



Cultural Heritage of Uzbekistan

From Petroglyphs to the Present Days

edited by
Jerzy Montusiewicz
Bakhodir Eshchanov



MONOGRAPHIE

Lublin 2022

Cultural Heritage of Uzbekistan

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Monografie – Politechnika Lubelska



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This monograph has been supported by the Polish National Agency for Academic Exchange under Grant No. PPI/APM/2019/1/00004 titled „3D DIGITAL SILK ROAD”. The printing of the monograph was financed from the Lublin University of Technology Scientific Fund No FD-ITIT-001.

Publication approved by the Rector of Lublin University of Technology

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ISBN: 978-83-7947-515-5

Publisher: Wydawnictwo Politechniki Lubelskiej

www.biblioteka.pollub.pl/wydawnictwa

ul. Nadbystrzycka 36C, 20-618 Lublin

tel. (81) 538-46-59

Printed by: Soft Vision Mariusz Rajski

www.printone.pl

The digital version is available at the Digital Library of Lublin University of Technology: www.bc.pollub.pl

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Circulation: 50 copies

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Preface

The monograph that we are handing over to the Readers is the third volume in the series started in 2021, published by the Lublin University of Technology Publishing House. When browsing its table of contents, a question may arise, how did it happen that the subject so distant from technical issues became of interest to employees of a technical university. The cooperation of the staff of the Department of Computer Science with partners from Uzbekistan began a few years ago, and since 2017, scientific expeditions have been regularly organised, the purpose of which was three-dimensional digitisation of the cultural heritage of the area related to the Silk Road. During the expeditions, both small museum artefacts and large architectural objects were scanned. The initiated cooperation resulted in the organisation of joint conferences in Poland and Samarkand (Uzbekistan): International Conferences on Information Technology in Cultural Heritage Management (IT-CHM), allowing for the preparation of many scientific publications for conferences and journals.

In 2019, the cooperation between the Lublin University of Technology and Uzbekistan allowed us to obtain a project financed by the National Agency for Academic Exchange (NAWA), under the name “3D Digital Silk Road” (project number PPI/APM/2019/1/00004). The acquisition of a new source of financing made it possible not only to continue the existing activities, but also to significantly develop them. The participants of the project are the Lublin University of Technology and 4 universities from Uzbekistan: National University of Uzbekistan (NUU) in Tashkent, Samarkand State University (SamSU), Chirchik State Pedagogical Institute (CSPI) and Urgench State University (USU).

The published monograph is the result of the International Conference “IT in Cultural Heritage of the Silk Road (IT-CHSR2021)”, which took place on December 13–15, 2021 at the Lublin University of Technology (Lublin, Poland). Among the conference participants, as many as 15 people came from Uzbekistan to Lublin, representing Uzbek universities and museums. Due to the fact that several dozen papers were delivered during the conference, articles on various types of research were selected for this volume. Thus, we have texts describing objects of material heritage – from rock drawings, Palaeolithic, bronze and pottery artefacts found in the excavation area, to urban considerations devoted to cities and architecture of the Timurid period. The monograph also includes works devoted to intangible heritage: historical topics related to the Silk Road, as well as earlier times, cultural institutions and museums established in this area, and even certain economic and political issues. Among the works there is also a text which, through the legend of the Lajkonik, connects Kraków and Samarkand – an analysis of the historical background of Ksawery Pruszyński’s story.

The authors and co-authors of the texts, collaborators involved in the implementation of the “3D Digital Silk Road” project and reviewers have contributed to the publication of the monograph. We would like to thank everyone who had a share in the preparation of this volume, despite numerous other duties.

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Editors

HISTORY RECORDED IN ROCK PICTURES (ON THE EXAMPLE OF THE TASHKENT REGION)

Abstract

The article describes the study of rock paintings found in the territory of the Tashkent region as a monument of material culture, considering the chronology, content and originality of these rock artefacts. At the same time, the article highlights the role and importance of rock art in the history of the Tashkent oasis.

Keywords and phrases: ancient art forms, material wealth, rock paintings, petroglyphs, ancient inscriptions, archeological expeditions, rock inscriptions, chronology of petroglyphs, legends, Chatkal, Chirchik, Khojakent, Qizilolmalisoy, Boshqizilsoy, Qaraqiyasoy, Teraklisoy

1. Relevance of the topic

Each region has its own history. In the study of regional history, each source specific to each period, whether material or written, plays an important role. Central Asia is a region where an important part of ancient art is located. Ancient paintings and rock inscriptions, or petroglyphs, are the most common historical monuments in the Tashkent oasis. The total number of rock paintings and inscriptions found in the Tashkent oasis has exceeded ten thousand. These priceless material treasures are distinguished not only in number, but also in chronological scope, variety of themes, originality of each image, artistic level and majesty. Some of the rock paintings around Tashkent are unique among petroglyphs found in many parts of Central Asia.

Scientists have identified rich sources of ancient rock paintings from this region that have both general and specific aspects. These include petroglyphs found in Khojakent, Qaraqiyasay, Boshqizilsay, Chatkal, Parokandasay, Ahangaron and other regions.

2. Methods and level of study

The article is based on the principles of generally accepted historical methods – historical, comparative and logical analysis, sequence, objectivity. The role of rock paintings in the history of the Tashkent oasis is shown. Ancient rock inscriptions and paintings found in the Tashkent oasis were found during archeological excavations in the upper reaches of the Chirchik River in the early 1950s.

Researcher-archaeologist H. Alpysbaev, after hearing from the locals the legends that the traces of Duldul, the legendary horse of Caliph Ali, were left in the rocks, began to study the artefacts. The animal depicted in the rock paintings was identified by the twisted horns as the argali or the mountain sheep. As a result of this research, the scientist recorded 23 images found here. Comparing these images with other finds, he dated them back to the first millennium BC [1].

In 1958 a huge collection of petroglyphs was found by T. Azamkhodjaev in the Bostanlyk district of the Tashkent region. According to the author, there were more than 250 rocks depicting mountain sheep, mountain goats, deer, dogs, wild animals, horses, etc. In addition to various animals, hunting, driving cattle, and predatory attacks are also described in these rock finds. The researcher studied more than 30 rocks that reflected such plates and photographed them. T. Azamkhodjaev comments on the period of the emergence of rock paintings: «According to preliminary data, the paintings we studied date back to the Bronze and Early Saks, i.e. the end of the 2nd century BC – early 1st century AD.»

Due to the need to study the historical monuments of the Tashkent oasis, archeological expeditions were organised in the 1960s. The expedition recorded many rock paintings in the basins of the Piskom, Koksuv, Chatkal and Chimgan rivers, as well as in the Karasuv, Kungara mountains, Ahangaron, Arashansay valley and other areas of the Tashkent region.

Archaeologist A. Kabirov found a number of ancient rock paintings in the Chatkal range. One of such finds are petroglyphs in Boshqizilsay. They are located on the western slope of the Chatkal Range, 25–30 km from Parkent, on the right bank of the Boshqizilsay near the village of Nevich.

O. M. Rostovtsev also found the location of several petroglyphs on the south-eastern slope of the Chatkal ridge, in the valley of the river Ahangaron [2]. These photos were studied by Kabirov and Khojanazarov in 1966–1967 [3].

3. Research results

Khojakent is an ancient settlement located 70 km northeast of Tashkent. The rock on which the paintings are depicted is located on the left bank of the Chirchik River, on the western slope of the Chatkal ridge. This is where the valley of the Chirchik River begins. A spring flowed near the rock. This spring is still considered sacred.

The paintings in Khojakent are 12.5 meters high and 18 meters long. The rock surface faces north-west to the Chirchik River. Most of the paintings are located at the bottom of the rock, at a height that reaches a human height. The rock surface is highly eroded under the influence of various factors. Initially, many pictures and symbols were reflected on the rock surface. Pictures that are very close to each other are stacked on top of each other. In addition to the images that are clearly visible on the rock, there are also images that have become obscure. From this, scientists have concluded that these

rock paintings were drawn at different times. Here you can find mostly vague images of different animals. The paintings in Khojakent are contoured, silhouette, line-drawn. Pictures of human figures on the rocks are also visible.

The petroglyphs of Khojakent rock paintings are basically created in the same style. Initially, the outer part of the human and animal body was marked, and then completely carved. Most of the paintings were drawn with stone weapons, and a small portion with metal weapons. The surfaces of most images are smooth [4].

The petroglyphs of Khojakent, which cover many spheres of life of our ancient ancestors, attract attention first of all with their variety of themes. Many of the paintings are remarkable for their high artistic skill.

This material cultural monument differs from the petroglyphs found in the Western Tianshan Mountains by the breadth of its historical period. Its oldest layer is Eneolithic, dating back to BC. It belongs to the first half of the 4th–3rd millennia. Some of the rock paintings found in Khojakent date back to the Bronze Age (second millennium BC), while most of them date back to the Scythian period (first century BC).

A study of the rock paintings found in Khojakent shows that most of them were carefully executed and accurately depicted. Such paintings were probably created using two tools (one placed on a stone, the other engraved). Other relatively rough images are carved using a single tool. Each piece of equipment can be clearly distinguished by its shape and size.



Fig. 1. Rock pictures in Khojakent

Qizilsay (Boshqizilsoy), Uzbek qizil 'red', soy 'stream', bosh 'head, origin', is a mountain river in Parkent and Yukori Shirchik districts of Tashkent region, the left tributary of the Karasuv on the left bank. In the upper reaches there is Boshqizilsay.

The length of the river is 54 km, the catchment area is 363 km². Seasonal changes in water levels are observed. The Red Sea is flooded from February to March, with August and September having the lowest water periods. Archaeologist A. Kabirov found a number of unique rock paintings in the Chatkal range. One of such finds are the petroglyphs of Boshqizilsay. They are located on the western slope of the Chatkal

Range, near the village of Nevich, 25–30 km from Parkent, on the right bank of the Boshkizilsay.

The petroglyphs in Bashkizilsoy are carved on the smooth surface of steep, lateral and curved rocks. They are very diverse in terms of theme, style of performance and size of pictures. Among them, scenes depicting sacrifices and other rituals are common. The pictures here also feature celestial emblems. Single and group hunting, driving animals, tigers attacking mountain goats, and dance scenes are also common. It is especially noteworthy that the wild animals are very attractively portrayed. The analysis of the petroglyphs shows that the traces shifted both in individual and in group images. In particular, some of the traces left by the equipment in Boshqizilsay are almost non-existent. This is probably explained by the shape of the equipment and the force of the shock. Many of the photos show small, circular, spherical and curved prints. And conversely, large, deep and elongated shaped scars are rare. All this confirms that metal tools were used to draw the pictures. These paintings were created chronologically in the 7th–2nd centuries BC. Archaeological monuments of different periods have been found in and around them.

The paintings are drawn on a comfortable smooth surface of the rocks, mostly concentrated around water sources – streams and springs. Petroglyphs were found at four relatively close points – Zagdaksoy, Jartoshsay, Urayliksay and Tutlisoy. In all of them, pictures of goats, camels, dogs, horses, predators and human bodies play a key role. In some of them there are ethnographic inscriptions written in the Arabic alphabet. Most of the photos are well preserved, but some do not allow a clear assessment because they are eroded. The paintings are made in the form of silhouettes, contours and lines on the surface of the rocks polished under the influence of natural phenomena. The petroglyphs in the Ahangaron River Valley do not differ from each other in their style of drawing. All the pictures are drawn using engraving tools, their shape, the traces left by the tools used are almost the same. The rock paintings found in Ahangaran date to the first century AD.



Fig. 2. Rock pictures in Boshqizilsoy

In 1974, rock paintings were found in the Chukursay and Qaraqiyasay rivers, as well as in Kul, under the name of the Piskom archeological detachment. During the following decades of research, ancient rock paintings were discovered at a number of locations in the region, which were distinguished by their richness of subject matter, originality of plots and high artistic aspects. They are located in a picturesque ravine at an altitude of 2,500 meters above sea level. Here on the smooth surface of the black sandstone and granite are found pictures of people, mountain goats, mountain sheep (argali), oxen, camels, horses, dogs, wild animals, snakes and various characters. The group scenes in the pictures are more colourful. In essence, they can be divided into two groups. Simple compositional photos depict people leading camels and horses, horsemen, archers. In the complex compositional pictures you can see scenes such as the hunting process, caravans, carriages, dance. Scenes related to domestic life and ceremonies are also common in these paintings. These photos are remarkable for their almost complete depiction of the wildlife of these mountains. Interestingly, stellar symbols, which are mainly found in the highlands of Asia and Europe, are also common here.

Relatively small rocks in the Qaraqiyasay have petroglyph-like rock paintings found in Sarmishsay and other regions of Uzbekistan. The chaotic pictures were sometimes stacked on top of each other. The fact that the rock paintings here are drawn with different shapes of equipment shows that they were created in different styles. The images in the style of small dot engraving are more subtle and elegant than the large dot ones. Some of the paintings that have darkened under the influence of the desert wind are much harder to distinguish from the colour of the rock. The oldest rock paintings here are believed to date back to the 2nd century BC. However, among the rock paintings found in Qaraqiyasay there are also paintings from the Sak period, which are distinguished by their subtlety and charm. In most cases, the paintings are made of fine stone or engraved in the style of silhouette and contour. There are also images of the later period, in particular, the period of the Turks – the period of the formation of nomadic civilisation.



Fig. 3. Rock pictures in Qaraqiyasoy

Teraklisoy paintings are the rock paintings on the Chatkal mountain range (Teraklisoy shores). It is located in the Parkent district of the Tashkent region. They were discovered in 1963 by geologist A. Agaponov and director of the Chatkal Mountain Forest Reserve T. Esipov. Studied in 1966 by A. Kabirov, the Teraklisoy paintings are simple lines, shapes and shadows. They include man, argali, mountain goat, wolf, there is an image of a snake, a wheel-shaped sun, an arrow and other objects. Separately and in many forms, scenes associated with hunting, dancing and the performance of religious ceremonies are depicted. The main part of Teraklisoy's paintings dates back to BC. Created in the second half of the 1st millennium, most of them are elegant and the human and animal limbs are designed in proportion to each other.



Fig. 4. Rock pictures in Teraklisoy

4. Conclusion

In short, rock paintings in the Tashkent oasis, with their artistic and scientific value, occupy a special place in the system of rock art in Central Asia. As a monument of art they are a valuable source in the study of ancient mountain life, culture, beliefs, customs and ancient history.

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MONUMENTS OF THE EARLY PALEOLITHIC ON THE TERRITORY OF UZBEKISTAN: KULBULAK AND SELUNGUR

Abstract

This article provides information about settlements in Uzbekistan dating back to the Early Paleolithic period, as well as about the ancient Stone Age and the stages of its division. The data of studies conducted in the Selenga cave in Fergana and in the Kulbulak space in Tashkent are presented. In short, the focus is on the first Paleolithic settlements on the territory of Uzbekistan.

Keywords: paleolithic, development, epoch, space, O. Islamov, K. A. Krakhmal, Selungur, Ko'ibuloq

1. Introduction

The emergence of man was divided into stages for the calculations of scientists. The longest lasting period in the development of mankind is the ancient Stone Age, that is the Paleolithic. The Paleolithic period lasted from 3 million to 12 thousand years ago in chronological terms. The ancient Stone Age also dates back to three periods: the early, middle and later Paleolithic periods. They also have internal divisions, a few of which can be seen in the chart below (Fig. 1).

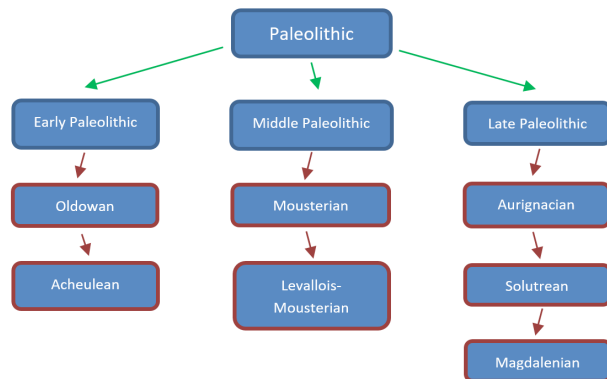


Fig. 1. Paleolithic and some of its divisions

2. Theoretical framework

Depending on the degree of development of the Paleolithic, it is divided into different stages on the basis of changes in the tools of labour. As a result of the research of geotectonic and geomagnetic phenomena of the territory of Uzbekistan, its peculiarities were determined. This leads to changes in the chronology of the Paleolithic period. For example, if the first Paleolithic period was defined between 3 million and 100 thousand years in World archeology, in Uzbekistan it was previously considered that it lasted from 1 million to 100 thousand years, but in later periods the achievements in archeology caused this date to change. On the basis of the new method of archaeological periodisation, it was necessary to determine that it lasted from 2 million to 200 thousand years.

3. Methodology

By the end of the Acheulean period of the first Paleolithic, the air was sharply cooled, the Ice Age began, geologists and archaeologists found that there were 4 Ice Ages on earth – the glaciers Günz, Mindel, Riss and Würm.

During this period, glaciers were formed in the mountainous zones of Central Asia. In the lowlands, however, where rains were continuous, lakes and rivers were formed.

The locations of the first Paleolithic period were found in more than 20 places in Central Asia and Asia. In Particular, “Yangadja” in Turkmenistan, “Onarcha” in Tajikistan, “Qizilqala”, “Qayroqqum”, “Ko‘hipiyoz”, “Xo‘jago‘r”, “Uchqo‘rg‘on” in Kyrgyzstan. In the Fergana Valley “Selungur”, the lower layer “Ko‘lbuloq” in Tashkent and others are the first Paleolithic settlements.

In the studies of monuments of the Acheulean period from the territory of Uzbekistan by such investigators as O. Islamov, K. A. Krakhmal, M. Qosimov or T. Omonqulov we can make examples of their research as follows [1].

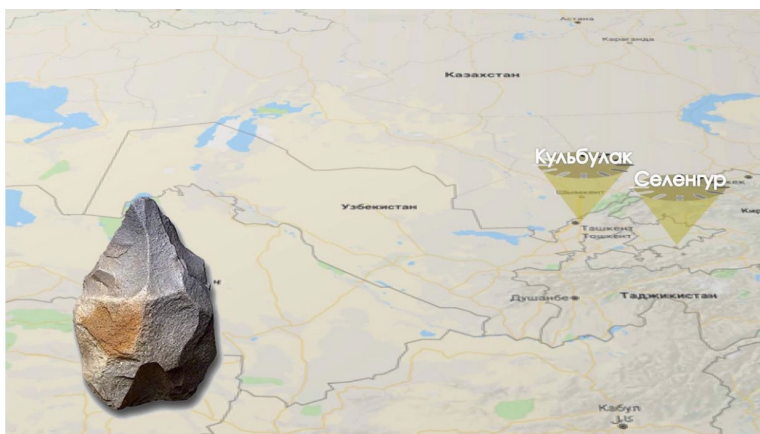


Fig. 1. Location of Kulbulak and Selungur

4. Main part

The territory of Uzbekistan includes some of the most famous places of the Paleolithic period, where much research has been carried out. These are the Selungur Harbour in Fergana and the Ko'lbuloq sites in Tashkent.

The cultural monuments of the first Paleolithic period are those of Selungur, which were found in 1985 in the Valley of Lake Bulak and Fergana, which were found in 1963 in the Tashkent region. The oldest weapons in Uzbekistan were found here. They are rough river stone weapons, one side of which is sharpened. Stone weapons made in such a way are called choppers by scientists. If the cultural monuments of Kulbulak are considered, the most ancient cultural monument on the CIS scale are the Selungur bone remains of a primitive man. The foundation stone of our early history was originally laid by our ancestors in the Selungur Cave, whose age is determined at 1 million 200 thousand years. Our history begins with the archanthropes that found in the Selungur cave. The ancestors of the peoples of Central Asia first appeared in the Fergana Valley, and from time immemorial the descendants of the Ulama have lived without interruption [2].

Selungur harbour – The territory of the Fergana Valley is the most unique place of the Acheulean period. The Selungur cave is located in the south-west of Fergana on the western edge of Haydarkon. The cave was originally studied by academic A. P. Okladnikov in 1958, and several stones were found there whose age was determined as belonging to the last Paleolithic period. In 1980–1988 the Paleolithic detachment of the Institute of Archeology of the UZR, headed by archaeologist O. Islamov, re-examined Selungur. In the course of the research [5], cultural layers consisting of an average thickness of 20–40 cm were determined at a depth of 7 meters. Labour tools made of stone, hand grappling tools, blunt axes, knife-like weapons, gear weapons and ones resembling a bird's beak have been mined. From the fifth layer, a handshake belonging to the Acheulean period was found. It is the first weapon our ancestors used. It has a malleable shape and is made of red jade stone.



Fig. 2. Archaeological artefacts, including ceramic vessel shards

Human bones, which are the most important finds of the site, are found in layers 3 and 2. There, a piece of a man's shoulder bone, a piece of the anterior part of the skull and 14 teeth were found. Anthropologists studied them and identified them as archanthropes, who lived during the Acheulean period. The debate about the period of man's residence at Selungur and his build has not yet ended. The teeth found here belong to 4 people. One of these is a lower tooth, which is thought to be that of a 40 year-old female. The Selungur man has a peculiar structure. It occupies an intermediate space between archanthropes and polyanthropes. According to the anthropologist Zubov, it is a local species of archanthropes. Scientists called it Ferganantrophe to show its specific side. This man used fire and engaged in hunting and farming. The discovery of Ferganantrophe showed that Central Asia was assimilated during the first Paleolithic period. Even earlier, when determining the age of the Selungur site, scientists came to a general conclusion that he lived more than 800 thousand years ago. But in later periods, as a result of the research carried out by archaeologists Krakhmal and Islomov and the involvement of many industry experts in this work, the age of the site was estimated to be 1.2 million [3].

Ko'lbuloq harbour. The lake harbour is a multi-cultural stratified monument belonging to the ancient stone (Paleolithic) period, it is located in the north-west of the village of Oblik, 10–12 km west of the city of Angren, that is, on the bank of the Jarsoy on the south-eastern slope of the Chotkol mountain.



Fig. 3. Archaeological artefacts, including flintstone tools

The address of the Ko'lbuloq is multi-layered, it has layers of the first, middle and last Paleolithic period. From there, 49 cultural layers have been found today. This site was initially identified in 1963, and in 1963–1970 a group led by archaeologist M. R. Qosimov studied more than 10 layers of the Ko'lbuloq site. The two lower layers, located at the depth of 730–830 cm, correspond to the first Paleolithic phase. At these layers large, clearly processed stone weapons and animal bones were found. Other cultural strata found from the upper part of the lake area have proved that people also lived here in the middle and last stages of the Paleolithic period.

The upper layers of the Ko'lbuloq site, with a thickness of 1.5–2 m, belong to the last Paleolithic period and were studied on an area of 600 m². As the excavation deepened, its area became narrower. Eleven metres from the Ko'lbuloq site the middle layers of thickness belong to the Mousterian period, under which a layer of pure sand with a thickness of 0.7–0.8 m was found. And below it opens a lower layer of 5 m thickness, which belongs to the Acheulean period.



Fig. 4. Archaeological artefacts, including stone tools

According to the researchers of the Ko'lbuloq site, the life of the ancestors lasted from the last stage of the lower Sheystos to the end of the Upper Pleistocene, that is, life in Ko'lbuloq began more than 600–700 thousand years ago and lasted until 40 thousand years BC. From each period layers of the Ko'lbuloq site, very rich stone weapons and the corresponding animal bones were found. And from the layers of Mousterian and Upper Paleolithic, remains of the furnace, fragments of burnt animal bones were found. According to the technique of processing of stone weapons, the “industry” of Ko'lbuloq Stone has its own qualities. Paleolithic specialists gave it the status of a Ko'lbuloq site workshop.

As a result of joint work of archaeologists from Uzbekistan with foreign colleagues in 1993–1998 in Gölbulak, many cultural layers related to all stages of the Paleolithic, in particular 22 of the first Paleolithic, 24 of the Middle Paleolithic and 3 of the last Paleolithic were identified. In 2007, excavations were resumed and the research was

continued in Qızılmasoy. The material culture items found as a result of the new research gave an opportunity to further clarify the stages of formation and development of the ancient stone age industry [4].



Fig. 5. Archaeological artefacts, including stone tools

So far, research has been conducted on the site at a depth of up to 19 m. First, it was thought that synonyms for the middle and last Paleolithic periods were found. From the layer of the first Paleolithic period, hand-made incisors and simple stone scrapers were found, the technique of which was characteristic.

The most ancient people were very different from the man of the present time. They walked on two legs, bending forward, their hands hang to their knees and they were able to perform simple actions – holding, beating, squatting, etc. The forehead of the ancient people was narrow, the brain was small, they could not yet speak, but made a ring-stringed voice and expressed anger and fear, or could call for help. The first Paleolithic people built various weapons from stone, bone or tree branches to hunt and find food by harvesting. Due to this, they are called *homo-habilis* – ‘man of the wrist’.

Nevertheless, ash and coal remains and various animal bones were found there. People who lived in Ko‘lbuloq sustained themselves by hunting and engaged in thermiculture. It was a residential area occupied continuously for several hundred thousand years in the Stone Age, and is considered a unique base monument not only in Central Asia, but is also used in determining the age of monuments of the regions of the Middle East.

5. Conclusions

The sites belonging to the first Paleolithic were Burikazilgan, Tanirkazilgan, Qizqala, Selungur, Onarcha, Yangadja, Qizilqala, Qayrokkum, Kohipiyoz, Khodzhagur, Uchkurgan, Qizilulmasoy and Toshsoy (Ohangaron). The first Paleolithic layers in all of these spaces were opened and more than 100 chopper, nucleus, scraper and comb stone weapons were found there.

In the years of independence, many achievements were made in the study of the first Paleolithic period. The services of such archaeologists as Islamov or Krakhmal have been remarkable. Currently, new investigators are involved and they will continue to conduct research in the future and provide us with new findings.

Studying the history of our country means that we must also strive for the future of it. Everyone should know their native land and its past. Therefore, it is necessary for every citizen of Uzbekistan to read the history of their homeland, as there is no future without history.

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HISTORICAL RECONSTRUCTION OF THE BRONZE AND EARLY IRON AGE OF CENTRAL ASIA: ETHNOCULTURAL PROCESSES, MIGRATIONS AND ECONOMIC RELATIONS

Abstract

The article addresses the problem of historical reconstruction of the bronze and early iron age of Central Asia. It focuses on the ethnocultural processes, migrations and economic relations. Historical and cultural formations had their territorial development in historic-geographical areas – zones of deserts, steppes, foothills and river valleys. For example, the Kelteminar culture of the Neolith Age, originally allocated in the Southern Aral Sea, as economic-cultural type had a much wider circulation (East Caspian, Uzboy, Ustyurt, Western Kazakhstan, Internal Kyzylkum and the Zarafshan valley). Archaeological and topographic data on the direction of the ancient roads that passed between the Amu Darya and Syrdarya rivers have been significantly expanded.

Keywords: archaeological sites, bronze age, Neolithic age, Eneolithic age, migration, ancient roads.

1. Introduction

Since the end of the 1930s, in the process of expansion of archaeological research in Central Asia, along with the publication of materials and definition of their chronology, questions have been brought up of historical reconstruction according to archaeology. And especially in the 1970s and 1980s, in the course of historical interpretation on the basis of archaeological sources, there have been questions about reconstruction of the social and economic relations, cultural and ethnic communications of ancient societies.

Working out a sociological and ethnocultural model of reconstruction based on the study of objects of material culture has allowed to investigate many pressing questions of ancient history successfully. At the same time a number of problems of division into districts and the cartography of economic-cultural types, as well as the historical and

cultural areas of Central Asia of the Stone, Bronze and Early Iron Ages have not been studied sufficiently.

In the process of archaeological study of the characteristics of regional population location, it is important to study such issues as sedentary, semi-sedentary and nomadic lifestyle, the degree of assimilation of regions and the density of territorial location, the interaction of population and geographical environment. One of the main tasks is to thoroughly study the sources for cartography and choose a cartographic rule that gives results close to historical reality. The beginning of archeological research is associated with preliminary research, which included an amount of ancient monuments (settlements, fortresses, castles, urban ruins, etc.), the scale of development of the oasis, artificial irrigation lands, ancient cultivated fields and surrounding livestock. It is important to collect information about the pastures used for this purpose.

The boundaries of the territorial location of different periods did not coincide. Therefore, the task of mapping chronologically different historical stages is a requirement. By comparing them, it is possible to obtain information about the territorial boundaries of oases and historical regions, to determine the characteristics of the development of the territories, the density of settlements and the dynamics of territorial changes.

2. Literature review

The issues of migrations and ethno-cultural processes in different years researched by C. C. Lamberg-Karlovsky, R. Mc. Adams, R. H. Dyson, P. Kohl (USA, Harvard University, East Institute of Chicago University), J.-C. Gardin, H.-P. Francfort, J. F. Jarrige, M.-H. Pottier (Centre of National Scientific Research, Paris), V. M. Masson, B. A. Litvinsky, V. I. Sarianidi (Archaeology Institute of Academy of Science, Russia), A. A. Askarov, E. V. Rtveladze (Academy of Science of Uzbekistan), A. I. Isakov, L. T. P'yankova (Academy of Science of Tadjikistan).

3. Analysis and results

Historical and cultural formations had their territorial development in historic-geographical areas – zones of deserts, steppes, foothills and river valleys. For example, the Kelteminar culture of the Neolith Age, originally allocated in the Southern Aral Sea, as economic-cultural type had a much wider circulation (East Caspian, Uzboy, Ustyurt, Western Kazakhstan, Internal Kyzylkum and the Zarafshan valley). Considering the presence in this culture of local variants, and also the primary and secondary centres of development, it was the economic-cultural type, characteristic of the tribal communities which were at one level of development, living in similar natural-geographical conditions in an extensive territory.

ARCHAEOLOGICAL SITES OF NEOLITHIC AGE

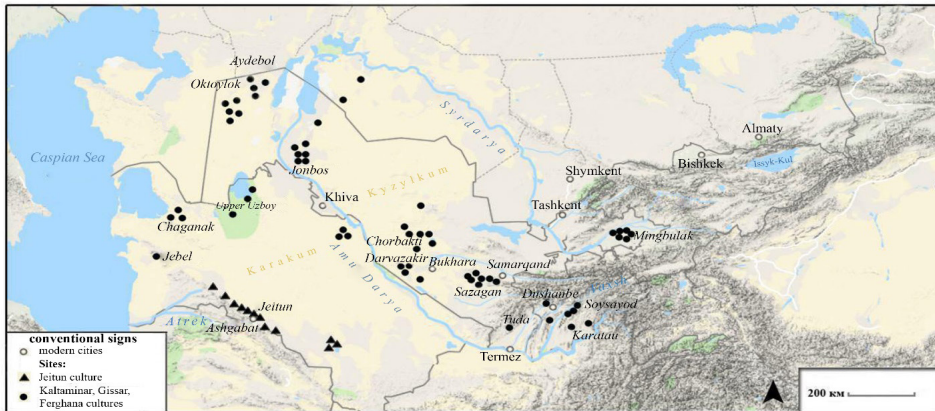


Fig. 1. Archaeological sites of the Neolithic age [1]

In separate historical and cultural areas there could be various economic-cultural types. The archaeology of Bactria of the Bronze epoch testifies to it, in particular the development of successive prevailing branches of economy: agriculture-cattle breeding (Northern Afghanistan, Southern Uzbekistan), cattle breeding (Southern Tajikistan), mining crafts (the Panj basin – Northeastern Afghanistan). They point to the originality of material culture, as well as dwellings and settlements.

Therefore, the cultures of the Bronze Age in Central Asia are studied according to the lifestyle of the population and the leading forms of economic activity dividing into the following regional groups:

- 1) South-west of Turkmenistan. Front of Capet Mountain, Atrek River oasis (North Parthia and Dagestan).
- 2) Lower Murgab oasis (Margiana).
- 3) Northern Afghanistan, Surkhan oasis (Bactria).
- 4) Southern Tajikistan (Bactria).
- 5) Zarafshan oasis (Sogdiana).
- 6) Southern Aral Sea (Khorezm oasis).
- 7) Tashkent oasis (Chach).
- 8) Fergana Valley and Tyanshan (Yettisuv Group) [2, p. 153].

In the early Bronze Age, south-west of Turkmenistan was the most culturally and economically developed country in Central Asia. This is because during this period there appeared large centres (Altintepa, Namozgohtepa) with an area of 25–70 hectares, together with small ones [3]. In the middle of the 3rd millennium BC, there appeared houses with many rooms built of raw bricks in large centres. They were inhabited by 3–4 small families, who were members of a large patriarchal family related by their father. They owned their own property and production facilities and carried out their economy independently [4].

According to the geographical conditions of southern Turkmenistan, in ancient times, the potential for cultivation was limited by natural conditions. Crop production and artificial irrigation were closely linked to the annual water balance of the Capet Mountain streams and agriculture was cultivated on a relatively narrow plain between mountains and deserts.

Rain-fed farming was also developed in the Capet Mountain slopes and harvest was obtained from the irrigated land twice a year (about 20–30 centners of grain per hectare), and the population began farming through plowing the land [5, p. 212–213]. In addition, livestock breeding played an important role in food production. The Karakum steppes were comfortable for feeding small cattle, sheep and goats; the increase in the number of small cattle in the Bronze Age compared to the Eneolithic was based on archaeological data, as well as the hunting of wild animals (pendants, pigs, gazelles and antelopes) [6].

All this determined the standard of living and the stability of people's lives for centuries despite the geographical features of the piedmont and wilderness areas. Thus, the earliest cities such as Namozgoh and Altintepa, craft and trade centres were established in the agricultural oases. However, due to the rapid population growth and limited artificial irrigation capacity, large groups of the population of Capet Mountain had to move to the lower Murgab lands [7].

The Eneolithic and Bronze Ages there were difficult processes of interaction of the autochthon population with the tribes getting into a region from other territories. The most ancient migrations have been caused by ecological, economic and social factors [8].

With the beginning of development of metallurgy of copper and bronze the lack of separate kinds of raw materials for craft manufacture promoted intensive development of an exchange and trade. Finally this process became inter-regional or international in character. In this case the important role in the course of trading interrelations was played by concentration in some areas of rare minerals and ores of different metal products, which raised demand for them.

During the Eneolithic period, from about the middle of the 4th millennium BC, the oases of the Kukcha, Kunduz, Darya Bangi and Sheravan rivers in the Amu Darya – Panj basin were gradually occupied by population groups migrating from the Baluchistan – the Indus Valley [9, p. 173].

During the Eneolithic and Early Bronze Age, the Sarazm settlement was formed in Zarafshan oasis (15 km west of present-day Panjikent); the tribes, who migrated from highly developed cultural-economic areas, founded that settlement (Baluchistan, Southern Turkmenistan) [10]. In this point, it is necessary to consider the presence of minerals, copper and tin deposits in the upper and lower reaches of the Zarafshan River and in the Kyzyl-Kum [11].

MIGRATION DIRECTIONS OF ENEOLITHIC PERIOD

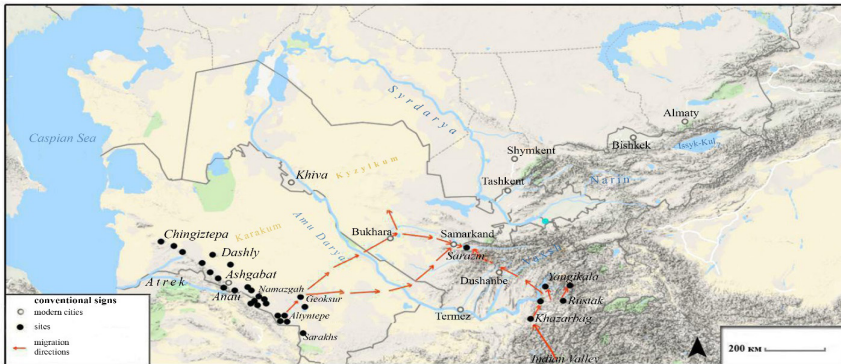


Fig. 2. Migration directions of eneolithic period [1]

For example, the Badakhshan mountain, located on the eastern frontiers of Bactria, had long been known for minerals. Ancient Greek historian Ctesias informs us about the presence in Bactria silver and gold-bearing mines. Copper-tin mines, as well as quarries of a semiprecious stone, turquoise, were known in the Zarafshan valley and the Kyzylkum desert.

Raw material sources, necessary for metallurgy and crafts, promoted development of distant trade. In this regard, the conclusion that at the beginning of the 2nd millennium BC Assyrian trading caravans travelled after tin to such far-away sources as Afghanistan [12] is viable.

As examples of accumulation of values by means of exchange and trade may serve the Hak treasure in Fergana valley and the Fullol treasure in Afghanistan, both from the Bronze Age. The techniques of manufacturing ornamentation in the Fullol treasure (silver and gold bowls) find analogies in the craft production of Mesopotamia [13]. It is known that Assyrian merchants, in exchange for exported goods, got gold and silver [14]. Ctesias mentions Bactrian dealer jewels [15].

Already in the 4th–3rd millennium BC the territory of Central Asia becomes a zone of more and more amplifying migratory processes connected not only with development of new agricultural oases, but also search of sources of raw materials for developing metallurgy (copper, tin, lead). At this time representatives of early peasant communities of Balochistan get from the Indus valley through the Bolan pass in the mountains of Hindu Kush into the Panj-Kokcha river basin (Northeast Afghanistan), and then into the upper courses of Zarafshan. Here agricultural tribes from the southwest of Turkmenistan move at this time, thus accounting for the settlement of Sarazm [16].

