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BIOETHICS IN THE CONTEXT OF MODERN SCIENCE

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A B S T R A C T

In order to have a clearer idea of the essence of bioethics as a concept and a social phenomenon, it is necessary to consider the factors of its origin, to determine its place as a new scientific knowledge. A special place in this system is occupied by a complex of reasons related to modern scientific strategies, namely, with the fourth global scientific revolution, during which a new post-non-classical science is born. It is characterized by: the application of scientific knowledge in almost all spheres of social life, a revolution in the means of storing and obtaining knowledge, the growth of interdisciplinary and problem-oriented research not only in the socio-humanitarian, but also in the natural-technical (for example, predictive scenarios, social expertise, etc.) spheres. At the same time, comprehensive research programs are being implemented, where specialists from various fields of knowledge take part.

K E Y W O R D S

bioethics, science, scientist, active participation in public and political life, socio-economic life, society, development.

INTRODUCTION

When studying "human-sized" objects, the search for truth turns out to be associated with the definition of a strategy and possible directions for the transformation of such an object, this affects humanistic values, when the researcher has to solve a number of ethical problems and determine the boundaries of possible intervention in it [1]. This idea is supported by V. A. Sadovnichiy who says that in the coming century we will increasingly face prohibitions and values of a moral and ethical nature that cannot be created or overcome only by technological means, no matter how perfect the latter may be, since, in the end, it is these values that will determine the further path of civilizational development. And here, from his point of view, there are not so many options: either humanity will choose a concept of development based on the ever-increasing growth of consumption, which is still dominant and based on the old system of ethical norms and values, or people will embark on the path of self-restraint and harmony with nature and life. Moreover, it will be impossible to force such a choice either by military might or material riches [2].

Obviously, this statement is a continuation of the thought of V. I. Vernadsky, who said that humanity for the first time in history is becoming a "powerful geological force" and in this connection the

question arises "about the restructuring of the biosphere in the interests of free-thinking humanity as a whole" [3]. V. I. Vernadsky designates this new state by the concept of "noosphere" [4]. It can be assumed that thanks to this statement, a person is recognized as a creator and a transformer, a ruler and a steward not only of his social, but also of his biological essence. Moreover, we are talking not only about a person, but also about the entire biosphere as a whole. Thus, the positions of God and man are equalized in this issue, which will then become one of the main platforms of bioethical discourse between academic and religious positions. And here it is impossible not to associate with P. D. Tishchenko, who emphasizes that in the "era of biotechnology, a person plays the most dangerous game - he "plays God" [5].

Another characteristic feature of the fourth global scientific revolution is the synthesis and integration of sciences. Today, there is a need to explicate fundamental intra-scientific values (the search for truth, the growth of knowledge) with extra-scientific values of a general social nature. The internal ethics of science, which stimulates the search for truth and orientation towards the increment of new knowledge, is constantly correlated in these conditions with general humanistic principles and values [6]. In this context, bioethics plays the role of humanitarian expertise, preventing and predicting possible negative consequences of modern scientific achievements for the biosocial essence of man.

LITERATURE REVIEW

Understanding the phenomenon of bioethics in the context of global problems and trends in the development of post-non-classical science is impossible without analysing the evolution of disciplinary priorities among modern branches of knowledge. Science in the last quarter of the twentieth and early twenty-first centuries presented the undisputed leader of modern science - biology. Moreover, biology is not as a pure discipline, but as the basis of a complex of life sciences, understood by many as a system in which biological and medical knowledge are combined. Undoubtedly, this priority, which developed in the twentieth century, will remain in the first half of this century, and maybe even longer [7].

Speaking about the biological component of the life sciences cycle, we are talking, first of all, about the qualitative growth of biotechnologies, including in such areas as medicine, agriculture, nanotechnology, etc. Scientists and experts believe that already in our century, with their help, the food problem will be solved on a global scale and the human nutrition system will be modified. All these fantastic, at first glance, possibilities give rise to quite a lot of concerns about the likely transition of biological research into the uncontrolled phase of the "genie from the bottle" and, accordingly, there is a need for a special control mechanism. And here bioethics as a social institution has accumulated some experience, developed norms and principles that protect the safety of human health and life [8].

