

## *Co-evolution of Human Society and Nature through the Noosphere Concept*

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### **Abstract**

The article makes an analysis of the noosphere concept as a way to sustainable development of our planet. It suggests considering the epoch of noosphere as the period when the human mind will be able to define the terms necessary for nature and society co-evolution while forming a collective will of the mankind. It analyzes three main problems having appeared owing to the latest development of the anthropogenic civilization: 1) surviving in terms of continuing perfection of weapon of mass destruction; 2) raising the ecological crisis worldwide and its deepening because of the global financial downturn; 3) keeping a personal individuality as a biological and social structure while strengthening comprehensive processes of alienation. The ideas of such Russian cosmists as Feodorov, Tsiolkovsky, and Vernadsky are considered in the context of undesirable and destructive consequences of human activity. These philosophers trusted in human mind, humanism of scientific activity, triumph of good and beauty. Some of their ideas were great predictions. Vernadsky understood the concept of noosphere as a symbol of faith, an ideal of human sensible intervention into biosphere processes under the influence of scientific and technological achievements. The article gives proofs that overcoming the global ecological crisis is closely connected with the following components of noosphere: joining efforts of all the mankind without any exceptions, adopting new values of national and interpersonal cooperation, improving relationships among the nations, developing science and culture, changing the governmental and individual approaches to the usage of natural resources, spreading new principles of noosphere education.

Keywords: Biosphere, Noosphere, Russian Cosmism, Co-Evolution, Human Society, Technological Development, Ecological Crisis

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## **Introduction**

What is human purpose of life? What do we seek cognizing nature and ourselves? These timeless questions of human being have become especially topical due to the fast development of technological thought. Biogeochemist and philosopher, Russian academician V.I. Vernadsky wrote at the beginning of the XXth century: “Soon man will produce the atomic energy. This source of power will allow him to handle his life as he likes... Will he be able to use this power positively or will he destroy himself by means of it? Has he gained the ability to use the power that the science should provide him inevitably?” [Vernadsky 1977, p. 32] So, *ecology* - such a popular and fast developing science concerning interaction of man and nature - appeared from this concern. Nowadays ecology is directed to the regulation of relationships between man’s scientific and technical thoughts and preserving the nature surrounding him, but also safeguarding the biosphere.

According to Vernadsky, *biosphere* is a whole system possessing the highest level of self-organization and the ability to evolve. He introduces it as a special geological body, which structure and functions can be defined by some special features of Earth and space. Considering biosphere as a self-reproducing system, Vernadsky stresses that its functioning is mainly stipulated by “a living substance existing inside it as a set of living organisms” [Vernadsky 1977, p. 14]. A special feature of biosphere as a living organism is its orderliness.

Biosphere as a natural system should have a dynamic equilibrium to support its existence. But it is a special type of equilibrium due to the process of regular development of biosphere under the influence of inner relations among its structural components and increasing impact of anthropogenic factors.

## **Body**

### **Noosphere Concept**

Vernadsky pointed out that it was possible to observe the intensive growth of influence of the civilized humanity on biosphere changes. Biosphere turns into a new state – *noosphere* – under the influence of scientific thought and human labor [Vernadsky 1944, p. 117]. According to him, life should be considered as an integral evolution process which is included as a special component into space evolution.

Vernadsky’s ideas have been developed in some directions. First of all, it’s necessary to mention the concept of co-evolution (i.e. joint development) of mankind and biosphere. This concept is related to a possibility of regulation of scientific and technical development inside the civilizational processes. Any event in the world may be represented as a regular selection when only some classes and types of conditions are chosen from a number of possibilities.

The noosphere epoch is a period of time in the history of mankind when the human mind will be able to define the terms which are required to provide the co-evolution of nature and human society. This period will provide the formation of collective will of humanity to develop noosphere genesis processes.

Modern Russian scientists (e.g., N.N. Moiseev [Moiseev 2001], A.D. Ursul [Ursul 1998], V.A. Lektorsky [Lektorsky 2012]) consider noosphere as the highest point of biosphere evolution which is connected with the appearance and development of mankind in it.

Mankind studying laws of nature and improving technologies exerts some crucial influence on natural and space processes. Thus, having appeared on the Earth, noosphere has a tendency to its regular expansion becoming a special structural space element. Nowadays the scientific activity has gained such features as a fast rate, coverage of vast territories, depth of research, intensity of the performed transformations. They permit to foresee the scientific motion with the scope that hasn't existed in biosphere yet.

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### **Russian Cosmism and the Idea of Co-evolution**

Let's consider some influential ideas of such Russian cosmists like N.F. Fedorov [Fedorov 1982], P.A. Florensky [Florensky 1990], K.E. Tsiolkovsky [Tsiolkovsky 2001]. It's very difficult to give an exact definition to this direction in Russian philosophical thought as there are different directions in it, which are united by the idea of integral vision of the world like an organism with interconnected and mutually influencing parts. All cosmists had a common opinion on the following items:

1. Man is internally connected with space and nature. This connection is organic.
2. Mankind is united as a planetary community.
3. It is necessary to state a new human attitude to nature based on the unity of consciousness and action (inner and outer aspects). This attitude can't stay meditative as with time man understands not only his deep dependence on space, but he influences it more and more. Such his invasion requires an integral vision of the world.
4. The result of the above is the idea of co-evolution which is so popular nowadays. Rational nature regulation, joint and coordinated transformation of nature and mankind by people suppose a human refusal from anthropocentrism for the sake of 'antropocosmism'. Its ideas together with cultural centrism, i.e. the priority of cultural and spiritual values over material ones, and the idea of general unity of mankind and space should become factors of a routine consciousness in the near future. Thus, according to cosmists, cooperation of man and nature should become the basis of the society in ecological and social aspects, i.e. their co-evolution will take place.

