A Brief Review of the Modern Development of the World and Life in the Works of Scientists of Bryansk Philosophical School of Social-Technogenic World Development

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Abstract. The history of the formation of Bryansk scientific and philosophical school, which has gained high prestige in Russia, is considered. The school explores the issues of formation of the new direction of society development, known as technogenic, and a new direction of development of the world, called as a social-technogenic one, on the basis of science and technology. School representatives use a new methodological approach – a socio-natural one, which origin dates back to the works of V.I.Vernadsky, who regarded the problems of formation of the new world of the biosphere - the noosphere. The authors of this research direction come to the conclusion that the biosphere is being destructed and a postbiospheric world is being built. The technogenic world means transition of mankind from the biosphere to the technosphere, translating biological processes into it as a result of the creation of bio-technology industries. The most important discovery of the school is the change of life evolution on the Earth from the biosphere and biological, which has existed for about 4 billion years, to a socio-techno-natural one. Such a shift could lead to the destruction of biosphere life and formation of a new life shell – postbiosphere, if people follow the spontaneous market development of the world.

Introduction

After a long break in 2002, on the basis of Bryansk State Technical University (BSTU), Bryansk branch of the Russian Philosophical Society was newly formed, which focused on the preparation of the philosophical and social science staff training. Professor, Doctor of Philosophy, E.S. Demidenko was elected as a chairman. By that time he was one of the prominent urbanists of the country. He took part in the development of projects on urban policy in the Soviet Union and post-Soviet Russia from 1989 to 1992, in the project of advanced settlement in the twenty-first century by UNESCO Programme: Chernobyl-33 for settlers, who were affected by Chernobyl accident. He carried out many studies on the instructions of the Ministry of Education and Ministry of Emergency Situations in Bryansk region.

E.S. Demidenko invited talented young professionals into the creative process and postgraduate studies, who have already received recognition in several areas of social and technogenic development of the world and life. Among them, Doctors of Philosophy and Sciences, N.V. Popkova, E.A. Dergacheva, A.F. Shustov, N.N. Lapchenko, whose scientific works have become innovative and made significant contribution to the new philosophical and scientific view of the world. In this direction, head of the philosophy, history and sociology department A.F. Stepanishev began to work, investigating problems of post-non-classical science and philosophy. V.G. Gorbachev, Ph.D., became his associate. Gorbachev offered to publish the works collection book "Problems of modern anthropo-social cognition" annually (since 2003) and worked in the field of philosophical anthropology. V.V. Miroshnikov, Doctor of Technical Sciences, a specialist in the field of quality-management, began his work, including many others. Later, a prominent soil scientist, G.T. Vorobiev, Doctor of Agricultural Sciences joined the school, as well as A.V. Korsakov, Doctor of Biology Sciences, who works at the Department of Safety and Chemistry of BSTU and who has researched issues of radiation ecology of Bryansk, closely linked with the problems of technogenic overcome.

Results

From 2002 to 2015, scientists of the science school have published about 50 monographs, textbooks and collections of scientific works, more than 90 articles in major journals, 300 articles in other publications on

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issues and problems that are handled in an orderly manner and deeply by no one in the world, focusing on environmental issues. 11 monographs and books were recognized by leading experts in the various competitions in Russia. More than 30 times the scientists have become prize-holders and winners of the All-Russian and regional competitions, dedicated to the development of science, technology, and other innovations for the last 7 years. Most members of the Russian Philosophical Society of Bryansk, which is now headed by N.V. Popkova (Chairman) and E.A. Dergacheva (Scientific Secretary) are involved in research on this topic.

As part of the scientific and philosophical school, the scientists conduct socio-techno-natural studies of formation of the global anthropogenic (industrial and post-industrial) society and its impact on the biosphere and a person. Based on statistical and sociological studies, analysis of existing theories of social development, their interpretation of the developing picture of the world, the scientists of Bryansk school have made a number of completely new conclusions. These conclusions can not be ignored by the development of the global community as they concern the future development of the biosphere, which is dying in front of our eyes. Revealing the picture of the world, they are looking for ways out of the crisis, the continuation of the natural self-sustaining biosphere and preservation of humankind on the Earth.