ARCHAEOLOGICAL SITES OF BRONZE AGE

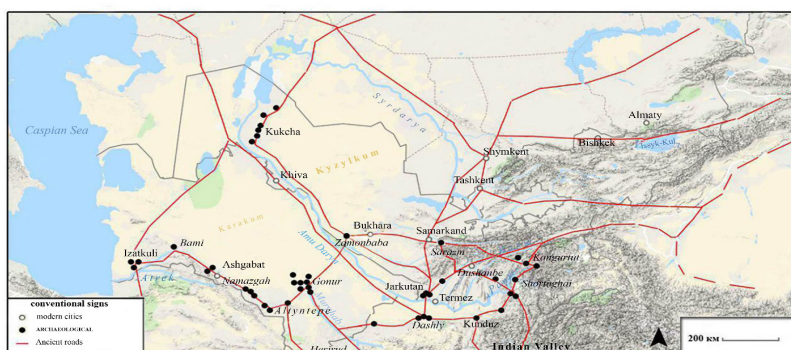


Fig. 3. Archaeological sites of bronze age [1]

More regular trade relations between the population of southern Central Asia and the Indus Valley begin in the middle of the 3rd millennium BC, when the Shortugai trading post was founded on the left bank of the Panj River, which is located more than 1,100 km from Mohenjo-Daro – the centre of the Indus civilisation [17]. Most of the currently known cities and settlements of this civilisation (about 1000) are located in Pakistan and Northwest India. The concentration of these settlements in areas adjacent to the Arabian Sea and at a considerable distance from it, in the remote mountainous and foothill areas (Rupar, Manda, Rahman Dheri), already outwardly indicates that trade was of great importance for the large population of the Indian civilisation. Moreover, as has been proven, long-distance trade was facilitated by both land and sea routes. Archaeological materials obtained as a result of the study of individual settlements of the Indian civilisation located on the coast of the Arabian Sea serve as confirmation of the presence of sea routes. From here, along the coast of the Arabian Sea through the Persian Gulf, the sea route led to the cities of Sumer [18]. Obviously, merchant ships also delivered gold, silver and lapis lazuli from India to Sumer, the deposits of which were located in the mountainous regions of Bactria.

Thus, the population of the historical and cultural regions of the south of Central Asia, through trading posts such as Shortugai, maintained real trade relations with representatives of the Indian civilisation. Another ancient route, known as “lapis lazuli”, connected Bactria with Western Asia. This road was used to deliver Bactrian lapis lazuli to Elam, Mesopotamia and Egypt [19, 20].

At the end of the 3rd millennium BC there is a massive migration of the population of Western Asia to Margiana and Bactria. It was caused by population growth, limited cultivated land and pastures, lack of raw materials necessary for the development of metallurgy, as well as the increasing frequency of wars for the possession of arable land and trade routes. Colonists from Mesopotamia and Elam came to Margiana and Bactria with property and livestock. These were farmers, artisans and builders who knew architectural and planning techniques, who used geometric systems of

architectural proportions in complex defensive structures, as well as in the process of erecting monumental buildings. It was a highly developed, organised society with a management system, as evidenced by the presence in Margiana-Bactria of palace and temple households (Gonur, Dashly, Djarkutan).

Only in the lower reaches of the Murgab (Margiana) River, settlers simultaneously founded more than 100 settlements, and the territories of northeastern Afghanistan and southern Uzbekistan (Bactria) were also developed on a large scale [21]. All this testifies to the broad nature of migrations. Migrants did not confine themselves to the areas of initial settlement. They developed foothill oases to the north of the Oxus – Amu Darya. In the settlement of Shortugai, the Harappa cultural tradition is replaced by the Bactrian innovation [22]. From here, crossing the Hindu Kush, the colonists reach the Indus Valley. They also penetrate into the valley of the Zarafshan River (Sogdiana) and Eastern Fergana, where artefacts of the Bactrian-Margiana archaeological complex were found [23]. From the Fergana Valley, migration apparently continued to the Tarim River basin. All this testifies to the fact that in the Bronze Age a path was paved to the borders of China. This path started off the banks of the Amu Darya.

At the end of the 3rd millennium BC on the territory of southeastern China, in the lower reaches of the Yellow River valley, the highly developed Erlitou culture is being formed. Here, as well as in Margiana-Bactria, urban centres arise independently, in the planning scheme of which temples and palaces were distinguished. This feature is characteristic of all early civilisations within the Near and Far East.

During the Bronze Age, metallurgy, handicrafts and domestic trade developed intensively in China. All this made it necessary to search for new sources of raw materials, which created the basis for expanding foreign economic relations. This is how the northern and western routes of historical and cultural interactions between different, distant regions were formed.

ANCIENT ROADS CONNECTING THE INDIAN VALLEY,
NEAR EAST AND CENTRAL ASIA



Fig. 4. Ancient roads connecting the Indian Valley, Near East and Central Asia [1]

In recent years, archaeological and topographic data on the direction of the ancient roads that passed between the Amu Darya and Syrdarya rivers have been significantly expanded. They led through the Tashkent oasis to Central Kazakhstan and Western Siberia, as well as along the Amu Darya and the Aral Sea region to the Southern Urals. Attention is drawn to the appearance in the Bronze Age in the Urals of chariots (Sintashta) and wheeled carts in Margiana (Gonur), burials of horses, rounded in terms of settlements of the Arkaim (Ural) culture and a round fire temple Dashly 3 in Bactria.

Such routes were intensively used for transit traffic and pack transport. In the Bronze Age, a camel, a horse and a donkey served for pack transport and transport purposes. The bones of these domestic animals were found during excavations in the settlements of Margiana, Bactria and Khorezm.

**ARCHAEOLOGICAL SITES AND OASIS IN VII-VI BC
(MARGIANA, BACTRIA, SOGD)**

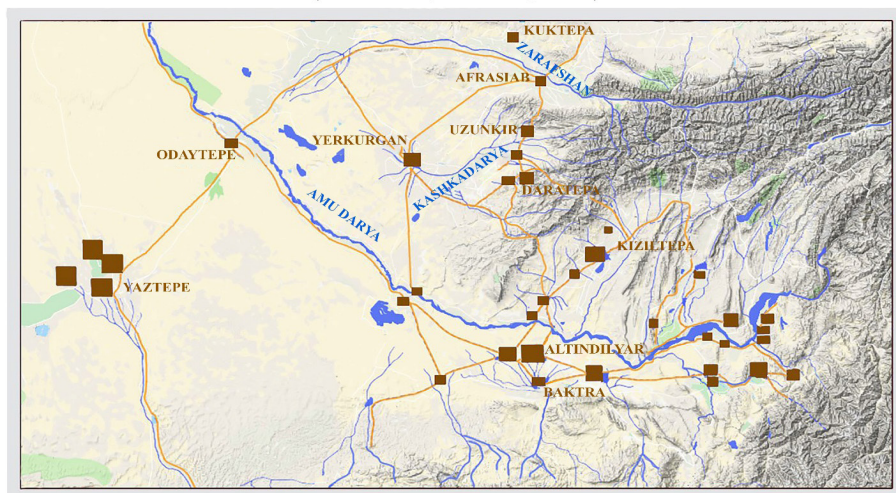


Fig. 5 Archaeological sites and oasis in 7th–6th cc. BC (Margiana, Bactria, Sogd) [1]

The presence of a wide network of roads contributed to the intensive development of domestic and foreign trade. The direction of the early roads, which were formed in the Eneolithic and Bronze Age, coincided with the routes of trade routes of subsequent periods. It is known that gold from Altai came to Iran through the territory of Central Asia. These trade routes connected with the famous “royal” Achaemenid caravan road, which began on the Mediterranean coast and led to Susa, and then to Bactria and India. Thus, various data indicate that the origins of the Great Silk Road date back to ancient times. Already in the 4th–3rd millennium BC roads are being formed that will serve as the main directions of the Great Silk Road. They passed through Central Asia. This is the route of the western route of the Great Silk Road leading to the shores of the Mediterranean Sea, the northern route to Eastern Europe and the southern branch to India.

It was in the Bronze Age that the most ancient routes were formed, which began to be intensively used for exchange and trade. All this reflects the complex processes of genesis and evolution of the ancient ways of economic, historical and cultural interactions between different civilisations.

Today, the problem of the revival of ancient routes, the construction of new, modern transit roads is acquiring fundamental importance. And this is also relevant because the 21st century is becoming a century of broader economic integration, of the development of close cultural interactions between different peoples and states. All this has a rich past, deep roots and stable traditions that need to be purposefully developed in our time on a qualitatively new basis.

Another fundamentally important problem is the ethnic geography of the Bronze Age and the Early Iron Age, an essential part of which is the cartography of ethnic territories and settlement boundaries, as well as the cartography of migrations and ethnocultural processes.

At the international symposium on ethnic problems of the history of Central Asia in antiquity, held in 1977, the thesis was first put forward that the 2nd millennium BC is an important period in the ethnogenesis of the peoples of Central Asia, that it was at this time that the foundation for the formation of the modern peoples of the region was laid [24]. The reports of the participants of the symposium considered the settlement of Indo-Iranian tribes, linguistic, archaeological and historical and cultural aspects of the so-called Aryan problem associated with the migration to Central Asia of the steppe cattle breeders of the Andronovo culture of the Bronze Age. According to another hypothesis, the ancestral home of the Indo-Iranians was localised in Asia Minor.

In the historiography of the 20th century the majority of scholars recognised that the Aryans belonged to the Iranian-speaking tribes. Linguistically, the discussion itself at the beginning of the 21st century retained not only the “proto-Iranian” aspect, but also acquired a “proto-Turkic” colour. At the same time, the problem of the spread of the language in the Bronze Age became more dominant than other issues of ethnic history.

In the 1990s, in connection with the beginning of a large-scale reassessment of the ancient history of the peoples of Central Asia, in a number of publications the theory of the straightforwardness of ethnogenesis processes in the context of the ethnocultural offspring of the modern people from the “ancient Aryan population” of the region took over. The idea of the Aryan and other “great” heritage was associated with a broader localisation of the historical ancestral home of the individual peoples of Central Asia. Discussion on this topic, in such a content, goes beyond the study of purely scientific problems. The point of view about the ethnic foundations of the modern peoples of the region in the cultural monuments of the Bronze Age and the ethnisation of the ancient historical and cultural heritage does not always meet the requirements of purely historical research.

The theory of the straightforward development of ethnogenesis is refuted by the proven position of the synthesis of autochthonousness and migration, as the driving

force of the ethnocultural process. Ethnocultural synthesis and the manifestation of ethnocultural innovation were noted in the history of Central Asia not only in antiquity, but also in the Middle Ages, as a multi-stage integration of ethnic groups and cultures – autochthonous and newcomers, sedentary and nomadic.

4. Conclusions

In this regard, the study of the problem of the formation of historical and cultural areas, issues of ethnic geography and cartography of Central Asia is of current importance. Also significant is a non-hypothetical definition of the chronology of the beginning of the formation of the foundations of the modern peoples of the region (for example, the 2nd millennium BC), but a scientific study of the multitude or diversity of ethnic, cultural, socio-economic, religious and political processes taking place in Central Asia. Any tribes and ethnic groups (for example, the same Aryans or others), as well as ethnocultural communities and states that existed in the history of Central Asia, cannot symbolise the entire history and culture of this region.

In the process of the formation of new historical thinking, a concretely historical approach to the study of the problems raised above would help to avoid building an outwardly attractive pseudoscientific world of the past, mythologising history, embellishing and over-idealising distant events, as well as refusing to exaggerate the ethnic exclusivity of any peoples.

It has long been recognised that solving the complex problems of ethnogenesis and ethnic history of Central Asia requires the generalisation of data from various scientific disciplines – archeology, anthropology, paleogeography, linguistics and source study, ethnic and historical geography. Thus, the complex nature of the topic necessitates cooperation between different specialists, which will affect scientific progress in this direction. At present, close international scientific cooperation of both scientists of the region and other countries can contribute to a more successful study of topical problems of the ancient history of Central Asia.

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MODERN TECHNOLOGIES IN ARCHAEOLOGICAL RESEARCH (ON THE EXAMPLE OF THE LATEST RESEARCH IN THE KHOREZM REGION)

Abstract

Archaeological research is a labour-intensive process that requires the researcher to have great physical strength in addition to knowledge of many areas. In recent years, modern technologies have become widespread in developed countries. In Uzbekistan, this process is just beginning. The article discusses some of the technologies used in archaeological excavations and searches in the Khorezm region (Khumbuztepa, Kalajik, Kat-Kala and Khiva). In particular, the use of a laser theodolite in measurements is important for high-precision measurements, facilitating the work of researchers. It also highlights the application of various technologies by students during their archaeological practice.

Keywords: archeology, modern technologies, GIS, lidar, aerial photography, earth interior imaging technology, Khumbuztepa, Kalajik, Kat Kala, Khiva.

1. Introduction

In the recent decades, the science of archeology mastered the latest achievements of technological development and gained new opportunities in the study of history. Archaeologists are achieving more reliable and accurate results with the help of magnetic and electrical engineering, satellite imagery and geographic information systems, 3D modelling, and various detection methods.

2. Literature review

Monuments of the Khorezm region were studied by many archaeologists at different times. In particular, studies were carried out by S. P. Tolstov, Ya. Gulyamov, M. Mambetullaev, N. Yusupov, Sh. Matrasulov, V. Yagodin, G. Khodzhaniyazov, K. Sobirov and others. In recent years, the studies of S. Baratov, R. Abdirimov, B. Sadullayev are relevant for the subject under study, as they began to use new modern technologies in Khorezm archeology. In world archeology, methodological assistance is provided by the studies of such authors as D. Whitley, M. Gillings, R. Gary, J. Conolly, M. Lake, S. Vasilev, A. Derevyanko, A. Prokhorov.

3. Research and results

In world archeology, there are many directions and schools that are constantly replenishing their scientific arsenal with new research methods, the use of which will undoubtedly provide new factual material. Any archaeological research usually begins with a careful study of aerial photographs and topographic maps. The development of digital equipment now allows a new look at aerial photography, controlling the sharpness and contrast of the image. In addition, combining several images into one using different computer programs speeds up and simplifies research.

The use of GIS and aerial photography has allowed scientists to achieve unprecedented heights in the field of analytics. Infrared sensitive film that reflects changes in humidity and temperature is commonly used to capture many details that are not visible in a simple black-and-white or colour photograph taken from the air. The data of an electronic total station (laser theodolite) in combination with aerial photography make it possible to apply image scaling techniques.

4. Reconnaissance research and photography of monuments from the air

Recently, archaeologists have also begun to use the achievements of astronautics in their research. The use of this method in major archaeological expeditions to Central Asia began in the 1930s. An example of this is the Khorezm archaeological and ethnographic expedition. The members of this expedition (S. P. Tolstov, Ya. G. Gulomov) found, photographed and mapped about 100 historical monuments previously unknown to science in the lower reaches of the Amu Darya and Syr Darya.

In recent years, some data obtained from spacecraft and satellites have also been used in archaeological research. For example, archaeologists in Russia, China, and elsewhere have used images from space to identify ancient sites, roads, and riverbeds. This information will help to reorganise the work, it is now possible to locate archaeological sites while sitting in the rooms. Archaeological excavations will then be carried out on monuments that are considered important. To date, many archaeological sites have been discovered by these methods. In general, cooperation with astronauts made a great contribution to the development of work on the search for and study of traces of ancient culture [5].

Aerial reconnaissance and photography of archaeological sites in the deserts of Central Asia are carried out mainly from aircraft. Apart from the Khorezm Archaeological and Ethnographic Expedition, these methods are used by other major expeditions such as UTAK (also by the Complex Archaeological Expedition of Southern Turkmenistan in 1961).

Currently, the search for monuments with the help of aviation involves 2 main tasks.

1. Aerial visual observation of monuments from the sky. The purpose of this method is to determine the order of the monuments, their relationship with each other and the landscape, as well as to find unexplored monuments and put them on the map.

This information will help in the proper organisation of archaeological expeditions to study the monuments.

2. Also, simultaneously with the aerial visual method, aerial photography of monuments with special cameras is widely used. In this case, the general structure of the monuments is determined. Images are usually taken on a large or medium scale.

Large-scale paintings not only show the general structure of the monument, but also help to clarify the fine details of its plan. These images are used during an archaeological expedition to properly study the site.

Medium-sized images help monuments to create a topographical map of their location. These photographs usually depict the connection of the monument with the environment, fields, irrigation networks (canals, riverbeds, ditches). Archaeological practice has shown that such drawings can be of great help in the study of large cities. Because they well reflect the location of large cities, the state of the surrounding landscape, as well as the order of location of different parts of the city, and so on.

Many archaeological sites are poorly preserved. Sometimes these monuments can also be distinguished based on the colour of the soil or the condition of the vegetation. For this reason, when photographing a monument from the air, it is necessary to act in accordance with the season and weather. Archaeological sites in the desert should be photographed in spring or autumn. Pictures taken at such moments have proved in practice that the internal structure of monuments, irrigation facilities, etc. is reflected very well. When photographing monuments from the sky, it is important to pay attention to the position of the sun. Even small irregularities in the earth's surface are well reflected in photographs taken during sunrise or sunset. The height of the sun should be 45–60° when photographing monuments where the height of the walls is well preserved, otherwise the shadows from the walls can obscure many important things in the interior of the monument and they may not look very good [1].

When studying the celestial images of archaeological sites, it is very important to determine the type of site and the degree of preservation. It is especially easy to find graves in such pictures. In photographs, they look like dark spots of regular structure, even if the ground is flat. When searching from the ground, it is very difficult to find flattened tombs. To determine the topographic features of cities and other places found using aerial photographs, it is necessary to conduct archaeological research. Of course, to determine the general structure of a monument from the ground, the method of visual survey and observation is often used. Images from the sky help archaeologists to further refine the structure of the monument with the help of simple tools – a compass, a level and other measuring instruments.

Scientists of the Mamun Academy of Khorezm, in collaboration with the Urgench State University, widely use photographs taken from space in the study of the Kalajik and Kat-kala monuments.

Kaladzhik is located in the Bagat district, 25 km west of the city of Khazarasp and 21 km west of the district centre. A monument of irregular rectangular shape, the length

of the northern wall is 184 m, the southern wall is 211 m, the western wall is 72 m, the eastern wall is 114 m. The total area is about 2 hectares. It belongs to the 4th century BC (Fig. 1).



Fig. 1. Fortress Kalazhdik-kala. View from space (B. Sadullaev, 2014)



Fig. 2. Settlement of Kat-kala. View from space (B. Sadullaev, 2005)

Kat-kala is located 25 km northwest of Urgench, on the territory of the Shavat region. The settlement has a trapezoidal shape, the length of the northern wall is 290 m, the southern wall is 285 m, the western wall is 310 m, the eastern wall is 270 m. The total area is 9.5 hectares. The monument belongs to the end of the 5th–4th centuries BC (Fig. 2).

5. Methods for photographing on the surface of the earth

During archaeological excavations, photographs should also be taken of the processes of the study of the monument. Special photographers work in large archaeological expeditions or such a specialist is invited from abroad. They photograph the monument excavated at the final stage of seasonal archaeological research, and its most interesting historically important parts, finds. However, the camera may be needed at any time during the expedition. Because of this, all archaeologists should be able to use a camera. They must photograph the excavation process, the state of the finds in the cultural layers (after excavation) and their state after full excavation, without delaying the degree of preservation.

Archaeological teams are also encouraged to have cameras that can be used in all weather conditions, in addition to conventional cameras, which are devices that capture large areas. Photographs should contain information necessary for the researcher, first of all, information about the general appearance of the monument or its excavated part. When photographing, a special board is inserted at the excavation sites with the name of the monument, the year of research and the serial number of the excavation and the name of the expedition. When photographing a research site, first of all, you need to pay attention to the structures – walls, the remains of towers, tandir, hearth, sufa, tashnau and other things. It is also desirable to photograph each opening cultural layer.

When photographing the final view of the excavation, an arrow pointing north and a scale are poured into it. It is also important to make sure that the area where the photo is taken is evenly lit.

It is especially important to photograph clay statues, fine glass vessels, or other works of art (bone, plaster, etc.) found at the site. This is due to the fact that clear and high-quality images can be of great help during saving and especially restoration of results.

Based on the conducted research, it can be concluded that by continuing research on the monument, it will be possible to obtain new information, as well as restore the ancient and mediaeval appearance of the city.

The above monuments are located in a convenient location, the absence of modern cemeteries here suggests that they deserve conservation and restoration. In addition, the monuments are located in close proximity to famous tourist monument fortresses such as Khiva and Khazarasp, and it is very important to make them objects of a tourist route. This paves the way for the creation of a huge open-air museum that fully reflects the culture of the monument. This tourist route can also include the Almaatyshgan

complex in the Yangiaryk region, Tuprak-kala and the Voyangan fortress in the Shavat region.

Recently, the collection, processing and analysis of topographic data have become of particular importance, mainly due to the widespread introduction of public electronic databases and special applications. Microtopography is very popular when an object chosen for study in archaeological circles is documented in great detail.

Digital topographic data transmitted to an interactive environment has now appeared in the form of three-dimensional models that not only improve visualisation, but also solve a number of issues related to the study of ancient and modern landscape situations.

Earlier photographs of the Earth taken from space were rarely used in archeology because they were not very large and detailed. But after extensive observations of LANDSAT, SPOT satellite data, by transmitting the intensity of reflected light, as well as infrared radiation and electronic data to a photographic image and determining the earth's surface, space images have become very popular in the archaeological environment. Currently, space photography is one of the main projects aimed at studying agro-irrigation systems, ancient landscapes and cities.



Fig. 3. Settlement of Kat-kala. View of the settlement from the east. Photo taken with a drone (B. Sadullaev, 2021)



Fig. 4. Settlement of Kat-kala. View of the southwestern corner tower. Photo taken with a drone
(B. Sadullaev, 2021)

The so-called non-excavation methods of documentation of archaeological objects are becoming more and more “fashionable” in science. Of course, neither satellite images, nor aerial photographs, nor topography can show individual details, such as underground structures.

In order to obtain these data hidden in the earth's thickness without using radical methods of research (i.e. excavations and samples) or in order to clarify the location of the elements of the object for more accurate and at the same time fast research in world science, a whole range of remote data collection are widely and successfully used. These methods include seismic and acoustic studies, during which sound waves are recorded and, based on the data obtained, conclusions are drawn about the location of buried structures; the principle of electrical resistance: the more moist the soil, the higher the permeability and, conversely, the basis for the application of a new method of remote sensing, which is mainly actively used in Europe.

Magnetic prospecting is the most popular method and is most successfully used in the search and localisation of baked clay buildings. It is these structures that have a magnetic field that can be recorded using magnetometers. The use of metal detectors not only in the search for metal objects, but also in other structures located underground, has been successful in a number of scientific archaeological projects.

Today, methods for correcting radioactivity and neutron scattering are newer and less widely used, because background differences such as groove and groove filling are still difficult to distinguish from the latter, not being as large. Thermography, detailed vegetation mapping, geochemical soil analysis are natural science methods adopted as auxiliary tools for archaeological research.

The computer has changed its direction not only as a means of accelerating all sorts of processes in various fields of science and technology, but also opening up completely new horizons of scientific knowledge, entering into all current scientific research. In the West, a term that has become fashionable in the last decade has become widespread – virtual archeology.

Ways to create virtual reality in archeology – reconstruction, three-dimensional graphics, immersive display allow you to create difficult, accessible, visual, interactive data, and also open up new ways of presenting research. Modelling in the field of virtual archeology allows you to use all modern knowledge to start thinking about an object in an interactive user presentation.

With the help of archeology, many different computer programs and equipment have appeared to collect and process the necessary information. The most popular computer programs are AutoCAD, many of its applications, as well as geographic information systems (for example, ArcView or Mapinfo), a large number of programs for creating and managing databases, technical equipment, electronic tachometers of various models and modifications are undoubtedly leaders here, the digital cameras mentioned above, and the very common and widely used global positioning system (GPS) receivers. Simple software designed for archeology, or computer programs widely used in various fields, includes several pages. This is a new direction in archeology – detailed documentation and analysis of data collected by using advanced technologies and equipment [3].

The science of archeology has made great progress in the field of chronology, and the latest methods of so-called natural science are the determination of relative and absolute age. Below we will mention some of them: radiocarbon, potassium-argon, uranium isotope, chlorine-36, thermoluminescent method, archaeological paleomagnetism, method for determining the level of carbon oxidation, plant flowers, fauna remains, dendrochronology and others. A lot of new information obtained in the process of applying all selection methods makes it possible to correct previously established theories, build new chronological chains, in a word, find a place for evidence on the historical canvas. The rapid development and widespread use of a large number of dating methods clearly demonstrates the relevance and priority of this area.

Recently, there has been a need to create technical, unique, avant-garde, theoretically thought-out scientific groups, and then to use the latest computer programs in archaeological research.

In the field of archaeological research, a number of programs called CAD (semi-automatic computer design) and GIS. CAD, widely used by specialists mainly for

creating various drawings, diagrams and other graphics, has become the undisputed leader in the use of computer programs. Although GIS looks new, it is a new geographic information system that is widely used in many scientific disciplines. GIS is successfully used, for example, in forestry, management of water supply systems, geology, economics, forensics, and others [2].

The potential of these systems is well known to the scientific community of Uzbekistan, but their use is still the only phenomenon. Basically, these programs are implemented by foreign specialists working in Uzbekistan and publishing scientific results. Nevertheless, Uzbek archaeologists have completed a number of major projects under the above programs.

Often archaeologists turn to a certain area of science and invite narrow specialists – geologists, chemists, soil scientists, palynologists, geomorphologists and others to cooperate. Extensive data open up new research perspectives. Unfortunately, the methods available in the arsenal of these scientists require modernisation and are often replaced by new alternative developments. For example, geophysical methods of remote study of monuments do not give the expected result at a young age and as a result of their use. Continuous approbation and development of geophysical research methods by Western experts ensures maximum accuracy of the results.

The arsenal of archaeologists includes all modern computer developments, technical means, the ability to work with extensive data on the study of the satellite from the earth, accurate scientific methods that help determine the absolute age, information about the location of hidden buildings on Earth. Some delays in the field of research methods in Uzbek archeology are temporary, but we cannot but recognise this.

In the last decade, a peaceful revolution has taken place in archeology, which has allowed archaeologists to see almost without digging up the ground. Geophysics, soil chemistry and remote sensing are accelerating the discovery of ancient sites and helping archaeologists understand them on a global scale.

Modern technologies each have their own unique value, their combination in the future will lead to effective research – perhaps one day it will send a virtual reality observer connected to the GPS into the depths of the earth [4].

If real artefacts cannot be found in this way, and what you have seen cannot be gone through over again, this approach is actually more robust than digging and possibly destroying objects. Instead, it leaves the buried archeology to future generations, as better excavation methods may emerge in the future.

6. Conclusion

In general, in field archeology it is important to use the achievements of natural and technical sciences. The use of modern technologies in archaeological research helps to draw clear scientific conclusions while reducing excessive labour and economic costs. Especially when studying clay structures, such as the Khorezm oasis, it is important

to obtain results without excavation, as the excavation process also damages the monument.

Suggestions:

1. Creation of a 3D map of the archaeological sites of the Khorezm region using modern technologies.
2. To do this, with the help of international partners, create a comprehensive archaeological laboratory at Urgench State University, combining modern technologies.

Acknowledgments: The authors would like to thank Elżbieta Miłoś, General Coordinator of the “3D DIGITAL SILK ROAD” Programme within NAWA (Poland’s National Academic Cooperation).

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KHOJAKENT AS A CULTURAL CENTRE AT THE CROSSROADS OF THE GREAT SILK ROAD

Abstract

This article treats about Khojakent, which is a unique gift of our Motherland. Information is also provided about the origin of the village of Khojakent, about the people who have long inhabited this area, and about their lifestyle. The article also mentions the historical, ethnographic, material and cultural significance of Khojakent.

Keywords: Khujakent village, cave, neolithic, neanderthal, pilgrimage, khoja abdullah, sycamore, wildlife

1. Introduction

Our country is visited by thousands and thousands of tourists, and they all say with excitement that they were fascinated by this fertile, cozy land. The words of Islam Karimov, the first President of the Republic of Uzbekistan, that “every region, district, every city – village in our Homeland has its own unique look” are one of the great tariffs given to Uzbekistan. Both the material and cultural side of Uzbekistan have their place in the world civilisation. Among the country’s picturesque sites, Khojakent stands out, having always amazed visitors with its nature.

As regards the beautiful Uzbek city of Khojakent, its history, nature, cultural monuments and lifestyle are truly admirable.

2. Theoretical framework

Today, thanks to our Independence, the streets are getting a more comfortable and new look. It is worth noting that this village attracts every person, inspires every art fan. he says: “this world is very ancient.”

It has been established that the history of the village of Khojakent, located 75 km from Tashkent, in the valley of the upper reaches of the Chirchik River, goes back centuries. This, of course, surprises many. Taking into account that a number of monuments in the village are still of great interest to historians and ethnographers, especially archaeologists. A primitive community lived on the Khojikent land, Neanderthals lived in caves dating back to the Upper Paleolithic (40–10 thousand years BC) [1].

3. Methodology

There are many caves in the world where primitive people lived, both in our country and abroad, but the Khojakentish caves, located on the territory of a large village, are a unique phenomenon. The natural conditions of Khojakent are favorable for human habitation in all respects. Neanderthals did not choose this place for permanent residence for nothing. All conditions for life are created here. From the coastal waters, roots, stems and fruit bushes in the natural forests, a variety of hunting vegetation abounds. The surroundings of the village in the past, as now, amazed tourists with the originality of flora and fauna. Here grow a variety of ornamental and fruit trees, medicinal plants, many flowers, in particular, several varieties of tulips.

4. Main part

The Khojakent caves have long served as a convenient haven for primitive people. A bonfire continues to burn inside the cave, and its inner walls have darkened traces of this are clearly visible even now [2].

As a result of scientific research conducted in 1958 by the archaeologist Okladnikov [3], we see the following conclusion: in the Quaternary period of the Paleozoic era, as a result of the absorption by the Arctic Ocean of an ice sheet 1000 m thick in a southerly direction, animals that escaped from ice absorption multiplied in this area. This, on the one hand, contributed to the development of hunting, and on the other hand, as a result of the cooling of the earth, Neanderthals were forced to store their souls in caves, cellars. When the caves became narrower, artificial caves were built – the first shelter-style houses- and thus the village began to form.



Fig. 1 Rock pictures in Khojakent

Indeed, there is no doubt about the antiquity of the village of Khujakent, whose unique monuments have been preserved to this day. In the Quaternary period of the Paleozoic era, animals that avoided the absorption of ice in this area multiplied as a result of the absorption of the Arctic Ocean by a 1000 m thick layer of ice in a southerly direction.



Fig. 2 Rock face in Khojakent

This, on the one hand, contributed to the development of hunting, and on the other hand, as a result of the cooling of the earth, Neanderthals were forced to store their souls in caves, basements. When the caves became narrower, the first houses were built in the style of artificial cave shelters, and thus the village began to form [3]. Over time, the newly established permanent settlement of Rosman began to form in a rustic style. Gradually, the tribal business developed, stratification and class stratification took place.

The name Khujakent appeared after the Islamic religion came to our country. It cannot be denied that the period of the spread of Islam in Transoxiana is connected with the fact that in the 7th–8th centuries people revered as “Khoja” began to move to this beautiful place. Narratives and some historical sources indicate that Ahmed Yasawi was the son of a contemporary of Khoja Abdullah (nickname Nuregdi Eshon), Fazil Khoja, who began living here in Mukum and was engaged in the dissemination of religious knowledge. Other echelons and Khojas, who came after him “where is Kent Fazilkhodji”, had to gather in the village, which became known as Khujakent. Judging by the information available so far, there was no other village around it in the 9th–10th centuries. In the 9th–10th centuries, as a result of the growth of the rural population, the resettlement of people from other regions in search of a more comfortable place to live, the settlement of the nomadic population around Khojakent, villages began to appear. One of the features of this region is that Uzbeks, Tajiks, Kazakhs and Kyrgyz, who are the indigenous peoples of Central Asia, begin to live side by side. It was in the 9th–10th centuries that Khojakent became a prosperous village on the Great Silk Road, which

increased its status. For this reason, tourists looking for adventures in the calendar were interested in visiting the village of Khojagent, holy saint, poet-Bakhshi. In particular, Khoja Ubaidullah Ahrar valiy from Uzbekistan visited Khojakent many times. This major figure not only repeatedly visited Khojakent, but also lived here for a certain time. According to the old-timers, the remains of the mulberry tree, which was planted by Hazrat Khoja Ahror, have been preserved. Later, the famous Qalandar poet Boborahim Mashrab also took a step forward here. A number of saints, writers and artists grew out of Khojikent. The villagers remember such healers as Islam Haji, Mahmud Haji, Karim Haji, Norhanim aya, such artists as Yuldash Hafiz, Rahim Hafiz, Abdurakhman Aksakal, Tajuja Hafiz, such akyns as Mamadali Bakhshi, doli Kubizchi and Rahimboy Sheikh [4].

Of course, it is impossible not to mention the antiquity, the uniqueness of the village of Khojakent, its many thousand-year-old past, which brought many holy healers, sages and sages, about its shrines, worthy of attention due to the natural beauty inherent in the village: the Asim sycamore, waterfall, rock paintings.

Khojakentsky plane trees is an ancient village of Khojakent, in which there are many revered and expensive places. The largest of them is the grave of the blue night father. According to legends, the son of Khoja Abdullah Nuryagdi Ashton, Khoja Fazliddin, arrived in Khojikent and planted a sycamore sapling on the shore of the spring. There is also a legend that before the appearance of the maple, a huge bakaterak grew here. Khoja Fazliddin lived in this place, was engaged in sheikdom and healing, treated residents of Khojakent from various diseases. It turns out that a man likes to wear a blue nightgown. He was buried here after his death, and the sanctuary was named “the grave of the father of the blue night”. This place has been revered under this name for centuries. The procession of pilgrims is not interrupted even now. There is information that the age of the maple is 850 years (scientists from St. Petersburg took a sample of his body and determined his age) [5].

Separately, it is worth staying at the Khujakent waterfall. The waterfall descends from the cliff from a height of 30–40 metres, when in spring snow and ice begin to melt, collecting spring water and precipitation at the top of Mount Tuptol. As you know, a waterfall is formed if solid rock is found on its way. The rock underlying the Khojakent waterfall is also called a kettle by locals because the water in the waterfall seems to flow out of the nose of the kettle [6].

Khodjikent painting is a painting made on the rocks of the western slopes of the Chatkal ridge. In 1949–1950, the archaeologist H. Alpysbayev, A. Kabirov (70s), M. Studied Khojanazarov (80s). This unique Rococo monument is diverse in its content, theme, style features and texture. In accordance with the style, preservation and location of the technique of their work, as well as the degree of burn of the surface of the painting, processing of some images on top of others, it was found that they did not arise simultaneously, but during several historical periods. The earliest of the Khojakent drawings belong to 4–3 millennia BC. There are also drawings dating back to the 2nd

half of the 1st millennium BC and the beginning of our era. The Khojakent paintings depict a man, a dog, a hokiz, an argali, a mountain goat, a deer, grass, ukiyoi, a Khandasi figure, etc., made with a strict object (stone, iron) in the style of shadows, simple lines, shapes, and between the paintings are realistically worked out images of three women without a head and hands. Female images and figurines in ancient art are extremely rare. Of the many archaeological sites dating back to the Neolithic and Eneolithic, female figurines have been found, but on the rock paintings of this period, a monument depicting a woman is almost not found. Thus, the images of three women found in Khojakent are the only and very rare and valuable source for the Neolithic, Eneolithic era in Central Asia. Most of the paintings are well preserved, only some have been damaged, broken and cracked as a result of natural phenomena. Khojikent painting is of great importance as an archaeological monument, historical source and visual art of primitive people in the study of some aspects of the life of the ancient people and the history of the animal world of these places [7].

5. Conclusion

Summing up, we can say that the village of Khojakent, which is an amazing miracle of multifaceted nature, deserves attention for its historical attractiveness, ethnographic diversity. Any traveler who has visited these parts will discover or find something interesting on the territory of Khojikent. The locals treat the visitors of their village in a friendly and friendly manner.

You will quickly catch the vastness and purity of the soul of the household, and you will feel like a guest in their hospitable home. It should also be noted that by making such a conclusion about each of the thousands of villages on the territory of our Homeland, we literally achieve a deep understanding of how valuable this sacred land is.

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ANCIENT COMMUNICATIONS OF CENTRAL ASIA: PRECURSORS OF THE GREAT SILK ROAD

Abstract

The history of the Great Silk Road attracted the attention of scientists for many generations. This topic is fundamentally important at the present time. Even a short list of the studied problems will make a huge bibliographic list.

The purpose of our report is to highlight some aspects of the prehistory of the Great Silk Road, addressing its origins, the processes of formation and development of ancient communications, which coincided with the main directions of the Silk Road route that came through the territory of the Central Asian region. This is the history of internal and transit routes, the formation of which took place in antiquity, 5–4 thousand years ago.

Keywords: metallurgy, crafts, trade relations, azure road, maritime silk road

1. Introduction

The Eneolithic and Bronze Age (4th–2nd millennium BC) is an important period in the ethno-cultural history of Central Asia. At that time, complex processes of interaction between the autochthonous population and the tribes that penetrated the region from other territories took place. The earliest migrations were driven by environmental, economic and social factors.

With the beginning of the development of copper and bronze metallurgy, the lack of certain types of raw materials for handicraft production contributed to the intensive development of exchange and trade. Ultimately, this process acquired an interregional or international character. In this case, an important role in the process of trade relations was played by the concentration in some areas of rare minerals and ores of various metals, products from which were in high demand.

2. Literature review

Various studies are devoted to the issues of historical, cultural and economic interactions in the zone of the most ancient civilisations of the East. These are the works of J. Mellart, I. M. Dyakonov, V. M. Masson, R. Adams, V. I. Sarianidi, G. Hermann, M. Tozi, K. Lamberg-Karlovsky, E. V. Rtveladye and other scientists. However, the historiography of the problem is a special topic of study and is beyond the scope of this report.

3. Analysis and results

The Eneolithic and Bronze Age (4th–2th millennium BC) is an important period in the ethno-cultural history of Central Asia. At that time, complex processes of interaction between the autochthonous population and the tribes that penetrated the region from other territories took place. The earliest migrations were driven by environmental, economic and social factors.

With the beginning of the development of copper and bronze metallurgy, the lack of certain types of raw materials for handicraft production contributed to the intensive development of exchange and trade. Ultimately, this process acquired an interregional or international character. In this case, an important role in the process of trade relations was played by the concentration in some areas of rare minerals and ores of various metals, products from which were in high demand.

For example, the mountainous Badakhshan located on the eastern borders of Bactria has long been known for the presence of minerals here. The ancient Greek historian Ctesias reports the presence of silver and gold mines in Bactria. Copper-tin mines, as well as the development of semi-precious stone, turquoise, were known in the Zarafshan valley and the Kyzylkum desert.



