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# INFORMATION AND COMMUNICATION TECHNOLOGIES AS A TOOL OF SOCIO-CULTURAL TRANSFORMATION

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## INTRODUCTION

Since its inception, technology has been a unique means of transforming human society. Nowadays, technology is increasingly influencing different aspects of society, both positively and negatively, contributing to the formation of a global man-made environment. Despite the importance of engineering and technology in socio-cultural changes, today, on the one hand, we must note something late understanding the whole importance of this issue. Moreover, there is a perception that technology is outside of culture, and that people, technology, are subject to it. In fact, it is a crisis situation in relation to engineering and technology in general, which requires a comprehensive analysis of their position and role in socio-cultural processes.

On the other hand, the need for a humanitarian study of the technology phenomenon is mainly related to the contradiction of two attitudes: a) over-optimistic assessment of the achievements and prospects of modern technological development, and b) extremely critical attitude to technological progress in society (especially in the humanitarian environment). This approach to technology and technology is due to the fact that due to the peculiarities of their development, they pose a number of problems to cultural studies; in particular, it is a question of changes in culture, exploration of development trends, etc. Consideration of the technology role and technology in socio-cultural transformations is an urgent scientific, cultural, task, since "first of all, it is necessary to overcome the naturalistic, instrumental representation of technology. It should be replaced by an understanding of technology, on the one hand, as a manifestation of complex intellectual and socio-cultural processes ... on the other, as a particular habitat of a person, which imposes on him environmental archetypes, rhythms of functioning, aesthetic images, etc"[1].

One cannot disagree with the cultural scientist V. Rozin that "… public participation in the discussion and modern technology evaluation is one of the prerequisites for the formation of a new understanding of technology and overcoming the crisis of techno genic civilization. Efforts are equally important in other directions: breeding technology and sociality, discussing

[1] Rozin, V.M. (2018). Istoriya i filosofiya nauki. Moscow: "Yurayt", p. 48.

new types of sociality necessary for the modern person and for the future, analyzing and minimizing the negative consequences of scientific and technological development, criticizing technocratic discourse, changing the traditional scientific and engineering picture of the world, reforms in the field of technical and humanitarian education, the creation of social institutions focused on new types of sociality, and much more. The movement in this direction is already visible, although so far it is only trends, only individual sprouts and foci of new life, which are hardly making their way against the background of the <… > rapid development of the structures of techno genic civilization… "[2].

## 1. Scientific and technological progress as a factor in the development of a "techno genic" society

Technique was used by mankind at all stages of its development, it is a natural process and "in fact, the technical basis is the man's activity and culture"[3]. However, today, in the era of the so-called techno genic civilization, the engineering development and technology, despite all its advantages, has become threatening to man. This is reflected in the quantitative and qualitative variety of technical means, as well as in their deep penetration into the modern man's life and society as a whole, which become largely dependent on the techno genic environment, which ultimately determines the comprehensive impact of technology on socio-cultural reality. The main features of a techno genic society are the growing role of the interaction of the sciences, the interdisciplinary study of global problems; internationalization of all human activity; techno sphere formation; increasing the socio-cultural significance of information activities; increasing the level of general and special education; formation of "mass culture"; the emergence of new human problems as a person related to the change in lifestyle and pace, the cultural system and moral values, etc.

The study of engineering and technology as the basis of techno genic civilization and as a means of sociocultural transformation is directly related to the identification of the scientific essence and technological progress, which is usually understood as a single, interdependent, progressive development of science and technology, the origins of which are derived from manufactory XVI–XVIII centuries as scientific, theoretical and technical

[2] Rozin, V.M. (2018). Istoriya i filosofiya nauki. Moscow: "Yurayt", p. 48.

