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Restoration and reconstruction of architectural heritage and architectural education in Central Asia and Kazakhstan

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Abstract. The article analyzes the current state of the historical and cultural heritage of the countries of Central Asia and Kazakhstan in the context of modern challenges and threats. The problems of restoration and reconstruction of the architectural heritage of these countries are considered from the perspective of architectural education in the republics of Central Asia and Kazakhstan, which differ from each other in the countries of the region. Attention is drawn to the reorganization of architectural education, considering the processes of globalization and sustainable development of the region, as well as current trends in the assessment of historical and cultural heritage in the world.

Keywords: *architectural heritage, threats, restoration, conservation, architectural education, historical buildings, ecology, historical quarter, architectural activity, ecology.*

1. Introduction

The architecture of the countries of Central Asia (Central Asia and Kazakhstan) has a century-old experience of formation and development, which is the pride of the material culture of the peoples living in the vast expanses of the ancient historical and cultural region. Outstanding examples of architecture, urban planning, and art have been created here, defining the identity of peoples and which will be preserved and passed on to future generations. Many examples of architecture and urban planning in Central Asia and Kazakhstan have become not only outstanding, but also determined the development of architecture in the Islamic region in one or another field of architecture.

Historical and cultural heritage is the source of energy, the presence of which, along with other factors, protects the world from destruction. The concern of every citizen and the state is the preservation of historical and cultural heritage as one of the cornerstones of stable, conflict-free development of society. Cultural heritage is an indispensable component of the sustainable development of mankind, it is also a necessary condition for the stable growth and development of geosystems in the global space.

Cultural heritage sites in their diversity, ranging from archaeological finds to cultural landscapes, from architectural monuments and monuments to historical cities, are significant components of our life and the pride of the people of their past. Architecture, like other arts, reflects its time. Architectural monuments as immovable objects of cultural heritage become part of a person's immediate environment, i.e. the environment in which he lives and develops.

The study and implementation of cultural and natural heritage values, as well as their preservation and, in particular, architectural monuments in educational institutions of the countries of Central Asia and Kazakhstan, is currently an urgent need in the policy of the countries of the region for

sustainable development in the face of modern challenges and threats

Modern threats to the preservation of World Heritage sites pose to society more and more new tasks on the solution of which depends the future of the cultural development of mankind, which was mentioned in 1979 by Pope John Paul II. «The present humanity is constantly threatened by what is the work of her hands, is the result of the activity of his mind, the aspirations of his will. This is the tragedy of human existence in its broadest sense» [1]. In the countries of Central Asia and Kazakhstan, dozens of monuments of architecture, urban planning, archeology, places of interest and nature are included in the UNESCO World Heritage List.

2. Materials and methods

Restoration and conservation of architectural monuments included in the list of World Heritage sites is becoming increasingly important and is becoming one of the main directions in the preservation of cultural heritage. One of the main reasons for the threat to the preservation of monuments is untimely actions to identify the causes of destruction and belated restoration, which subsequently requires a lot of money and time. The lack of necessary monitoring is the reason for such an attitude towards monuments of the past and which is the main condition for monitoring the condition of objects that are constantly under the influence of natural or anthropogenic factors.

Most of the endangered monuments are the result of certain actions or, conversely, human inaction for a long time, despite the destruction for one reason or another. Modern restoration and conservation, as well as conservation issues in general, differ in Central Asian countries. The absence of a single coordinating center affects the level and quality of security measures in each country. It is time to combine the efforts of the Central Asian countries both in research and in

methods and technologies of restoration, conservation and regeneration of architectural and urban heritage.

The Soviet period was marked by a high level of scientific work on research, restoration and conservation of historical and cultural monuments. Issues of protection and use of cultural heritage sites were also maintained at a high level. During this period, the restoration of famous architectural monuments was carried out – the Samanid mausoleum in Bukhara, the Uzgen architectural complex, the Burana minaret, the Kalyan minaret, the mausoleums of Tyurabek Khanum and Alamberdar, the Tash Rabat caravanserai, the mausoleum of Khoja Ahmed Yasawi, Babaji Khatun, Aisha Bibi and many others.

