

RUSSIAN SCIENCE AND YOUTH: PROBLEMS AND PROSPECTS

CIÊNCIA RUSSA E JUVENTUDE: PROBLEMAS E PERSPECTIVAS

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ABSTRACT: The study addresses the problems of modern Russian science and the role and place of young scientists in it. The data characterizing the current state of science and young scientific personnel are presented. The life strategies formed among young researchers are examined. The causes of “migration waves” are investigated. The prospects of the transformation of the Moscow agglomeration into an effective center of advanced development are assessed. The article provides practical recommendations for resolving the situation currently observed in Russian science.

KEYWORDS: Modern science. Youth problems. Life strategies.

RESUMO: O estudo aborda os problemas da ciência russa moderna e o papel e lugar de jovens cientistas nela. São apresentados os dados que caracterizam o estado atual da ciência e do jovem pessoal científico. São examinadas as estratégias de vida formadas entre jovens pesquisadores. As causas das “ondas de migração” são investigadas. São avaliadas as perspectivas de transformação da aglomeração de Moscou em um centro efetivo de desenvolvimento avançado. O artigo fornece recomendações práticas para resolver a situação observada atualmente na ciência russa.

PALAVRAS-CHAVE: Ciência moderna. Problemas da juventude. Estratégias de vida.

RESUMEN: El estudio aborda los problemas de la ciencia rusa moderna y el papel y el lugar de los científicos jóvenes en ella. Se presentan los datos que caracterizan el estado actual de la ciencia y el personal científico joven. Se examinan las estrategias de vida formadas entre los jóvenes investigadores. Se investigan las causas de las “olas migratorias”. Se evalúan las perspectivas de transformación de la aglomeración de Moscú en un centro eficaz de desarrollo avanzado. El artículo ofrece recomendaciones prácticas para resolver la situación que se observa actualmente en la ciencia rusa.

PALABRAS CLAVE: Ciencia moderna. Problemas de la juventude. Estrategias de vida.

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Introduction

Social and economic problems that have been accumulating in Russian society and the repeated failure of authorized government agencies to execute numerous “instructions,” “programs,” “development strategies,” decrees, and plans forces us to consider the reason for this situation.

We are facing a highly complex phenomenon, each of the factors of which deserves a close examination.

The present study focuses on exploring some aspects of a single, but very important factor: the role of science in contemporary Russian society.

Unfortunately, over the past three decades, science has not become the basis for the creation of a competitive economy, the main actor in the formation of effective socio-economic, scientific, and technological policy.

Why has science not become the driving force for the development of Russian society?

In what state does Russian youth find itself in contemporary Russian science?

Finally, what must be done to try to change the situation for the better?

These are the questions we would like to address in the present work.

Methods

The object of the present study is the current state of Russian science and the prospects it opens for young scientists.

The proposed hypothesis is that the state and prospects of youth in Russian science are decisively determined by the characteristics of its present state and development.

The methodological foundation for the study is formed by general scientific research methods, primarily the principles of historicism, determinism, social approach, methodological pluralism, etc. and the research methods based on them, the most important of which (within the framework of this work) are the historical-comparative and historical-genetic methods, the method of structural-functional analysis, and some other methods allowing to solve the main objectives of the study:

- to investigate the role performed by science in contemporary Russian society;
- to analyze the consequences of the chronic underfunding of science in the 1990s and early 21st century;
- to assess the role and prospects of young researchers in Russian science;

- to study the causes of the migration of young scientists abroad and the dynamics of this process;
- to consider the causes and consequences of the so-called “shuttling” migration of young scientists;
- to examine the attitudes of the scientific community, particularly its younger members, to the introduction of international systems of the evaluation of researchers’ work;
- to determine the main ways for Russian science to attain a proper place in the international division of labor;
- to analyze some current problems of teaching the history of journalism in higher education institutions;
- to study the causes of the latter and the nature of their influence on the process and outcomes of teaching the history of journalism;
- to formulate recommendations allowing to partially reduce the negative influence of the problems affecting the process of teaching journalism history at universities.

