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SOCIODEMOGRAPHIC ASPECTS OF SCIENTIFIC AND TECHNOLOGICAL PROGRESS: ATTITUDE AND OPINIONS OF RUSSIANS

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In this article the author, using examples from the recent past on data of the all-Russian polls, remarks on changing human environment innovations, which provide scientific and technical progress. The article investigates the impact assessment of the results of scientific and technical achievements, positive and negative predictions of the effects of an increasingly wide application of high-tech products in everyday life. A comparative sociological analysis of the studies' results, conducted in Russia and foreign countries regarding the impact of progress on humanity, is shown. The author's conclusions are presented: Russians refer to the achievements of scientific-technical progress as positive, but not so optimistic as, for example, Americans. The respondents are afraid of the intervention of new technologies in natural evolutionary and genetic processes, substitution of human relations to relations of order "technology and people", the proliferation of military equipment in civilian life. The author pays special attention to the role of women in environmental issues, which exhibits a strong response to the threats of environmental pollution and, as a rule, more critically perceive the environmental situation.

Keywords: *scientific and technological progress, technosphere, human environment, social risks, activity area*

Introduction

Today the problem of interaction between man and technology has resulted primarily from the fact that at the present stage of social development the interest in the theoretical analysis of the place and role of man in a technological world is increasing due to global technologisation of public life and active introduction of information technologies.

A. Toffler believes that the world seems hostile and afraid of the incomprehensible (Toffler, 1970). The author, introducing the notion of temporality, focuses on the high pace of the changes that stimulate scientific and technological progress, produce significant changes in daily

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way of life, worldview and culture. Scientific and technological achievements from the point of view of social and cultural meaning lie in the fact that they have actually become a tool that creates the problem of mankind in the world of engineering and technology.

J. T. Diebold, an expert on automation, warns that the consequences of the technological revolution we are now experiencing will be deeper than any social changes we have experienced before (Diebold, 1964).

Created technical reality does not leave the person the ability to manage it and predict its impact on nature and society. In this regard, there is a need for theoretical and sociological analysis of the technology-related environment, the analysis of how man creates a technology-related environment and how this environment creates the person.

The world around us and the person in the twentieth century has significantly changed due to the intensive activity of the social organism. Relying on rational justification, the ruling elite tried to remake society, nature and man. The results of this modification is not always consistent with the proposed plans. We should recognize not only the insufficiency of human efforts to remake society and the environment, but the lack of skills of the human mind to predict the results of their own activities. In addition, a new equal participant entered into the game. This is an artificial environment created by generations of people, made to improve human life and for the satisfaction of their wants. This is the technosphere, which has generated a new living environment changing the rhythms and patterns of social and cultural life, figurative representation, language, etc.

All processes are interlinked in society. Thus, demographic processes develop under the influence of other social processes: natural, economic, political, technological and others. For example, the achievements of scientific and technological progress have a significant impact not only on fertility and migration, but on mortality as well.

Dynamics of the crude death rate, birth rate, marriage rates, divorce rates, and migration depends on many exogenous and endogenous factors influencing people comprehensively and simultaneously. During radical reconstruction of the human environment, there are new exogenous factors of cumulative effects (for example, due to pollution). People are constantly exposed to various influences of external factors that enhance endogenous development of the aging process and reduce the viability of the organism. Gradually accumulating, endogenous factors cause death, usually in the older ages. The idea of cumulative effects of exogenous factors belongs to E. M. Andreev, who introduced the concept of quasi-homogeneous mortality occurring as a result and under the cumulative impact of environmental and social factors (Andreev, 1995).

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Genetic engineering added a lot of ethical dilemmas, dubious achievements of other innovative products. The consequences are poorly understood (mobile communications and other socially dangerous products with a delayed action effect) – all this repeats the situation of the beginning of the XXI century when people were interested in radioactivity.

The miraculous power of radium, put on stream, was actively advertised and promoted by the industry to highlight the resurfacing and rejuvenating effect, the exclusion of all diseases. So, the cosmetics brand "Tho-Radia", which was promoted with the slogan "scientific approach to beauty", contained chloride in addition to thorium, radium bromide and a lot of different radioactive elements, promising the female consumer the stimulation of life processes (Maximenko et al., 2015).

O. Spengler realized the complexity of the problem of man's relationship with technology, as he was far ahead of his contemporaries in the understanding of the phenomenon of technology and the effects of the global technologisation of life. Trends are summarized in his work *Man and machine*, many of which pose an immediate threat to the life of mankind. O. Spengler is one of the first who introduced the planetary scale associated with scientific and technological progress problems. We agree with H. Skolymovsky who claimed that philosophy of technology is the philosophy of our culture, and the philosophy of man in civilization has seen itself in a deadlock, where fragmentation and promiscuity threatens civilization. He recognizes that elected false language for their communication with nature (Skolymovsky, 1986).