Fig. 1. Seal. Gold. Site: Unknown, Afghanistan. G. Ligabue, S. Salvatori: *Bactria. An ancient oasis civilisation from the sands of Afghanistan*. Venise: Erizzo. 1988. Fig. 72



Fig. 2. Seal. Silver. Site: Unknown, Afghanistan. G. Ligabue, S. Salvatori: *Bactria. An ancient oasis civilisation from the sands of Afghanistan*. Venise: Erizzo. 1988. p. 202, Fig. 58

The sources of raw materials necessary for metallurgy and handicrafts contributed to the development of long-distance trade. In this regard, the conclusion that at the beginning of the 2nd millennium BC Assyrian trade caravans went for tin to distant sources, believed to be located in Afghanistan [1], deserves attention. An example of the accumulation of values through exchange and trade, apparently, are the items of the Khak treasure in the Ferghana Valley and the Fullol treasure in Afghanistan, which date back to the Bronze Age. The manufacturing technique and ornamentation features of the Fullol treasure (silver and gold bowls) find analogies in the handicraft products of Mesopotamia [2]. It is known that Assyrian merchants bought gold and silver in exchange for exported goods [3]. Ctesias mentions a Bactrian dealer in precious stones [4].



Fig. 3. Composite figurine from the Gonur necropolis. V. I. Sarianidi. 2007. *Necropolis of Gonur. Kapon Editions, Athens, Greece*. p. 74, Fig. 56 (in Russian)

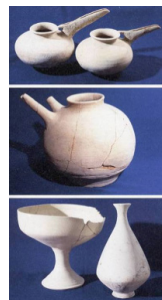


Fig. 4. Ceramic dishes from Margiana. V. I. Sarianidi. 2002. *Margush. Ancient Eastern kingdom in the old delta of the Murghab River*. Ashhabad. p. 95 (in Russian)

Already in the 4th–3rd millennium BC the territory of Central Asia is becoming a zone of increasingly intensifying migration processes associated not only with the development of new agricultural oases, but also with the search for sources of raw materials for developing metallurgy (copper, tin, lead). At this time, representatives of the early agricultural communities of Balochistan penetrated from the Indus Valley through the Bolan Pass in the Hindu Kush Mountains to the Pyanj-Kokcha river basin (Northeastern Afghanistan), and then to the upper reaches of the Zarafshan. At the same time, agricultural tribes from the south-west of Turkmenistan moved here, thus the settlement of Sarazm appeared here [5].



Fig. 5. Silver vessel from Bactria. Nefer Gallery. V. I. Sarianidi. *Margush. Ancient Eastern kingdom in the old delta of the Murghab River*. Ashhabad. 2002. p. 121 (in Russian)

More regular trade relations between the population of the south of Central Asia and the Indus Valley begin in the middle of the 3rd millennium BC, when the trading post Shortugai was founded on the left bank of the Pyanj River, which is located more than 1100 km from Mohenjo-Daro – the centre of the Indus civilisation [6]. Most of the cities and settlements of this civilisation known to date (about 1000) are located in Pakistan and Northwestern India. The concentration of these settlements in areas adjacent to the Arabian Sea and at a considerable distance from it, in remote mountainous and foothill regions (Rupar, Manda, Rahman Dheri), already by outward signs indicates that trade was of great importance for the large population of the Indus civilisation. Moreover, as it has been proven, both land and sea routes contributed to long-distance trade.

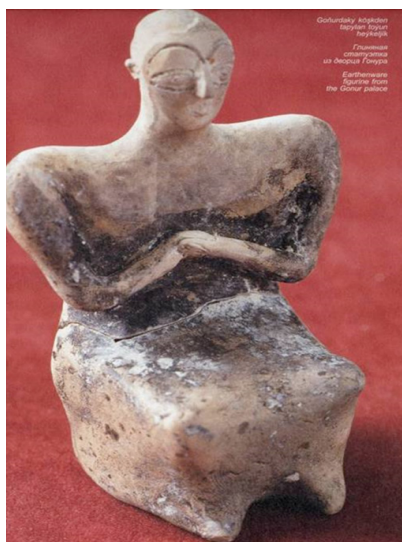


Fig. 6. Squatting man. Ceramic figurine from the palace of Gonur. V. I. Sarianidi. 2002. *Margush. Ancient Eastern kingdom in the old delta of the Murghab river*. Ashhabad. p. 143 (in Russian)

Confirmation of the presence of sea routes are archaeological materials obtained as a result of the study of individual settlements of the Indus civilisation located on the coast of the Arabian Sea. From here, along the coast of the Arabian Sea through the Persian Gulf, the sea route led to the cities of Sumer [7]. Obviously, merchant ships also delivered gold, silver and lapis lazuli from India to Sumer, the deposits of which were located in the mountainous regions of Bactria.

Thus, the population of the historical and cultural regions of the south of Central Asia maintained real trade relations with representatives of the civilisation through trading posts such as Shortugai.

Another ancient route known as “lapis lazuli” connected Bactria with Western Asia. This road was used to deliver Bactrian lapis lazuli to Elam, Mesopotamia and Egypt [8].



Fig. 7. Elephant and pictograms. Harappan seal from Gonur. V. I. Sarianidi. *Gonur-depe. City of kings and gods*. Ashhabad. 2005. p. 258. Fig. 114 (in Russian)

At the end of the 3rd millennium BC there is a mass migration of the population of Western Asia to Margiana and Bactria. It was caused by population growth, limited cultivated land and pastures, lack of raw materials necessary for the development of metallurgy, as well as increased wars for the possession of arable land and trade routes. Colonists from Mesopotamia and Elam came to Margiana and Bactria with property and livestock. These were farmers, artisans and builders who knew architectural and planning techniques, who used geometric systems of architectural proportions in complex defensive structures, as well as in the process of erecting monumental buildings. It was a highly developed, organised society with a management system, as evidenced by the presence of palace and temple households in Margiana-Bactria (Gonur, Dashly, Dzharkutan).

In the lower reaches of the Murghab (Margiana) alone, the migrants simultaneously founded more than 100 settlements, and the territories of the northeast of Afghanistan and the south of Uzbekistan (Bactria) were also developed on a large scale [9]. All this testifies to the wide nature of migrations.



Fig. 8. Human bust figurine. H-P. Frankfort, X. Tremblay. *Marhasi et la civilisation del' Oxus*. *Iranica Antiqua*, vol. XLV, 2010. p. 124. Fig. 10

Migrants were not limited to the areas of initial settlement. They develop the foothill oases to the north of the Oksa-Amu Darya. At the settlement of Shortugai, the Harappan cultural tradition is replaced by Bactrian innovation [10]. From here, crossing the Hindu Kush, the colonists reach the Indus Valley.

They also penetrate into the valley of the Zarafshan River (Sogdiana) and Eastern Fergana, where artefacts from the Bactria-Margiana archaeological complex were found [11]. Migration from the Ferghana Valley apparently continued to the Tarim River Basin. All this indicates that in the Bronze Age the path to the borders of China was paved. This path began off the coast of the Amu Darya.



Fig. 9. Stone figurine of a ram from burial V.I. Sarianidi. *Gonur-depe. City of kings and gods*. Ashhabad. 2005. p. 233. Fig. 93 (in Russian)

At the end of the 3rd millennium BC on the territory of southeastern China, in the lower reaches of the Yellow River valley, a highly developed Erlitou culture is being formed. Here, as well as in Margiana-Bactria, urban centres arise independently, in the planning scheme of which temples and palaces stand out. This feature is characteristic of all early civilisations within the Near and Far East.

In the Bronze Age, metallurgy, handicraft and domestic trade developed intensively in China. All this necessitated the search for new sources of raw materials, which created the basis for expanding foreign economic relations. This is how the northern and western paths of historical and cultural interactions between different, distant from each other regions were formed.

In recent years, archaeological and topographic data on the direction of the ancient roads that ran between the Amu Darya and Syr Darya rivers have been significantly expanded. They led through the Tashkent oasis to Central Kazakhstan and Western Siberia, as well as along the Amu Darya and the Aral Sea to the Southern Urals. Attention is drawn to the appearance in the Bronze Age in the Urals of chariots (Sintashta) and wheeled carts in Margiana (Gonur), horse burials, rounded in terms of the Arkaim (Ural) culture settlement, and the round fire temple of Dashly 3 in Bactria.

Such routes were intensively used for transit and pack transportation. In the Bronze Age, the camel, horse and donkey served for pack transportation and transport purposes. The bones of these domestic animals were found during excavations in the settlements of Margiana, Bactria and Khorezm.

4. Conclusions

The presence of a wide network of roads contributed to the intensive development of domestic and foreign trade. With the direction of the early roads, which were formed in the Eneolithic and Bronze Age, the routes of trade routes of subsequent periods coincided. It is known that through the territory of Central Asia gold came to Iran from Altai. These trade routes connected with the famous “royal” caravan road of the Achaemenids, which began on the Mediterranean coast and led to Susa, and then to Bactria and India. Thus, various data indicate that the origins of the Great Silk Road date back to ancient times. Already in the 4th-3rd millennia BC roads are being formed that will serve as the main directions of the Great Silk Road. They passed through Central Asia. This is the route of the western route of the Great Silk Road leading to the shores of the Mediterranean Sea, the northern route to Eastern Europe and the southern branch to India.

It was in the era of the Eneolithic and Bronze Ages that the most ancient ways were formed, which began to be intensively used for the purposes of exchange and trade. All this reflects the complex processes of the genesis and evolution of the ancient ways of economic and historical-cultural interactions between different civilisations.

Today, the problem of the revival of ancient routes, the construction of new, modern transit roads is acquiring fundamental importance. And this is also relevant because the 21st century is becoming a century of broader economic integration, a century of development of close cultural interactions between different peoples and states. All this has a rich past, deep roots and sustainable traditions that need to be purposefully developed in our time on a qualitatively new basis.

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THE GREAT SILK ROAD: HISTORY AND THE PRESENT

Abstract

The Silk Road played an important role in the coordination of socio-political, economic and cultural relations between regions and states. The article analyses the rationale, relevance and principal results of this international route, based on various sources. At the same time, the importance of the Silk Road for the development of science and education in Central Asia is shown. The objective of the article is to reveal the significance of the Great Silk Road in the civilisation process of the countries of Central Asia. The formation of the New Silk Road is also addressed. The article uses historical and comparative analysis, as well as the interdisciplinary method.

Key words: Great Silk Road, UNESCO, cultural, New Silk Road, Central Asian, Uzbekistan

1. Introduction

The Great Silk Road [1] can be seen as a vivid representation of the centuries-old links between East and West. The establishment of this intercontinental road was a logical continuation of such immemorial commercial, cultural and spiritual ties. From the second half of the 2nd century BC until the end of the 15th century AD, the Great Silk Road was an immense international commercial route that connected a complex system of trade communications. Many of the countries through which it travelled had a significant impact on the construction of their political, economic and cultural structures.

The phrase “Silk Road” conjures up thoughts of ancient traders hawking their wares on camelback through enchanting cities separated by harsh deserts. While the Silk Road’s sentimentality has been replaced by the harsh realities that many of its present residents experience, the Silk Road is slowly being rebuilt to offer a variety of economic prospects. The Silk Road was an interconnected web of routes connecting ancient communities in Asia, the Subcontinent, Central Asia, Western Asia and the Near East. They stretched for around 7,500 kilometers east to west, but traversed about 35,000 kilometers over all of the many branch routes. The political, social and cultural impacts of this traffic had far-reaching consequences for all the societies touched by them. The Silk Road encompasses some of the most complex and fascinating systems in the history of world civilisations [2]. A shifting network of roads and pathways for trade

that evolved over centuries, it enabled the exchange of cargo such as silk, spices, gems or furs, but also shared art, religion and technology. It is also one of the first cultural corridors ‘to be inscribed on the World Heritage List, embodying the principles of cultural diversity, heritage and peaceful cooperation that are fostered by both UNESCO and the World Heritage Convention [3].

From time immemorial, people, societies and states established and developed political, commercial, economic and cultural ties between themselves. The Great Silk Road connected the countries of Central Asia with various regions of the world. Even before the emergence of the Great Silk Road in the ancient East, there were numerous trade routes. In particular, during the Bronze Age (3rd-2nd millennium BC) there was the “Azure Route”, whose one branch connected Badakhshan, Bactria and Marghiyana with the territories of Khwarezm, Sogd, Central Kazakhstan and the Urals, while another branch connected Bactria and Marghiyana with Mesopotamia. This route began in the Pamir Mountains and crossed through Iran, Near East and Egypt.

The Great Silk Road began in the province Xian of China. After sending the Chinese Emperor U Dee’s Ambassador Zhang Qiang to Central Asia through Fergana in the 2nd century BC, the Great Silk Road became the main route between the East and the West.

The term “Great Silk Road” was for the first time used by the German scientist Baron Ferdinand Paul Wilhelm von Richthofen in 1877 in his work *China*, and sounds differently in different languages: in Chinese 絲綢之路 – sīchóuzhìlù (Sichou chzhilu), in Uzbek – Buyuk Ipak Yoli, in Uighur – یولی که پی یی, in Tajik – Shoh Rohi Abreshim, in Kazakh – Yuli Jibek Joli, in Kyrgyz – Uлуу jibek jolu, in Farsi – هم‌شیرب‌ا‌ه‌ا‌ج, in Arabic – رُجُل‌ا‌ل‌ق‌ی‌رط, in Hindi – रेशम मार्ग, in Mongolian – Torgonii zam, in Turkish – Beyik Yüpek Yoly, in English – Great Silk Road, and in German – Große Seidenstraße.



Fig. 1. The study area (green) with major (red) and other significant (orange) routes. Source: The Silk Roads: an ICOMOS Thematic Study by Tim Williams on behalf of ICOMOS 2014

The Great Silk Road as a trade route arose in the 3rd century BC and existed until the 16th century. It represented a system of caravan roads leading from China to the countries of the Middle East and Europe. A considerable part of this road crossed through the territory of Central Asia. The Great Silk Road reached the greatest significance in the 8th–12th centuries.

Among the goods which were exported from China to Europe, silk and silky products were the most popular ones. For its part, China imported woolen fabrics, carpets, gemstones, and jewelry from Sogdia, camels from Bactria, thoroughbred horses from Fergana and pearls from Badakhshan. India exported fabrics and cotton seeds to Central Asia, while the region sent horses, clover seeds, grapes, nuts, pomegranate and other agricultural products to China and India.

By the 15th century, the Silk Road fell into decay due to a renewal of the military conflicts in Central Asia, which stimulated the development of sea trade, leading in the long term to great geographical explorations.

2. The New Silk Road

Historically, the Great Silk Road had an important development of regional and international relations in Central Asia. It is no coincidence that from the end of the 20th and the beginning of the 21st centuries international relations produced the concept of a New Silk Road, which is based on the idea of revival and development of economic, political and cultural ties between the countries of the region [4].

At the recent turn of the centuries there were a number of projects of revival of the Silk Road. The idea of the Belt and Road project was officially proposed on 7 September, 2013 in a speech delivered by President of the People's Republic of China Xi Jinping at the Nazarbayev University in Astana (Nur-Sultan) [5]. At the same time, the Belt and Road megaproject served as the foreign policy concept for the new Chinese leader. A month later, the Chinese leader first proposed the idea of building the Maritime Silk Road of the 21st century in his speech in the Indonesian parliament [6].

China approached the launch of this major project on a global scale. In particular, it adopted a completely new concept of economic and cultural diplomacy, which reflects all the components of the Eastern tradition and encompasses Eurasia, Central Asia, Eastern and Western Europe and Africa. This megaproject is inscribed in recent history as one of the large-scale global strategies of the 21st century.

The current Silk Road project covers 38.5% of the Earth's land area and 62.3% of the world's population. These countries produce 30.0% of the world's GDP and 24.0% of all consumer goods [7]. In addition, this large geopolitical space contains 75% of the world's energy reserves [8].

The Silk Road Economic Belt exemplifies the long-term perspective of Eurasian infrastructure and economic cooperation and includes six international economic corridors:

1. New Eurasian Land Bridge Economic Corridor (NELBEC).
2. China-Mongolia-Russia Economic Corridor (CMREC).
3. China-Central Asia-West Asia Economic Corridor (CCWAEC).
4. China-Indochina Peninsula Economic Corridor (CICPEC).
5. Bangladesh-China-India-Myanmar Economic Corridor (BCIMEC).
6. China-Pakistan Economic Corridor (CPEC).

These economic corridors aim to extend through the entire Eurasian space; however, the economic potential of the countries within this trade space varies.

The Belt and Road project strategy includes the combination of two routes: land and sea. The land section starts from Xi'an and extends to Lanzhou and Urumqi, through Central Asia to the Middle East, and then continues on to Europe. The marine portion originates from Guangdong and passes through Hainan Island to the Indian Ocean. The two routes will merge in Venice.



Fig. 2. Silk Road Economic Belt and Maritime Silk Road Initiative [15]

The New Silk Road spans approximately 6,500 km (the length of the Great Silk Road was 12,000 km), of which 4,000 km will be the main route from the Pacific coast of China to the Xinjiang Uyghur Autonomous Region. Subsequently, the proposed route will go through Kazakhstan, Uzbekistan and Turkmenistan to Iran, Iraq, Syria and Turkey, and Europe is just one-step away from there [9]. Both the marine and land

sections will pass through the ancient trade route: from Guangzhou in China along the coasts of Vietnam, Thailand, Malaysia, Singapore and Indonesia to the Red Sea, and to Africa. The new transport corridor is designed to deliver goods from China to Europe in a short time. In order to implement this project, the Chinese government registered the Silk Road Fund in Beijing on 29 December 2014 [10]. The total fund capital amounted to \$40 billion [11].

China began to implement this large project on a global scale. In particular, the “Belt and Road” concept was prepared. It has taken place among the projects of modern history as a large, global initiative of the 21st century. It is foreseen to make the basis of the Chinese economic and diplomatic relations with more the 65 countries of Eastern, Southern, Southeastern and Central Asia, the Middle East, North Africa, as well as Europe.

In the framework of the implementation of the project, People’s Republic of China actively participates in the infrastructure of the countries of Central Asia, in particular in June 2016 the construction of the «Angren-Pop» railroad was completed in Uzbekistan, which will serve for the development of the international transport routes of Central Asia [12].

The Great Silk Road connected peoples and countries not only by trade and economy, but also supported cultural and spiritual contacts, creating opportunities for development through close interaction. Strengthening cooperation between East and West, the Silk Road became a symbol of unity of states and people. A revival of the tradition of the Silk Road and development of international contacts becomes the requirement of the present.

3. Uzbekistan and UNESCO: Cultural and humanitarian cooperation

The countries of Central Asia were hardly familiar to the rest of the world until recent years. However, the region where these countries are located and where the ancient trade routes passed, connecting two ends of the known world, was a hub of civilisation, knowledge and culture.

Uzbekistan actively cooperates with many authoritative international organisations. Particularly, the relations with the United Nations Organisation and its branches (a member since March 2, 1992) and the UN Educational, Scientific and Cultural Organisation (a member since October 29, 1993) have been fruitful. UNESCO intensified the cooperation with Central Asia after five countries of the region had gained their independence in 1991 and their subsequent introduction to the organisation. A UNESCO Bureau was established in Almaty in 1994, which became a cluster office for Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. In 1996, UNESCO opened the National bureau in Tashkent, which focuses the activity mainly on Uzbekistan. The session of the Executive Council of UNESCO was held in Tashkent on November 6–7, 1998. In the session held for the first time in the territory of the CIS,

the Tashkent declaration on „The Culture of the World and UNESCO Activity in the Member States” was adopted.

The interest of UNESCO in Central Asia is seen in the framework of the project “East-West” (1957–1966), when the organisation tried to consider the influence of historical factors on complex interethnic mutual relations. In 1992, UNESCO took a vital interest in „An expedition to the Steppe route in Central Asia” within the framework of the „Complex Study of the Silk Roads: Roads of Dialogue”, the main project of a decade on cultural development (1987–1997). The result of was a five-volume edition of “History of Civilisations of Central Asia”. More than three hundred scientists from different countries participated in the preparation of this monumental work.

In 2014 the Great Silk Road was included in the list of the World Heritage of UNESCO. One of the main ways of the Great Silk Road which was a network of routes of the Chang’an – Tian Shan corridor, the first trade trail between China and the West that was the first thread of the Silk Road, was enlisted in the UNESCO World Heritage. In recent years these routes have become a subject of intensive studies within the framework of UNESCO’s transnational project “Serial Nomination of the Silk Road to the List of the World Heritage”, across which 54 various corridors of 150 000 kilometers in length have been considered in the Silk Road from the Mediterranean Sea to the Far East. Besides, a number of cities of Central Asia have been included in the UNESCO list of the world heritage, displayed in the following table (compiled by the authors).

Table 1. World heritage cities of Central Asia

№	Name	Place	Year
1.	Ichan-qala (Inner Castle)	Khiva, Uzbekistan	1990
2.	Historical Centre of Bukhara city	Bukhara, Uzbekistan	1993
3.	Historical Centre of Shahrisabz city	Kashkadarya, Uzbekistan	2000
4.	Samarkand – crossroad of cultures	Samarkand, Uzbekistan	2001
5.	Western Tien Shan	Kazakhstan, Kyrgyzstan and Uzbekistan	2016

The International Institute of Central Asian Studies (IICAS) functioning in Samarkand is also the result of a large-scale UNESCO project on the Silk Road. The idea to establish the institute arose in the period of working on the international scientific expedition across a steppe route through Central Asia in the framework of the project “Complex Study of Silk Road – a Way of Dialogue”. The ceremonial opening of this institute was held in 1995 during the official visit of UNESCO’s CEO, Federico Mayor, to Samarkand. The main objective of IICAS is to draw the attention of the world community to the solution of historical and cultural development problems of Central Asia and to strengthen the direct cooperation of local scientists with their colleagues abroad by the means of a multidisciplinary study of the region.

The organisations entering the UN system and UNESCO together with the faculty, scientific workers and students of the Central Asian countries actively participate in the processes directed to the development of higher education. One of the key programs in education is the project on “The Associated Schools of UNESCO”, in which more than six thousand schools are included worldwide. The main objective of the program consists of propagating the concepts of the international cooperation, cross-cultural dialogue and sustainable development, as well as improvement of the quality of education. The National Commission of the Republic of Uzbekistan for the affairs of the UNESCO formed in December 1994 actively continues on the development of this network. Since 1996, 45 educational institutions have become members of this international program. Schools successfully took part in a number of international programs, propagating the purposes of the movement “Education for All” and “Decade of the UN” on education for sustainable development.

Central Asian students and scientific workers have become the winners of international grants and scholarships for their scientific research. In the framework of UNESCO scientific programs, run by departments formed in 11 advanced Higher Education Institutions of Uzbekistan, projects have been conducted on the conservation of biodiversity and rational use of natural resources, promotion of social and economic development, and the development of national wealth. Moreover, national committees have been established on the international programmes of the organisations “International Hydrology”, “Person and Biosphere”, “Bioethics” and “Management of Social Transformations”. Scientists from Uzbekistan have been participating in international scientific conferences held under the auspices of UNESCO.

On the basis of suggestions of the Republic of Uzbekistan, under the aegis and with the assistance of UNESCO, there have been celebrations of anniversaries: 600 years of the statesman, mathematician, astronomer Mirzo Ulughbek in 1994; 660 years of Amir Temur in 1996, who was a statesman, commander and founder of the Timurid empire; 2500 years of the cities of Bukhara and Khiva in 1997; 1225 years of the scientist Imam Bukhari and 1200 years of the astronomer and mathematician Ahmad al-Fergani (in Western Europe he was known under the Latinised name of Alfraganus) in 1998; 545 years of the Turkic miniature painter Kemaleddin Behzad in 2000; 2700 years of the book *Avesta* in 2001; 2500 years of Termez and the 2700 years of Shahrisabz in 2002; 2700 years of Karshi and 1000 years of the Khorezm Academy of Maamun in 2005; 2750 years of Samarkand and the 2000 years of Marghelan in 2007, or 2200 years of Tashkent in 2009. Cooperation with UNESCO in the field of culture is based on the preservation and development of the cultural heritage of Uzbekistan. Historical and cultural objects of Samarkand, Shahrisabz, Bukhara, and Khiva have been included in the list of the World Heritage of UNESCO. The following have entered the UNESCO Representative List of the Intangible Cultural Heritage of Humanity: Shashmaqom music, the Cultural Space of the Baysun District, Katta Ashula – traditional song of the Ferghana Valley, Askiya – the art of wit, Navruz ceremony of the Persian New

Year, the Culinary Tradition of Plov, and the Lazgi dance of Khorezm. The Koran by Othman and the collection of manuscripts of the Institute of Oriental Manuscripts of the Academy of Sciences were included in the international list of the programme "Memory of the World".

To sum up, the partnership between Uzbekistan, the republics of Central Asia and UNESCO in the sphere of culture, education and preservation of the rich cultural heritage of Central Asia is invaluable. Furthermore, taking into account environmental and climate changes, global warming and other problems, the republics of the region should intensify cooperation with UNESCO and other specialised bodies of the UN on the above-mentioned problems in the region.

4. Conclusions

The Great Silk Road played an important role not only in strengthening and developing cooperation and trade between different regions, but also in the information sphere, underlining that historically it served as a mediator in the development of cultures and created conditions for a dialogue of civilisations.

Uzbekistan was one of the first supporters of the project, which attracted more than 100 states and international organisations. Active participation in the economic corridor initiative will contribute to the development of the country and finds its manifestation in the following:

Firstly, the Great Silk Road has played a significant influence in the history of Central Asian regional and international relations. It holds a special place in human history as a one-of-a-kind sociopolitical, economic and cultural institution with all of the required infrastructure. Central Asia, its neighbours in the region, Asia, Europe and the rest of the world have been connected by the Great Silk Road not only economically, but also politically and culturally, and it has played a key role in coordinating connections.

Secondly, this project, one of the largest in the 21st century, will help to raise the multilateral cooperation of all countries of the Central Asian region and the neighbouring countries to a qualitatively new level. It will create conditions for the country to enter the foreign market with a subsequent integration into the world economical space. Moreover, being an integral part of the great Silk Road transport corridor, the transport system of Uzbekistan and Central Asia will develop further. The scheme, which will cover 65 countries of the world, will serve further strengthening of economic, political, cultural and friendly ties between them.

Uzbekistan's active participation in this strategic project as a state located in the centre of the Great Silk Road, an important geopolitical and geo-economic zone, means further enhancement of its role in international life.

Thirdly, UNESCO is important in the research, preservation and communication to future generations of the Silk Road's history and impact. Their route's heritage is conserved as a result of UNESCO projects. Important initiatives in this field are

being implemented by Central Asian countries and the UN agenda. These initiatives significantly contribute to the international promotion of Central Asia's ancient culture and history.

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HISTORY AND ECONOMICS OF THE GREAT SILK ROAD

One of the greatest and most significant achievements of civilisation is the Great Silk Road. It can rightly be assigned the role of the main trade artery of Eurasia of its time. This is the first transcontinental route in the history of mankind, connecting countries and peoples from the Pacific Ocean to the Mediterranean. For many centuries, goods, ideas, technologies and crafts were exchanged along it. Travellers were not put off by the difficulties encountered on this long and hard way [1, p. 5].

During its existence for several centuries, the Great Silk Road showed itself to be an important factor in the economic, political and cultural progress of the regions it crossed.

Based on the analysis of various sources, it can be concluded that the Great Silk Road is a single transcontinental system of caravan trade routes connecting countries within Western Europe and China. It arose in the 2nd century BC [2] (according to other sources from the 3rd century BC [3]), and functioned until the 15th century.

The term 'silk road' was proposed in 1877 by the German geographer F. Richthofen to designate the links between the Eastern and Western part of Eurasia [4, p. 31]. At the same time, the Great Silk Road was not a single highway, but was divided into several sections: the Lapis Lazuli Road, which connected Central Asia and the Middle East with the Mediterranean and India, the Jade Road from East Turkestan to China and the Steppe Road, stretching from the Black Sea to the banks of the Don, and from there to the Sarmatians of the Southern Urals and further to the Irtysh region and to Lake Zaisan. But in the 2nd century, these paths began to merge into two main routes, connecting East and West [5, p. 42]:

1. The southern route – from the north of China through Central Asia to the Middle East and Northern India;

2. The Northern Route – from the north of China through the Pamirs and the Aral Sea region to the Lower Volga and to the Black Sea basin.

Minor paths ran between these two routes connecting them to each other. The main routes of the caravans shifted to the northern route, then to the southern one. The presence of centralised power extending to the surrounding areas was able to ensure security on the caravan routes. And this was possible only in the conditions of the existence of large state formations, which turned out to be China, Central Asia, India, the Middle East and the Mediterranean.

For the Great Silk Road to work successfully, a developed system of international division of labour in production and in providing the infrastructure of transport communications was needed. And since trade required overcoming huge distances, it was necessary to transit points, specialised bazaars, a regime of stable cash settlements, etc. Many cities on the way of the Great Silk Road were not equally developed and had different sizes and significance.

A large number of various goods were transported along the Great Silk Road: silk, jewelry, military equipment, leather, wool, carpets, etc. But the most famous commodity that passed along this intercontinental route was silk.

The birthplace of sericulture was China. It had a monopoly on its production until the 5th–6th centuries, but after that it continued to remain one of the largest centres of production. In particular, silk has been produced since ancient times on the territory of Uzbekistan. Officials, scientists, travellers, merchants, industrialists arriving in Central Asia saw there a large number of artisanal workshops for the cultivation of silkworm and manufacturing silk fabrics. In the Middle Ages, porcelain and tea were also exported from China. In the countries of the Middle East and Central Asia, woolen and cotton fabrics were made, sent along the Silk Road to the east, to China. Spices for preserving products and making medicines were brought to Europe from the countries of South and Southeast Asia.

When carrying out trade transactions, Europeans bought expensive oriental goods and paid in gold or silver. That is, there was a passive trade balance between Western Europe and the East. Thus, along the Silk Road, precious metals were «pumped» from Europe to the East. This had a negative impact on the economy and the monetary system. Despite attempts to restrict the purchase of Eastern goods and the export of gold and silver, the «pumping» of precious goods from West to East continued. The competitiveness of European goods was able to more or less catch up with the Eastern only after the Industrial Revolution.

The Silk Road facilitated the transfer not only of goods, but also information about the technology of their production. A striking example of this is the borrowing of silk production technology, first in east Turkestan, and then in Central Asia, Iran and Byzantium. The same can be said about the secret of paper production. In China, in turn, thanks to the Great Silk Road, such crops as beans penetrated. Thus, in the course of caravan trade, the West borrowed industrial innovations, and the East – agricultural

ones, which indicates the technological superiority of the mediaeval East over Europe, partially preserved until the 18th–19th centuries. But some technological secrets of production, such as the production of porcelain dishes and weapons, could not be adopted by Europeans at that time.

By the end of the 15th century, the Great Silk Road ceased to exist. The reason for this was the opening by Europeans of the sea route to India and China.

Despite the many benefits of transporting goods by sea, there are now plans to restore the Great Silk Road. From the fact that India and China have significantly increased their production in recent years, the transportation of goods only by sea is increasingly difficult due to several reasons:

1. congestion of ports, as a result of which the waiting time for loading and unloading of goods has increased;
2. the capacity limits of the Suez Canal;
3. a long road from China or India to Europe (for example, through the Suez Canal cargo reaches the West in 45 days, and through the Trans-Siberian Railway – in just 14 days [6, p. 2]).

Several projects have already been discussed in connection with the possibility of restoring the Great Silk Road. The most well-known of them now is China's Belt and Road Initiative, which is being actively promoted by China and in which the countries of Central Asia have an important role to play.

In conclusion, it should be said that the Great Silk Road had an important economic and political function in the life of the peoples of Asia and Europe. At the same time, the Great Silk Road as an economic phenomenon can be classified as formation of a network. In a soft form it united many enterprises, people, organisations and power structures that ensured its smooth functioning. If you look at it as a phenomenon of network economy, it «was not something like a narrow path, it was a huge economic and cultural space with a width of a thousand, or even fifteen hundred kilometers» [7, p. 315]. Along the way, not only trade deals were carried out, but also «diplomatic treaties and military alliances were concluded» [8]. That is why the Great Silk Road played a crucial role in the economic and political life of the peoples of Eurasia, acting as a link between the countries of different civilisations and socio-economic systems and a kind of bridge between East and West. The desire to revive the Great Silk Road testifies to the indispensability of such interaction between peoples for the purpose of mutual enrichment.

The Great Silk Road stimulated the development of trading cities in the mediaeval East. There is a trade specialisation of cities, trade differentiation, the emergence of villages specialising in the production of export goods [9, p. 31]. If in Western Europe cities served mainly local markets, then in Asia they supported international trade, playing the role of transit points on caravan routes. These cities (Tabriz, Hormuz, Bukhara, Samarkand, Khorezm, Otrar, Kashgar, Turfan, Khotan, Dunhuang, etc.) had caravanserais that combined the functions of hotels and warehouses. Special markets

were organised for foreign merchants to trade in the most popular goods. People of many professions worked in the service of trade caravans – translators, money changers, camel drivers, caravan guards, tax collectors, etc. [10, pp. 5–8]. The reliance of the trading cities of continental Asia on the service of long distance caravan trade led to the fact that the destruction of the Silk Road caused the decline of these cities. Some of them have completely disappeared (for example, many cities of East Turkestan).

The Republic of Uzbekistan, together with the world community, actively participates in the development of tourism, scientific and cultural exchange on the Great Silk Road, contributes to the practical restoration of the Silk Road, paying special attention to the implementation of projects for the construction and reconstruction of transport communications. Further work on the revival of the Great Silk Road is all the more relevant, because the most important task of the development of the Republic of Uzbekistan at the present stage is «deepening the dialogue between countries and peoples at various levels, giving a systematic character to contacts not only between governments but also parliaments, figures, science and culture, representatives of the public.» [11, pp. 110–113].

Central Asia and Uzbekistan, in particular, were the «heart» of the Great Silk Road. The constant increase in the importance of Central Asia as a link in the relations between China, the states of East Asia, Russia and Europe requires a new understanding of the history of relations between the states of the Great Silk Road.

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FORMATION AND STAGES OF DEVELOPMENT OF THE GREAT SILK ROAD

Abstract

The article analyses the formation and stages of development of the Great Silk Road, as well as the relevant historical, cultural and trade relations between the peoples of the East and the West. Opinions are expressed about the increasing importance of the Great Silk Road as a result of the expansion of trade and embassy relations between various states.

Keywords: trade, network, caravan, merchant, ambassador, gazelle, diplomatic relations, peace, silk, tourist

1. Introduction

Human society has emerged in such a way that the process of its development has never been without connections. There have always been connections between people, tribal communities, tribes, nations and, finally, countries that united them geographically, economically and politically. As a result of that, roads have arisen. When we look at our ancient history, we know that since the Bronze Age of human society, in some places even earlier, certain specialised routes have appeared. Their emergence was facilitated by economic, ethnic, political and cultural needs caused by tribal, national and interstate ties. We know from history that during the reign of the Iranian Achaemenids in the 6th–4th centuries BC, the «Shah's road» was laid on its territory. But before him, the need for Badakhshan Lapis Lazuli in the Middle East led to the emergence of the «Lapis Lazuli Path». One of such ancient routes was the «Great Silk Road», which connected the West and the East for several millennia. Although the trade goods that came along this route from the East (China) to the West (Byzantium) were mainly Chinese silk, this path entered science only in the 1870s, when the German geographer F. Richthofen introduced it under the name «Silk Road». Before him, the Silk Road was called the «Western Meridian Way».

2. Theoretical framework

The first written information about the “Great Silk Road” dates back to 138 BC: the envoy and traveller Zhang Xiang, sent to Central Asia on behalf of the Chinese Emperor Wu-Di, studied the route and expressed his opinion about it.

During this period, the Huns plundered the northern regions of China, and the emperor sent Zhang Xiang to find allies in the fight against the nomadic Hunnic tribes. The ambassador was captured by the Huns and spent about ten years in captivity. He escaped and went through the passes of the Central Tien Shan to Issyk-Kul. Along the Naryn River, he reached the Fergana Valley. Here he discovered the local cities. He learned that they belonged to the Ferghana Kingdom. Naturally, the ambassador would want to enlist the support of the Fergana ruler in the fight against the Huns of China.

3. Methodology

The Great Silk Road was not only of economic importance, but was also a means of spreading the achievements of religious and cultural heritage, ensuring diplomatic relations between the countries. The Buddhist religion of India thus penetrated into China through Central Asia.

In the 4th–8th centuries, China's trade relations with the outside world expanded. During the period of early feudalism, sericulture flourished in China, and silk was supplied to Central Asia at low prices through Sogdian merchants. They were considered not only the rich strata of society who bought and sold goods and made a profit from them, but also merchants, diplomats, intellectuals who went on long journeys with large trading caravans, as well as influential people who transferred advanced agricultural inventions from one area or another to new places. At the same time, they acted as state spies, extremely vigilant in their deep knowledge of the customs, power and might of foreigners, territorial location, nature and system of government of the state. The heads of State planned their foreign policy based on their observational skills and the information they provided. Such vital work would have been carried out along these trade and caravan routes. Regarding the means of communication, the Sogdian language was raised to the level of the medium of world trade within the framework of the Silk Road.

4. Main part

The Silk Road begins in Xi'an, the ancient capital of China, and reaches Dunhuang through Lanzhou. In Dunhuang, it splits into two parts. The southwestern branch of the Silk Road went through the Taklamakan desert to Khotan, from it to Tashkent, through the Pamir gorges to Vakhan, from it to Bactria's main city of Zariaspa (Balkh), in Balkh the road divided into three branches, the western branch went to Merv, the Southern branch went to India, the Northern one through Termez to Derbent, Nautak and Samarkand.

And the North-Western branch of the Silk Road went from Dunhuang through Bami, through Turfan to the Tarim oasis and to Kashgar. From it through Tashkent, Osh, Kuva, Akhsikent, Pon, then through the Asht steppe to Khujand, Zaamin, Jizzakh and further to Samarkand along the Nautak road. From Samarkand, the route went west

to Dobusia, through the Malik desert to Bukhara and Romitan, from there through Varakhsha to Paykent and Forob and further to Amul. There it was joined by the road running along the Amu from Marva to Urgench. In ancient times, the city of Merv was the largest city of the Silk Road due to its ancient traditions and geographical amenities, which were adjacent to trade caravan routes going in all directions. Historical written sources and archaeological materials indicate that the Silk Road going from Merv to the west went to the Iranian cities of Hekatolepil, Apalia and Ekbatana (Hamadan), and passing through them to the Mesopotamian cities of Ctesaphon and Baghdad. From there he went north along the right bank of the Tigris River, and through Antioch (Antokia) to Damascus, and from there through the cities of Tyre and Jerusalem to Egypt. The northern route, going from Merv, went through the Amu Darya to Urgench, from it along the Northern Caspian to the North Caucasus, and then through the Northern Black Sea to Constantinople, and through the Bosphorus and the Dardanelles to the Mediterranean Sea, skirting the Byzantine cities.

