

Otrar
Отрар

Central Asian Regional Training Course

**CONSERVATION AND MANAGEMENT OF
ARCHAEOLOGICAL AND EARTHEN
STRUCTURES AND SITES**

Otrar/Turkestan, Kazakhstan
23 August – 1 September 2004



RWTHacdc
Aachen Center for Documentation and Conservation

UNESCO
Division of Cultural Heritage,
UNESCO Almaty Cluster Office,
Aachen University (Germany),
UNESCO Japan Funds-in-Trust,
Ministry of Culture, Kazakhstan



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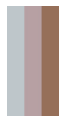
**КОНСЕРВАЦИЯ И МЕНЕДЖМЕНТ
АРХЕОЛОГИЧЕСКИХ И СЫРЦОВЫХ
ПАМЯТНИКОВ**

**Отрар/Туркестан, Казахстан
23 августа – 1 сентября 2004 г.**



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Opening Message

by Koïchiro Matsuura, Director-General

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

In recent years UNESCO has acquired a great deal of experience as the coordinator of the often complex operations involved in the safeguarding of Central Asia's rich cultural heritage, and the Central Asian Regional Training Course starting today is an essential step towards establishing the planned institutional framework for reinforcing regional and international co-operation in this field. Operations of this sort have brought into play many different public and private sector partners, and demonstrated the centrality of heritage in intercultural dialogue and the protection and promotion of cultural diversity. UNESCO's strategy in this domain has been to help re-establish linkages between present day populations and their cultural history and endeavour to build up a sense of shared ownership of, and responsibility for, tangible and intangible heritage, whereby different parts of a society can find common ground.

One example of our work in this area is the ongoing conservation of the ancient city of Otrar, one of the most famous and extensive earth monuments in Central Asia. Large-scale archaeological excavations carried out at this site for more than 30 years have revealed the remains of a spectacular earthen town, including structures from different religions, such as mosques and temples, as well as bathhouses, workshops, residential quarters, and defensive walls. However, these structures, which were excavated some 30 years ago, have in many cases already collapsed, and those excavated more recently are quickly deteriorating.

Thanks to the generous contribution of the Japanese Government, which began in 2001, the primary goal of the UNESCO/Japanese Funds-in-Trust Project for the Conservation of Otrar has been to conserve the

city's ancient structures so as to preserve them for future generations. Activities carried out under the project include documentation and research, conservation and preservation of the most important structures, training, and the drawing up of a master plan for the site's conservation.

Over the past four years of the project, an interdisciplinary team of international experts working hand in hand with their Kazakh counterparts have introduced conservation methods, involving applied research and advanced computer-based documentation. This has resulted in the transfer to the host country of scientific knowledge and modern and up-to-date conservation techniques and practices, and you will have the opportunity to hear more about these techniques and practices during the workshop this week.

Central Asian heritage is a living testimony to thousands of years of history, and reflects the contributions of different peoples, cultures and beliefs. The present population of the Central Asian countries is a mosaic of these diverse influences, and that very diversity contributes to a deep-rooted identity made up of countless different parts.

In order to fulfil the important task of assisting Central Asia in safeguarding and rehabilitating its cultural heritage, UNESCO will continue to work closely with its Member States in the region to ensure that the best international conservation standards are employed for the rehabilitation of

Central Asian heritage. It is our common objective to assist the peoples of Central Asia in these endeavours.

Permit me to extend my sincere thanks to Aachen University, which collaborated closely with UNESCO in the organization of this workshop. I would also like to thank the Kazakh Minister of Culture, Mr Dussen Kasseinov, and his staff, as well as the State Institute for Scientific Research and Planning on Monuments of Material Culture (NIPI), the Margalen Institute of Archaeology, and the Otrar State Archaeological Reserve-Museum for their unstinting support for the workshop and, more generally, for UNESCO's activities in Kazakhstan.

A handwritten signature in black ink, appearing to read 'K. Matsuura', with a horizontal line above the first part of the name.

Koichiro Matsuura



Opening Message

by D. Kaseinov

The Minister of Culture of the Republic of Kazakhstan

Dear participants of the regional training course!

The Ministry of Culture of the Republic of Kazakhstan warmly greets you, participants of the regional training course, devoted to the problems of the conservation and management of the archeological and earthen structures and sites and conducted by the UNESCO Division of Cultural Heritage in cooperation with the UNESCO Almaty Cluster Office and Aachen University (Germany).

The organization of such a training course, in which it is possible to exchange knowledge and skills in the conservation and management of the archeological and earthen structures and sites corresponds to the spirit and content of the State Programme "Cultural Heritage"; the initiator of this project is the President of the Republic of Kazakhstan Nursultan Abishevich Nazarbaev.

