

Ecological Worldview and Its Significance in the Conditions of the Modern Scientific-technological Progress

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Abstract—The relevance of the development of the content and significance of the ecological worldview in the conditions of the modern scientific-technological progress is substantiated. It is noted that the functions and significance of the ecological worldview haven't been sufficiently studied in the modern scientific literature. The analysis of the interaction between scientific, political, economic, legal and other aspects in the ecological worldview is performed. The significance of the analysis for the development of an overall and system content of the "ecological worldview" concept is shown, that represents the article novelty. In summary conclusions and recommendations for the further development of this important field are given.

Keywords—*ecological worldview; scientific knowledge system; environmental values; conflict between economic and ecological factors; legislative and legal forms; politicization of environmental problems; prediction of environmental problems*

I. INTRODUCTION

The term "worldview" appeared in the Russian language as a translation from the German word "Weltanschauung" that literally means "world contemplation" or "world outlook". For the first time the term was used in Germany in the literature of German Romanticism in the late XVIII – early XIX centuries as an expression of the unified system of views about nature, society and human being. It should be noted that the term "worldview" is often used as a synonym for the word "philosophy". Indeed, philosophy has an outlook function and performs as a cornerstone of the worldview. In the meantime, despite certain similarity, philosophy and worldview are not similar in their content and purpose. The specificity of the worldview is in a person's awareness of the own attitude to the environment, of the purpose and meaning of own life and activities, in the determining own place in the world. Worldview covers not only the sphere of ideas but also the sphere of feelings and will, what is more, it includes a system of social and economic, political ideas and beliefs, aesthetic outlooks and moral code. And in this regard, worldview performs an orienting, methodological function in science and practice.

As is known, in philosophy, along with the common problems, the specific areas are also distinguished, for example, the philosophy of science, the philosophy of technology, etc. The similar situation is observed in the modern worldview too. In our opinion, its environmental orientation has the greatest importance in the conditions of the intensive technosphere development. This approach reflects the unity of the general points inherent in the worldview and special, in this case – environmental aspects.

It should be noted that the ecological worldview as a separate and distinct problem has been insufficiently studied. A number of authors touch upon only certain areas of this sphere [1], [2]. In this regard, it is necessary to develop a relatively holistic and system understanding of the environmental worldview that makes a certain novelty of the present research.

II. THE MAIN DIRECTIONS OF THE ECOLOGICAL WORLDVIEW FORMATION, AND THEIR RELATIONSHIP AND INTERACTION

Ecological worldview is an awareness of the priority of ecocentrism over anthropocentrism that means responsibility for the fate of the whole social-nature system and for the survival of the planet. It suggests an adequate reflection of the relations, unity and distinctions of society and nature as the components of the social-ecological system.

Ecological worldview formation is a complicated and multifaceted process whose origins date back to ancient times, but it was developed differently in Eastern and Western philosophy. The well-known statement of R. Kipling: "East is East, and West is West, and never the twain shall meet" – is also based on the opposite understanding of the question of the interaction between the human and nature. In Eastern philosophy the thesis that claims the surrounding world (including nature) to be good and the human to be imperfect, bad, is important. The world can't be altered, there is no need, but the human must be improved for the recovering harmony with nature. There is an opposite thesis in Western philosophy: "Human is perfect, good and the world is imperfect, bad". The world needs to be altered.

Human must subdue nature, dominate it. Nature is a human's servant. Western philosophy is focused on the human activity, dynamic and transformative, which doesn't always give positive results. The statement of I.V. Michurin was also popular: "We mustn't wait for favors from Nature, our task is to wrest them from her" [3]. Currently, it is obvious that this approach is destructive, including for humans, because natural resources are not inexhaustible. And today it is available for the whole humankind that the domination of human over nature isn't boundless; hardly, but the necessity to overthrow human from the "king's of Nature" throne and to recover the safe interaction between human and nature becomes clear. Never before it was essential to consume such a huge amount of natural resources for life support and nature can no longer withstand such a burden. The obsolete social mechanisms of interaction between human and nature are being broken down, though in some areas the process still goes slowly. Also, the motivation to the active actions for nature protection and conservation is increasing as the idea of the potential humankind death due to the depletion of natural resources and the violation of its balance is becoming clear and obvious. For that reason, today new ecological worldview attitudes are becoming a social necessity almost in all spheres of activity, especially in the nuclear and chemical industry, etc. [4]. In other words, the ecological worldview along with the general issues expresses the peculiarities associated with the professional activity in any given sphere. In various spheres, both in theory and in practice, not only skills but also responsibility and moral features are essential. Nowadays environmental problematique must be firmly argued, justified, must become the object of close attention of all fields of science, economics, politics, etc., and must not be only the subject of the abstract debates among scientists [5].

