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FORMATION OF SCIENCE AS A PROFESSIONAL ACTIVITY

Abstract: This article discusses the formation of science as a professional activity

Key words: science, secular character, critical attitude, objective truth, practical utility.

ФОРМИРОВАНИЕ НАУКИ КАК ПРОФЕССИОНАЛЬНАЯ ДЕЯТЕЛЬНОСТЬ

Аннотация: В статье рассматривается становление науки как профессиональной деятельности.

Ключевые слова: наука, светский характер, критическое отношение, объективная правда, практическая полезность.

The formation of science as a professional activity dates back to the 16th-17th centuries. It was during this period that something almost tangibly significant happens: science turns into a special institution, announces its goals and those rules that will be followed by those who devote their lives to studying things “as they are.” The image of modern science was determined in the era of modern times. I. Newton, G. Galilei, F. Bacon, R. Descartes considered the main values of the new science to be its secular character, critical attitude, objective truth, and practical usefulness.

The real emergence of science into the world, i.e. its institutionalization was preceded by a broad social movement under the slogans of democratic reforms, which put forward bold projects for the development of research activities in the knowledge of nature.

1660 is the date of birth of a new social phenomenon, the emergence of the Royal Society of Naturalists of London, approved by the Royal Charter in

1662. The Royal Society of London united amateur scientists into a voluntary organization with a certain charter, which was sanctioned by the highest state authority of that time - the king.

1666 - Creation of a similar organization in Paris in many respects - the Academy of Sciences.

These institutions marked a public recognition of the victory of a certain intellectual mentality, which originated much earlier (XIII-XIV centuries) and which was called “experimental or natural philosophy.” The founding of these institutions led to the first written decisions regarding research programs and the main content components of the concept of "science".

As we can see, science is institutionalized for the first time in the form of philosophy, albeit a special, “experimental” one, which made it possible to formulate certain scientific norms and establish requirements for their observance. Let's pay attention to the fact that the science of that period was divorced from education - the scientist of the 17th century is mostly an amateur. Professional science or technical education simply did not exist yet.

The wave of social movement, on the crest of which new institutions appeared, included the struggle against the authority of antiquity, awareness of the possibility of progress, democracy, orientation towards high goals of serving society, pedagogical ideals and the spirit of humanitarianism, interest in people.

It should be noted, however, that the formation of natural science in that period did not pose the problem of restructuring traditional cultural values, adapting them to the values of science. “Science has achieved legitimacy,” writes the German sociologist Van den Deil, "not through the imposition of its values on society as a whole, but through the guarantee it gives of non-interference in the activities of the dominant institutions." In other words, science began with the fact that it sharply limited itself from other cultural phenomena and their values, i.e. from religion, morality, education. Only these

guarantees of non-interference in other spheres gave her the opportunity to survive in the arena of social action of that time.

For example, in the charter of the Royal Society of London, which was formulated by Robert Hooke, it is written that the purpose of the society is "to improve knowledge of its natural subjects and all useful arts ... through experiments (without interfering with theology, metaphysics, morality, politics, grammar, rhetoric and logic).

Science has paid a fairly high price for its transformation into an institution recognized by society. This payment consisted in the renunciation of all dangerous slogans and goals that until recently associated science with the broad democratic movement for the renewal of education, for political and social reforms. From now on, the existence of natural science was normatively fixed, and in the 17th century, a completely new social role appeared - that of a natural scientist, which now had to be played out according to completely definite rules.

What to today's view seems to be a matter of purely personal reflection of scientists, a consequence of her self-determination, an indispensable component of her self-image - that is, the demarcation of the border separating science from non-science was in the 17th century, a historical compromise, which pursued not so much some substantive goals of science as used the possible to get a "place in the sun" in the social and cultural space of that time.

But then the science of modern times gradually begins to move away from religious views of the world, it is characterized by the opposition of man and nature, the invasion of natural objectivity and its transformation, taking into account its own interests.

Science is experiential knowledge, in the 17th century, never tired of repeating it. The king himself, in the First Charter of the Royal Society, emphasizes this orientation: "We especially welcome those philosophical studies that are supported by solid experiments and are aimed either at expanding the

new philosophy or improving the old one." Historians note that the Royal Society has striven to promote and support experienced science. A hypothesis put forward by someone was tested experimentally, in an experiment, and was either accepted and preserved, or inevitably rejected if the evidence of an empirical fact was unfavorable for her. Members of the community rejected work performed according to other standards. So, in 1663, a certain Eckard Leichner, who proposed a work of philosophical and theological content for discussion at a meeting of the society, was given an answer; "The Royal Society is not interested in knowledge of scholastic and theological matters, as its sole task is to cultivate knowledge of nature and the beneficial arts through observation and experiment and to expand it for the safety and well-being of mankind. These are the boundaries of the activities of the British Assembly of Philosophers, as defined by the Royal Charter, and its members do not consider it possible to violate these boundaries." The refusal to the other author sounded just as firm and even less polite: "You cannot fail to know that the purpose of this Royal Institution is to advance natural knowledge through experimentation, and within this purpose, among other pursuits, its members invite all capable people, wherever they are. nor were they to study the Book of Nature, and not the writings of witty people."

The very understanding of science also changed. According to scientists of the New Age, it should stop being contemplative and observant. A breakthrough in her understanding was the discovery of the experimental basis of science. Ancient culture knew only the theoretical and logical foundations of science, but this was not enough in the era when science declared itself as a relatively independent cultural phenomenon. Science could develop, defining its own foundations, which should include experimental research, and in a broader sense, the methodological foundations of rationalism and empiricism.

Particular merit belongs to F. Bacon, who fixes the emergence of science as a triune whole (a system of specialized knowledge and its constant

reproduction and renewal, a social institution and a form of spiritual production). He expresses the aphorism "Knowledge is power". The purpose of science is to increase the strength and power of people, to provide them with a rich and dignified life. However, many attacks have been made on science. After analyzing them, Bacon came to the conclusion that God did not forbid the knowledge of nature, as, for example, theologians claim. On the contrary, He gave man a mind that longs for the knowledge of the Universe.

In connection with the formation of science as a professional activity, a new model of education emerged, which was aimed at training not only theoretical scientists, but also practical scientists (engineers). For England and France, who initially did not accept the "German model" of education, this turned into a sharp cultural lag. The cult of amateur scientists, so characteristic of England, turned out to be the loss of leadership in science for her. The transformation of science into a profession completes the process of its formation. Now scientific research is becoming a recognizedly important, stable sociocultural tradition, enshrined in a multitude of conscious norms, a matter so serious that the state takes some of the trouble to maintain this profession at the proper level, and this is done in order to protect generally significant national interests.

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