The participation of professional conservators, archeologists, architects from Central Asia and international ICOMOS experts in this training course allows us to discuss a range of scientific and technical questions that arose during the implementation of the Otrar project, and that are typical for many cultural heritage sites of the region of Central Asia.

I hope that the results of this training course will give an important direction for your further work in the field of conservation and use of the richest historical-cultural heritage of Central Asian countries.

We wish you effective work and great success!

D. Kaseinov



Introductory text on Otrar

History of Otrar

Near the place where Arys River flows into the Syrdarya lies the ruins of a town, the memory of which has survived throughout the ages. Despite many changes, it still retains its original name—Otrar. The town has become famous as the place where Abu Nasr Al-Farabi, the great philosopher of the Middle Ages, was born. Otrar, which was renamed Farab in the Middle Ages, was the capital of the Otrar-Farab district. From the west, the district extended to the Kyzylkum desert, spread out between the Syrdarya and Amudarya rivers. Syrdarya played a special role in the life of Otrar and the whole region and its waters were used for irrigation. They were also known for being abundant with fish and its shores were covered with rich vegetation and were also home to many birds and animals. Otrar is mentioned in numerous sources such as, medieval Arab, Persian and Turkish authors. These sources refer to it as one of the Semirechye [seven rivers] towns. The town was situated at the junction of different geographical landscapes and was at the intersection of the caravan ways of the Great Silk Road. Otrar, being at the junction of the two great rivers was the center of the large agricultural region and being near the foothills of the Karatau mountains became one of the supporting fortresses of the nomads wandering in the steppes. From Otrar, along the Arys, roads spread out to Taraz, Balasagun and further on to East Turkestan; along the Syrdarya an old road went up to Shash, Sogd and then to Merv and Nishapur and another road went down to Pre-Aral and Ural. Another well known road ran through Kyzylkum moving westward to Khorezm and onto the Volga region, the Black Sea and the Caucasus.

The oasis of Otrar is situated in the Kusulkum district of the Southern Kazakhstan Region. It is 170 km. north west of Chimkent and 60 km. from Turkestan. „It is very difficult to find a place more profitable and more dangerous than this in Middle Asia“. In fact, the disasters and wars that passed over the town have done their part. Now, at the site of the once-prosperous town, there remain only ruins overgrown with grass. A man who first comes to the Otrar Oasis is often surprised by the appearance of the numerous stark ruins of towns and settlements, castles and watchtowers. The main irrigation channels are now crossed with dried fields and their cracked beds have not held water for centuries.

The oasis of Otrar is not one single site, but rather it is a large oasis containing a series of towns and cities. Each hill formed in the place of ancient settlements has, at present its own name: Altyn-tobe, Dzhalpak-tobe, Kuyuk-Mardan-tobe and Pchakchi tobe. In earlier times, they had different names that are now forgotten and only the names of the three towns known in manuscript sources may be identified at the present ruins.

In the Ninth to the Tenth centuries, various sources refer to Otrar as one of the Ispidjab towns. This is probably related to the fact that the city first submitted to the Caliphate and then to the Samanids. As before, Otrar remained the center of the district which occupied a space of „about one day’s journey in all directions“, which is many times mentioned by the chroniclers. The town is also known to have minted its own coinage. The prosperity of Otrar was interrupted by the Mongol invasion. In 1218 Chingizkhan sent to Otrar, and the Khoresmskh Mohammed’ court, a trade

caravan that was robbed upon arrival which was ordered by Mohammed to Inalchik Kair-khan, the governor of the town. He thought apparent spies were secreted in the caravan. Through his envoy, Chingizkhan ordered that the guilty men be punished and that they give him Kair-khan. However, the khoesmskhakhs ordered his people to execute the Mongol.

There are records that portray the determination of earlier names of the town. It is thought that a group of coins collected in Otrar and some towns of the oasis date back to the time of these records. There is a generic symbol of the Turgeshi in the form of a bow on the face-side of such coins and the image of a lion on the reverse side. On a second type of coin, there is the sign X on the reverse side and these coins may originate from the mint of a local ruler. There is a suggestion that the coins of the second-type were minted by rulers of the Turkish State of Kangu Tarban, the population of which were the Kangars, descendants of the ancient Kangui who founded the State with its center on the Syrdarya then called Kang River. Kangui existed from the First century B.C. until the Fifth century A.D. First, Bityan town was the capital and later Kangui collapsed into several independent states mainly situated in the Syrdarya valley and its inflows of Keles and Atysi. According to the coins, in the Sixth to Eighth centuries, Kangu Tarban was ruled by a local dynasty of the Kangar Turks, and their capital became a Tarban town named Turarband that was later to be called Otrar. Since the times of the golden hordes, the ruins of Otrar have been attractive because of rumours about the treasures of the ancient rulers, and about buried piles of gold coins and jewelry. The source of such legends was perhaps confirmed by the archaeological finds of various coins and jewelry.

