

## THE ROLE OF SCIENTIFIC ETHICS AND BIOETHICS IN MODERN SOCIETY

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**Resume:** It is known from the history of philosophy that the main tasks of scientific ethics are to study the significance of science in the human future, to preserve peace and well-being on Earth, as well as to maintain a balance between society and nature. According to scientists, there are still many unused omnipotent possibilities of modern sciences and technological progress. Along with the rational use of these opportunities on Earth, there are problems such as disease, poverty, as well as the problems of people who are doomed to live in need and in extremely poor living conditions. The capabilities of science should be aimed at improving these problems, because all people have the right to live in abundance and prosperity. In this regard, in this article we will try to study the issues of social problems in scientific ethics, as well as highlight the bioethical approach to solving these problems. Having analyzed the philosophical views that existed until now, we will try to draw attention to some social issues. Along with this, we will consider the relationship between scientific ethics and bioethics in defining social problems.

**Key words:** worldview, scientific ethics, bioethics, scientist, social responsibility, knowledge, rationality, objectivity, subjectivity, society, life and death.

## РОЛЬ НАУЧНОЙ ЭТИКИ И БИОЭТИКИ В СОВРЕМЕННОМ ОБЩЕСТВЕ

**Аннотация:** С истории философии известно, что основными задачами научной этики являются изучение значимости науки в человеческом будущем, сохранение мира и благополучия на Земле, а также придерживаться баланс между обществом и природой. Как утверждают ученые, существует очень много ещё не использованных всемогущих возможностей современных наук и технологического прогресса. На ряду с рациональным использованием этих возможностей на Земле существуют такие проблемы, как заболевания, бедность, а также проблемы людей, которые обречены жить в нужде и в крайне плохих жизненных условиях. Возможности науки должны быть направлены на улучшение этих проблем, т.к. у всех людей есть право жить в достатке и благополучии. В связи с этим в данной статье мы постараемся изучить вопросы социальных проблем в научной этике, а также осветить биоэтический подход в решении этих проблем. Проанализировав философские взгляды существовавшие до нынешнего времени, мы

постараемся обратить внимание на некоторые социальные вопросы. На ряду с этим рассмотрим взаимосвязь научной этики и биоэтики в определении социальных проблем.

**Ключевые слова:** мировоззрение, научная этика, биоэтика, ученый, социальная ответственность, знание, рациональность, объективность, субъективность, общество, жизнь и смерть.

## INTRODUCTION

Morality is one of the primary mechanisms governing human behavior and human relationships. Criteria that show the extent to which a scientist's activity in the study of science corresponds to the moral values recognized by society, issues related to ethics in terms of content and importance in his work are reflected in the ethics of science. The ethics of science is based on the explanation and study of the ethical norms that apply to the process of scientific research, as well as the analysis of ethical issues that occur in society in the process of advancing science. As a result of the complexity of social relations in society, there is a need to apply certain rules of morality to real areas of human life. Thus began practical research in the field of ethics. As a result, various areas of practical ethics, such as science ethics, political ethics, journalistic ethics, business ethics, medical ethics, eco ethics, bioethics, global ethics, and others, have been formed. There was a need to re-examine the old problems of ethics, to reconsider many of the problems associated with life and death. As a result, bioethics began to emerge. Modern practical ethics focuses on these issues.

## MATERIALS AND METHODS

Criteria that show the degree to which a scientist's activity in the study of science corresponds to the moral values recognized by society, the system of ideas that reflect the issues related to ethical issues, ethics in terms of content and importance in his work are reflected in the ethics of science. "An important task of scientific ethics is to cultivate the moral image of the scientist who studies science, to cultivate in him a sense of responsibility, which means that he is responsible for the fate of man and humanity" [Turaev, B. Ethics of Science. 2020].

