SCIENTIFIC LEADERSHIP: PHENOMENON, FORMATION PRACTICES IN THE MODERN UNIVERSITY

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WHAT MEANS TO BE A LEADER IN MODERN SCIENCE? THE VIEW OF YOUNG SCIENTISTS

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Abstract. Main question for me: what is happening today with the institute of postgraduate school in Russian science. Some experts believe that the changes took place here had a positive effect. Others, on the contrary, tend to evaluate them negatively. (First of all, of course, we are talking about academic graduate school. So, It was the object of our research). In the center was the question of what makes young people go to graduate school, what motivates them in their studies, whether they plan to choose a career in science, what are the criteria for its success. To study these problems, we conducted the sociological survey of postgraduate students of academic institutes in Novosibirsk Academgorodok. The methodology was based on a comparative analysis the results of two studies: 2005 and 2018.

The results obtained are as follows. The most influential factors that stimulate youth to strive for leadership in science are the conventionally «romantic» factors: «interest in the process of cognition» and «desire to realize my vocation». Slightly less popular are more rational motives: «striving for a successful career in science» and «desire to get competitive training». Only the third group consisted of motives that are not directly related to science – «striving for a successful career outside of science» and «desire to find work abroad».

We confirmed the trend identified in the 2005 survey - a traditional scientific career (an employee of an academic institute) is still the most: about 40% of graduate students; in a study in 2018 it was 43.5%. Thus, this trend is sustainable and has remained virtually unchanged in recent years. A

similar trend is mainly true for the option «business in the field of science and high technologies». So, the majority of the graduate students surveyed is going to link their lives with the sphere of science, high technologies, and broader intellectual production. The number of supporters of the "scientific career in non-state scientific center" variant has not changed much. Only the number of those who do not exclude for themselves the position of a teacher at the university has increased significantly.

The postgraduate students of academic institutions are characterized by a preference the traditional scientific career and the traditional criteria for its success. The most significant criterion are: «authority among foreign colleagues»; then is «the opportunity to deal with those scientific problems that are of interest primarily to themselves, regardless of the situation and financial considerations». We also can find «defense of Ph.D. and doctoral theses» and «authority among Russian colleagues». The «high incomes at the expense of science» is ranked only the fifth place. Finally, the least popular criteria are «the number of received grants» and «the opportunity to travel abroad often».

Postgraduate students seeking leadership understand it first and foremost as success in the field of knowledge production, which has specific characteristics. It is worth paying attention that the leading positions here are occupied by purely professional criteria such as freedom of scientific research and authority in the academic environment, and no means material. Also important is the fact that graduate students remain faithful to the traditional principles of the scientific ethos.

Keywords: Modern science; leadership; young scientists

Introduction

Postgraduate studies, as the leading element of the reproduction mechanism of Russian science and higher education, retained their role and importance throughout not only the Soviet, but also the entire post-Soviet period. Like the institute of science in general, it demonstrated fair inertia to the dramatically changed conditions for the implementation of scientific activities, which were expressed in repeated attempts to reform it (Bednyi B.I., Rybakov, N.V., et al., 2017; Dezhina, I.G., 2006). According to a number of authors, conducted reforms in fact only weakened graduate school, first of all its scientific component, the erosion of the ethical aspects of scientific activity (Gelman V.YA., Khmelnitskaya, N.M., 2017: 103-104), manifested in a sharp increase in the volume of plagiarism and the number of paid protections, became a serious problem (Bogdanova, M.V., 2017: 161-162; Mudrova, E.B., Vinogradova, E.B., 2011: 76).

Objectives

In order to analyze the current state of academic graduate school and identify the dynamics of the main social characteristics of graduate students in 2018, we conducted a sociological survey of graduate students of academic institutions of the Novosibirsk Academgorodok. We considered one of the main tasks of the study to be an assessment of the degree of popularity of a scientific career among graduate students, the identification of the main trends and factors of its construction, criteria of an succession.

Findings

1**.** ***The current situation in academic science***. In assessing the general state of science in the Novosibirsk Academgorodok, the most popular option: "unstable, with unclear prospects," about one-third of the respondents chose the "normal" option; only one person called it "critical", about 7% more - "heavy and without positive tendencies". In other words, as in the previous study of 2005, respondents showed a characteristic of youth optimism.

Evaluating the *attitude of the Russian state to science*, the majority of the respondents chose a relatively neutral option: "the state underestimates science and practically abandons it to the mercy of fate". Only 15% of respondents are convinced that the state "is making all possible efforts to preserve and develop science"; as many of them, on the contrary, are confident in the continuation of the policy "against science". Among the *negative trends* that are manifested today in the institutes of Akademgorodok, respondents identified low-wage research staff as the leading ones and the inability to fully engage in science due to weak financial and instrumental-material research. These parameters also show a clear correlation with the results of the 2005 study. Following them are trends such as brain drain and ideas abroad; aging science and the lack of youth influx. Finally, the declining prestige of science and the profession of a scientist is still important.

2. ***Starting*** **a career**. Almost all survey participants graduated from the Novosibirsk National Research University; thus, the NSU continues to be basic for the institutes of the Siberian Branch of the Russian Academy of Sciences. It is also important to note the continuation of the trend towards the territorial closure of the cycle of training highly qualified personnel: Special school (SESC) of Novosibirsk State University - NSU - academic institute. Evaluating the criteria that determined the choice of a university, the respondents identified its prestige as the leading one and the opportunity to get a specialty that attracted them; about a quarter of respondents indicated that the choice of the NSU was due primarily to the desire to continue their studies in graduate school, to engage in science. Only a few respondents found the choice random. The overwhelming majority of the

postgraduate students surveyed (despite the fact that mostly freshmen were in our sample) are by no means new to science: almost 85% began to engage in scientific research during their studies at the university. Compared to the data of 2005, the proportion of graduate students who have experience in working on grants has grown dramatically - in 2018 there were more than 65% of them (more than 13% had an individual grant). Almost 90% participated in at least one scientific conference; over 86% already have scientific publications.

