

Biopolitics, biotechnologies, biomedicine, and biolaw as forms of bioregulation

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Abstract. Modern science, education, and medicine are increasingly becoming the primary agents of biopolitics. Biomedicine is emerging, and before our eyes, it is becoming a part of the social sphere and, in the long term, a part of the new economic order and one of the state's main agents of biopolitics. In this regard, attention to ethical and legal issues in biomedicine will only increase in the coming years. The study's objective was to determine the role and legal nature of biotechnologies, biopolitics, biomedicine, bioethics, and biolaw as forms of bioregulation. The methodological basis of this work was provided by general scientific methods of cognition of legal phenomena, such as synthesis, the method of analogy, formal logic, and others, as well as private, scientific methods of research of biotechnology, biopolitics, biomedicine, bioethics, and biolaw as forms of bioregulation. The issue is considered from the perspective of the concept of four "BIOs": biotechnology-biosafety-bioeconomics-biopolitics. It is concluded that the role of not only bioethics but also the emerging biolaw in the implementation of biopolitics, i.e., policies aimed at the development of the economy, social sphere, and society, taking into account the new realities formed under the onslaught of modern biological technologies, is significantly increasing. Progress in biology and medicine led to the need to combine scientific and theoretical, and socio-cultural knowledge to solve society's problems, bioethics began to take shape. The authors propose the accelerated development of biolaw as a supra-sectoral legal formation, allowing from the perspective of a systematic approach to combining the achievements of both established sectoral legal sciences (administrative law, civil law, etc.) and medical law, pharmaceutical law to solve new problems, leveling of biological threats, risks, ensuring biological safety. The development of biolaw cannot be done without the interdisciplinary approach provided by links with bioethics, biology, medicine, economics, public health, healthcare, and others.

Keywords: biotechnologies, bioeconomics, biopolitics, law, biomedicine, regulation

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1 Introduction

Modern biotechnologies are used in a wide variety of fields [1]. The rapid development of biotechnologies, including genetic ones, in the coming years, will begin to have an increasingly noticeable impact not only on individual technological, technical, economic, and closely related processes but also on the social sphere, a wide range of social relations (from family and medicine to industrial relations in various industries and sectors of the economy).

Practical experiments of a medical nature are currently being carried out, aimed at involving genes and genetic constructs in civil legal relations [2]. “Law enforcement activity – the ability to apply normative legal acts, implement the norms of substantive and procedural law in professional activities” [3].

What is the place of medicine or nascent biomedicine within the boundaries of the four “BIOs” concept? On the one hand, biomedicine is one of the innovative biotechnological branches of the economy of the new technological order. It is both a consumer of several biotechnologies and a generator of some of them. However, while medicine will be dominated by the approach as a “costly” industry, social sphere, and the like, biomedicine will not receive rapid development. It is necessary to improve medical and biomedical services, which are quite multifactor and complex phenomena.

Within the framework of the four “BIOs” developed concept, it is required to analyze the central public and state means, forms of regulation of a wide range of new social relations.

2 Results

Biotechnologies are a long-standing companion of humankind, but by the twenty-first century, their potential is becoming commensurate with all humanity's earlier achievements. The development of individual biotechnologies, especially entire industries and sectors of the economy, cannot occur without the state, society, and business defining the main guidelines, goals, and objectives of socio-economic development and defining the contours of the future. An example of the lack of attention to the issues of biopolitics and its consequences for the economy, social sphere, and political life of the country is the coronavirus pandemic. It exposed the problems of both the country's biotechnological development and management (the lack of a single decision-making center, the disparity of forces and resources, their insufficiency, problems of interdepartmental interaction, etc.).

The coronavirus pandemic has shown indirect and direct losses for the national economy due to the chronic underfunding of the industry, the lack of proper attention to biosafety issues.

“The rapid development of biotechnologies requires the establishment of clear regulatory requirements” [4].

As a particularly complex field of knowledge that combines scientific, philosophical, and ethical foundations, bioethics was born as a moral reaction of society to the dynamic development of biomedicine [5]. It seems that bioethics as a form of influence on biopolitics is essential (taking into account specific social “ideal” attitudes) but clearly insufficient for the effective implementation of biopolitics. A biolaw is required closer to the law, but is not an antagonist of bioethics, does not reject it, but uses its achievements as far as possible.

Biolaw in Russia is a supernova phenomenon. It is mentioned in separate scientific works and publications, as a rule, without analyzing its essence, subject, and other characteristics. Somewhat more, but also insufficient, attention is paid to biolaw in foreign literature [6].

3 Discussion

In legal reality, the concept of “form” is interpreted in its very different context [7]. The need to implement new biotechnologies should be considered through the prism of the socio-legal prerequisites for such decisions [8]. Of great concern to scientists are dual-use technologies, the development of which is due to the achievements of biology, including synthetic biology [9]. Some of them have significant destructive potential in cases of uncontrolled use, misapplication. Therefore, the active use of specific biotechnologies should be limited, and for some, organizational and legal control mechanisms should be provided. Considering the above, we are entering a new unsolved layer of issues related to ensuring biological and other types of safety [10]. Ensuring biological safety is a long-term trend in the state policy of many states. Russia is no exception, where at the end of 2019, a draft Federal Law “On biological safety in the Russian Federation” was submitted to the State Duma of the Federal Assembly of the Russian Federation. So far, this act has not been adopted, as it needs serious revision. The coronavirus pandemic (COVID-19) in Russia has revealed problems of an organizational, financial, technological, legal, and other nature that require immediate solutions.

