Ю. Г. Кокорина, М. М. Вагабов, А. А. Акимова

Современное археологическое образование в России: решение проблем гуманитариев с привлечением опыта подготовки высших технических кадров

Введение. Актуальность исследования обусловлена кризисным состоянием российского археологического образования и необходимостью поиска выхода из сложившейся ситуации.

Цель исследования: предложение путей выхода археологического образования из кризиса с опорой на опыт подготовки специалистов технического профиля.

Материалы и методы. В качестве методологической базы были использованы сравнительно-исторический, классификационный и дескриптивный методы, что позволило сравнить системы подготовки гуманитариев и специалистов технического профиля, классифицировать признаки обеих систем и описать сложившуюся ситуацию и пути выхода из нее. В работе использованы труды исследователей данной проблемы, среди которых и сотрудники Московского политехнического университета, а также использованы наблюдения авторов статьи.

Результаты. Анализ опыта Российской Империи показал, что в довоенный период не было единой системы формирования археологических кадров. Неоднозначный характер имела история подготовки археологов в Советском Союзе, но в результате была создана система обучения высококвалифицированных специалистов, которая и находится сейчас в кризисном состоянии. Подготовка археологов за рубежом осуществляется по двум моделям, что вызывает озабоченность у зарубежного научного сообщества. Российскому образованию необходимо искать собственные пути изменения ситуации в формировании археологических кадров.

Заключение. Кризис археологического образования в России, имеющий административные (формирование системы высшего образования, финансовые (низкий уровень финансирования вузовской науки), научные (распространение «черной археологии»), психологические (особенности восприятия сложившей ситуации российскими студентами) и целый ряд других раскрытых нами причин, преодолим с учетом опыта формирования специалистов технических специальностей, накопленного, в частности, в Московском политехническом университете, что мы раскрываем на конкретных примерах. Данный вывод не выглядит парадоксальным в условиях мультидисциплинарности современной науки и роста экономического спроса на высокопрофессиональные археологические исследования.

Ключевые слова: археологическое образование, история высшего образования в России, археологическое образование за рубежом, модернизация образования, Московский политехнический университет

Introduction. The relevance of the study is conditioned by the crisis state of Russian archaeological education and the need to find a way out of the current situation.

The research objective: proposing ways out of the crisis of archaeological education based on the experience of training technical specialists.

Materials and methods. Comparative-historical, classification and descriptive methods were used as a methodological basis that made it possible to compare the training systems of humanities and technical specialists, to classify the features of both systems and describe the current situation and ways out of it. The paper analyzes the researchers’ works of this problem, including the staff of the Moscow Polytechnic University, and uses the observations of the authors of the article.

Results. An analysis of the experience of the Russian Empire showed that in the pre-Soviet period there was no unified system for the formation of archaeological personnel. The training history of the archaeologists in the Soviet Union was ambiguous, but as a result, a system of training highly qualified specialists was created that is now in a state of crisis. The training of archaeologists abroad is carried out according to two models, which is of concern to the foreign scientific community. Russian education needs to look for its own ways to change the situation in the formation of archaeological personnel.

Conclusion. The crisis of archaeological education in Russia has administrative (formation of the higher education system), financial (low level of university science funding), scientific (spread of “black archaeology”), psychological (perception peculiarities of the current situation by Russian students) and a number of other reasons disclosed by us. This can be overcome considering the experience of creating professionals in technical specialties accumulated, in particular, at the Moscow Polytechnic University that we reveal on specific examples. This conclusion does not seem paradoxical in the context of the multidisciplinary nature of modern science and the growing economic demand for highly professional archaeological research.

Keywords: archaeological education, history of higher education in Russia, archaeological education abroad, modernization of education, Moscow Polytechnic University

For Reference:
Introduction

Quality education remains one of the seventeen Global Goals of the United Nations. These goals were included in a document called the “2030 Agenda for Sustainable Development”. Literally, it declares the following: “We are committed to providing high-quality inclusive and equal education at all levels: preschool, primary, secondary, higher and technical education, as well as vocational training. All people, regardless of gender, age, race and ethnic origin, as well as people with disabilities, migrants, indigenous peoples, children and young people, especially those in vulnerable situations, should have the chance to study throughout their lives that will help them acquire the knowledge and skills necessary to take advantage of opportunities and fully participate in a society” [1].