In autumn 1219, Chingizkhan's troops approached Otrar walls. Shortly before, the Mongols appeared in Urgench, the capital of the khoesmskhakhs, where a war council had taken place and where one of the commanders proposed to open the battle against the Mongols. But Mohammed chose another way. He dispersed his troops by garrisons throughout the towns allowing the commanders to fight singly. The sources describe the defense of Otrar as follows: „...Before the Mongols came to Otrar town they had put marquees around the town. Sultan gave Kair-Khan fifty thousand people from the frontier troops and sent Karach Khodzhib to help him with more than ten thousand people. The citadel was fortified and a lot of weapons were collected for the troops. Kair-Khan made all the preparations to fight inside

the town by placing the infantry and cavalry near the gates. He then ascended the wall and when he looked forward he bit his tongue because of his surprise by what he saw. As far as he could see the plain was full of a seething crowd and splendid troops while the air was full of shouting and noise made by the neighing of armored horses and the howling of chain-armored mules. The army settled itself around the fortress...”

Despite a heroic defense of the city, its fate was sealed. The town was destroyed and its population was massacred and partially enslaved. Many of the towns in the oasis never recovered and were abandoned. However, Otrar city rose again and during the troubled years of civil wars, which followed Chingizkhan's death, the town again became an important political and economic center. By the middle of the Thirteenth century it had returned as a large trade center on the way from the West to the East. During the second half of the Fourteenth century Southern Kazakhstan was brought into the sphere of Timur Leng's power. In February 1405, when Timur was visiting Otrar to gather his troops, he caught a cold and died in one of the Otrar palaces.

The death of Timur led to more struggles, which resulted in Abul Khayir conquering several tribes and placing himself at the head of a new Uzbek Khanate. Other descendants of Ghengis Khan had claims over the area, and so for most of the 16th and 17th centuries there was non stop feuding amongst these various parties for power over the Kazakh step and the Syr Darya valley, especially between the Kazakh Khanate and Jungar feudal lords. Even so, a degree of stability was maintained in Otrar up until the Dzungars arrived in Kazakhstan.

These followed a prolonged period of revolt, which resulted in the economic decline of the area and its towns. As the Eurasian arm of the Silk Road gradually lost its importance, so did the city. Through the 17th and 18th centuries, the irrigation system slowly fell out of use, and the lower part of the Temir-aryk dried out.

By the end of the 18th century there were only 40 families remaining in Otrar, compared to perhaps 5000 – 7000 in the 14th - 17th centuries, and the irrigated area had declined to about 500 hectares.

Research & Archaeology at Otrar

The ruins of Otrar have always attracted the attention of researchers. In 1903 the first topographical plan of the site was completed. In 1904, A.K. Klare and A.A. Cherkassov, members of the Turkestan Society of Archeologists, were the first to carry out archeological excavations. At that time, Otrar was ignored by researchers for a long period, and only in the 1940's did an archeological expedition, headed by Professor A.N. Bernstam, carry out some reconnaissance work.

In 1969 an Otrar archeological expedition was organized and since 1971 it has been referred to as the South Kazakhstan Complex Expedition of the Academy of Science of the KazSSR. Since then, Otrartobe has become one of the main sites to be investigated by Kazakhstan's archeologists. Otrar has all the typical features of medieval Central-Asian Silk Road towns: A citadel, shakhristan (the central town itself), rabat (suburbs) and adjoining fields, everything being surrounded by walls.

Excavations have revealed several monumental buildings of the town such as mosques, bathhouses, town blocks, workshops and defensive walls. These discoveries by archeologists both at Otrar and at the Kuiruktobe, Altynrobe, Pshakshi-tobe and Mardan-kuik oasis towns require preservation and the creation of museums and finally an archaeological park.

UNESCO/Japan Trust Fund Project

Recognizing the importance of the great cultural heritage sites in the Silk Roads region, the Japanese Government deposited into the UNESCO a fund specifically for that purpose, entitled "The Japanese Trust Fund for the Preservation of the World Cultural Heritage", thereby confirming its determination to support the joint efforts of UNESCO and all countries concerned.

The purpose of the Fund is to preserve tangible cultural heritage such as historic monuments and archaeological remains of great value. The Fund finances those activities which comply with this objective, such as the restoration and preservation work and the necessary preliminary or general studies and surveys for this purpose. As the training of national specialists constitutes a major part of such cooperation, each project shall include activities for training in the relevant fields.