Chinese emperors had trade and diplomatic relations with countries located west of the Silk Road. They sent their ambassadors to the countries of Central Asia, Iran, Mesopotamia and Asia Minor with gifts and greetings. For example, the Chinese traveller GapIn reached the Persian Gulf in 97 AD. And the Macedonian May Titian reached Lanzhou in 100. However, Central Asians and Iranians were never interested in establishing direct trade ties with China, other Middle Eastern states or Byzantium, as underneath such contacts would be very big economic policy. In particular, the struggle for the Silk Road since the 3rd century has acquired the character of a conflict for life between Iran and Central Asia. There was a fierce competition between Iran and Parthia. Trade caravan routes from China to the west through Central Asia have always been under the control of the Sogdians. Sogdian merchants, in order to maintain their dominance on this path, founded their caravanserais and villages in East Turkestan, in Transoxiana, in the territories from the Altai to the banks of the Yenisei, in the Shanxi province in Northern China, and in a number of cities such as Dunhuang.

If in the 3rd–7th centuries the control over the Silk Road passing through Central Asia and the Middle East was in the hands of the Sogdians, then by the middle of the 8th century there were fundamental changes in the system of interethnic relations.

The western part of the Silk Road came under the control of the Arabs. By the 13th century, Genghis Khan had taken control of all branches of the Silk Road. This situation continued until the middle of the 14th century. During the Mongol rule, the main role was played by Khorezm merchants from the circle of Mahmud Jalairid.

As the Silk Road of Central Asia served as an intermediary between East and West, migration processes intensified here, large groups of Turkic ethnic elements appeared, and their penetration into the interior of Central Asia accelerated. In the world of the Iranian language group, the contribution of the Turkic-speaking peoples increased, and by the 10th–11th centuries, the Turkic language environment dominated in Transoxiana, Khorezm and Eastern Khorasan (on the territory of Turkmenistan).

At the end of the 14th-15th centuries, Transoxiana, the centre of the state of Timur and the Timurids, was connected by numerous caravan routes with major cities and countries of Europe, the Middle and Far East. These roads, laid long before and during the period under review by mighty nomads, brave merchants and fearless travellers from different countries, were the main communication routes through which the political and economic relations of the Timurid states were carried out. Consequently, the caravan routes from different countries to Transoxiana also served for the military campaigns of the Timurids. In general, it is possible to determine part of the caravan routes leading from Transoxiana to neighbouring regions by tracing some of the paths of Timur's military campaigns for campaigns carried out for various purposes. Setting a goal to create a great state, Timur knew the importance of caravan routes at that time and skillfully used it in his foreign policy. Khorezm, which in ancient times was economically, politically and culturally connected with Transoxiana, in the Mongol era was divided into two parts: Northern Khorezm, centred in the city of Urgench, belonged to the Golden Horde, and Southern Khorezm, centred in the fortress of Kat-Chigatai Ulus. At the end of the 1360s, the Dynasty of Iranian Sufis dominated in Northern Khorezm, uniting the lands of Northern and Southern Khorezm. At the same time, Khorezm was economically and politically dependent on the Golden Horde. Timur considered the whole of Khorezm an integral part of the Chigatai ulus and wanted to seize the Silk Road passing through its territory.

Under Timur, trade with China, India, Iran, Russia, Tatarstan, Faranga, Spain and other countries intensified. Mainly silk, silk fabrics, in particular cloth and satin, porcelain and musk were brought from China; from India – high-quality teas, elegant white fabrics, Nile beans, aromatic spices; from Iran – pearls and gems; from Russia and Tatarstan – all kinds of furs, skins and wax. Ferghana gazelles, and Circassian knives were popular in the Samarkand markets.

As a result of the political split in the kingdom that began after the death of Amir Temur and its division into several independent states, a decrease in attention to the Great Silk Road, the direct trade and embassy ties established by Timur with Western European states gradually weakened, and subsequently ceased altogether. This, undoubtedly, was the beginning of the separation of Central Asia from Western Europe and the emerging world market in it, Central Asia lagging behind the economic and social development of the peoples of the world.

The importance of the Great Silk Road in the rapprochement of cultures and traditions of peoples, in the comprehensive improvement of their relations was invaluable.

1. The Silk Road played a huge role in the economy, cultural and political life of the peoples of Central Asia. Thanks to it, the peoples of Central Asia participated both in the Western and Eastern world and their agricultural inventions.
2. On the Silk Road, Central Asia played the role of an intermediary between East and West. As a result, migration processes in Central Asia intensified, large groups of Turkic ethnic elements appeared.

3. By the beginning of our era, sericulture had spread to the province of Shu. Since the 3rd century, the centre of sericulture moved to the northwest in East Turkestan. From there it spread to the Fergana Valley, Sogd, Iran and Byzantium.
4. The control of the Samanids spread in the 9th–10th centuries, the Karakhanids and Seljuks in the 11th–12th centuries, the Mongol Empire from the 13th century and, finally, the state of Timur in the 1370s.
5. The role of Sogdian merchants in the diversified trade of the Silk Road was great. Starting from the 1st century BC and up to the 9th century AD, the Sogdian language rose to the level of the language of world trade within the framework of the Silk Road.
6. Parthians, Iranian Sassanids, Turks, Kushans, Khotans, Uighurs, Tibetans and Bactrians played an important role in trade along the Silk Road, in addition to the Sogdians. All of them have left their mark as the creators of this historical process.

The main task of today is that our ancestors, having once shown activity in connecting the two worlds of East and West through the Silk Road, gained access to areas in all geographic directions, became famous throughout the world as exceptional business people in the field of trade and culture, and revived and developed this glorious historical heritage.

The Republic of Uzbekistan is a state that was one of the first to put forward the idea of reviving the Great Silk Road, choosing the greatest path to independence and development, and is making every effort to implement this idea. Therefore, Uzbekistan is taking many measures to revive the ancient route as an advanced, complex system of transport and communication communications once adapted to caravans consisting of horses and camels equipped with the most modern equipment and technologies. Such measures are considered as means of economic development and restoration of the Great Silk Road.

With a full recovery of the Great Silk Road in a new content and quality, completely new sources, factors and development opportunities arise for the peoples of Europe and Asia. They can expand and may even help to solve some of the most acute of environmental issues, such as the problem of the Aral Sea.

5. Conclusion

The following can be said about the main consequences of the restoration of the Great Silk Road. First of all, trade relations between the countries will strengthen, trade volumes will increase, which will have a positive impact on economic development.

New enterprises, modern service stations and maintenance points are emerging, and the productive forces of countries are developing. As a result of scientific and technical ties and the introduction of new equipment and technologies, scientific and technological progress is accelerating, the competitiveness of firms and their goods is increasing.

Many new jobs will be created, and most of the unemployed will have their own jobs. Within each country and internationally, the division of labour is deepening and expanding, new types of labour and new professions are emerging. National and international relations will change and improve further. Opportunities for improving the environmental situation and improving the quality of goods are expanding.

The conditions and factors affecting the reduction in the cost of export-import work on the production, sale and purchase of products, economic growth, will expand. As a result, the material life of people should improve and their well-being increase.

Cultural, spiritual and educational ties between countries, including educational tourism, will be developed and improved. The comprehensive development of all peoples will increase. The growth of economic, spiritual, educational and other relations has a positive effect on political relations between countries and peoples, on the international situation, strengthens international peace and cooperation.

Thus, the Great Silk Road has played a major role in the political, economic, cultural and commercial life of the peoples of Central Asia. Many people believed that the way of *tuifaili* lay through the Western and Eastern world and widely used their economic inventions. The Silk Road had an exceptional and historical place in the life of the peoples of East and West. It not only connected peoples in the political, economic, and cultural spheres, but in ancient times it was also a route of peace, tranquility, harmony, good neighbourliness, friendship and fraternity between the peoples of the world. This trail is a sacred duty of modern nations along and beyond it to commemorate and revive the traditions of the Great Silk Road, of living freely and with dignity.

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URBAN PLANNING AND LANDSCAPING UNDER AMIR TEMUR

Abstract

This article describes the landscaping carried out under Amir Temur’s patronage during his reign, the development of urban planning, the rise of cities and mosques and madrasas erected in them, as well as the tariff of European ambassadors for these works, as well as the actions taken by Amir Temur to improve the conquered lands.

Keywords: Architecture, Amir Temur, Samarkand, Rui Gonzalez de Clavijo, Dilkusho Garden, bridge, madrasah.

1. Introduction

The majestic monuments of art that have come down to our days since the time of Amir Timur and the Timurids testify that at one time, under the patronage of Sahibkiran, architecture and urban planning were developed extraordinarily well in the country. Amir Temur in his writings notes: “I have ordered to build mosques, madrassas, khanaks in every city, to build roads for passing foreigners, to build bridges across rivers.» Elsewhere, he emphasises: «I have again ordered that mosques, madrassas and khanaks be built in every city, in every village, Large and small, so that Miskin fakirs erect langarkhans (foreigners) and appoint doctors to work in them. Let Dorul-amorat (the ruler’s palace) and Dorul-adilat (the Palace of Justice) be built in each city!» [1] We see Sahibkiran’s invaluable work in the field of architectural creativity on the example of unique monuments preserved in Shakhrisabz, Bukhara, Tashkent and other cities.

2. Theoretical framework

The scientist-historian Sharafiddin Ali Yazdi in his work «Zafarnoma» in the description of the construction of the fortress of Kesh (Shakhrisabz) and Oxaroy wrote the following: «the end of 781 (ca. March 1380 AD), which fell on the year of the Mouse (Hijri), was the time of early spring. The architect began to blossom with his power (nature) at the same time when he began to ennoble the city with greenery and lawns, creating castles from rose bushes, raising the tips of lily branches high and decorating them with leaves with turquoise patterns. His Majesty Sahibkiran has erected the throne

of the kingdom here to rest, sucking from his flowers the medlar that spreads all over anbar and enjoying its water to enjoy the joyful and prosperous land of Kesh. Then he issued a decree on the construction of the Shakhrisabz fortress and distributed (work) between the worlds and the population of the army. In a happy hour, suitable for the construction of the fortress, its foundation was laid. And in the city by decree, the execution of which was unconditional before the excavations, a castle was built.

3. Methodology

Under Timur and the Timurids, construction works and architecture are growing and developing at an unprecedented rate. V. V. Bartolud writes: «Timur was both a fierce destroyer and an enterprising builder: he erected majestic buildings and struck them with huge horns, restored towns and villages, erected water structures and repaired the destroyed ones. This would not leave without attention the plots of land on which it would be possible to build a culture. Timur's creative activity was as impressive as the destruction he inflicted. The best period in Muslim architecture is associated with the name of Timur and his descendants.»

Under Timur and his descendants, great creative works are being carried out in Samarkand, Tashkent (Zangiata grave), Bukhara, Shakhrisabz, Karshi, Turkestan, in the centre of Khorasan-Herat, Mashhad, Nishapur, Kabul and other cities. By order of Sahibkiran, defensive walls were erected around Karshi in 1365, Samarkand in 1370, and Kesh in 1380. The majestic madrasas built by Timur in Turkestan in honour of his homeland Keshda, the great scientist and thinker Ahmad Yassavi, at one time personified the might and glory of Sahibkiran.

4. Main part

Spanish ambassadors who arrived in the city of Kesh, where Amir Temur was born (August 1404), describe Kesh as a «big city». The fortress walls, the Bourgeois gates were built by order of Amir Temur and under his personal guidance. The length of the wall was about 5 km, and tarkhi was a straight fortress measuring 770 x 1730 meters. On each side was a wide tower, which could be accessed through a covered gate. [2]

The construction of the Palace, considered an architectural miracle, began in 1380, and in the autumn of 1404 finishing works continued in this palace. The information recorded by the Spanish Ambassador Rui Gonzalez de Clavijo remains the only evidence of the history of architecture. The entrance to the palace is very long, and the gates are very high, there are brick Ravanas decorated with forged carvings to the right and left of the entrance. These bedrooms have small rooms without doors, bathrooms with tiled tiles. When you pass through the gate, another one is visible, and behind it a large courtyard with white stone countertops, surrounded by luxuriously decorated courtyards, in the middle of the courtyard there is a large swimming pool. The courtyard is about three hundred steps wide, the roof is 22 meters wide, the towers on

both sides attract constellations. Zahiriddin Muhammad Babur, who was a fan of the Mahabharata, said, «munga is also a target in the world of higher vines because he is bigger than the crown of Kisro» [3].

Amir Temur paid special attention to the development and prosperity of the city of Samarkand, the city could be accessed through the gates of Ohanin, Feruz, Suzangaran, Tozuristan (torizgoh), Bukhara and Sheikhzada (chorraha). In Samarkand, under the leadership of Amir Timur, Kuksaroy, the Jami Mosque, the architectural complex of Kusam ibn Abbas, Khanaka Uljoyim, the mausoleum of Khoja Ahmed and other structures were built.

The Agha district mosque, the architectural Hazara necropolis of Shahizinda on the western side of the courtyard at the very top there are two interconnected buildings – a mosque and a mausoleum. The oblong room of the mosque can be accessed through three doors. He goes through the attic to the door in the middle. The translation of the scratchy inscription on the south door reads: «Hazrati Malika, the daughter of the wise Amir Musa from the Khairinniso district, peace and blessings of Allah be upon him, built the foundation of this mosque by the will of Allah Almighty» [4].

The Qusam ibn Abbas architectural complex is a famous pilgrimage site called Shahi Zinda. Prophet Muhammad, a descendant of his uncle, was martyred at this address and was buried. During the time of Amir Temur, this architectural complex was significantly expanded and renovated. After all, Amir Temur spoke about the first hint of holding the kingdom: «I gave free rein to the Almighty and the Sharia of Muhammad Mustafa, and I supported Islam everywhere and at all times» [5].

In addition, Amir Temur reconstructed a number of architectural shrines in Bukhara. These include the ancient prayer hall, the mausoleum of Sayfiddin Boharzi and Bayonkulikhan. Amir Temur made a great contribution to the construction of the Zangiat Mausoleum in Tashkent and the khanaki mausoleum of Khoja Ahmad Yassavi in Turkestan. Transoxiana has long been considered the land of the gods. During the time of Amir Temur, the art of landscape gardening gained particular popularity. It is known that Sahibkiran personally created many gardens, paying special attention to this area. The ambassadors from Shakhrisabz dined in a large house belonging to Amir Temur. «This house stood in the middle of a huge garden on flat Land on the shore of Ankor» [6].

Gods of Dilkusho. The ambassadors arrived at Dilkusha Park outside Samarkand. This place is the largest and most picturesque park in the suburbs. «The entrance to the garden is through a very wide and high gate decorated with gold and gilded tiles. Guards armed with spears stood at the gate» [7].

Amir Temur paid more attention to landscaping and creative work, no matter what country he conquered. Since during the campaign to Khorasan (1381), he stopped in the Murghab valley and ordered his troops to dig a ditch from this river, and 16 ditches were dug through which water was delivered to local peoples.

Before going to Rum (1401), Amir Temur, while wintering in Karabakh, dug a moat across the Araks River (Araks). At the end of the campaign, Sahibkiran in 1403 again stops in Karabakh for a certain period of time for wintering and performs a great good deed, ordering the restoration of the city of Baylakan [9].

5. Conclusion

Amir Timur, whether during campaigns or in peacetime, sought to improve the country, its prosperity, and the construction of cities. This is evidenced by the policy pursued by Amir Temur, as well as the fact that he said «I ordered that everyone who improves any desert should not receive anything (or tax) from it in the first year, in the second year, with the consent of the raiyat, receive someone else's, and in the third year, the law collected hiraj in accordance with the rules.»

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AMIR TEMUR'S CONTRIBUTION TO THE IMPROVEMENT AND ARCHITECTURE OF THE COUNTRY

Abstract

This article says that Timur and the Timurids built many buildings, baths, caravanserais, cisterns for the needs of the people and the state, majestic and beautiful historical monuments, examples of architectural art created in Transoxiana and Khorasan are still preserved.

Keywords: Karshi, Shakhrisabz, Khorasan, "Shahizinda", Samarkand, Bukhara.

1. Introduction

Under the Timurids and Timurids, construction work and architecture are growing and developing at an unprecedented rate. Timur and his descendants are doing great creative work in Samarkand, Bukhara, Shakhrisabz, Karshi, Turkestan, the center of Khorasan, Herat, Mashhad, Nishapur, Kabul and other cities.

2. Theoretical framework

The largest architectural structure that attracts the attention of visitors to Kesh and Shakhrisabz both in the times of Amir Temur and Timurids, and at the present time, is the Oxaray. The total height of this monument, erected in the late 14th and early 15th centuries, is 78 meters, and 38 meters have been preserved today. Information about the monument is given by Sharafiddin Ali Yazdi, Abdurazzak Samarqandi, Ibn Arabshah, Zahiriddin Mohammed Babur, the Spanish ambassador de Clavijo. The 2 surviving massive columns of oxaroy are decorated with glazed mosaics and unique carvings. Geometric and natural patterns are selected here in 7 different colours, which are popularly called "Hafta colour". On the facade of the western column of the oxaroy is the famous exclamation inscription: "If you doubt our strength, look at the buildings that we have built." Clavijo writes in his memoirs that he was amazed and delighted by the beauty of the palace: "after all, the whole building was covered with gilding and stucco, where so many rooms and camps of the palace were shown that you can talk about them for a very long time. The palace decoration was richly decorated with gold and other colors. Even in Paris, which is world famous for its masters, this work would be considered very beautiful". One of the most unique, characteristic features of this

palace by Amir Temur is the pool above the roof of the palace, into which water was brought on the Takhtakarach pass through lead pipes from the mountain.

3. Methodology

Under the Timurids and Timurids, construction works and architecture are growing and developing at an unprecedented rate. V.V. Bartolud writes: "Timur was both a fierce destroyer and an enterprising builder: he erected majestic buildings and struck them with huge horns, restored towns and villages, erected water structures and repaired the destroyed ones. This would not leave without attention the plots of land on which it would be possible to build a culture. Timur's creative activity was as impressive as the destruction he inflicted. The best period in Muslim architecture is associated with the name of Timur and his descendants."

Under Timur and his descendants, great creative works are being carried out in Samarkand, Tashkent (Zangiata grave), Bukhara, Shakhrisabz, Karshi, Turkestan, in the center of Khorasan-Herat, Mashhad, Nishapur, Kabul and other cities. By order of Sahibkiran, defensive walls were erected around Karshi in 1365, Samarkand in 1370, and Kesh in 1380. The majestic, majestic and majestic madrasas built by Timur in Turkestan in honour of his homeland Keshda, the great scientist and thinker Ahmad Yassavi, at one time personified the might and might of Sahibkiran.

4. Main part

Amir Temur did not leave the famous Shahi Zinda cemetery with his sharp mind and insight. *Shohizinda* has the meaning 'living king'. The oldest of the mausoleums in it is the Mausoleum of Qusam ibn Abbas. Qusam ibn Abbas was a descendant of Abbas, who was a cousin of the founder of Islam, the Prophet Muhammad (PBUH). Amir Temur installed a new hut on the grave of Qusam ibn Abbas. This hut is one of the best examples of ancient ceramics of Central Asia. There are more than 20 mausoleums built by Timur and Timurids in the Shahi Zinda ensemble.

Another historical monument built during the reign of Amir Timur and captured the whole world is the Mausoleum of Emir Guri. This majestic structure has its own history of construction, and Timur loved his grandson Mohammed Sultan very much. Muhammad Sultan died in 1403, at the age of 27. In the autumn of 1404, Amir Timur, returning from a trip, issued a decree on the construction of a mausoleum in memory of his grandson Muhammad Sultan. According to this decree, the mausoleum will be completed in 10 days. Among the colorful mosaics on the walls of the mausoleum, the name of the master Muhammad ibn Isfahani, who built it, is also written. When Amir Temur died in 1405, he himself was buried here, next to his grandson, and the mausoleum was named the Mausoleum of Emir Guri. Later this Obi will become the Hilda of the Timurids. In addition to Muhammad Sultan and Amir Temur, it presents sagas about the sons of Sahibran, the grandson of Mirzo Ulugbek and Piri Sayyid Barak.

The beauty of the gardens created by Amir Temur makes it impossible to praise in them various fruits and wildlife existing on earth, details of poultry. A. Berdimurodov in a series of articles “gardens of Amir Temur in Samarkand “ quotes the following lines about “Dilkusho Park”: “Timur in the autumn of 788 AH (1397 AD) ordered to erect a new garden in the oasis of Khushmanzar Konigil, so that it stood out for its beauty among all the gardens of the country... the most skilful architects of Central Asia, living in Samarkand, laid the main brick of the garden, which took fifteen hundred years to build. Divided access roads. The domes of the Palace were decorated with patterns, the walls were covered with tiles on top. In the four corners of the garden, sheds were built, executed with great art and high taste, with outstanding colors. Timur ordered to plant fruit trees on the edges of the alleys, and some - flowers. The garden was named “Dilkusho’s garden” because it matched his inclination. A three-storey palace with a high dome was erected in the middle of the garden. The Spanish ambassador Clavijo, who was at Timur’s reception in September 1404, writes that water splashed from a fountain in this garden, that the gates leading to the garden are very wide, decorated with high gold and other precious stones, and on them a Golden elephant with a throne”.

It is known that Sahibkiran’s creative and architectural activity is an example for others. In this regard, examples can be given of how his descendants (Shahrukh) restored the fortresses of Herat and Marv, built madrassas, khanaka, new market buildings in Herat, his wives: Gavharshodbegim madrassas in Herat, Mashhad, Tus, one in Balkh Milkat-OGA, two madrassas in Herat, Dorushshifo hospital, Khanaka, madrassah, bath, mausoleum, library. Again, the madrasah that Ulugbek continued in Samarkand, repairs of Shahizinda, madrasah of Gijdivan, Bukhara, mosque in Shakhrisabz, baths associated with the names of Muhammad Sultan, Kasim Sultan, Muhammad Kasim in Samarkand, Saraymulkhanim madrasah, Khoja Ahror, Mirzo Abdullo, Agha district, khanaki of Ulugbek, madrasah “Badiya” of Sultan Hussein’s wife Bilgi Sultan in Balkh, Abulkasim Babur madrasah in Balkh, madrasah, you can give a description of the mosque in anuva. In addition, there is information that the mother of Amir Timur Kutlug Turk-OGA built madrassas and khanaks at his own expense.

5. Conclusion

Thus, the political and state administration carried out during the reign of Amir Temur and the Timurids was aimed at perfect organization, special attention was paid to the development of cities, the development of science and culture, various types of art in cities and villages, and the further improvement of the spiritual life of society. The fact that Amir-Timur and the Timurids were rulers who valued science and culture, who paid special attention to the comprehensive development of cities, is evidenced not only by the data of written sources, but also by the monumental structures that have come down to us in many cities, which still demonstrate their beauty and greatness.

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MIRZO ULUGBEK'S MADRASA AND ITS POPULAR TEACHERS IN SAMARKAND

Abstract

The article considers the formation of the Mirzo Ulugbek madrasa in the Registan, the study process and the teachers who taught there. Among them, astronomers who performed scientific observations in the Ulugbek Observatory, including Kzizoda Rumi, Jamshed Koshi, Muhammad Khavofiy, Muhammad Ali Khshchi, Muhammad Burjandiy and others.

Keywords: Movarounnahr, Samarkand Ulugbek, Madratassa, Mudarris, astronomy, scientific research

The Ulugbek madrasa in Samarkand is a particularly noteworthy monument of Central Asian Islamic architecture. Built by Mirzo Ulugbek, Timur's grandson, it was called the Madrasai Oliya or Higher Madrasa. According to the writing on the roof it was built in 1417–1420. The madrasa has two floors, four doors and four towers at the top of its corners. The roof of the madrasa depicts the sky full of stars. Clearly, among the subjects taught in the madrasa, astronomy had a special role and honour [1].

At the Ulugbek Madrasa, special attention was paid to the training of teachers and involved the most advanced scientists in the founder's time. The madrasa was the first to gather participatory scientists, such as Mawlana Muhammad Hangafi and Astronomer Salohiddin Moses Kasiza. In Kazisso, Rumi was a very famous scientist, and his contemporaries named him Plato-Time. Also, scientists such as Abduvali ibn Muhammad Birdshad, the famous mathematician and astronomer Gianosiddin Jamshid, were effective scientific researchers under the leadership of Ulugbek [2].

During the era of Mirzo Ulugbek, there were dozens of astronomy schools and madrasas, where Mawlana Khadrat, Mawlana Khadrasa, Qazizoda Rumi, Giyosiddin Koshi, Ali Koshidin, and Mawlana and Mavlon were bright stars. During this period, Fazlullah Abu Ali was also active. The poet Abdurahmon Jami, meanwhile, not only visited Samarkand to learn, but also educated students at the Ulugbek madrasah [3].

Mas'ud ibn Mahmoud Giyosiddin Koshi was famous under the names of Mahmud, more famous Giyaziddin Koshi Mahmud, one of the most prominent majorities of the Samarkand school. He was originally from Khahasan's skilled masters, mathematicians and famous doctors. Giyosiddin Koshi's birth year is unknown. He spent a lot of his life in a koshon, was interested in mathematics and astronomy, translating and interpreting the works by famous Greek, Persian and Central Asian scientists. In particular, Ziji Khoqoni wrote a work on Ziji Yolkhoni (Ziji Elkhani). In 1416, he came to Samarkand at the invitation of Niyasi Siddin Koshi Ulkbek. There he was actively involved in the construction of the Ulugbek Madrasa and Observatory. After the madrasa was completed, Giyosiddin Koshi continued his career there. In this madrasa, he learned the Board (astronomy) and associated subjects. Giyosiddin Koshi died in Samarkand in 1430 [4].

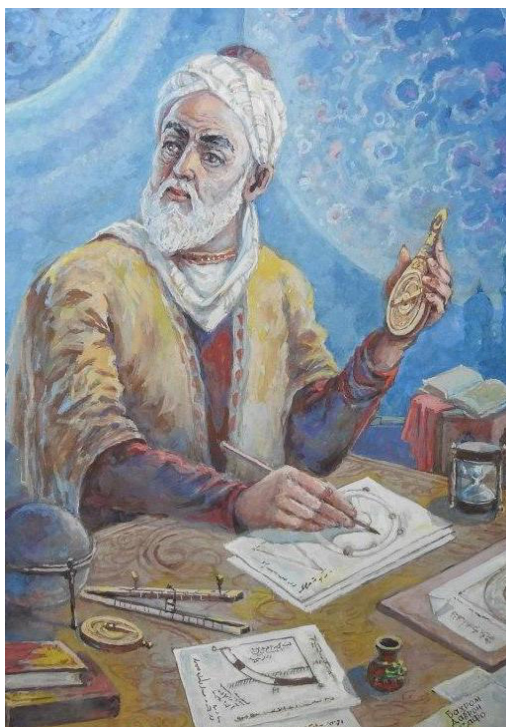


Fig. 1. Astronomer at work. Registan resources

Salakhiddin Musa ibn Muhammad ibn Mahmud Kazizade Rumi was born in 1360 in Bursa, Asia Minor, south of the Sea of Marmara. He studied mathematics and astronomy under Mulla Shamsiddin Fanari, who received there an education which later awakened in him a passion for the exact sciences. Kazizade heard from Mullah Shamsiddin Fanari about the fame of mathematicians and astronomers of Khorasan and Movarounnahr and at the age of about 20 he permanently left his homeland and

went to the East. There is no information in the sources about when and where Rumi first met Mirzo Ulugbek. Probably Ulugbek met him in Khorasan in 1411, before he ascended the throne, and studied with him there. After Ulugbek became the ruler of Movarounnahr, in 1413 he invited Kazizade Rumi, recognised as the „Plato of the Times”, to Samarkand, where he lived and worked until the end of his life. The construction of the Ulugbek madrasa and the observatory on the Kuhikhak hill began with the direct participation of Kazizade Rumi. He also took part in the creation of Mirza Ulugbek's „Zij” or ‘Tables’ and died in 1437 in Samarkand. At that time, work on the „Zij” had not yet been completed. Kazizade Rumi was respected in Samarkand as an enlightener of Ulugbek and a great scientist of his time.



Fig. 2. Astronomical manuscript in Arabic alphabet from 15th/16th c.

In addition to teaching at the Mirzo Ulugbek madrasa, Kazizade Rumi was also engaged in scientific work and made observations at the observatory. He produced several notable works in astronomy and mathematics. Among them, two works are especially popular. One is “Sharkh ashkol at-tasi” (‘Abridged description of astronomy’), in which he wrote comments on the geometric treatise of the Samarkand scientist Shamsiddin ibn Muhammad al-Samarkandi (13th century.). This pamphlet served as a textbook on geometry in the Movarounnahr madrasah. The other work is called “Sharkh al-mulahhas fi-l-khayl” (‘Commentary on reasonable proposals’). This work is a commentary on the treatise of the Khorezm scholar Mahmud ibn Umar al-Chagmini (died 1220). On the basis of this work, Kazizade Rumi taught astronomy

in Ulugbek's madrasa. It should be noted that the above works, created by Mawlana Kazizade Rumi, were taught as textbooks not only in the Ulugbek madrasa, but also in the madrasas of Movarounnahr, Khorasan, Iran and Rome, and various comments were written on them. Kazizade Rumi met with Sayyid Sharif Jurjani at the Idiku Temur Madrasa. In the same year, after the departure of Sayyid Sharif Jurjani to Sheroz, he worked under a recognised honorary Samarkand scientist. After the construction of the Ulugbek Madrasa in Samarkand was completed, Kazizade Rumi was appointed his senior teacher (rais al-muallimin). When Abdurahman Jami came to Samarkand to study in 1436, he passed the examination led by Rumi. Later, after learning from Mawlan Kazizade, Rumi received his praises. Kazizade Rumi spent the rest of his life excelling in his title of teacher [4].

Mirzo Ulugbek (1394–1449) lectured mainly on astronomy and mathematics. Giyasiddin Jamshid Kashi's letter to his father (in Kashan), posted from Samarkand, says: "He is so well versed in astrology and, if necessary, proves this with detailed evidence. He teaches Tazkira and Tuhfa so well that there is no need to add anything to them."Ulugbek took an active part in mass meetings in the madrasah and the palace". Mirzo Ulugbek used excellent methods as a teacher. Giyosiddin Jamshid Kashi commented in his letter as follows: "From time to time between Mirzo Ulugbek and students there were disputes that cannot be described. He even ordered that no agreement be reached until a complete solution of the scientific question and that no impression be created that everything was completely clear. Sometimes, when out of respect for the Supreme Master someone approved of what he had proposed, he became indignant and said, „Don't expose my ignorance." Sometimes, by way of a test, he would put forward an incorrectly formed problem. As soon as someone agreed with him out of respect, he brought up the issue again, accusing the person of ignorance and embarrassing him [5].

Mavlyano Shamsiddin Muhammad al-Khavafi. He participated in the construction of the Mirzo Ulugbek Madrasa and then was one of the first teachers of this educational institution. Mavlyano Zayniddin Vasifi wrote the following about him in his book "Badoe ul-vakoe": "Mirzo Ulugbek invited Mavlyano Khavafi to his place and conducted a survey related to science. As a result, he rewarded him by putting on his extraordinary dressing gown. Mirzo Ulugbek took Mawlana Khavafi to Kazizade Rumi and praised him. It should be noted that on the day of the meeting of scholars, Mavlyano Khavafi read Al-Majasti in front of ninety scholars. Of all those who heard his lesson, no one understood him, except for Mirzo Ulugbek and Kazizade Rumi. Mirzo Ulugbek said that Mavlono Khavafi is experienced and perfect in all sciences. Even if they drown all the books in the river and there is no trace of science left in the world, Mawlana Khavafi will be able to restore all sciences without any flaws. Shamsiddin Muhammad Khavafi was mainly engaged in educational work in the madrasa and did not have the opportunity to take an active part in scientific work [6].

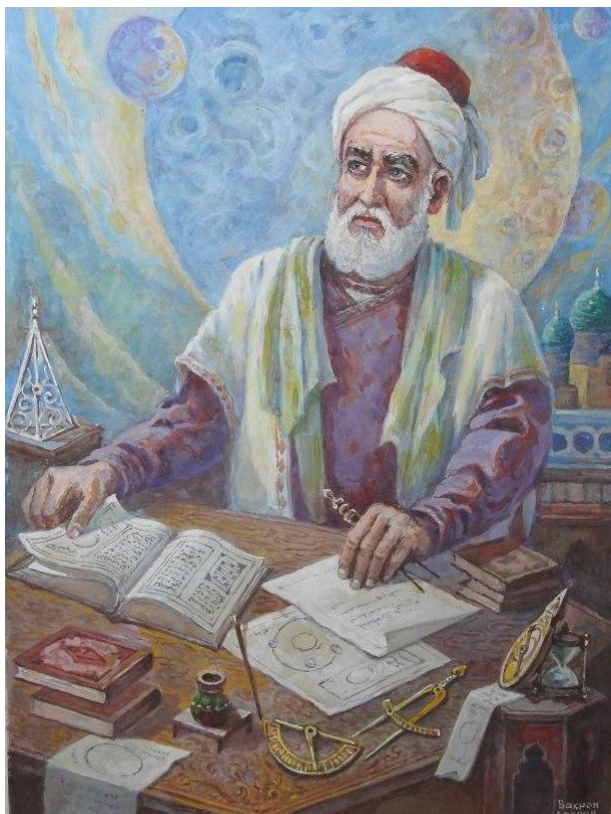


Fig. 3. Astronomer at work. Registan resources

Ulughbek followed the work of Ali Kushchi and he included him in the circle of his associates, and as a result, Ali Kushchi became the most trusted student of Ulughbek. Ali Kushchi was one of Ulughbek's most active and reliable students. Later, he became one of the great scientists of Movarounnahr and one of the links between Eastern and Western science. Later, by order of Ulughbek, Ali Kushchi also carried out diplomatic missions. In particular, in 1429–1430, Ali Kushchi was sent to Herat, where he got acquainted with the work of the madrasa, the life of students and teachers, and the educational process. In Herat, he met the young Abdurakhman Jami, whom he offered to go to Samarkand to study at the Ulughbek Madrasa. On the advice of Ali Kushchi Abdurakhmon, Jami came to Samarkand to study at Ulughbek Madrasa. From the above it is clear that Ulughbek sent Ali Kushchi to Herat and that he got acquainted with the educational process in the madrasa there. His close acquaintance with the educational process in the madrasa testifies that he was looking for ways of development and education not only in Samarkand, but also in the madrasas of other parts of the Timurid state. Miram Chalabi, Abdukadir Ruyani, Mulla Abduali Birjandi, who were educated by Ali Kushchi, later continued this tradition in Iran, Greece and other countries of the world [7].



Fig. 4. Astronomical manuscript in Arabic alphabet from the end of 16th c.

Nuriddin Abdurahmon Jami (1414–1492) – a famous poet, thinker, leader of the Nakshbandi sect. In 1436 he came to Samarkand to continue his education at Mirzo Ulugbek Madrasa. He studied under Maulyan Kazizade Rumi and Khoja Fazlullah Abulaisi. Thanks to his talent, he received praise and applause from teachers and Mirzo Ulugbek. After graduating from the madrasa, Abdurakhman Jami was appointed teacher of this madrasa and worked in the school of Mirzo Ulugbek until 1452. He taught Arabic, grammar and poetry there. Probably as a result of these lessons later, in 1492, he wrote his works „Favoidi Ziyaiya” or „Sharkhi Mullo”, dedicated to his son Ziyoviddin Yusuf. While in Samarkand in 1452, he wrote *Risola-i kabir dar masala*, (‘Great treatise on this issue’), which he dedicated to Abulkasim Babur (1451–1457), the ruler of Khorasan, and handed it to him when he returned to Herat [5].

Khoja Fazlullah Abulaisi Samarkandi – a well-known jurist and Arab scholar (died in the late 1460s in Samarkand). Khoja Fazlulloh Abulaisi taught jurisprudence (Islamic jurisprudence) and Arabic at the madrasa. Mir Alisher Navoi writes in his work “*Majolis an-nafais*” “Haja Fazlullah Abulaisi is from Samarkand famous people, from the family of Fakih Abulaisi. In the jurisprudence of Hajj Fazlullah Abulaisi was called Abu Hanifa-i Soni, and in Arabic – Ibn Hajib. He was a student of Sayyid Sharif (Jurjani). Khoja died by the grace of God in Samarkand and was buried in his mausoleum near his Madrasa in Samarkand.”

Ali Qushji (Ala ad-Din Ali ibn Muhammad, 1402 or 1403, Samarkand – 1474, Istanbul) – Persian (or Arabic) astronomer and mathematician, student of Ulugbek and mathematician al-Kashi, originally from Samarkand. His father belonged to Ulugbek's courtiers. Ali received his nickname Kushchi ('Falconer') in his youth: as a favourite of Ulugbek, he was honoured to keep the royal falcon while hunting. Ulugbek patronised Kushchi, called him his son and completely trusted him. On behalf of Ulugbek, in 1438 Kushchi made a trip to China, heading an embassy that delivered a living lion as a gift to the Chinese emperor. The book on the history and geography of China (Khitai-name), written by him upon his return, was also famous in the 16th century and was translated into Turkish twice. After the death of Ulugbek, Ali Kushchi left for Persia, and from there to Constantinople, recently conquered by the Turks, where he entered the service of Sultan Mehmed II, who patronised scientists and poets. Here he introduced Byzantine scientists to some of the discoveries of the Samarkand school, in particular, to decimal fractions. Ali Kushchi is considered one of the first Turkish educators: he organised a madrasa (Sahn-i Seman University) at the Istanbul Aya Sofi mosque, into which the Turks converted the Christian church of Hagia Sophia, and educated a number of Turkish scientists. Ali Kushchi wrote „Treatise on the Science of Arithmetic” and „Treatise on the Science of Astronomy”, which played a prominent role in the teaching of mathematics in the countries of the Middle and Near East in the 16th–17th centuries. He wrote commentaries on Ulugbek's Gurgan Zij (astronomical tables) and al-Kashi's Ladder of Heaven. In his astronomical works, Ali Kushchi discussed the possibility of a daily rotation of the Earth around its axis, believing that this does not contradict the experimental data. He argued that the daily movement of the luminaries to the west arises with the actual movement of the Earth itself from west to east. Therefore, it seems to us that the luminaries rise in the east and set in the west. Such a sensation is experienced by an observer sitting on a ship moving along a river. The observer knows that the shore of the water is motionless. But it seems to him that the shore is moving in the opposite direction of the ship. Ali Kushchi also wrote a number of works on linguistics [6].

