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The Phenomenon of Technology and its Socio-Philosophical Problems

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Abstract: The article considers the types of philosophical approaches to the concept of technology. Modern interpretation of technology and its role in society. The historical emergence of technology, research by a number of philosophers on the first science of technology is analyzed. The main reason for the acceleration of processes in the life of society is considered to be technological progress, which has raised human activity to a new level. Scientific engineering innovations are analyzed.

Keywords: technique, technology, theocentrism, anthropocentrism, steam boilers, spinning machines, machine tools, steamboats, steam engines, locomotives.

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Introduction: Philosophy of technology is one of the directions of philosophy in modern interpretation. The most general laws of development of technology, engineering and technical activities, design sciences are the subjects intended for study. In addition, the philosophy of technology studies how technology is related to other types of human activity - science, art, engineering, design, practical activity; does technology really threaten our civilization as many philosophers have argued; what is the impact of technology on people and nature; what are the prospects for technology development and change.

Technology (Greek: "techne" - art, skill, skill) is a system of human activity and artificial organs of society. Technique is an artifact (artificial formation), which is specially created by a person (master, technician, engineer).

Techniques are labor tools created as a result of human change of reality, which constantly grows as a result of adaptation of needs. It also activates tools aimed at achieving specific goals and solving specific problems. It summarizes the skills, abilities, methods, methods, operations necessary for the successful implementation of this or that activity.

As well as being a part of culture, technology challenges nature, art, language, all living things, and certain concepts related to humans. The development of technology is one of the ways to explain human existence and determines the harmony of its civilization.

Literature review: In different historical periods, the term "technology" was introduced with different meanings. In the ancient times, technology was understood as human ability to work, art, skill. In the conditions of handicraft production, the skill passed from generation to generation is

of great importance, but the role of labor tools in the production process is also increasing. Technique is not only the art of the worker, but also means of his work. During the Industrial Revolution of the 17th century, craftsmanship faded into the background and technology became a material means of production. Nowadays, technology is more widely understood as artificially created means of human activity.

The history of technology dates back to the dawn of civilization. During the 6th-5th millennium BC, between the 2nd and 1st millennium BC, huge empires and states - Ancient Egypt, Sumer and Babylon, ancient India and China - were created. At the core of this culture, new cultural centers were formed in ancient kingdoms.

By this time, diagrams, calculation algorithms were used in the construction of temples, palaces and other structures with the help of drawings within the scope of technical activities. However, numbers, drawings, calculation algorithms were not yet considered as technical knowledge, because they were not considered as knowledge at all. These recipes (algorithms) were considered sacred wisdom belonging to the scribe, priest, royal servant. It should be noted that in ancient times the practice was understood as magical and sacred.

Research Methodology: In antiquity, science did not have the practice of engineering in the modern sense, but there was an attempt to logically, rationally explain and justify how the craftsman and builder create this or that product. The creation of material bodies had to be explained within the framework of knowledge and science. Therefore, in antiquity, the knowledge of the "starting point" and "causation" of the creation of things was related to scientific views.

Archimedes is considered the founder of "scientific craft". As a mechanic, he created statics and hydraulics. Equilibrium of the Plane states that equal weights at equal distances balance each other. Archimedes proves that two quantities, measured or invariant, maintain equilibrium at distances proportional to them. It defines how to find the center of gravity of geometric objects.

In Floating Bodies, Archimedes discovered the fundamental law of hydrostatics. He entered science as Archimedes' law, and Heron created the first model of a steam engine, but in practice this discovery did not go far.

However, despite the fact that a small group of scientists and technicians (Eudoxus, Archytas, Hipparchus, Ptolemy, and Archimedes) mastered this science in the ancient culture, these inventions were considered a pure form of art. In general, the idea of combining science and technology was rejected as poor research.

Technical theories are being formed on the basis of ancient science. The core of this process can be found in ancient mathematics itself. For example, the grouping of theorems can be seen in Euclid's "Beginnings". It is very similar to the group of technical knowledge (technical theories in oscillation cycles, kinematic schemes describing classes of homogeneous ideal objects, heat and electric machines, etc.). Euclid combines mathematical knowledge describing classes of homogeneous objects into separate books.