Discussion

Eduard Semyonovich Demidenko is the founder of Bryansk scientific and philosophical school. For the first time in his doctoral dissertation and in his monograph, published in 1980, he justifies the social basis for the development of cities and urbanization processes, determines the social-historical boundaries of world urbanization. He justifies it as a factor of a material and special organization of contemporary social development. He points out its characteristic features, considers the connection of urbanization with the industrial and scientific-technical revolution, the contradictions of this process and finally, for the first time, he gives the definition of a sociological concept of "urbanization", which was supported by a number of scientists [1]. In 1992, he was the first who created and defended his doctoral thesis on a socio-philosophical concept of the world process urbanization. This work, perhaps, is the only one concerning the relationship between urban development policy and the development, based on research, in which the city is seen as the bearer of a new way of vital functions. In his dissertation, E. S. Demidenko worked out the methodology of the relationship of the industrial development of urbanization and the development of new, postagricultural society, i.e. industrial, which would help him to develop a modern socio-natural approach to social development. For the first time, in urban planning E. S. Demidenko considers urbanization as one of the stages of formation of the technosphere in the world and the birth of not only urban, but also the global technosphere revolution. In this case, not only the residence population on the planet is changing; it implies the transition from the biosphere into technosphere of the city, followed by the destruction of the biosphere nature. Moreover, E. S. Demidenko later concludes that, in parallel with urban development, the birth of an artificial shell of planetary life, coming to replace the natural biosphere, takes place.

Defending urbanization thesis he began a new period in his work, which was opened by his remarkable performance at the nineteenth World Congress of Philosophy in Moscow in 1993, where he came out with new man-made issues of social development. It was a report which was implemented in the brochure "Ecotechnological Apocalypse or "doomsday of the "natural man" (1993) [2]. In his report, E. S. Demidenko analysed a significant number of a variety of man-made factors affecting the human body. Then he came to the conclusion that an era of the collapse of the natural and the formation of industrial and over-natural world was coming. In this world there is degradation of the biosphere and a biosphere-natural person. "The path from" natural humanity "to" socio-techno-natural" is not paved with roses" he wrote. The main danger to mankind and the natural world is exactly the technosphere ... New Reality," posthuman world "but not nature determines human activity. In the course of mechanization and urbanization, development of the technosphere and the noosphere is not only a process of "person's planetarisation", as Pierre Teilhard de Chardin and V.I. Vernadsky wrote prophetically, but also the integration of the social and natural person with the technique and the related to this process human crisis" [2, p.13-14]. And then E. S. Demidenko concludes: "The alignment of a number of facts and the technology of technosphere impact human. Homo sapiens, who has lived on the planet without significant physical changes for 40-50 thousand years, began to mutate rapidly and to lose his/her former natural and functional qualities, acquiring social and social-technogenic features. It questions humanity: how significant these changes in the human race are, and in what direction they are transforming the social and the natural essence of a man" [2]. Later, E.S. Demidenko developed the concept of global human socio-techno-natural transformation of a person, his/her social and natural qualities. It should be noted that almost a decade earlier E.S. Demidenko came out with an argumentation of indigenous transformational change in the person, of his/her social, physical and mental qualities. Later the book of the famous American sociologist, Francis Fukuyama, "Our Posthuman Future" appeared (2002).

At the beginning of the new millennium E.S. Demidenko published books, in which issues of technogenic social development, its directions were consistently described; a radical change of natural-agricultural productive forces to the machine, science and technology, by means of which humanity changes development of the world; creating a global technosphere as an artificial, nonliving, matter-object and field (electromagnetic) world; degradation of the

biosphere and its foundation – soil covering, giving life to 92% of the planet's species of living organisms [3, 4]. The term "technogenic society" was first developed by E.S. Demidenko and accepted for publication in the well-known book “Global Studies: Encyclopedia” (Moscow, 2003) [5]. With the formation of the scientific and philosophical school, Demidenko involved his students into a creativity process and he published a monograph in collaboration with them [6, 7, 8, 9]. During this period he carried out a scientific-philosophical concept of social and technogenic development of the world. He owned a number of new discoveries, among them: argumentation of life evolution changes on our planet: from the biospheric-biological, which lasted about 4 billion years up to a socio-techno-biological life. With emergence of Homo sapiens and the organization of public activity, there appear elements of the social and biospheric evolution. With transition to agriculture we can see elements of socio-techno-biospheric, and with the transition to the industrial development a socio-techno-biological evolution develops, where the social element (“socio”) and technogenic ("techno" as artificial) are strengthened, and the biospheric one is destroyed [10].

In recent years, E.S. Demidenko has been paying considerable attention to the problems of global trends that have evolved throughout the history of mankind, but were seen only during expansion of scientific and technical revolution. The term “megatrend” is used to characterize fundamental tendencies of social and natural development. In the book "Megatrends" (2003) J. Nicebit describes only the positive side of the megatrends of the developed society. But the picture of the world by J. Nicebit is absent, even in America (the USA), which has destroyed 95% of the biospheric forests, and as much biospheric agricultural soil over 500 years of managing this land. Moreover, in the twentieth century, these soils have lost through their heavy-duty exploitation from 60% to 99.5% of the nutrients in different regions [11], which led them to the ultimate exhaustion and the appearance of shell products, resulting in a change of human body – a person has his height decreased and gets more rounded and overweight.