The practical development, analysis and implementation of these goals is carried out within the framework of UNESCO, in particular, in the document of this organization “The Qingdao Declaration. International Conference on Information Computer Technologies and Education for the period after 2015“. The document notes that “outstanding achievements in the field of information and computer technologies and the rapid spread of the Internet have made today’s world more interconnected and provided knowledge, skills and abilities in the use of information and computer technologies necessary for all girls and boys, women and men” [2].

“The Europe 2020 Strategy” adopted by the European Union is the EU’s program to stimulate growth and employment for the current decade. It stresses the need for sustainable and inclusive growth as a way to overcome the structural weakness of the European economy in order to improve its productivity based on the sustainable development of a socially oriented market economy. Education is a key element of “the Europe 2020 strategy”. The EU education goals are interrelated with other “Europe 2020” goals: a high level of education increases the ability to work which, in turn, leads to a reduction in poverty” [3]. Therefore, referring to the problem of improving the quality of education, especially in the field of archaeology, which the outstanding Soviet archaeologist A.M. Leskov in his lectures called “not only a humanitarian, but also a humanistic specialty”, seems especially relevant.

Archaeologists in modern Russia are trained at specialized departments of historical faculties. The purpose of this training is to provide scientific personnel to the Research Institute of Archaeology of the Russian Academy of Sciences, as well as museums, research centers and various research organizations. Recently, the staff of the Institute of Archaeology of the Russian Academy of Sciences began teaching at the State Academic University of Humanities, where the training of archaeologists was initiated as described in detail below. However, the archaeological education now faced a number of serious problems that make it possible to define its state as critical. The authors of this article are of the opinion that it is impossible to consider the problems of archaeological education as a matter of only those departments where future archaeologists are trained, but it is necessary to involve the broad pedagogical and scientific community in discussing the situation and suggest ways out of the crisis. The authors themselves teach at technical universities, two of them directly at the Moscow Polytechnic University, whose experience, in our opinion, will allow the archaeological education of Russia to get out of the crisis. We do not consider the current situation to be a “remote” problem only because we are not training archaeologists, but
future technical specialists, and we invite the scientific community to discuss the situation and possible ways out of it.

The words about the crisis of Russian archaeological education are growing ever louder in the Russian pedagogical literature. For the first time, scientists started talking about the difficult situation in the field of training archaeologists in the 1990s. The most striking in this series were the publications of the St. Petersburg archaeologist-theorist Y.A. Sher who drew the attention of the Russian scientific community to the situation in the training of archaeologists in the present [1] and turned to the prospects of future archaeological education in Russia [2]. The difficult situation in the country has led to an increase of difficulties in higher education, in particular, archaeological education. Decades later, Russian authors began to point out the results of unresolved problems, which were joined by new ones: the inclusion of Russia in the Bologna process caused a wide discussion on the pages of the Russian press. In their works, A. R. Kantorovich and L. V. Lbova propose ways to transform archaeological education in Russia connected with the transition to the Bologna system [3]. V.A. Ivanov describes the situation in the archaeological education of Russia in general and in Bashkortostan in particular [4]. U.U. Umitkaliev and co-authors see ways out of the current situation in the use of distance technologies [5], and N.I. Vinokurov puts forward his own concept of transforming the training of higher archaeological personnel [6]. In 2017, a collection of materials of the International Scientific Conference dedicated to the 70th anniversary of the Department of Archaeology of St. Petersburg University was published. It contains the work of the famous Russian archaeologist-theorist L.S. Klein, in which he outlines ways out of the current situation [7]. As you can see, representatives of the leading Russian archaeological scientific schools take part in the discussion of the problem: Moscow, St. Petersburg, and Novosibirsk. Authors from other regions also express their concern about the situation.

The peculiarity of archaeological education consists in the close connection of theory with practice, university science with academic. O.V. Umenkova shares her experience of conducting field archaeological practice as a means of interaction between university and academic science in her work [8]. V.I. Molodin, G.I. Skobelev recommend the participation of students in the professionals’ work conducting archaeological surveys to form highly professional specialists [9]. L.V. Lbova [10] recommends in his works creating summer archaeological schools and using information technology in the preparation of the scientific change for the factors of improving the situation in archaeological education.

All of them agree on pointing out the following negative phenomena in the training of archaeologists:

- the absence of the department “Archeology” in the list of areas of specialists’ training within the framework of the third generation of higher professional education established by the Ministry of Education and Science of the Russian Federation [3];
- the need to teach archaeology only in a master’s degree and for a high fee;
- the flourishing of the so-called “black archeology” — the open robbery of ancient monuments in order to sell them abroad with a weak legislative base to counter this phenomenon;
- insufficient funding of university archaeological science, which leads to the outflow of highly qualified teachers from it;
- lack of funds to conduct a full-fledged field archaeological practice, without this it is impossible to form a real professional;
• broken tradition of pre-university training of archaeology students in specialized circles;
• the threat of degradation of the national system of archaeological education and the need to invite specialists from abroad, which will require significant funds.

