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Education and Russia's National Security

At the present time, the problem of national security has come to be of special concern, and the term itself is quite in vogue. In this context, various aspects of security are singled out—military, economic, ecological, geopolitical, and so forth. At the risk of being reproached for professional prejudice, we will take the liberty of asserting that on the strategic plane, the security of the state is determined by the condition of its system of education.

To be sure, national security cannot be assured solely by means of educational policy, but neither can it be assured if that policy is left out. Just how things stand in this country and in education from the national security standpoint, and what might be done in connection with this, will be the subject of the present article. (Obviously we will be talking only about a few aspects of the problem that seem to us to be of the greatest concern.)

Education and national security

Education has an influence on all levels of national security. It is perfectly obvious that without qualified cadres, the modern state's economic and military security cannot be assured, any more than techno-

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logical security can be assured without scientific developments and, consequently, scientists. Russian and foreign ecologists and globalists have asserted unanimously that without a new culture of survival, without innovative schooling, humanity is doomed to catastrophe.

As far as the security of cultural development is concerned, here again education performs the function of the foundation of culture. No social system or state can develop unless its people share a system of values. All of the foregoing is rather obvious and finds confirmation in the history of higher education in Russia.

In its over two-hundred-year-old history, Russian higher education has been subjected to restructurings approximately once every quarter of a century—that is, each new generation has come into a new system of higher education. Transformations of this sort took place in 1804, 1835, 1863, 1884, 1905, 1917, 1929, 1958, and 1991. To be sure, the magnitude and character of the changes carried out have not been identical each time, but the consequences have always been substantial.

Many of the state leaders and scientists of Russia have been aware of the importance of the development of education. Among those figures who have been concerned with Russian education, P. A. Stolypin, S. Iu. Witte, D. I. Mendeleev, and V. I. Vernadskii are significant.

Here is one example. Many of the things that Sergei Iul'evich Witte did to develop higher education, for example, went beyond the boundaries of his immediate duties as the minister of finance (1892–1903). Thanks to his initiative and assistance, technological institutes were created in Moscow and Khar'kov, polytechnicums in Warsaw, Kiev, and St. Petersburg, and a higher school of mining in Ekaterinoslav. He also came up with the idea of creating a system of higher commercial education in Russia. Witte often had to implement his plans in the face of the opposition of individuals and organizations who were themselves supposed to deal with these problems as part of their functions.

People often say nowadays that over the past decade Russia has been returning to the bosom of world civilization. But for us it is no less vital that Russia must also return to the bosom of its own traditions in education.

The passage of the Law “On Education” in the Russian Federation in 1991 created a number of essential conditions for restoring the sociocultural situation that was characteristic of the late nineteenth cen-

tury and early twentieth century. Moreover, it fostered the opportunity to make use of the results of all preceding school reforms in order to develop education further.

So far, however, the prerequisites remain just that—prerequisites. These days, virtually all aspects of the life of Russian society are in a state of crisis, and unless normal conditions are achieved for the development of the system of education, the crisis is going to be extremely difficult to overcome. The crisis in this country reached the danger point some time ago. As a matter of fact, the last convocation of the Committee for the Security of the State, working together with scientists of the Russian Academy of Sciences, concluded that with respect to nineteen out of twenty indicators, Russia's national security is at the red line of danger or even below it. This conclusion coincides with that of specialists of UNESCO and the World Health Organization, which studied the problem of the viability of various nations and countries in 1992–93. Their evaluation was based on a five-point scale. The viability of Russia was rated at 1.4 points. Any lower score signals irreversible degradation. Current tendencies in the state of the economy indicate that this indicator could go down even further in the near future.

The world in which we live

In today's Russia, demographic processes have come to be extremely troubling.

Starting in 1990, the indicator of natural population growth has gone down steadily, and since 1992 it has been in negative figures, signalling the onset of depopulation. Russia had a population of 147.9 million persons in 1995, but in 1996 the figure stood at 147.7 million (estimated), and in 1997 it will remain at 147.7 million (forecast). At the same time, we also need to take account of the substantial numbers of refugees who are coming in from neighboring countries.

The findings of surveys indicate that every succeeding generation is oriented toward a smaller number of children. In 1969, for example, 54 percent of young married women believed that an ideal family ought to have three or more children, and the average number of children per family was 2.69; in 1989, these indicators were 2.5 and 2.18, respectively. Surveys in 1991 and 1994 revealed that the anticipated number

of children in families had declined during that interval from 1.8 to 1.08. The excess of mortality over the birth rate in Russia was 750,000 in 1993, 920,000 in 1994, and 795,000 in 1995.

