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SOCIOCULTURAL RISKS OF USING MODERN TECHNOLOGIES

Victoria Kotlyarova (a)*, Sergey Novikov (b)
*Corresponding author

(a) Institute of Service and Business (branch) Don State Technical University in Shakhty,
147, Shevchenko Str., Shakhty, Rostov region, Russia,
Biktoria66@mail.ru, +79085096120
(b) Institute of Service and Business (branch) Don State Technical University in Shakhty,
147, Shevchenko Str., Shakhty, Rostov region, Russia,
novik198@yandex.ru,+79185442327

Abstract

The aim of the article is to analyze possible sociocultural consequences of the use of modern technologies in a situation of acute value and moral crisis of science and culture. The study of the prospects and risks of the influence of modern technologies on spiritual and moral values needs serious philosophical reflection. The exponential distribution of information and communication technologies produces threats and challenges to humans. The driving forces of scientific and technological progress are fundamental scientific and technological developments based on comprehensive informatization and access to information resources. Changes in the status of science in modern society mean radical shifts in the relationship between science and society. This is due to transformations in mechanisms of consumption of scientific and technical knowledge. The purpose of scientific research is not so much the receipt of truth as the creation of a product corresponding to the modern level of technological development of society. Informatization of science changes the course of scientific communication. Computer simulation replaces material experiments. Realizing all advantages of the development of the latest scientific technologies, one cannot ignore the fact that they bring not only new solutions and opportunities, but also new problems and risks. We associate main risks of the practice of using the latest technologies with two factors: first, the danger of their use and their imperfection; secondly, the moral and ethical side of the issue, the attitude towards a person as a subject of targeted manipulation, rational regulation of its social and individual behavior.

Keywords: Science, technology, culture, value.

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1. Introduction

The rapid development of modern science and scientific technology is becoming today not only an integral part of culture, but also the semantic center of a globalizing world. The relevance of the research topic we see, first of all, in the need to clarify the essence of the risks of scientific progress, which is developing so rapidly that it actually changes not only the natural but also the social reality, as well as the person himself as a psychobiological creature, and individual, spiritual, moral and value characteristics that are inherent to him.

The exponential distribution of new technologies produces threats and challenges to a person, changes his world perception, lays down the essential contradictions of a person's self-knowledge, defining the ways of formation and prospects of using its intellect, its degree of freedom in a network society. Understanding this range of problems lies in the plane of the modern philosophy of science. After all, science is the sphere of the generation of the informatization era, which reloads the communications system in economics, politics, alters the cultural picture of the world and requires transformations of all systems of society that correspond to its needs.

2. Problem Statement

The leading problem of the study is that the modern world has entered a more difficult period of development. A prominent feature of the modern world is the emergence of a global communication space. Information technology rapidly broke into our lives and changed it. During the last decades, production and software-technological means were developed and introduced, the complex use of which greatly accelerated the collection, processing and dissemination of information. This means the expansion and enrichment of channels, tools, information exchange tools, the emergence and distribution of new tools, communication models based on electronic technologies. The change in the communication space is manifested in the impact on all aspects of the life of both society and the individual, on the shaping of the entire cultural system. Obviously, science is subjected to such influences in its various characteristics - as a social institution, and as a cognitive activity, and as a system of knowledge.

At the end of XX - the beginning of the XXI century, thanks to the rapid development of new technologies, conditions for a qualitatively new stage in the development of the socio-cultural environment as a whole were formed. Changes taking place in the world directly affect such foundations of human existence, society and culture, such as spirituality, morality, moral self-regulation. The reality is that in modern society the main emphasis on human self-regulation is shifting towards the regulation of his behavior, psyche, morality, and even biogenetic nature by means of modern science and technology.

3. Research Questions

The modern era is the period of transition to the third generation of the development of social relations, which is characterized by the transition from industrial society to the informatization of society, the world is entering a new, third stage of civilization, the fate of which will be played by information communication tools, which will be based on computer systems (Toffler, 2002). The development of information technologies causes a transformation of the information relations of society, which, in turn,

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affecting individual and mass consciousness, generate a historically new form of public consciousness and become, according to McLuhan (1994), "new natural resources" (Madison, 2011).