It means the appearance of a universal human being capable to evolve together with nature without doing any harm to it. This approach considers man as a collaborator with nature who has a patient and responsible attitude to his surroundings.

Russian cosmists believe all parts of our life are interconnected, but spiritual and moral guidelines are the only true way in it. They consider a man formed due to the rapid development of new technologies as a creative and free personality, responsible for the whole Universe. It is the creative work that opens the limitless human nature.

It is also necessary to point out the importance of conciliarism, general unity, God-manhood, developed in works of Russian philosophers. They suggest the idea that mankind is united and its future is connected with overcoming its isolation and autonomy. They considered a man as a "world personality", appearing as a result of free dialogue of the international culture and possessing some universal moral ideas. These thoughts are becoming especially

topical nowadays from the position of the latest technological achievements due to their influence on the future of our civilizations.

### **Technological Progress and Global Challenges**

The interaction of the modern human society and nature is determined mainly by man's non-biological needs. His technical power has reached the level which might be compared with biosphere processes. For instance, the mining machinery moves to the Earth surface more soil annually than all rivers worldwide move soil into seas as a result of water erosion. Human activity changes the Earth climate, influences the composition of atmosphere and the World Ocean. Modern economic activity of the mankind undermines nature's reproductive powers. We can observe more and more cases of irretrievable losses of some life forms, worsening the ecologic situation on our planet.

We should stress here that under appropriate public conditions the technology can serve as a basis of humanization of man's technical activity, usage of modern science intensive technologies as a means of rehabilitation and preservation of natural environment and man's release from routine and uncreative jobs. Fast development of information technologies has provided unprecedented opportunities to improve everyone's intellectual potential and creative abilities.

In connection with the above, the choice of further technological development acquires a special meaning for mankind nowadays.

Among numerous global challenges we can mark out three main problems having appeared owing to the latest development of the anthropogenic civilization and threatening the existence of mankind:

- 1) surviving in terms of continuing perfection of weapon of mass destruction. As we know, in the nuclear age the problem of mass mortality has become an especially actual one for humanity, and this sad result is a "side effect" of scientific and technical progress that discovers new and new possibilities to design and perfect defense technologies;
- 2) raising the ecological crisis worldwide and its deepening because of the global financial downturn. Two aspects of human existence, as a part of nature and as an active creature transforming nature, come into a conflict. The previous paradigm considering nature as a limitless storage of resources for human activity turned out to be wrong. Man was formed inside biosphere which can't be introduced as the environment or as a field for man's transforming activity, but as a single organism including mankind like a specific subsystem. Human activity brings regular changes into biosphere dynamics. At the current stage of the anthropogenic civilization development the scope of man's nature expansion begins to destruct biosphere as a whole eco-system.

Threatening ecological catastrophe demonstrates the necessity of working out new strategies of scientific, technical and social development for the mankind. These strategies should provide the co-evolution of man and nature;

- 3) keeping a personal individuality as a biological and social structure while strengthening comprehensive processes of alienation. Man, sophisticating his world, calls such powers into being which he isn't able to control and which become alien to his nature. The more he transforms the world, the more he generates the unforeseen social factors. They start forming new structures which drastically change the human life and apparently worsen it. Fast development of the anthropogenic civilization makes the problem of forming and socializing

a personality rather complex. Human relations turn out to be sporadic. On the one hand, they tie all individuals, but, on the other hand, they isolate and atomize people.

The above concepts reflect some real contradictions between a man and the society and between modern technical and technological means. Current technologies require extremely responsible attitude to them and conscious discipline from their designers, producers and users.

## **Conclusion**

Making a conclusion, it is necessary to point out that the issue of creating noosphere is extremely vital. Its decision is connected with the unification of efforts by all the mankind without any exceptions, the introduction of new values for cooperation and establishing relationships among different nations worldwide. Democracy, culture preservation and recovery, development of science and public life, responsible attitude to nature management, deciding military conflicts and threats peacefully, spreading new principles of noosphere education can be considered as the main components of noosphere.

While developing technologies, man is becoming more and more technologically sophisticated. However, he doesn't stop to be sensible. He himself, his body and mind turn into integral parts of complex eco-systems, socio-cultural and socio-technical systems. Thus, the process of creating noosphere is very gradual and we might never be able to call a year or even a decade when it is supposed to be completed. The information society which the developed world is living in nowadays should be considered as the first step on the way to the noosphere society.

V.I. Vernadsky, noting undesirable and destructive consequences of human activity on the Earth, believed them to be some side effects. He trusted in the human mind, humanism of scientific activity, triumph of good and beauty. Some of his ideas were great predictions, but some of them were real mistakes. But undoubtedly, noosphere should be understood as a symbol of faith, as an ideal of human sensible intervention into biosphere processes under the influence of scientific and technological achievements.

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