European Journal of Humanities and Educational Advancements (EJHEA)
Available Online at: https://www.scholarzest.com
Vol. 4 No.10, October 2023
ISSN: 2660-5589

HISTORY AND METHODOLOGY OF BIOGEN TECHNOLOGIES (ONTOLOGICAL-EPISTEMOLOGICAL ANALYSIS)

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Article history:

Received: August 14th 2023
Accepted: September 14th 2023
Published: October 16th 2023

Abstract:

The article examines the dynamics of development in the fields related to biogenic technology, and it is necessary to master the methodology of application in social activities with a scientific approach to the concepts of human artificial and natural intelligence. The biotechnological factor is one of the spheres of the country's development, and the history, present and future of this process is scientifically based on ontological and epistemological analysis.

Keywords: biotechnological process, biogenic technology, biogenic concept, technical ethics, ontology, epistemology, modern bioethics, biogenic history, methodology.

The philosophy of science and technology is an analysis of the methodological and epistemological foundations of modern scientific and technical knowledge. At present, modern science serves to understand the laws of the real world in a variety of forms and acts as a kind of creativity and a special social program. Thus, it can seen that the philosophical analysis of scientific knowledge represents a very rich history and a special section of the general system of modern philosophy of science.

In modern philosophy, there are two rational approaches to the analysis of scientific knowledge: the thematic approach and the logical-epistemological approach. Main attention is paid to the specific features of the developing philosophy of technology and its relationship with the philosophy of science.

Various skills are offered in a number of distinct regions of the modern world, and today we can see that the number of engineering disciplines of various profiles of interest to the philosophy of science and technology is increasing. One of them is an ontological and epistemological analysis of biogenic and biotechnological processes from the point of view of our research. Biotechnological processes, which are one of the most important discoveries of modern production, are currently becoming interesting for the philosophy of not only the technical industry, but also for a number of aspects that should be very attractive for research. The philosophy of science and technology is popular due to the penetration of biogenic technologies into almost all spheres of human existence.

Epistemological analysis of biogenic technologies is one of the current issues, while modern literature uses various production methods that define several directions for solving the problem of the relationship between science and technology.

Biogenic technologies are treated with caution and quality science in this intention. Coordinated all areas of art and science as independent processes to achieve strategic goals. It develops with scientific orientation and technological progress. As a result of the ontological and epistemological analysis of the science, philosophy, the science of biogenic technology are all the same at the front of the technical field. Until the end of the 19th century, there was no application of scientific knowledge in engineering practice, which is typical for modern scientific research and technology.

This is often the reason why life sciences are confused with practical technical sciences. Technical sciences are a set of special scientific and technical disciplines that differ significantly from the natural sciences, but there are invisible connections between them. The philosophy of science and technology gives us the opportunity to understand how science is important and necessary, especially by showing us what to take as a starting point.

The history of the development of biotechnology and biogenic technologies shows that its necessity is determined by the needs of people to improve conditions and quality of life. As a form of scientific activity, it is universal in nature and is closely connected with almost all areas of economic life. Biotechnology, having taken its place in the system of knowledge and activity, performs the most important social functions. These are the followings:

- transformational;
- translation of a person's social experience;
- selection of information and communication;
- value-oriented economy;
- ideological world view and so on.

Indeed, as a result of our research, it is clear that the biotechnological dimension of humans is becoming the subject of philosophical, ethical and social research. We believe that "ethics, historically understood as a practical philosophy, that is, primarily as the basis of moral choice and a criterion for the moral assessment of human actions, was a strong impetus for its development in the tasks posed by modern biomedicine"[1]. [Биоэтика: принципы, правила, проблемы. Отв. ред. Юдин Б.Г. М., "Эдиториал УРСС", 1998.]. This impulse has led to the interdisciplinary penetration of bioethics into humanitarian studies of biotechnological processes, as well as moving beyond conservative views of biotechnology and biotechnology and exploring ideas about the influence of human factors. Human, as a perfect creation of nature, in many ways the choice of a person's point of view is connected with what is a priority: there was a health, personal, social or social welfare issue.

The idea of biotechnology is not to recognize the duty of responsibility itself, but to justify what that responsibility is or how that responsibility can be presented. Human, in other words, we are talking about the justification and recognition of certain universal principles, on the one hand, the philosophical, ethical and social-humanitarian analysis of specific issues, on the other hand, we analyze situations arising from the introduction of biotechnologies.

Thus, it is concluded that the development of biotechnology and its history show that it is based on human needs, which can be called vital. From the earliest bioproducts to the latest biotechnologies, there is a process of improving methods of teaching the use of living organisms for the benefit of humans. Biotechnology in its development, reflecting sociocultural needs, became more and more complex, and its penetration into the depths of vital knowledge became more dangerous.

