

Biocosmology : Shaping the Model of Human Experience of the World in the 21st Century

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Биокосмология: формирование модели переживания мира и жизненного опыта человека в XXI веке
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Cosmology is the earliest form for human beings to grasp the world. The original cosmology is often presented in the form of myth. From the ancient Greek period in the West and the pre-Qin period in China, people began to explain their own world consciousness in a rational way. A rational cosmology replaced the mythical cosmology. With the growth of modern empirical natural science, scientific rationality has become the representative form of rationality. The human concept of the cosmos has changed from a general rational cosmology to a scientific cosmology. Cosmogony is the system of human thinking about what the world is and the relationship between human beings and the world. It is the basic thinking and prerequisite self-awareness for human beings to settle down. It is the empirical model for human beings to think and deal with the world. It plays an important role in guiding thoughts for human beings to choose what way to deal with the world and how to realize the double meaning of human beings and the object world in dealing with the world.

The 22nd International Symposium on Biocosmology was held as part of the 7th International Conference on Globalism at Moscow State University in Russia in June 2021 and adopted “Addressing the scientific community – the Biocosmology Initiative.” The core content of the Initiative is to establish a Triadology of science with the integralist as the direction and a dynamic understanding of the Triadology of scientific knowledge. Based on this, a Biocosmology towards the 21st century will be constructed. On the whole, the Initiative is a refinement of the scientific worldview shaped by the paradigm shift in natural science since the 20th century, a synthesis of the new model of philosophical epistemology and cosmology since the 20th century, and a prerequisite ideological foundation for thinking and practicing the relationship between people and the world in the 21st century.

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The issue of the scientific basis of Biocosmology is the central concern in the Biocosmology Initiative. In the Initiative, it is proposed to integrate top-down and bottom-up scientific knowledge to form an organicist view of scientific knowledge with comprehensive characteristics, which pays attention to both factual material and the intrinsic purpose of object, and then to construct a Biocosmology view of the organicist model for understanding the universe. The essence of such an organismic view of science is the result of a paradigm shift in scientific understanding from physics to biology since the 20th century. The 20th century is often called the century of physics and the 21st century the century of biology. In fact, the period from the rise of empirical natural sciences in the 17th century to the 20th century could be called the century of physics. As a paradigm of thought, physics is characterized by being mechanistic, linear, reducible and mathematical. It often forms a qualitative and quantitative deterministic description of the object world.

However, with the development of physics since the 20th century, a new paradigm of physics, represented by quantum mechanics, was born. The physical paradigm of quantum mechanics leads to a complex and uncertain understanding of the world. The paradigms of theoretical research and understanding and worldview models based on classical physics began to be questioned. Corresponding to this, the most representative theories of natural science in the 20th century are the DSC (Dissipative structure theory, Synergetics and Catastrophe theory) and the SCI (Systems theory, Cybernetics and Information theory). They are both models of scientific theories constructed on the basis of Systems Theory. And Ludwig von Bertalanffy, the founder of general system theory, is a biologist. He proposed General System Theory based on the establishing of the theory of organism of life organization. The Russian scholar who was mentioned in the Initiative, Vladimir Ivanovich Vernadsky (Владимир Иванович Вернадский), is a Russian and Soviet mineralogist and geochemist. He is known as one of the founders of Geochemistry, Biogeochemistry, and Radiogeology, and has a background in biology.

Biology takes living things (animals, plants, microorganisms) as the research object, which studies both the structure and function of living things and the occurrence and development rules of living things. We can not only apply mathematical, physical and chemical methods to make precise quantitative studies of biological structure and function at the molecular biology level, but they can also be described in terms of organic theory of complexity and self-organization by applying System Theory, Evolution Theory occurrence and Evolution Theory development. It can be said that the rise of the biological paradigm has brought challenges to the physical paradigm. However, from a comprehensive perspective, it complements reductionism with holism, complements simplicity with

complexity, and complements linear description with nonlinear description, which further enriches the overall revelation of the object world.

2

Biocosmology is a summary of the cosmology generated by the paradigm of scientific research from physics to biology. The generation of Biocosmology cannot be separated from the base of scientific knowledge and its paradigm of understanding. At the same time, as a metaphysical thought mode of the world as a whole, its construction cannot be separated from the foundation of the cosmological model characterized by Generativism, Existentialism and Organicism since the 20th century. Among many cosmological models, Popper's theory of World 3 in his theory of knowledge, Heidegger's Existentialism configuration of the relationship between man and the world, and Whitehead's organic world view directly provide the metaphysical basis for this Biocosmology that emphasizes self-generation.