In August 2001, an agreement for the preservation

and restoration of the ancient city of Otrar was signed between the Government of the Republic of Kazakhstan and UNESCO, including financial support in the amount of US\$ 829,703 through the UNESCO/Japanese Trust Fund. The Government of Kazakhstan provides generous support through contributions in kind, national experts and site personnel and the on-going management and maintenance of the site. The project is managed by the Division of Cultural Heritage of UNESCO in close collaboration with the UNESCO Almaty Office.

Within the framework of Project, long-term conservation of the major excavated structures at Otrar Tobe, and emergency conservation activities at Kuyruk Tobe, Altyn Tobe and Kok Mardan. More precisely, five major activities are being undertaken for the preservation and restoration of Otrar Tobe:

(A) Documentation and Research: Carry out state of the art recording and documentation and set up a computer-based scientific documentation system;

(B) Conservation : Ensure the preservation of the Otrar Tobe archaeological site and its protection for present and future generations, as well as emergency safeguarding actions at Kuyruk Tobe, Altyn Tobe and Kok Mardan;

(C) Master Plan: Draw up a Master plan for the archaeological site of Otrar Tobe and its surrounding and for its conservation and maintenance;

(D) Training: Enhance national and regional capacity for the management, preservation and conservation of the cultural heritage through the provision of in-service training to national experts and craftsmen in conservation to international standards;

(E) Promotional Activities: Web site, publications, visitors leaflets and information boards, and a video film will all help make the site better known. To meet the technical problems for the preservation of the Otrar tobes, UNESCO brings together the best-qualified international and national experts. Work on the UNESCO / Japanese Trust Funds project for the Preservation and Restoration of Otrar Tobe began in spring 2001, concentrating on the cathedral mosque and palace in the citadel, and the bathhouse in the southern suburb area, a pottery-making complex in the southeast suburb area, and the Otrar fortress wall, as well as the palace complex at the neighbouring ancient town of Kuyruk Tobe.

Conservation and Survey

Recent developments in the conservation of the Oasis have been supported by the State program „On the Restoration of the Silk Road's Historical Centers, Preservation and Successive Development of Cultural Heritage of the Turkic Countries and Creation of Tourism Infrastructure“ approved by the President of Kazakhstan as of February 27th, 1997.

Work on the UNESCO/JFT project started in the spring 2001. The cathedral mosque and palace on the Otrar citadel, the bathhouse in the area of the south rabat, a pottery complex in the southeast part of the rabat, the site of the Otrar fortress wall and the palace complex of Eighth to Ninth centuries in Kuiruktobe have been chosen to be high-priority conservation windows.

Preservation of the mud-brick and earth-structure towns of Otrar oasis poses a very special technical problem. One is the severity of the climate, reaching a high of 40oC in the summer and a low of -20oC in the winter. The arid climate is also broken in the winter with considerable snow, rain and wind which can last until the spring. This means that erosion occurs very quickly, and that techniques for mud-structure preservation, which are successful elsewhere in the region, have not been successful here.

In April 2002 a Test House and laboratory was completed at the site, built in traditional Otrar style made of mud brick with a thatched roof. This is now the home of the international and national experts as they work on the site, allowing laboratory experiments and conservation activities to be carried out in situ.

Management Plan

Beyond the present project's termination in 2004, the site's permanent management, preservation and maintenance beyond this date is also essential. To this end, a comprehensive management plan is being developed for the site, including the development of sustainable tourism for the ever-growing number of visitors to the site. This will include visitors' paths, an information center, explanation sign boards and visitor leaflets, proper facilities, and proper fencing and protection of the site to protect it from unauthorized visitors and illegal archaeological digs.



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Program

SUNDAY 22 AUGUST.....ARRIVAL OF PARTICIPANTS IN ALMATY AND DEPARTURE TO TURKESTAN
 18:13 Departure by train to Shimkent (Station Almaty 2)

MONDAY 23 AUGUST.....ARRIVAL OF PARTICIPANTS IN SHIMKENT AND TURKESTAN

08:05 Arrival in Shimkent, departure to Turkestan by bus
 11:00 Arrival in Turkestan, accommodation
 13:00-14:00 Lunch
 14:00-16:30 Visit of Khoja Ahmed Yasawi Mausoleum
 17:00 Registration of participants
 18:30 Reception
 19:30 Dinner

TUESDAY 24 AUGUST.....OPENING SESSION

09:00-10:30 Welcome by Kazakh authorities
 Message and opening remarks from UNESCO
 Message from ICOMOS
 09:30-10:00 Coffee break
 10:00-12:30 Participants' Presentation
 12:30-14:00 Lunch
 afternoon **EXCURSION**