Noting this, E.S. Demidenko shows how dangerous megatrends are developing in the world now. An important megatrend is profound changes in the planet nature made by a human society, resulting in the formation of new evolution of life on the planet with increasing speed of changes in the nature and society, lifestyle, activity and residence of people. Technogenic society has enormously increased the conversion and transformation of the biosphere nature in the course of its conquest through science and technology productive forces. Industrialization allowed people to move to the building of the technosphere as an artificial, nonliving, object-matter and field world, meeting their needs and creating problems. The process of building technosphere in a social and natural life is organically connected with urbanization and the creation of an artificial world, where society translates human activity, natural processes, aiming at the acceleration of social development, biological processes, at social elevation of mankind [12]. But in this case, the technosphere fills the biospheric space with artificial objects, hampering nature development. And that are not all aspects that even eminent scholars and writers do not pay attention to.

Formation and development of philosophical and scientific views of the professor of the Russian Academy of Sciences, the Fellow of the Russian Ecological Academy, Doctor of Philosophy Sciences Elena Alexandrovna Dergacheva, passes through the prism of the general theory of technogenic social development. With her researches she has made a significant contribution to the study of the objective laws and trends of the growing technogenic social development and expansion of artificial environment of population life, the nature of impact of such an environment on the biosphere and human, transformation of natural biological processes. She was first in the world who puts forward and deeply substantiates a new socio-philosophical concept of socio-techno-natural globalization on the basis of society integration, the technosphere and biospheric nature [13, 14, 15, 16].

The need of clarification and expanded presentation of the technogenic society concept in her researches occurred due to the fact that most philosophers and scientists are on academician V.S. Stepin’s side, who introduced the concept of technogenic civilization among scientists. The scientists focused on the scientific and technical aspects of industrial development of the society and did not consider progressing in the course of technogenic public development of dangerous transformation transit processes in nature and their reciprocal influence on society and mankind. According to her researches, the modern anthropogenic (industrial and post-industrial) society is a "system, which main elements are the society, created by it the technosphere and the biosphere region in which they exist, and on which they have an impact» [16]. Unlike most researchers, who are considering the development of modern society in terms of occurring changes in the public sector and the services sector (in particular in the concepts of post-industrial and knowledge society by D. Bell), E.A. Dergacheva’s attention is focused on the technosphere development in the society and its impact on the character of the social and natural biospheric-natural processes. In order to continue terminology of social systems adopted in the world, but at the same time to highlight the specificity of their artificial development and new features, which are so far overlooked by philosophers, sociologists, economists and other scientists in her works (2009) [14]. E.A. Dergacheva introduces new concepts and justifies new concepts of social systems "industrial-technogenic society", "post-industrial-technogenic society." These concepts reflect the significant strengthening of technogenic phenomena in post-industrial society, where knowledge-intensive sectors and converging NBICS-technologies are rapidly developing [14, 16, 17].

For the first time in the world a special place in her studies is occupied by the formation of not only a new direction in the global study, which is socio-techno-natural globalization, carried out on the basis of system researches of integrated development of society, of the

biosphere and artificial non-living world (technosphere), but also a new methodology for the global study of phenomena and processes in the world today. In the encyclopedic reference book "Global Studies: people, organizations, publications" (Moscow, 2012) [18, p.390] among the most important publications on global studies, the monograph of E.A. Dergacheva "Trends and prospects of socio-techno-natural globalization" (Moscow, 2009) [14] is noted. By the beginning of the twenty-first century in the international global studies two main global concepts of globalization had been formed - the socio-economic and socio-natural ones, reflecting the different facets of social and social-ecological development of the world. In the context of a narrow, sociological approach outside the study there are interrelated deep transformations in the society and nature on the basis of uncontrolled exposure of new productive forces, extension of the technosphere and the artificial world. Therefore a systematic approach, widely used by researchers, has a limited interpretation since it overlooks problems of social and technogenic development of the world and change of life evolution. In her works E.A. Dergacheva overcomes such limited understanding of global social processes, taking into account new relationships between a subsystem (the international community, including the global technosphere) and a higher level system (the biosphere) [23], which is confirmed by the research of the biophilosophy department of the Institute of Philosophy of the Russian Academy of Sciences as well.