Instilling a sense of strength, technique is the basic meaning of human existence, the development of technology, thus, establishing a criterion for the development of culture and civilization, the level of self-development. The idea of social progress occurs with the recognition of the primary role of technology for an urban lifestyle and is a consequence of technical development. The feeling of power of a person increases with the development of technology, turning in proportion to the level of technical development, the sense of absolute power.

Technology is fundamentally changing itself from the inside by a person changing their attitude to the surrounding world. The relation of inclusion, subordination, unity with the surrounding world are transformed into relations of exclusion, exclusivity and distance from nature.

Francis Fukuyama in his book *The End of History and the Last Man* writes – the experience of the twentieth century questioned the statement on progress on the basis of science and technology, as the ability of technological progress to improve the life of the people is inseparable from the parallel moral progress of man. This power of machines could be given to the purpose of evil, and humanity will be worse than it was

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before. Total war in the twentieth century would not have been possible if not for the main achievements of the industrial revolution: iron, steel, internal combustion engine and the plane. Fantastic growth of the economy, which created modern science, has a reverse side. This growth has led to serious environmental damage in many parts of the world and created the possibility of a global environmental catastrophe (Fukuyama, 1992).

Today the world is divided in its assessment of technology. The technophobes and the technocrats are at different semantic poles. These opposite points of view indicate the presence of contradictions. Technophobia absolutizes the possible negative consequences of technological development, paying attention to the fact that the technique may, in the course of its development, get out of control and enslave them. Technocrats absolutize the development of technology and believe that all the problems of humanity will be solved in the autonomous and self-sufficient development of technology and man must obey the technique itself.

Data and Methods

What is the Russians' attitude towards the achievements and consequences of scientific and technological progress in the XXI century? How will science and new technologies affect the quality and length of life? Which industries are the most risky and affect the health of the population and environmental pollution? How do the Russians refer to new products of scientific progress? What predictions do Russians give about the consequences of wide applications in everyday life of high-tech products?

We tried to determine a measurement of Russians' attitude towards the achievements and consequences of scientific and technological progress. On the one hand, through the measurement of the degree of influence of science and new technologies on the quality and length of life, on changes of health status and environmental pollution, on the other, through the measurement of their degree of anxiety in relation to specific social threats. Two groups of threats and risks were identified:

1) the threat of socio-economic, socio-political nature
2) the threats of metasocial order (problems of planetary security, natural disasters, ecology, major technological disasters, etc.).

We analyzed data of the all-Russian polls conducted by various sociological centers in the last 7 years.

From a sociological point of view, this information allows us to understand how Russians are critical of the achievements of scientific-technical progress. We can analyze their choices regarding technological innovations, have a culture of critical choice, and to understand whether there

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are risk management capabilities in the development of a man-made habitat.

We also wanted to explore the experts' opinion. We received the results of sociological research conducted in the framework of the project "Forecasting effort and social risks management of anthropogenic human-caused systems development over time human environment transformation processes". The research was conducted by scientists of Belgorod National Research University (Belgorod, Russia) in May 2015 by an all-Russian expert survey (N=120). It selected 10 regions of the Russian Federation with the maximum and minimum degree of riskogenics, as well as the type of city (with leading environmental subsystem, leading socio-cultural subsystem, and leading technology-related subsystem).

This choice is justified by the idea that the habitat of the human species initially included its biological (natural) feature.

The development of social relations has contributed to the allocation of other individual subsystems of the socio-cultural part of the human environment. The evolution of human thought creates a type of product and technical innovation in sociocultural subsystem habitat. The production development with the origin and epitome of the risk associated with industrialization can be considered the starting point of the formation and development of a new subsystem of human environment – a technology-related subsystem. A technology-related subsystem with the natural and socio-cultural subsystems of the environment acquires the properties of the separate subsystems and are closely interrelated.

In our opinion one of the selected subsystems is predominant in a particular city (region, country). In this regard, we attempted to determine the risk-forming factors of the particular subsystems that impact on the human activity of the population of one of 10 Russian regions. The survey of experts, whose activity is closely connected with one of the subsystems, was conducted for this purpose.