According to some scientists, the main tasks of science ethics are to serve science for man and humanity, their future, the preservation of peace and stability on earth, the balance between nature and society, the harmonious relationship [Frolov, I.T., Yudin, B.G. Ethics of science: Problems and discussions. 2009., Turaev, B. Ethics of Science. 2020], some [Ogurtsov, A.P., Styopin, V.S., Mamchur, E.A. Ethics of Science. 2007] states that it is related to the methodological criteria, research ideals and norms of science ethics. Bioethics, on the other hand, is used in biomedicine to define the interdisciplinary study of ethical issues related to the protection of patients' rights and dignity. As a worldview, bioethics refers to a person's attitude toward the whole world, his or her perception of the world around him or her and his or her place in it. The term "bioethics" was first coined by the American scientist Van Rensseler Potter in

1969 [Potter, V.R. Bioethics: bridge to the future. 1971]. Bioethics as a science combines the achievements of sociology, psychology, logic, law, management, pedagogy, medicine and other disciplines, views on the ethical problems of applied medicine can be seen in the scientific research of V.P.Lopatin, O.V.Kartashova, Z.M.Mukhamedova, Sh.E.Atakhanov.

## **DISCUSSION AND RESULTS**

Ethics of science is a science related to the field of professional ethics, which ensures that science serves a humanistic purpose. Its main purpose is to prevent science from serving vested interests, to prevent the negative impact of scientific research and experiments on the individual, society, the environment, to ensure the future of humanity, society and nature. The role of science ethics in the development of physics, chemistry, modern technologies (nanotechnology, cloning, digital information technology, laser supertechnology, etc.), medicine, genetics, physiology, microbiology, industry, agriculture, psychology and humanities is great.

From a social point of view, the main problem of the ethics of science remains related to the social responsibility of the scientist. When we look at the history of philosophy, we can see that various scholars have expressed their views on the social responsibility of scientists. In particular, Muhammad al-Khwarizmi said, "In the past, scholars of the past, writing works in various fields of science, meant their successors. One of them bequeaths it to those who come after him, the other interprets the works of his predecessors, thereby easing the difficulties. ... he will have a good opinion of his predecessors, will not be arrogant and will not be proud of what he has done. "[Muhammad Musa al-Khwarizmi. 1983: p.59]. Abu Raykhan Beruni, on the other hand, showed in his centuries that the fundamental foundations of scientific values were in the developmental needs of human nature and society. In order for Beruni's research to be effective, the scientist must first be "reliable, on the road ... then calm (looking at the result), write down the whole action and not keep any aspect of it secret" [Beruni Abu Raykhan. 1968: p.63]. Abu Ali Ibn Sina in his "Encyclopedia" "should briefly cover the basics and issues of the five sciences of ancient wisdom" [Ibn Sina. 1980: p.60] says the philosopher. The scholar will divide the book into five chapters. The first of these is logic, which is related to the human mind and thinking. In it human knowledge is divided into two, understanding and thinking. These two types of concepts are two different things. The first is that something is achieved through contemplation, which can only be achieved by the mind. The second can be achieved not by reason, but in some other way [Qayumov, A. 1987: p.182], "The fact that any practice is based on knowledge, an example of knowledge-based practice, geometry or medical practice is consistent with their knowledge" [Ibn Sina. 1980: p.140]. The Western philosopher Paul Feyerabend, on the ethics of science, commented on the social responsibility of the scientist, saying, "... the modern scientist is able to defend the most controversial ideas without difficulty. He does not feel constant feelings of love or hatred for any institution or ideology. His goals may be stable or changed under the influence of feedback, boredom, a change of

experience, or the intention to make a strong impression on those around him. He can try to achieve the goal either alone or with the help of an organized group. In doing so, he can use reason, emotions, compliments, a “position of serious interest” and any means that people can devise. He is always open to universal ideas and universal standards. He is able to surpass any Nobel laureate in defending scientific honesty ”[Feyerabend, P. 1986: p.333].