The search for a way out of this situation forces Russian archaeologists to turn to the history of archaeological education in the Russian Empire and the USSR. The peculiarities of archaeological education in Soviet Russia were considered by N.Y. Merpert [11]; in the context of the development of archaeological knowledge in general, A.A. Formozov mentioned certain aspects of the training of professional archaeologists in his writings [12; 13]. I.V. Tunikna considered the problems of training archaeologist-antiquarians in the first half of the XIX century in the context of the general development of this direction in science [14]. A.S. Smirnov described the activities of archaeological institutes in Russia [15]; L.S. Klein [16] and I. V. Yakimova [17] studied some information about the peculiarities of the training of archaeologists in pre-revolutionary Russia in the context of the development of archaeological knowledge.

The answer to the question about the way out of the crisis of archaeological education is impossible without taking into account foreign experience. Moreover, foreign colleagues often face similar problems. In Western Europe, archaeologists use historical reconstruction as a training tool [19], in Eastern Europe, based on the development of their own scientific schools [20], scientists express concern about the complexity of the transition to the Bologna system [21]; discuss the interdisciplinary nature of the training of archaeologists [22]. US archaeologists are also concerned about the fact of teaching the discipline at various faculties, including natural sciences [23] and the need to train scientists of this specialty already in the master's degree [24], discuss the problems of using the project method in the training of professional archaeologists [25]. The study of different archaeological sites as a means of training specialists [26]; problem-oriented training of archaeologists as the main direction in archaeological education is defended by teachers of the higher school of Latin America [27]. There are two traditional systems in these countries:

• archaeology is an independent scientific discipline within the framework of a university bachelor's degree.
• archaeology is a subsidiary discipline within the framework of education in history, art history, anthropology and even natural sciences. Archaeologists are trained already in the magistracy.

The second of these systems is especially developed in the USA [25; 27]. As a result, difficulties arise in developing common criteria for the formation of an archaeologist as a competitive personality in the modern labor market.

The purpose of this article is to identify the main ways that will allow modern archaeological education to get out of the crisis. This way out, in our opinion, is possible based on the experience gained in the training of higher technical personnel. The experience of the Moscow Polytechnic University in the field of compulsory and additional vocational education is used as an example. For all the seeming paradoxicality of such a problem statement, we see its prospects in the conditions of the multidisciplinary nature of modern science. We draw different aspects of the educational experience of future technical specialists, firstly, from the works of the Moscow Polytechnic University staff, primarily in the use of project activities in teaching Russian [28] and foreign languages [29]; publishing [30] and our own teaching experience at this university.
Materials and methods

We have used the comparative historical method (comparison of events and phenomena), classification (selection of phenomena classes), and descriptive (description of events). We applied general scientific principles: the principle of historism (highlighting the structure and development of the phenomenon, approaching it concretely-historically), the principle of objectivity (comprehensive consideration of the phenomenon, without concealment and suppression of facts).

Theoretical analysis of sources, which include statistical data on the development of archaeological education in pre-revolutionary Russia [31]. We have analyzed the fundamental documents of the United Nations [1] and UNESCO [2], the initiatives of the European Union [3] in terms of education published in recent years. In our work, we used periodicals reflecting the situation in the training of archaeologists in Russia and the world, such as a Teacher of the XXI century, an international research journal, a curator, social studies, interdisciplinary humanities, a journal of problem-based education in higher education.

In the course of the study, we identified the main features of the current situation in archaeological education that characterize the training of future archaeologists in Russia and the world; identified the features of this training and signs that allow us to talk about its critical condition. We took into account the experience of the Moscow Polytechnic University in solving the problems faced by humanitarian universities teaching archaeologists in Russia and the world.

Results

From the history of archaeological education in Russia

A review of the literature has shown that the tradition of archaeological education in Russia has considerable depth, and the experience accumulated by the Russian higher school in the training of archaeological personnel needs to be comprehended and used. The training of professional archaeologists in Russia began in the XIX – early XX century at universities and so-called archaeological institutes.