[3] Rozin, V.M. (2006). Ponyatie i sovremennyie kontseptsii tehniki. Glava 5. Krizis tehnogennoy tsivilizatsii i puti vyihoda iz nego. URL: https://gtmarket.ru/laboratory/basis/5612/5617.

activities begin to converge[4]. Before that scientific and technological progress have been two, albeit indirect, but relatively separate areas of human activity[5]. It was during the period of manufactory production that the first scientific and technical elements of large industry began to develop, which became the basis for the development of the industrial revolution – the first stage of scientific and technological progress. The second stage of scientific and technological progress is characterized by the fact that science and technology mutually stimulate each other's development at an accelerated rate, which was made possible by machine production, which opened new, unprecedented opportunities for technological application of science[6]. It is the combination of science and technology that has become a decisive factor in the rapid development of technology and technology. The acceleration of technological progress has been influenced and continues to be influenced by many areas of the social sciences, such as economics and production organization, the logic of technical creativity, etc., as well as fundamentally new ideas in the fields of biology, psychology, linguistics, etc. Thus, science is constantly revolutionizing technology, which, in turn, constantly stimulates the progress of science, putting before it new requirements and tasks: "technological progress in the history of mankind has taken place to a certain extent by one and the same pattern: the continuous growth of technical improvement is not only the continuous process of social transformation, but also intensified, expanded the latter, and the specificity of socio-cultural forms of organization and transformation largely determined and technological progress"[7].

And finally, the third stage of scientific and technological progress, which began in the mid-1950s, it is related to the scientific deployment and technological revolution, it is a qualitative leap in the productive forces development, the transformation of science into a leading factor in production, etc. Modern scientific and technological progress covers not only industry as it once was, but also education, transport, communications, medicine, agriculture, spheres of administration and everyday life, etc., which testifies to the progressive, revolutionary society's changes. Today, progress is based on accelerated mutual science development, engineering and technology, increasing technological determinism of social life and, accordingly, increasing rates of socio-cultural change. It is a "powerful social process connected with the radical transformation of the nature of productive activity

[4] Volkov, G.N. (2011). Nauchno-tehnicheskiy progress. In *Bolshaya sovetskaya entsiklopediya*. URL: https://dic.academic.ru/contents.nsf/bse.

[5] Ibid.

[6] Ibid.

[7] Filosofiya nauki i tehniki. (2003) / pod red. V. V. Ilina. Moscow: Izdatel'stvo MGTU im. N.E. Baumana, p. 167.

through the widespread displacement of living labor, the rationalization and life's intellectualization through the transformation of the knowledge power into a direct and largely decisive technological force"[8]. Such a scientific and technological revolution was made possible by the breakthrough technologies that not only accelerated the technological development of civilization from different directions, but also led to significant socio-cultural transformations. Among the most significant technologies, besides steam engine and internal combustion engine, electric power and aircraft construction, etc., information technologies are especially distinguished, which have become an extremely effective catalyst for, first of all, economic activity and scientific and technological, and then socio-cultural transformations, and after behind them so-called high-tech, rapidly evolving technologies: nanotechnology and biotechnology, etc. However, the main characteristic of the scientific and technological revolution is not the great scientific discoveries, not the restructuring of the entire technological mode of production, namely the receipt on the basis of scientific and technological progress of positive socio-cultural transformations: it affects all society's aspects, including culture, people's psychology, the relationship of society with nature, changing consciousness and person's thinking, etc. For comparison, according to experts of the Organization for Economic Cooperation and Development, in the middle of XX century the rate of economic growth was determined by the progress of technology by 38% and by the end of the same century – by 65%. It is generally accepted that this factor accounts for about 75% of labor productivity growth, more than 50% of national income growth, significantly reducing the cost of production. According to the British Labor Commission, 60% increase in the overall efficiency of US and Japanese industry is due to changes in technology[9].

Such a scientific and technological revolution is also called informational, based on the revolutionary changes brought by information technologies in different spheres of society, in which there is a combination of society, bio and techno sphere into a single whole and strengthening the role of the latter in socio-natural and socio-cultural processes. It is about the formation of the techno sphere as the basis of the artificial material world. It is the technical side of the information revolution that has given impetus to a new culture development, an emerging information society culture. However, the most important result of the development of information and telecommunications technologies is the mutual proliferation process of cultures. Such processes on

[8] Filosofiya nauki i tehniki. (2003) / pod red. V. V. Ilina. Moscow: Izdatel'stvo MGTU im. N.E. Baumana, p. 5.