Both in history and today, in the social responsibility of the modern scientist, the scientist must be accountable to society both for the methods and goals of his scientific activity and for its results and consequences. Because while science considers the benefits of its discoveries to society to be its own service, it must feel guilty about the harmful consequences of those discoveries. The neutrality of a scientist should be limited to his adherence to scientific truth, his desire to defend this truth, regardless of his attitude to certain values and socio-cultural goals. At the same time, scientists themselves must evaluate the goals and methods of their scientific work from an ethical point of view, refraining from research related to the violation of ethical norms. The issue of the social responsibility of scientists has become especially relevant in connection with the development of nuclear weapons. Now the question arises as to whether scientific advances can cause environmental, biological, or other catastrophes. Nowadays, the idea of social responsibility of scientists is widely accepted. However, scientists who have achieved certain successes are not interested in the rapid exchange of existing perceptions that are consistent with their contribution to science in an effort to maintain their position. Therefore, the work of a scientist is associated with the hope of leaving its mark on the pages of nature's "Great Book". Physicist, mathematician and philosopher Philip Frank notes that scientists are often accused of simplifying everything. That's right: science can't exist without simplification. The scientist's job is to find simple definitions. Once a scientist has defined any simple concept, he or she must extract the observable facts from that definition and then examine these implications to make sure that they are in practice consistent with the observation [Frank, F. 2007]. Physicist and philosopher Gerald Holton, based on Albert Einstein's views on the factors that drive a scientist, proposes the following model of a scientist's scientific responsibility: “A scientist, thinker, or creator creates a simplified clear picture of the universe in order to hide from the chaos of the world that arises in experience, and places in it the center of gravity of his emotional life” [Holton, Dj. 1992: p.127]. Convinced that the object of study is whole and complete, the scientist considers the interactions of the object, which break the strictly defined boundaries of the experiment, to be secondary, which does not affect the results obtained. The scientist is forced to idealize different objects, otherwise he will not be able to experiment, that is, he will not be able to ask nature some of the questions he has described and get self-satisfying answers to them.

From an ethical point of view, the need for bioethics, which is a type of practical ethics, increases as a result of the further social responsibility of the scientist. Bioethics is a philosophical concept that deals with the ethical aspects of human behavior from the point of view of practical ethics, which considers the

relationship of man to different forms of life, animals, and is manifested in man's responsibility to the environment, behavior and attitude towards other people. It is safe to say that bioethics is a field of knowledge that studies the ethical, legal, and social problems that arise with the development of medicine and biology. In other words, it is the science of the criteria of a moral attitude to being, an institution that protects the interests of society from scientific aggression. The main purpose of bioethics is to protect a person from the negative effects of medicine and biology on his life and health.

The main reasons for the emergence of bioethics are:

- combating the influx of trade in medicine;
- respect and observance of patients' rights;
- ensuring the interests of medical staff;
- Introduction of insurance medicine;

The basic principles of bioethics find expression in the definition of patient rights, not specialist responsibilities. These are:

- The right to information. The patient should be aware of the risk;
- The patient must decide his own destiny;
- individual freedom based on respect for human dignity and the patient's right to free choice;
- informed consent;
- Compassion.

Bioethics is a science that seeks to address the ethical dilemmas that arise as the “difficult situations of humanity”. The issues and problems he explores and analyzes are related to the two poles of the essence of human existence - human life and death, the problems that arise as a result of the ever-expanding scope of modern medicine, and poses a variety of problems. [Umirzakova, N.A. 2020: p.217].

Today, bioethics as a new field is facing the following threats to humankind today:

- experimenting with people who are new forms of totalitarianism and violence and manipulating human organs;
- selection of people;
- loss of natural ability to reproduce;
- family crisis;
- destabilization of human relations as a result of the introduction of trade in medicine.

Most of the problems of bioethics go back a long way. The rapid development of biomedical sciences and technologies observed in the last quarter of the last century is a direct source of the problems under consideration in bioethics. These problems are causing serious debate and controversy in society. In solving them, people rely not only on rational arguments, but also on tradition, values and feelings. The growth of social sensitivity to the innovations and achievements of modern science has become a universal phenomenon. As a result of the negative effects of scientific and technological progress, it puts on the