The expert survey was conducted on a formal questionnaire. The experts assessed the threats, causes and prevention of technology-related emergencies. The focus of the questionnaire is given to the condition of a man-made environment, the assessment of emerging risks and their impact on the social atmosphere in the region. In the future, the results of the expert survey will allow recommendations to the management aspect of the research problem to develop.

Characteristics of the sample: experts (industrial workers, public employees, employees of the emergency authorities, scientists, professors) with experience in the field of technology related environment, natural environment, information environment, socio-cultural environment.

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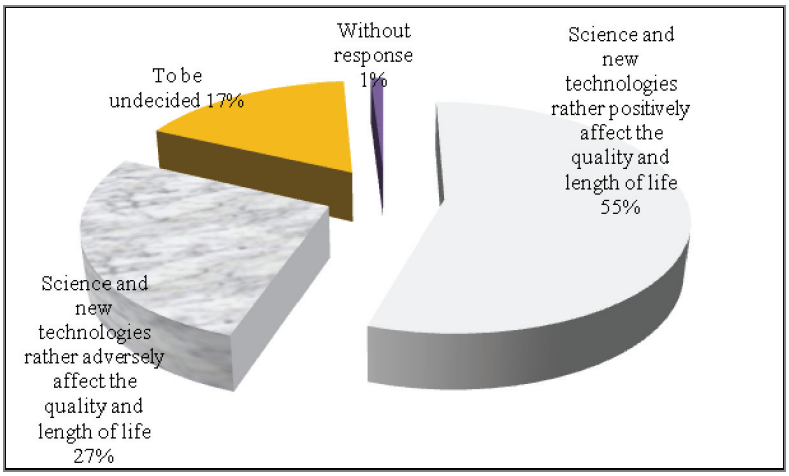
Results

The impact of science and new technologies was assessed by Russians in 2007 as rather positive, 55% of respondents believed new technologies can positively affect the length and quality of people's lives. Less than a third (27%) related to technological innovations negatively, fearing negative consequences from their appearance and use (Figure 1).

Figure 1

Russians' opinion about the impact of science and new technologies on the quality and length of life, 2007, %



Source: Russian Public Opinion Research Center (VCIOM) data.

We can note that males give more positive ratings as do people of a younger age and people with higher education. This trend seems right, as technological innovations are more familiar and perceived by the young generation through active involvement in the information environment and the consumption of gadgets/devices. A higher level of education does not allow the emergence of "household" fear and anxiety because of a misunderstanding of the essence of the emerging scientific and technological developments. Erudition and education enables the individual not to be afraid of progress. The science of knowledge, mastering the principles of the world development, lead to lower fears of the emergence of breakthroughs in science and technology.

VCIOM data correlate with a recent survey of Pew Research Center and Smithsonian magazine (2014) according to which we can conclude that the majority of Americans (59%) expect that technological developments in the next 50 years will have an overall positive impact on society and

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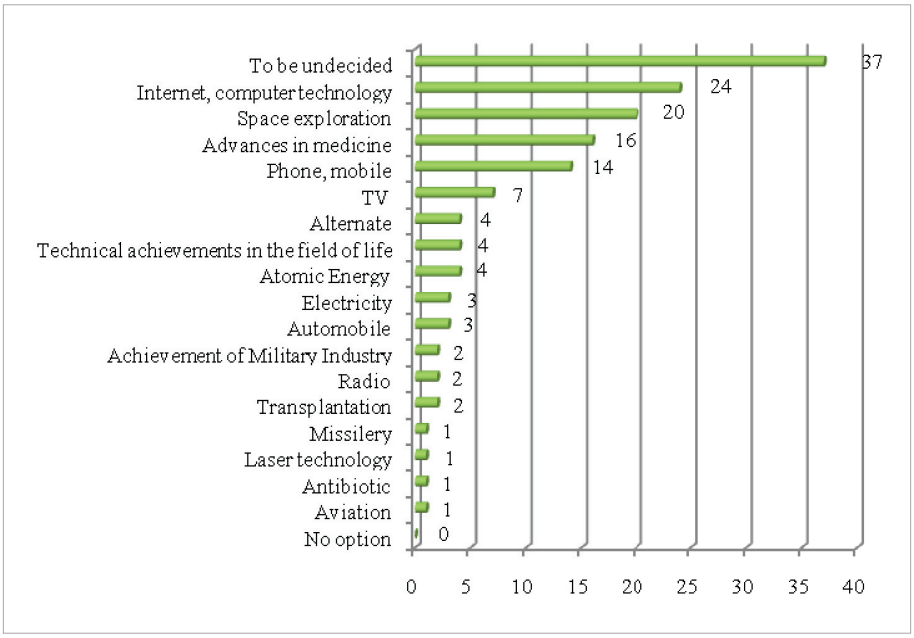
make life better. At the same time, only 30% of the respondents think that these technological and scientific changes will lead to a future in which people will be in a worse situation than they are today.