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THE CRAFT THAT GLORIFIED THE REGION IN THE TASHKENT OASIS

Abstract

This article discusses the issue of making ceramic material in the Tashkent oasis, the development of pottery and its role in the development of the urban culture of the region. The development of handicrafts has influenced the socio-economic life of human society, making it possible for cities to become active creators and conductors of a new way of life. The characteristics of the manufacture of ceramic material are given, and roles of the Burguluk ceramic type in the development of handicrafts in ancient Shash is discussed.

Keywords: Tashkent oasis, Burguluk, ceramics, Shash

One of the most widespread materials of the ancient and early mediaeval Tashkent oasis is ceramics. The bulk of the fragments is pottery of the Burguluk type¹. It is associated mainly with the ancient agricultural culture of painted pottery of the Late Bronze Age and Early Iron Age, as well as the Early Middle Ages. It is important for us as a genetic complex, since the emergence of the urban culture of the oasis is associated with its final stage. The history of the birth of the city goes back to ancient times. Once upon a time, having appeared at a certain stage of the socio-economic development of human society, cities themselves became active creators and conductors of this progress[1].

A millennium ago, one of the largest geographers of the East, Makdisi, who travelled to many countries and knew about others from merchants and scientists, wrote, listing goods that are especially internationally famous: glazed vessels of Chach, Samarkand paper, Herat grapes ...

¹ Burguluk culture, Archaeological culture of the late-early Iron Age (9th-3rd centuries BC) in the valley of the Chirchik and Angren rivers. Allocated by A. I. Terenozhkin in 1940. In the formation of the early stage of the Burgulyuk culture (9th-7th centuries BC), the rape of Northern Fergana (Chustko-Eilatan complex) and the steppe (descendants of the Andronov culture, roller ceramics culture, culture). The Saks played an important role among the carriers of the Burgululyk culture. Late Burguluk culture of Northern Fergana (Aktam burial ground). Settlements with dugouts (most are oval, there are multi-chamber ones) and light frame buildings. In the late Burguluk culture, fortresses (Kanka) appeared. Characteristic are spherico-conical vessels with an oval outlet and a horizontal molded handle, spherical. Small hemispherical pot bowls with light engobe and horizontal molded handle, spherical pots, small hemispherical bowls with light engobe, occasionally with brown painting.

For a long time, Central Asian potters have glorified their products far beyond the borders of Maverannahr. Vessels of graceful light shapes with colourful painting under a light transparent glaze now adorn the best museums in the world [2].

The history of manufacturing is rooted in the ancient front of the Tashkent oasis. It is represented by a pure complex of the lower horizon (Shash I), dominates in the middle (Shash II) and is still present in the sediments associated with the bypass wall (Shash III). The inventory is represented mainly by hand-made ceramic dishes, sometimes with imprints of a cloth pattern [3]. Almost all vessels, with a few exceptions, are round-bottomed, covered with a light engobe with a slight manganese tint. Pottery is divided into coarse stucco and more finely worked. Vessels of a pink shard of different shades with a moderate addition of white gypsum particles, grains of quartz or without impurities predominate. A shard of varying degrees of porosity. Usually engobe coating is light cream or pinkish cream. The surface is smoothed, in some cases polished. About a third of the vessels is a group with a bright red coating turning into manganese, most often of open forms, coloured outside and inside. Painted vessels are often polished to a shine.

The predominant number of vessels are round-bottomed; single fragments belong to forms with a flat bottom. Eight fragments with traces of painting or a red stripe along the rim were identified from the entire mass of ceramics. The painting in the form of stripes, oblique shading and, apparently, triangles is applied to a light red or cream engobe with blood red paint. Some additions to the painted fragments are given by shards obtained during excavations in 1970 [4].

The following basic forms are distinguished in the complex of ceramics: large pots, pots, lids with a cylindrical handle; smaller pots, cauldrons with a wide drain under the whisk, bowls. Several single fragments were found: the upper part of a rough dirty yellow bowl with a sharply emphasised roller under the rim, a part of the rim of a yellowish pot with a shiny engobe, a beak-like rim hanging outward and a bright red glazed stripe under it, a fragment of a light cream bowl with an interception of the wall.

In addition to household utensils, the complex of the lower horizon contains flat oval braziers made of light clay with the addition of large quartz particles, shallow, with a pointed edge. They differ from similar items of the Kaunchin era by their great bulkiness and massiveness. A miniature incense burner 15 cm in diameter was also found. In addition to pink and red ceramics, in the lower complex, eight inexpressive fragments of grey-clay were found, and on the wall of one round vessel, traces of the ribbon-making method are clearly visible.

The ceramic complex of the second cultural horizon and the third, associated with the early stage of the functioning of the bypass wall, consists mainly (1056 fragments) of the noted vessels, but upward from tier to tier is saturated with new forms. Some of these forms, although growing, do not become dominant within the horizons under consideration. Another part is present in the stratum, not receiving further development, but indicating a number of important events accompanying the

accumulation of this cultural deposit. Considering these moments, the complex of the second cultural horizon is defined as transitional [5].

One of the new forms, a vessel of grey-black, rather dense shard, with small white particles and an uneven spotty surface, smoothed and sometimes polished to a shine. There are 167 fragments of these vessels. They belong to pots and cauldrons with a marked neck and a simple roller-like, slightly bent rim, on a flat bottom, sometimes with two horizontal handles set on hangers [6].

Here, for the first time, another type of grey-black ceramics was encountered, numbering 28 fragments and three archaeologically intact vessels in the entire horizon. They are in a fracture of dark grey, almost black colour, a porous shard with a large addition of small white grains such as talc. Firing uneven, bonfire, which is why the surface is covered with yellowish-brown and black spots, without polishing. The pots are egg-shaped and the mugs, almost cylindrical with a simple rim, are intact. Pots usually have a simple, slightly curved rim, flat bottom. Perhaps some had handles attached, as one fragment shows, to a shoulder. The diameters of the necks and the bottom are approximately equal. It should be noted that these vessels stand out unfavourably among the Burgulukskoy ceramics by the deteriorated quality of manufacturing and firing.

Among the new forms of the horizon is a wide-necked jug with a rounded rim. Handcrafted from pink dough of good quality, even fired, covered with a light greyish-cream engobe with brown streaks on the outside. There is a kind of a jug without drips with a pink-lilac inner surface, a grey outer engobe and a scratched ornament in the form of straight grooves interspersed with a wavy line.

The complex records the appearance of bowls made on a circle. They are a pink dense shard, without additives, with a creamy outer engobe. A characteristic feature of their silhouette is the bend of the wall, either clearly marked by a rib, or outlined and emphasised by two or three grooves. The edges are simple, slightly rounded.

A certain group consists of vessels such as deep bowls of the same colour of a shard and a light greyish-yellow engobe with pointed edges slightly concave inward and a smooth bend in the wall. A fragment of a bowl with straight walls and a flat edge is noted. The form of a khumchi with a bent, filled up rim appeared [7].

Large spherical hums and cauldrons, the latter with a spout with a ledge on the opposite side of the wall, smaller pots of the same shape, hemispherical bowls. A characteristic feature of all vessels is their round bottom, the use of a cloth template. On some vessels (this group of ceramics is most fully represented by Tuyabuguz), painting was found. The designs are painted with reddish-brown ocher, the motives are mostly geometric. This ornament is found on all forms of the described Burguluk utensils, except for cauldrons. The painting finds analogies, first of all, in the ceramics of the Chust culture of Fergana, the pores of bronze and early iron. But, unlike the Chust drawings, which were carried out mainly by hatching, here the figures are completely painted over. On bowls, the pattern was applied mainly on the upper part of the vessel,

less often on the entire surface. The main motive of the painting is triangles, with their tops down, wedge-shaped, completely filled with paint or filled with “beads” or oval circles, rhombuses, meanders [8].

Thus, the development of ceramic art in the Tashkent oasis played an important role in the consolidation of urban culture. Stylistic features make it possible to isolate the Chach school of ceramists, certain types of products of which were considered unmatched in the markets of the East.

The birth of a centre with a stand-out fortified core of administrative and cult character, corresponding to a “city-temple”, characterises a qualitatively new stage in the progressive development of the early agricultural society of the Tashkent oasis, which entered the initial phase of urbanisation, the phase of early urban culture.

As a result of studying the components of the archaeological complexes of the Tashkent oasis, it was found that in the architectural structure of the core of the settlement, the features of the culture of painted ceramics (the standard of building bricks, the nature of the layout) continue to develop, along with the influence of building traditions that have developed since ancient times in the lower reaches of the Syrdarya, and ancient methods of urban planning. Representing a new quality, it bears the features of the basis on which it was formed, consolidating them by subsequent development and conservatively preserving them for many centuries.

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THE MAHALLA INSTITUTION ON THE SILK ROAD

Abstract

This article analyses the essence of the mahalla and its influence on the formation of the Silk Road. The phenomenon's stages of development, its importance as a link within civil society and its role as a social institution, its legal framework, historical and ethnographic characteristics, and the main trends in the development of the mahalla in Uzbekistan are also discussed.

Keywords: mahalla, Silk Road, UNESCO, UN, Avesta, Uzbekistan

1. Introduction

The mahalla is historically and significantly important in today's complex times as a unique institution in the social life of Uzbekistan. The peoples of the East, especially in the territory of Uzbekistan, have long lived as a commune and solved various problems collectively. Living as a team has led to the formation and development of human feelings in them, such as mutual respect, kindness, help in difficult times, respect for the place where the blood was shed, love for the Motherland. In this, the role and importance of the mahalla Institution are important. At different times, the mahalla has gained its historical place as a national value of the Uzbek people.

Historical and modern definitions of the word *mahalla* are diverse in different scientific publications, but a complementary, holistic sense can be found in them. In particular, the Explanatory Dictionary of the Uzbek Language defines a mahalla (Arabic 'place, terrain, locality') as a self-governing socio-territorial unit that includes a certain area of a city (or village) and is integrated into a community [1].

Archaeologists and historians point out that the history of the neighbourhood goes back to ancient times. According to historical sources, 8 families lived in Sopollitepa [2], a monument of the Bronze Age. Later, more than 100 families joined this community based on the patriarchal system. The community of large families was led by elders, who in turn were united into a council of elders. This means that in the past, the mahalla functioned as a unique form of local government" [3].

The term mahalla is derived from the Arabic word *mahallun*, which means 'place'. An ancient manuscript source in the Avesta also contains the first elements of the Mahalla, such as family, seed, seed community, tribe, and neighbourhood community.

Taking into account the specificity of the Mahalla Institution in the current social life of Uzbekistan, it can be concluded that it was formed based on relations, international relations and migration to many Muslim countries. Historical literature, on the other hand, can prove our point to some extent. For example, the 19th century historian Muhammad Narshahi in his book *History of Bukhara* writes that there were many mahallas and guzars in Bukhara. [4] In ancient and mediaeval times, the population lived in cities and villages in territorial units in the form of guzars, dachas and mahallas. This has played an important role in the development of the mahalla as a social institution.



Fig. 1. Old mahalla on the Silk Road. National Archive of Cinematographic Documents of Uzbekistan, (Central State Archivist. Found 1–15218)

From time immemorial, the neighbourhood has been a cradle of goodness for the younger generation, a place of upbringing, a place where national customs and traditions are formed. The neighbourhood plays an important role in people being kind, compassionate, generous and forming a unique community. In Uzbek society, the educational function of the mahalla is so significant that the concepts of «mahalla» and «education» are often used side by side. In particular, the true meaning of the concept of «education» is a complex process that ensures the correctness and objectivity of the image of man and his behaviour, which is inseparable from the people around him,

family members, neighbours, friends. That is, the neighbourhood is always aware of the behaviour of its citizens, the lifestyle of families, and, if necessary, can have a positive impact on their behaviour [5].

2. The world experience of local self-government

Local self-government («municipality» in the West) means the management of affairs of local significance, which represent the powers of the population in one or another administrative-territorial unit, as well as carried out by elected bodies and their administrations. The theory of local self-government first appeared in Western Europe in the second half of the 18th century. In most developed countries of the world, all work at the local level is carried out by local self-government bodies, which are formed based on elections or specially appointed by the centre as a local government body.

The system of self-government in developed countries was formed over several centuries, and by the 20th century, it began to take on a democratic character. [6] Among the countries of the world, there are three main models of local self-government, which are conventionally considered as North American, Southern European and Scandinavian or Northern European models. While the North American model serves more business interests of citizens than the South European model, it is mainly specific to France and Italy, and although the municipality is not active, local political interests influence national policy. The Northern European model applies in Denmark, Finland, Sweden, Norway and the United Kingdom. In these countries, municipalities are very active, solving a variety of tasks of both national and state importance.

According to Alexis de Tocqueville, a well-known scholar of local self-government, “such a political institution is a school not only for politicians but for all citizens in general. The opportunities inherent in this institution are so high that it creates the conditions for broad political participation of citizens. Self-governing bodies are also an invaluable factor in shaping elements of political culture. Ultimately, the activities of these bodies ensure the overall stability and flexibility of the political system. A nation can form a free government even without collective institutions. But he cannot have the true spirit of freedom.” In the second half of the 21st century, the concept of municipality (self-government) also emerged in connection with the theory of the “common welfare state”. Municipalities were seen as a means of social service that provided and protected the interests of all sections of society. In countries such as Europe, North America and Japan, municipal councils have the authority to: adopt local budgets, make regulatory decisions on certain issues not resolved by higher authorities, introduce local taxes, resolve borrowing and use issues, and manage the municipal property. Also, in most countries, the establishment and control of the executive bodies of the municipality, the organisation of local referendums. Municipalities also play an important role in US socio-political life. Because in this country the principle of decentralisation of municipal management functions is widely used. Municipal schools,

hospitals, libraries, sanitation, water supply, and fire services are mainly managed by municipal councils. In some countries (for example, Germany), councils also have the right to delegate their powers to the executive.

On October 15, 1985, at the initiative of the European Union, one of the main sources of the municipal law of European countries – the «European Charter of Local Self-Government» was adopted. This charter gives a general idea of the system of local self-government, which is generally accepted in almost all democracies. As stated in the Charter, local self-government means the right and ability of local communities to manage and control a certain part of public affairs within the law and under their responsibility, as well as in the interests of the population. Article 3 of the Charter defines this concept as follows: “Local self-government refers to the ability of a local self-government body to manage and carry out the majority of state affairs under its responsibility, based on the interests of the local population” [7]. These rights shall be exercised by councils or assemblies of members elected in free, secret, equal and direct general elections. “At the same time, the meaning of «local self-government to the citizens in their daily lives both national affairs relating to participation in decision-making. Local self-government bodies should act as mediators between the individual and the state.”

Institutional social groups have been conducted differently in different countries of the world based on historical experience and traditions. In particular, they are called civic institutions, volunteer organisations, common interest groups in the United States, NGOs, charities, foundations in the FAP countries, and Uzbekistan from the first years of independence they have become popular as public organisations, NGOs, social organisations.

In short, as a result of reforms carried out in Uzbekistan over the past thirty years since independence, legal documents adopted to improve the activities of the mahalla, specific transformational processes, in short, positive changes in the system, the mahalla is now real support rotating.

3. Reconstruction of the mahalla institution during the years of independence

During the years of independence of Uzbekistan, the mahalla has grown as a social institution, widely represented in all spheres of public life, created a legal basis for the development and improvement of the mahalla institution. The conditions of independence in the neighbourhood to raise the prestige of the institution of social and political importance to the development of civil society in the country as a priority serve its large base and impressive power to create the necessary conditions for a large-scale measure to be carried out step-by-step. In particular, for the first time in the history of national statehood, towns, villages, auls and for the first time in the history of our statehood, mahalla citizens assemblies as territorial units of self-government were enshrined in Article 105 of the Constitution of the Republic of Uzbekistan.

Training courses for employees of the mahalla system and the educational TV and radio channel “Mahalla” were organised. During the years of independence, the mahalla also serves as the most important organisational and institutional link in the implementation of the “concept from a strong state to a strong civil society”. As a result of reforms implemented during the years of independence, the scope of activities of citizens’ self-government bodies has expanded. The mahalla is an important social object in directing young people to science and profession, employment and employment assistance. Historically, in our country, just as each family had its professional dynasty, so did the neighbourhood have a professional dynasty with a mutual history. The name of the neighbourhood is also the name of the profession. For example, ‘goldsmiths quarters, shoemakers’ quarters or blacksmiths’ quarters, and so on. That is why the whole mahalla is responsible for the morality of every young man and woman growing up in such a community. Historical and national traditions are also reflected in the naming of mahallas located in different regions of Uzbekistan. For example, there are 32 mahallas which are named after the great commander Amir Temur, 33 for the great astrologer Mirzo Ulugbek, 62 for Alisher Navoi and 38 for the king and poet Zahiriddin Muhammad Babur [8]. The connection of the names of neighbourhoods with historical figures, places and events is also important for the development and development of feelings in young people, such as national patriotism, loyalty to the country, a worthy inheritance to great ancestors.

The socio-political, economic and cultural activities of the mahalla institution in Uzbekistan have aroused great interest in the international community, and we can witness the comprehensive study and promotion of this institution. For example, Parviz Morvij, a professor at New York State University in the United States, spoke about the activities of the mahalla institution, saying, “The Mahalla system in Uzbekistan is unique in its essence. As your country is located at the crossroads of the Great Silk Road, folk handicrafts and agriculture have been well developed here since ancient times. For centuries, I have read that there were sections of perfume shops, plumbers, jewellers, grocers, potters, shoemakers, merchants on this land. It is noteworthy that during the years of independence, this historic social institution and its values have been revived and developed” [9].

“I was impressed by the unique system of self-government – the great attention paid to the neighbourhood,” said Tomoko Ako, an associate professor at Waseda University in Japan. “Therefore, my interest in this system, which is part of the political and educational process, is growing. Because of such attention and care, the section unites people and inspires them to make a worthy contribution to the development of the country. Through this, the state will prosper, and as a result, every family will live in peace. I think this experience is very important for Japan as well.”

According to Norbert Zolberg, an expert with the Konrad Adenauer International Foundation in Germany, “the neighbourhood, which has long been a unique social administration, has been radically renovated in recent years” [10]. It can be clearly seen

in the example of large-scale work carried out by the system. In particular, the mahalla plays an important role in supporting entrepreneurship, developing private property, providing employment, filling the consumer market, developing social infrastructure, improving people's welfare and providing them with strong social protection [11].

Arthur Feinberg, a German political scientist, emphasised the role of this unique social institution in the development of young people, noting that “the neighbourhood is a social institution that helps to educate and develop young people with respect for human rights” [12].

Issues such as education, spirituality, rights and maturity of young people are becoming more important today. In the context of Uzbekistan, the mahalla institution has served as a key tool in the harmonious development of modern generations.

4. Mahalla as a candidate for the UNESCO Intangible Cultural Heritage List

Today, the Mahalla institution is considered with great international interest. Several foreign experts and scholars have positively assessed the mahalla institution. Foreign representatives also expressed interest in the National Pavilion of Uzbekistan, which was established for the first time at the Venice Biennale of Architecture in 2021. The mahalla as a unique social institution in the development of the state and society is attracting high interest from the international community, including in authoritative scientific circles. In the current era of globalisation, the neighbourhood is also seen as a social solution to threats and risks.

It should be noted that Uzbekistan is actively cooperating with the international community in the cultural and humanitarian sphere. Many historical and cultural heritage objects and values from Uzbekistan are included in various lists of the United Nations Educational, Scientific and Cultural Organisation. In our opinion, the mahalla institution is a unique value that can be included in the UNESCO list of Intangible Cultural Heritage, historically, culturally and socially.

In the Uzbekistan, the mahalla system as a social institution is rising to a new stage of development. The ongoing reforms, various new systems and principles applied in the industry serve the development of communities, improving the living standards of the people. The Mahalla and Family scientific-research institution under the Ministry of Mahalla and Family Support of the Republic of Uzbekistan was established in accordance with the resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated June 10, 2020.

The institution is a specialised state scientific-research organisation, which helps to strengthen the mahalla and family institutions, transforms citizen assemblies into true collaborators of the population, implements the idea of “healthy family – healthy society” based on scientific, methodological and analytical provision of information.

5. Conclusion

Today, the role of non-governmental organisations and civil society institutions representing the interests of the general population in the further deepening of democratic reforms and the development of civil society in Uzbekistan is growing.

The mahalla is a unique institution that has been representing the lowest and primary territorial structures in our country for many years.

The mahalla has long been a stronghold of culture in Uzbekistan, a real and effective body of citizens' self-government, a unique institution of civil society closest to the people. The role and importance of preserving the national, religious and universal values, culture, way of life, way of thinking and spirituality of the multi-ethnic Uzbek people passed down from generation to generation and passing it on to future generations is incomparable.

During the years of independence, the unique mahalla system in the world has become the closest and most popular structure. As the President of the Republic of Uzbekistan Shavkat Mirziyoyev noted, where there is a well-organised work and close cooperation with citizens, there is an atmosphere of solidarity and kindness, unpleasant situations are not allowed. Therefore, at the current stage of consistent and systematic reforms in our country, there is a need for further support and development of communities. In recent years, because of further improvement of the mahalla institution in our country, the creation of the necessary conditions for its systematic functioning, the mahalla has become an active participant in democratic reforms. In conclusion, the role of citizens' self-government bodies in the protection of democratic values, human rights and freedoms, legitimate interests and the realisation of their potential, socioeconomic activity and legal culture of citizens is increasing day by day.

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CRACOW AND SAMARKAND: TWO CITIES, ONE LEGEND

Considering their mutual distance, the cities of Cracow and Samarkand should have little in common. Divided by 45 degrees of longitude and 10 degrees of latitude, they are respectively in the middle of Europe and Eurasia. And yet, it did not take our modern connected world, shrunken by the ease of air travel, for these two venues to have been linked as long ago as 8 centuries, with a bond that has survived in history and legend. Even then a quarter of the globe could be traversed relatively quickly on horseback, by today's standards a very humble means of transport.

It is of course the nature of such traffic that was crucial, for it was not trade or tourism, but assertion of power and acquisition of plunder. The case in point are the Mongol invasions of Europe.

In Europe these early invaders have tended to be mistakenly referred to as Tatars. (I can clearly remember a passage in my history handbook disabusing me of this notion.) The confusion is likely explained by later raids perpetrated by actual Tatars, as well as a fair degree of physical and cultural similarity between such Far Eastern pillagers.

They first launched themselves into the wider world at the beginning of the 13th century under the founder and leader of the Mongol Empire, best known under the title Genghis Khan, which means 'supreme ruler', although he grew up bearing the name of a Tatar captive of his father's. As *The Secret History of the Mongols* [1] tells us, he was of 'good' lineage, his father being the leader of the Borjigin (or 'blue-eyed') clan, whose members were powerful in Mongolia even in modern times. (I once met a Borjigin, long before I learned what honour had met me, but that was only because I would talk to strangers. Gereltu, I hope you are as well now as when our paths first crossed.)

Having no power to begin with, Genghis Khan followed the 'unite and rule' policy, as well as winning and rewarding loyalty rather than royalty. Where that failed, he resorted to subjugation. Thus, at the start of the 13th century, he ruled the six major tribes, including Tatars. His subjects generally bore the umbrella label of Mongols, after the name of his own tribe. This larger sense of the term is also to be understood in the name of the Mongol Empire.

History may not be a science, but that does not mean there are no patterns in it, even though they may only be discerned from a historical, or distant, perspective. Intertribal conflicts may lead to the establishment of an empire, and then the process starts over at interimperial level. To the east of the Mongols lay China, then ruled by the Great Jin

dynasty, seated in what they called their Central Capital, today known as Beijing (or North Capital). The Jin underestimated the Mongols, who for centuries had been their vassals. In 1215, within four years of military engagement, Genghis Khan took the Jin capital, and in about two decades the dynasty was no more, and the Mongol conquest of China was completed.

Even before this came to pass, Genghis Khan had turned west, towards Central Asia, and in particular one of our topical cities. At that time, Samarkand was within the Khwarezmian Empire, ruled by a Persianid shah of Turkic origin, Ala ad-Din Muhammad. Rather uncharacteristically of himself, Genghis Khan first made overtures to the shah to establish trade with his empire along the Silk Road. These, however, were met with distrust and outright hostility. The empire's fate was sealed. Genghis Khan was back to his old ways, capturing and destroying city after city. Samarkand fell in 1220, then Bukhara and Urgench.

Within a couple of decades the Khan managed to extend his reach across 70 degrees of longitude, as will soon be seen just half of what it was yet to become in another such period. Thus, his diachronic or temporal progress was well matched by the diachoric or spatial one. In that he was an unwitting follower of one Alexander of Macedon, an earlier conqueror of Samarkand, then (i.e. in 329 BC) still known as Markanda. Almost a century and a half later, Timur would regain the city from Islamic rebels back for the Mongols and become its patron.

In Khwarezm we bid good-bye to Genghis Khan, and a good riddance it is too. He returned to Mongolia, not omitting to raid Afghanistan and northern India on the way. Unfortunately, he also dispatched an army under Subutai to continue the Mongol momentum westwards.

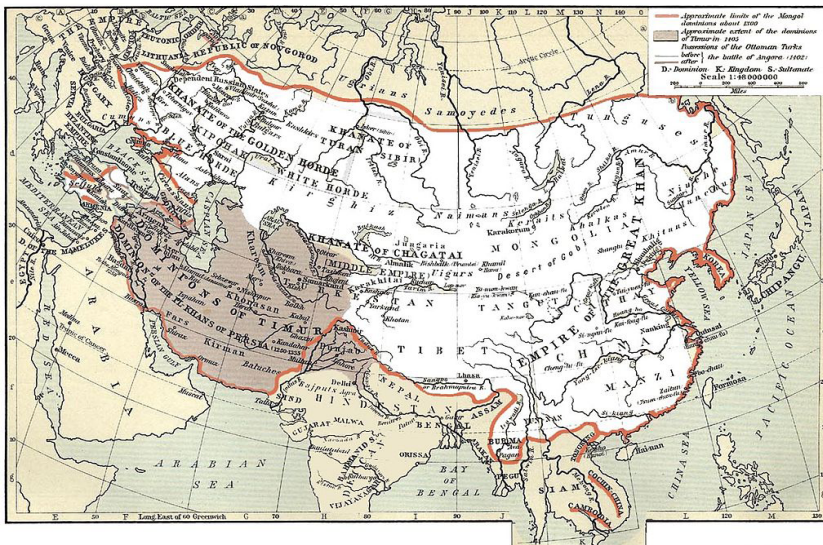


Fig. 1. The Mongol dominions in the 14th century [2]

Through the Caucasus they entered and plundered the Kingdom of Georgia, which then included Armenia. This, as well as a successive invasion of the area in 1400 by Timur, will yet be referred to later.

From there the marauders made inroads into Kievan Rus', at first as a reconnaissance for a future campaign, but even then carrying a victory at the Kalka River in 1223. Having withdrawn, they returned only 14 years later under the command of Batu Khan to ransack 14 major Ruthenian cities, but it was the small town of Kozelsk which proved the hardest to take. It will get a mention here again.

In the same year Crimea joined the list of spoils, and in 1240 it was Kiev's turn. And then the cities of Halych and Volodymyr Volynskyi in the Polish-Ruthenian borderland, after which Batu Khan went south to Hungary, and a force was led into Poland by Baidar Khan (incidentally, Genghis Khan's grandson) to engage the Poles and prevent them from aiding the Hungarians.

Across the Curzon their first prey was one of the historic Cherven (or Red) Forts, in the past changing hands between Poles and Ruthenians, and never rebuilt since. The first city to be sacked was Lublin, destroyed and rebuilt, and currently housing this author. Next was Sandomierz, sacked despite surrendering. And thus to Cracow (or Kraków in the vernacular), our first topical city. Abandoned by its citizens in panic, it was seized by Baidar and burned.

With Kraków directly on the 20th meridian, the Mongols now doubled the range of their conquest they had reached in Samarkand. Still, on they rushed into Silesia, taking Opole and Wrocław, the latter deserted and left to their devices, until they seemed to reach the end of their campaign in the infamous battle of Legnica (Liegnitz on map in Fig. 1), for the loss of which Henry the Pious, Duke of Silesia, paid with his head. This price may yet earn him a halo: his beatification process began on 5 June 2021 in the Diocese of Legnica [3].

Thus they distracted the Poles and avoided the Bohemians, while their main forces defeated the Hungarians, having entered Hungary through the Verecke Pass, the route the Magyars had first crossed the Carpathian Mountains 345 years earlier.

Since then the Mongols were back in Poland twice, at roughly two- and three-decade intervals, each time with Nogai Khan of the Golden Horde, a great-great-grandson of Genghis Khan. On both occasions both Lublin and Kraków were raided and pillaged, but the second time they met their defeat at Kraków. This fact will prove relevant later.

It is against such historical highlights that we shall now look at accounts of events parallel to those established by researchers, i.e. oral tradition and legend. Here we consider a literary record of one such account.

In 1946, Ksawery Pruszyński, a 39-year-old well-recognised Polish journalist and writer, published a collection of short stories *Trzynaście opowieści* ('Thirteen tales'). It included one titled *Trębacz z Samarkandy* ('The Trumpeter of Samarkand'). Below, a preface on its form is followed by a précis of its plot.

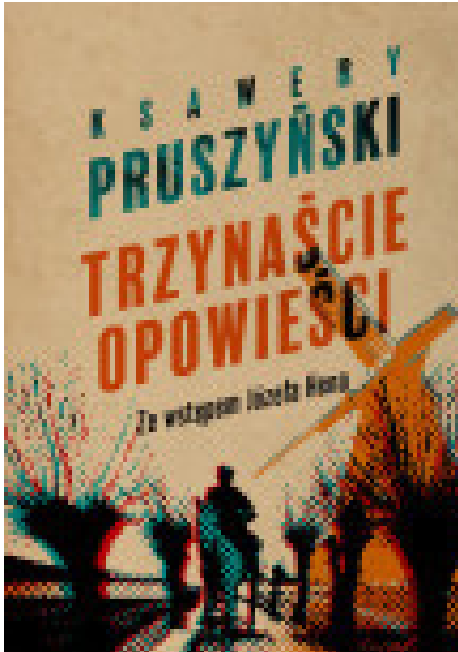


Fig. 2. Trzynaście opowieści [‘Thirteen tales’].
With an introduction by Józef Hen [4]

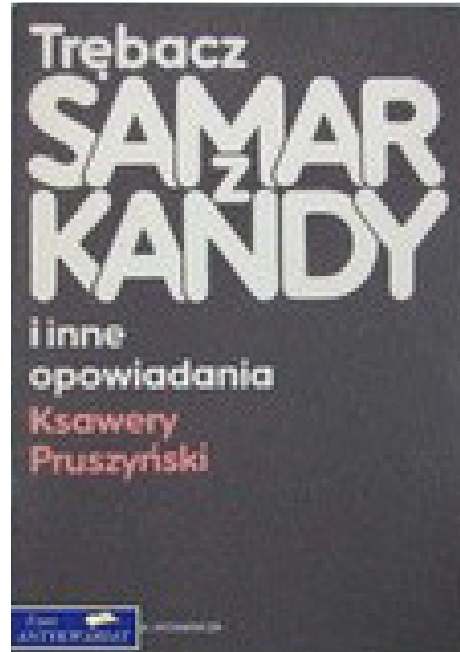


Fig. 3. Trębacz z Samarkandy i inne opowiadania
[‘The Trumpeter of Samarkand and other stories’] [5]

Told in the first person, the story suggests that the narrator is the author. Literary theorists, on the one hand, caution us against ready credulity in such tricks (e.g. Butor, 1968 [6]) and, on the other, point out that the technique lends the tale credibility (e.g. Kościukiewicz, 1970 [7]). Nor does the author stop at that: from the start he introduces a researcher colleague of his from their common time in Kraków, in fact the protagonist of the story, though not identified by name in it. Pruszyński also mentions his own study, which he actually wrote and won a reward for (as attested e.g. by Gautier and Urbanowski, 2019 [8]). He sets the background of the story in Kraków with the familiarity of the place due to the time his family spent there after the flight from their native neck of the woods just east of the Zbrucz, an area Poland lost first in 1772, and then again in 1921.

Early on in the narration, the author’s friend (like Pruszyński, a historian of law), is presented as a supporter of such research sources as custom, legend and tradition rather than just material documents. This is done in the context of the city’s commemoration of Tatar invasions of Kraków in the form of a traditional yearly parade featuring a man in oriental disguise riding a hobby-horse, the so-called *Lajkonik*. The festivity is firmly rooted and has also become an episode of Cracovian folk dances. It is very much alive to this day, as evidenced by its 2006 entry on the website of the European Institute of Cultural Routes [9] and the fact that in 2014 it joined 48 other folk traditions on the National list of intangible cultural heritage [10].



Fig. 4. Lajkonik against St Mary's church in Kraków [11]

And yet, naturalisation need not be a proof of authenticity. Pruszyński evokes a controversy over the custom's apparently recent origin, which exercised Cracovians in his time. The argument was that no trace had been found in any sources of a Tatar invasion the tradition spoke about. Even if that was the case then, i.e. in the 1920s, and echoes of that view persist to this day (cf. e.g. Wasilewski 2020 [12]), by the end of the 20th century we already seem to have had research results providing a rationale for the rite [13]. But that is not something that would have made the author's day. His point was that his colleague argued for the transmissive power of tradition irrespective of scholarly successes.

Most importantly for our purposes, Pruszyński links the heathen hobby-horse, literally in one breath, with an episode of the legend that is crucial for the rest of his story. The ludic Lajkonik parade is held once a year on the octave of the feast of Corpus

Christi. However, a hallmark of the city of Kraków is the tragic trumpeter, whose hourly trumpet call from the upper spire of the Church of St Mary, itself a city icon, can be heard live, played to the four sides of the world, and for 95 years this year broadcast at high noon by the First Programme of the Polish Radio. The tragedy consists in the fact that at one point the tune gets cut off in the middle of a phrase. This, apparently, is to commemorate one of those Tatar attacks when the trumpeter, trying to alarm the city about the approaching enemy, is shot by an invader bowman's arrow. But like the Lajkonik, Pruszyński recalls, this tradition too began to be questioned by the local academic establishment for lack of hard evidence. The author's friend fought a lonely battle in defence of it. And yet, soon enough in this short story, he was going to get an unexpected confirmation of his argument from living history rather than some retrieved relic.

A remarkable aspect of Pruszyński's style of writing is his mastery of a shortcut. In a paragraph, a line, a few strokes of the pen, he can sketch a background. With a single anthroponym or toponym he seems able to evoke a memory, an atmosphere of sites and times gone by. This technique appears to go beyond mere aesthetics: the reader starts spotting allusions where, in the circumstances, more could not have been said.

Come 1939, the author's friend, conscripted as a reservist, found himself in the East. He reported sightseeing Pruszyński's native area, and later 'admiring the Orthodox Baroque' of the monastery in Kozelsk, by then converted into a rest home. And arrest home it proved for some 4594 fate fellows, most of them on the way to nowhere. Eternal rest be their share now. How he managed to get busy again is a mystery, but two other leading place names on that trail are mentioned. Unbeknown to him, in Kozelsk he was also on the Tatar trail, seven centuries after Batu Khan had dealt with the town's brave defenders. And the next time he was heard from was already as a quartermaster in central Asia, dropping the name of Samarkand. This is followed by a shortcut showing both the author and his friend already in Teheran, the friend reminiscing on his Samarkand episode, and the author thus experiencing it second-hand.

In their exodus from the inhuman land, the Polish troops arrived in Uzbekistan. In Samarkand, one day, as the writer learned from his friend, they were confronted with an unusual request. Seeing as they were from Lechistan, could their trumpeters play the following evening in the old market, opposite the mausoleum of the Great Tamerlane? They could, and to the huge crowds that had gathered, they did. A few tunes, finished with the trumpet call from St Mary's church tower. In reverent silence and intriguing satisfaction, the audience dispersed.

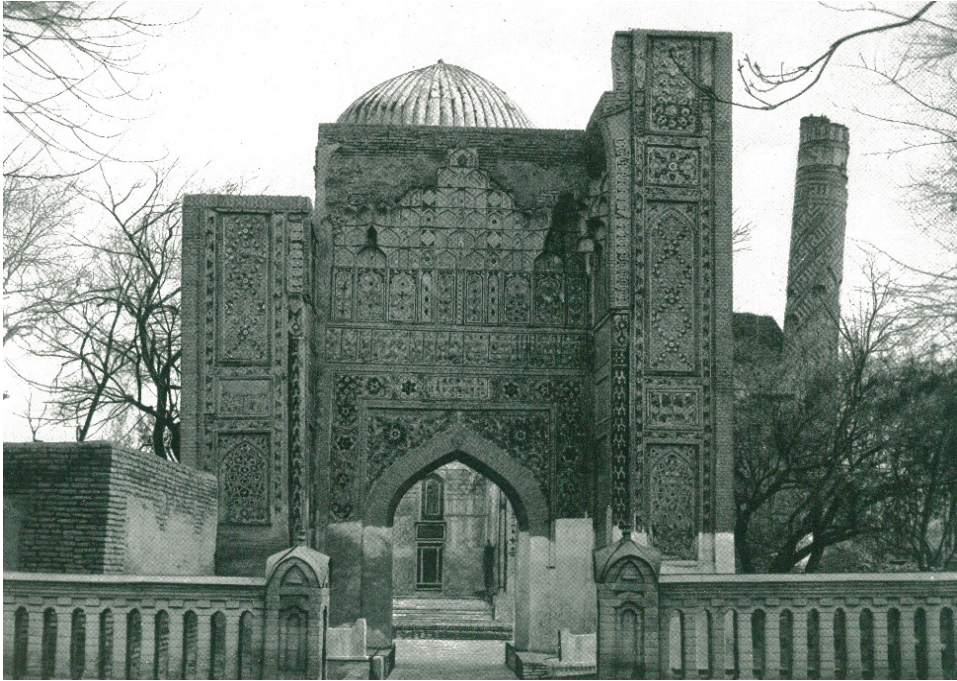


Fig. 5. Timur's Mausoleum in Samarkand, 1948 (by S. N. Polupanov) [14].



