
The General Meeting of the Russian Academy of Sciences

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I would like to draw your attention to problems relating to the interaction of specialists in social and natural disciplines. Within the activities of the RAS Branch of Social Sciences, I can outline at least five areas.

This branch is actively involved in determining the long-term forecast of economic development. In particular, we should define 20–30 main components of the new technological pattern (some scientists think the sixth technological pattern is setting in), and everything is limited to a few features. A consensus has been reached with colleagues from other branches that exaflop supercomputers, whose advent is expected by 2018–2020, much earlier than expected, will become a major component of research. In this sphere domestic science can play a very important role, which will take Russia to the group of world leaders.

At present, we are more actively discussing the formation of the new technological pattern with representatives of the Academy branches who deal with natural sciences. A joint meeting of the bureaus of the RAS Branch of Social Sciences and the RAS Branch of Nanotechnologies and Information Technologies, headed by Academician E.P. Velikhov, was held. An agreement was reached on a similar joint meeting with Academician A.I. Grigor'ev. Negotiations with other RAS branches are under way.

I am sure that the efforts of scientists should be focused on the study of the so-called third scientific revolution and on the identification of its consequences for production technologies, the economy, the social sphere, the environment, climate, etc. The definition of the third scientific revolution's paradigm will be of great applied importance both for science development and for the country's economy in general. In addition, it is necessary to compare this paradigm with that of the sixth technological pattern.

Another topic is the interaction of the physical and virtual worlds and society. At the general meeting of our branch yesterday, Academician V.L. Makarov focused in his paper on the macro- and microstructure of the virtual world, the dynamics of its development, and control problems. This is also a subject for joint work of sociologists, psychologists, economists, politologists, culturologists, specialists in informatics and communication technologies, physicists, and many other specialists.

A central topic of national security is still the assurance of reliable and convincing nuclear containment. (Here, I believe, we should add the issue of nonnuclear or prenuclear containment.) Note that we are speaking about the cornerstone of national security and Russia's real sovereignty, which will remain such for many years. Moreover, nuclear containment helps preserve global strategic stability. This is a very large, complex, and multidimensional topic, which I happened to have studied with scientists from various subdivisions of the Academy for several decades. However, new players constantly appear in this field who can disturb strategic stability and hinder the advance of new technologies and even new scientific discoveries, which potentially can lead to the emergence of breakthrough technologies and new operational–strategic concepts.

Domestic and international experience shows that this topic needs the synthesis of physical (the adverse factor of a nuclear explosion), biomedical (the consequences of the use of nuclear arms), politological (the regularities of the development of global political systems and the mechanisms of political–military and military–strategic decision making), military–scientific (strategic, technical operative, and tactical aspects of nuclear weapon employment), and other aspects of knowledge. Here we will continue working with representatives of other branches. Note that a large part of research in this sphere may today be based on exclusively declassified materials, and we can make basic and fundamental scientific conclusions.

Another theme that needs joint scientific efforts from all knowledge spheres is the classification of sciences. This topic is the focus of studies of RAS scientists and the leadership of the Russian State Library. We have all worked in libraries and know how important their classifications and rubricators are. We considered this topic at a meeting of the branch section headed by Academician V.S. Stepin and prepared several proposals. I addressed all academician-secretaries and received positive feedback. We propose to create an ad hoc RAS commission on the classification of knowledge areas jointly with other RAS branches.

Of course, the interaction between social disciplines, the humanities, and natural sciences is not limited to the above areas. However, basic and applied research will, no doubt, benefit from productive and systemic work in at least these fields.