Figure 2

Russians' opinion about the degree of influence of scientific discoveries, technical achievements in changing of the world in the 20th century for the better, 2007, %



Source: Russian Public Opinion Research Center (VCIOM) data.

Russians believe that, among the scientific discoveries and inventions of the past century, the greatest impact to change the life was provided by the Internet, computer technology, space exploration and advances in medicine. Developments such as atomic energy, organ transplants and antibiotics were relegated to a less significant position (Figure 2). 37% of the respondents found it difficult to name an achievement that largely changed the world in the XX century for the better, which could indicate a certain percentage of negative forces, denying the positive impact of progress for humanity.

On the contrary, the respondents rated atomic energy (23%) as a field of activity that had a negative impact on the world of the past century. The construction of military equipment, the invention of chemical and biological weapon are in second and third place respectively, but with much less performance (6% and 5%). More than half of Russians (57%)

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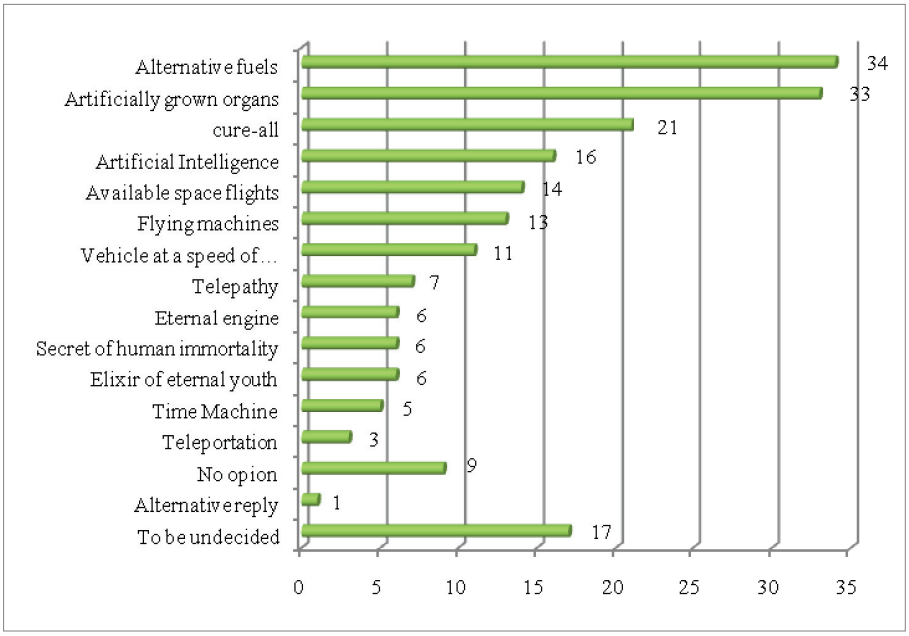
could not say of any scientific or technological advances that would lead to negative changes.

The expectations of Russians from future scientific progress mainly focus on the discovery of alternative fuels, 34% of respondents are counting on it (Figure 3). Nearly as many respondents expect a breakthrough in the field of artificially grown organs, another 21% believe in the invention of a cure for all diseases. The invention of artificial intelligence is inferior to expectations in the field of medicine, 16% of Russians are predicting it. 9% of respondents show a skeptical attitude, they do not believe in any of the proposed developments.

Figure 3

Russians' opinion about inventions in the 21st century, 2009, %



Source: Russian Public Opinion Research Center (VCIOM) data.

Few Russians (less than 10%) believe that the elixir of eternal youth, teleportation, time machines, the secret of immortality, eternal engine will be invented in the next century. It seems that the respondents have limited faith in the capability of science at the moment.

The survey Pew Research Center demonstrates high expectations of Americans from scientific progress in the future (Smith, 2014). Eight out of ten Americans (81%) expect that in the next 50 years people needing new organs will be able to get them in a lab. Another half of respondents (51%) expect that computers will be able to create works of art (paintings,

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music, sculpture, etc.) which would be different from the creations of people. On the other hand, in American society there is a vision of the limits of scientific achievements. Only less than half of Americans (39%) expect that scientists will develop the technology for teleportation, and only a third expects that humans will colonize other planets.

However, due to differences in the questions (VCIOM has the questions with a single choice, Pew Research Center – questions with multiple choice) we cannot compare the results of the two researches, although there are a few obvious similar trends in expectations.