The solution of the above-mentioned research objectives provides for considering the formulated hypothesis mostly confirmed.

Results

One of the most apparent and surface-level answers to the posed questions is the state in which Russian science currently finds itself. This is quite reasonable given that the losses suffered by Russian science starting from the 1990s are difficult to estimate. Moreover, the crisis of Russian science stems not from the accumulated problems of internal development but external conditions, most importantly, financial.

The underfunding of Russian science has far-reaching consequences, contributing to the degradation of human capital.

An extremely negative role is played by the factor of Russia lagging in the level of spending per researcher. According to this indicator, Russia is three times behind the global average. This prevents many talented scientists from conducting scientific research in Russia.

Considering researchers’ paygrade, it had been lagging behind the country’s average national wage for a long time and recent events show that this problem is still far from being solved, contrary to reports.

Nevertheless, even if the planned indicators are achieved, the salaries of Russian academics will still be many times inferior to those of scientists in developed countries. It is, therefore, unsurprising that the number of scientific personnel in Russia shows a decrease.

Young scientists have the hardest experience. In addition to the hardships faced by their older colleagues, they had to suffer the consequences of the elimination of the so-called “intergenerational justice”.

At the same time, it should be noted that some of the problems of youth in Russian science surfaced back in Soviet times.

In particular, in the period of extensive growth of the scientific sphere in the early 1960s, conditions were created that not only caused an increase in the number of young scientists but allowed them to take prominent positions in scientific institutions. In the late 1980s, these people, being at the peak of their physical and creative powers, occupied practically all key positions in science, blocking career growth opportunities for the younger generations of scientists.

As a result, in 1988, the share of specialists under the age of 40 was 25% among candidates of science and 2% among doctors (SHOKOREVA, 1992, p. 57).

Meanwhile, experience shows that in some branches of science, the so-called “breakthrough” inventions and discoveries were made by scientists under the age of 35-40.

The catastrophic drop in funding for science that hit the scientific community meant that a significant number of young scientists had to either leave the country or were forced to seek other occupations.

However, the present status of a young scientist who has not changed their profession is exacerbated by what the Nobel Prize laureate Zhores Alferov described as “the lack of demand for scientific results by the economy and society” (AL-AIASH, 2017).

If Alferov is correct, which he is, many of the scientific schools that still exist are doomed to die out, which will be another severe blow to the continuity of generations in science.

It appears that the lack of opportunity to have a productive career in the desired sphere and dissatisfaction with the social status and financial situation played the leading role in shaping the emigration wave of the 1990s and the early 21st century.

It is difficult to estimate the number of young scientists who went to work abroad. According to V. Kalinushkin, chairman of the Trade Union of Scientific Workers of Russia, from 200 to 800 thousand Russian scientists left the country to work abroad in this period (TIMOFEEVA, 2009).

The crisis of science that has developed in the Russian Federation in recent years appears to have led to a new “emigration wave”.

Although there is currently no reliable data on how many members of the Russian scientific community have left their homeland, there is reason to assume that they are not few.

Aside from going abroad for permanent residence, young scientists use other life strategies, too. One example is contract work or the so-called “shuttling” migration, which is a compromise path to which young scientists resort due to the country lacking the necessary modern equipment. While conducting complex experiments abroad, they regularly return home to process their results (DEZHINA, 2003, p. 85).

Thus, many young scientists view going abroad as an opportunity to continue doing what they love, or at least to receive funds to finance their research.

Should the state assume the administrative function of regulating the migration of scientific personnel? Most members of the scientific community (65.2%) believe that it should not. However, in their opinion, the state should take action to create the conditions that would encourage scientists to return to their home country (DEZHINA, 2003, p. 83).

Of course, the state, represented by its authorized bodies, has taken and is taking certain steps.

In recent years, funding for science has increased. However, according to the Accounts Chamber, spending on civil science has not risen and remains at the level of 1.1% of gross domestic product. By this indicator, Russia is in 34th place in the global rating and lags far behind the leading countries, which spend over 3% of their GPD on science (GLIKIN, 2020).