WEDNESDAY 25 AUGUST.....LECTURES – SECTION I: PRINCIPLES OF CONSERVATION

09:00-10:30 Section I: Principles of Conservation
 10:30-11:00 Coffee break
 11:00-12:30 Section I: Principles of Conservation (continued)
 12:30-14:00 Lunch

afternoon **LECTURES – SECTION II: METHODS OF CONSERVATION**

14:00-15:30 Section II: Methods of Conservation
 15:30-16:00 Coffee break
 16:00-18:30 Section II: Methods of Conservation (continued)

THURSDAY 26 AUGUST.....LECTURES - SECTION III: PRINCIPLES OF MANAGEMENT

09:00-10:30 Section III: Principles of Management
 10:30-11:00 Coffee break
 11:00-12:30 Section III: Principles of Management (continued)
 12:30-14:00 Lunch

afternoon **LECTURES – SECTION IV: METHODS OF MANAGEMENT**

14:00-15:30 Section IV: Methods of Management
 15:30-16:00 Coffee break
 16:00-18:30 Section IV: Methods of Management (continued)

FRIDAY 27 AUGUST.....OTRAR FIELD WORK

09:00-12:00 Group 1. Site visit
 Group 2. Conservation
 Group 3. Archaeology
 13:00-14:00 Lunch at Shaulder
 14:00-17:00 Group 1. Management
 Group 2. Laboratory
 Group 3. Documentation

SATURDAY 28 AUGUST.....OTRAR FIELD WORK

09:00-12:00 Group 1. Conservation
Group 2. Archaeology
Group 3. Site visit
13:00-14:00 Lunch at Shaulder
14:00-17:00 Group 1. Laboratory
Group 2. Documentation
Group 3. Management

SUNDAY 29 AUGUST.....OTRAR FIELD WORK

09:00-12:00 Group 1. Archaeology
Group 2. Site visit
Group 3. Conservation
13:00-14:00 Lunch at Shaulder
14:00-17:00 Group 1. Documentation
Group 2. Management
Group 3. Laboratory

MONDAY 30 AUGUST.....EXCURSIONS (CONTINUED)

(Kazakh Constitution Day)
09:00-12:00 Kuiruk-tobe, Altyn-tobe, Kuyuk-Mardan-tobe
13:00-14:00 Lunch at Shaulder
14:00-17:00 Otrar Museum, Syr-Darya River

TUESDAY 31 AUGUST.....FINAL SESSION

09:00-11:00 Discussion, winding up
11:00-11:30 Coffee break
11:30-12:30 Conclusions and recommendations
12:30-13:30 Lunch
afternoon DEPARTURE OF PARTICIPANTS
14:00 Departure by bus to Shimkent
17:15 Departure by train to Almaty

WEDNESDAY 1 SEPTEMBER.....DEPARTURE OF PARTICIPANTS

08:40 Arrival to Almaty (Station Almaty 2)



UNESCO Conventions, Recommendations and Declarations concerning the Protection of the Cultural Heritage

by Roland LIN Chih-Hung

According to the UNESCO Constitution, the preservation and promotion of cultural heritage, both tangible and intangible, attempts to reflect universal human rights collectively and individually. It is also an area to which human, social, cultural and economic development is closely related. In addition, the cultural heritage, which is a non-renewable source of information, nourishes the spirit through identity and creativity. It facilitates inter-cultural exchange and dialogue, as well as mutual respect.

The cultural heritage consists of the essence of human life, both past and present and in its tangible and intangible forms. It includes monuments, archaeological sites, objects, written and oral records, the arts, groups of buildings, settlements, cultural landscapes and the environment. The concept of cultural heritage is now a very broad

one, including cultural diversity, development, conservation and large-scale reflection. It goes without saying that the cultural heritage represents a rich accumulation of cultural and economic values over a long time span, and the preservation of the cultural heritage can make an outstanding contribution to the maintenance and development of the cultural and the social values of each nation and of the world as a whole.

In order to ensure the effective preservation and promotion of the cultural heritage, a number of International Conventions and Resolutions (legally binding) and Recommendations and Declarations (non-binding) have been adopted by the General Conference of UNESCO. Five Conventions, eleven Recommendations and two Declarations are directly relevant:

UNESCO CONVENTIONS directly relevant to Cultural Heritage Preservation:

1. Convention for the Safeguarding of the Intangible Cultural Heritage, Paris, 17 October 2003
2. Convention on the Protection of the Underwater Cultural Heritage, Paris, 2 November 2001
3. Convention for the Protection of the World Cultural and Natural Heritage, Paris, 16 November 1972
4. Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, Paris, 14 November 1970
5. Convention on the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention, The Hague, 14 May 1954