This understanding of globalization as a process of socio-techno-natural world development represents a fundamentally new approach to the analysis of the phenomenon and development of appropriate measures to overcome the many negative technocratic trends of the society that allows us to treat her ideas as the emergence of a new paradigm in social philosophy, sociology, economics, ecology, and other sciences. Occurring as a result of the interaction of social, artificial and natural biological processes, the technogenic socio-natural planetary system forms a new integrated patterns of development of the world, of wildlife, as the global technosphere is becoming a new shell of the planet biological life in exchange of the existed for hundreds millions years biospheric life systems [19, 20].

Natalia Vladimirovna Popkova's researches are dedicated to the development of philosophical analysis of technology and technosphere. Actuality of these studies can be indubitable in view of massive substitutions of biospheric space by technospheric objects, and, as the author truly noticed, by the technogenic origin of most global problems [24]. Even in her early works she showed the difficulty of technology understanding as socio-cultural and socio-natural phenomena, a multiple-vector nature of her philosophical analysis [21]. N.V. Popkova proposed and proved the hypothesis of the regular historical change of socio-natural ways of interaction: 1) a biospheric way: when a person as one of the biological species, organized into a society, interacts with nature by the absence of the technogenic environment as a holistic complex; 2) a biospheric-technospheric way, which begins with the Neolithic revolution when agriculture appeared as the first productive economy and the formation of local areas of the technogenic environment, based mainly on the biosphere technology; 3) a technospheric biospheric way, based on machine production, making the transition from the former biosphere determination of human life to the socio-cultural, from the life activity within the framework of interaction with the living matter of the biosphere - to living in urban and artificial environment as a whole; 4) a technospheric way, starting with the scientific and technological revolution in the middle of the twenties century and aimed at the completion of the formation of global technogenic environment, mediating the interaction of humanity and the biosphere and displacing natural environment on shore.

For the first time, N.V. Popkova framed philosophy of the technosphere as a scientific and philosophical direction, exploring an artificial holistic environment embodying human activity. She typologized theoretical concepts and discourses that have developed in the philosophy of technology, and identified the philosophical meaning given to the term "technosphere". Traditional approaches regarded technosphere as a real object, and they were based on the opposition of global concepts of nature, humanity and technology, understood as disjoint integrities, which are in an external contact. As a result of the critical analysis of traditional approaches it was revealed that their main shortcoming was naturalization of the technosphere. Continued analysis of the technogenic environment requires formulation of new approaches, complementing traditional ones. They are based on the distinction between technogenic environment (set of coexisting technological and technogenic objects) and the technosphere (understood as not an object, but the concept that defines the way of describing the technogenic environment, and formed on the basis of the hypothesis of the existence of its ordering on a global basis) [22]. Thus, the traditional view of the technogenic environment, generated by the purposeful activity of people, collides (as well as technical development) with the contradiction between the rational origin of the individual technical objects (purposeful creativity results) and accidental (unpredictable) operation of technogenic environment in general.

Changes in the methods of presentation of technological environment allow us to have a fresh look at a number of problems, which attempts to be resolved within the framework of traditional approaches have not been able to give realized strategies of social action. Researchers, working on the basis of traditional approaches, set a goal to restore people's control over technogenic environment and, after attempts to realize global programs, often come to the conclusion that it is impossible to achieve this goal and the inevitable degradation of nature and man [23]. It is necessary to develop other approaches to remove the reduction of the technical to the material and to understand equipment, which deeply and historically caused socio-culturally normalized ways and means of changing nature. This leads to a rethinking of the concept of technosphere ordering its structure. At the same time it leads to

abandonment of its naturalistic interpretation and its use as a concept, setting the way of describing the technogenic environment, the autonomy of which is shown, first of all, as its resistance to knowledge and management. Shaping alternative conceptualization methods of technical reality, philosophy can offer new social projects to improve it through harmonization and humanization of reality [24]. A method, methodological reflection, used by N.V. Popkova, breaks down the naturalistic way of thinking and changes traditional ideas. Changing concepts (critical reflection, overcoming the substantive point of view and showing to which cognitive mechanism this concept is due, what are its bases and borders) leads to the construction of the new ideal objects on which new ways of thinking and acting will be created. Changes in the methods of presentation of techniques allow us to have a fresh look at a number of contemporary issues, to identify the anthropological bases of philosophy of technology and to offer the basic principles and methods of a new direction - a philosophical ecology [25, 26].