At universities, “prehistoric” (that is, related to the preliterate era) archaeology was taught at the physics and mathematics faculties (they were graduated by outstanding Soviet archaeologists: paleolithologist P.P. Efimenko and scythologist S.I. Rudenko), whereas ancient archaeology was taught at the classical departments of the historical and philological faculties (they studied the famous archaeologists of antiquity M.I. Rostovtsev and B.V. Farmakovsky).

That is, there was actually no “specialization in archaeology” at the universities of those years. It was believed that a specialist in the archaeology of primitive society should be widely educated in the natural sciences, especially in geology and the so-called “natural history”, based on then new ideas of Darwinism and evolutionism. Ancient languages were compulsory for the training of antiquarian archaeologists (Greek and Latin) and orientalists (Arabic and Persian) [1].

The main specialty of the archaeological institutes’ graduates was archival work and historiography. The training course also included lectures on primitive and ancient archaeology, the archaeology of Ancient Russia, the history of art, and the methodology
of field research [15]. Archaeological institutes were opened in large centers: Moscow, St. Petersburg, Kiev, Kazan, branches were created in county towns. These institutes accepted people who already have a higher education for a two-year course of study, and with secondary education – for a three-year course as free students. Students of archaeological institutes went to excavations and were engaged in field archaeology after completing their studies, but the training of professional archaeologists was not the main task of archaeological institutes. The high level of training of students is indicated by the fact that N.P. Likhachev, N.K. Roerich, A.I. Sobolevsky were among the teachers of the St. Petersburg Archaeological Institute. N.I. Veselovsky replaced H.V. Pokrovsky as director in the last years of the Institute's existence. V.A. Gorodtsov, I.V. Tsvetaev, D.Y. Samokvasov gave lectures at the Moscow Archaeological Institute [31].

In addition, archaeology was also included in the program of Higher Women's Courses, whose pupils later joined the ranks of Soviet archaeologists. Among them are K. N. Melnik-Antonovich, N. D. Polonskaya-Vasilenko, V. E. Kozlovskaya, A. A. Skrilenko, M. I. Vyazmitina, I. V. Fabricius and other famous Russian and Soviet figures of archaeological science [17].

Archaeological societies and committees were formed at local universities, museums, research and pedagogical institutes [11]. Russian archaeologists were widely erudite people, but the system of special archaeological education was just being formed.

### Table 1

Archaeological education in the Russian Empire

<table>
<thead>
<tr>
<th>Centers of training archaeologists</th>
<th>Applicants</th>
<th>Faculties</th>
<th>Features of the courses taught</th>
<th>Objectives of training specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical universities</td>
<td>Individuals with secondary education</td>
<td>Physical and mathematical</td>
<td>Natural sciences (geology, geography, biology)</td>
<td>Archaeology of primitive society</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Historical and philological</td>
<td>Ancient languages, Oriental languages, European languages, history</td>
<td>Antiquity and the Middle Ages</td>
</tr>
<tr>
<td>Archaeological institutes</td>
<td>Individuals with higher or secondary education</td>
<td>Archaeological Department</td>
<td>History, art history, auxiliary historical disciplines, ethnography, field archaeology</td>
<td>Archaeology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Archive Department</td>
<td>History, art history, auxiliary historical disciplines</td>
<td>Archival studies, bibliography, museum business</td>
</tr>
<tr>
<td>Higher women's courses</td>
<td>Women with secondary education</td>
<td>Different (depending on the course profile)</td>
<td>History, philology, foreign languages (depending on the course profile)</td>
<td>Archaeology (education was equated to university education for a number of courses)</td>
</tr>
</tbody>
</table>

Special archaeological education began to take shape in Soviet Russia in the 1920s, being closely connected with academic science. It originated at the Russian Academy of the History of Material Culture (RAHMC), transformed into the State Academy of the History of Material Culture (SAHMC) in 1926. Archaeological disciplines are included in the programs of the historical faculties of the universities of Moscow, Petrograd, Kharkov, Odessa, Kazan, Samara, and Irkutsk. In 1926, the Russian Association of Research Institutes of Social Sciences (RARISS) was separated from the Moscow State University [11]. However,
in the 1930s, humanities faculties were closed in a number of universities, and the training of archaeological personnel was stopped altogether. A significant number of recognized archaeologists, including university teachers, were repressed or suspended from work [11]. The opening of humanities faculties, including historical ones, at universities and pedagogical institutes takes place after the adoption of the resolution of the Central Committee of All-Union Communist Party (Bolsheviks) on the teaching of history at school. In 1938, special departments of archeology were opened at MSU and LSU [13]. The traditions of archaeological education were established at the historical and historical-philological faculties of universities of the Soviet Union creating specialized departments and laboratories, as well as conducting field practice of history students in expeditions led by teachers of the Departments of Archaeology. If in 1950-1960 there were only four departments of archeology in the USSR (in Moscow, Leningrad, Kiev and Tashkent), then in the 1970s, with the development of industrial construction and the growth of the number of “new-built” expeditions, the number of departments of archaeology and archaeological laboratories increased significantly, although this growth was accompanied by a deterioration in the quality of trained specialists [1].