First Protocol , The Hague 14 May 1954

Second Protocol , The Hague, 26 March 1999

For more information, please visit:

http://portal.unesco.org/en/ev.php-URL_ID=12025&URL_DO=DO_TOPIC&URL_SECTION=-471.html

UNESCO RECOMMENDATIONS directly relevant to Cultural Heritage Preservation:

1. Recommendation on the Safeguarding of Traditional Culture and Folklore, 15 November 1989
2. Recommendation for the Safeguarding and Preservation of Moving Images, 27 October 1980
3. Recommendation for the Protection of Movable Cultural Property, 28 November 1978
4. Recommendation concerning the International Exchange of Cultural Property, 26 November 1976
5. Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas, 26 November 1976
6. Recommendation concerning the Protection, at National Level, of the Cultural and Natural Heritage, 16 November 1972
7. Recommendation concerning the Preservation of Cultural Property Endangered by Public or Private works, 19 November 1968
8. Recommendation on the Means of Prohibiting and Preventing the Illicit Export, Import and Transfer of Ownership of Cultural Property, 19 November 1964
9. Recommendation concerning the Safeguarding of Beauty and Character of Landscapes and Sites, 11 December 1962
10. Recommendation concerning the Most Effective Means of Rendering Museums Accessible to Everyone, 14 December 1960
11. Recommendation on International Principles Applicable to Archaeological Excavations, 5 December 1956

For more information, please visit:

http://portal.unesco.org/en/ev.php-URL_ID=12026&URL_DO=DO_TOPIC&URL_SECTION=-471.html

UNESCO DECLARATIONS directly relevant to Cultural Heritage Preservation:

1. UNESCO Declaration concerning the Intentional Destruction of Cultural Heritage, 17 October 2003
2. Charter on the Preservation of Digital Heritage, 15 October 2003

For more information, please visit:

http://portal.unesco.org/en/ev.php-URL_ID=12027&URL_DO=DO_TOPIC&URL_SECTION=-471.html



ICOMOS Charters and Declarations for Cultural Heritage Preservation

by Michael Petzet

According to the statutes one of the essential aims of ICOMOS is to “encourage the adoption and implementation of international recommendations concerning monuments, groups of buildings and sites”. The Venice Charter, the International Charter for the Conservation and Restoration of Monuments and Sites (1964), was also the birth certificate of ICOMOS because the resolution to found an International Council of Monuments and

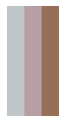
Sites was adopted in Venice at the same time as the Charter. This Charter, to which in later years other Charters and Principles adopted by the General Assemblies of ICOMOS have referred, is today in some respects a historical document typical of the time of its creation and needs to be newly interpreted time and again. However, it is and remains an irreplaceable instrument for our work on the international level.

My introduction to the international charters for conservation and restoration will be dealing with:

- principles of conservation, restoration, renovation and replacement
- principles of maintenance, repair and stabilisation, rehabilitation and modernisation, reconstruction and relocation
- principles for the preservation of archaeological heritage, historic areas (ensembles) and other categories of monuments and sites.

Together with the Venice Charter the following charters and principles will be presented:

- Historic Gardens - The Florence Charter (1981)
- Charter for the Conservation of Historic Towns and Urban Areas - The Washington Charter (1987)
- Charter for the Protection and Management of the Archaeological Heritage (1990)
- The Nara Document on Authenticity (1994)
- Principles for the Recording of Monuments, Groups of Buildings and Sites (1996)
- International Cultural Tourism Charter (1999)
- Charter on the Built Vernacular Heritage (1999)
- Principles for the Preservation of Historic Timber Structures (1999)
- Principles for the Preservation and Conservation/Restoration of Wall Paintings (2003)
- Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage (2003).



Ethics and Principles in Conservation

by Michael Jansen

The term 'Conservation' derives from the Latin word 'conservare', to keep, to 'conserve'

In today's experts English language there exist further terms like 'preservation', 'restoration', rehabilitation, redevelopment, anastylosis.

Historically speaking, 'conservation' originates from the post Napoleon- European National movements when the countries like Britain, France, Germany, Russia etc. were searching for their national identity which in the 18th century had been mostly lost.

With the emphasis to protect 'monuments' (lat.: monumentum: memorial, to remember) the European countries tried to find the way back to their 'roots', an attempt which, in some cases resulted in 'nationalistic' trends. Within this trend the 'gothic' architecture was seen as 'national' by the Germans, French and British, resulting in the Gothic Revival architecture e.g. Pugin's Neo-gothic Parliament building with the famous Big Ben Tower, built only in the late 80s of the 19th century.

Thus historic architecture and monuments became part of individual national identities.