The driving forces of scientific and technological progress are fundamental scientific and technological changes based on comprehensive informatization and access to information resources that do not have absolute quantitative restrictions and are capable of replication and self-development. The deep penetration of the latest scientific technologies in all spheres of life and human activity is the main driving force of modern social transformations. Such experts in the theory of the information society as D. Bell, E. Giddens, V.L. Inozemtsev, M. Kastels, G. G. Pocheptsov, A. Toffler, A. Turen, F. Uebster, Iu. Khabermas, and others.

Scientists are increasingly raising issues related to the prospects and risks of the development of modern science. The study of social change in risk societies holds a special place in the study of social processes (Williams, 2006). The information society itself is a risk society, and the risk society itself is an information society (Pinter, 2003).

Changes in the status of science in modern society mean radical shifts in the relationship between science and society, which has a historical character, depends on logical and conceptual dimensions (Uddin & Hamiduzzaman, 2009). This is due to transformations in the mechanisms of consumption of scientific and technical knowledge. In the information society there is a pragmatization of knowledge, the advantage of the installation on innovation and the utilization of knowledge. The status of modern science is shaped into the field of consumption, knowledge is assessed as a product, service, resource, and science itself is turning into its new form - techno-science, merging more and more firmly with technology.

4. Purpose of the Study

The purpose of the article is to analyze the possible sociocultural consequences of the use of modern technologies in a situation of acute value and moral crisis of both science and culture, when the growth of the capabilities of science is ahead of the growth of spirituality and value self-consciousness of man and society. The tasks of the article are:

- study of new trends in science related to the transition to the information society;
- exploring the possibilities and consequences of the impact of modern information and communication technologies on the consciousness and psyche of man and society;
- study of changes in the characteristics of modern informational and communicative reality;
- determination of sociocultural and anthropological risks of using other modern scientific technologies.

5. Research Methods

Research methods include phenomenological, system-functional, interval approaches, as well as moral and ethical reflection of the consequences of the use of modern technologies, analysis of the value content of information flows that create modern information reality. Methodologically appropriate for this study is also the use of axiological approach. In this case, the application of an axiological approach is one of the ways to identify the direction in which not only science but also culture is moving, by analyzing its

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dominant values. Such an epistemological procedure looks, in our opinion, completely correct, since values are directly connected with the moral meanings of culture, which determine both the needs of its subjects and the direction of development.

6. Findings

The possibilities of modern science are very impressive. The introduction of scientific and technological activism to the circulation contributes to the understanding of the growth of the technological impact initiated by techno-science on natural and social development. There is an understanding of the development of society and civilization from the perspective of technometaphor, which emphasizes the technologization of modern forms of development. A number of foreign researchers express the view that science possesses "a kind of epistemic reliability", which is lacking in other forms of research (Hughes, 2012).

The purpose of scientific research is not so much the receipt of truth, as the creation of a product corresponding to the modern level of technological development of society and the criteria for comfort consumption. The American scientist Thagard (2012) cites a number of examples when "science becomes biased, since epistemological values are infringed upon in favor of social or personal values" (p. 39). This is fully consistent with the requirements of a global economy focused on maximizing profits. The emergence of the techno-science phenomenon as a new form of interaction between science, production and business was the result of the reorientation of the goals of scientific research towards the realization of innovations that bring profits from their sale on the market. Science has ceased to be a matter of individual talents and geniuses; Today, it resembles a workshop for the development of new knowledge, new technologies and technology, a kind of "scientific market" (Perez-Llantada, 2012).

Informatization of science changes the course of scientific communication. The modern language of science is becoming less and less mathematized (Lassiter, 2016). At one time, G. Galileo argued that the Universe can be known only by learning to understand the language of mathematics. Today, the pathos about the role of mathematics and its language in scientific knowledge is often replaced by skepticism, criticism and doubt (as cited in Kotlyarova, Polozhenkova, Shubina, & Mogilevskaya, 2018).

Scientists use computers at all stages of their work: finding basic information on a topic, planning an experiment, theoretical analysis, representation of results, and so on. Computer modeling replaces material experiments. Epistemic goals of model studies often partly derive from non-epistemological interests and values (Parker & Winsberg, 2018). Not only the theorists of philosophy, but also leading scientists argue about the relationship between modeling and scientific knowledge (Laszlo, 2000). Formed by the specializations of a society of scientists with the help of the Internet can solve various problems. In such cases, the problem is not the type of communication itself, but the search for the optimal use of its capabilities and advantages. Modern science cannot do without communication links, carried out according to certain rules.