All UNESCO World Heritage Sites are maintained in accordance with the Guidelines for the Implementation of the Convention on the Protection of World Heritage Sites, while the rest of the monuments that do not fall under the requirements of UNESCO are subject to new restoration and conservation methods, which are selected independently in each country of Central Asia. In all these actions, one can find both risks and threats to the preservation of heritage. As mentioned above, the lack of timely measures for the restoration of monuments, monitoring are the main reasons for the poor preservation of monuments of architecture and especially archeology, requiring constant monitoring and care because they are all built of short-lived raw material. The problem of conservation of raw monuments is one of the most controversial due to the lack of uniform conservation techniques in the countries of Central Asia. Similar monuments in China and Iran have long been subjected to the same methods adopted in these countries, which in the process of discussion can be used in the countries of Central Asia. Attempts to combine the efforts of the countries of the region in the restoration of clay architecture over the past 30 years have not yielded tangible results. Another important problem in the conservation of raw architecture is their remoteness from populated areas. They are located in hard-to-reach places, in desert and mountainous areas, which makes their conservation expensive. After conservation, it is necessary to maintain staff to take care of the monuments, if necessary, to carry out museumification for tourists to visit. The above issues require solving issues both in terms of conservation methods and the choice of further use of monuments, depending on the distance from settlements.

The quality of restoration and conservation largely depends on the performers of the work, on local authorities, on which decisions in the field of heritage management often depend. Staff turnover, low qualifications of restorers, untimely repairs, poor quality of materials and insufficient funding are nothing more than a threat to the preservation of the monument. The preservation of monuments is primarily the preservation of historical sites, which requires significant funds and which the state is unable to allocate.

Among the threats to World Heritage sites, one of the most noticeable is the violation of the buffer zone regimes established on each monument as the main urban planning measure to protect the monument. This is especially true for buffer zones located within urban settlements. Compliance with the buffer zone regimes in a built-up area, especially if it concerns the reconstruction of old areas of the city, causes the greatest disputes between developers and monument protection authorities. Large territories of buffer zones are subject to the temptation of development and, as a result,

affect the preservation of the landscape and the monument itself. In fairness, it should be noted that there are unreasonably large territories of buffer zones, which causes negative feedback from both developers and local authorities. Such large areas of buffer zones indicate, first of all, insufficient discussion by all interested parties when determining the boundaries of buffer zones. Borders are usually agreed upon by all parties and documents are signed. The issue of choosing the boundaries of the buffer zone of the World Heritage Site requires professional visual landscape analysis in which the spatial perception of the heritage site should be objectively reflected in the choice of the boundaries of the buffer zone. At the same time, a functional analysis of the prospective development of the considered urban area should be carried out so that in the future there will be no issues of violation of the buffer zone regimes.

For example, large-scale works in the historical center of Turkestan in the buffer zone of the World Heritage monument of the mausoleum of Khoja Ahmed Yasawi are controversial. Pompous objects, ultramodern landscaping inside the walls of the settlement, and the construction of new structures contrary to historical maps and the urban fabric of the historical city may eventually take root. But we must certainly admit that the perception in the space of the mausoleum has changed, which more than 30 years ago looked dominant from all over Turkestan. Once again, we are convinced that the participation of foreign experts in the justification of such projects is not at all a guarantee of meeting the requirements of the World Heritage Protection Guidelines. The shopping center in the historical center of Taraz has also radically changed the scale of the environment and has become a «landmark» and which, of course, will take root over time. This is how the landscape of historical cities is changing. This is an inexorable change under the influence of both economic considerations and public consciousness and attitudes towards heritage, which are objectively changing in modern society. A modern museum of Islam has been built on the ancient settlement of the Bulgarians, the construction of which can only be explained by national interests and memorial value. There are many such examples, and they can be explained as the dictates of time. However, the construction of multi-storey buildings in the buffer zones of Samarkand, Bukhara, Shakhryyabs, Osh and other cities does not relate to national interests in any way.

Uzbekistan has accumulated extensive experience in working in historical cities. It has developed its own traditional approach in preserving the neighborhoods and centers of medieval cities with brick and mud buildings. The care and repair of ancient buildings in Uzbekistan have deep traditions and skills that have taken root and continue to live in modern conditions. Careful approach in the preservation of historical centers and neighborhoods is admired by tourists. The so-called typical method, popular in modern urbanism, when residents of the historical center or mahalla live and work in their traditional way of life, has long been used in Uzbekistan. Such an atmosphere in historical quarters attracts tourists and lovers of tangible and intangible heritage, which in such areas become the common heritage of the old city. This invaluable experience of Uzbek restorers should be disseminated in other countries of the region, as well as included in the methodology for the preservation and use of the historical urban environment. Many cities of Central Asia, contrary to logic and expediency, are subject to reconstruc-

tion during which the historical atmosphere, attachment to the place, and love of traditions are lost.