With the 'international' (non historic?) architecture of the German Bauhaus the eclectic and historic architecture of the late 19th finally was overcome. Only with Hitler's nationalistic architecture programmes this movement in Germany was stopped but continued primarily in the New World.

During World War II another gigantic destruction

of precious historic architecture took place. As a result of World War II, the United Nations were formed to defeat the Nazis and after the end of the War UNESCO as branch of UN was established to help re-build and re-structure the suffering nations. With the founding of ICOM, ICOMOS and ICCROM, the strategy for a world-wide programme for cultural activities was given, emphasised by UN Charter of the Hague, the Charter of Venice (1964), Washington (1987) and Lausanne (1989) to name but a few.

Most successful was in 1972 the introduction of the World Heritage Programme through the World Heritage Convention..

With this programme finally the purely national or nationalistic approach towards conservation of monuments was overcome.

Today more than 600 historic and natural sites have been registered and protected, belonging not only to one nation but to the world.

The history of conservation

One may classify the historic development of conservation in Europe as follows:

'Stylistic restoration' (1830-1870) represented e.g. by Violet le Duc

'Romantic Restoration' (1819-1900) represented e.g. by John Ruskin

'Historical Restoration' (1880-90) represented e.g. by Lucca Beltrami

'Scientific Restoration' (1932) represented by e.g. Giovanoni

'Critical Restoration' (1949) represented e.g. by Benevolo, Insolera

1883 Camillo Boito already postulated:

Monuments have value not only for architectural study. At first there is evidence of history of people and nations

Monuments should be strengthened rather than repaired, repaired rather than restored and additions and renovations should be avoided.

If additions are necessary, they should be executed on the basis of certain data and with different characteristics and materials, while maintaining the current appearance of the building.

Additions made at various times must be considered part of the monument and maintained, except when they cause concealment or alterations.

These postulations became 1931, 50 years later, part of the famous programme of the Charter of Athens and are in principle valid till today.

Selected Bibliography:

Dehio, G. 1924

Denkmalschutz und Denkmalpflege im neunzehnten Jahrhundert. Festschrift an der Kaiser-Wilhelms-Universität zu Straßburg, 27. Januar 1905. In: Kunsthistorische Aufsätze, München 1924:268ff

Charter of Venice, 1964

International Congress of the Architects and Technicians of Historic Monuments, Venice, 31.05. 1964

Gazzola, P. 1975

The Past in the Future. Rome

ICCROM 2004

Newsletter 30, June 2004

Jokilehto, J. 1999

A History of Architectural Conservation. Oxford

Petzet, M. 1992

Principles of Monument Conservation. ICOMOS. Journals of the German national Committee X, Munich



'Earth on Earth'

A description of some of the international typologies of unfired earth structures

by John Hurd

In the region of 35% of all residential, religious and work structures in the world are made of earth or depend upon earth for structural cohesion through the use of earth as a mortar. As many as 50% of historic buildings in the world, have plasters made entirely or partly of earth. Earth is still the most common building material on Earth.

'Earth' may have a broad mineralogical composition. Clays, silts, sands and aggregates are the main ingredients and this can be further reinforced with binders, usually organics such as straw, muck or husk, and occasionally with chemical admixtures, commonly limes, but also much more subtle substances such as sugars, vegetable starch gels and saponins.

There are an enormous range of construction techniques in earth, but these largely fall into five main categories.

1. Direct Monolithic construction.

Generally known as 'Cob' construction, earth is mixed, piled and directly cut into shape. This form of construction is usually achieved in lifts, the height of which will depend on the lift capabilities of the mixture, normally between half and two meters in height. Once a lift is dried to some extent, another lift is built above. Cob is common in Western Europe but also occurs in China and in Russia. It is often a material used to throw up ramparts in times of siege and war, across the world and can be very difficult to recognise archaeologically. It is still used for Building in England and Ireland.

2. Shuttered Monolithic construction.

Generally known as Pise de la Terre. Here earth is raised in lifts formed by ramming the mixed material into shuttering.

The technique has been found in many quarters of the world. In central Asia it is used for platforms and walls. Over one and a half thousand Kilometers of the Great Wall of China is Pise. It is very common for the great Kasbahs of North Africa, as defensive walls in Peru and is often used as a technique in modern building due to its very efficient load-bearing qualities.

The largest earth building in the world, the Potala Palace in Lhasa, is a composite structure of stone, Pise and earth block work.

3. Block work construction.

One of the drawbacks of earth as a construction material is the variable shrinkage characteristic of clay, silt and sand mixtures. This can be overcome by the use of preformed and pre-dried block work. This is commonly known as Adobe construction and is perhaps the most frequently used form of earth construction in the world.

Block work is sometimes not achieved with mixed material, but may be made with directly dug turfs. These turfs will be laid without the removal of the dried vegetation present, which, will act as a binder between the courses.