It is especially important to note the fundamental difference between the consequences of the introduction of biotechnologies for humans from those, for example, that are associated with nuclear and nuclear energy. As correctly noted V. A. Sadovnichiy, in "the case of the atom, a person acts as an observer who stands outside of the Nature he studies and is exposed to. But, nevertheless, a person thinks that he can protect himself from this danger. That is, how to bypass nature by the side.

Genetic engineering does not leave such an opportunity, even indirectly, for a person. It is a direct and uncontrolled interference in the evolution of living matter. Consequently, science has acquired a qualitatively new, hitherto unknown moral dimension.

This is where the question arises: does the unfolding process of globalization, which is based on the principle of accelerating and continuously spurring evolution, give a clear and satisfactory answer for humanity?" [9].

For B. G. Yudin, the answer to this question is obvious (although it sounded much earlier than this question was asked), it lies in the fact that "only a deeper and more comprehensive, harmonious development of science and technology for the benefit of man can lead to the elimination of the negative consequences of science and its applications, but it can be achieved only in social conditions that are also oriented to the benefit of man as the highest goal" [10]. And here we are talking about the fact that in modern science, in its connection with man and society, no one "can get away from the problem of ethical choice, and evaluation of certain necessary solutions in case of even the slightest discrepancy with ethical, humanistic norms as a violation of these norms (and, therefore, as, perhaps, inevitable, but still evil) - such an assessment allows you to keep the development of negative processes at a certain level, to fight them, having a clear perspective" [11].

Experts rightly believe that, in general, life sciences in the XXI century, like other basic areas of world research, will determine the quality of life and their own effectiveness, taking into account practical relevance. And here health comes to the fore in the broadest sense of the word, namely, as a combination of physical, mental and social well-being in the interpretation of the World Health Organization.

That is why biomedical sciences and technologies topped the ranking of life sciences in the coming century, defining one of the central places for bioethics in this context. Here is how one of the classics of bioethics D. Callahan says about it: "Understanding the emergence of bioethics will help to cover the panorama and complexity in this area. The 60s of the twentieth century are a suitable starting point, even though there were data on the new region in earlier decades. In biomedicine, the 60s were an era of extraordinary technological progress, which opened up a wide range of difficult, apparently new moral problems" [12]. He emphasizes that the achievement of biomedical sciences and their technological application had three great results, which were fully formed by 1960. They have changed many traditional opinions about the nature and nature of medicine, the possibilities and significance of human health and, finally, the cultural understanding of what human life is. Medicine itself has been transformed from a diagnostic and palliative discipline into a potent remedy capable of curing illness and effectively preventing death. Traditional concepts of life have been replaced by ideas about longer life expectancy, control over reproduction and powerful pharmacological agents that can change mood and thoughts. The emergence of bioethics can be considered a social reaction to these big changes.

METHODOLOGY & EMPIRICAL ANALYSIS

In this regard, according to D. Callahan, a global question arose "How can people reasonably resist moral problems that were caused by the confluence of great scientific and cultural changes. But this big question has opened up a frightening range of more specific problems: who should have the right to control (manage) new technologies at the formative stage? Who should have the right or privilege to make fateful moral decisions? How could individuals be helped to benefit from new medical technologies or, if necessary, protected from their harm? What fruits of medical achievements can be better represented? Which of the human virtues would contribute to a wiser use of new technologies? What institutions or laws or instructions are necessary for the social regulation of ever-increasing changes?" [13].

In the XX century, new biomedical technologies have changed the fundamental foundations of our life, physical and moral being of a person. They presented a potential and real opportunity to interfere with the biogenetic nature of man, to control the process of reproduction and the processes of dying, to transplant organs and tissues. The emergence of many modern biomedical technologies, such as artificial insemination, clinical transplantation, life-supporting equipment (artificial heart, kidneys, lungs), etc., has affected the fundamental values of society. And here there was a need when the latter's opinion should be formulated and heard when forming strategies and conditions for their practical application [14]. "Anyone who wants to imagine his life as a whole, justify vital value decisions and make sure of identity, cannot allow someone else to replace him in the ethical-existential discourse, whether it is a person or an instance that is trusted," P. D. Tishchenko [15] clarifies.