[9] Khodykina, V.V. (2005). Mizhnarodna naukovo-tekhnichna integhracija Ukrajiny v konteksti strateghiji innovacijnogho rozvytku. PhD Thesis. Donecjk.

a rather limited scale occurred in ancient times, but only in the second half, especially at the end of the nineteenth century, this process has become universal. Thanks to radio, television, cinema, the Internet and other media, the intervention of American mass culture, as well as the authoritative cultural standards of Europe and some Asian regions, into the spiritual and the world cultural space has begun. Technological means, especially the mass media, have made a decisive impact here, because information technologies are culturally diverse in general. That is, it is a culturally diverse information technology function whose essence is that they have an auto generation effect and computers and computer programs can and are being used to produce similar artifacts on an expanding scale.

The information revolution development has expanded the "field of opportunity" for development, creation, creativity and meeting more and more new needs. Human needs, human choices have become increasingly decisive determinants of scientific and technological, economic and social development. There is an "increase in the intellectual and behavioral autonomy of the individual"[10]. In addition, there is a weakening of connections between social groups and individuals, their social and group identity blurring, etc. The determination of group cultures is replaced by the convergence and averaging of lifestyles, behavior's motives and norms, which is expressed in the concepts of "mass person", "mass culture", "mass", which puts the person in a position of cultural and psychological loneliness. In addition, it is necessary to ascertain the degradation of culture and morality, the marginalization of large sections of the population, the change in values, ideals, modern man needs, etc.

It is worth noting that the methods of mathematical description and information measurement were used in the development of the theory in the information society that appealed to the ever-increasing amount of information, which, in fact, stated the increase of communicative acts, whereas their "efficiency", i.e the growth rate of the new knowledge could remain zero. Because of this lack of information concepts, critical theories have emerged almost simultaneously in the social and human sciences, claiming that the information revolution not only causes the knowledge formation society but, on the contrary, creates an environment in which the production of new knowledge becomes problematic. This situation prompted the theoretical and methodological need to disclose the substantive component of the technological and technological process, stipulating the use of the concept of "knowledge revolution", which just reflects the qualitative changes in the ways of producing new knowledge.

[10] Vasilchuk, Yu.A. (1991). Epoha NTR: masshtabyi peremen. *Polis*, 1–3, p. 57.

As a result of the differentiation of the “information” and “knowledge” concepts to reveal the essence of the phenomena of information and knowledge revolutions and their comparisons, researchers such as G. Schiller, A. Bart and others concluded that the information revolution is not accompanied by knowledge, but rather hinders it. The reason for this is the unstructured, contradictory and fragmentary continuous information flow, which leads to the formation of an equally contradictory and fragmentary picture of the world. In addition, the modern information technology development has created a special sign reality, consisting of a continuous stream of simulacra that people do not know or understand, and which is emotionally responsive.

Considering, first and foremost, the techno and technologically determined processes and phenomena that are most closely connected with the computer technology development and scientific fields that are directly related to this kind of technology, other scientists argue about the onset of the computer revolution, noting when that it is impossible to delineate its boundaries in such a way as to separate it from other components of those processes which are characterized as the aforementioned “scientific and technical revolution”, “information revolution”, “knowledge revolution”, “society’s information” etc.

However, no matter what you call the latest revolution – whether information, knowledge, or computer, it is because of revolutionary changes that scientists have been able to build virtual models and manipulate them, to process vast arrays of primary information, to instantly obtain scientific information from any it’s repositories in any country. Scientific discoveries and inventions immediately become common property. Education on the basis of information and communication technologies becomes public, continuous, distance, significantly increases the speed and efficiency of mastering new knowledge and skills of the younger generation. The ability to spread new ethical standards is facilitated. A planetary spiritual space is formed, a world foundation, which represents the values of every nation, ethnicity, every civilization, and from which anyone can absorb them according to their needs and individual taste. Thus, the information revolution has become, in fact, a new socio-cultural phenomenon that has shaped modern civilization. However, it should be borne in mind that the danger of an information revolution in the humanitarian sphere is less obvious, but more threatening in the long run, as it is at odds with the humanization of society.