It is also true, however, that the number of researchers employed at all public, private, and university research centers is starting to gradually grow. Still, the number of young researchers is increasing at too slow of a rate. Specifically, the share of young researchers (under 29 years old) has increased by only 3% since 2008, while the share of researchers under 39 years old has risen by 7%. In turn, the average age of all researchers increased by two years (from 45 to 47 years old).

The scientific community and young scientists have numerous questions regarding the introduction of international systems for the evaluation of scientific publications and citations, which mainly focus on English-language (mostly American) journals. The goal, as always, was well-intentioned: to help Russian science take its rightful place in the world scientific community.

Regarding this issue, political scientist Professor S. Cherniakhovskii notes that, at the very least, it is strange to “... judge the work of scientists by how much their publications are liked by Russia’s geopolitical rivals” (CHERNIAKHOVSKII, 2021).

What is then expedient to do under such conditions?

It is unlikely that we should seek to restore the infrastructure of national science that was lost with the collapse of the Soviet Union.

Historical experience teaches us that it takes many years or even decades to restore the destroyed scientific environment (FEIGELMAN, 2017).

What is required from us is, first of all, to comprehend what place we occupy in the modern world and, on this basis, to evaluate our real prospects, including in the sphere of effective participation in the activities of global science.

Assessing the peculiarities of the development of the modern post-industrial global world impartially, it is impossible to overlook that its model founded on the assumptions of M. McLuhan and F. Fukuyama is, to put it mildly, not consistent with the real processes of globalization. Instead of practically equal benefits for all countries in its orbit, modern globalization brings a pronounced social and economic differentiation.

Another important feature of the stage we are currently experiencing is the “active formation of compact ‘centers of influence’” with a relatively identical structure (SYCHEVA, 2014). Such zones of advanced development are referred to by specialists as “gateways to the global world”.

Thus, to fully enter the global world based on proper participation in the modern division of labor in the field of high technology and science, it is necessary to have effective zones of advanced development.

In the Russian Federation, the role of such a center is primarily claimed by Moscow. Yet even though the Russian capital is a major transport hub, it has not become a major transport artery between Europe and Asia as it was expected.

Furthermore, Moscow as a financial center significantly lags behind most European zones of advanced development.

Considering scientific innovations, it should be noted that Moscow does indeed have substantial scientific and pedagogical potential, however, due to several factors, it is transforming into a scientific and educational center of merely a regional scale and not the global one (SYCHEVA, 2014).

Given the above, we must state that in the foreseeable future, Moscow is unlikely to become an effective center of advanced development.

Nevertheless, Russia still has a chance to take a rightful place in the international division of labor.

According to experts, the production of all knowledge-intensive products today is based on 50-55 macro-technologies. Russia has managed to keep 10-15 of them. This theoretically allows the country to occupy from 10 to 20% of the world market of knowledge-intensive products (POPADIUK, 2009, p. 78). However, this is only an opportunity, which becomes more illusory with each passing year.

Moreover, several authoritative scientists argue (FEIGELMAN, 2017) that the Russian scientific school continues to be of independent value to the international scientific community.

In addition, the experience of Russian scientists in working under crisis conditions may assist our foreign colleagues in finding a way out of the crisis currently experienced by the scientific sphere in several “advanced” countries.

A sensible reduction in the demand for research in many branches of science and technology, the shortcomings of the grant system for financing research activities, and the inefficient system of evaluation of scientific work hinder the development of science in economically developed countries.

Collaborative work of Russian and foreign scientists can contribute to a deeper integration of research teams in the international scientific and educational space and allow young scientists to see the prospects for their scientific growth.

Conclusion

Thus, the tasks that face Russian science today and dictate not only its future, but its continued existence, are complex, but not insurmountable.

Resolving them calls for political decisions, sufficient material resources, and, most importantly, the hard, selfless work of all generations of Russian scientists.

Young Russian scientists can play a major role in solving the problems faced by domestic science.

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