The following data is interesting, having received the American sample, which, however, had not been evaluated in one form or another in the Russian polls. Concerns about some controversial technological developments are widespread in American society. These developments may become real in the near future:

- 66% of Americans disagree, if parents-to-be could alter the DNA of their children to obtain more intelligent, healthier, or more athletic generation;
- 65% of respondents have a negative attitude to the possibility that in the future robots will play a major role in the care for the elderly and people with poor health;
- 53% of Americans feel negative about most people in the future having implants or other devices that constantly give them information about the world around them. Such concerns are typical for women.

As we can see from the data, people are afraid of the intervention of new technologies in natural evolutionary and genetic processes, substitution of human relations to relations of order "technology – human being", the proliferation of military equipment in civilian life. Perhaps these fears are associated with the risk of losing control over the processes/ phenomena/ devices, the inability to manage the potential consequences of the changes.

We propose to consider separately the attitude of Russians' to such technological developments as nanotechnologies and the use of genetically modified organisms. The essence of nanotechnology remains obscure. The majority of respondents (41%) cannot say whether nanotechnologies will influence the future life in a positive or negative way. However, almost half of Russians expect the positive changes from active introduction of nanotechnologies (Figure 4).

The attitude of Russians' to GMOs in food is predominantly negative (Figure 5). Respondents believe that GM foods do not improve immunity, or help fight obesity, lead to mutations and infertility, cause cancer and are generally harmful to one's health.

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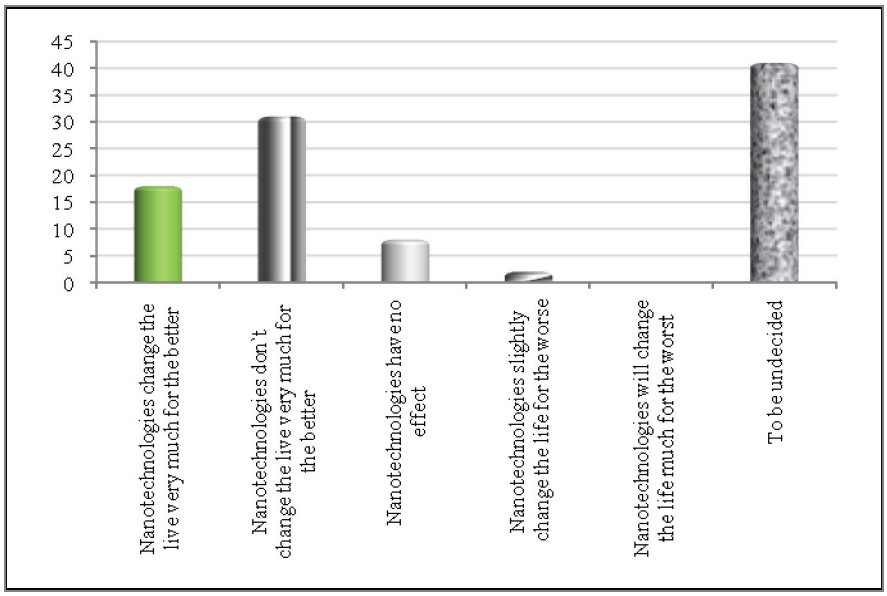
Figure 4
Russians' opinion on the impact of nanotechnologies on the life in the next 20 years, 2009, %



Source: Russian Public Opinion Research Center (VCIOM) data.

Note that from 23 to 28% of respondents were undecided. We think that there is low awareness of the consequences of the use of GMOs in food.

Thus, the opinion and attitude of Russians to the latest scientific and technical progress is positive, their hopes that life with them will change for the better, but they are not as optimistic as Americans.

However, people are afraid of the intervention of new technologies in natural evolutionary and genetic processes, substitution of human relations to relations of order "technology – human being", the proliferation of military equipment in civilian life. Probably, these concerns are associated with the risk of losing control over the processes/ phenomena/ devices and the inability to manage the potential consequences of the changes.

It is also interesting to see the results obtained in the survey by scientists from Belgorod State University (Russia).