When examining the engineering impact and technology on culture, one must take into account the type of sociality that has developed in recent

centuries[11]. "As long as we think that technology is the main thing, that major social problems are solved on its basis, that the well-being of humanity is directly related to the modern technologies development, we will continue to contribute to the deepening crisis of our civilization. Although technology plays an enormous role in our anthropogenic civilization, from the perspective of development perspectives it is necessary to promote the understanding that these things are different. The existing type of sociality can no longer satisfy us, the conviction that major social problems can be solved on the basis of technology, is increasingly becoming a destructive moment. Any society and culture assume technique, but are not completely defined by the latter"[12]. Technology should be seen as a phenomenon, as part of the culture of modernity, which significantly influences the spiritual values, socio-cultural relations of civilization, but nothing more.

Therefore, the main contradiction of modern techno genic civilization is that modern technology, on the one hand, opens unprecedented opportunities for satisfaction and even to create human needs, and on the other, creates the danger of destroying the very foundations of human existence. The French professor of economics J. Jecreo, critically reflecting on the economic foundations of modern society, clearly characterized the socio-cultural contradictions of techno genic society: "Never has our ability to produce wealth been so great, never has our inability to direct this prosperity for the benefit of all people been so evident"[13]. Thus, the magnitude and pace of changes in social life, which the scientific and technological revolution brings with it, with unprecedented still urgency, necessitate timely and as complete as possible prediction of the totality of their consequences in different spheres of life of modern society, including in the culture sphere.

## 2. Contradictory impact of technology on modern society

As noted above, the development of techno genic society is contradictory because, against the background of increasing scientific and technical and technological rationalization of not only production but also human life conditions, there are negative processes in these and other spheres. Initially, the scientific and technological revolution was seen as a consequence of the industrial revolution, but as the sociocultural consequences of the scientific and technological revolution became more obvious and irreversible, within the limits

[11] Rozin, V.M. (2018). Istoriya i filosofiya nauki. Moscow: "Yurayt", p. 48.

[12] Ibid.

[13] Généreux, J. (2001). Manifeste pour l'économie humaine. *Esprit*, 7. URL: https://esprit.presse.fr/article/genereux-jacques/manifeste-pour-l-economie-humaine-9022?folder=2.

of technological radicalism and social conservatism, concepts began to emerge, the authors opposed to the technological revolution of the sociocultural changes. Certainly, speaking of the technology's role in the socio-cultural progress of civilization, one cannot fall into the extreme and one-sidedness associated with the exaggeration of the technology's role and its capabilities as perhaps the only tool of human progress. This is clearly and distinctly demonstrated by technocratic theories based on the doctrine of the transition of management and power in production and in society from owners and politicians to engineering and technical intelligentsia (technocracy) and management specialists who emerge as the main "driving force" of progress. Technocratic theories reflected the increasing importance of science and technology in social relations in the face of the scientific and technological revolution. On the basis of technocratic determinism, the principle of determining the role of technology in socio-cultural progress was formulated, the essence of which is that technology possesses "autonomy of development" (including in the sense of independence from socio-cultural control), and technical development is understood as progress (in that sense, that all, without exception, technical innovations are progressive), which does not experience any deterministic influence on the part of other social phenomena, on the contrary, acting as the final determinant of all social transformations and cultures s modifications[14]. That is, a characteristic feature of technical optimism is the idealization of technology, the overestimation of its development potential: technology is seen as the sole or paramount determinant of socio-cultural progress.

Technical pessimism is characterized by the negation of technology and, accordingly, the finding of the crisis of modern civilization, responsible for declaring large-scale technological development and principles that underpin modern industrial and technological civilization: orientation to increasing consumption and the advantage of socio-cultural innovations. The increasing anthropogenic filling on the biosphere causes its compensatory potential to be on the verge, and therefore its transition to a new state unsuitable for human life is quite possible: "a catastrophe can explode completely unexpectedly and so quickly that no action can change anything"[15]. Representatives of technical pessimism are of the opinion that the techno genic environment "tightens, deforms and, finally, threatens the complete destruction of those areas that are either unique gifts of nature or unique gifts of culture", and as an alternative, increasingly call for the rejection of rational for the benefit of, alternatively, the

[14] Filosofiya tehniki. (2013). In *Noveyshiy filosofskiy slovar*. URL: https://www.gumer.info/ bogoslov_Buks/Philos/ New_Dict/852.p.