Schoolchildren got acquainted with the methods of archaeological research by visiting clubs at museums or special departments of universities, such as, for example, the “School of Young Historian” at Moscow State University. As our observations have shown, in the 1960s, a group of archaeology students of only one course at the Department of Archaeology of Moscow State University was 20 people, in the late 1980s – 6, nowadays the “group” of archaeologists consists of one or two people. Moreover, this situation is not unique to Moscow University. The current situation concerns Russian teachers and scientists.

Archaeological education: Russian problems

Russian scientists see the main reason for the crisis in the “bureaucracy” of the Bologna process, when archaeology leaves the list of basic disciplines. As a result, archaeology can be taught only in a master’s degree that is, two years instead of three years of specialization, and if considering the proseminars and annual archaeological practices that is instead of five years. Only 10% of students can study for free in the master’s program, the rest – for a fee. This already creates obstacles for the formation of professional personnel. Both in Russia and in the post-Soviet space, the so-called “black archeology” is flourishing. This “business” will soon be legalized: there are already proposals in the media to make historical monuments a private property. Here is how V.A. Ivanov characterizes the situation: “Since archaeology cannot yet become the basis for legal business (illegal business thrives without diplomas and open sheets), it is obvious that among applicants, the demand for this specialty will at best remain in Moscow and St. Petersburg. If this system lasts for another 10-15 years, and our influential colleagues – academicians and corresponding members of the Russian Academy of Sciences do not achieve the introduction of a completely official specialty “archeology” in universities, archeology as a science will quietly die, and “black archeology” will take its place, which will legalize itself fairly quickly through corrupt deputies” [4, p.56]. When there is a need for the protection and scientific study of the ancient material culture of Russia, the “white” archeology; the Russian archaeological scientific school will be lost. It will be necessary, as in the XVIII century for the rise of Russian science, to invite specialists from abroad.

The prevalence of “black archeology” and the legislative helplessness to resist it repels young people from studying archaeological science. The statistics of the decrease in the
study groups of archaeology students at Moscow State University were given above. And if in the first year it is still possible to form a student's interest in the archaeology study as part of world history, the history of his country and the history of his region, then referring the archaeology teaching to the master's years, a bachelor's graduate develops an idea of archaeological science as something secondary in scientific terms. “History armed with a shovel,” as academician A.V. Artsikhovsky called archaeology, is reduced in the student's mind to the status of optional auxiliary historical disciplines for studying and understanding.

Again, through the information from the Internet and the media, a novice undergraduate student sees the impotence of professional archaeologists in the fight against the robbery of ancient monuments and the exportation of the most aesthetically striking finds, the helplessness of the state to prevent this process. This further diminishes the status of archaeology in the eyes of a graduate of a historical bachelor's degree, creates the impression that with the help of a small amount of knowledge, observation, dexterity and technical equipment, it is possible to obtain income significantly exceeding the results of “white” archaeology. The prestige of studying scientific archaeology is increasingly falling from this.

Another factor in the crisis of archaeological education is the lack of funding for university archaeological science because of the crises of the 1990s, the consequences that have not been overcome so far. Many professional archaeologists have left higher education, others have become administrative workers, and others have organized “archaeological firms” [32] that carry out so-called “contractual excavations” on a commercial basis. There is no question of any truly scientific approach, an increment of scientific archaeological knowledge that could be passed on to young people.

There is not enough money for field student practice, which ideally should form the student’s ability to use modern technical means, conduct archaeological documentation, carry out desk processing, analyze the collected data taking into account modern methods, participate in the development of a program for the preservation of the cultural heritage of Russia. Archaeological monuments are part of this heritage [8]. In addition, less than a month is given to practice, which is enough for students of history, but not enough for archaeologists [3].

Educational museums have been created based on archaeological departments and laboratories of universities, the collections of which are replenished by the expeditions conducted by the departments. However, problems have accumulated in their activities: expositions are often not updated for decades, funds are not accounted for, education and awareness work is passively carried out [33].