Firstly, we note that the technosphere has a complex structure. So, in our opinion, it should provide the direction or sector development of the technosphere. These include the household sector and light industry, military-industrial sector, the sector of medicine and health savings, the

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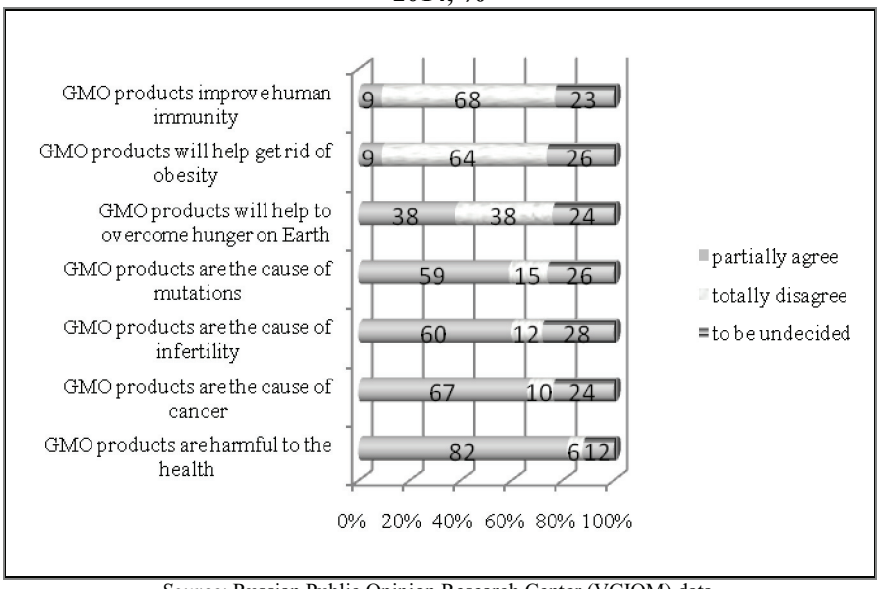
sector of information and computer technology, the production sector and heavy industry, sector of space industry and high technology.

Figure 5
Degree of agreement of the Russians with statements about GMO foods, 2014, %



Source: Russian Public Opinion Research Center (VCIOM) data.

In our view, the expansion of one sector of the technosphere determines not only the economic situation of the territory, but also its socio-cultural component. Moreover, we think that a significant prevalence of any of the sectors over the other leads to a certain type of social culture and social dispositions, which cannot affect the integral subjective social reality of such a territory.

So, for example, the deficient state of the sector of medicine and health savings forms a certain type of society with low levels of self-preserving behaviour, which cannot affect the demographic situation of the country.

The experts in the field of technology-related environment think that the most high-risk industries are electrical (57,1%), chemical and petrochemical industry (39,3%) and oil refining (21,4%).

The experts in the field of natural environment note that agriculture and fisheries (61,5%), timber, wood-pulp and paper industry (50,0%), chemical and petrochemical industry (42,3%), electricity (34,6%) are risk-causing industries.

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The experts in the field of information environment represent the following sectors with risk-causing factor: electricity (77,3%), chemical and petrochemical industry (40,0%), air transport (50,0%), railway transport (59,1%), oil industry (36,4%).

We conclude that these industries represent the greatest danger to the residents of the regions. The weight of sector risk increases significantly in an unstable macroeconomic situation, which affects the safety of human life and its habitat.

The transformation of biogenic processes in the technosphere environment leads to the emergence and further spread of techno-biogenic processes, which are the cause of pathological processes in nature and the human body.

The term "technology-related disability" was introduced by E. S. Demidenko in 2010 in the scientific thesaurus to define the social phenomenon of the rapid growth of disability, which is characterized by dynamic expansion in the world of the application in the second half of the twentieth century. By the close of the century, the rapid treating of diseases and the growth of the child's disability began, especially in Russia. There are about 13 million of disabled people in Russia, or about 9% of the total population at the present day (Demidenko, 2011).

The opinion of some researchers about the role of women is of particular interest. They think that women are a kind of "safety": women provide proactive protection against pollution and understand its consequences. Sociological research conducted in Germany noted that women better understand the risks of the natural bases, and they are ready to help (Neugebauer, 2004).

Women, including Russian women, have a more marked ecological consciousness. When it comes to the impact of environmental pollution or environmental disasters on the emotional sphere or negative impact of environmental changes on people's lives at the local level, it is the woman who does the delivery of household waste to the recycling, takes into account environmental aspects in purchasing and the preparation of diet and prefers the environment-oriented modes of transport.

However, those men who are actively engaged in housework, gardening and bringing up children, demonstrate the same high level of environmental consciousness and responsible attitude towards the preservation of health, as well as women. At the same time, women show a stronger response to the threat of environmental pollution and, as a rule, more critically perceive the environmental situation, on average, have more limited knowledge about the factors that impact on the environment than men.

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There are world women's organizations that have formulated the slogan "No climate justice without gender justice". They require gender-sensitive measures and established criteria regarding mandatory emissions reduction, and gender equity in the provision of funds for adaptation to climate change for poverty reduction and realization of rights to resources and development.