[15] Moiseev, N. (1992). Prirodnyiy faktor i krizisyi tsivilizatsii. URL: http://ecsocman.hse.ru/data/817/ 807/1231/08-Moiseev.pdf.

religious renewal of humanity, or the reduction of man-made load by limiting further technological growth. Thus, according to the estimates of M.M. Moiseev, a scientist known for his fundamental works in the field of modern rationalism, in order for mankind to be able to fit into the "natural" biosphere cycles, it is necessary to reduce the level of satisfaction of his needs by about 10, and the US in general 50 times[16]. Some countries are trying to follow such recommendations, but in practice they are often faced with the situation of the strongest opposition, caused by uneven technological development of different regions, countries that develop their industry sees in expanding techno sphere only path to economic prosperity and technological leaders do not want to lose their advantage. In addition, some scientists, talking about the crisis, are forced to admit that leaving it is impossible without further development of such components of the process of civilization, as the development of productive forces, as well as the achievements of science and technology[17].

Thus, without appropriate socio-cultural transformations of society, it is impossible to solve the economic and socio-cultural contradictions of modern techno genic society. In this connection, particular attention should be paid to such questions as the level of conformity of modern society to the modern level of techno genic civilization, whether the pace of rapid scientific and technological revolution requires the same rapid transformations of society, and whether it is the last stimulus of these transformations? Undoubtedly, scientific and technological progress in the modern world must create the technical and economic, material basis of socio-cultural progress, thus, being one of the important components of society's progress in the interests of all people, then the science and technology successful development can contribute to solving the complex of economic and social cultures the tasks facing civilization, the creation of material and spiritual preconditions for the comprehensive and harmonious development and realization of the potential of the individual and humanity as a whole.

It is important to understand that global problems of techno genic civilization are a consequence of a historically predetermined way of being human, in other words, global problems are a by-product of the person's vital activity who seeks to survive and realize him in the course of historical development. However, people's activities, in addition to the results that are considered optimal, have negative consequences, which have exceeded the critical mass by now. It is with scientific and technological development that the emergence of global problems is connected, and more precisely with

[16] Moiseev, N.N. (1997). S myislyami o buduschem Rossii. Moscow.

[17] Obraschenie akademika Nikityi Moiseeva. (2012). URL: http://www.ccas.ru/manbios/moistestam_r.html.

technology that has reached the level of the ability to perform grandiose tasks of global influence, and technologies that have created a mechanism for the global impact of technology on the world around us: "a significant role in all global problems of 20th century history have been played by science and technology, which have added, in fact, this very global of events.

Originally technics was perceived as nothing more than a tool of work and the result of human activity, the improvement of which is aimed at solving all vital problems, as it develops, undergoes substantial changes that make it impossible to evaluate it unequivocally positively or negatively"[18].

Most of the global problems and their connection with the techno genic civilization is most clearly demonstrated by the ecological crisis and as a result of the continuous interaction of the biosphere and techno sphere. Another source of global problems is the conflict between technology that comprehensively embraces human life and traditional cultural values, the traditional way of life, which ultimately leads to the emergence and rapid change of modern paradigms, problems in the education of entire generations, anthropogenic and mental changes, etc.

Thus, the Industrial Revolution led to a sharp rise in man-made burden on the biosphere, which, unfortunately, and it is regarded as an infinite reservoir of resources for technical activities, and it could not but cause concern of the international community. Human pressure on the environment has become incomparable with it, the environment, and its ability to resist. By its economic activity, the person constantly violates the basic principles of the natural structure of the biosphere: thermal balance, the cycle of substances formed, the species and biological communities diversity, population stability, etc.[19] As a result, tense relationships between the techno sphere and the biosphere, expressed by the mismatch between the techno genic load and the biosphere's resources, have reached the ecological crisis level. The ways to solve the latter are reduced, mainly, to the halt of technological development and at least the reduction of the existing techno sphere (and often calls for a return to the "bosom of nature"), or to the strict control and regulation of techno genic development, especially potentially dangerous, in terms of technological possibilities catastrophes, productions. However, these measures should be combined with the simultaneous adaptation of humanity to the new socio-natural laws, although at best they will only be able to slow down anthropogenic degradation of the biosphere, but not stop it.