Also it is worth noting that in the process of ecological worldview formation not just a system of scientific knowledge is necessary, but its ecological orientation. It means that the goals and objectives of both natural and social sciences should be related to the environmental problematique. But various sciences are related to the environmental problems in different ways, many of them are related indirectly, and this process is of historical nature, therefore, the role of a particular field of knowledge in the analysis of the environmental processes may change. Here the process of interrelation, interaction between different fields of knowledge is also essential, that influences on the development of the research methods and allows to duplicate one or another evidence, result by methods of different sciences. In other words, the analysis of ecological processes and their consequences has a dialectical nature. And here one can not absolutize the importance of a particular field of knowledge, both in a specific environmental situation and in terms of the overall level of the development of science and technology [6]. Human sciences also have certain significance. They allow to work out a general methodology for the research on the environmental processes, as well as to analyze various social outlooks, assessments, especially the political aspects of various environmental options. It is the human sciences that have a significant impact on the formation of the ecological worldview [7].

The problem of prediction of certain environmental changes as a result of anthropogenic impact holds an important place, especially at the present level of industrial production development. Unfortunately, this direction is not always carefully studied and often is not of paramount importance in the world practice. The reasons are different: economic, political and others. Moreover, as experiments show, it is not always possible to carry out accurate forecasting of certain ecological effects on the basis of scientific approaches [8]. The fact is that all natural phenomena stay in a system, in mutual interaction, in relationship and in dynamic equilibrium. Indeed, sometimes it is difficult to make accurate predictions, and a disruption of the natural balance often leads to irreversible changes in ecosystems. What is the solution? More responsible approach in both practical and theoretical activities to analysis of environmental processes could be a solution. This will limit the likelihood of negative environmental consequences. In other words, the ecological worldview requires not only scientific knowledge about environmental phenomena, but also moral and value orientations. That is, the knowledge about the world and nature in human's mindset should be complemented with value orientation, with a certain character and direction of thinking and feelings, with balanced principles of practical actions. Knowledge turns into mindset when it forms a social, political, moral and aesthetic position of a person, when it converts into his beliefs, becomes his second nature, the basis of his life style, his cherished and decisive life goal. It is impossible to solve environmental problems in a socially immoral and spiritless world. All large scientists and researchers lay special emphasis on this position [9].

All levels of education are essential for the formation of ecological worldview. For example, in Bauman Moscow State Technical University environmental aspects are affected in the teaching of almost all disciplines, taking into account, of course, the profile of a particular Department. Working with students at the Department of Ecology and Industrial Safety is of particular interest in terms of the formation of environmental worldview. Disciplines "Ecology" and "Life safety" are university-wide. Here special courses are developed in the differentiated plan for different Departments. In Bauman University much attention is paid on the formation of practical engineering skills to develop not only reliable technical systems, but also their environmental safety [10]. At the same time, both domestic and foreign methods of motivation of creative engineering activity with ecological orientation are used in the work with students [11]. That is, Bauman University not only trains highly qualified future engineers, much attention is also paid to the formation of the environmental worldview.