Fig. 6. Timur's Mausoleum in Samarkand, 2018 (by Jerzy Montusiewicz).

What turned out, after much probing, was, as it were, the missing piece to a jigsaw puzzle. Just as Cracow commemorated an age-old tragedy with a modern musical reenactment, so Samarkand incredibly remembered the very same event due to an apparent Uzbek involvement in that particular Tatar campaign in Poland. The minaret motif (as the Muslims imagined the church tower to be), and the muezzin killed in mid of an *adhan*, had etched themselves in the invaders' collective memory for centuries to come. Not only that, but on their return from the field the termination of the trumpeter was deemed by the elders and priests to have been the reason for the attack's failure and the death of one of the Tatar leaders. The consequence of which was to be subsequent loss of fortune's favour until such time that a trumpeter from Lechistan finishes his interrupted trumpet call in the market of Samarkand.

'So it's an authentic legend?' 'What does it mean: authentic legend? Documents can be authentic or counterfeit; there are no authentic or counterfeit legends. Legends have no metric. New countries have no legends; old countries do. (...) They had a legend which is like a half of our legend.' [15]

And to top it up, as the late Professor Michał Rożek, an expert on Cracow, observed: 'One does not argue with a myth, the myth is told.' [16]

Nevertheless, for good measure, let us consider the story's authenticity in view of the most compelling evidence to the contrary.

There seem to be essentially two types of arguments questioning the legend: the already mentioned absence of confirmation of the events in historical sources, and the presence of indications of an alternative origin of the tradition. The most palpable example of the latter is probably the book *The Trumpeter of Krakow*, written in 1928 by the American Eric P. Kelly. [17]

It is a fictional story for children, taking place in 15th-century Cracow, prefaced with a throwback to the year 1241 of the first Mongol invasion of Poland. The preface, tellingly titled 'The Broken Note', is essentially a precedent record of the legend in Pruszyński's book, with literary embellishments. Interestingly, the motif is also used inside Kelly's work when a trumpeter alarms his friend by cleverly playing the call without the customary interruption. Paradoxically, it is this undisturbed version that draws attention to itself, demonstrating that people were already used to and expected the unconventional on a regular basis, and thus dating the call back to the time of the preface. This variation on the theme only underscores the conundrum as to where the American might have heard of the original broken-note version. Eric Kelly began his time in Europe in 1918 as a volunteer in France, aiding the Polish army of General Haller. He then moved with the soldiers to Poland, and in 1920 took part in the campaign against the Soviet invasion of the country. Five years later he returned here as the first American exchange scholar and for a year taught at the Jagiellonian University's Department of English Philology, which this author notes with pride as his future colleague by trade. While there, he started his *Trumpeter of Krakow* book, apparently 'the first known reference in any language' [17] to the interrupted trumpet call legend.

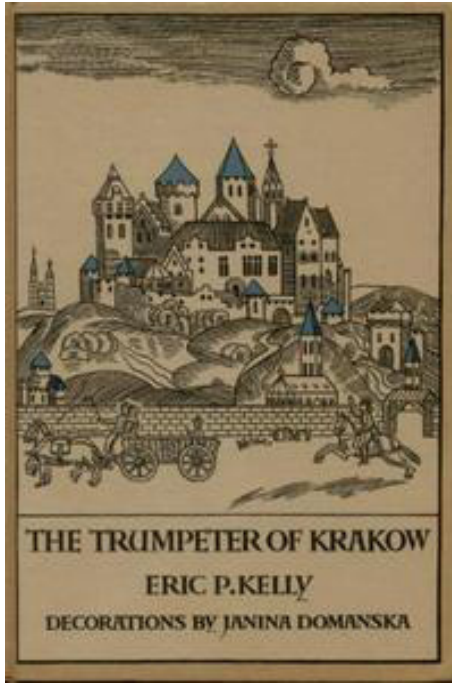


Fig. 7. *The Trumpeter of Krakow*.
Decorations by Janina Domanska[18]

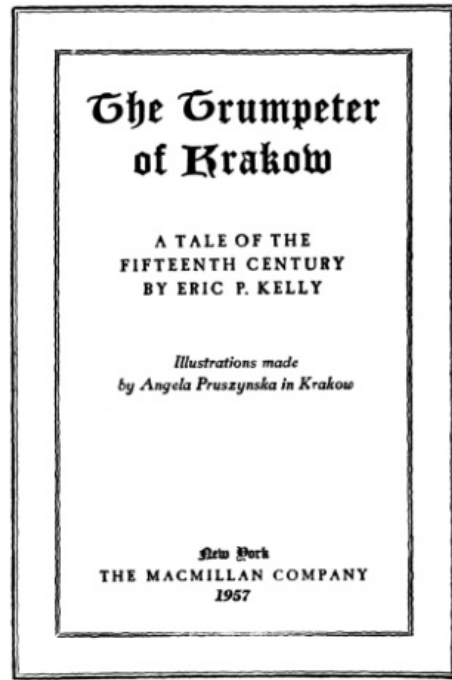


Fig. 8. *The Trumpeter of Krakow*.
Illustrations by Angela Pruszyńska in Krakow [19]

That language happened to be English, not a bad coincidence for potential popularisation of the book and the city in general. It took only some half a dozen years for a Polish version to appear in a 1935 tourist guide of the city, and twice as long again for Pruszyński's canonical literary equivalent, supplemented by the Samarkand sequel.

More recently, arguments against the legend's antiquity have resurfaced, e.g. [20], and notably Jerzy S. Wasilewski's tour-de-force [12], in which he credits with the invention of the Tatar arrow story 'a certain Cracow lady' by the name of Aniela Pruszyńska, and dates the event to 1929 (a little late considering that Kelly's book was published in 1928). Another source [21] identifies her as the work's original illustrator. It has the following blunt, but unfortunately unsupported, passage:

Research has shown that the 'legend' was created by the book's author, Eric Kelly, and the illustrator, Aniela (Angela) Pruszyńska when trying to imagine an explanation for the foreshortened trumpet playing. The legend they created has passed into legend and is now accepted as "history".

Wasilewski further takes Aniela's surname and location, shared with Ksawery, as cues to suspect their kinship, and her original spark behind the story to speculate if she might have been 'that unknown »Shakespeare's sister«', distinguished but disempowered.

If a *femme causale* is to be searched, it was far sooner her than this author's eponymous great-great-grandmother, who by the mid 1920s was well on her way to *become* rather than *begin* a legend. Yet the relationship riddle remains. Paclawski (1974: 5) [22] discloses a detail that after the breakout of the war Pruszyński tried to make it from Warsaw to his family near Lublin. In all likelihood it was his immediate family, and the location was accidental. Then again, as an octogenarian cousin of my mother's told me, there was no 'other' family by that name. And, as another aunt used to recount, when the writer came down to give a public talk, 'they all' bought out the hall, but did not turn up, because of his 'later leanings'. Incidentally, that latter aunt's son may well have rubbed shoulders with Ksawery along the Trail of Hope. He never came back to tell the tale. His name now features among those fallen at Loreto.

If we do acknowledge the »sister's« imagination on what is after all hearsay evidence, we should so much more accept the »brother's«, who – when confronted directly about it – admitted his role in the story's follow-up:

"These are all facts," Pruszyński told me about *Thirteen Tales*. – I never came up with a plot." "And *The Trumpeter of Samarkand*?" – I asked. He nodded. "Yes, *The Trumpeter* is an exception. It's a composition. But it was precisely about *The Trumpeter* that everyone thought that this was a real event, so much so that Anders ordered an investigation – it was about the Sunday gathering in the market – who gave the order, where the willfulness came from"... [23] (my translation)

A few years later, this was confirmed and commented on by another researcher:

Lest there be any doubts: about this novel – as the only one – Pruszyński himself said that it was made up from beginning to end. It owes its meaning to the skillful handling of a legend. It is hard to find a more convincing apology of Polishness than discovering echoes of the Polish legend in the core of the culture of an exotic country. And it is difficult to find a stronger proof of its durability than the centuries-long memory of Poland as almost the only European state! [24] (my translation)

Thus, though both the Cracow and Samarkand halves of the legend may be historically unfounded, they are nevertheless contemporarily well found, even if only produced and propagated by the medium of literature.

In the very year when Pruszyński's admission was published, the legend's Cracow half made it into sung poetry, originally, as it happens, Russian, but also translated into and performed in Polish. Now – perhaps for the first time – it appears in English below. When the late bard Bulat Okudzhava wrote these memorable verses in 1966 for his Polish colleague by trade, he could well also have meant the fate of his Georgian and Armenian ancestors under Subutai Khan.

Прощание с Польшей

Мы связаны, Агнешка, давно одной судьбою

В прощанье и в прощенье, и в смехе и в слезах:

Когда трубач над Краковом возносится с трубою

Хватаюсь я за саблю с надеждою в глазах. (...)

Над Краковом убитый трубач трубит бесценно,
Любовь его безмерна, сигнал тревоги чист.
(...)
Bulat Okudzhava [25]

A farewell to Poland
A common fate, Agnieszka, has long been destined for us
In parting and in pardon, in teasing and in tears:
When the trumpet over Cracow plays out its lofty chorus
My hand feels for the sabre and hope again appears. (...)
Though silenced over Cracow, the trumpeter keeps blowing,
His passion only growing, his warning call sounds clear.
(...)
(my translation)

It is only proper that Pruszyński's story should be available to Samarkand readers, and in their native tongues as well. For now, a Russian and an English version have been prepared as an aid in translating the original into Uzbek and Tajik. The challenges of obtaining such translations are addressed in another monograph.

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ADMINISTRATIVE AND ECONOMIC REFORM OF THE SOVIET GOVERNMENT IN UZBEKISTAN

Abstract

This article will focus on changes in agriculture, animal husbandry and industry in Uzbekistan as a result of the administrative and economic reform carried out by the Soviet government in Central Asia. Based on various historical sources, it is analysed how the population functioned in various sectors of the national economy through economic and administrative centres, how the economy was revived in counties and districts created on the site of provinces, and a new economic policy was implemented during this period, and trade relations developed.

Keywords: administrative reform, market relations, review of agriculture, village council, district, county, peasant economy, industrial enterprises, economic processes and political changes

1. Introduction

At the end of 1924 and at the beginning of 1925, work on the policy of zoning, national-territorial demarcation conducted in Central Asia was inextricably linked with the administrative division of the Uzbek SSR. In 1925, when the Uzbek SSR was founded, its territory was 590,500 or 447,400 km² (this latter territory does not include the Tajik Autonomous Soviet Socialist Republic, which at that time was part of the Uzbekistan SSR). At that time, the population of Uzbekistan was 4,058,500 people [1.] (Again, this does not include the population of the Tajik Autonomous Soviet Socialist Republic). A single division was introduced in the Republic of Uzbekistan: into oblasts, counties, volosts and village councils. In Uzbekistan, 7 regions were organised: Zarafshan, Kashkadarya, Samarkand, Surkhandarya, Tashkent, Ferghana and Khorezm regions and one autonomous region (Konimekh). At this time in Uzbekistan there were 23 counties and 240 volosts. Also, the Tajik Autonomous Soviet Socialist Republic was part of Uzbekistan. A resolution was adopted by the Central Revolutionary Committee of the Uzbek SSR, and in accordance with it, the regions of Uzbekistan and the administrative centres of the regions were determined, and a list of cities was approved.

2. Theoretical framework

The historiography of this topic “Central Asian zoning policy and its impact” is not so rich. It is advisable to study historical studies on the policy of regionalisation and its impact on the development of Uzbekistan, dividing them into the following three groups: the Soviet period, the years of independence and foreign studies. Some studies related to the first group, created by government and political figures, historians and economists, to a certain extent address the issues of zoning of Central Asia, the work carried out in this direction in the Uzbekistan SSR, economic and the political condition of the republic, administrative-territorial division and population. Another group of publications published in the 1920–30s addresses zoning issues in the RSFSR and the USSR, administrative and economic zoning in the Turkestan ASSR and the Central Asian republics, issues of economic zoning in the Uzbekistan SSR and its economic condition. In historical studies published in the 1950s-70s, much space is devoted to the coverage of the national-territorial demarcation of Central Asia and the formation of the Uzbek SSR, and other aspects of national politics. In addition, there are articles and speeches by the leaders of the Uzbek SSR and political figures on regionalisation in Central Asia and its implementation in Uzbekistan. The authors of these articles and speeches were prominent statesmen, such as Fayzulla Khodjaev, Turor Riskulov, Akmal Ikramov, Yuldash Akhunboboev and many others.

3. Methodology

The subject of the study is the issues of the zoning policy in Uzbekistan, the implementation of the regionalisation policy in Central Asia in the chronological period on the topic and its impact on economic transformations in Uzbekistan. The article uses the principles of historicism, systematicity, objectivity, as well as methods of a civilisational approach to the problem, comparative and problem-chronological analysis.

4. Main part

Areas of the Uzbekistan SSR:

1. There were 4 counties in the Zarafshan region: Bukhara, Gizhduvan, Karmana and Nurata, and separately the Konimekh district. The counties were divided into 23 volosts. The centre was the city of Bukhara.
2. The Samarkand region consisted of 4 counties: Jizzakh, Kattakurgan, Samarkand and Khojent. The counties were divided into 57 volosts. The centre was the city of Samarkand.
3. The Surkhandarya region included 3 counties: Sherabad, Baysun, Yurchin and the city of Termez. The counties were divided into 10 volosts. The centre was the city of Sherobod.

4. There were 2 counties in the Tashkent region: Tashkent and Mirzachul. The counties were divided into 26 volosts. The centre was the city of Tashkent.
5. The Fergana region included 4 counties: Andijan, Kokand, Margelan and Namangan. The counties were divided into 72 volosts. The centre was the city of Kokand.
6. The Khorezm region included 3 counties: Gurlan, Yangi-Urgench and Khiva. The centre was the city of Khiva.
7. The Kashkadarya region included 3 counties: Behbudi, Guzor and Shakhrisabz. They were divided into 13 volosts. The centre was the city of Behbudi (the current city of Karshi) [1].

The final implementation of the zoning policy in Uzbekistan began in 1926. At the beginning of March 1926, the Central Political Commission was created under the Central Committee of the Communist Party of Uzbekistan. The commission consisted of 16 members, and the commissioner of the Workers' and Peasants' Inspection of the Uzbek SSR, Ahmadbek Mavlonbekov, was appointed its head [2]. On the part of the Central Political Commission, 4 more small commissions were created: technical, scientific, Soviet construction and financial and economic. The Small Technical Commission was engaged in the preparation of maps and materials, the organisation of inspections and other works. The Small Scientific Commission gathered around itself scientists and practitioners who were well aware of geography, economics, ethnography, and natural-historical conditions and features. It thoroughly studied the water system, communication routes and the composition of the population of certain areas, and determined the methods and principles of regionalisation based on the collected materials and began to discuss them. The small commission on Soviet construction was supposed to solve the problems of the system of the future Soviet management, change the existing four-stage management to three-stage.

At a meeting of the Executive Committee of the Central Committee of the Communist Party of Uzbekistan, the work plan of the Central Political Commission on Regionalisation was approved. According to this plan, the activities of this commission were to begin with the carrying out of descriptive verification work in all regions of Uzbekistan on April 1–10, 1926. As noted in the decision, the commission was supposed to complete the work on zoning in 1926. To this end, on March 15–25, political regional and district commissions were established in the localities, including the secretary of the regional committee, chairmen of the regional executive committee and regional plan, secretary of the county, as well as the chairmen of the county executive committee, regional land administration, water management, regional office of the cotton committee, representative Union "Koshchi" and others.

In general, regionalisation in Central Asia, including Uzbekistan, had to be carried out taking into account the national composition of the population, the connectedness of irrigation systems, the direction of the economic forms of some areas, the economic ties of the population and other important factors of economic and cultural life.

Based on the instructions of the Central Executive Committee of the republic, the Zoning Commission of Uzbekistan developed a new zoning project. The project was discussed among the general public. In particular, a number of changes were introduced to determine the territories and borders of village councils [3].

Instead of 7 regions, 10 districts were created under the new project of administrative division in the Uzbek SSR: Andijan, Bukhara, Zarafshan, (Middle Zarafshan, Kashkadarya, Samarkand, Surkhandarya, Tashkent, Ferghana, Hadzhent, and Khorezm districts (except the Tajikistan ASSR). Instead of the former 23 districts, 87 districts were established, 239 volosts were abolished in the republic, the number of village councils increased from 1152 to 1720, that is by 43.3%. The territory of the Tajik Autonomous Soviet Socialist Republic, which at that time was part of the Uzbek Soviet Socialist Republic, was divided into 12 districts and 306 national councils [4].

According to the decision of the Presidium of the Central Executive Committee of the Council of Uzbekistan SSR of June 19, 1926, the composition of the Central Commission for zoning of the Uzbek SSR of 40 people was approved: Akhmadbek Mavlonbekov, E. Zelkina and Katsenellenbogen, Korastelev Uzbekistan Central Administration [5]. The Central Commission listened to the reports of the regionalisation commissions of each district, and compared the completed projects with the Central Commission's project. From August 10 to 12, 1926, workers and peasants widely discussed the last draft [6].

After setting goals and objectives, and carrying out all the envisaged work, by decision of the Presidium of the Central Asian Regionalisation Commission of August 19, 1926, the Central Regionalisation Commission at the Central Executive Committee of the Soviets of the Uzbekistan SSR sent a directive to the field, and reported that clarifications on regionalisation issues, in particular, opinions on village councils will continue until reelection [7].

On September 16, 1926, the plenary session of the Central Asian Regionalisation Commission considered the issues of regionalisation in Uzbekistan, Kyrgyzstan and, in particular, Turkmenistan.

On September 25–29, 1926 in Samarkand, the V session of the Central Executive Committee of Soviets of the Uzbekistan SSR was held, considering and approving the issues of the project of regionalisation of the state budget and economy. At the first meeting of the session, a report on the regionalisation project was made by the Chairman of the Presidium of the Central Executive Committee of the Uzbekistan SSR Yuldash Akhunbabaev. In his report, he analysed the economic situation in Uzbekistan, noting that the task of zoning of Uzbekistan will play an important role in the future development of the republic. According to Y. Akhunbabaev's report, 14 speakers made speeches. This issue caused sharp discussions at the session. For example, the determination by the centre of Surkhandarya of the city of Kumkurgon instead of Sherobod, instead of the centre of the Middle Zarafshan district of Karmany, Mirbozor, or the city of Kattakurgan, the inclusion of the Novsky district in the Khadjent

district, and not Tashkent, the creation of a separate district of Isfara – all these issues caused heated discussions and debate. After the final study of these opinions by the commission, the last draft of the resolution on zoning was prepared and presented to the participants in the session on September 29, 1926. The V session adopted a historic ruling on zoning. This decree was published in the newspapers «Kizil Uzbekistan» and «Pravda Vostoka» on October 18, 1926 [8]. In accordance with this decision, the administrative and economic zoning was implemented in the Uzbek SSR. Instead of the existing 7 provinces in the Uzbek Soviet Socialist Republic, a separate Konmekh Kazakh region, 23 counties, 241 volosts and 1163 village councils, new administrative units were created: 10 districts, 87 districts and 1720 village councils [9].

After the initial part of the decision on zoning, the names of 10 okrugs and 87 districts are given in the following order:

Counties and areas within the Uzbek SSR:

1. Khorezm district – the centre of the city of Khiva; created on the basis of the completely Khorezm region; consists of 10 districts.
2. Bukhara district-centre-city of EskiBukhoro; created on the basis of fully Bukhara and Gijduvan counties; consists of 7 districts.
3. Mid-Zarafshan district – the temporary centre-city of Karman, created entirely on the basis of the city of Karman, partially Nurota, Jizzakh, Kattakurgan counties and the city of Kattakurgan, consists of 6 districts.
4. Samarkand district – the centre-city of Samarkand; created on the basis of the completely Samarkand district, partially Jizzakh, Kattakurgan and Nurotinsky districts; consists of 10 districts.
5. Tashkent district – the centre-city of Tashkent, created on the basis of the entire Tashkent region, consists of 11 districts.
6. Hadzhent district – the centre-city of Hadjent, created on the basis of Namangan, Konibodom counties, consists of 4 districts.
7. Kokand district-centre Kokand city, the entire Kokand district, based in part on the Namangan and Ferghana (Margelan) counties, consists of 11 districts.
8. Andijan district – the centre-city of Andijan, the entire Andijan district, partially Ferghana (Margelan). Namangan and Kokand counties, consists of 12 counties.
9. Surkhandarya district – temporary centre Sherabad city, created on the basis of the entire Surkhandarya region, consists of 6 districts.
10. Kashkadarya district-centre city of Behbudi (presentdayKarshi), created on the basis of the entire Kashkadarya region, consists of 8 districts.
11. A separate district of Konimeh, created on the basis of the former Beshrabat, Ayu-Terensky, Boymetantek and Toshkuduks volosts [10].

The Resolution says that the issue of the number and composition of village councils provided for in the project must be submitted to the Presidium of the CEC of the Soviets of the Uzbek SSR for a 2-week period and publish their names along with the names of the settlements. In general, zoning in Uzbekistan was completed by the end of 1927.

5. Conclusion

In summing up, we can say that the zoning carried out in 1926 is of particular importance in the development of new republics and autonomous regions in this region. In particular, the administrative and economic regionalisation carried out in the Uzbekistan SSR in 1926, the creation of 87 districts for the first time in the republic, was of great importance on the one hand, and in the management system, on the other.

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DEVELOPMENT OF RECREATION INFRASTRUCTURE IN THE CENTRES OF THE TASHKENT REGION

Abstract

In today's era of globalisation, the role of cities in public life is growing. The main reason for this is explained by the favourable conditions in them, as well as the constant high level of opportunities. The article describes the development of historical, ecological, agro-tourist and health recreation centres and their infrastructure in the cities of the Tashkent region.

Keywords: Tashkent region, recreation centres, agro-tourism, infrastructure, historical and cultural heritage sites.

1. Introduction

After the independence of the Republic of Uzbekistan, special attention was paid to the development of recreation areas in cities, district centres, towns and recreation centres, the expansion of green areas, the preservation of ecological balance. In his decrees dated April 26, 2000 "On measures to further improve urban planning and architecture in the Republic of Uzbekistan" [1, <http://lex.uz//pages/>], April 26, 2005 "On measures to ensure compliance with urban planning norms in the construction of regional, city and district centres of the Republic of Uzbekistan" [2, <http://lex.uz//pages/>], the Resolution of August 30, 2005 "On measures to improve the process of production of master plans of urban, town and rural citizens' assemblies" the President of the Republic of Uzbekistan places special emphasis on recreation centres [3, <http://lex.uz//pages/>], arguing for the rational use of the recreation area, taking into account the environment, its careful treatment in the settlements, and radical reform of the infrastructure of such sites [4, Kuchkarova M., 2010], The issues of tourism development through the expansion of sports and recreation complexes and other social facilities in the centre are identified [5, Collective monograph, 2017].

2. Materials

In particular, many programmes aimed at developing the tourism industry in recreation centres in the Tashkent region have been developed. They include the

development and strengthening of tourism opportunities in the region, the introduction of local and foreign tourists to the cultural and historical heritage of the region, the strengthening of facilities for recreation and tourism in the recreation areas of the region on the basis of new projects, reconstruction of transport and utility infrastructure on the basis of modern technologies, the creation of new tourist routes, as well as improving the quality of tourism services and, on this basis, the creation of new jobs and increasing incomes.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated September 20, 2013 No 259 “On the program of development of tourism in the Tashkent region for 2013–2015” [6] According to this document, a targeted programme for the development of tourism in the capital region has been developed. As a result, by 2015, tourism services in the region increased by 1.7 times compared to 2012, or 22.317 billion soums. Exports of tourist services increased 1.5 times – from 253.8 thousand to 372.5 thousand US dollars. The number of tourists has increased over the past years from 51.2 thousand to 69.6 thousand, including the number of foreign tourists from 6300 to 7300 people. At the same time, attention is paid to the development of infrastructure for tourists in the Tashkent region. Particular attention was paid to the organisation of hotels in recreation centres in the region. In previous years, their number has increased from 31 to 58. They had 1,317 seats in 2012, compared to 2,831 in 2015 [7, <http://lex.uz//pages/>].

55.149 million USD (including USD 39.267 mln of entrepreneurial investment) have been allocated for construction and reconstruction of hotels and other tourism infrastructure in Tashkent regional recreation centres. In 2014–2015, 3.035 million dollars were attracted to be allocated for the improvement and restoration of cultural and historical heritage sites in the Tashkent region [8, Darmonova M.A., 2020].

Thanks to these programmes implemented in the Tashkent region, the tourism infrastructure in the region has developed and the range of tourist services has increased. It is possible to demonstrate tourism opportunities in the region. The necessary infrastructure for tourists has been improved, as well as training and retraining courses for tourism professionals. A total of 77.795 million soums were allocated for the implementation of the programme, of which 42.714 mln USD of funds from enterprises and organisations, 26.376 mln USD of bank loans, 5.65 mln. USD from foreign investors accounted for the share of state budget funds.

Private banks in the country have provided soft loans to project initiators for the development of recreation centres in the Tashkent region. The Central Bank will issue a refinancing rate not exceeding the interest rate (12 percent) for 5 years (12-month grace period).

Within the framework of this programme, attention was paid to strengthening the material and technical base of recreational enterprises in the Tashkent region. Since 2013, the number of buses from Tashkent to Bostanlyk, Angren, Yangiabad, Parkent and other recreation centres has increased.

In addition, the following new tourist routes have been established in the region:

- historical (Zangiota, Parkent and Akkurgan);
- ecological – recreation in nature (Bostanlyk, Parkent, Yangiabad);
- sports and health (Bostanlyk, Parkent, Yangiabad);
- agrotourism (Chinoz, Parkent) etc.

Regular excursions to Ugam-Chatkal National Park have been organised. The park was established in 1990 and has a total land area of 574,000 hectares. It covers altitudes above 800–4000 meters above sea level in the western Tien Shan mountains areas. There are 3 sanatoriums, 4 boarding houses, more than 100 recreation centres, more than 40 children's health centres, more than 300 field yards, 2 hunting farms, 2 forestries, 1 nature reserve and about 40 farms in the park. There are about 30 settlements and other institutions and organisations [9, Sarimsoqov E., 2014]. Ugam-Chatkal State National Park Administration includes Chatkal State Biosphere Reserve (35.7 thousand hectares), Ahangaron (183.2 thousand hectares) and Burchmullo (352.4 thousand hectares) forestry [10, Sarimsoqov E., 2014].

Also, in order to further develop tourism in the recreation centres of the Tashkent region, various festivals are held annually. For example, an annual excursion to the local vineyards in the Parkent district and a wine festival are planned. In addition, a festival-fair of fish products, a mountain festival of winter sports games „Chimgan extreme”, an ecological tourism festival „Chimgan sadosi” were held in the Bostanlyk and Chinoz districts. Already in 2013, road signs for tourists and maps of the area with tourist facilities were installed. By 2014, a single information stand reflecting all cultural and other tourist attractions has been developed [11, Darmonova M.A., 2020].

Infrastructure as well as services have been established in the recreation centres. In particular, in order to expand transport services for tourists in the Bostanlyk, Akkurgan, Parkent and Pskent districts, passenger services from Khojикent railway station to recreation centres were expanded, 10 tourist buses, 253 Nexia cars for taxis and 194 Isuzu buses were purchased.

Great attention was paid to the establishment of sanitary and hygienic centres in the direction of tourist traffic. 10 centres were built in the Chimgan-Charvak recreation area, 5 in recreation areas in the Parkent district, 3 in Yangiabad, 2 around the Tuyaboguz reservoir. Each centre was placed at 8 points in turn. Emergency and first aid centres have also been set up in recreational areas such as Charvak, Chimgan, Yangiabad and Kumushkon.

Within the framework of the project, bathing zones (beaches) were built for the population in the foothills of the Tuyaboguz and Charvak reservoirs. In addition to the rescue service, all facilities have been built in these areas, such as washrooms, umbrellas, catering, trade and rental of swimming equipment, and sanitary facilities.

In 2014, comprehensive measures were taken to improve the activities and production infrastructure of the Yangiabad Recreation Centre in the Tashkent region. In particular, ski equipment rental points have been set up and food outlets have been

built. In addition, the ski and sledding area was extended by 2,500 meters, facilities such as a ski run, training areas for skiers, changing rooms, ski workshops were built, a snowplow was purchased and snow generators installed.

In 2015, the Sumcha Recreation Centre in the Parkent district also reconstructed bathing areas for infrastructure development. The areas around the centre have been landscaped. A 220-bed hotel and cottages that can accommodate 50 guests have been rebuilt.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 362 of September 6, 2001 focuses on the issues of conservation and integrated development of natural resources of the Chimgan-Charvak resort and recreation zone, acceleration of the implementation of measures for the development of recreation facilities.

According to the decision, a Chatkal joint-stock company will be established to ensure the contractual use of its engineering networks and recreation facilities in the Chimgan-Charvak resort and recreation area.

At the end of 2001, the buildings located in the 100-meter sanitary zone of the Charvak Reservoir were demolished. In the first half of 2002, the Gazalkent-Charvak-Bakachul mains sewer collector was built, including two sewage pumping stations and a bridge. The construction of the Chimyonsoy collector and the Chirchik sewage treatment plant have been expanded, and the resort-recreation zone has been turned into a forest.

The Chimgan-Charvak resort-recreation area is provided with energy supply and cooking of residential and administrative buildings.

Construction of a bus station at the Khojakent railway station has been completed. Landscaping works have been carried out in the Bakachul beach area of the Charvak reservoir. The Charvak-Yusufkhana highway has been reconstructed. A scheme for the placement of forest trees and ornamental trees in the Chimgan-Charvak resort-recreation zone has been developed and put into practice.

Organisations constructing facilities in the Chimgan-Charvak resort-recreation zone have been given incentives to import construction equipment, machinery and devices.

The funds of the Chatkal joint-stock company and its founders for the construction and development of the Chimgan-Charvak resort and recreation zone have been exempted from all taxes for three years.

The Chimgan resort in the Chimgan-Charvak resort-recreation zone is located 80 km northeast of Tashkent, at an altitude of 1,600 m above sea level in the Chatkal mountain range. During the years of independence, the Chimgan resort has created conditions for tourists, athletes and vacationers to engage in winter sports in December-April, enjoy the beauty of winter and restore their health. A hotel, restaurant, cable car and other service facilities have been built and put into operation. 300, 500, 800 and 1500 m long and 250–400 m long ski and retail trails have been built at the Chimgan resort. Its ski slope is registered by the International Ski Federation (FIS) because it

meets world standards. The magnificent winter mountain scenery around the Chimgan resort will delight visitors to the resort. During the years of independence, a hotel for 220 people, cottages, a restaurant for 100 people, 2 cable cars with a length of 700 and 2500 m were built in the Chimgan resort [12, Darmonova M.A., 2019].

The transport corridor leading to the top of the wing corridor at the Chimgan Recreation Centre was renovated in 2015 with modern equipment, and the control point was modernised.

In order to demonstrate the potential of tourism, in recent years, videos have been created on the culture, customs, nature and cuisine of the region. They have been set up to show through the media and websites. Detailed information about the recreation centres of the Tashkent region, their location is reflected on the websites (Google Maps, etc.). Various electronic encyclopedias publish articles on the history and artefacts of recreation centres in the region, as well as a tourist map of the Tashkent region. In this regard, information and tourism for foreign media and foreign tour operators is organised annually.

An annual international tourism fair “Tourism on the Great Silk Road” has been organised in Tashkent for entrepreneurs engaged in tourism business in the region. In addition, recreation centres of the Tashkent region began to participate in major international exhibitions in foreign countries, dedicated to the export of national tourism services.

3. Conclutions

In general, along with economic reforms during the years of independence, along with the creation of recreational areas for the population in the cities of the Tashkent region, construction of new housing estates, development of engineering infrastructure in cities, the education system focuses on training local personnel for the mining industry. It is also important to develop the work on updating the material and technical base of private medical institutions by allowing them to operate.

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MUSICAL INSTRUMENTS A REFLECTION OF HISTORY

Abstract

In this article there are arguments concerning the condition of the emergence of musical instruments. Consideration is given to the influence exerted by music on an ancient person, as well as the power of human influence on the development of musical culture. Classification of instruments as a result of the historical process of their occurrence is addressed.

Keywords: music, percussion instruments, wind instruments, string instruments, tradition, humming, range, timbre.

1. Introduction

In ancient times, talented musicians who lived in many countries of the East not only enjoyed success among the general public, but were also appointed to high government positions. In ancient Egypt, famous performers, leaders of musical ensembles were revered as relatives of the pharaohs. In Assyria, professional musicians and singers ranked above all public officials in the hierarchy of ranks. It was believed that by position they occupied the next place after God and ruler; their names were remembered for many centuries. According to ancient traditions, even the year was named after the music director. Even during the period of bloody battles, when the enemy was mercilessly exterminated, the musicians were not killed and the victorious side took them as tribute or booty, and left them at their service. It is known from history that the ruler of the Jews Hezekiah (6th century BC) saved the life of Sennacherib, the Shah of Assyria, not only in exchange for many noble relatives, but also court musicians and singers.

According to the teachings of Confucius, in the philosophy of China music was considered as the most powerful means in educating a person. It was believed that music is a powerful force that generates social harmony in society. The inhabitants of Ancient Greece believed in the divine power of music, which has a bewitching effect on the human body and spirit, and were even convinced that the world was created precisely on the basis of the laws of music. The great scientists-philosophers of the ancient world in their scientific treatises argued that a stable state flourishes only where music develops freely. In particular, the formation of the philosophical and aesthetic views of Ancient Greece was predetermined by the need to assimilate the wisdom of the Ancient East (Egyptians, Babylonians, Persians, Phoenicians), although Greek culture was young for many centuries. Outstanding Greek thinkers – Thales, Pythagoras, Anaximander, Heraclitus, borrowing wisdom from the East, rethought it, but did not deny that thanks to this they penetrated the divine and human secrets. At the same time, the great thinkers of the mediaeval East such as Biruni, Ibn Sina, Al-Khorezmi, Al-Farabi

and many others, with their scientific works and spiritual and aesthetic views, ensured a fruitful continuity of philosophical dialogue between Western ancient antiquity and the Eastern Renaissance. In the worldview of the peoples of the East, music has long been associated with natural forces – Air, Fire, the Sun and the Moon. Music was perceived as a harmonious unity of five primary elements (wood, metal, fire, earth and water), corresponding to the qualities of: humanity, justice, good breeding, foresight and sincerity. The cosmological understanding of music was also reflected in the assessment of individual musical tones. Thus, the musical tones of the Chinese pentatonic scale (tung, shang, jue, zhi, yu) correspond to five planets (Saturn, Venus, Jupiter, Mars and Mercury), five natural phenomena (wind, cold, heat, light, rain), five parts of the world (centre, west, east, south, north), five colours (yellow, white, green, red, black). Music, as a divine phenomenon in general, was considered by the ancient peoples of both East and West, as the original model, to which the universe was structured. It is natural that the mythologised views, as well as the scientific concepts about music of the peoples of the Ancient World of antiquity and the Middle Ages were born and built on the basis of instrumental performing practice. Comprehensive archaeographic and musicological studies state that since ancient times the modal basis of music (from Egypt to China) has been born sequentially: pentatonic, seven-, twelve-step scales.

2. Materials

“Music,” wrote Jean-Jacques Rousseau, “is an art capable of combining pleasant tones for hearing.” In other words, it is an art that reflects thoughts, feelings and the state of the soul in sounds. This art arises from three elements – sound, harmony and rhythm. It is difficult to imagine a person’s life without musical art. Music accompanies a person everywhere and in everything, educating, stimulating the desire to work, healing, calling to dance, it penetrated and became an integral part of all of one’s life. In other words, music affects a person in all of his or her roles. Penetrating into the ocean of human feelings, music plays an important positive role in restoring breathing, improving cardiac activity and blood circulation in the body of each individual. Even a person who does not have musical abilities often involuntarily tries to sing or enjoy music. Music activates imaginative thinking. It is impossible to logically explain the images that arise at a certain moment. This feature, going beyond the boundaries of art, has a strong impact on human activity. Opponents of Martin Luther noted that they saw more harm in his singing than in his teaching. Beethoven, compared with genius and philosophy, believed that the pinnacle of sincerity was music. Goethe said that music was the highest form of art. There is also a legend: “Any kind of art strives to become music!”

How did music originate? There are many answers and suggestions to this question. In the primitive and ancient stages of human development, rhythm – the main element of music – contributed to the performance of repeated movements in work that could not be done alone. An old legend says: “The first musical instrument invented by people

was an ordinary drum, a percussion instrument. People of ancient times wanted to repeat the sound they heard for the first time. This sound is the beat of a mother's heart!

Melody is inextricably linked with the history of the development of speech and the means of displaying melody. Thus, the economic method and melody contributed to the dialogue of people and their joint work. Consequently, in those days, music reflected the nature of both communal and personal interests. Abstractly perceiving sounds (voices??), reflecting the process of labour using the pantomime method, using the sequence of sounds at ceremonies, a person began to invent certain melodies. These melodies, conveying the world of images, awakened the world of human ideas. At the same time, they reflected certain feelings and thoughts. Imitating the voices of animals and birds, the sounds of thunder, the rustle of tree leaves, man revealed the richness of timbres and melodies in the world of sounds and gradually, but systematically, mastered them. This is how music was born.

Consequently, if in the early period of human evolution the rhythmic method was the initial element, then the percussion instruments reproducing this method are considered the first musical instruments. However, percussion instruments have a specific pitch. When using different materials, you can extract a variety of sounds. Perceiving this diversity, people began to extract various melodies with the help of percussion instruments. Gradually, people learned that the sound is extracted from the bowstring, a barely perceptible ... rustle of reeds swaying in the wind is heard. Such natural phenomena later formed the basis for the invention of wind instruments.