Great difficulty for scientific research forms the flow of information, which is steadily increasing. A person cannot physically be fully acquainted with information concerning even the narrow topic of her scientific interests. When the field of science is experiencing rapid progress in a short period of time, it may be followed by a period in which new discoveries are harder to find (Cohen, 2017). The consequences of

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this crisis are an increase in the duplication of research, a decrease in the level of competence of specialists, etc. It is obvious that new advances in the field of information technology create new problems. The introduction of innovations requires an understanding of their possible negative consequences, that is, responsibility (both individual and institutional).

At the same time, it is worth remembering that science is not only a means of finding the truth, but also a powerful means of realizing the needs of man and society (Elliott & McKaughan, 2014). Note that there is an inextricable link between needs and morality, values, a picture of the world and the concept of truth. In the conditions of rapid technological and methodological development of science, which can be called rapid progress, science, nevertheless, is in a deep value crisis, in a crisis of meaning.

In the information society, it becomes difficult to talk about the conscious choice of attitudes, morals and values. In addition, it is necessary to take into account the specifics of human consciousness, which Fromm (1993) pointed to, arguing that along with conscious values there are unconscious values. It is becoming less and less clear – what is the benefit and what is the evil of using modern scientific technologies for humans. It should be noted that a person who unconsciously perceives the values listed by Fromm (1993), generated by the social system, has a basis for their assimilation in his own psychosomatic nature, physicality. The development of new scientific technologies involves, above all, improving the prospects for the life of the body, improving the safety and comfort of its existence.

When the information society produces the values listed by Fromm (1993), they are easily, effortlessly and of any kind of reflection assimilated and accepted as a boon. But human nature is not perfect, and therefore, unconscious values can both exist and easily be introduced into the subconscious by means of information technologies. However, these will be lower-order values that take into account the needs of the psychosomatic nature of man and, moreover, hypertrophy this nature.

Man has always been inherent in the desire to become the master of nature, to go beyond his own limits, to achieve physical and spiritual perfection, as well as perfection in the social structure (hence the emergence of social utopias, and the desire for revolutionary transformations of society). Today, thanks to the development of technology, humanity allegedly approached its dream. But at least two serious questions have arisen – how human intervention in the course of natural processes will affect the environment and for what purpose certain scientific discoveries can be used. This results in a whole series of questions no longer of a purely technological nature (it is possible to put this or that discovery into practice), but a moral one – whether a person can afford to use this knowledge and what consequences this may lead to in the future.

For example, nanotechnologies find a wide scope of application – in electronics, medicine, ecology, aviation, astronautics. At the same time, the technological mastery of nanoworld, a complex set of physical, chemical, biological processes that occur in it, allows mankind to establish control over such areas of life as the production of the strategic resources of civilization (that is matter, energy, information), the human genome, the genome of all living things on our planet, etc. (Grunwald, 2012). It is obvious that the potential of nanotechnology will touch the fundamental principles of nature's existence Thus, science dramatically expands the possibilities of practical use of their knowledge.

If we turn to modern biotechnologies, there is every reason to say that the era of man's conquest of himself may soon come, as today new technologies are being opened so that man can make himself a subject

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and object of purposeful transformation. The technologies that have appeared in biology make it possible to control the physical and mental nature of man.

We believe that there is not enough purely scientific substantiation of the benefits or harm of the introduction of the developments of biological technologies. You cannot fully rely on the attitude of society to this issue, because society for the most part does not have real knowledge about the perfection or imperfection of such technologies, and is not always able to assess the real anthropological, psychological, sociocultural risks associated with the realization of the possibilities of modern science in practice. Therefore, in our opinion, we need precisely the philosophical reflection of this problem.

We associate the main risks of the practice of using biological technologies with two factors: first, the danger of their use and their imperfection; secondly, with the moral and ethical side of the question of treating a person as a subject of purposeful manipulation, rational regulation of its social and individual behavior. But such an attitude, in fact, has become the norm for a long time.

It cannot be said that in the history of mankind the means of regulating the individual and mass consciousness (and, consequently, the behavior) of people have never been used. However, the opportunities that were used previously (ideology, cultural, national, religious, moral values, etc.) left a person a chance for a free ideological and moral choice. As for the current state of affairs, combining ideological, psychosomatic, economic, political, and informational regulation into one, and, most importantly, legalizing the very idea of regulation, creates an entirely new world (McLuhan, 1994). Today, other technologies are added to this, which again brings us back to the question of the scientist's responsibility for the results of his research to humanity.