[18] Sultanova, Zh.B. (2005). Tehnika kak osnovanie sovremennoy kulturyi. *Filosofiya i buduschee tsivilizatsii*, 3, 553–554.

[19] Lobanova, Z.M. (2009). Ekologiya i zaschita biosferyi. Barnaul. URL: http://lzm.users.altstu.ru/book/glava1.html.

It is necessary to state that environmental ideas have not yet become the norm of technology development, so they should be given considerable attention.

The comprehensive impact of technology and techno culture on man, society and nature provoked a maturation and anthropological crisis, which covered the whole complex of human relationships. The person's behavior and his or her way of thinking change so much that the subject of anxiety was the degradation of the person himself or herself. Many see the way out of the crisis in the revival of spirituality and either in the form of traditional religions or in the form of developing and preaching a "new morality". But the practical implementation of these proposals is complicated by the same reasons that caused the ecological crisis: the widespread spread of technic and technology, including robotics, genetic engineering, and Nano and many other technologies that American scientist and programmer B. Joy calls evil in the extreme, which goes beyond the weapons of mass destruction[20]. But in trying to solve the problem of technical reality, some points should be taken into account: 1) technological development, not balanced with the interests of the biosphere, it is an objective process of realization of human nature, so that the global interaction of humanity as a whole is necessary to solve global problems; 2) the direction of techno genic development is further distancing new generations from the biosphere existence, and complete abandonment of technology is not only impossible but also harmful, making any attempts of people to "fit in" into the biosphere meaningless. Thus, a contradiction arises: humanity cannot live without the biosphere, and humanity cannot but change the biosphere. This is the main problem of modern civilization: how, as a person, to continue to realize its active and active nature? One of the members of the Roman Club E. Pestel offers an answer to this question: "not blind opposition to progress, but opposition to blind progress"[21].

Met technologies are increasingly becoming a "second nature", forming boundaries and setting the conditions for the development of the individual and humanity as a whole. In a sense, the words "second nature", created by met technologies, will become for the information society the same external constraint and impetus to development that the original "first" nature was for the original community. The main feature of met technologies is that the society that consumes them automatically loses the opportunity to compete with the societies producing these technologies, providing their developer with strategic subjugation of anyone and anyone who uses these technologies. Further revolutionary changes in the development of information technology related to the information superhighways evolution, designed to supply a large

[20] Dzhoy, B. (2007–2011). Pochemu myi ne nuzhnyi buduschemu. In *Globalnyie riski : sbornik statey*. URL: https://www.proza.ru/2009/10/15/107.

[21] Pestel, E. (1987). Za predelami rosta. URL: http://alt-future.narod.ru/Future/rome3.htm.

amount of information to its consumers on the basis of information infrastructure, to provide communication and information services[22].

The revolution in the field of computer and telecommunication technology, which is the material basis of society's information, marks the beginning of a new process in cultural genesis, which can be defined as demassification. Instead of modern television and radio channels, systems are emerging not only multi-channel, but also providing unlimited possibilities for individual choice of business, household, political, cultural, educational information. Information causes the emergence of new technologies and models of activity, another type of culture, which are becoming a single "organism" through information.

Person is increasingly spending his or her leisure time in a virtual, computer-engineered world. There is a sense of unity of the machine with the user, and the action of virtual objects is perceived by a person similar to the "usual" reality. Virtual reality allows you to discover and create new dimensions of culture and society, to bring to life the idea of a multiplicity of worlds. In turn, cyberspace makes it possible to overcome the existential limitations of reality. Education and entertainment are the most promising areas of technology. At the same time, the global information technology industry (radio, television and the Internet) is contributing to an unprecedented increase in misinformation, which has a contradictory psychological effect on the society, its individuals.

Recognizing the full benefits of the information society, it cannot be ignored that it brings with it not only new solutions and opportunities, but also new problems and risks, such as the inability to intelligently comprehend large amounts of information and, in this regard, the loss of stability; information manipulation and related stress; monopolies in information technology as a way of exploiting developing countries; total information control and restrictions on the dissemination of information and the latest information technologies. In addition, the question arises: will people be able to adapt to these changes, are ICTs creating new jobs or destroying existing ones? Will the complexity and high cost of modern technologies increase the gap between industrialized and less developed countries, young and younger generations, those who can handle them and who do not know them? It is obvious that the transition to mass use of the latest information and telecommunication technologies will inevitably create serious social stress, will give technical opportunity to groups of people who own media and communication to a certain extent and if necessary to control the whole society in general and each person separately.