agenda practical tasks for the regulation of experimental research on humanity. The social recognition of scientific discoveries further strengthens the social responsibility of scientists. Thus, the International Military Tribunal adopted the Nuremberg Code [Nuremberg. [www.psychepravo.ru](http://www.psychepravo.ru)], adopted in 1947 on the basis of the materials and protocols of medical experiments in Nazi Germany, the first document of universal social importance to the problem of social responsibility of scientists. This code demonstrated for the first time that the spiritual-moral boundary that separates good from evil is unreliable. The Hippocratic oath did not prevent German physicians from conducting brutal experiments on prisoners of war. In experiments with individuals who were the object (victims) of the experiments of German physicians, the effects of high altitudes and dilute air on the organism were studied. Dachau concentration camp [Dachau. [www.regnum.ru](http://www.regnum.ru)] Prisoners, Jews, Poles and Russians were tested on the effects of oxygen deficiency on the human body in atmospheric conditions typical of an altitude of 12 km. The person undergoing the experiment usually died within half an hour. This experimental report consistently describes the stages of a person's pre-death suffering (spasmodic convulsions, convulsive breathing, wheezing, screaming, malaria of the hands and feet, wrinkles of the face, biting of the tongue, inability to speak). These experiments, conducted to help German pilots, were later supplemented by the results of a cold tolerance study. In it, prisoners of war are kept naked in the cold to 29 degrees for 9-14 hours and left in cold water for several hours. Transplant-related experiments were mainly performed at the Ravensbruck concentration camp [Ravensbruck. [www.ru.qaz.wiki](http://www.ru.qaz.wiki)] was held in the detainees, and a shovel bone was removed from one of them for transplantation. At the Dachau concentration camp, the possibilities of using seawater for drinking were explored. In order to further reduce such attitudes towards people, by the 1970s, UNESCO had begun to discuss ethical issues internationally in the sciences related to life. UNESCO has commissioned ethics experts to study the ethical rationality of the goals of scholars, politicians, judges, journalists, and civil servants who aim to build civil society.

Paragraph 7 of the Declaration on the Use of Scientific and Technological Development for Human Welfare and Peace, adopted by UN General Assembly Resolution 3384 of 10 November 1971 "All States shall take all necessary measures, including the enactment of appropriate legislation, to enable the full enjoyment of the rights and fundamental freedoms of man, without the discrimination of any person on the basis of race, sex, language or religion" [[www.un.org](http://www.un.org)]. In addition, Article 8 of the Declaration states that "All States must take steps to prevent the misuse of scientific and technological advances to the detriment of human rights, fundamental freedoms and dignity." [[www.un.org](http://www.un.org)] was highlighted.

In 1993, the UNESCO Bioethics Program was established. Since 2002, bioethics has been one of the priorities of UNESCO. An important result of the program was the 1997 session of the 29th session of the UNESCO General

Conference on Human Genes and Rights [UNESCO. [www.internet-law.ru](http://www.internet-law.ru)]. Also, "On Bioethics and Human Rights" adopted at the 33rd session of the UNESCO General Conference on October 19, 2005 [UNESCO. [www.lex.uz](http://www.lex.uz)] a universal declaration was adopted. In accordance with its charter, the UN has adopted several international agreements on bioethics. These include:

- "Declaration on human cloning" [UN. [www.un.org](http://www.un.org)] (UN Resolution 59/280 of March 8, 2005);
- "On the Principles of Medical Ethics Concerning the Role of Health in Protecting Prisoners, Detainees and Other Cruel, Inhuman or Degrading Treatment or Punishment" [UN. [www.un.org](http://www.un.org)] (UN Resolution 37/194 of 18 December 1982);
- "On the use of scientific and technological progress for the benefit of mankind and peace" [UN. [www.un.org](http://www.un.org)] (UN Resolution 3384 of 10 November 1975).

From this perspective, we see that the role of bioethics in society is growing. One of the important provisions of the Nuremberg Code, which is specific to bioethics, is the prohibition of experimenting on it without the voluntary consent of man. Even today, it is not difficult to see that the Nuremberg Code is still in force, and that the coronavirus pandemic COVID-19, which is now causing the whole world to stand on its own two feet, and the vaccine against it, are happening at will.

## **CONCLUSION**

In general, the important social task of science ethics is to cultivate the moral image of the scientist who studies science, to cultivate in him a sense of responsibility, which means that he is responsible for the fate of man and humanity. The social responsibility of a scientist is that his research does not focus on human peace, health, and the ecological balance of the environment. The activities of scientists who produce chemical and biological weapons against humanity in pursuit of various personal incomes cannot be justified in any way. From this we can draw such an important conclusion that the tasks of bioethics are increasingly relevant in the modern society in which medicine is developing. The presence of a person in such a situation becomes an artifact under certain conditions under the influence of medicalization, at a time when the boundary between life and death is "blurred". In such cases, the health care provider is faced with an ethical choice and in turn feels the need for bioethical counseling and training to resolve the conflict. We consider it necessary to establish international committees on bioethics, which will prevent all attempts to misuse the achievements of modern medicine for undesirable purposes, the use of bacteriological, chemical and nuclear weapons.

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