Academician of the Russian Academy of Medical Sciences Yu.M. Lopukhin notes: "One of the most important results of the past XX century is the awareness by the world community of the potential danger of unjustified introduction of new achievements of biology into practical medicine. At the end of the century, for a number of reasons, the fear of the atomic bomb was replaced by the fear of the "bomb" of the biomedical" [16]. At the beginning of the twentieth century, this trend only intensified. According to experts, in two decades we fully predict a number of truly revolutionary achievements in human genome research, including gene therapy.

RESULTS

The most serious threat posed by modern biotechnology, according to F. Fukuyama, this is the possibility of changing human nature and, therefore, the transition to the "posthuman" phase of history, and he emphasizes that "human nature exists, and this concept is essential [17]. It creates a stable continuity of our species experience. Human nature shapes and restricts all possible types of political regimes, and therefore a technology powerful enough to change us can have potentially ominous consequences for liberal democracy and the very nature of politics" [18]. Arguing about this, F. Fukuyama focuses on the most relevant, in terms of consequences, for human nature and development of social engineering, directions of modern science: expanding knowledge about the brain and biological sources of human behaviour; neuropharmacology and modification of emotions and behaviour; prolongation of life; genetic engineering [19]. Control over human behaviour, whether it is related to the desire to stabilize his nature or to change it, according to a number of researchers, actualizes such a concept and phenomenon as "bio-power". In the modern world, power in its manifestation is based on a certain human nature (moral, sociable, socially adequate, etc.). Any change in it can be considered as an attempt on the basis of power and lead to its destruction. It is no coincidence that bio-power becomes so relevant in the modern world, since "the strength of social and power structures of the modern world depends on what human nature is".

All the above-mentioned problems affect the foundations of the preservation of the human personality, the human being as a biosocial structure in the conditions of growing and comprehensive alienation processes. It has already been mentioned above that the latter problem is often presented as a modern anthropological crisis. Speaking about this, V. S. Stepin is referring to the threat to human physicality from the actively deforming modern man-made world [20]. This threat, in his opinion, is particularly pronounced in several directions. The first is associated with an ever-increasing information flow and stress loads, environmental pollution and an increase in the number of carcinogens, the accumulation of harmful mutations. The technical capabilities of modern medicine, which give a chance to save and

prolong life, are amazing. The threshold for the birth weight of infants, from which it is considered viable, has dropped to 500, and a person in a coma and connected to artificial organs can be in such a vegetative, but alive state for almost as long as necessary.

All this leads to the fact that human biological reproduction is in danger and there is a threat of deterioration of the human gene pool, as the elimination of natural selection and culling of carriers of genetic errors from generation to generation occurs. The second direction is a consequence of the first, and is also associated with the achievements of modern biotechnologies, which are aimed at the treatment and prevention of a number of hereditary diseases. We are talking about genetic engineering, which not only allows us to achieve positive results in treatment, but also presents the possibility of interfering with the genetics of the person himself, endangering changes in the basis of his physicality [21][1].

CONCLUSIONS

Speaking about technological challenges, few modern researchers and scientists will miss the opportunity to express alarm and call for vigilance. D. Naisbit analysing the characteristic features of modern society (using the example of the American one), calls it a Zone of Poisoned Technology [22]. It is interesting in this respect that D. Naisbit's study of the change in the meaning of the concept of "technology" in the American encyclopedic literature. In 1967, the word "technology" meant "an object, material and physical processes separated from human beings", in 1987. the lines about "the relationship of technology with life, society and the environment, society and the environment" are added, in 1998 its consequences are included in the definition of the concept of technology. In this context, the statement of the formula "high technology - deep humanity" is presented as the ability to accept technology that preserves our humanity and reject encroaching on it [23].

And here again we can turn to the thesis that expensive technological capabilities aimed at maintaining human well-being, primarily his life and health, determine the fact that each case of their use becomes a socially significant event and cannot be ignored, moreover, it needs certain mechanisms of social regulation. The latter should be aimed at preventing and protecting the dangerous consequences of interference with the biogenetic nature of man, attempts on his physicality.

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