The state of the environment also has an impact on the quality of the population's health.

The pollution of the air in dozens of the industrial centers of Russia exceeds allowable limits by a factor of ten or more. In territories having a high degree of concentration of industrial enterprises, there are fifteen tons of solid and fifty tons of liquid and gas emissions [per year] per square kilometer. (By way of comparison let us note that in the countries of Western Europe a region is considered to be safe in ecological terms if there is no more than one ton of solid emissions per year per square kilometer.)

It is important to note that in many regions of Russia, pollution is of an aggressive character, in particular when it has an effect on the intelligence of the individual and society. Unthinking continuation of the established traditions, and the retention of existing institutions and methods of dealing with problems of ecology, could lead Russia to a catastrophe. Already, there has been a 20 to 30 percent increase in indicators of mortality in the country due to disorders that are caused primarily by ecological factors.

It is not just the conditions of the viability of today's generations that have deteriorated: today's generations are living at the expense of future generations. Each new generation is going to have to live under conditions of an increasingly aggressive natural environment.

According to physicians and psychologists, at the present time up to 80 percent of newborn babies have physical and mental deficiencies. And in the larger cities this percentage is even higher.

Over the decades, the Soviet people, including specialists, acquired the notion that the country had unlimited natural resources, which, in addition, could be "increased," for example by exploiting Siberia. This gave rise to a wasteful approach to the use of these resources—to the considerable industrial wastefulness and the high level of material-intensiveness of Russian/ Soviet products. This led to negative consequences affecting the environment and the whole habitat of a substantial portion of the Russian population.

We can see from the experience of many countries that in efforts to create a system of education for adults, a vital role has been assigned to educational institutions that have been able to make education for

adults virtually universal, and the system of adult education commensurate with the traditional one in terms of scale. In the Soviet Union, and now in Russia, the task has been dealt with in a different manner: the requalification and retraining of adults has been carried out by the ministries and departments. This is the reason why a system of education is not taking shape here, and the efforts of the sectorial institutes and centers have proved ineffective.

According to figures of the Accounting Office of the Russian Federation, the implementation of federal budget expenditures on the "education" section in 1996 (January–June) is lowest for the item "retraining and upgrading of qualifications": it is 26.6 percent of the annual budget and less than half (49.1 percent) with respect to expenditures for that period. (The average indicator of implementation of expenditures for the "education" section stood at 45.8 percent of the annual budget and 76.6 percent with respect to expenditures for January–June of 1996.)

The creation of a system of educational centers for adults has become all the more essential today considering the fact that the number of unemployed persons in the country has been growing from year to year (5.4 million in 1995, an estimated 5.5 million in 1996, and at least a predicted 5.7 million in 1997).

In connection with the regionalization of state and social life, increased importance attaches to the problem of the geography of educational institutions. As far back as 1804, education districts were organized in Russia, the number of which was determined by the number of universities that determined educational policy, and the content and organization of the educational process in educational institutions. With the passage of time, this system of administration of education and its organization changed. In territorial terms, the distribution of educational institutions in the country was a random process. At the present time, the costs of this practice have become felt acutely.

The lack of uniformity in the distribution of centers of institutions of higher learning has resulted in an imbalance in regions' supply of specialists or migration of specialists. Moscow and St. Petersburg—the historically established centers of higher learning—continue to dominate. A large percentage of non-state-run higher educational institutions are located in these cities (up to 80 percent). A total of 183 state-run higher educational institutions—one out of every three higher educational institutions in Russia—are located in the central and north-

western economic regions. The fewest institutions of higher learning are located in the northern economic region (fifteen), the Volga–Viatka region (twenty-two), and the Chernozem [Black Earth] economic region (twenty-six). Almost half of all of Russia’s higher educational institutions are located in fifteen of the country’s cities, while all the rest are distributed among 122 cities.

The situation comes to be especially alarming if we view it from the standpoint of a number of entities of the Russian Federation. While a number of them have acquired a high degree of autonomy, they do not possess the kind of potential for higher educational institutions that is necessary for their development, and a few of them did not have a single higher educational institution at the time they acquired their constitution (Ingushetia, for example).