[22] Praktika globalizatsii: igryi i pravila novoy epohi (2003) / pod red. M.G. Delyagina. Moscow: "INFRA-M". URL: http://www.imperativ.net/iprog/deliagin.htm.

Considering the potential of culture in this matter, it is its conservative component that should ensure in the rapidly changing external world the preservation of a stable, permanent essential component, which determines the purposeful progress of civilization and a common understanding of the nature and directions of the progress of humanity. In this movement, the most important criterion for the correctness of the chosen direction must be socio-cultural progress. Given the growing socio-cultural importance of technology and technology, their assessment should be made as they contribute, above all, to the complex development of society. This should determine the general direction of scientific and technological progress.

**CONCLUSIONS**

Socio-cultural progress is largely related to the technology progress and its application in the science development. In technology, humanity has accumulated its centuries-old experience, techniques, methods of cognition and transformation of nature, accordingly, it should be perceived as a means of socio-cultural transformations. The importance and role of technology in the socio-cultural development throughout human history has steadily increased, reaching today, in the era of techno genic civilization, an unprecedented level. The most important characteristic of the modern stage of civilization development is, on the one hand, the active formation of the information society, and on the other, the same society, which is comprehensively and increasingly covered by technology, and it is increasingly technological. The interaction of technology, information and traditional culture and their joint influence on modern civilization is extremely complex, giving rise to many socio-cultural problems of today. However, disputes about the future of technology concern not so much technology as the civilization future. Humanity is vitally interested in the future of technology, understood as the only common phenomenon of human culture, which has become a factor that largely determines the future development. Of course, the search for protective mechanisms must meet the requirements of protecting the biosphere from the negative effects of scientific and technological progress, excluding the complete abandonment of technology.

The cause of many techno problems is the emergence of a gap between technology and culture; in the predominance of the paradigm of the science and technology dominant role in the general development of civilization in a rather large period of society, in the emergence of this “mass culture”.

Therefore, the importance of the tasks and solutions to the problems facing cultural studies today requires the formation of a new paradigm of understanding and attitude to technology in society, including the definition of its role in contemporary culture and role among the instruments of socio-cultural transformation.

The spread of information technology, the emergence of a new information civilization requires the human values development designed to offset the impersonal nature of technology. In the information world one will have to cultivate humanity, strive for mutual understanding, to form a new picture of the world, civilizations. One of the fundamental principles in this movement should be the humanitarian understanding and use of technology from the standpoint of the public good.

**SUMMARY**

The article draws attention to the need to study techniques and technologies from the standpoint of cultural knowledge, which will allow overcoming the crisis in their attitude, to take into account their role in socio-cultural processes. Techniques and technologies are considered as the basis of techno genic civilization and as means of socio-cultural transformations. The latter are directly related to scientific and technological progress, in which the combination of science and technology has become a decisive factor in the engineering and technology rapid development. It is stated that the main characteristic of the scientific and technological revolution is not the great scientific discoveries, not the restructuring of the whole technological mode of production, namely obtaining on the basis of scientific and technological progress positive socio-cultural transformations. It is emphasized that engineering and technology should be considered as a phenomenon, as part of the culture of modernity, which significantly influences the spiritual values, socio-cultural relations of civilization, but nothing more. It is noted that a characteristic feature of technical optimism is the idealization of technology, the overestimation of its development potential: technology is regarded as the sole or paramount determinant of socio-cultural progress. Technical pessimism is characterized by the negation of technology and, accordingly, the finding of the crisis of modern civilization, responsible for declaring large-scale technological development and principles that underpin modern industrial and technological civilization: orientation to increasing consumption and the advantage of socio-cultural innovations. Considering the culture potential in the process of transition to mass use of the latest information and telecommunication technologies, it is its conservative component that should ensure in the rapidly changing external world the preservation of a stable, permanent essential component, which determines the purposeful progress of civilization and the general direction of movement and common sense.

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