Among the common reasons for poor-quality research and, accordingly, restoration is the insufficient equipment of restoration organizations with modern equipment and devices. The absence of a special scientific laboratory with modern devices for studying the temperature and humidity regime in architectural monuments caused the destruction of the unique interior with ganch carvings of the Shah Fazil mausoleum in the Jalal-Abad region of Kyrgyzstan. Monitoring of monuments should also be carried out with modern equipment and even using aerospace filming, as is done when monitoring large areas in the Russian Federation.

One of the most important tasks in the field of restoration and conservation is to train new personnel who know both theory and practice in accordance with the new educational standards for training specialists in the field of restoration and reconstruction of architectural heritage. Such basic educational programs should be developed jointly, in close cooperation with specialists from universities and restoration organizations in the region. Such specialists can be trained only in close cooperation between the educational institution and the restoration industry, which brings the graduate much closer to the future profession. The Department of «Restoration and Reconstruction of Architectural and Heritage» (RRAN) of the Institute of Architecture and Design of the I. Razzakov Kyrgyz State Technical University cooperates with the NIPI Kyrgyzrestavratsiya in the process of training architects-restorers with bachelor's, master's and PhD degrees. The branch of the Department of the Russian Academy of Sciences conducts educational, measurement and pre-graduate practice of students. The archive of the NIPI Kyrgyzrestoration is used by students in the study of architectural monuments and in the performance of course and final qualifying works. Such cooperation between educational institutions and restoration organizations can be implemented in every country.

A comparative analysis of architectural education in the field of restoration and reconstruction in Central Asian countries indicates that there is some experience in developing new educational methods and technologies, training programs in the field of restoration, conservation and protection of monuments. This is evidenced by the graduation projects of graduates, completed at a high scientific level and recognized at international competitions. The project of Diana Krasnova, a graduate of the Department of Restoration and Reconstruction of Architectural and Heritage of the Institute of Architecture and Design of the I. Razzakov Kyrgyz State Technical University, received a 1st degree Diploma at the International Diploma Project Competition in Istanbul (Figure 1).

The thesis was based on the materials of the latest research by the outstanding scientist of Central Asia Nemtsova N.B. She repeatedly returned to the study of the unique monument of the Karakhanid era and for the first time made a discovery, proving that Rabat and Malik is the summer residence of the Karakhanid rulers instead of the established scientific idea of it as a caravanserai on the way between Bukhara and Samarkand [2]. The thesis provides a scientific reconstruction of the Karakhanid Residence (palace) for two construction periods, which were convincingly proved by the research of Nemtsova N.B.

Another thesis is devoted to the scientific analysis of the architecture of the Karakhanid era. «Architecture of Central

Asia of the Karakhanid era» was also awarded the highest award at the international diploma project competition (Figure 2).

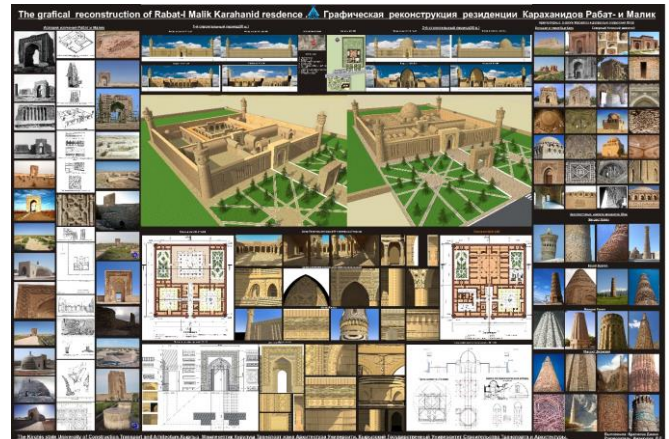


Figure 1. D. Krasnova's thesis «Graphic reconstruction of the residence of the Karakhanids Rabat and Malik»

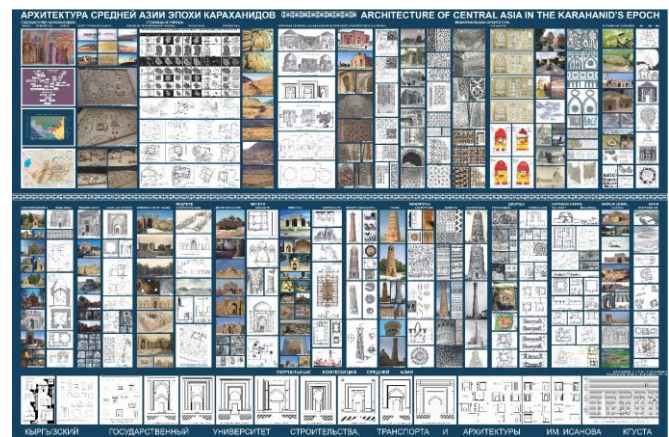


Figure 2. Thesis by Aitalieva L. «Architecture of Central Asia of the Karakhanid era»

The training of specialists with higher education in the field of «Restoration and reconstruction of architectural heritage» in higher educational institutions of Central Asia will undoubtedly become one of the important factors in the preservation of architectural monuments.

