adaptations (innovation)*** – the material means and methods of purposeful effective transformation, cognitive and projective activity and common in the social group pieces of information as a result of symbolic communication between

individuals by means of written and spoken language with the use of natural and artificial languages, and the emergence of pieces of information that increase the likelihood of it (the group) survival and growth of the number; fixation and replication of these pieces of information determine the emergence of means and methods of transformation.

The model of the three-module SESH organization includes three informational modules (bio-, culture- and techno-rationalistic), each of which has its own system of generation, coding and inheritance of adaptive information, and three semantic operators (transfer mechanisms) connecting modules with each other, and the semantic connotations of the composition of the members of the coevolutionary bundle change over time. Individual modules of this system are not able to evolve beyond adequate dependencies with the evolution of other modules. This relationship can be dynamic (changing the composition and frequency of the module's elements) and static (changing the relative value of individual elements of the module while maintaining its composition).

Adding the third (techno-rationalistic) element to the original coevolutionary bond genome-culture turns the latter into a triple helix – a self sustaining autonomous cycle of generating systemic complexity. This cycle is organized as an evolutionary fractal. Let's consider the basic features of its constituent elements

Technogenesis as a form and mechanism of adaptation implies the availability of cognitive (semantic, or symbolic) code to the already existing ones – genetic and sociocultural adaptive evolutionary codes. Its feature is the hegemony of an arbitrary system of correlative correspondences between thought forms (interpretants) serving as promoters of adaptively significant behavioral acts, and the corresponding symbols. The presence of interpretants combines the mechanisms of functioning of the socio-cultural and rationalistic component of SESH. The difference between them is precisely in an arbitrary system of coding of adaptive behavioral acts that can change the physical, social or mental reality by increasing or decreasing the individual and/or group adaptability of their carriers.

With certain reservations, one can talk about the evolution of "semantics", "meaning" of genetic-cultural co-evolution and techno-humanitarian balance, most of the pathologies currently widespread in human populations are the consequence of "evolutionary errors", i.e. discrepancy between the environment created as a result of socio-cultural and technological adaptations and a pool of biological adaptations to the different ecological environment that does not correspond to this culture. To this we add an obvious, in our opinion, interethnic cultural and ecological differentiation. The significance of this differentiation with the regard to the coherence of co-evolutionary links between the biological, socio-cultural and techno-rationalistic SESH modules multiplies many times as a result of the formation of "hybrid" socio-ethnic compositions, the integration of emigrants into a new sociocultural adaptive complex, and so on. Naturally, as a result, the "communicative code" which determines the adaptive value of biological, sociocultural and technological elements in their complex essentially changes. Positive adaptive correlations within concrete constellations of elements of culture, technology and genetics are replaced by negative ones, and vice versa.

The system of socio-cultural balances that provide self-identity of *Homo sapiens*, has been very stable, but only until the birth of technologies of directed evolution when ontological antinomy **Evolution** *versus* **Intelligent Design** was finally overcome. As a result, the restrictions arising from the limitedness of technological means of transformation of reality, were overcome at least *in potentio*. The only stabilizer of the flow of the global evolutionary process, integrated into the evolutionary strategy of our species (SESH) is the semantic code of humanization/dehumanization, which itself admits considerable stochastic fluctuations, besides it is open to technological interventions, and therefore requires continuous monitoring.

By the end of the twentieth century, in the evolution of the theoretical foundation of bioethics, two seemingly mutually exclusive methodological trends emerged (Winkler, 1996):

1. Empirical approach (Engelhardt, 2006), originating from the interpretation and concrete historical studies of the development of theoretical and worldview bases of medicine. The concept of "biopower" by Michel Foucault (Чешко, 2012). It is assumed the necessity to "contextualize" the solutions of ethical (more precisely, social) problems arising during the implementation of bio- and biomedical technologies as applied to a particular socio-cultural type. This approach means that the suggested solutions are necessarily ad hoc, and can not be generalized. In our model, it

corresponds to the sociocultural adaptations of the society, which ensures its preservation during the "scientific and technological progress".

2. Search for a common meta-theoretical paradigm. R. Van Potter's global bioethics, the perspectives for the creation of which is now widely regarded as unrealistic (Engelhardt, 2006), in our model is equivalent to a systemic sociocultural adaptation ensuring the preservation of the biological and/or sociocultural self-identity of humanity during the implementation of technological schemes of moral and "human enhancement".

The contradiction between both approaches is removed, as we see, within the framework of the "natural-philosophical bioethical project" suggested here, since the adaptive function of bioethics (the preservation of self-identity in the process of technological evolution) is divided into an individual, group and universal level.

The paradox of use of technologies of directed evolution for the improvement of the psycho-emotional, mental and moral spheres of humanity is in their (technologies) trans-module character. Technological fixation or strengthening of the attributes of humanity turns them into species, rather than socio-cultural characteristics, i.e., transfers them from social and cultural to the biological module of SASH. In the terms of social psychology the transfer of the attributes of humanity into the attributes of human nature takes place.

