

HUMAN BEING AND BIOSPHERE: A NOOSPHERIC PERSPECTIVE

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ABSTRACT. *In the article the authors substantiate the conclusion that the ecological crisis threatens the existence of the human civilization. The chance for survival is associated with the transition from the materially oriented civilization to the Organicist oriented one (in which the noospheric consciousness will determine the objective reality and co-evolutionary development) – to the sustainable development (which is determined as the human’s ability to accumulate free energy for cutting short negative consequences of the technogenic activity). The biosphere’s conversion into the technosphere (as to the common object of labor) has spread the technogenic activity’s results to the geocosmos. The human being a cosmo-planetary creature will soon feel geocosmic reactions given in reply to the human’s technogenic expansion. The humanity’s survival and transition to the sustainable development are possible only in the case of accounting the fact that the human is the organic part of Nature and (by virtue of his mind) “cosmically” responsible for the planet’s fortune. In general, the proposed approach is consistent with the general principles of Biocosmology (neo-Aristotelism).*

KEYWORDS: *cosmism, human (being), biosphere, technosphere, ecological crisis, civilization, consciousness, sustainable development, co-evolution*

1. The ecological challenge of the present time

The modern ecological challenge has taken on so dangerous character that the question of human’s survival becomes really actual. Realization of the hope of the humanity’s survival is associated with the set of noosphere. That means a transition from the “material” civilization to the “spiritual” one (where consciousness determines reality) and to a stable development (that is determined as the humanity’s ability to accumulate free energy for reduction of negative consequences of the technogenic activity). Due to that the formation of ecological (biosphere) culture is quite topical. This culture includes the formation of values which support an attitude to the biosphere (that has been transformed by the humanity into the technosphere) as not to an object but to the personality. It is so because the humanity is a part of Nature and cannot exist separately from it. So, the question is how to form intelligent attitude to Nature and then to organize co-evolutionary development of the society and Nature. That presupposes the emergence of the *homo ecologicus (biosphericus)*, and the educational system – for her/his upbringing and cultural education. But is it attainable if the humanity is demonstrating (for the whole History) the rising of “affluenza’s” level (Graaf, Wann, Naylor 2003) at the expense of Nature?

It is theoretically impossible to set any limits in Nature’s resources usage for the society’s needs. Every natural component can be used by the humanity (if not nowadays, then in the future). It depends on the level of scientific knowledge and on means with the help of which Nature is transformed. But not a single kind of nature’s power can be used before the forming of proper theoretical and practical preconditions.

Despite the fact that humans (in contrast to animals) are able to perform purposeful actions, not a purpose can be achieved without usage of natural forces, laws and objects. All the human needs, interests and purposes are determined by the circumstances of material life including the natural circumstances surrounding the humanity. Human needs would never be satisfied if they were isolated from the life's material conditions. Actually human needs are determined by material conditions and are always oriented to those conditions. The society's activity on the satisfaction of its needs presupposes the usage of Nature and, therefore, not a single human's need can be neither formed, nor satisfied without taking into account the natural factor.

The process of usage of the natural resources bearing a relation to satisfaction of the social needs has contradictory character. On the one hand this process leads to accumulation of social wealth and improvement of material conditions of people's life, but on the other hand – to exhaustion of natural resources. Modern ecological crisis displays itself acutely in the conditions of irrational use of Nature – violation of the harmony between the society and Nature. It means that satisfaction of the social needs has not to be realized at the expense of Nature that is being destroyed. Moreover, the prospect interests with regard to Nature must be placed above immediate current profit. But is it possible and if it is, then in which degree and under what conditions?

2. The technogenic civilization's lessons

The end of the XX and the beginning of the XXI centuries demonstrate virtually that Nature reacts globally to human's technogenic activity. The technogenic civilization is going through the global crisis in many ways. There is a powerful European tradition according to which science and its progress is really a panacea. But nowadays it is evident that science cannot overcome the crisis solely. Therefore, it is necessary to evaluate objectively the technogenic civilizational lessons, to find a proper purposeful orientation of civilizational development and its life-support systems, and to re-comprehend the character of relationship between the society and Nature.