Ethical reflection of technological conditions, goals and consequences, production of technologies, use and storage are an effective method that focuses on the area of decisions that must be made in such a way as to take into account the ethical aspect. "The strategy and mechanisms of innovative development of our country are closely related to the effective use of the intellectual, scientific and technical potential created in this country. Currently, there are more than 300 research institutions, higher educational institutions, experimental and construction organizations, scientific and production enterprises, small innovation centers and other scientific and technical structures in our country"[2]. [Mirziyoyev Sh.M. Strategy of the new Uzbekistan // T.: Uzbekistan, 2021, p. 237.]

In technical ethics, on the one hand, the normative rules of the logic of decisions and actions of technical practice and the practice of political technology are implemented, on the other hand, the interrelation of the methodology of ordinary ethics is realized. First of all, the thematic core of technical ethics consists of technical conflicts with their moral rules, since these are conflicts not only over technical means, but also over ideas about the future, images of man and society. They are closely related to questions about what kind of society we want to live in and what kind of human form we accept in doing so.

The work of biotechnology is universal in nature and is associated with the production of knowledge in the field of special products - methods, techniques and technologies of biosynthesis. President Shavkat Mirziyoyev emphasized that "Today life itself requires us to develop an effective system, create a professional, fast and efficient public service system, open a wide path for modern, enterprising, patriotic personnel.[3] Мирзиёев Ш.М. Халқимизнинг розилиги бизнинг фаолиятимизга берилган энг олий баҳодир. 2-жилд, -Т.: Ўзбекистон, 2018. –Б. 90]. Here, the starting point for the analysis of technology should be its content side, that is to say the "technology" of activity, the activity side of technology. In recent years, technology has been an activity organized in the form of technical rules, and one of its main features is reproducibility. The use of a "technical" feature ensures the invariability of the state of the "goal-means" relationship and training in a specific type of activity. Therefore, sociocultural context is important in defining the boundary between "technical" and "non-technical". The technical category is a social construction, and the distinction "technical - non-technical" is not ontological, but pragmatic and is the result of reflection on the immutability of actions performed.

The philosophy of technology, both practical and theoretical, found its place in philosophy quite late. However, as biotechnology began to occupy an important place in modern society, and epistemological and activity-theoretical, as well as socio-cultural problems associated with it began to attract increasing interest, its importance has increased, especially from the point of view of processing technical innovation. It is no coincidence that the philosophy of technology has a transformative influence on the culture of technological development and arose at a time when the rate of technical change was unpredictable. Early work in the philosophy of technology was also linked to discussions of the Industrial Revolution, optimistically emphasizing the progressive role of technology in expanding human activity. The new philosophy of technology was focused on the differentiated interaction of technology of the current century with society, on the "creation" of technical artifacts about the 70s of the 20th century. The goal of analytical philosophy of technology can be seen in "the differentiated study of technical development in historical and systematic aspects." The systematic-theoretical explanation of technology is considered as a "pragmatic social philosophy of technology". It emphasizes the inclusion of technology in social relations and the overcoming of essentialistic or Platonic ideas in the philosophy of technology. This is due to the fact that technical progress does not follow a natural evolutionary path, but is, at least in principle, a planned, determined process, and science is not free enterprise, but is included in social

[1] Кириш йилда Биоетика. Остида ед. Юдина В. G., Тишченко Р. D. М.: Тараққиёт-Анъана, 1998. Билан. 10.

[2] Мирзиёев Ш.М. Янги Ўзбекистон стратегияси // Т.: Ўзбекистон, 2021, 237-бет.

[3] Мирзиёев Ш.М. Халқимизнинг розилиги бизнинг фаолиятимизга берилган энг олий баҳодир. 2-жилд, -Т.: Ўзбекистон, 2018. –Б. 90

practice. The integrative potential of general systems theory is involved to express a global model of any technology. Explaining existing technology means it can be used for new purposes. Thus, these considerations represent a significant progress in the philosophy of technology.

Philosophy of technology as a specific area of philosophical knowledge arose more than a hundred years ago. The book of the German philosopher Ernst Kapp (1808-1896) "The main directions of the philosophy of technology, the history of the emergence of culture from a new side" was published in 1877. Ernest Kapp was the first to combine the two previously incompatible concepts of philosophy and technology. According to Kapp, tools are an extension of human organs. This idea was expressed by majority, but Kapp was the first who develop it systematically. The unconscious ideal of invention is a human organ that needs to be strengthened. The shape of the instrument depends on the shape of the corresponding organ. Examples: railway - blood circulation, telegraph - nervous system, etc[4]. [Academic Research in Educational Sciences Volume 3 | Special Issue 2 | 2022 ISSN: 2181-1385 Cite-Factor: 0,89 | SIS: 1,12 | ASI-Factor: 1,3 | SJIF: 5,7 | UIF: 6,1].

In the twentieth century, technology and its development became the object of systematic, comprehensive and multifaceted research. We can say that during this period there is an increasing need for a philosophical understanding of a technical phenomenon and its creation in the engineering environment itself. Technology is considered instrumentally as the engine of technology, as a means of changing nature, and also as a cultural phenomenon in interaction with scientific knowledge. With the formation of such concepts as the "human-machine" and "science-technology" systems, the basic elements of the philosophy of technology were appeared.