Analysis and results: How does ancient technical science differ from modern technical science of classical type? In antiquity, the social language of technical science, that is, the scheme and concepts specific to technical science, did not exist. With the help of links of different languages, imperfect drawings are raised to the level of a field with a scientific and technical basis. (At the end of the 19th century - the beginning of the 20th century, this point was repeated again).

Thus, rational, scientific thinking had a certain influence on the development of ancient technology. As the main rule of technological thinking, special forms of consciousness are formed for the development of ancient philosophy and technology, which arose for the first time on the basis of rational views in science. In the Middle Ages, a revision of the archaic (pagan) and ancient cultural-theoretical heritage takes place.

Human practical action, including technical action, is effective if it is supported by God. The idea of the closeness of divine and human creation. For example, the technique of creating churches, temples, icons and other church buildings. In these cases, crafts and church activities always preceded prayers and fasts, which accompanied the production process. The form and structure of all such structures are determined not only on the basis of tradition, canon, prescription, but also on the basis of the Divine nature (essence) of these structures.

By the time of the renaissance, there was an interchange between the types of worldviews, anthropocentrism began to take the place of theocentrism. The creator of the universe is not God, but man, thanks to pantheism, the view that man is capable of everything like God has appeared. Man was imagined as a creator, creator, and his active creative and practical possibilities were estimated to be limitless.

A new understanding of nature is being formed. As a result of influencing the laws of nature, its essence began to be studied. A system of knowledge aimed at using the laws of nature, the primary forces and energy of nature was created.

Since this period, man has had the opportunity to use materials, forces, and energies from the concepts of nature on the condition that he scientifically substantiates the laws of nature. Leonardo da Vinci (1452 - 1519) - a great Italian artist and scientist (anatomist, mathematician, physicist, naturalist) completely restored the practice of knowledge based on experience in his scientific work. In his opinion, practice is in harmony with theory.

It was this approach that allowed Leonardo da Vinci to become a great scientist and a great inventor. He developed many technical projects in hydraulic engineering, martial arts, maritime and other fields.

Galileo Galilei (1564 - 1642) - Italian physicist, mechanic, astronomer, philosopher and mathematician, actually continued the path set by Leonardo da Vinci in scientific knowledge.

During his lifetime, Galileo's scientific views on the heliocentric world brought him into serious conflict with the Catholic Church.

From a methodological point of view, Galileo further develops the empirical method developed by Bernardino Telesio (1508 - 1588), the founder of Italian natural philosophy, in contrast to the axiomatic method of Aristotle's natural philosophy (physics). Experience G. It was only understood mechanically by Galileo, as he eventually reduced mechanical motion to mathematical relations.

Galileo was the first to turn his scientific experiment (direct observation of natural phenomena) into a test-experiment. Here the correspondence between theory and natural phenomena was technically (artificially) established. In other words, in the experiment, nature always differs from the theory, but at the time of the test, nature is brought to a state that meets the requirements of the theory, and therefore behaves according to the laws discovered theoretically in science.

Conclusion/Recommendation: Thanks to his experimental method, G. Galileo was able to lay the foundation not only for the knowledge of experimental natural science, but actually laid the foundation for engineering. Galileo accurately described the trajectory of bodies moving along an inclined plane, developed the mathematical theory of the pendulum, created the theory of free fall of bodies, established the laws of inertia that make up the classical principle of relativity, and derived the corresponding transformation group. On the other hand, it further developed the tradition of using rigorous theoretical calculations to solve practical technical problems. He took an important step towards the formation of scientific and technical knowledge, a new type of knowledge.

For an engineer, any object is considered a process that creates technical tasks, on the one hand, it occurs as a natural phenomenon obeying the laws of nature, and on the other hand, it is considered as a structure of mechanisms, machines and equipment that must be built artificially. forced to rely on science that creates natural processes, forced to rely on natural technology based on bodies and structures.

In the 18th century, the industrial and production revolution took place in England, then in the European continent and in the United States, and the need for a new type of modification of the engineering devices increased in number. (steam boilers and spinning machines, machine tools, steamers, steam engines, locomotives, etc.). As a result of these processes, it led to the formation of separate technical sciences.

Thus, the need for the development of technology has brought human consciousness and activity to a new level. Technology - speeded up the life of society, new types of labor tools were discovered, and production efficiency was increased several times.

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