Nowadays Nature is continuously being included into the producing forces' structure as a general object of labor. Orientation to the comfort, cult of limitless consumption as the supreme value has initiated global technogenic processes. Since the development of technology has its regularities, the ecological problem has touched upon the social and economic structures in all the countries. The accelerating increase of the means of production touches essential ecological connections with the biosphere, involving all its structural and functional levels. Nowadays, the production process is being transformed from the process of local interaction between separate ecosystems to that which influence the biosphere in general.

The biosphere as an aggregate of inner interactions has become the general object of labor. Nature is going to be an integrate sub-system. In the development process of production activity the society is currently interacting not with separate parts of the biosphere, but with it in general. The biosphere (as a complete system with its specific laws of functioning) calls for the united society's strategy in the nature-transforming activity and, therefore – for a consolidated social activity with regard to Nature as a whole.

Actually, we are going through transformation of the social-natural problem into particularly social one. The scientific and technical progress eventually brings about the ecological problems which are being converted into the ones of more and more social character. They are being included into the structure of intersystem relations “the society – the Nature” and its solving is impossible without taking into account all the elements of the whole system. In other words, resolution of ecological problems is the optimization of interrelations in the system “the society – a person – Nature”. Consequently, the optimization of relations between the society and Nature is quite necessary, and this optimization demands mastering with such contradictory essences as the “*outer-nature*”, the *social nature* and the *inner nature* of the human. Lack of development and disparity of one of these components hampers the whole system’s further improvement and development.

The rise of global technogenic processes has led to the situation when ecological problems are penetrating more and more into all the fields and levels of the social consciousness. It is more and more clear that it is necessary to revise many values of the modern technogenic civilizational development. This re-evaluation helps to achieve harmony of interaction between the society and the Nature. Humanism cannot be treated any more as the species of *homo sapience*’s egoism because such treatment has finally led to the ecological crisis.

It is possible now to establish a fact that the problem of interaction between the society and Nature has turned to be more acute than it has been expected (Dmitriev, Kochergin 1990, 1992). However, the forecasts of a general ecological shift (that are based on the corresponding prognostic scenarios) were particularly local. Essentially, the general mechanism of ecologic damage is caused by the anthropogenic factor, and the latter (real human’s influence on the planet’s ecological stability) still is treated as insignificant. Predominance of mono- or oligo-parametric models of biospheric equilibrium’s distortions increases this illusion (of insignificance of the anthropogenic factor) and focuses attention on superficial factors. A lot of problems turned out to be apart of research, such as problems of geophysical planet portrait’s deformation in the electromagnetic aspect, of physical-chemical conditions’ change in the iono- and magnetosphere, of formation of new earthquake-prone regions, of world mapping of the technogenic pressure, of megalopolises’ existence as geophysical anomalies, etc. The time, “having summed up” separate factors that are harmful to Nature, has formed a real “terrain scenario” of the biosphere deformation that is being increased more and more in proportion with the degree of realization of the world industrial rise’s trends. This “scenario” was formed as a result of geological and technological processes’ interaction. The inculcation of technological processes into the whole aggregate of geological processes has signed a qualitatively new stage of the global conflict between the human and Nature.

3. The qualitatively new stage of the human’s and the biosphere’s conflict

This stage of the conflict is characterized by the following moment: The spatial-temporal trajectory of our planet’s natural integral evolutionary development has crossed with the trajectory of the integral human activity. This activity, being organized

by the human's psychological readiness to use her/his power in "the struggle with Nature" for getting economic and military benefits has entered the global level. At present, the technogenic conception of Nature's transformation is adopted at the global level and, thus, is commensurable with that of geological processes. The concentrated mobilization of materials and energy in industrial processes is going to become a dominant factor in people's labor and creative efforts. Nowadays, the results of technogenic expansion are addressed to every living creature of the planet. In the result, human's transforming of Nature currently is done in such norms and with such speed which provide the satisfaction of continuously rising needs of the humanity. In turn, these norms (of transforming Nature) are embedded into mass consciousness, mainly by means of modern mass media. Therefore the modern forms and ways of transforming the planet's natural state are dangerous both in breaking biogeocoenotic systems, and invading more and more into the sphere of human abilities. In this way the human is striving with more and more psychological readiness to increase the technosphere's power. So, it is possible to say that the central product of anthropogenic activity is the technosphere which is developing according to the laws of maximization of informational and energy capacity per elementary action of technical progress. Exactly this factor is the basis of increasing speed and intensity of the technosphere's destroying influence onto the biosphere, geological environment and geocosmos.