Archaeological education: foreign experience

Two models of archaeological education have been formed abroad. One model, the so-called “Humboldtian system”, is common in Western and Northern Europe. For example, in Germany and the UK, “archaeology is a full-fledged and independent scientific discipline within the framework of university education. There are departments of archaeology here, where you can get a bachelor's degree” [3].

Unlike Russia, Germany has been a member of the Bologna Process since 1999, it trains archaeologists at universities according to the “Humboldtian system”, while “students have greater freedom in choosing courses at various universities and can move from one university to another in search of suitable lectures and practical classes for more in-depth acquisition of knowledge in the desired profile” [34]. However, modern science is becoming more multidisciplinary, and the German scientific community is actively discussing the
introduction of courses that allow students to receive broader training, which makes them more competitive in the labor market [34].

In Central and Southern Europe, for example, in Spain and France, archaeology is part of the history of art and even geology. “In these cases, archaeology is studied as an auxiliary discipline at the undergraduate level. Specialization begins only in the master's degree” [3].

In the USA, bachelor's and master's degrees in archaeology exist at various faculties and archaeological training is included in the master's course in anthropology and art studies [23]. Courses in various archaeological disciplines, especially those related to ancient art are taught to bachelors of natural science faculties [27].

In Eastern European countries, the transition to archaeological education in accordance with the Bologna system also causes difficulties and concerns of the scientific community [21].

Discussion of the results

Archaeological education: ways out of the crisis

In his 1991 article, Y.A. Sher called “self-medication” the way out of the archaeological education crisis [1]. However, the experience of training representatives of technical disciplines can help humanitarians in this “self-treatment”.

Productive interests contact of future engineers and humanitarians take place both in the field of practical archeology (scanning the terrain, the use of information technology) as well as theoretical constructions (the application of a cybernetic approach to the analysis of the archaeological era) [35].

The development of students' ability to analyze independently the archaeological material, at first under the guidance of a teacher, contributes to the development of creative thinking. A significant role in this process is assigned to the skills of project activities, for which Moscow Polytechnic University has accumulated considerable experience.

The development of scientific work skills, including those with the monuments of the past, artifacts, works of art is reflected in student scientific conferences, which are also international in nature within the framework of the Days of Science, student scientific and technical conference at Moscow Polytechnic University.

Using the experience of the Moscow Polytechnic University in overcoming the crisis situation in archaeological education

<table>
<thead>
<tr>
<th>Problems of archaeological education in Russia</th>
<th>Ways out of the crisis considering the experience of the Moscow Polytechnic University</th>
</tr>
</thead>
<tbody>
<tr>
<td>The flourishing of the so-called “black archeology”</td>
<td>Involvement in the defense and legal activities of students of specialties related to management, journalism, law</td>
</tr>
<tr>
<td>The reduction in the prestige of the archaeologist's specialty</td>
<td>Popularization of humanities disciplines in general, history and archeology in particular. History course (History of Russia and General History) for future engineers</td>
</tr>
<tr>
<td>The deterioration threat of the scientific level of training</td>
<td>Annual International Student Scientific and Technical Conferences (SSTC), in which there is also a historical section, Days of Science at the university</td>
</tr>
<tr>
<td>Reduction of technical equipment of university expeditions</td>
<td>Participation of students in the development of technical means (terrain scanners, unmanned vehicles, multidimensional design, etc.)</td>
</tr>
</tbody>
</table>
The difficult situation of university archaeological museums

<table>
<thead>
<tr>
<th>The difficult situation of university archaeological museums</th>
<th>Participation of students in the creation of the university museum; presentation of reports on the materials of the museum at International scientific conferences at the university</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient funding of university archaeological science</td>
<td>Development of project activities at the university as a source of attracting funds to the university</td>
</tr>
<tr>
<td>Lack of funds for conducting a full-fledged field archaeological practice</td>
<td>Opportunities for additional education at the university (for example, the author's course “Ancient Moscow”)</td>
</tr>
<tr>
<td>Interrupted tradition of pre-university training of archaeology students in specialized circles</td>
<td>“Engineering school” for high school students</td>
</tr>
<tr>
<td>Threat of losing qualified teaching staff</td>
<td>Distance education; special courses and master classes of leading teachers, including foreign ones</td>
</tr>
</tbody>
</table>

The main way out of the crisis is the decision on the inclusion of the specialty “Archeology” in the list of higher education specialties. This should be decided at the supra-university level. Meanwhile, we fully share N.I. Vinokurov's concern that “in a certain degree, the Expert Council on History, Archeology and Related Scientific Disciplines, created at the initiative of H.D. Chechenov at the Committee on Science and Education of the Council of Federations of the Russian Federation has already become a platform for the exchange of views of leading experts on this acute issue. However, after the reorganization of the Federation Council, this Expert Council has never been assembled” [6].