Popper, the British philosopher of science, believes that there is an objective knowledge world in comparison with the objective material world and the subjective spiritual world. The ontological basis of the objective knowledge world lies in the independent growth of knowledge. Although the objective world of knowledge cannot be separated from the objective material world and the subjective spiritual world, the independence of the objective world of knowledge lies in its independent evolution. That is, knowledge itself has the potential to create new knowledge, and people can further create new knowledge based on existing knowledge achievements. Popper's theory of objective knowledge provides a generative understanding of knowledge problems similar to biology.

The German philosopher Heidegger's Existential-Ontology has become widely known, and in his Existential-Ontology lies a generative understanding of things. Heidegger thinks that the "thingness of things" is not the perceptual theory of things from the epistemological point of view, or the description and grasp of conceptual theory. The "thingness of things" lies in the self-display of things, that is, they show themselves exactly as they are. Man is involved into natural processes, but not an intervener, of the self-manifestation of things. Heidegger's thoughts on the Generativism of things break the traditional subject-object relationship between humans and things, and form an Existential-Ontology interpretation characterized by the phenomenological description of things, highlighting the generative qualities of the object world.

Whitehead, an English philosopher, put forward a cosmology of organism theory. According to Whitehead, the world is made up of “actual entity”, which is changing and moving. The “actual entity” constitutes different clusters, which constitute larger, higher-level clusters, which in turn constitute larger, higher-level clusters, until they constitute the universe. The “actual entity” is constantly generated. An “actual entity” not only absorbs other “actual entity”, but also is absorbed by other “actual entity”. It has a dual identity, which is both a subject and an object. Whitehead's organic cosmology directly lays the theoretical foundation for a kind of Biocosmology toward the 21st century.

3

The German philosopher Ernst Cassirer once said that since the ancient world there has been an anthropology and cosmology in parallel. This shows that while human beings know the outside world, they also begin to ask for their own understanding. If the self-consciousness of human subjectivity is not yet sufficient, and cosmology and anthropology can be separated, then after the establishment of human subjectivity, anthropological and cosmological thinking become two aspects of one system. Neither the mere examination of human self-worth nor the mere doctrinal inquiry into what the universe is has true value connotations. What the world is and how the world should be are directly related to what people are and how they should be. The inseparable reality of the relationship between man and the world, the theoretical connection between cosmology and anthropology in their inner unity, makes cosmology a world experience of human tangibility.

With the rise of modern philosophy of subjectivity and the increased human capacity to transform the world brought about by the development of human science and technology after the first industrial revolution, an anthropocentric view of nature was formed. As a kind of practical logic, this view of nature has brought about very serious negative effects in the process of guiding human beings to deal with the relationship between human beings and nature, because it overemphasizes human subjectivity, in the process of human transforming nature, and in the process of meeting people's material life needs and improving human material life standards. These negative effects have a significant detrimental effect on the survival of people and the reproduction of the race. Therefore, people carry out sociological criticism, political criticism, economic criticism, scientific and technological criticism and philosophical reflection from different levels. It is hoped that through criticism and introspection, we can find the problem of the modern world experience model with the basic idea of anthropocentrism.

In the 21st century, the fourth industrial tide is surging, and the ability of human beings to transform the world of objects is, far from being weakened, enhanced with the improvement of technology and industrial level. Since it is impossible to remove the place of human subjectivity, how to place the relationship between man and nature becomes the key to constructing a new model of world experience. Although the Biocosmology Initiative has grasped the premise misplacement caused by the binary opposition model between man and nature in modern cosmology, which has been formed with man's subjective consciousness and empirical natural science development since modern times, it is still unable to escape the limitation of the dualistic thinking mode due to the confinement of this premise thinking paradigm. The holistic empirical mode of inquiry derived from the excellent Chinese traditional culture can form a counterpoint to this mode of thinking. Thus, the full exploration of the integration of Chinese and Western cultural experiences in the context of the discourse of modernity can provide humanity with a constructive model of world experience toward the 21st century.