So, the scale of human's inclusion into rapid global technical processes is unprecedented nowadays and this fact calls the humanity to be especially careful in realizing its further evolutionary development. Moreover, the process of the technogenic civilizational development is the process of a short memory while the geological and evolutionary-biological processes are characterized by "natural pace", succession and tremendous volume of memory. Consequently, the technosphere's growth is the process which has not a precursor and runs with "unnaturally" high rate. Moreover, it is extremely difficult to create an exact model of technogenic expansion's scenario and to reckon up its consequences.

The historical examples of past civilizations are evidences of the local character of human's influence on the environment. Nowadays the situation is principally different. The consumption of matter and energy of the past civilizations did not have planetary (and even cosmic) scale. The transition to the technosphere has led local civilizations to peculiar unification. The close connection of global anthropogenic processes, its growing pressure on the planet and geocosmos can be regarded as the most important characteristics of the modern civilization. Elaboration of an alternative for such interaction between the society and the environment is very difficult because the technogenic civilization's nature itself does not contain any other possibilities except that one is being realized. Therefore the process of maintaining the civilizational development is rather the process of its transformation, and the task is actually to elaborate a program of harmonization between the human's and the environment's relations from the position of co-evolution. This elaboration will be determined to a decisive degree by transforming of the *homo economicus* to *homo ecologicus* (*biosphericus*), without which it would be nonsensical to talk about a noospheric formation.

4. Relations between Nature and the society: the program of harmonization

First of all it is necessary to provide such knowledge that will make possible to a neutralization of the present disparity between the *scale of knowledge*. It is also necessary to balance lawful abilities of application of that knowledge. In other words it is necessary to overcome the crisis of interrelations between the society and Nature in the conditions where the knowledge on the usage of Nature greatly excels the knowledge on maintenance and improvement of the environment. In order to avert anthropogenic accumulation in the environment of ‘techno-natural’ compounds (which can be harmful to the Nature) it is necessary to reveal distinctly mechanism of such substances’ accumulation in the environment.

The Earth as a part of the Solar system is characterized by parameters of planet and cosmic orderliness. The intensive influence on the “geocosmos” changes the cosmic properties of the Earth and the kind of its connection with other systems. The general biosphere’s modification as a chain of the regularity of the geosphere’s evolution will cause inevitably the Earth’s and the Solar system’s reactions which they will give in reply. Therefore the immediate task is scrupulous exploration of consequences of the influence onto the geocosmos which is actually the mechanism of interrelation between the space medium and the source of climate and organic changes. The revelation and estimate of striking influence onto the plasmosphere with technical devices must mean the prohibition on this kind of influence.

It is necessary to solve problems on elementary electromagnetic processes in the Earth’s “organismic” model, on the geosphere’s integrity and on their “co-development” with taking into account spatial-temporal particularities of both organic and inorganic worlds. It is also necessary to get more thorough knowledge about the biosphere’s and other planets’ substantial composition and dynamics. Accounting, evaluation and neutralization of those bio- and geosphere’s deforming actions that have been already made are also necessary. It is quite necessary to solve such actual problems as those relating to restoration of the planet photosynthesis’s volume, its perspective increasing as a natural source of energy. In the context of tasks on earthy-solar interactions it is actually to solve the problem on the outer (“solar-systemic”) functional role of the biosphere and its interrelationship with (Earth’s) plasmic casings of Earth.