Within the school of socio-techno-natural researches, work on the study of scientific rationality is being carried out. Works of Anatoly Fyodorovich Stepanischev, Doctor of Philosophy Sciences, Professor and his students (especially D.M. Koshlakov) are dedicated to this theme. Developing the idea of Soviet researcher V.S. Gott, A.F. Stepanishev has developed the theory of post-non-classical philosophy [27]. On the basis of the modern scientific and philosophical material, he has investigated the process of formation of the unity of the scientific and philosophical rationality, scientific knowledge of the process of overcoming the dualities of seeing the world. In philosophy, he has considered these dualities as one of the significant factors of contradiction of scientific rationality [28]. In his works representatives of the described direction insist that contradictions of socio-techno-natural world development should be considered in the broader context, taking into account the fact that technology is developing, all the power of modern technosphere are unfolding, a sort of otherness of scientific knowledge, in particular, spiritual world of the man is implemented. In this regard, in one of the focuses of attention of the analysed research direction there is a three-tier chain "science - engineering and technology - ecological problems." An important addition to this research direction is that the three-tier chain "science - engineering and technology - ecological problems," we must distinguish between two components - natural, on the one hand, and socio-humanitarian, on the other hand. The latter forms a special kind of the techno-sphere and is a consequence of transferring ways of thinking, typical to technical knowledge in the social and humanitarian sphere. This vision of the world picture of development requires the development according to the global community strategy for life development.

The next school representative is Anton Vyacheslavovich Korsakov, Doctor of Biological Sciences. He conducts his scientific researches in one of the fastest growing branches of modern ecology - human ecology. The main problem here is to find regularities and links between the state of environment components, which is becoming largely artificial, or contaminated, and a person as a biosocial being. Until recently, the vast amount of researches has been dedicated to influence eduction of a variety of technogenic environmental factors on health. However, in the twentieth century so far, theoretically it became clear that the influence of separate factors in real ecosystems are always summed, and transformed (phenomenon of synergies). The results obtained by A.V. Korsakov allow [29]: predicting changes of health state in areas of concern, depending on the level of chemical, physical (radioactive) and combined environment pollution; predicting changes of public health in the areas affected by the Chernobyl catastrophe given concomitant chemical pollution of the environment.

Conclusion

Having completed reviewing the works of philosophers and scientists of the mentioned school, we can outline a brief evolution picture of life on the Earth in the modern technological era. "At present biophilosophy and philosophy of the technosphere are forming, - said E.S. Demidenko, - which helps us to build a modern cognitional model of developing of the earthly world. In these sciences attention is drawn to the relationship of biological and cultural evolution as a whole, to the human being in the society and the biosphere, to preservation of natural health of a person. Without deep understanding of the laws of the biosphere and mankind development in the natural environment, features of modern transition from their natural environment into an artificially-urban one we can not comprehend the current direction of development of the society and the person" [30].

For about 4 billion years a biospheric self-developing life has evolved on our planet. The largest and irreversible biosphere changes begin with the transition to the second type of producing economy - industrial development, when agricultural productive forces (with muscular energy of man and tamed animals, carrying 98% of all labor operations in the world) after the industrial revolution at the end of the eighteenth century were replaced by science, technology and machines. For three centuries (1700-2000) 0.7 billion hectares of soil were destroyed, while over the previous 10 thousand years only 1.3 billion hectares, that is, in the twentieth century, we had a 30-fold increase in the destruction of soil in comparison with the end of the seventeenth century [5].

Despite the fact that elements of the new evolution of life - social and biospheric are already forming, which is noted by the philosophers of Bryansk school, the biosphere is still self-developing, and humanity is still biospheric. Taking into account the speed of soil destruction and keeping in mind that we have 1.5 billion ha in use at present, it becomes clear that this amount of soil will be used within 150 years. And still undeveloped 1 billion hectares, according to A.S. Yakovlev's

calculations, Doctor of Biological Sciences of Moscow State University, soil scientist, will be enough only for 30-40 years [31]. So, the end of the biospheric life will come on the planet within two centuries, unless urgent actions by all countries of the world are accepted. We are speaking about not only the biospheric life, but also about life in general, because no one can say whether it is more biospheric and whether it is possible to live without soil and without the current atmosphere. School scientists do not oppose their theoretical studies to ecology specialists. They only remark that the environmentalists ignore the studies of social and technogenic development of the world and, therefore, they do not see the whole transforming world. The world does not follow the path of sustainable development, and people play dangerous market games, in the course of which biospheric life disappears. Generally school researchers offer the most probable, safe and promising scenario saving from mortal danger for humans and the biosphere. The danger comes from the spontaneously chosen by humanity capitalist and socio-technogenic development of the world [15]. Concluding the review, we would like to appeal to readers not only to promote and explain the essence of the deep researches of disappearing life, but also to take an active part in its protection and in the revival of the lost parts of the biosphere, especially soil covering.

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