Summarizing the intermediate findings of the foregoing, let us note that the most important, if not the only, factor serving to make up the losses of labor resources resulting from the above-mentioned development of demographic processes is the preservation, mobilization, and stimulation of the country’s intellectual potential. The problem of education takes on special importance, as well, in connection with the deterioration of the ecological situation, the depletion and limited quantities of natural resources, and the traditionally low level of resource conservation that has been characteristic of this country’s technologies. This latter factor signals the necessity of revising education in terms of both of its components—instruction and upbringing.

Decisive measures with respect to the development of education are also necessitated by the changing structure of the population’s employment, which is converting from the sphere of material production to the sphere of nonindustrial production. The development of the nonindustrial sphere and the sphere of services is characteristic of a postindustrial society, and it calls for modernizing the education system, in particular the creation of a system of retraining and requalification of adults.

Under these circumstances, the conclusion that suggests itself is that Russia’s potential will have to be “increased” not by exploiting some region or other (like Siberia) or some sector of industry or other (chemistry, for example), but should be sought, rather, along the route (at least over the near and mid-term) of preserving, developing, and mobilizing the country’s intellectual potential. It is our opinion that the most important condition for making this potential into a reality is to develop, support, and modernize the system of education.

On the extent to which the intellectual potential is in demand

During the 1980s there emerged a clearly manifested tendency in world development that indicated that the place and role played by any country in the international division of labor, and its competitiveness in world markets of the products of the processing sectors and progressive technologies, depend in particular on two interconnected factors—the quality of specialist training and those conditions that the country (or the socioeconomic system) creates for the manifestation and realization of the intellectual potential of scientists and specialists. The extent to which that potential is in demand constitutes a vital stimulus for its mobilization and actualization.

The strategic doctrine of progress in the industrially developed countries of the world draws upon the conception of the comprehensive development of the human potential, and to a considerable extent the system of education fosters this. It is this factor that enables the economically developed countries of the world to produce up to 40 percent of the growth of their gross national product.

The countries of East Asia (Japan, South Korea, Thailand, Malaysia, and so forth), by concentrating resources in their systems of education, have in just ten to fifteen years succeeded in approaching the level of industrially developed countries. In recent decades, many countries have concluded that giving top priority to education constitutes the vital factor accounting for the prosperity of nations and the power of countries.

Many specialists have also pointed out the changing role played by education in the modern world. For example, Professor Ohashi, the president of one of Tokyo's universities, had this to say in a paper that he delivered at an international conference on engineering education in Tokyo in 1996: "The end of the cold war has liberated humankind from the horrors of a nuclear holocaust, and a new war has begun—competition among sectors of industry on a global scale. The leaders of all countries now realize that science and technology are the key factors serving to maintain the competitiveness and normal development of sectors of industry. . . . Because of this, the Japanese government has begun to improve the quality of university education, to strengthen the research activities of the universities, and to involve the younger generation in science and technology."

In Russia, on the other hand—including on the state level—the

notion continues to prevail that education can be given priority only after Russia has achieved economic well-being. Meanwhile, however, the experience of the countries of the West shows that economic slumps are by no means always accompanied by a curtailment of higher education. Under such circumstances, first of all, higher education needs to form cadres for a future state of the economy with all its structural, technological, social, and other innovations; in the second place, it has to serve as a kind of shock absorber for mounting unemployment among young people; and, third, it has to perform the function of preserving the nation's cultural-educational and scientific potential.

The problem of intellectual migration is somewhat less acute in higher education than, for example, in the institutions of the Russian Academy of Sciences. Among scientists who have gone abroad, the percentage of instructors in institutions of higher learning is not very large. For the most part, those who are quitting the higher educational institutions are going into other spheres of the economy, into commerce, administration, and so forth. What is disquieting is the fact that mostly younger and talented scientists and instructors are leaving the higher educational institutions. Perhaps more dangerous is the fact that college and university students tend to want to emigrate. The findings of a number of sociological surveys indicate that between a quarter and a third of college students in Russia would like to get out of the country. A leading motive is the fact that there is greater demand for their knowledge and abilities in other countries, and remuneration is higher.

According to figures of the UVIR [Administration of Visas and Registration] of the MVD [Ministry of Internal Affairs] of the Russian Federation, 5,876 persons were given permission to leave the country in 1993; in 1994 the figure was 5,171; and in 1995 it was 5,991. Approximately half of those who were given permission to leave were scientists and instructors.