These problems relate to the new generation of cosmic tasks for the humanity not already in context of “conquest of the space” but in context of involving it into the “joint” evolution (co-evolution). Demands of the co-evolution aim to more thorough understanding of Nature, the society and its interaction, to creation of “informing-forecasting” systems. All it demand new approaches in cognition and new forms of organization of knowledge: functional and system approaches, a regional principle of ecologic research, global design of ecologic-economic systems. Moreover, it is necessary to take into account the co-evolutional demands aiming at the more thorough understanding of Nature not only from the point of view like “what else is possible to take from Nature?”, but also from the position of rising onto a new level of the biosphere’s (and extra-biosphere surroundings’) organization.

5. The civilization's survival and stable development

The worsening of ecological crisis prompted a lot of researchers to relate the civilization's survival with sustainable development. But the determination of this category – “sustainable development” – has not been interpreted universally. As Some forms of preservation of the biosphere's stability were suggested. They are: limitation of material and energy consumption; limitation of the population size and its consumption; the transition onto the model of development being based on forestalling education with the purpose to predict and to avert catastrophes, etc. There is no doubt about the importance of these ways to keep the biosphere's stability. Malthus already imagined the humanity's life as the form placed into a specific “ecological triangle”, with one apex in the number of living people with all their needs, the second one in the prospected resources, and the third one in present technologies. The society's normal life depends on the balance of these apexes: as soon as the number of people and their needs exceed possibilities to satisfy them using present resources and technologies, the stabilization mechanism works, throwing off the overload onto the circumstances with population loss (epidemics, wars, etc.). Therefore putting the population size and its needs into accordance with possibilities of its satisfaction is a necessary condition (requirement) for the biosphere's stability.

For taking appropriate decisions here the forestalling education (which could make possible a formation of the new consciousness) is quite necessary. Such an approach turns the conception of stable development towards the future only. But it is impossible to observe the humanity's future without the historical knowledge (of its past), mechanisms of its evolutionary development and true location in the biosphere. The human's evolutionary determined place in the biosphere can be set only with taking into account the previous part of the evolutionary way. Therefore the conception of sustainable development must follow the evolutionary determined principle of ecological development. It is necessary to create such a new system of relations where the parity between human needs and Nature's abilities will reasonably limit the impetuous economic expansion of the humanity which flouts not only Nature's laws but even elementary norms of humanism. In other words the civilization must control in future not only influences upon Nature but also upon the society itself. Transformation of social global aims must be based on new world-outlook, new senses of evaluation of the human, Nature and their co-evolution. The biosphere education is quite necessary (this necessity follows from the comprehension of the means how to correct the planetary disbalance). The destructive power of technogenic influences is to be neutralized urgently. That measure must be based on respect for the life and Nature by the whole humanity.

6. Chances for survival

So, the humanity has approached the line of its development when Nature “reminded” the humanity that it is a part of it. Therefore the violation of its laws never stays without consequences for the human. The human (*homo*) despite the fact he is *sapiens* still cannot make self-organization due to the common sense. He violated such biological laws as the ban on intraspecies extermination, on population's limitation;

broke the interspecies balance, broke the influence on the a-biotic environment limitation, and shifted human life activity from an objective to subjective category, characterized by excessive consumption. This is precisely the anthropogenic factor that has brought about the situation wherein we are to mobilize our chances for survival.

For the real use of these chances the human must learn to subordinate his social-economic strivings to interspecies and even interbiological interests. The *Homo ecologicus* must become aware that his attitude to Nature as to an object evolutionary ended forever. Now, the human must learn to treat Nature as himself – as an equal Organism (which is a key Biocosmological principle). That is the only chance for survival. The spontaneous development of the civilization is over, too, and the time has come for the deliberate realistic (Organicist) – based on scientific evidence – co-evolutionary development. Therefore, the humanity has no another alternative but to transform the modern state of ecological consciousness to the noospheric mentality.

So, the humanity's survival (in the face of ecological catastrophe) is possible only in the way of transition from the biosphere to the noosphere, from the *homo economicus* to *homo ecologicus*, from the materially oriented civilization to the spiritually oriented one – that will demand not only scientific achievements and formation of an appropriate system of education and upbringing, but equally by transformation the historically given social value orientations, and forming a new global (noosphere's, Biocosmological) culture. Of course, it will be possible only in the case of achieving mutual understanding between different cultures, civilizations, social groups and countries.

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