Terminological correctness of the information environment through the eyes of physicists

L Minasyan*, *A* Blagin, *O* Leshcheva, *G* Lemeshko, *I* Popova, and *T* Zhdanova

Don State Technical University, 1, Gagarina, Rostov-on-Don, 344003, Russia

Abstract. The incorrectness of the concepts of "information society" and "information civilization" is considered, the justification of which is given by the author on the basis of the development of the information space and information technologies. It is shown that the use of these terms is one of the elements of the program of globalism, which threatens the transformation of the world space with the disappearance of nation-states and the domination of a transnational government. The latest trends in physical science are identified, where questions are raised about the importance of synthesizing quantum theory and general relativity with the existing problem of the possibility of combining local and non-local observations, the hypothesis of the existence of information fields. The integration of educational technologies is designed to show that the development of the information space is an important step in civilization, but humanity also faces more global challenges about the place and mission of Man in this world.

1 Introduction

The purpose of this article is to identify the limits of applicability of such concepts as "information society", "information space", "information fields", "information technology", "information civilization" when comparing them with entities that receive these generally accepted meanings in the scientific community and educational environment. The conducted testing among students studying at a technical university in Russia showed a certain confusion of the meanings of these concepts, which emphasizes the relevance of this consideration. On the one hand, it would be wrong to assume that the authors of this article do not welcome the process of introducing information technologies into education and into our daily lives, because global informatization is becoming the dominant trend in the 21st century. However, some "substitution of signs" associated with this process can create a certain confusion in determining the meaning of students' life orientations, ideas about what our world is, what a Person's place in this world is. One can talk a lot about the integration of educational technologies, about the links between research and education, however,

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* Corresponding author: larmin1@mail.ru

terminological vagueness cannot but be harmful to the future generation of scientists and engineers, even taking into account their achievement of the proper level of work with information technologies and innovations in this field.

2 Materials and method

The research used the principles of comparative, integrated and interdisciplinary approaches, content analysis of literature based on foreign and domestic sources devoted to information education and the latest achievements in the field of modern physics. The empirical basis of the study is based on the analysis of the results of a mass survey conducted on the generation of students of the Don State Technical University (Rostov-on-Don, Russia) aged 19 to 22 years in order to identify their understanding of the meanings of terms. The sample size was 520 respondents.

3 Discussion

In the process of a mass survey, students were asked how to characterize the society of the era in which they live. The answers of the respondents are shown in Figure 1.
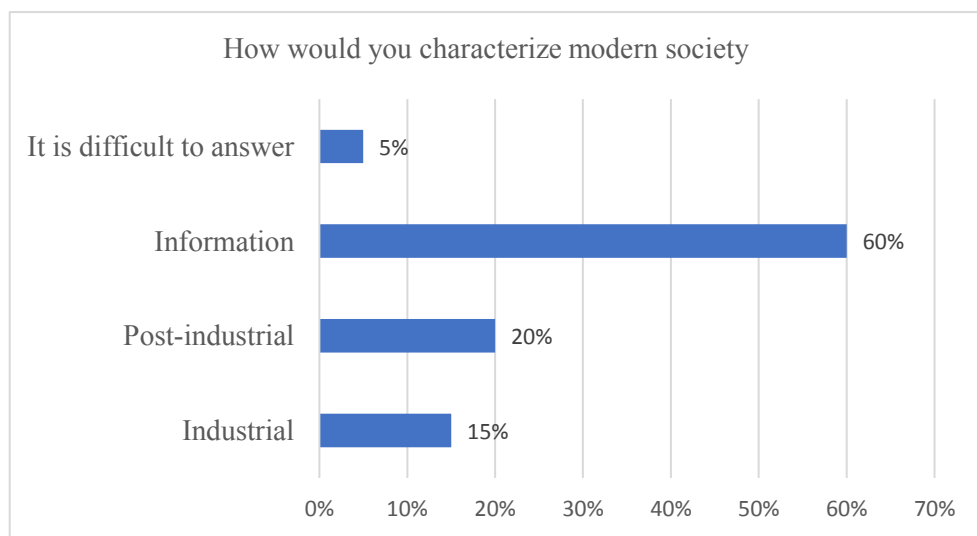

Fig. 1. Characteristics of the modern era by respondents.