Pre-university training plays a significant role in the preparation of future archaeologists. An example of such work for future techs is the “Engineering School” that exists at the Moscow Polytechnic University. We fully agree with the opinion of E.V. Kupriyanova and V.G. Savinov about the need to create summer field schools, camps for children. There the opportunity to participate in archaeological expeditions and historical reconstructions is provided (for example, such a school is located on the Arkaim Reserve [10], a summer field school in St. Petersburg [36], “Siberian field Schools” in Novosibirsk [37]. We agree with K.A. Borzykh that nowadays the priority task of education is to create such a set of conditions for the development of the student that will ensure in the future his readiness to live and successfully act in the world of humanitarian values. The first experience of their comprehension can be gained when working with archaeological artifacts [38]. We share the opinion of V. I. Molodin and S. G. Skobelev about the need for a unity of academic and university science during the training of future archaeologists. This is manifested, in particular, by the inclusion of not only excavations, but also archaeological exploration in the archaeological practice at Novosibirsk University together with the staff of the Siberian Branch of the Institute of Archaeology of the Russian Academy of Sciences [9].

Distance education and project activity and the Moscow Polytechnic University rightly considers itself the initiator of it and this allows us to train highly qualified scientific personnel. We agree with the opinion of L.V. Lbova and her colleagues that it is necessary to increase the level of training of students in the conditions of the outflow of professional archaeologists from the specialty, and the difficulties that arose during the overcoming of the COVID-19 pandemic in the form of webinars “Terra Prehistorica. Archeology online”. The leading scientists of Russia and the world participate in them. In total, more than 30 lectures were delivered within the framework of the Terra Prehistorica project, and also broadcasts of scientific and popular science events were carried out. Lectures are integrated into the educational process and introduce students to the latest developments in the field and cameral archaeology [39].
However, our data do not agree with the position of N.I. Vinokurov on the need to educate a specialist archaeologist from school by opening specialized classes [6]. This seems controversial in the conditions of modern science using not only methods (interdisciplinary knowledge) but also the theory of other sciences (multidisciplinary knowledge). A modern archaeologist is unconceivable without the achievements of information technology, knowledge in the field of chemistry, biology, geography in his practical activities, as well as the achievements of cybernetics, science of classes, and art theory in his theoretical work.

Conclusion

An increase in the shortage of qualified archaeologists is predicted currently. Federal Law No. 73-FZ of June 25, 2002 “On Objects of cultural heritage (historical and cultural monuments) of the peoples of the Russian Federation” [42] provides for historical and cultural expertise of projects and measures to ensure the preservation of historical heritage during the construction of new economic facilities, transport arteries, agro-industrial activities. The appeal to “white” archeology is also “stimulated by the annual large-scale destruction of monuments of the historical and cultural heritage of the peoples of Russia caused by an uncontrolled economic activity and due to a robbery of ancient monuments provoked by the growing world antiques market” [3, c.13].

Federal Law No. 163-FZ of 27.06.2011 “On Ratification of the European Convention for the Protection of Archaeological Heritage (revised)” was signed in 2011, which states in Article 3, paragraph II that the state undertakes obligations “to ensure that excavations and the use of other potentially destructive methods are carried out only by qualified specialists” [40]. The ratification of the “European Convention” launched the process of restructuring the mechanism for the protection of archaeological heritage (see: Federal Law No. 245-FZ of 23.07.2013 “On Amendments to Certain Legislative Acts of the Russian Federation regarding the Suppression of Illegal Activities in the field of archeology”) and increased the attention of the Government to archaeological research that precedes various kinds of construction work [41].

This situation forced us to analyze the current position in archaeological education and characterize it as a crisis. Using the comparative historical method, we have characterized the development of archaeological education in the Russian Empire and the Soviet Union. We found out that there was no “specialization in archaeology” in the modern sense in imperial Russia, and educational institutions of various types trained professional archaeologists. In the USSR, archaeological education experienced ambiguous periods until the closure of historical faculties, and with them archaeological departments and laboratories. The search for a way out of the critical situation forces Russian archaeologists to turn to the study of the experience of foreign countries in the field of archaeological education, and the foreign scientists to analyze the state of training of archaeologists in their countries. As a result, two models of archaeological education existing in foreign countries were formulated, and it was pointed out that the presence of these models is not always evaluated by foreign archaeologists as ideal. Like Russia, the countries of Eastern Europe that joined the Bologna process faced a number of difficulties, including in archaeological education.