This paradox was defined by Ingmar Persson and Julian Savulescu, who formulated it from transhumanist position, i.e., used it to justify the admissibility of a moral bio improving of human by contradiction (Persson, Savulescu, 2012). However, since its logical core represents philosophical antinomy (1) genetically predetermined ***HUMAN NATURE*** *versus* ***HUMANITY*** formed by culture (Cheshko et al., 2015) and (2) a biologically reduced ***NEEDS*** *versus* ***DESIRES*** reduced by culture (Terner, 2008), as well as (3) biological ***SEX*** *versus* socio-cultural ***GENDER*** etc. .., actually, this paradox is not solvable in a logic way.

4. Conclusion

With the birth of biomedical and genetic technologies the "change of the dominant purpose" of adaptive technogenesis from spontaneous transformation of "construction of ecological niche" to "environmental engineering" has occurred. The latter term refers to already rationalistic (purposeful) transformation of reality on the basis of the initial knowledge and the a prediction of the future. Such methodological intention is closer to the traditional paradigm of socio-humanitarian sciences than to the natural ones. Beyond the opposition *spontaneous/rational* (Чешко, 2012), or, if you like – antinomy *natural process/intelligent design*, the difference between these two classes of evolutionary phenomena (population and social communities) has no content Hermeneutics of nature from a purely philosophical methodology returns to the natural science of the era of directed evolution in which categories *Truth* and *Misconception* are equal to the opposition of Good and Evil.

The system of value priorities specifies the parameters of the initial situation and the coordinate grid of rational/irrational perception of reality, the goals and methods of transformative activity.

In the information civilization, the core metaphor of modernity ("The world is a clockwork mechanism") was replaced by another – "The Universe is a computer" (Lloyd, 2006). Accordingly, the classical Aristotelian opposition Matter *versus* Form was transformed into the opposition Hard *verus* Soft. Rationality becomes the programming factor of the evolutionary process, building an ideal world of the future by means of the possibilities of material objects (Hard) and in accordance with the a priori intelligent plan-program (Soft). In the disciplinary matrix of bioethics, its axiological core reinterprets the facts relating to biological knowledge solely as humanitarian problems and theoretical constructs that need to be solved – as ways to solve them or the borders of the permissible application of the same methods. Naturally, hermeneutics in this case precedes epistemology not only methodologically, but also meaningfully.

In other words, natural philosophy is regaining the status of the backbone of the theory of evolution – in an explicit form, in contrast to the classical attempts of the evolutionary synthesis of XIX–XX centuries (classical and neodarwinists paradigm). It means that bioethics is exactly a modern version of natural philosophy, in which the elements of public and axiological (social-humanitarian) and descriptive-informative discourses merge into the inseparable amalgam not without internal logical contradictions.

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Биоэтика: реинкарнация натурфилософии в современной науке

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Аннотация. Теория эволюции сложных, включающих в себя человека, систем и алгоритм ее построения, представляет собой синтез эволюционной эпистемологии, философской антропологии и конкретной научной эмпирической основы современной (трансдисциплинарной) науки. «Транс-дисциплинарность» в этом контексте интерпретируется как совершенно новая эпистемологическая ситуация, которая чревата инициацией цивилизационного кризиса. Философия и идеология техногенной цивилизации основывается на возможности однозначной демаркации публичного ценностного и дескриптивного научного дискурсов (1), и объекта и субънкта познавтельного процесса (2). Оба этих атрибута более не действительны. Для массового, повседневного сознания и институциональной философской традиции интуитивно очевидно, что, приобрев способность контролировать эволюционный процесс, Homo sapiens приблизился к границам собственной биологической и культурной идентичности. Спонтанный коэволюционный процесс взаимодействия между «субъектом» (наделенными разумом живыми организмами) и «объектом» (материальным миром), есть целесообразным движением по направлению к полной рационализации Мира Экзистенциального, его слиянием с Миром Должного. Происходит стратификация глобального эволюционного процесса на селективные и семантические (телеологические) коэволюционные и, следовательно, онтологически неразделимые компоненты. Со вступлением техногенной цивилизации в стадию информационного общества, началась пост-академическая фаза

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исторической эволюции научной рациональности, атрибутами которой являются специфические методология научного знания, научный этос и онтология. Биоэтика как феномен интеллектуальной культуры представляет собой натурфилософское методологическое ядро современной пост-академической (человеко-размерной) науки, в которой принцип этической нейтральности научной теории оказывается неприменимым, и элементы публичного аксиологического и научного дескриптивного дискурсов интегрируются в единую логическую конструкцию. Как следствие, герменевтика предшествует эпистемологии не только методологически, но и семантически, а натурфилософия восстанавливает статус несущего элемента теории эволюции, и притом – в явном виде.

Ключевые слова: биоэтика, натурфилософия, пост-академическая наука, генно-технологический риск.