

# THE DEVELOPMENT OF THE PRINCIPLE OF CO-EVOLUTION IN MODERN SCIENTIFIC RESEARCH

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The synergetic concept which is based on the idea of coevolution of nature and society should become the basis of the modern strategy of sustainable development of society that will form new directions of human life activity, ways of mankind's exit from the global crisis.

**Keywords:** coevolution, synergetic concept, ecological crisis, science integration, the principle of universal evolutionism.

The relationship between man and nature has always been the most important problem of philosophical knowledge. At the present time, the question arises about the need for a harmonious coexistence of nature and man. This was the beginning of the emergence of the idea of co-evolution, which was first mentioned in works by V.I. Vernadsky at the beginning of the XX century. Vernadsky formulated the idea that man becomes the main geologic transforming force of the planet and to ensure his future, he must take responsibility for the further development of the biosphere and society.

Today, the "biosphere and human" system is in an unstable, nonequilibrium state and is striving for another bifurcation transition. Today, the "biosphere and human" system is in an unstable, non equilibrium state and tends to another bifurcation transition. The idea of co-evolution of mankind and nature should become the scientific basis for an exit from this crisis. That is why the idea of co-evolution of man and nature as a strategy for the self-preservation of mankind must become a factor in the development of society, which assumes the creation of a complex, integrated system built on the basis of the interaction of the noosphere and the biosphere, in which there will be interaction of nature, culture and civilization.

The concept of co-evolution presupposes the study of the planet as a whole, the study of the processes of interaction between the technosphere, the biosphere and society, and the strengthening of the active role of man in a single evolutionary process, making man the boss of nature. However, it shouldn't be a conquest of nature, but a reasonable, conscious use of the biosphere and its resources.

Coevolution is characterized by a combination of various parameters and the interconnection of many self-organizing systems of varying degrees of complexity. Therefore, it requires a systematic and interdisciplinary approach to research.

Today, when the synthesis of natural and humanitarian knowledge is being carried out, an interdisciplinary direction is synergy, which provides a scientific and methodological basis for the embodiment of the idea of co-evolution.

The synergetic concept gives an idea of the principles of evolution and co-evolution of complex systems, the causes of evolutionary crises and helps to master the methods of managing unstable, nonlinear systems.

Synergetics as an interdisciplinary science is able to combine disparate scientific knowledge into a complex system that can describe the world as a whole, give a complete picture of its development and show the interrelationships of internal elements.

This concept as the basis of the modern strategy of sustainable development of society allows us to form new orientations of human life activity, provides new environmental, legal, ethical regulators that will help find ways of mankind's exit from the global crisis, including the ecological one.

So, today mankind is facing another bifurcation transition which is caused by the global crisis of the XXI century, the way out of which modern science sees in ideas and principles of co-evolution, however, as the scientist N.N. Moiseyev noted: "It is impossible to move from the society of nature consumption to the society of knowledge of nature. There must come a realization of the inevitability of choice, for man can not change the laws of nature" [2].

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