We see a way out of the critical situation in using the experience of the Moscow Polytechnic University in the training of higher technical personnel. The results were
summarized in a table and accompanied by the author’s comments on the ways of “self-treatment” of archeology.

As a result, it should be noted that the difficult situation in archaeology is also indicated by the fact that with the presence of the Department of Archaeology at the Faculty of History of Lomonosov Moscow State University, “since 2017, a set of applicants has been opened at the Faculty of History of the State Academic University of Humanities (SAUH) to study archaeology on the basis of the Institute of Archaeology of the Russian Academy of Sciences. The training program is built on basic education in the field of “History” with additional advanced study of archaeology, including theoretical and practical disciplines. The history of humanity is studied starting from the most ancient epochs. Students receive a wide range of knowledge and skills in the main areas of archaeological science and practice. The disciplines provide for the study of methods of field archaeology including the latest methods of archaeological research – remote sensing methods, photogrammetry and three-dimensional modeling, geophysics and much more. The teaching of specialized subjects is carried out by highly qualified practicing specialists-archaeologists, doctors and candidates of sciences – employees of the Institute of Archaeology of the Russian Academy of Sciences” [43]. Apparently, the Institute of Archaeology of the Russian Academy of Sciences is not satisfied with the quality or quantity of graduates trained by MSU. It is to be hoped that using the experience of training higher engineering personnel by Russian archaeologists-humanitarians will help overcome the difficult situation existing in archaeological education.

SOURCES


REFERENCES

11. Umenkova O.V. Field practice of students based on an archaeological expedition in the educational process during
the implementation of the Federal State Educational Standard of Higher Education. *Field practices in the higher education system. Materials of the Fifth All-Russian Conference.* St. Petersburg, LLC “VVM Publishing House”, 2021, pp. 121-123.
38. Shchapova Y.L., Grinenko S.N., Kokorina Y.G. Informatics-cybernetic and mathematical modeling of the archaeological epoch: logical and conceptual apparatus. Moscow, Federal Research Center “Information and


44. St. Petersburg State University. Official website. URL: https://spbu.ru/postupayushchim/programms/bakalavriat/arheologiya (accessed 03.02.2022)


**Information about the authors**

**Yulia G. Kokorina**  
(Russian Federation, Moscow)  
Dr. Sci. (Philol.), Cand. Sci. (Hist.)  
Senior Lecturer, Humanitarian Disciplines Department  
Moscow Polytechnic University  
E-mail: kokorina@inbox.ru  
ORCID ID: 0000-0002-2496-3958  
Scopus Author ID: 57219245095  
ResearcherID: C-1481-2018

**Makhach M. Vagabov**  
(Russian Federation, Moscow)  
Professor, Dr. Sci. (Hist.), Professor of Humanitarian Disciplines Department  
Moscow Polytechnic University  
E-mail: 9162803@mail.ru  
ORCID ID: 0000-0002-6949-9490

**Aida A. Akimova**  
(Russian Federation, Makhachkala)  
Associate Professor, Cand. Sci. (Hist.), Associate Professor of History of Motherland Department  
Dagestan State Technical University  
E-mail: aida_akimova_60@mail.ru  
ORCID ID: 0000-0003-4734-6650

**Information об авторах**

**Кокорина Юлия Георгиевна**  
(Российская Федерация, Москва)  
Доктор филологических наук, кандидат исторических наук  
Старший преподаватель кафедры «Гуманитарные дисциплины»  
Московский политехнический университет  
E-mail: kokorina@inbox.ru  
ORCID ID: 0000-0002-2496-3958  
Scopus Author ID: 57219245095  
ResearcherID: C-1481-2018

**Вагабов Махач Мустафаевич**  
(Российская Федерация, Москва)  
Профессор, доктор исторических наук, профессор кафедры «Гуманитарные дисциплины»  
Московский политехнический университет  
E-mail: 9162803@mail.ru  
ORCID ID: 0000-0002-6949-9490

**Акимова Аида Акимовна**  
(Российская Федерация, Махачкала)  
Доцент, кандидат исторических наук, доцент кафедры истории Отечества  
Дагестанский государственный технический университет  
E-mail: aida_akimova_60@mail.ru  
ORCID ID: 0000-0003-4734-6650