To increase the competitiveness of our restoration science, educational institutions need support and integration in the development of educational programs, the introduction and use of new innovative technologies. In the current situation, the issue of systemic actualization of higher education in the field of restoration and reconstruction of architectural heritage is being raised. In educational institutions of Central Asian countries, there are examples of diploma projects, as shown above, in which students embodied knowledge of outstanding architectural monuments and scientific research while recreating the original appearance. These projects vividly demonstrate the training of competent and practice-oriented highly qualified specialists.

In the theory of restoration and conservation, certain principles of modern restoration are being rethought and new solutions and approaches are being proposed in the field of protection and use of historical and cultural heritage. The issues of reconstruction or reconstruction of architectural monuments are currently not considered unambiguously by

ICOMOS and UNESCO experts as before. The Warsaw Recommendation on the Restoration and Reconstruction of Cultural Heritage, made at the International Conference on Reconstruction «Problems of restoring World Heritage» (Warsaw, May 6-8, 2018) [2]. Allows the restoration of lost architectural monuments. Practice has multiple examples of recreating monuments: Khujra Babur on the Sacred Sulaiman-Too Mountain in Osh, Aisha-Bibi Mausoleum in Taraz, Sultan Sanjar Mausoleum in Merv, ibi Khanim Mosque in Samarkand and other sites in Central Asian countries. Even more examples of high-quality recreation can be cited around the world. The reconstructions of these outstanding architectural monuments were in demand for their special memorial value and belonging to specific cultural contexts, which at one time were confirmed by the Nara Document of 1994 and were finally included by the Committee in the Practical Guide of the World Heritage [4]. As an example, the reconstruction of the Cathedral of Christ the Savior in Moscow can be cited. However, the fascination with reconstructions is gaining momentum not only in the countries of Central Asia, but also around the world, and often without sufficient scientific justification and documentary evidence. For example, the fortress walls in the historical center of ancient Khujand, built of modern material, are rejected by specialists, despite the attractiveness for tourists in feeling the image of a medieval city. The same walls were erected in the historical core of the medieval cities of Taraz and Kuva.

Despite some successes, there is an obvious need for a qualitative transformation both in the field of architecture, restoration and architectural education in general. In order for the Central Asian countries to integrate into the world community, it is necessary to bring the basic parameters of our (CIS countries) and foreign professional standards into line. One of the main inconsistencies is the established architectural practice in our countries, i.e. the former Union state, which is fundamentally different from the Western system of architecture. If we talk about architectural practice in the CIS countries in general, the most important difference or discrepancy is the underestimated status of an architect, architectural education, architecture in general and architectural activity in particular.

Our countries cannot boast of having Pritzker Prize laureates among architects in the field of architecture. Among the main reasons for this status of architecture are the principles or forms of architectural management that have been preserved since the Soviet period, when architecture was made dependent on construction. This has especially intensified at the present time, when the influence of the construction «lobby» in the legislative authorities is noticeable, in which a significant part are representatives of the construction industries.

In our countries, with rare exceptions, the state order for architectural education continues, which also confirms the secondary nature of architectural activity. Today, the status of architecture and architecture in the world is extremely high and it is associated with modern trends – «green city», «smart city», as well as with the desire in developed countries to create a socially prosperous human environment in which people want to live. Therefore, the higher school of architecture and the educational process itself should not be only public. Global processes inevitably lead to a change and development of the status of architecture, architectural education and architecture in general. It is necessary to develop

a creative process in architectural schools that can respond to the modern needs of people, society, economy, ecology, etc.