Modern biotechnologies and the apparent benefits for the development of medicine objectively affect fundamental human rights and give rise to many problems [11]. The development of new biotechnologies, primarily genetic, is a catalyst for changes in science-intensive and high-tech industries and the following sectors: food industry, agriculture, medicine, pharmaceuticals, energy, etc. Simultaneously with their development, it is necessary to create a new infrastructure: information, financial, management, etc. As a result, with the right goal setting, a synergistic effect can be observed from different technologies that contribute to the accelerated development of the economy and the social sphere. It is no accident that more attention is paid to the phenomenon of bioeconomics (bioresources, biotechnologies, new knowledge), which is rapidly turning from a “toy” for technocrats and oligarchs into a significant factor of economic development [12].

In modern medical practice, biomedical technologies have been implemented for quite a long time. “Biotechnologies cover reproductive technologies, regenerative medicine, gene therapy, cloning, and others” [13]. In modern life, there is a need to receive services in biomedical technologies and information about new developments and the development of biotechnologies and medical services. “The achievements of biology, medicine, and other sciences lead to the emergence of new technologies, the possible implementation of which in practice causes a heated discussion” [14].

Despite the almost fifty-year history of bioethics' development, its subject is still not clearly defined, making it challenging to institutionalize and solve a number of theoretical and practical problems. In Russia, until now, bioethics specialists are not trained. The National Bioethical Community is represented by specialists working at the intersection of biology, medicine, philosophy, sociology, and law. It mainly focuses on teaching activities in organizations that train medical professionals [15]. It should also be noted that UNESCO plays a significant role in organizing substantive international cooperation on bioethics and biomedicine at the universal level [16].

If scientists' attention was attracted by “police” psychiatry, today it is attracted by especially dangerous, quarantine and some other diseases and attempts to ensure social control over them. The lack of sufficient means and tools to counteract the same coronavirus infection in H1 2020 led to serious negative consequences in Russia and many other countries' national economies. The authorities were forced to use the “old” tools for ensuring biological security in their territories (mainly restrictive measures, quarantine). The availability of a sufficient number of effective vaccines, medicines, medical devices, personal protective equipment, other medical devices, and people able to use them correctly and

promptly would solve the main problems that the state faced at the beginning of 2020 differently.

4 Conclusion

Taking into account the above, biomedicine occupies a special place: it creates and consumes individual biotechnologies; it is a branch (sector) of a new bioeconomy (due to an ever-expanding range of services); it makes a significant contribution to ensuring biological safety; it is a significant agent of biopolitics.

The crucial role of biomedicine in the emerging new system of social relations, an attempt to define the contours of which is made in the concept of the four “BIOs”, forces a new look at this industry, sphere of activity, to pay attention to it not as an “insignificant” part of the economy or the social sphere, but as an agent of biopolitics and biopower.

In recent years, Russia has been paying more or less attention to biotechnologies, biosafety, biomedicine, and, to a lesser extent, bioeconomics. Biopolitics issues are not discussed separately, “dissolving” in the state's economic, social, demographic, and other policies. Let's name the primary documents defining the vector of the country's development on the defined issues.

In the authors' opinion, biotechnologies, biosafety, and bioeconomics should be considered exclusively in the system of mutual relations with each other. Simultaneously, in the modern economy of the new technological order, not only medicine (biomedicine) is overtaking the established sectors of the economy, the economic entities that have been steadily functioning in it for decades, and organizations of education and science. Knowledge, information, technologies, and services are beginning to play an increasingly important role in modern society.

From the standpoint of systems theory, the authors can propose a general concept for the development of biotechnologies that meet strict requirements (for the main types of safety) and bioeconomics in general (medicine, education, science, agriculture, industry, energy, etc.), which is manifested in the implementation of balanced biopolitics by the state, which in a state governed by the rule of law should receive the necessary and sufficient consolidation in national legislation for its implementation.

It is necessary to recognize that there is a lag both in the legal regulation of a significant part of the public relations and in the legal doctrine in Russia. Therefore, the authors suggest the accelerated development of biolaw as a supra-sectoral formation allowing to combine existing knowledge to solve new technological and other problems, level biological threats, risks, and ensure biological safety from a systematic approach.

An integral part of the state policy is biopolitics as a system of established social views and relations, as well as the activities of the state and its individual bodies, institutions, organizations determined by them, aimed at creating, introducing, and applying specific biotechnologies and practices in the country, or vice versa, restricting or prohibiting their use. Biopolitics aims to determine the possibility and limits of specific biotechnologies in solving political, economic, social, and other problems facing the country.

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