By the 21st century, in parallel with the development of the theoretical philosophy of biogenic and biotechnological technologies, it appears as a practical philosophy of independent human ethics. As for the field of study of modern philosophy of technology - "technical practices", its aim is to explain, reconstruct and justify the working conditions of technical rules and statements and their meaning in various technical practices. Thus, the theoretical philosophy of technology is understood as a theory of technical activity. Its mission is to offer a systematic and rational reconstruction and critique of these goal-directed practices, such as clarifying the problems associated with discussing the social implications of technology. Thus, the philosophy of technology has a methodological approach to the philosophy of science. Describing the real genetic connections of technical progress is not only a task for the philosophy of technology, but also a subject of sociological research.

However, the theoretical philosophy of biotechnology is related to the theory of planning and decision making and therefore to the practical philosophy of technology. In biotechnology, all the world's organic products, reserves of primary and secondary photosynthesis products can serve as raw materials. However, in biotechnology, not all specific types of microorganisms are capable of digesting food products and organic raw materials (except lactose, sucrose and starch) without prior chemical treatment. The German philosopher K. Jaspers views technology as a system of tools: "Technology appears when mediating means are introduced to achieve a goal. Direct actions, such as breathing, moving, eating, are not yet called techniques. Only when these processes are performed incorrectly and deliberate efforts are made to perform them correctly, one speaks on breathing techniques and others – he said[5]".[Karl Theodor Jaspers (German: Karl Theodor Jaspers; February 23, 1883, Oldenburg - February 26, 1969, Basel) - German philosopher, psychologist and psychiatrist, one of the prominent representatives of the philosophy of existentialism.. Jaspers K. Introduction to philosophy. - Minsk: Propylaeus, 2000. - P. 109. , Jaspers K. World Philosophy of History. Introduction / Transl. K.V. Loschevskaya. - St. Petersburg: Nauka, 2000.// https: //ru.wikipedia.org/wiki/]. In addition to this definition of technology, we can consider the positions expressed by the following intellectuals. Technology as a system of tools:

1) according to G. Simmel and G. Spencer, it is neutral in relation to the goal and can be used as a means of saving;

2) according to Gottl-Ottilienfeld, it is a set of balanced methods and auxiliary means for the development of nature and serves as a "procedure for performing these actions" to economically satisfy needs and prevent certain actions;

3) according to K. Jaspers, it serves to facilitate and shape our existence.

Thus, technology can be defined as a system of artificial organs of social activity, which is a historical process of human denial of functions, skills, experience and knowledge in natural activities. This process is carried out through knowledge and use of the forces and laws of nature. That is why, as the First President noted, "Today we live in a very tense and difficult time, which is changing at a rapid pace and is fundamentally different from the times that humanity has experienced so far... Some call it the age of high technology, others name it the age of thought, and others interpret it the age of universal information[6]."

[4] file://tehnika-falsafasini-inson-va-zhamiyat-ayotidagi-rni.pdf //Academic Research in Educational Sciences Volume 3 | Special Issue 2 | 2022 ISSN: 2181-1385 Cite-Factor: 0,89 | SIS: 1,12 | ASI-Factor: 1,3 | SJIF: 5,7 | UIF: 6,1

[5] Карл Теодо́р Я́сперс (нем. Karl Theodor Jaspers; 23 февраль 1883, Ольденбург — 26 февраль 1969, Базель) — немис файласуфи, психолог ва психиатри, экзистенциализм фалсафасининг кўзга кўринган вакилларидан бири..Ясперс К. Введение в философию.– Минск:Пропилеи,2000. – С.109. , Ясперс К. Всемирная история философии. Введение. / Пер. К. В. Лощевской.- СПб.: Наука, 2000.// https: //ru.wikipedia .org/wiki/ %D0%AF% D1%81%D0%BF% D0%B5%D1%80%D1%81,_%D0%9A%D0%B0%D1%80%D0%BB

[6] [6] Каримов И.А. Юксак маънавият-енгилмас куч. Тошкент, "Маънавият" 2008 йил, 110 бет.

Based on the above, we can conclude that advanced biotechnologies can play an important role in improving the quality of life and human health, ensuring economic and social growth of countries (especially developing countries).

New diagnostics, vaccines and medicines can be obtained through biotechnology. Biotechnology can help improve yields of major grain crops, which is especially important for global population growth. In many countries where large amounts of biomass are unused or underutilized, biotechnology can offer ways to convert it into valuable products, as well as to produce various types of biofuels through bioprocessing. Futhermore, by the help of clear plan and management, biotechnology can be used as a means of rural industrialization in small areas to create small industries, which will ensure more active development of empty territories and solve the problem of employment.

From the point of view of a socio-philosophical approach to the study of biotechnology, this phenomenon is described as a special type of scientific work aimed at obtaining knowledge about living organisms or their systems, as well as methods and technologies for using the products of their vital activity. activities to meet social needs.

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