Conjectural ideas about the first musical instruments, like our opinions about the origin of sounds, are based on the results of archaeological excavations. Large-scale archaeological research of the monuments of the Central Asian Mesopotamia provides rich factual material about the musical culture of the region in antiquity (Koykrylgankala, Toprak-kala-ancient Khorezm; Airtam, Karatepe-Bactria; Afrasiab-Sogd). The ancient and Sasanian written tradition testifies to the wide distribution, for example in Bactria, of early (mid-1st millennium BC) Avestan hymns-gatas. A unique example of a female ensemble of musicians is represented by a sculptural frieze from the Buddhist temple of the Kushan ruler Khuvishki, excavated in the town of Airtam in the district of Ancient Termez. But these are only separate artefacts, according to which researchers of the history of music build various, sometimes contradictory hypotheses. There is only one truth: the development and improvement of musical instruments is inextricably linked with the civilisational development of mankind, the formation of its culture, in particular, with the flourishing of musical culture. This process is not completed and will not be completed. Because all improvement is relative.

With the development of mankind, its thinking is enriched, with the development of consciousness, a variety of melodies develops, methods are enriched, thus music becomes more beautiful, musical instruments improve and become more complicated. Some of them are brought to perfection and display classic perfection. For example, this is an organ, harpsichord, violin, flute and other instruments. In contemporary art,

musical instruments are used depending on the range, timbre, and appearance. At the same time, directions and genres of music, features of national art are taken into account. Most musical instruments can be classified according to common features. According to the method of displaying sound, instruments are primarily divided into three groups: **stringed** (vibration of strings under mechanical action), **wind** instruments (oscillation under the influence of air pressure), **percussion** (vibration of a solid surface). In turn, these groups are divided into the following small groups:

I. Strings:

- plucked stringed instruments (harp, balalaika, domra, oud, guitar, bouzouki, mandolin);
- string instruments (violin, viola, cello, double bass).

II. Brass:

- brass instruments (horn, trumpet, trombone, tuba);
- woodwind instruments (flute, oboe, clarinet, bassoon).

III. Drums:

- known and unknown percussion instruments with different pitches;
- instruments by type of sound: membranophones and idiophones (metal and wooden idiophones);

IV. Keyboards:

- wind keyboards;
- string keyboards.

V. Electric musical instruments (termenvox, synthesiser).

Electric musical instruments are a new direction in technology that has become an innovation in music and the reason for the emergence of a new specialty among musicians. This direction is actively developing on the basis of the latest achievements in electronics and counting technology. Electric musical instruments enrich the art of music with new musical timbres and colours, previously unknown performance possibilities.

3. Conclusions

Definitely, the history of musical art is not based on chance, not a single instrument was created suddenly, by chance. Any revolution, over time, becomes a logical prelude to evolution. And by concentrating the experience and aspirations of the ancestors, it becomes invaluable. Similarly, musical instruments, unique in their diversity, always remain relevant in their development and improvement as sonorous witnesses of hoary antiquity.

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THE NURULLABAY COMPLEX AS A NEW MODERN MUSEUM

Abstract

The article provides information about the historical monument in Khiva, the Nurullabay complex – the residence of the khan. The complex was founded in the middle of the 19th century, the construction work continued until the 1920s. The site includes about 10 monuments, such as the khan's palace, reception, harem, stable, official residence, madrasah and guard house. After the abolition of the Khiva Khanate by Soviet Russia in 1920, the Nurullabay complex was used as the Government Building of the Khorezm People's Soviet Republic. After 1925, the Education Building was later used as a museum. The monument fell into disrepair and remained in this state for a long time. In 2017, as a result of a direct order of the President of the Republic, it was completely renovated and turned into a tourist centre. Currently, the complex has 5 expositions. In particular, the Traditional Applied Arts, Modern Crafts, Khorezm Fine Arts, H. Devanov's photo exhibition and the House of Minister Ibrahimkhodja-Interter Museum were opened. At present, Nurullabay madrasah has been transformed into the Khorezm handicraft centre.

Keywords: Khiva, Nurullabay complex, reception, exposition, gallery.

1. Introduction

Khiva, one of the ancient cities of the world, has for centuries made a significant contribution to the development of spiritual and material culture of mankind. This city, one of the centres of world tourism, has more than 140 archeological monuments and architectural monuments. In 1967 the Khiva Ichon Fortress was declared an open-air historical and architectural museum-reserve. In 1990, it was the first in Central Asia to be inscribed on the UNESCO World Heritage List.

A distinctive large architectural masterpiece in Khiva, the Nurullabay complex had been overlooked until recently. The history of the complex deserves a greater interest.

2. Literature review

Literature sources contain a lot of information about the city of Khiva and its historical monuments. Yu. Mankovskaya, P. Zohidov, A. Abdurasulov, K. Khudayberganov, M. Madaminov, G. Durdieva, Yu. Rahmanova, M. Abdullaev, D. Bobojonov, M. Abdurasulov and others wrote about the Nurullabay complex. In 2018 K. Khudayberganov's monograph *The Nurullabay complex* was the most important publication about the site.

3. Analysis and results

The khans of Khiva built a number of palaces from the 16th to the 20th centuries, apparently demonstrating to generations what they were capable of. The Nurullabay Palace in Khiva is distinguished from other palaces, being the most luxurious, attractive, elegant and charming.

The exhibition hall, palaces and other buildings in the complex are surrounded by a castle wall. This small castle has its own courtyard, entered through a gate on the south side. Upon entering, on the west side was the house of Ibrakhimkhudja, and on the east side was the hall. The entrance gate to the Nurullabay complex was built of baked bricks during the reign of Muhammad Rahimkhan II.

Part of the Nurullabay Palace was the embassy. The first hotel for ambassadors built in the Khiva khanate was in Ormahalla on the east side of the city. The first information about Ormahalla can be found in Abulgazikhan's work *Shajarayitürk*. In it Khan Abdullah of Bukhara writes in 1591 [1], during his march to Khiva, that Sultan Steel, who was preparing for the defence, "cut a great hole in front of the gate" [2]. Later, the neighbourhood was named after him. The gate was the only one in the city in its time, and its name was later known as Polvon Darvoza. The mahalla built in front of this gate is now called Ormahalla. According to Abdulla Boltaev, in 1906 a madrasah and a minaret were built by Polvon Qori on the site of the dilapidated embassy building.

By the end of the 18th century residential buildings were built in the city for the population living in Ichonkala, after the relocation of the capital at the expense of new administrative and religious buildings, training centres, cemeteries and mosque minarets. By the 19th century, there were no construction sites left for the new dynasty's khans. During the reign of Muhammad Rahimkhan I (1806–1825) special courtyards for ambassadors to the city were built in the western part of Khiva. This chosen place is in the large garden of a rich man named Nurulla on the north-west side of the city, and the garden, with its size and abundance of ornamental trees, aroused interest of Muhammad Rahimkhan I.

When Muhammad Rahimkhan I bought this large garden from Nurullabay, he constructed buildings inside it, surrounded by nigirik-sinch walls. In these buildings

he made residences for his sons Allaqulitora, Rahmonqulitora, Khudoyqulitora, Sayyid Mahmud tora, Sayyid Ahmad tora, Sayyid Muhammad tora and Tangriqulitora.

Abdulla Boltaev's memoirs read: "The stone sofa on the east side of the Nurullabay khan's sofa was built in 1874 for ambassadors from Russia after General Kaufman came to Khiva to annex the Khiva khanate to Russia and the Khiva khanate became mute to Russia" [3]. This building later served as a barracks for Russian soldiers. In 1920, the first newspaper in Khorezm, *The Revolution Sun*, was published in it.



Fig. 1. Construction of the Nurullabay complex. By X. Devanov. Early 20th century. From the fund of the Ichan-Kala State Museum-Reserve

In his time Sayyid Muhammadkhan (1856–1864) renovated the arch and built a view house under the direction of Hasanmurad Kushbegi in the garden known as the Nurullabay Garden of the Deshon Fortress. In the same year, in 1276 AH, or in 1859, the khan moved from Ark to the courtyard of the Nurullabay. After that, the Ark in Ichan-Kala was called the Old Ark in the vernacular.

According to Agahi, Muhammad Rahimkhan Sani also "settled in the city of Khiva every winter on the throne of the Caliphate in Ark" [4]. In 1870, he built a palace for himself on the east side of the garden and gave a grand wedding in honour of its completion. Poems were dedicated to the construction of this palace. One of Agahi's poems was "numbered with jibilli (metal, steel) pencils on the gates of the great porch door of the palace"[5].

The exhibition hall, palaces and other buildings in the Nurullabay are surrounded by a castle wall. It is a small castle, with its own courtyard entered through a gate on the

south side. Upon entering, on the west side was the house of Ibrahim Khoja, and on the east side the observatory. Rahim otaAllaev, who served in the house of his father Ibrahim Khoja, recalled, "Ibrahim Khoja's son Islam Khoja was a noble man, and we – that is, about fifteen of the children of the servants – performed our circumcision ceremony in their homes in one day." Abdulla Boltaev said, "When the porches on the qibla side of the hall, which are now banks, came to the house of Feruz's son Asfandiyor, the people would sit on the marble sofa on the porch and complain. Asfandiyor also asked for a dream here" [6]. The view is very simple and consists of a marble sofa in front of the porch. On the marble pillar of the porch pillar in front of the sofa a poem is written, just like in the Old Ark. Unfortunately, half of this poem has become unreadable. According to the elders of the reception, this was the case, and the khan from the south gate complained about standing 15–20 meters away from the throne. The sofa was carpeted and there was a tiger skin next to the throne.

At the turn of the 19th and the 20th century, among the individuals that had an important role in the history of Khorezm were Ibrohimkho'ja bin Saeed Muhammadkho'ja and his descendants, known for their business acumen. They served wholeheartedly, feeling responsible for the peace of the people. Muhammad Rahimkhon, one of the most prestigious names among the rising figures in the Palace of Ibrohimkho'ja Sayid bin Muhammadkho'ja. Sayyid Otoy, a descendant of the Khojas, was a nephew of the khan's wife, and his father, Sayid Muhammadkhoja, was a trustee.

Instead of leaving for Russia in 1882, the khan's brother Turamurod moved to the property of Ibrohimkho'jaga, the Prime Minister of the country. Because Ibrohimkho'jaga Khan and his daughter were married, the father-in-law was determined to serve the khan. Khan Mutmurod Begi, Joseph and Muhammad were accompanied by a mahram. Kungrat go to Russia over the period more than three months from the long journey back to the good mood Khan appointed to the post of Minister of Ibrohimkho'jani sentences ul property. "But Ibrohimkho'ja very muddabir and the propeller was one of those entrepreneurs (business), wrote a statement about it. The Supreme Court in the province. Khan said, fridge opinion ago served the kings of the ancient al-finding service davlathohlarining generation, fathers'rinlarinda stable".

As a result, many prominent, prestigious, but some officials who had been disqualified from their posts after the arrival of the Russians and as a result of some scandals in the palace were reinstated. At the same time, Ibrahimkhoja's cousin Sayid Abdullahoja was appointed governor of Hazarasp. Hazarasp was at that time the second largest city after Khiva, and its governor was appointed from among the khan's closest associates. Because in the khanate four people had the title of inak, two of them were close relatives of the khan, and the other two were appointed from people belonging to the same clan. One of them, according to tradition, ruled Hazarasp. After the death of his uncle Ibrahimkhoja in 1888 (Ibrahimkhodja died in 1307 A.D., 1889 A.D. He was survived by four sons, Ismailkhoja, Islamkhodja, Ishaqkhodja and Muhammad Yaqubkhodja, who were intelligent, wise and knowledgeable young men. Taking into

account the fact that his sons were still young, Muhammad Rahimkhan summoned Sayyid Abdullah from Hazarasp and appointed Ibrahimhoja as prime minister.

Nurullabay yard. Yard: Khorezm residents' houses are divided into two main parts, ie in front of the garden on the north side of the yard in the summer there are porches and terraces by the pool, and in winter there are rooms with windows facing the sun on the south side. The Khorezm porch is built higher than other rooms, the front of which is left open to the north. In some cases, a second awning was built on the opposite side of the awning, and these awnings were called "right awning", "reverse awning". Awnings are also called "big, big" and "small, small" awnings depending on their appearance.

The layout of the residences remained closed. In front of the courtyard, enter the hotel from the hallway or corridor. This was done so that strangers could not enter the interior rooms and the women in the service could behave freely. The roofs of all the dwellings are flat-roofed. This is explained by the fact that in the Khorezm oasis the annual rainfall is lower than in other regions. The roof of the house is plastered with straw once in a while.

The houses made of straw were mostly typical of the villages, reaching from eighty centimeters to one meter below the thickness of the wall, and thinning upwards to make it strong. The nigir-sinch walls were relatively narrow, about thirty to forty centimeters. Wealthy people doubled the nigiri walls and increased the thickness of the wall. This, in turn, allowed for durability and rooms to be cool in summer and warm in winter. As a result of the balanced construction of the rooms in the apartments, living, working and hospitality are facilitated. The fact that several family members lived and worked in the same yard stemmed from their traditions, and the younger ones had a strong tendency to respect the older ones. When a guest comes into the room, the guest is considered dear and respected by all. Therefore, the apartment has a room for one or two guests. This room is always waiting for the owner – the guest.

Named the "Courtyard" in the Nurullabay Park, this huge building was completed by Muhammad Rahimkhan II for his son Isfandiyor Tora. The courtyard is rectangular in shape, the thick walls are made of baked bricks, and the main entrance door is from the south gate. It is known that it requires a lot of bricks because the thickness of the walls is around one meter. Khudoibergan Devonov photographed the process at the start of construction.

The walls of the inner rooms of the courtyard are intricately designed. The life of the chinchilla buildings used in Khiva architecture was shorter than that of baked bricks. However, according to the Khiva people, "the bending of the nigirik (sinch) lasts for forty years." Nigirik places were convenient with their cheapness, low space occupancy, and speedy completion.

Nurullabayfour tents in the courtyard and a garden courtyard with a new kind of hotel iborat.Nurullabay in the form of: - the courtyard of the fortress, surrounded by a high brick wall, with four large courtyard. They are closely connected with each other and within each of the large and small galleries. On the north side of the terraces to

keep the air in the summer and a moderate climate. A small terrace on the second floor serving as a priest for the staff, they were built facing east and south. This shelf crossed the motion of the wind returned back yard in the wind (circulation). The architects of this movement through the house and create a constant flow of fresh air and cool air, the scorching heat. Apartment gujum trees between the hot air to reduce the unpleasant service. North tomondaga baked clay surrounded by a garden with a wall between the pool and the surrounding gujumlar by reducing the temperature of the air. Today, scientists estimated that the pool acting as a radiator in front of the tree gujum 10–15. This gujumli around the pools, which houses many of the villages today.

The total area of the yard is 0.6 hectares (87x65m), the height of the walls is 7.5 meters. We read from Abdulla Boltaev about the construction of Nurullabay yard: “The tent at the qibla of the inner pool in Nurullabay is surrounded by dense trees planted by Muhammad Rahim I and Sayyid Muhammadkhan. This courtyard was used by Feruz (Muhammad Rahimkhan II) in 1906 from a caravan that had been demolished. Masters Abdolnizoz, Sayyidjonusta, Madirimarbob, Otajonparangi, Quryozkal, Avazmatkalantardur The place and awnings on the west side of the inner pool were repaired by Isfandiyarkhan. This place was Isfandiyar’s residence. There are places decorated with ornaments and patterns in the hall, which is a museum, as well as in the inner harem, where Isfandiyor finds himself.”

1. Courtyard. The main entrance is the gate. This place is designed for servants, guards, warehouses, khan’s chariot – phaeton. At the end of the courtyard, on the west side, is a gate through which service carts enter. That is, the food needed for the tower was included, the waste was removed.
2. Courtyard. Entering through the gate and turning right through the hallway, he exits into the courtyard. This large courtyard courtyard is the khan’s HOTEL location. The fact that one of the rooms in this courtyard had porcelain stoves (fireplaces), as in the Nurullabay palace, confirms that it was a special room of the khan. “Nurullabay built the inner gate of the courtyard on the east side as a large porch and houses as a place where Madirim khan II’s son, Isfandiyar, would live. There are places decorated with patterns and ovens in the hall, which is a museum, as well as in the inner harem, where Isfandiyar finds himself.” [7] The room behind the large porch on the south side of the courtyard is entered through the khan’s bedroom, the door in front of his typical room, and the corridors. The room attached to the west wall of this room is the creative library of FARRUX (literary pseudonym of Farrukh-Isfandiyarkhan). Opposite the dormitory porch, on the north side, was a corridor – a four-room kitchen, in front of which was built a stove, about which the elders also spoke. The walls of Isfandiyarkhan’s original room, decorated in his time, are decorated with ornate carved plaster, as in the Nurullabay palace, and painted. These two entrances are equipped with fireplaces. Special masters from Russia were called in to install these stoves. Before

sending the masters, the Russian tsar promised the khan to return them alive. The room and awnings on the second floor are designed for living during the summer.



Fig. 2. Nurullabay complex. Prince's room. By the author (2021)



Fig. 3. 3rd yard of Nurullabay complex. Current status. By the author (2021)

3. Courtyard. Designed for the Khan family, relatives, servants, and has a bathroom in its northwest corner. The rooms on the north side of the courtyard are designed for family members, a kitchen for maids, and the walls on the west side are plastered rooms for boys – princes. When the khan's descendants were to be born, as a rule, the pregnant woman was brought to a special maternity ward in the harem in the Old Ark. During the reign of Muhammad Rahimkhan-Feruz, there was a maternity hospital in the third yard of Nurullabay's yard.[8] was born here. There is a bathroom and toilet in the southwest corner of this courtyard. At present, the courtyards of the Exhibitions Department of the Directorate for the Use of the Nurullabay Historical Complex house the exhibitions "Contemporary Art of Uzbekistan," "Songs, Emblems, Interpretations" and "Khorezm Traditional Crafts: History and Modernity".
4. Courtyard. The large porch on the south side of the courtyard, the walls of which are decorated with carved plaster, A. Boltaev wrote: On the marble floor (poyustun) there are inscriptions in Persian, Nasta'liq script in beautiful floral patterns. The four porches to the north in these two courtyards, which we conditionally call the third and fourth, and the rooms at their backs, are intended for the prince's wives. Such a location is also observed in the harems of Allakulikhon (1825–1840) in the Tashhovli Palace, Muhammad Rahimkhan-Feruz in the Old Ark. Architects, based on ancient traditions, designed the courtyard in this way. In the middle of all the courtyards there were wells, "drains" (adan, sewers) for drainage of rainwater. At present, the exhibition "Traditional crafts of Khorezm: History and Modernity" of the Exhibitions Department of the Directorate for the Use of the Historical Complex "Nurullabay" is being held in this yard.
5. Courtyard. After Asfandiyorkhan ascended the throne (1910), he built another building in the western corner of the garden to the north of the courtyard, and in its construction can be seen the works of German masters (large windows, doors, chandeliers). A. Boltaev called this yard "The place where the indoor pool was built to the west and the porches were repaired by Asfandiyorkhan. This place was Asfandiyor's residence," he wrote. Divided into more than a dozen rooms, this European-style building has a separate room for guests, a stage hall for musicians and singers, which proves that the building was built for hospitality.
6. Tent. The yard was built 20 years ago and has remained in the yard. The work started by Muhammad Rahimkhan I in Nurullabay was continued by his descendants, who created a new center here, which has now gained the status of a new city. Starting from these dwellings, the complex gradually housed a khan's palace (1859), an office, a hotel for ambassadors (1874), a harem (1896–1908), a large hut, and a beautiful place for mushaira nights around the pool under oak trees brought from Russia. a large palace (1912) was built for incoming guests.



Fig. 4. H. Devanov's exposition organised in Nurullabay complex. By the author (2021)



Fig. 5. Nurullabay complex. Asfandiryokhan reception. By the author (2021)

Asfandiyorxon reception. The newly built reception was built in order to receive visitors between 1911–1913, of baked bricks. Bricks were brought from the village next to the city. The roof was made of thin steel sheets with an umbrella in the form of a suppressed triangle. The palace consists of seven rooms, doors, windows and parquet floor.

Ruzmat Arbob Masharipov, Nurmat Usta, Khudoibergan Hoji, Quryoz Bobojonov and others carved the plaster on the walls and ceiling. The walls, painted with plaster, were painted with oil paints under the direction of Vaisyo Matkarimov. European-style paintings of flowers and angels on the ceilings were made by Russian artists. The painting of such angels, which is not allowed in Islam, was authorized by the khan's minister, Akbar, and his father-in-law, Islam Khoja. Islam Khoja was an educated, progressive man of his time.



Fig. 6. Nurullabay complex. Asfandiyorxon reception (interior view). By the author (2021)

Significant work is being done today to preserve the cultural monuments created by the great ancestors and pass them on to future generations. From the first years of independence, under the leadership of the First President of Uzbekistan Islam Karimov, extensive work has been carried out to objectively study our centuries-old history and restore our national values. Over the past years, the 2,500th anniversary of Bukhara and Khiva, the 2,700th anniversary of Karshi, Termez and Shakhrisabz, the 2,000th anniversary of Margilan and the 2,200th anniversary of Tashkent have been widely celebrated. On the eve of these ceremonies, dozens of historical monuments in these cities were renovated to a high standard. At the same time, many cultural and educational institutions, administrative and residential buildings were built.



Fig. 7. Exposition of traditional applied art in Nurullabay complex. By the author (2021)

At present, the historical cities of our country annually attract the attention of the world community, seven climatic tourists. The number of tourists wishing to visit our country is growing every year. At the same time, it should be noted that the head of our state Shavkat Mirziyoyev is doing a lot to preserve this historical heritage, to pass it on to future generations in a complete and perfect form.

Reconstruction and restoration of the historical complex “Nurullabay” in Khorezm region on May 19, 2017 on the basis of the “Program of integrated development of tourism potential of Khorezm region and the city of Khiva for 2017–2021” The National Bank for Foreign Economic Activity of the Republic of Uzbekistan will repair the Nurullabay complex, restore it to its original appearance, turn it into a tourist center. Great work has been done on the opening of exhibitions, workshops, shops. At present, the complex has a photo gallery depicting the work of KhudaiberganDevonov, “Folk Traditional Crafts”, a gallery showcasing the creative work of Uzbek and Khorezm artists. These galleries display more than 160 museum exhibits.

4. Conclusion

It is important to study the history of cultural heritage sites, to preserve them in their original form, to use them without damaging the monument. The Nurullabay complex, which was abandoned for many years, was completely restored under the direct initiative and sponsorship of the leadership of the republic and turned into a major tourist center. In the Nurullabay complex you can see the traditions of Eastern

and Western architecture of the early twentieth century. The traditional and modern handicrafts, fine arts and photo exhibitions organised in the complex serve to further develop tourism and increase the interest of local youth in history.

Suggestions:

1. Development of a proposal for the inclusion of monuments in Dishan Castle, in particular, the Nurullabay complex in the UNESCO World Heritage List.
2. Create a 3D virtual tour by creating a website of the Nurullabay complex.

Acknowledgements:

The authors would like to thank the NAWA International Academic Cooperation Program's 3D DIGITAL SILK ROAD program and General Coordinator Elżbieta Miłosz, Komiljon Khudaiberganov for their scientific advice, and photographer Hurmat Yusupov for their assistance in using the photographs.

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DORUL HIKMAT VAL MAORIF – A MODERN MUSEUM IN KHIVA

Abstract

The article deals with the new museum exposition organised in the state culture preserve “Ichan Qala” in Khiva, Khorezm region of the Republic of Uzbekistan. The museum’s exposition is dedicated to the activities of a mediaeval scientific centre Dorul hikmat val maorif (Majlisi ulamo) – the historical Khorezm Mamun Academy, which made a worthy contribution to the development of world science. The historical Academy was organised in 1004–1017 in Urgench (now Old Urgench), the capital of Khorezm at that time, and more than 30 scientists have worked there, including Abu Rayhon Beruni (al Baron), Abu Ali ibn Sina (Avicenna), Abu Nasr ibn Iroq and Abu Sahl Masihiy.

A modern museum has been created at the exposition with the effective use of information and communication technologies. In particular, the lives and activities of 7 scientists based on 3D mapping technology are displayed. The interiors of the Academy’s library, mosque and scientists’ creative rooms have been created. In the library, the process of Beruni and Ibn Sina’s conversation is represented by wax figures. On the walls are mediaeval manuscripts and household items, various tools are represented virtually. The article describes in detail the organisation and exposition of the museum.

Keywords: Dorul hikmat val maorif, Khorezm Mamun Academy, great scientists, 3D mapping, wax figures

“When we talk about Khorezm, we imagine a unique country that has made a worthy contribution to the development of science, culture and art. The Mamun Academy was founded in the Middle Ages. It is known in the East and West... In this Academy you can study our history endlessly. There is no such history in the whole world”.

Shavkat Miromonovich Mirziyoyev,
President of the Republic of Uzbekistan

1. Introduction

The creation of a historical museum in the Khorezm Mamun Academy fully reflects the ideas and opinions of the President of the Republic of Uzbekistan Sh. M. Mirziyoyev about the need for a deeper sturdy of scientific and spiritual achievements of our great ancestors. The idea of creating a modern museum, Dorul hikmat val maorif,

also belongs to the head of our state. The President paid special attention to this issue during his visit to the Khorezm region on March 12–13, 2020. The exposition of the new museum is organised in the building of Muhammad Amin Inoq Madrasah of the Ichan Qala complex in Khiva city.

2. Literature review

In the literature we find information about the historical Dorul hikmat val maorif and the activities of modern Khorezm Mamun Academy. In particular, works and scientific articles of A. Sadullayev, A. Sotliqov, T. Duschanov, M. Abdullayev were published. However, there are not any materials about the newly organised museum.

3. Analysis and results

The main purpose of creating the museum «Dorul hikmat val maorif» is to demonstrate the high level of spiritual culture of the peoples of Uzbekistan. This is demonstrated in a unique, modern way on the example of one of the famous scientific centres – the Khorezm Mamun Academy. It is also promoting the activities of the modern Khorezm Mamun Academy through the historical Academy.

Many famous and prominent scholars worked in the Mamun Academy, founded in the early 11th century. Their heritage has made a great contribution to the development of science not only of one nation or people, but of all mankind. But for such great scientists of the East, there might have been no development of computer technology, modern medicine, space research, nanotechnology, nuclear energy, bioengineering and other sciences.



Fig. 1. Conversation between Beruni and Avicenna. In the painting by Ch. Akhmarov (wax sculpture).
By M. Abdullayev (2021)

“MAJLISI ULAMO” (1004–1017). Mamun ibn Muhammad (995–997) united North and South Khorezm and made Gurganch the capital. During the reign of Khorezm shah Ali ibn Ma'mun (997–1009), the capital Gurganj became the centre of enlightenment. Well-known scholars began to come here not only from Khorezm, but also from other parts of the East. By order of Ali ibn Ma'mun, a library was opened near the royal palace and rare manuscripts were collected. Khorezm shah Ali Ibn Ma'mun supported and cared for the scholars in every way. Thus, at the beginning of 1004, a large scientific centre called «Majlisi al-ulamo» was formed in Gurganj, the capital of Khorezm shahs [3].

Abu Rayhan Beruni and his mentor, Abu Nasr ibn Iraq, who was awarded the high title of «Ptolemy of his time», sent letters to mature scholars on the instructions of the Khorezm Shah and invited them to the capital Gurganj. As a result, famous scholars of their time came to Gurganj from Samarkand, Bukhara, Poykand, Termez, Nishapur, Balkh, Merv and even Arab Iraq. Gurganj soon became not only an administrative and economic but also scientific centre. Well-known scientists from different countries of the Muslim East in astronomy, mathematics, medicine, chemistry, geography, history, philosophy and other disciplines gathered here.

The “Majlisi ulamo” was worked by a young scholar and physician Ibn Sina, Abu Rayhan Beruni and his mentor Abu Nasr ibn Iraq, Abu Sahl Masixiy, philosopher, physician and translator Ibn Xammor, poet and historian as-Salabi, Ibn Miskawayh and others. Here, scholars engaged in the sciences have created major works in the exact and natural sciences, as well as in history, language and literature, philosophy, logic, and the Islamic sciences. About a hundred scientists worked at the Mamun Academy, more than 30 of their names were found and their works were partially studied.



Fig. 2. Mamun Academy. V. Enin. From the fund of the museum-reserve «Ichan kala»

FAMOUS SCIENTISTS OF MAJLISI ULAMA. Abu Rayhan Beruni was born in 973 in Khorezm. For many years he headed the Mamun Academy in Khorezm. The main part of Al-Beruni's works are on astronomy, mathematics, mathematical geography and geodesy. Beruni was one of the first in the East to create a globe with a diameter of 5 square meters, calculate the radius of the earth, and announce the existence of America 500 years before Columbus. Beruni first developed the classification of minerals, laid the foundations of the science of geodesy. It is no coincidence that historians of natural sciences around the world call the 11th century the "Beruni Age". His name is given to a small planet in the solar system discovered in 1986.

The Khorezm Mamun Academy with its great scientists made a great contribution to the development of world science and culture. Abu Rayhan Beruni, an encyclopedic scientist, was the first in the history of science to invent a circular map of the Earth – a globe, and for the first time easily calculated the radius of the Earth in a very accurate way and drew a geographical map of the world. In his work, he scientifically substantiated that there was another continent on the other side of the world five hundred years before Christopher Columbus. Contrary to the prevailing theory of the time, he was the first to scientifically prove that the Indian and Atlantic oceans were connected. Therefore, it is no coincidence that the first half of the 11th century in the history of science is rightly considered by world-renowned scientists as the «Beruni era».

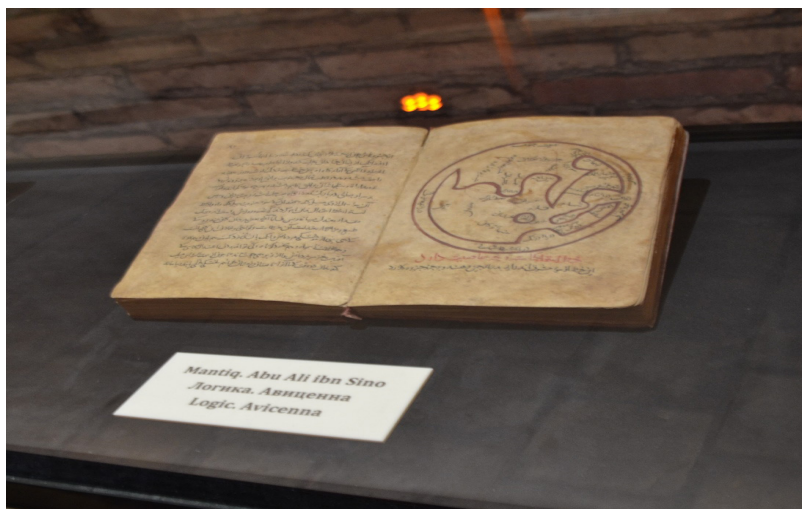


Fig. 3. The work "Mantiq" (Logic) by Abu Ali ibn Sina (copy). By M. Abdullayev (2021)

Abu Ali ibn Sina was born in 980 in Bukhara. In the West she was called Avicenna. He was rightly called "the most famous philosopher, scientist-encyclopaedist and one of the greatest thinkers of mankind". He has written more than 450 works, including in the fields of medicine and philosophy, as well as logic, chemistry, physics, astronomy,

mathematics, literature and linguistics. The name of the talented doctor was given to him after he treated the ruler of Bukhara from a serious illness. In his “Canon of Medicine” he laid the foundation stone of practical pharmacology and medicine, which has not lost its relevance in our time. It is no coincidence that this book was one of the first books published in Europe in the 15th century. According to his heritage, medical science had been studied in the leading universities of Europe for almost 500 years.



Fig. 4. Touch monitor for multimedia. By M. Abdullayev (2021)

Abu Nasr ibn Iraq was born in 960. Originally from Khorezm, he was famous as a great mathematician and astronomer of his time. Ibn Iraq was involved in the development of the legacy of Greek scholars and in the translation of ancient treatises into Arabic. Ibn Iraq is the founder of spherical trigonometry, he was the first to formulate and prove the flat and spherical theorems of sines, and a guide to the construction of the astrolabe and its use in astronomical observations. Named the “Mathematician of All Mathematicians”, Abu Nasr ibn Iraq received the honorary title of Ptolemy II for his scientific work on astronomy.

Abu Sahl was a great scholar in the field of Christian medicine and philosophy. He was born in 971. In 995, Abu Sahl al-Christian came to the Mamun Academy in Khorezm and became famous for his practical work in medicine. In addition to medicine, he was also involved in astronomy, mathematics, philosophy, and wrote poems with an interest in poetry. Abu Sahl al-Christian is the author of the Hundred Books on Medicine, which was fundamental for that period.

Abu Khayr ibn Hammar was one of the most famous long-lived men and physicians of the East. He was born in 942 and died at the age of 106. At a mature age, he was invited to Khorezm, where he served as a court physician to Mamun ibn Muhammad, the king of Khorezm. Abu Khair ibn Hammar is the author of several famous treatises on medicine. The main ones are: “Tests of doctors”, “Structure of human organs”, “Treatise on epilepsy”, “On nutrition of the elderly” and others [2].



Fig. 5. Astrolabe (copy). By M. Abdullayev (2021)

Philologist Abdul Malik al-Saalibi was born in 961. Al-Saalibi's major work, *The Pearl of the Century*, is an anthology of works by previous generations of Arab authors. Mansur al-Saalibi was acquainted with his scientific works on history, philosophy, literature, logic, and the Arabic language. His treatise "The only masterpiece of the generous people of our time" contains information about more than 120 writers and statesmen of Central Asia and Khorezm [2].

The famous historian, philosopher and writer Ibn Miskawayh was born in 932. Ibn Miskawayh wrote his works in Arabic and Persian. In addition to ethics, the scientist's work is devoted to medicine, alchemy, physics, politics, history. The main sources of his treatises were Plato's *The State*, Aristotle's *The Categories*, *Nicomachean Ethics*, and Plotinus's *Enneadas*. Of particular interest to Russian historians is Ibn Miskawayh's *Russian marches to Berdaa* in 943–944.

The Mamun Academy, which operated from 1004 to 1017, is one of the brightest pages in the history of Uzbekistan. The scientific, cultural and spiritual heritage of our people is enriched by the great achievements of scientists, thinkers, philosophers, theologians and poets. They have made a great contribution to the development of world civilisation for the happiness of mankind. It is no coincidence that the motto of the Mamun Academy is "Science for the happiness of mankind".

KHOREZM MAMUN ACADEMY. Khorezm Mamun Academy was reorganised on November 11, 1997 by the Decree of the President of the Republic of Uzbekistan PF-1880. Initially, there were departments of Archeology, History and Philosophy, Language and Literature, and Biology.

On November 2, 2006, the 1000th anniversary of the Khorezm Mamun Academy was widely celebrated worldwide under the auspices of UNESCO. More than 50 well-known foreign scientists took part in the international conference «Khorezm Mamun Academy and its role in world civilisation» and praised the activities of the Academy.

A permanent exposition of Khorezm history and culture has been organised at the Khorezm Mamun Academy. It contains more than 500 unique archeological finds, rare manuscripts and other historical exhibits. The fund of the Academy Library contains about 20,000 scientific works, including about 300 manuscripts, lithographs and rare printed books. On January 27, 2017, President of the Republic of Uzbekistan Sh. M. Mirziyoev visited the Khorezm Mamun Academy and was acquainted with its activities. The scientists of the Academy were given a number of tasks and assignments. On April 14, 2017, the Cabinet of Ministers of the Republic of Uzbekistan adopted Resolution No. 211 “On additional measures to further develop and improve the activities of the Khorezm Mamun Academy”.

At present, there are 3 departments, 2 laboratories, an experimental field, and more than 50 researchers conduct research in various fields of science. From the monument to Khumbuztepa. A pottery workshop, the oldest Zoroastrian dahma and a temple were found in the 7th-5th centuries AD. Beruni’s works “Tafhim”, “Saydana”, Christian’s “One Hundred Chapters from the Science of Medicine”, Ismail Jurjani’s “Zakhirai Khorezmshahiy”, Mahmud Zamakhshari’s “Muqaddimat ul Adab” were translated from Arabic and Persian into Uzbek and Russian. Major monographs “Khorezm in the history of statehood of Uzbekistan”, “Khorezm in historical and modern research”, “Jaloliddin Manguberdi – the great patriotic commander” were published. New varieties of cotton, Niyat and Khurma, have been created and are being planted in large areas.

The scientific concept and thematic-exposition plan of the museum «Dorul hikmat val maorif» were developed by the authors. In preparing the concept and design of the modern museum its location in one of the largest tourist centres and, accordingly, its attractive appearance, unique presentation and distinctiveness of the exposition, unusual architectural and design solutions were taken into account. Therefore, the creative team of the company “Ziynat Design” in the exposition of the museum “Dorul hikmat val maorif» used innovative ideas and solutions based on modern digital and computer technologies.

A distinctive feature of the interior solution by the designers is related to the area of the main hall, which makes up 173 square meters in the octagon plan. The hall is equipped with an artistic digital panel where hologram images of 7 key scientists, members of the Mamun Academy, appear and basic information is provided. They are Abu Rayhan al-Biruni, Abu Ali ibn Sina, Abu Nasr ibn Iraq, Abu Sahl al-Masihi, Abu Mansur al-Saalibi, Abul-Khair al-Hammar, and Ibn Miskawayh, who worked in various fields of science. These scientists are recognised worldwide for their incomparable works in mathematics, astronomy, history, medicine, poetry, philosophy and other fields [1].



Fig. 7. A film created using 3D mapping. By M. Abdullayev (2021)

New technologies have been used in the museum: the figures of great scientists appear on a thin mesh surface of a panel made of a special coating in 3D format. Their images were presented along with visual images in mapping, and their drama and content were also prepared by the authors.

In the main hall there is a display of various equipment invented by scholars of «Dorul hikmat val maorif» and used in their work. In particular, copies of instruments such as globe, quadrant, sextant, astrolabe, medical equipment were made on the basis of drawings in manuscripts, photos in foreign museums. The exhibition includes facsimiles of 10 manuscripts of scholars working in the Mamun Academy.