No one is able to say with certainty just how many scientists and instructors in higher educational institutions have gone abroad or have moved into other spheres of labor activity: this country lacks a system of monitoring intellectual migration, and in our opinion this is indicative of the country's indifference to the "brain drain" out of Russia. This country is not only failing to support scientific and educational cadres, it is not even keeping track of them. In this case it is not a

question, for example, of an insufficiency of funds; there is a lack of the necessary will to do so on the part of the state.

The year 1942 was not an easy one for the Soviet Union. But in spite of that, in November 1942 the decision was made to call doctors and candidates of science back from the front to carry out scientific research and teach.

These days, according to experts' estimates, between 5,000 and 6,000 people drop out of science and education every year, and about half of them are scientists and instructors. Has anybody tried to estimate how much this costs Russia? Hardly. There are simply no data in this country reflecting the cost of training specialists. It is, however, possible to make an indirect assessment of the damage.

According to estimates by American scientists, the cost of training a highly qualified specialist comes to between \$50,000 and \$55,000, while the potential profit from the work of such a specialist is \$237,000. (See *Nedelia*, March 1992). If we use as the method of calculation the one that is used by research organizations of the United Nations (subtracting from the aggregate social product the total amount of direct and indirect spending on the training of specialists who emigrate and the amount of lost profits from their work), it turns out that from the emigration of scientists and specialists from the USSR (Russia) alone the country could lose more than 500 billion dollars.

The spheres of science that are most affected by this intellectual emigration are mathematics, computer technology, and biology. According to the data of the Istina [Truth] Center, the number of mathematicians emigrating to the West, in particular to the United States, adds up to 25 percent of the mathematicians graduated every year by the elite higher educational institutions of Russia. The demand for Russian programmers is rising in the international labor market.

If we are to continue the traditions of this country's higher education we will need to know what its characteristics are. In particular, it needs to be pointed out that the system of education in Russia was always shaped on initiative from above, and it was intended to fill the needs of the state. For this reason, present attempts to turn the Russian system of education into a private system fails to take account of the fact that it was always developed thanks to the support of the state—that is, historically and genetically it was programmed for that purpose. To be sure, a genotype can be changed, but that takes time. A rapid

transition from budget-funded financing of the system of education to a system in which the students (which is to say, their parents) pay for it will lead this system to collapse.

These days, institutions of higher learning themselves are looking for ways to survive by hook or by crook. At a time when real support of education by the state is being cut back, higher education is already having to adapt to the new circumstances. Educational institutions have been working out an ideology or conception for survival and, in the past few years, have been functioning on that basis. As a rule, most of them have assistance and support from other structures. And they are also engaging in business/economic activity. At the present time, a number of educational institutions are addressing the question of making the transition from the conception of survival to a strategy of development. Obviously, the efforts of the educational institutions will have to be better organized and more efficacious. Otherwise, the country is not going to have the capability of reproducing its highly qualified scientific and technological potential, and higher education will have the same thing happen to it as happened to the defense enterprises, which, in the guise of conversion, have either been closed down or have been converted to manufacturing primitive products.

Despite these difficult circumstances, the number of professors and instructors in the higher educational institutions of Russia, far from declining over the past few years, has actually risen somewhat. This is due to the fact that some of the personnel of the scientific research institutes and academic institutes, where the situation is even more difficult, have transferred to the higher educational institutions. In this way, to some extent, society's intellectual potential for this country's science and education has been preserved.

At the same time, however, it is disquieting to note increasing attempts to downplay the role played by technological and engineering education, which finds itself in an especially difficult position. Those who advocate curtailing it do so with reference to the experience of other countries, in particular the United States, where the percentage of college students in this sectorial group of higher educational institutions is, in general, smaller than in Russia. These advocates, however, fail to take account of the fact that in Russia the level of education of the population stands at 10.5 years, whereas it is 14 in the United States. This accounts for substantial differences in the structure of workplaces.

Russia has developed original scientific and pedagogical schools with respect to different sectors of technological knowledge. Curtailing engineering education will lead to a disruption of many of them. Schools do not come into being overnight. For this reason it is essential to preserve them by any means, and make use of them, in particular, for the training of engineering cadres not only for Russia but also the countries of the CIS [Commonwealth of Independent States], the Baltics, and others.