3. ***Factors that prevent young people going into science***. The results of our study showed that the leaders here include "low income in science", "lack of confidence in the future of science" and "the continuing general crisis of science." The group of medium importance was made up of such factors as the presence of “housing problems”, “the lack of opportunities for professional growth of young scientists”, “the emergence of new opportunities that were previously lacking among young people”, “a decline in the prestige of science in society” and “the absence of vacancies in science” The least negative influence on the mood of young scientists is exerted by such a factor as the “lack of opportunities for the realization of creative potential.”

4. ***Factors contributing to the arrival of young people in science***. The greatest influence on the decision to choose a scientific career for young people has a "craving for knowledge, the desire for creativity"; The next most important, but significantly smaller proportion is such a factor as “the desire to” look around ”during graduate school to make a final decision about your future.” The group of medium importance was made up of such factors as “motives unrelated by science (housing, family, postponement from the army, etc.)”, “the desire to maximize the opportunities to increase their competitiveness in the labor market, including outside of science”, "the desire to work in the creative scientific team." In the least degree, the desire to become a scientist is influenced by “faith in the future of science, the growth of its prestige in Russian society” and “the example of parents”. (For the overwhelming majority of respondents, parents are not related to science).

5. ***Factors that stimulate youth to strive for leadership in science.*** The most influential are conventionally “romantic”. This, in particular, is about "interest in the process of knowledge" and "the desire to realize their vocation." Slightly less popular are more rational motives, namely, “striving for a successful career in science” and a desire to “get competitive training”. The third group consisted of motives that are not directly related to science - "the desire for a successful career outside of science" and "the desire to find work abroad." Only a few graduate students admitted that they have no

special incentives to study at all (see also: Bednyi B.I., Mironos A.A., et al., 2007).

6. ***Preferred types of academic career***. Of great importance for us was the assessment by respondents of their future and the place in it of science. An important result of the study was the confirmation of the trend that we identified in the 2005 survey - a traditional scientific career (an employee of an academic institute) was then chosen by about 40% of graduate students; in a study in 2018 it was 43.5%. Thus, this trend is sustainable and has remained virtually unchanged in recent years. A similar trend is mainly true for the option "business in the field of science and high technologies": it retains the position of the second most popular, although the level of its support has fallen markedly: 36% in 2005 (Ablazhey, A. M. 2006: 81) and about 26% in 2018. In other words, we can again confidently state that the majority of the graduate students surveyed are somehow going to link their lives with the sphere of science, high technologies, and broader - intellectual production. The number of supporters of the "scientific career in non-state scientific center" variant has not changed much. Only the number of those who do not exclude for themselves the position of a teacher at the university has increased significantly.

These results, in our opinion, testify to the sustainability of basic professional values characteristic of people of science: the proportion of talented and professional research-oriented young people remains unchanged throughout the post-Soviet period of development of domestic science (for more on sustainability in the context of scientific career see. The image of science as a field of activity, enabling the realization of the creative potential of an individual in conditions preferably social environment is at least as attractive as science as a commercially successful field. A number of experts in this regard tend to characterize science as a kind of eco-system (Baruch, Y., 2013: 210) with a specific set of system-forming features.

7. ***Criteria for a successful scientific career***. For postgraduate students of academic institutions is characterized by a preference for the traditional scientific career, and the traditional criteria for its success. The most significant criterion was called "authority among foreign colleagues"; behind him (with a noticeable margin) should be "the opportunity to deal with those scientific problems that are of interest primarily to themselves, regardless of the situation and financial considerations". This is followed by the defense of Ph.D. and doctoral these and authority among Russian colleagues. As for high incomes at the expense of science they occupy only the fifth place. Finally, the least popular criteria are "the number of grants and "the opportunity to travel abroad often".

These results show that postgraduate students of academic institutions are characterized by a steady preference not only for the traditional scientific career, but also for the traditional criteria for its success. In our opinion, this situation is primarily related to the fact that graduate students, for the most part already directly involved in the process of scientific activity, naturally adopt, learn not only the skills and techniques of the research work itself, but also the value system characteristic of members of the national scientific community. As for the system itself, it is autonomous in a certain sense and does not directly depend on any specific social, socio-psychological and economic conditions that are currently taking shape in a particular society.

Conclusion

Currently, the system of training highly qualified personnel in our country is unstable. Attempts to transform the basic principles and mechanisms for the preparation of research personnel according to the patterns characteristic of foreign science that have developed within the framework of Soviet science have led to mixed results. In particular, both the number of graduate students and the number of dissertations defended at the end of their studies have sharply decreased, which has always been the main criterion of its effectiveness. As a result, there is an active discussion in the professional community about ways of further reforming post graduate system (Shafranov-Kutsev G.F., Efimova G.Z., et al., 2017: 140-141). A sociological study of the basic social and professional characteristics of these students in the institutes of the SB RAS showed the sustainability of the professional scientific ethos. This applies primarily to the strategies of building a scientific career and the choice of criteria for its success. This thesis confirms the fact that for most postgraduate students the choice of science is not accidental. An alarming symptom was the fact that in science the continuity of generations at the family level is broken - the children of scientists rarely choose the profession of their parents; a new generation of scientists is recruited from other social strata.

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