At the entrance to the main hall, on the right, there is a mosque, and on the left, the interior of the library «Dorul hikmat val maorif». The mihrab, which shows the qiblah, a traditional book rest for the Qur'an, a prayer carpet, a turban, and so on are represented in the mosque. In the centre of the interior of the library there are wax figures of young scientists Beruni and Ibn Sina, who worked in «Darul hikmat val maorif». The plot of their conversation is based on the composition of a painting by the famous artist Ch. Akhmarov. In the composition, Ibn Sina explains to Beruni his new instrument drawing. On the walls of the library there are video materials about the activities of these scientists and virtual exhibits reflecting the environment of that period [1].



Fig. 8. Workshop of scientists of Mamun Academy (demonstration). By M. Abdullayev (2021)

Along the perimeter of the main hall are small rooms, each of which reflects the activities of great scientists – members of the Mamun Academy. Each small room is decorated with compositions that reflect the specific features of the activities of a particular scientist, as well as household items, interesting information about the activities of members of the Mamun Academy.

In general, the authors of the idea of exposition and design of the Museum of the Mamun Academy have effectively used new digital technologies and innovative methods in solving educational, enlightening and entertaining tasks.

Work is underway to enrich the new museum with exhibits and information. The Ministry of Innovative Development of the Republic of Uzbekistan is implementing a project to create a virtual form of the museum. It will then be possible to get acquainted with the museum website and a virtual view of the place in 3D in 6 languages via the Internet from anywhere in the world.

4. Conclusions

The Mamun Academy, which operated in 1004–1017, is one of the brightest pages in the history of Uzbekistan. The scientific, cultural and spiritual heritage of our people is enriched by the great achievements of scientists, thinkers, philosophers, theologians and poets. They have made a great contribution to the development of world civilisation for the happiness of mankind. It is no coincidence that the motto of the Mamun Academy is “Science for the happiness of mankind”.

Recommendations:

Effective use of the technologies used in the museum exposition in the re-exposition of other museums in the Khorezm region.

Acknowledgements:

The authors express their gratitude to Elżbieta Miłosz, General Coordinator of the “3D DIGITAL SILK ROAD” Programme within NAWA (Poland’s National Academic Cooperation), and the project of the Ministry of Innovation Development of the Republic of Uzbekistan P3–2020102950 “Creation of a modern virtual museum “Dorul hikmat val maorif”.

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THE ROLE OF ELECTRONIC RESOURCES IN THE STUDY OF THE HISTORY OF THE KHIVA KHANATE

Abstract

The article discusses the issues of developing digital history at the present stage of human development and the role of electronic resources in the study and coverage of the history of the Khanate of Khiva.

Keywords: history, globalisation, digital history, Khiva Khanate, sources, maps

1. Introduction

The humanities have used digital tools for many decades. Including history. A whole new field has opened up around the concept of digital history as historians have tried to experiment with new technologies. As in many disciplines, practice was initially limited to a few people who had access to computing.

Today, thanks to the digitisation and globalisation of our world, much about a person has acquired a digital character, which is convenient for everyone due to its mobility and accessibility. A striking example of this is the digitisation of historical materials, which relieved researchers from the burden of visiting world libraries and historical material resource centres, which would take a relatively long time and more money.

Digital history is an approach to the study and representation of the past, which takes advantage of new communication technologies. Digital history as a branch of digital humanities is engaged in digitising historical content, highlighting digital archives and other interactive historical data for a wide Internet audience, creating new digital tools necessary for the promotion and development of science. In particular, activities within the framework of digital history include:

- development and use of online archives;
- analysis of large amounts of data;
- exploring relationships using data visualisation;
- text analysis;
- digital processing and storage of oral interviews;

- integration of historical data with maps (old and new) and the use of geographic information systems;
- presentation of historical results on web pages[1].

Digital history acquired citizenship rights in 1997, when American researchers E. Ayers and W. Thomas founded the Virginia Center for Digital History (VCDH) at the University of Virginia. Although in 1994 one of the pioneers of development in this area, R. Rosenzweig, opened the Center for History and New Media (CHNM) at the G. Mason University, Virginia, without using the term itself [2]. In short, with the help of digital technologies, Digital History preserves and popularises historical knowledge, and e-History focuses on generating them, remaining a purely applied research area of historical science.

Currently, there are worldwide electronic databases of historical materials, free access to which is increasing due to the expansion of the Internet around the world. About the history of the Khiva Khanate, a huge amount of materials and information was published not only by local scientists and researchers, but also by world representatives who published their unique works as a result of travelling to the Khiva Khanate at that time. These works, rich in historical information, have been published in different parts of the world, which, in turn, restricts universal access to them. The coming era of the information society has opened up ways to solve this problem. Internet sites and electronic material bases for storing works of the ancient and modern periods began to be created.

2. Literature review

A number of publications related to the topic under analysis were used in this article. They analyse the development of urban planning in the Khiva khanate. Including P. Sh. Zohidov, R. X. Avanesov. In their research, the Avanesovs described aspects of Khorezmian architecture that reflected the city of Khiva. H. Jombokiev, S. Khasanov, M. K. Akhmedov in their works give important information about the madrasahs built in Khiva. J. Ismailova's article "Modern principles of cultural heritage promotion" analyses the aspects of the promotion of cultural heritage sites related to modern technologies.

3. Materials and discussion

Currently, for the convenience of world researchers, there are various kinds of information bases about the history of the Khanate of Khiva, as a vivid example, such sites as: Open air museum in Khiva (www.khivamuseum.uz); about Khorezm: www.xorazmiy.uz; «Хоразм тарихи» (History of Khorezm): www.historykhorezm.uz; «Восточная литература» (Eastern literature): www.vostlit.info; «Всемирная история» (World History): www.vek-noviy.ru; «Мировая цифровая библиотека» (World Digital Library (WDL)): www.wdl.org; «Странствия по Центральной Азии» (Travels in Central Asia): www.centralasia.club, and others. The above-mentioned electronic

libraries store not only historical sources, works and information about this region, but also new achievements of modern research works.

For example, on the website www.historykhorezm.uz has an electronic video infographic space dedicated to the history of Khorezm, cultural heritage, monuments and works of art [3]. The website was created within the framework of the project of the Ministry of Innovative Development of the Republic of Uzbekistan, I-FA-2019–25 “Creation of smart technologies based on the study of the history, cultural heritage, monuments and works of art of Khorezm”.

On the website www.khivamuseum.uz one can find special divisions such as About Khiva, About Ichon-Kala, Virtual travel, Handicraft, Historical monuments.



Fig. 1. Kibla Toza Garden (www.khivamuseum.uz)

On the website www.xorazmiy.uz there are special divisions such as «Хоразм тарихи» (history of Khorezm) and «Древний Хорезм» (Ancient Khorezm), in which you can find information from the origin of the Khorezm civilisation to the foundation of the KHNR (Khorezm People’s Republic), set out in special numbers – “*Shazharayiturkasarida Khivahonligi*” (The Khanate of Khiva in the work *Shazharai Turk*), “Khivahonligi (shayboniylar, eroniylar, kozoklar va kyngirotsulolasi)” (Khiva khanate (under the dynasty of Sheibanids, Iranids, Kazakhs, Kungrats)), “History of Central Asian states in the scientific works of Academician Zii Musayevich Buniyatov”, “Khiva Khanate and the Principles of Its Governance”, “Gendeman Peace Treaty between Russia and Khiva (August 12, 1873)”, “Culture and Art during

the Khiva Khanate”, “Population Census of 1910 in the Khiva Khanate (headed by V. Lobachevsky)”, etc. In this site you can find valuable information about the history of this region from the ancient period to the present – about the emergence of the Khanate of Khiva, its population, cultural and traditional values, geographical and climatic features, trade and diplomatic relations and many other topics [4].

The information base «Восточная литература» (Eastern Literature) provides researchers with publications of scientists on various topics, where along with them you can trace the headings concerning the history of the Khiva region. Publications of such famous authors and travellers as N. Muravyev (“Travels...”, publications of the “Russian Archive”), N. Obruchev (“From the distant past...”, D. Skobelev (“Letter to a Moscow merchant”), immortal “Remembrance of Khan of Khiva...”, M. G. Chernyaev (diary excerpts, publications 1906 (Documents – Central Asia)) are the materials of this site, which contain unique data collected during trips to the Khiva region [5].

There is also such a database of information as “**World History**”, which provides an audience for research by world scientists on such headings as: “Formation and Development of Land Ownership in the Middle Ages”, “International Relations of Central Asian States”, “Khiva Khanate in the second half of the 18th – first half of the 19th century”, “History of Uzbekistan (16th – first half of the 19th century)”, “Formation of the Khiva Khanate (in the 16th – first half of the 18th century)”, “International Relations of Central Asian States”, etc., on which many interesting publications have appeared.

Another information base of the historical heritage is “**Wanderings in Central Asia**”, which has a special chapter “History of Khiva”, embodying all relevant data about the history of the Khanate of Khiva, Khivans, geographical location, cultures and traditions of peoples who have lived in the country from time immemorial and much more information of interest and use for researchers on the history of the Khorezm oasis.

The World Digital Library (WDL) provides free Internet access in multilingual format to a large number of materials representing the cultures of different countries of the world. The main goals of the World Digital Library: Promoting international and intercultural understanding. Expanding the scope and diversity of cultural content on the Internet, providing resources for educators, scientists and all interested individuals and enhancing the capacity of partner institutions to narrow the digital divide within and between countries.

The partners of the World Digital Library are mainly libraries, archives and other institutions that have collections of cultural value for the World Digital Library. The partners also include institutions, foundations and private companies that make various contributions to the project, for example, by providing their technologies, convening or sponsoring working group meetings or providing financial support to the project.

On the basis of the World Digital Library can be found unique historical data with maps about the Khanate of Khiva. These sources provide valuable information and have

an important role in enriching various aspects of the pages of the history of Khorezm. Below we present some materials from the database of the World Digital Library:

1. **Map of the Khanate of Khiva and the lower reaches of the Amu Darya.** This detailed and beautifully designed Russian map shows the southern coast of the Aral Sea and a major river of Central Asia, the Amu Darya. The map was printed in 1873. In this crucial year, the Khanate of Khiva (located along the Amu Darya River in the region shown on the map) and the Emirate of Bukhara (located southeast of the Khanate of Khiva) were annexed to the Russian Empire. This map reflects such characteristics of the terrain as rivers, lakes and swamps, cultivated lands, and in addition, desert territories (marked as “takyr”, that is, saline plains with a surface cracked from drying, and salt flats). Cities and villages, roads and mosques are also shown. The city of Khiva is located at the bottom of the map, on the border of a developed agricultural territory, including such historical cities as Urgench (Kunya-Urgench) and Kyat (Beruni). The map was created by the cartographic division of the Military Topographic Directorate of the General Staff of Russia. (This source is provided from the library of the University of Wisconsin-Milwaukee) [6].

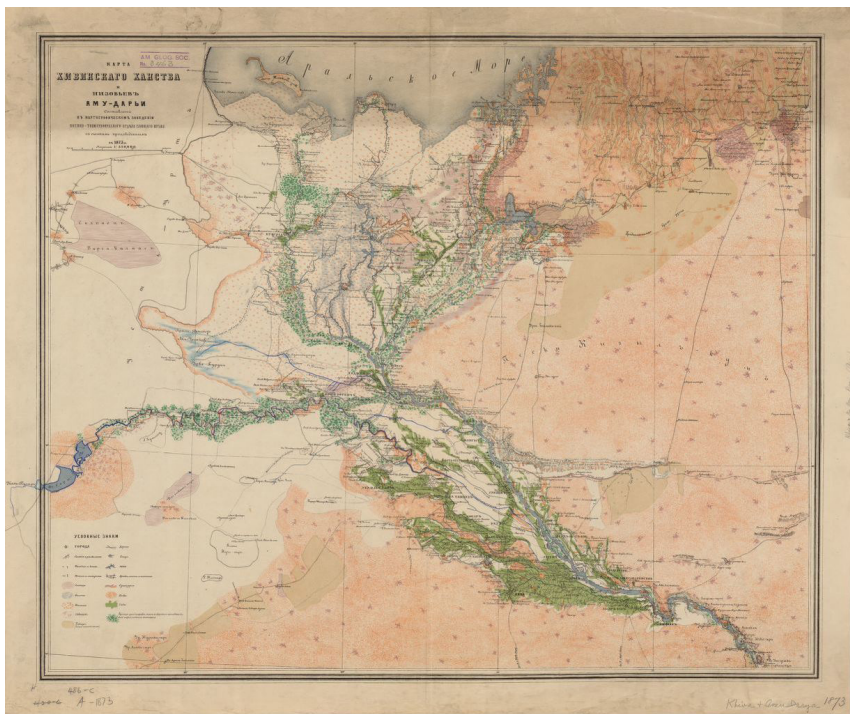


Fig. 2. Map of the Khanate of Khiva and the lower reaches of the Amu Darya (www.loc.gov/resource/gdcwld.wdl_15034/)

2. **Map of Bukhara, Khiva and Kokand khanates and parts of Russian Turkestan.** The map of these territories, covering parts of modern Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan, was compiled by Eugene Schuyler (1840–1890), an American diplomat, traveller, writer and scientist, who was one of the first foreigners invited by the Russian government to visit the newly conquered territories of Russia. In 1873, while working as secretary of the American diplomatic mission in St. Petersburg, Schuyler made an eight-month trip to territories that were little known to outsiders at that time. He collected extensive geographical information and wrote reports on his travels to the National Geographic Society and a lengthy confidential report to the US State Department. Schuyler's map was printed separately in 1875 and included in his two-volume work "Turkestan: Notes on a Journey to Russian Turkestan, Kokand, Bukhara and Kuldzha", which was published in 1876 in the United States of America and in the UK (provided from the National Library of Kazakhstan) [7].
3. **Turkestan: notes about a trip to Russian Turkestan, Kokand, Bukhara and Kuldzha.** The two-volume essay "Turkestan: notes on a trip to Russian Turkestan, Kokand, Bukhara and Kuldzha" is a report by Schuyler on his travels. The final chapters deal with the rule and foreign policy of the Russian Empire in Asia, as well as the Khiva Campaign of 1873, during which Russia conquered the Khanate of Khiva. This book, published in 1876 in the United States and Great Britain, is provided with illustrations, three maps and a detailed index (provided from the Library of Congress).
4. **Travel to Turkmenistan and Khiva in 1819 and 1820.** Nikolai Nikolaevich Muravyov (1794–1866) was a Russian military officer and statesman. In 1819 and 1820, he led an expedition sent by the authorities of the Russian Empire to the eastern coast of the Caspian Sea and to the Khanate of Khiva. The book *Voyage en Turcomanie et à Khiva* ("Journey to Turkmenistan and Khiva") is Muravyev's story about this expedition. The book is divided into two parts. In the first part, Muravyov describes the way to the Balkan Gulf, further travel overland to Khiva and return to Tbilisi. This part includes copies of letters from General Ermolov and Major Ponomarev to the Khan of Khiva. The second part of the book contains a general description of the territory of the Khanate of Khiva, its economy and armed forces, as well as a story about the civil war in this khanate. In addition, the book includes a list of animals of Central Asia in Latin, notes describing the inhabitants of this region and a map indicating the route from Tiflis to Khiva, compiled by Muravyov. The book was translated from Russian by J. Lecoq de Laveau and published in Paris in 1823 (provided from the Library of Congress).
5. **The story of the journey from Herat to Khiva, Moscow and St. Petersburg.** James Abbott (1807–1896) was a British military officer who went to India in 1823. In December 1839, he was sent on a mission to the Khanate of Khiva. In 1843, he published the two-volume book presented here, "The Story of a Journey from Herat

- to Khiva, Moscow and St. Petersburg.” The first volume contains a large folding map showing the route of Abbot’s journey from Herat to Khiva and further to Orenburg, Russia. (provided from the Library of Congress).
6. **The genealogical history of the Tatars, translated into French from the handwritten Tatar book of the works of Abulghazi BahadurKhan, Khan of Khorezm, and supplemented with a great number of reliable and curious notes about the direct current state of North Asia with the necessary geographical maps, and from French to Russian in the Academy of Sciences.** Abulgazi Bagadurkhan (1603–1663) was the ruler of the Khanate of Khiva and an outstanding historian of the Turkic peoples, who wrote his works in the ancient Turkic (Chagatai) language. Here is an edition of the work “Shajare-i Turk” in Russian, based on the French translation of 1726 and published in 1768 at the Imperial Academy of Sciences and Arts in St. Petersburg. The book consists of two volumes and contains various maps of “North Asia” at the beginning of each volume. At present, it is kept in the Collection of Rare and Valuable Publications of the Russian State Library in Moscow [8].
 7. **Overland journey to the north of India from England through Russia, Persia and Afghanistan.** Captain Arthur Conolly (1807–1842) served as an intelligence officer of the British East India Company. The two-volume book presented here, *An Overland Journey to the north of India from England through Russia, Persia and Afghanistan*, contains Conolly’s account of this journey. Connolly describes in the book a journey through the Khanate of Khiva, and talks about his impressions of the Sunni and Shiite Muslim population of this region (provided from the Library of Congress).
 8. **Perovsky’s campaign in Khiva in 1839 and the Russian embassy in Khiva in 1842.** This book describes Perovsky’s campaign and the Russian embassy to Khiva in 1842, which resulted in the first treaty between the two countries. (This source provided from the National Academic Library of the Republic of Kazakhstan).
 9. **Map of South Turkestan.** The Bukhara Emirate and the Khanate of Khiva, which were not included in the general government, are particularly marked on the map. There is a note on the map: “Was temporarily provided by the American Geographical Society for the Versailles Peace Conference, 1918–1919” (provided from the library of the University of Wisconsin-Milwaukee).
 10. **Military map of Central Asia and Afghanistan, published by Wilde.** This surprisingly detailed map of Central Asia, dating from 1879, was published by the British cartographer James Wild Jr. (1812–1887) during the Second Anglo-Afghan War (1878–1880). The map shows the vast territories of Central Asia, included in the Russian Empire at the end of the XIX century, as well as Afghanistan and eastern Persia, partially showing Baluchistan (modern Pakistan), India and China. The political boundaries of the Bukhara and Khiva khanates, Afghanistan, the Russian Empire, Persia and Baluchistan are outlined (provided from the library of the University of Wisconsin-Milwaukee).

11. **Russia in Asia: Facts and Research, 1558–1899.** Alexis Sidney Kraus (1859–1904) was a British journalist who wrote for many British periodicals. The book *Russia in Asia: Facts and Research, 1558–1899* tells about the development of Siberia, the conquest of the Khiva and Bukhara khanates by Russia, its expansion into Turkestan at the end of the 19th century. The work *Russia in Asia* has been published in several publications in the UK and the USA. Here is the first edition published in 1899 in London. It includes 12 maps and three appendices (provided from the Library of Congress).

4. Conclusion

Archival documents are of great importance in familiarising the current generation with history. Scientists study these sources, comment on them and use them to restore history. In general, the aforementioned electronic resources reflect important historical sources on the history of the Khanate of Khiva and play an important role in identifying, analysing and publishing new information on the history of Khorezm through comparative study of historical literature.

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THE ROLE OF MODERN INFORMATION TECHNOLOGIES IN THE STUDY OF HISTORICAL AND CULTURAL MONUMENTS IN ICHAN KALA

Abstract

This article discusses the application of modern digital technologies in the study of historical monuments “Ichan Kala” in Khiva and its practical significance.

Keywords: technology, digital history, cultural heritage, museum, science and technology, reconstruction

1. Introduction

At the new stage of development in the Republic of Uzbekistan, comprehensive measures are being taken to further enhance spiritual and educational work, preserve historical and cultural heritage sites and study them in depth using modern information technologies. All this is done in order to pass on to future generations the invaluable heritage of our ancestors, to educate the younger generation as highly cultured and enlightened people. In this regard, the Address of the President of the Republic of Uzbekistan to the Oliy Majlis states: “As the wise men of the East say, ‘The greatest wealth is intelligence and knowledge, the greatest heritage is good upbringing, the greatest poverty is ignorance!’ Therefore, it is necessary for all of us to acquire modern knowledge, to have a real enlightenment and high culture, to become a continuous vital need” [1].

Today, information technology is one of the most important factors influencing the development of our society. Information technology also exists at different stages of human development, and a distinctive feature of today’s information society is that information technology is taking the lead among all existing technologies, especially new technologies [2]. The “Concept of further development of national culture in the Republic of Uzbekistan” was approved by the Decree of the President of the Republic of Uzbekistan dated November 28, 2018 (No PR-4038). The use of effective management and marketing methods in the management of museums, further strengthening the material and technical base of museums in accordance with modern requirements, the introduction of modern information technology in them [3].

Today, the issue of regular replenishment of museum funds with cultural treasures through the restoration and conservation of museum objects and museum collections included in the national museum fund, as well as strengthening the study of museum objects and museum collections, and publishing the results, is facing science. It is one of its most important tasks. As a result, in-depth study and analysis of museums and historical monuments, and the widespread introduction of modern information technology in research processes will play an important role. In our opinion, the organisation of such processes in line with the times gives a good result in the study of historical and cultural heritage, ensuring its rapid and easy delivery to the general public. In short, it strengthens the results and efficiency of research.

In today's era of increasing digitalisation, the rapid introduction of information technology in all areas, the use of modern technologies contributes to the development of the industry and the expansion of its sphere of influence. At the same time, the development of modern information technologies is leading to further acceleration of integration in science and research. This will undoubtedly ensure the collection and storage of resources and information, and the improvement of processes.

One of the most important tasks of today is to objectively study and pass on to the younger generation the history of Khiva and its historical monuments, which are famous all over the world for their rich past, unique culture, immortal values and architectural features.

2. Literature review

A number of publications related to the topic under analysis were used in this study, such as A. Yu. Volodin's "Digital History: Virtual Reality or Research Practice?". It deals with the theoretical issues of the formation and development of digital history. Issues related to this are also reflected in the scientific article "Digital History: How to Feel Like Brodsky". The materials of the "Digital World Library" mentioned in our article contain historical and geographical information about the Khiva Khanate in the 19th century.

3. Materials and discussion

There are many folk legends about the origin of Khiva and its name. One of them ascribes the foundation of the city to the son of the biblical Noah – Shem, where it is said that after the Flood, Shem, who once wandered in the desert, fell asleep, and saw 300 burning torches in a dream. Waking up, delighted with this omen, he founded a city with the outlines of a ship, according to the location of the torches he dreamed of. Then Shem dug the Kheivak well, the water from which tasted amazing. In Ichan Kala, this well can be seen even today.

After the formation at the beginning of the 16th century of the Khiva Khanate, Khiva became its capital. The appearance of modern Khiva is formed mainly by the architecture of the period of the Khiva Khanate of the late 17th – early 20th centuries.

However, archaeological excavations carried out here show that at the base of a number of relatively “young” remains of buildings lie ancient layers dating back to the 3rd century and even earlier centuries BC. Among the unique values of world importance are the architectural monuments of Khiva, which rightfully earned the epithet “city-museum”. The traditions of urban planning have been associated with the vast natural knowledge in the Khorezm region since ancient times and their application in practice. After all, the construction of strong structures in the complex natural conditions of Khorezm required work taking into account many factors. The proximity of groundwater, the sandy nature of the soil, the sharp continental climate have all placed special demands on construction technology in this region. Therefore, in the construction of city complexes, the construction of some of the structures in them necessitated certain engineering calculations.



Fig. 1. Ichan Kala (Khiva, 2019)

Ichan Kala, located in Khiva, is the only surviving city-monument in Central Asia. The fate of its architectural monuments is closely linked with the historical and cultural development of the world's oldest cultural oasis, Khorezm. Ichan Kala was declared a museum-reserve in 1967, and by a special decision of the 14th session of UNESCO held in Canada on December 12, 1990, it was the first in Central Asia to be registered as a World Heritage Site.

The image of modern Khiva embodies the achievements of Khorezm architecture in the late Middle Ages [4]. Ichan Kala is surrounded by a 650X400m wall that stretches from south to north. The city area is divided into four by two streets. There are four gates facing the four directions (Stone Gate, Father Gate, Polvon Gate and Garden Gate). At the beginning of the 20th century, Khiva's Ichan Kala had two palaces, 17 mosques, 22

madrasahs, a caravanserai, and 260 shops between the Garden and the Gates. In 1922, Khiva had 64 madrasahs (12 in ruins) and 84 mosques (34 in Ichan Kala), according to the Russian ambassador Danilevsky.

The construction of madrasahs in the Khiva khanate flourished in the 19th and early 20th centuries. Sources state that “in the late 19th and early 20th centuries, there were 120 madrasahs in the khanate [5].” There are currently 64 madrasahs in Khiva. Madrasahs occupy the main place in the buildings of Ichan Kala after the settlements. “While deep summer arches have been built in the courtyards of Samarkand and Bukhara madrasahs, Khiva madrasahs have not built such open front classrooms. This is due to geographical conditions, and in the summer the open terrace could not be used as a classroom [6].

“Based on the information stored in the archives of Khiva khans, a list of mosques around Khiva is given. These data show that the construction of mosques in the Khiva khanate developed in the 16th – early XX centuries. It should be noted that today’s period has completely changed the public’s attitude towards the world cultural heritage. In this regard, the role of the media, which provides up-to-date information about events and developments in all countries of the world, world-famous resorts, natural wonders and objects of cultural heritage, is invaluable. This situation is increasing the interest of tourists to explore the culture and lifestyle of many countries.

That is why today world tourism has become an important link in society as a leading sector of the economy and in raising the spiritual and cultural level of people. The rapid development of information technology imposes even more pressing tasks on cultural and educational institutions. Areas that are less connected with technology, including museums, libraries, archives, literature and art, are also combining their activities with modern technologies [7]. In particular, modern techniques and technologies are rapidly developing in the study of historical and cultural heritage sites in the Ichan Kala museum reserve. In this process, special attention is paid to the preservation of material and cultural heritage, their scientific description, the organisation of new museums, modern expositions and exhibitions that embody our ancient history. Recent years have seen the creation of a 3D photo of Ichan Kala, the placement of information about historical monuments on popular electronic maps such as Google, the creation of programmes with comprehensive information about cultural heritage for foreign and domestic tourists along with the organisation of Wi-Fi in the region. Extensive work has been done on the installation of fiber-optic networks based on placement in Google Earth.

The 3D views of 100 unique museum objects stored in the fund of the Ichan Kala State Museum-Reserve in Khiva have been digitised qualitatively, and now it is possible to visit the museum remotely from any corner of the world and see the views of the exhibits. This will increase the interest of foreign tourists and locals, especially young people, in the Ichan Kala State Museum-Reserve in this age of science and technology, and will allow virtual travellers to visit museums, also as an aftermath of earlier real

sightseeing. This, in turn, will increase the attractiveness of the museum and the quality of its message, making a big step in the development of its marketing.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated March 3, 2021 (No 119) “On measures to strengthen the protection of tangible cultural heritage sites and areas included in the UNESCO World Heritage List” sets the task of reconstruction of 3D models of tangible cultural heritage and creating a digital database. Currently, the Ichan Kala State Museum-Reserve is working to implement this decision.

In May 2019, the Uzbek delegation presented smart museum technology and the NazzAR system at the XXI International Festival “Intermuseum-2019” in Moscow. The delegation, together with the Embassy of the Republic of Uzbekistan in the Russian Federation, organised a national stand dedicated to the Ichan Kala State Museum-Reserve. The unique feature of the stand is that the visitors of the exhibition were able to take independent excursions around the reserve thanks to the smart-museum technology introduced in 2018 [8]. With the NazzAR mobile app, visitors could take a tour of virtual attractions, relive historical events, and “resurrect” the famous ancestors depicted in the pictures. This news aroused great interest among guests and festival participants. Today, this opportunity is available at www.khiva360.nazzar.uz [12].



Fig. 2. Smart-museum project of the Ichan-Kala museum-reserve

Thus, the Ichan-Kala State Museum presented its innovative smart-museum project. Augmented reality, virtual reality glasses, smart cards – all this can already be tried out by a visitor to the museum-reserve. This is a new trend in the museum business, which local experts have implemented together with their partner Smart Chain. The idea was to bring the image to life when you hover the camera over the image. This was realised using augmented reality technology.

Some of the exhibits, cards, books have acquired interactive content in the form of audio, video and 3D scenes and objects. This solution is a kind of video guide. In order to start using this system, you need to install the NazzAR application on your smartphone, point the camera at the card, which will literally come to life. The solution allows you to immerse the visitor in the atmosphere of past events: to recreate scenes and objects that reflect cultural and historical traditions [9]. There are also virtual glasses that allow you to virtually walk along the Ichan-Kala tourist route. There are 54 historical sites. Another innovation is pictures that render artefacts in 3D format using a smartphone. This technology can be used in travelling exhibitions where museum workers cannot use real artefacts.

As part of the research project “Creation of smart technologies based on the study of history, cultural heritage, monuments and works of art of Khorezm” in 2019–2021, more than 30 archeological, more than 150 architectural structures, 8 developed arts and crafts in the Khorezm region. Data on epigraphic materials in the museum-reserve “Ichan Kala” were collected, processed and scientifically analysed. On this basis, the site www.historykhorezm.uz created an electronic video infographic space for the history of cities, cultural heritage, monuments and works of art. An infographic list of cultural heritage monuments and works of art of Khorezm cities has been compiled [10]. The research aims to bring the cities of Khorezm, its material cultural heritage, monuments and works of art to the public, including the younger generation and tourists, on the basis of smart technologies. Today, the Ichan-Kala State Museum-Reserve has 15 permanent expositions with its fund comprising more than 60 000 exhibits reflecting the rich history of Khorezm from ancient times to the present day.

The Museum-Reserve staff are working on the study and translation of historical documents together with the researchers of the Abu Rayhan Beruni Institute of Oriental Studies of the Academy of Sciences of the Republic of Uzbekistan, the Institute of Iranian Studies of the Austrian Academy of Sciences, the universities of Tokyo and Kyoto of Japan; cooperates with the Peter the Great Museum of Anthropology and Ethnography of the Russian Academy Sciences (Kunstkamera) in St. Petersburg and with colleagues from Budapest on the establishment of the “Vamberiand Khorezm” museum in Khiva. For a century now, the Khiva Museum has been carrying out the great work of collecting and preserving unique objects of nature and history of the country, demonstrating them to tourists from all over the world, responsibly preserving them for future generations in their unchanged appearance and grandeur.

The book-album “The Collection of the Ichan-Kala State Museum-Reserve” is devoted to one of the most famous open-air museums, located inside the fortress of the same name, of Khiva khans and included in the UNESCO World Heritage List. Since its opening in 1920, the museum collection has been constantly replenished and now keeps more than 60 000 exhibits reflecting the history of Khorezm from ancient times to the present day. The structure of the museum-reserve includes 15 permanent exhibitions. Sections of the book-album give an idea of the archaeological collection, collections of

numismatics and bonistics, manuscripts and documents, photo collections, decorative and applied art, and paintings of the 20th century.



Fig. 3. Modern view of the Khivaq well (Khiva, 2019)

The publication is intended not only for representatives of scientific research circles, but also for a wide domestic and foreign audience, representatives of the younger generation interested in the rich cultural heritage of Uzbekistan. The project without any analogue in the world has been implemented due to favourable conditions created in the years of Independence and to the personal attention of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to such issues as the careful preservation, enrichment and augmentation of tangible and intangible cultural heritage of the Uzbek people. The pages are marked with special QR codes for scanning with a tablet or smartphone for additional visual information. The multi-volume series *Cultural Legacy of Uzbekistan in World Collections* provides for publication of other books devoted to the unique masterpieces of the historical and cultural legacy of Uzbekistan [11].

The photo collection stored in the Museum includes over 3 000 photographs and about 1.000 photographic negatives. Its formation began in 1924, after the Khiva Museum was moved from the Old Ark to Tash-Khauuli – the former Allakuli-Khan Palace. In 1939, in connection with the opening of the Regional Historical Museum in the Nurullahbay palace, photographs and plate glass negatives made by Khudaiberger Devanov, the founder of Uzbek photography and cinematography, depicting historical events of the late 19th – early 20th centuries, architectural monuments of Khorezm, everyday life and customs of the local population were included in its collection.

Later, the Museum received about five hundred film negatives of the Khorezm photographer Qadam Atayev, who in 1965–1990 worked as a photojournalist for

UzTAG in Khorezm and covered political, economic and social events in the region. The name of Khudaibergen Devanov occupies a special place in the history of Uzbek cinematography and photography, since he was a true pioneer in this field.

4. Conclusions

Throughout the history that has flowed from the acquisition of Khiva the status of a capital city up to the overthrow of the khanate, Khiva has been characterised as a centre that has absorbed traditional urban planning and city life. And in this city, since the beginning of the 19th century, historical events and changes have also taken place. As a result, new relations, types of crafts began to enter the existing traditional socio-economic and cultural life of the city, advanced ideas, individual aspects of European culture began to take place in the life of the city. In particular, it was in this city that, for the first time in Central Asia, the foundations of musical notation were laid, cinema and photographic art appeared, and a book was printed in a lithographic way. Khiva today is considered one of the significant components of the rich historical and cultural heritage of Uzbekistan. The introduction of modern information technologies in the study of historical monuments located in Khiva's Ichan Kala serves to improve the tourist infrastructure of the region and increase the flow of foreign tourists. In addition, the use of modern information technology in the study of monuments serves to further enrich the historical data and bring it to the attention of the general public.

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HISTORIOGRAPHY OF THE STUDY OF GLASSWARE SCIENTIFIC COMMUNICATION

Abstract

This article provides information about glass and glass products found during archeological excavations in Central Asia, especially in Uzbekistan, as well as about scientists who studied them. The article is dedicated to scientists who studied glass production and their works. It is a collection of written, published and studied scientific works from the 1940s to the present day. The article deals with the study of the history of glass and glassmaking in Uzbekistan.

Keywords: Bactria, Tokharistan, Tuprakkala, Eski Termez glasses, Sogd, glass glaze, glass-dyeing technology, glass chemical composition

Glassmaking is one of the most important handicrafts in the history of Uzbekistan, being one of the fastest growing industries today. Although glass has been known since the Stone Age, artificial glass later became an important part of human life. Glassmaking in Bactria-Tokharistan has not been studied separately by scientists.

However, the glassware and glass fragments encountered during the excavations were explored and introduced to the wider community by archaeologists in scientific papers. From the 1940s, glass medallions adorning the floors and windows of the Termezshakhs' Palace in the Old Termez region were presented to scientists through the scientific work of the famous scientist V. D. Zhukov. In 1946, E. A. Davidovich published information about Nisa glassmaking in the collection of the South-Turkmenistan archaeological complex expedition (YuTAKE).

The Khorezm Archeologic-Ethnographic Expedition has made a significant contribution to the study and excavation of archeological monuments in the Khorezm region as one of the richest settlement area in Uzbekistan. In the middle of the twentieth century, the expedition carried out a number of works related to glassmaking. Scientists announced their findings about the glass and glass products found during the excavations at the Tuprakkala fortress through their scientific works, which were regularly published in the reports of the Khorezm Archaeological and Ethnographic Expedition. On the basis of the materials of the Tuprakkala monument, S. A. Trudnovskaya, a prominent historian on Khorezm studies, gives valuable information about the latest antique glass ornaments of Khorezm, as well as various tools and ornaments found in Tuprakkala in her later research works. A separate study of glass by scientists, its introduction into the scientific literature, shows that during this period there was a growing interest in the study of Central Asian glassmaking.

In the 1960s, A. Abdurazakov, M. Bezborodov and Yu. Zadneprovsky were a special developmental force in the study of glassmaking. They together combined chemistry and history in the study of glass: the formation of glass, the chemical composition of the first glass, the evolution of changes in its composition, and the period that led to the creation of the glass industry in the craft. Expanding the study of glassmaking by Abdurazakov A., Bezborodov M. in 1966, medieval glass in Central Asia was chemically analyzed. By this time, the number of scientists interested in the secrets of glassmaking and paying attention to scientific research has increased. The most influential journal of Uzbek archaeologists and historians, the History of Material Culture of Uzbekistan (IMKU in Russian), has also published a series of articles on glass.

In the 1960s, M. Amindjanova published the results of her research on Maverannahr glassware in the journal. The scientist later published articles on the study of glass and glass exhibits in large museums in Uzbekistan. The glass exhibits of mediaeval Central Asia, which adorn the famous Hermitage Museum, were also in her research. From the 1980s, the study of glassware and utensils was revived. The publication of a number of scientific articles in the Journal of the History of Material Culture of Uzbekistan, a key partner of the researchers, has accelerated.

In the 16th issue of the journal, A. Abdurazakov and K. Abdullayev simultaneously announced their important scientific work. While A. Abdurazakov studied the chemical composition of bottles found in the mediaeval Sogdian monuments K. Abdullayev published information about the glass-making areas of Bukhara in the 10th-12th centuries.

In 1983, A. Abdurazakov published the results of scientific research on ancient and mediaeval glass products in Central Asia in the journal HMCU. After the independence of the Republic of Uzbekistan, significant work was done on the development of science and in-depth study of the history of our country. After glassmaking came to the focus of scientists, glass products found in different parts of the country have been scientifically studied. The Journal of the History of Material Culture of Uzbekistan began to be published in 3 languages: Uzbek, Russian and English.

In the 28th issue of the magazine in 1997, N. Almazova announced her research on glassware in the city of Kumushkent. One of the most important scientific works on our subject is the Old Termez artistic glass. K. Abdullaev studied in detail the artistic glass and glassware found during the excavations in the territory of Old Termez.

The use of glass for various purposes, especially in the Middle Ages, shows that glass played an important role in ensuring the beauty and quality of ceramics. The technology of making glaze from glass, the methods of painting glass in different colours are well demonstrated in Boliyev's work. Uzbekistan has established scientific cooperation with neighbouring and historically close countries. As a result, the number of innovations and investigations in science is growing. Conditions have been created for the compilation of glass in a scientific book.

In 2011, on the basis of Sh. Mustafayev's project, a two-volume collection "Artistic culture of Central Asia and Azerbaijan in the 9th-15th centuries" was published. The fact that the second volume of the collection is called "Glass" proves the importance of glassmaking. In the collection D. Mirzaakhmedov writes about the history of Uzbek glassmaking from the earliest times to the 15th century. The collection also provides us with information on glassmaking in Kazakhstan, Tajikistan, Turkmenistan and Azerbaijan. This collection highlights the benefits of collaboration in science.

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