I. Schultz believes that feminist socio-economic researches, special women's knowledge accumulated on the basis of everyday experience, are considered poor at forming environmental policy. In this regard, women insist on "technological empowerment", which would provide them equitable access to science and technology, at the same time giving them the opportunity to change the technology and manufacture products with the concept of sustainable development and capabilities of the reproduction of nature and society (Schultz, 1995).

Women and men use and understand natural resources in a different way. It leads to gender differentiation of influence changes on availability, existence or a condition of natural resources.

This approach is very closely linked with the double view of feminist research within the concept of sustainable development and social ecology, concerning establishment of communication between gender democracy and redistribution, on the one hand, and the transformation of relations between society and nature, on the other.

The result of the interaction of human being and the environment can vary within wide limits: from positive to catastrophic, until the death of people and destruction of components of the habitat. Negative risk is the negative impact that periodically or continuously operates in the system "human being – environment". Russians express their attitude about pollution and technology-related disasters. The results of a survey of Russian Public Opinion Foundation (FOM), which was held in 43 subjects of the Russian Federation, 100 localities (N=1500) (10-11th March 2015), are presented in Table 1 (http://fom.ru/Nastroeniya/12101).

As you can see, Russians are concerned about nuclear war and chemical and radiation contamination of water, air, food. Moreover, both men and women of all ages with different levels of education are almost equally worried about their future.

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Table 1
Russians' anxieties and fears, 10-11th March 2015, %

Responses	General population	Gender		Age				Education			Education and Age group	
		Male	Female	18-30	31-45	46-60	60 +	General secondary education	Secondary vocational education	Higher education	Young people with higher education	Middle-aged people with higher education
Nuclear war	32	30	33	34	31	33	28	32	31	33	32	33
Chemical and radiation contamination of water, air, food	30	27	33	33	28	31	30	29	33	29	31	29
International terrorism	22	24	21	24	23	22	20	21	19	28	33	27
Clogging waste of the planet	22	21	23	24	20	24	20	18	25	24	28	20
Non-recyclable waste	20	20	20	18	20	20	25	22	19	20	15	22
Natural disasters (earthquakes, floods, etc.)	20	19	22	15	24	24	18	20	20	21	18	22
Mass epidemic, the spread of AIDS	20	15	24	23	22	17	16	21	19	21	23	23
The depletion of natural resources, energy and food	20	19	20	20	22	17	20	18	19	22	24	22
Climate change on the planet	15	15	16	16	14	16	16	14	18	16	11	19
The destruction of many species of animals and plants	10	10	10	12	12	6	9	9	11	11	13	8
Space disaster, collision with a huge meteor, comet	6	6	6	5	5	5	8	5	6	5	4	6
The depletion of the ozone layer of the atmosphere	5	5	5	4	6	4	6	5	6	4	5	3
The overpopulation of the planet	4	5	3	6	3	3	3	3	4	6	8	5
Nothing causes anxieties and fears	6	8	4	5	5	6	8	8	5	5	4	6
To be undecided	3	4	3	3	3	3	5	4	3	2	1	1

Source: Russian Public Opinion Foundation (FOM) data.

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Conclusions

Solving problems of achievement through comfortable and material security, the person continuously affects the environment through its activities and products, actively generating technogenic or anthropogenic dangers to the environment.

The variety of risks associated with the uncontrolled effects of modern techniques and technologies to the environment are combined into a single definition of "technological risk".

Technological risk includes the risks associated with the negative impact of technological development to the environment and the human being (life conditions, consciousness, emotional, physical state and behavior). These include environmental risks (due to the technogenic load to the environment) and information risks (arising from unmanaged global influence of information systems on individuals and groups). As a result of industrial activity this type of risk has become a global concern, affecting the vital interests of large territorial communities, including Russia.

It is difficult to unambiguously assess the results of the application of scientific and technological progress. Conditions of work and life are improved and at the same time the pace of life is accelerated; life expectancy is increasing, but the environmental situation is getting worse; the possibility of communication is easier, but more sophisticated weapons of mass destruction are created; the intellectual level of the population rises, but the threat of unemployment increases etc.

In general, Russians believe that scientific and technological progress brings more good than harm to society. However, women have the most adequate assessment regarding environmental issues, and a more pronounced environmental consciousness. According to Russians, the Internet and computer technology, space exploration, and advances in medicine had the greatest influence among the scientific discoveries and inventions to change life.