3. Results and discussion

Currently, new global trends and the rapid suburbanization of cities in the region require addressing issues of reconstruction, regeneration, renovation, revitalization, restoration and conservation of historical heritage sites, considering the challenges of modern society and natural disasters. The above issues are being successfully resolved in highly developed countries. In these conditions, the trends of global globalization should be used in our countries. Historical cities, which are significantly prevalent in all countries, need to be rethought both in terms of value characteristics and in preserving national identity. In these conditions, the principles of regeneration, renovation, revitalization, and revalorization of the historical environment are significantly increasing. These modern principles of the reorganization of historical cities require rethinking in the conditions of Central Asia, in which the urban environment is fundamentally different from the European city. Therefore, scientific research in the field of historical cities is becoming relevant. This, in turn, requires the creation of conditions for the training of scientific personnel in the architectural schools of the region, which currently raises more questions than answers. The most important, in our opinion, is the convergence of the forms of training of higher scientific personnel in the Commonwealth countries. For example, in the countries of Central Asia, graduate students are trained, and therefore dissertation councils have been preserved only in Uzbekistan and Kyrgyzstan,

The problem of preserving cultural heritage poses new challenges for specialists, including architects and restorers in the context of globalization and new views and trends in the field of preservation and use of historical and cultural heritage, as well as new approaches in the methodology of restoration of architectural monuments. In an environment where global standards, including educational standards, are rapidly changing, the need for new specialists with relevant knowledge, necessary competencies and competitive ones is increasing.

The intensification of globalization and the complex of problems related to environmental protection pose new challenges in the field of cultural heritage preservation. The intensification of industrial and economic human activity has a negative impact on the state of natural and cultural sites. Climate change and global warming, which lead to increased drought and an increase in the duration of forest fire seasons, atmospheric pollution, worsening weather conditions - this is a set of the most pressing environmental issues that the architectural school is designed to solve, among others.

4. Conclusions

Summing up, we can say that globalization, scientific and technological progress and the development of various spheres of the modern world not only contribute to the development and satisfaction of growing needs, but also cause certain and remote consequences in the system of monument protection, but also the future cultural heritage. «Aware of the challenges facing the cultural heritage, UNESCO has developed and adopted by the overwhelming majority this body of normative texts, the main purpose of which is to

provide legal arguments and legal principles to all States of the planet in addition to practical actions aimed at preserving the memory of mankind, both tangible and intangible» [4].

The architectural monuments of Central Asia and Kazakhstan are world heritage sites. The loss of the cultural values of the region represents the impoverishment of the world's heritage. The countries of the region and the international community unite in the protection, popularization and use of architectural monuments. The evidence of which is the annual conferences, symposiums, round tables held in Uzbekistan on the preservation of the historical and cultural heritage of Central Asia in cooperation with UNESCO and ICOMOS institutes. The problems of preserving and countering threats to World Heritage sites in modern conditions are becoming relevant and in demand all over the world. The countries of Central Asia may lose their unique architectural heritage as a result of uncontrolled urbanization, untimely and poor-quality restoration and conservation, excessive

exploitation of cultural and natural objects for commercial purposes, environmental and man-made disasters, improper management and planning. In the countries of Central Asia and Kazakhstan, there is a need for even greater joint efforts with the international community to prevent the impending dangers.

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Орта Азия мен Қазақстандағы сәулет мұрасын қалпына келтіру және қайта құру және сәулет білімі

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Андатпа. Мақалада қазіргі заманғы сын-қатерлер мен қауіп-қатерлер жағдайында Орта Азия мен Қазақстан елдерінің тарихи-мәдени мұрасының қазіргі жай-күйіне талдау берілген. Бұл елдердің архитектуралық мұрасын қалпына келтіру және реконструкциялау мәселелері өңір елдерінде бір-бірінен ерекшеленетін Орта Азия және Қазақстан республикаларында архитектуралық білім беру тұрғысынан қаралды. Жаһандану процестері мен өңірдің тұрақты дамуын, сондай-ақ әлемдегі тарихи-мәдени мұраны бағалаудағы қазіргі заманғы үрдістерді ескере отырып, сәулеттік білім беруді қайта ұйымдастыруға назар аударылды.

Негізгі сөздер: сәулет мұрасы, қауіптер, қалпына келтіру, консервациялау, сәулеттік білім беру, тарихи даму, экология, Тарихи квартал, сәулеттік қызмет, экология.

Реставрация и реконструкция архитектурного наследия, и архитектурное образование в Средней Азии и Казахстане

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Аннотация. В статье дан анализ существующего состояния историко-культурного наследия стран Средней Азии и Казахстана в условиях современных вызовов и угроз. Проблемы реставрации и реконструкции архитектурного наследия этих стран рассмотрены с позиции архитектурного образования в республиках Средней Азии и Казахстана которое в странах региона отличаются друг от друга. Обращено внимание на реорганизацию архитектурного образования с учетом процессов глобализации и устойчивого развития региона, а также современных тенденций в оценке историко-культурного наследия в мире.

Ключевые слова: архитектурное наследие, угрозы, реставрация, консервация, архитектурное образования, историческая застройка, экология, исторический квартал, архитектурная деятельность, экология.

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