It was expected that the majority would choose the answer "Information Society". The surprise was caused by the fact that there were students who, as before, characterize the era as industrial or post-industrial. Omitting the question of what the definition of society as informational is connected with - the answer was predetermined (the emergence of the Internet), we immediately moved on to identifying ideas about how the Internet has firmly entered our living space (Figure 2).

It is clear that the respondents included students of different fields of study and specialties, therefore, students of the relevant information specializations know or at least have an idea about the history of the Internet as a global network connecting devices around the world. The rest of the users, which is 64% of the respondents, take the presence of the Internet as a given, without worrying about its origin.

Note that the Internet is based on the mathematical theory of packet switching, data transmission protocols in computer networks, the creation of fiber-optic cables and much

more [1], which are achievements of scientific and technical thought. The World Wide Web (www), the first browser and server software were created between 1984 and 1990 at CERN (Conseil Européen pour la Recherche Nucléaire), in 1993 they were transferred to public use around the world. It becomes obvious that the creation of an information space owes its functioning to scientific results in theoretical, technical and technological terms, their implementation, and this is the specificity of an industrial society. It was at CERN that this network was created to ensure the exchange of information between all groups of scientists dispersed throughout the collider to increase the effectiveness of research in the field of high energy physics with its goals, hopes and dreams. If we talk about civilizational revolutions, as it is spelled out in the work of Alvin Toffler "The Third Wave" [2], one of the authors of the term "information society", then it does not stand up to any criticism. Because the revolutionary nature of the transition from an agrarian civilization to an industrial one is precisely based on the application of scientific results in the production of various goods and services. And in this regard, there has been no revolution in society at the present stage. Indeed, the achieved level of communicative interaction using information technology has accelerated immeasurably, but in terms of content, all the latest achievements lie in the plane of the development of science and the introduction of scientific results into various spheres of the life world.
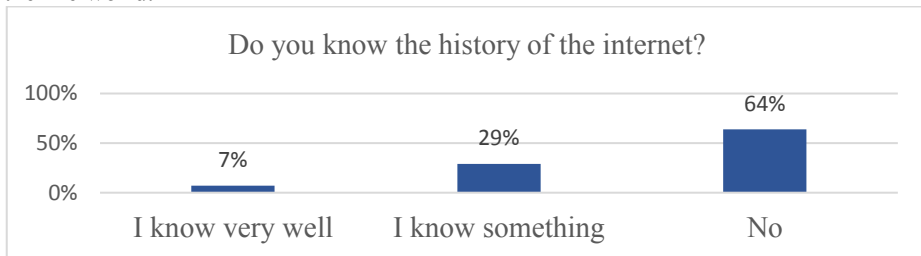

Fig.2. The respondents' knowledge of the history of the Internet.