III. POLITICAL AND ECONOMICAL ASPECTS OF ENVIRONMENTAL PROBLEMS

It should be noted that the environmental orientation in professional activity, though it has been proved scientifically, is still insufficient. There is a need for a certain environmental policy that focuses on a new respectful attitude on the surrounding world, ensures compliance with

reasonable standards of economic activity, safe for both humans and the environment. In this regard, environmental policy should function as the introduction of environmental objectives in all spheres of life. But, for the most part, the leaders of the world community do not show the expected political will for the solution of environmental problems, do not want to sacrifice even a small part of today's expenses for the sake of a safe future [12]. Environmental problems are usually ambiguously used in political purposes. Promises to solve the environmental problems, which are not going to be fulfilled, are often used to implement certain political tasks. This approach is widespread, especially in pre-election speeches and programs. One can give many such examples [13].

It stands to mention that the politicization of environmental problems has also a negative side. For example, Ethiopia's plans to build a hydroelectric dam on the Blue Nile River nearly led to a war between Egypt and Sudan from one side and Ethiopia from another. The conflict was resolved diplomatically. However even reaching an agreement and signing an international treaty do not guarantee a positive result. There have been attempts by industrialized countries (the US and the EU) to use the Kyoto Protocol (the Convention on the reduction of greenhouse gas emissions) to limit industrialization processes in developing countries. The Third World countries have low labour costs and therefore industrial products are cheaper than in developed countries. But the developed countries for political reasons can not reduce the salaries of workers, therefore, the prices of industrial products remain high. And to withstand competition they use environmental issues to solve their economic problems. For example, the United States refused to ratify the Kyoto Protocol, citing the need to protect national interests, but insisted on the implementation of the Convention by China, Russia, Asian countries, Africa and Latin America. Even when the Paris agreement was signed on 22 April 2016 instead of the Kyoto Protocol, the situation has not changed. On 1 June 2017 US President Donald Trump has officially announced the withdrawal of the United States from the Paris climate agreement [14], explaining this by economic reasons. The presence of double standards in the consideration and solution of environmental problems causes mutual distrust of the countries-participants of international agreements, leads to the failure of the agreements reached.

Thus, the politicization of environmental problems requires a comprehensive critical analysis. And only on the basis of scientific approach it is possible to distinguish real, really significant provisions from populist statements in the solution of ecological problems [15]. Political awareness is an important component of the environmental worldview.

Legislative and legal forms of environmental processes regulation are also of significant importance in the environmental worldview. The fact is that the concept of solving environmental problems, compliance with environmental standards of economic activity comes, basically, into contradiction with economic interests. And in this context relevant is the Vladimir Putin's statement at the meeting with the head of the IOC on the preparation of the

2014 Olympics Jean Claude Killy: "From the priorities in importance between money and the environment, we make a choice in favor of the environment. Otherwise, nature will suffer such damage, which we will not be able to eliminate with any financial efforts" [16]. Theoretically, this contradiction is to some extent solved from the standpoint of modern scientific achievements, but for economic reasons, unfortunately, they are introduced into the production process with great difficulty.

The mass media – press, radio, television, the Internet – are also of great importance for the formation of the ecological worldview. They contribute to the penetration of basic environmental provisions into the minds of people, which allows mobilizing public opinion against violations of environmental norms and principles [17]. But it is necessary to take a critical approach to this or that information. The fact is that there may be absolutization of the importance of certain environmental processes, exaggerations in the coverage of various environmental problems, the presence of false ideas about environmental disasters. In other words, environmental rhetoric should not be an instrument of any political or economic goals, and this, unfortunately, sometimes happens.

IV. CONCLUSION

In conclusion, it should be noted that the environmental worldview must necessarily be the object of close attention of science, economics, politics, legislative and legal norms. The environmental worldview is an integral system of views on nature, society, as well as socio-economic, political, legal, aesthetic, moral norms, etc. [18]. In practical terms, the implementation of such an approach inevitably faces economic and political difficulties, especially at the international level. And this is becoming a serious threat to the future of the entire planet. Therefore, to solve this problem, it is necessary to mobilize the progressive forces of all mankind.

It is difficult to overestimate the importance of the ecological worldview. In the present-day conditions the new environmental settings become a public necessity. And this often grows into a more important mission than certain achievements in other areas of society.

Further research and development of the environmental worldview problem should be carried out in the direction of identifying features that reflect different areas of activity. This approach allows us to define in more detail the meaning and content of the ecological worldview.

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