The precipitous decline in the prestige of education, science, and culture over the past ten years has led to the deformation and even the destruction of Russians' system of values, to a change in the principles of morality, and to the loss of society's foundation of ideas. To a considerable extent, what has happened is the result of the lack of a national policy in the field of education.

Russia's national security is threatened by the efforts of certain circles in society, efforts that are directed toward radical transformations of the national mentality under the slogan of overcoming ideological monopolism—in other words, reideologization. We can see how, over the past few years, methodical attempts have been made to break away from the spiritual and moral traditions of Russian culture, which, in contrast to the Western Protestant ethic of individualism and pragmatism, have always been linked to an orientation toward nonmercenary self-realization and service to people.

It is also necessary not to forget about the other extreme: education cannot be deideologized—that is, it cannot be stripped of its function of the upbringing of the rising generations. And the latter's foundation of ideas must not consist of the interests of individual parties or groups but of society as a whole, the values of classical culture and a love for the Fatherland.

In connection with this, the system of social-humanities education merits particular attention. Over the past several years it has become widespread in all the higher educational institutions of the country. Today in Russia, ten disciplines of this kind are being studied (history, philosophy, culturology, sociology, jurisprudence, politology, psychology, pedagogy, foreign languages, and physical culture), but their study is "operating" basically to enlarge the students' level of knowledgeability. The time has come to take the next step and to strengthen the worldview content of these disciplines. A knowledge of these disciplines ought to help college students not only to make themselves

acquainted with existing cultures and to develop their own attitudes toward them, but also to determine their own cultural affiliation—which is to say, their membership in one of them. It is obvious to us that this ought to be Russian culture, which does not, of course, call for rejection or denigration of the importance of other cultures.

The state program for the support of the system of education will not only have to find ways to solve problems of a financial nature but also to facilitate a system of measures to upgrade the prestige of the endeavors of the scientist and the instructor. To a large extent, accomplishing this latter task will depend on the mass information media. At the present time, the mass media (including state-run media) are showing an indifference to the system of education and its needs and personnel, or else they have manifested a negative attitude toward this social and spiritual institution of society (a negative attitude that sometimes borders on attempts to discredit it). We can state with certainty that the mass media are not only failing to help the schools—they are actually hampering education.

The pedagogical community can hardly fail to be excited over the private NTV Company's broadcasts of the educational program "Russia's Universities."

And, finally, last but not least: Russia's nationality policy in the field of education must also serve to accommodate those Russians who now find themselves outside the borders of their Motherland but who do not want to break ties with their spiritual Homeland, Russian culture. This is all the more important considering that the Russian-language schools of the CIS and the Baltics now find themselves in a very difficult situation. In these countries there are a total of eight million Russian children whose parents do not have a solid place in the social and state structure, and nobody is guaranteeing the children themselves an education. The only entity that can make these guarantees is the country that is their spiritual Homeland. Any indifference toward the fate of these people could turn out to be a major disaster for the new Russian émigré community and for Russia herself.

By way of a conclusion

At the present time, contradictory processes are taking place in Russia's system of education. To a large extent they have resulted from a slackening of attention and support for the schools on the part of the

state, as well as discoordination of the efforts of state-run and civic structures. One gets the impression that the present Russian leadership simply has no such policy, and with respect to a number of key concerns the kind of educational practice that is being implemented is in need of substantial rectification. There are too many things that indicate that the present state leadership is taking the route of giving up on functions that were traditionally performed by Russia's leadership. This conclusion is backed up by cases in which children's libraries, young viewers' theaters, young people's publishing houses, and institutions for the organized recreation and fitness of children and young people have been sold off.

At the same time, the fate of Russian education will, to a decisive extent, determine Russia's ability to achieve national security. A refusal to solve burning problems of contemporary education will be automatically tantamount to a revision of the traditional interpretation of the category of security, in particular, national security.

Russia's escape from its overall crisis and its assurance of national security will depend directly on the kind of educational preparation that young people carry with them into the twenty-first century and what their moral and political ideals are, their social values, the overall level of their culture and professional training.

Russia's pedagogical and scientific community is aware that the country today is in need of a well-thought-out National Strategic Doctrine in the field of education, one that is oriented toward a state policy that gives top priority to the development of the sphere of education. Such a doctrine, placed at the foundation of the country's future well-being and national security, can serve as the field of agreement along the broad spectrum of the country's political forces.

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