During the research, it was found that the majority of Russians are critical of the achievements of scientific and technological progress, increasingly able to analyze their choices about technological innovations; they know the culture of critical choice. However, people are afraid of the intervention of new technologies in natural evolutionary and genetic processes. This is, in our opinion, the duality of the perception of the Russians' technological advancement.

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Sociodemographic Aspects of Scientific and Technological Progress: Attitude and Opinions of Russians

S u m m a r y

The degree of protection of human beings, the state, humanity, and environment from growing dangers of technology-related disasters, despite the efforts made around the world, has not increased. The threat of planetary and global nature in natural, technological and social spheres in the short term can become dominant. Natural and technology related disasters, in turn, are able to create and foster a threat in the socio-political, economic, demographic and military-strategic spheres. Russia, like other countries, is no exception.

In this article the author, using examples of data of the all-Russian polls on changing the human environment innovations which provide scientific and technical progress, investigates the impact assessment of the results of scientific and technical achievements, positive and negative predictions of the effects of an increasingly wide application in everyday life of high-tech products.

The attempt has been made to determine a measurement of Russians' attitude towards the achievements and consequences of scientific and technological progress. On the one hand, through the measurement of the degree of influence of science and new technologies on the quality and length of life, on change of health status and environmental pollution. On the other, through the measurement of their degree of anxiety in relation to specific social threats. Two groups of threats and risks were identified: the threat of socio-economic, socio-political nature, and threats of metasocial order (problems of planetary security, natural disasters, ecology, major technological disasters, etc.).

The data of the all-Russian polls conducted by various sociological centers in the last 7 years were used in the study, and the results of sociological research conducted in the framework of the project "Forecasting effort and social risks management of anthropogenic human-caused systems development over time human environment transformation processes". The research was conducted by scientists of Belgorod National Research University (Belgorod, Russia) in May 2015 by the all-Russian survey (N=120). It selected 10 regions of the Russian Federation with the maximum and minimum degree of riskogenics, as well as the type of city (with leading environmental subsystem, leading socio-cultural subsystem, and leading technology-related subsystem). This choice is justified by the idea that the living environment consists of three interrelated subsystems – natural subsystem, socio-cultural subsystem and technology-related subsystem.

From a sociological point of view, this information allows us to understand how Russians are critical of the achievements of scientific-technical progress, and we can analyze their choices regarding technical innovations, as they have a culture of critical choice.

In general, Russians believe that scientific and technological progress brings more good than harm to human society. However, women have the most adequate assessment regarding environmental issues, as they have a more pronounced environmental consciousness. According to Russians, the Internet and computer

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technology, space exploration, advances in medicine had the greatest influence among the scientific discoveries and inventions to change their lives.

During the research it was found that the majority of Russians are critical of the achievements of scientific and technological progress, increasingly able to analyze their choices about technological novelties, they know the culture of critical choice. However, people are afraid of the intervention of new technologies in natural evolutionary and genetic processes. This is, in our opinion, the duality of the perception of the Russians' technological progress.

Keywords: *scientific and technological progress, technosphere, human environment, social risks, activity area*

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Sociodemografski aspekti naučnog i tehnološkog napretka: Stav i gledišta Rusa

R e z i m e

U ovom članku autor, koristeći primere iz bliske prošlosti i podatke prikupljene anketiranjem stanovništva Rusije, komentariše promene u okrviru tehnoloških inovacija koje obezbeđuju naučni i tehnološki napredak. Ovaj članak istražuje procenu uticaja rezultata naučnih i tehnoloških dostignuća, pozitivnih i negativnih predviđanja efekata rastućeg obima korišćenja visokotehnoloških proizvoda u svakodnevnom životu. Prikazana je komparativna sociološka analiza rezultata studija sprovedenih u Rusiji i stranim zemljama u pogledu uticaja napretka čovečanstva. Dati su zaključci autora – stanovnici Rusije smatraju da su dostignuća naučno tehnološkog napretka pozitivna, ali oni nisu toliko optimističkih shvatanja kao na primer Amerikanci. Ispitanici se plaše uvođenja novih tehnologija u prirodnim, evolutivnim i genetskim procesima, supstitucije ljudskih odnosa odnosima iz reda „tehnologije i ljudi“, kao i sve veće upotrebe vojne opreme u civilnom životu. Autor posebnu pažnju poklanja ulozi žena u okviru problema okruženja, koje pokazuju snažan odgovor na ekološke opasnosti i, po pravilu, kritičnije gledaju na situaciju životne sredine.

Ključne reči: *naučni i tehnološki napredak, tehnosfera, čovekova okolina, društveni rizici, prostor za aktivnost*

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