It would be another matter if scientists knew more about information fields, which physicists speak about with caution, masking their interest with the term of A.D. Sakharov "polite religiosity". The idea that the entire material world has a secondary nature as a carrier of a more fundamental essence – the information field was voiced by J. Wheeler [3] as a result of his reflections on quantum physics, the role of a local observer in it, general relativity and the concept of a non-local observer. Note that an important element of quantum theory in its orthodox version is the state vector, as a linear information field. We have evidence of effects confirming the existence of processes like the Einstein-Podolsky-Rosen paradox. That is, the idea of information fields has been firmly established in physical science, but only when describing linear and non-relativistic processes. Modern fundamental physics, in the direction of implementing a program for building a unified field theory, based on the experimental support of this breakthrough on various accelerators, including the Large Hadron Collider, puts the issue of a unified scientific picture of the world on the agenda of the latest scientific research. As the authors note, "it may be that unification and, as a result, the interconnection of information and physical fields is the key not only to clarifying the structural basis of the self–organization of the World and the place of Man in it, but also to solving the problem of the nature of the integrity of the micro-object and macro-environment - the very integrity that generates an unimaginable wave-particle dualism" [4, p.24]. So the hypothesis of information fields in science is well-founded and is waiting for its decision. But do the students know about this? As the results of the survey showed, 25% of respondents who have the discipline "Concepts of modern Natural Science" in their curriculum know about this scientific problem, 9% have heard something about it, the rest do not know. It would seem that this problem can be eliminated, as proposed in [5], "by introducing

additional hours in the scope of the discipline "Physics" for students of natural science and engineering fields of study/specialties and restoring the status of the discipline "Concepts of modern Natural Science" for students of humanities / specialties" [5, p.] with the designation of "stunning images" of modern science, including the hypothesis of the information field. It is worth emphasizing that this should be in line with the "integration technologies in education" for students to be able to differentiate the terminological content of concepts. Yes, there is and has become widespread information environment, the use of information technology. However, it is incorrect to characterize these circumstances as the onset of a new "information" civilization" from the standpoint of a scientific approach to the problem of revolutionary processes. In fact, this is the evolutionary pace of the industrial era, including advances in artificial intelligence.

Why do the authors of the article see danger in the dissemination and introduction of the term "information society" into the mass consciousness? It would seem that it doesn't matter what to call our era filled with the Internet. The program of globalism, which is most openly presented in the work of E. Toffler, who talks about the third wave of civilization, which the author opposes to the previous ones as "informational", causes wariness. The author draws this forecast as a period full of troubles and tragedies, but inevitable, defining as a given the consistent disappearance of nation-states, the result of which should be the global supremacy of a transnational government. The realities of the current state of world society are such that the role of various types of prosumers is extremely increasing, and this trend will only increase. However, the problem of stratification of the structure of the social structure, class disunity, is not solved by these processes and retains its destabilizing basis. A thorough criticism of Toffler's position is given in [6]. Currently, a program for the formation of a metaverse has been announced. As noted in Wikipedia, "The Metaverse is a permanent virtual space in which people can interact with each other and with digital objects through their avatars, using virtual reality technologies" [7]. There is no doubt that this program will achieve success in the coming years, given that many large global companies are actively involved in this strategy with the prospect of intertwining intellectual properties on this platform. And not by chance, in Matthew Ball's book "The Metaverse: And how it will revolutionize everything" [8] openly declared (title of the section): "The coming battle for control of the metaverse (and over you)" and, with a reservation for exaggeration, the idea is expressed that if "one company gets control over it, it will become more powerful than any government, a kind of god on Earth" [8]. Thus, the metaverse inherently carries the same threat of globalism, if it is not a predetermined link in the implementation of this strategy aimed at transforming the world order.

4 Conclusion

The development of the information space is an important achievement by which humanity entered the XXI century. It is the educational environment that carries with it an extremely important mission to counter all the negative consequences that this new reality, along with the entire volume of a positive nature, can bear for all mankind. We are talking about the threat of involving, through information technology, the Metaverse of a huge number of people in different parts of the globe to adopt a program of globalism, which has such consequences as the loss of a person's national/ethnic identity, the loss of sovereignty by states, up to the disappearance of nation-states. The integration of educational technologies should go towards strengthening students' sense of citizenship and patriotism, as well as using shock pedagogy to familiarize themselves with the latest achievements of modern science, challenging Man and his purpose in the universe as a self-organizing integrity. These are topics such as the anthropic principle, the problem of information fields, the hypothesis of a

non-local observer, dialectical interconversion and interdependence of the material world and the thinking spirit.

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