The desire of man to control is observed not only in relation to other people, but also social and natural processes. Modern fundamental science creates grandiose megaprojects – the human Genome, Artificial superintellekt, etc. But one cannot help but recall that fundamental science is not in itself facing human existence on the planet and the technology industry generated by it, but the thirst for their creators of total power over global evolution physical, chemical, biological and social spaces. That is why we consider it expedient to include the analysis of moral and value components in the research structure of technology science and technology at the present stage of science development.

7. Conclusion

Science performs two groups of functions – cognitive and social. Obviously, both groups have undergone significant changes in the information society. The cognitive function of science becomes, in a sense, secondary, secondary. Society creates inquiries about new technologies, not about explaining phenomena; it is enough that science allows them to change. In other words, the truth in modern techno-science is not the ideal of cognitive activity – its place was taken by the efficiency and adaptability of the methods used.

Thanks to the development of modern information and communication technologies, society has long ago deviated from natural harmony not only in the technocratic, ecological sense, lifestyle, in its moral foundations, but also has come to an abnormal, artificial situation of human being in a directional information flow. Realizing all the advantages of the development of the latest scientific technologies, it is impossible not to take into account that they bring with them not only new solutions and opportunities, but

also new problems and risks. In addition, the information revolution opens up broad opportunities to influence mass consciousness, even at great distances. This influence is enhanced by globalization processes.

Today we are witnessing attempts at the socio-rational regulation of not only human consciousness with the help of information and communication other scientific technologies, but also the regulation of the human biological nature itself, attempts to plan a "desired being" with a certain set of phenotypic and mental characteristics using biological, genotypically transforming and medical technologies.

We plan to conduct further research in the direction of studying the transformation of the moral values of the information society, since they play the main role in the social order for new scientific research.

References

Cohen, B. (2017). *Point of View: How should novelty be valued in science?* Retrieved from: https://elifesciences.org/articles/28699

Elliott, K., & McKaughan, D. (2014). Nonepistemic values and the multiple goals of science. *Philosophy of Science, 81,* 1–21.

Fromm, E. (1993). *Psychoanalysis and ethics*. Moscow: Respublika.

Grunwald, A. (2012). *Responsible nanobiotechnology: Philosophy and ethics (Book).* London, United Kingdom: PublisherTaylor & Francis Ltd. Retrieved from: http://bookzz.org/book/ 2091191/77504d

Hughes, A. L. (2012). The Folly of Scientism. *The New Atlantis, 37, 32–50.*

Kotlyarova, V., Polozhenkova, E., Shubina, M., & Mogilevskaya, G. (2018). Language Games in the Scientific Discourse. *Modern Journal of Language Teaching Methods, 8*(9), 409–415.

Lassiter, C. (2016). Aristotle and distributed language: capacity, matter, structure, and languaging. *Language Sciences, 53,* 8–20.

Laszlo, P. (2000). Playing with Molecular Models. *HYLE – International Journal for Philosophy of Chemistry, 6*(1), 85–97.

Madison, A. (2011). *Marshall McLuhan and Information Wars.* Retrieved from: http://www.mcluhan.ru/ articles/marshall-maklyuen-i-informacionnye-vojny/

McLuhan, M. (1994). *Understanding Media: The Extensions of Man. Cambridge.* London: MIT Press.

Parker, W. S., & Winsberg, E. (2018). Values and evidence: how models make a difference. *European Journal for Philosophy of Science, 8*(1), 25–142.

Perez-Llantada, C. (2012). *Scientific Discourse and the Rhetoric of Globalization: The Impact of Culture and Language.* Continuum.

Pinter, R. (2003). Conceptualizing information society as risk society. *Conceptualizing information society: periodica polytechnica ser. Soc. Man. SCI, 11*(1), 35–44.

Thagard, P. (2012). *The Cognitive Science of Science: Explanation, Discovery, and Conceptual Change.* Cambridge: MIT Press.

Toffler, E. (2002). *Third Wave.* Moscow: AST Moskva.

Uddin, M., & Hamiduzzaman, M. (2009). The Philosophy of Science in Social Research. *The Journal of International Social Research, 2*(6), 654–664.

Williams, R. (2006). Public Choices and Social Learning: The New Multimedia Technologies in Europe. *The Information Society, 16,* 251–262.