Although composite construction is found in the Central Asian context, block work is the most commonly found technique. While there is no continuing tradition of building 'original' local styles

of houses in Northern Kyrgyzstan and Southern Kazakhstan, there are striking resemblances in ancient and modern construction technique.

The 'false' large blocks of the Christian complex at Ak Beshim are still formed in the Chuy valley today.

Further east in Issy Kul, the necropoli show a rare survival of pre Russian traditions.

These wonderful cities of the dead may well reflect an earlier building tradition, and the general form may be found in larger courtyard structures in Pakistan and Afghanistan,

Block work may be thought of as always made in a mould, but it is not. Hand formed blocks, both rectilinear and rounded, occur all over the world.

The magnificent cities of S'anna and Shibam in Yemen are built in hand formed adobes.

The form is truly international, with examples in the Americas, across Europe and all of Asia, and of course in Africa, where the beautiful buildings of the Dogon people in Mali, and the wonderful Friday mosque at Mopti also in Mali, are of hand moulded adobe and moulded adobe types. The Arabian Peninsula, Iraq, Iran, Afghanistan and the subcontinent of India all show individual expressions of block work.

4. Earth daubed armature construction.

In this case, a structural or semi structural armature is constructed, normally from wood, but also consisting plaited branches, bamboos or even plaited straw and this armature is then daubed with earth to a varying thickness. These techniques range all over Europe and Russia, India, especially the Terai and China where they were very common especially in the South.

Earth construction on an armature may be the earliest form of construction, where cold has literally forced people to daub earth on to tents and yurt type dwellings, and may also have been a factor in the settlement of early human groups.

5. Dugout construction.

This may be sub-terranean construction, simply forming a pit or trench and then digging out rooms and chambers. However, hills, mountains and cliffs, formed of loosely bound minerals and soft claystones may be directly dugout to form a complex of chambers and corridors. Complex

vaulte earth block subterranean construction has been found on the Chinese side of the Silk roads, and occasional structures found in Kazakhstan seem to the author to be of similar type.

Mortars.

When earth is used as a mortar, there are two principal methods employed.

1. 'Normal' wet mortars.

These act as a standard mortar, but take many forms especially in finish from projecting 'ribbon' points, flush, rebated or hidden types.

2. Poured earth reinforcement and grouting.

Earth mortars are occasionally poured in a more liquid state into central voids between leaves of block or brickwork.

Roof coverings.

Roof coverings are often mud, laid on a wooden or reed support. These can be of between 1-3 coats and where multiple coats are used, the surface will frequently contain active chemical admixtures, especially saponins, as fairly crude organic proteins treated in an alkaline environment.

Floor coverings.

Floor coverings are normally applied in 1-2 coat systems, but may have ritual daubs of clays with a variety of admixtures including sands, ashes, organic binders and chemically active admixtures.

Plasters.

Plasters take many forms to numberable to examine here. Several examples will be shown.



Field and Laboratory Assessment of Mud Mortars of the Later Mosque and Palace Area, Otrar Tobe, Kazakhstan

by Enrico Fodde

The paper provides a description of the method employed for the selection of repair material for the conservation of the Later Mosque (XV-XVI C) and Palace Area (XIV C) of Otrar Tobe, an archeological site located in a loess clay area in south-west Kazakhstan at the confluence of Syr Darya and Arys rivers.

Archaeological spoil heaps were considered as sources of repair material. After empirical tests were carried out, more sophisticated laboratory analysis was undertaken for selecting the best-performing heap to be used as repair medium. The site and its standing structures are characteristically rich in soluble salts and this heavily influenced the selection of repair materials. This paper focuses on conservation activities, laboratory analysis, repairing of earthen mortars, capping techniques, drainage system, management, and presentation to the public.

The authentication work of the masses was carried out with the help of proformas. This essential tool was accompanied by sketching and bullet-point sheets to be used as a guide for the completion of proformas. The structure of the form is based on the following subjects: description of the object, examination of historic documents (photographs, archival material, etc.), previous interventions, summary of damage report (with reference to graphic material), diagnostic summary, intervention proposal, intervention action, recommendations for future monitoring and maintenance. The proformas were intensively used by the conservators until a final document was produced for every mass.

The main problem faced by the conservation team was that the stratigraphy of some of the masses

showed several authentication problems. It was therefore decided to take several samples of mortar so that after laboratory analysis was complete, the data would be employed as a useful tool for investigating building archaeology and construction campaigns of the masses under study.

The Tobe is scattered with several spoil heaps that are the result of four excavation campaigns between 1973 and 2000. The repair work at Otrar was preceded by the sampling and by the analysis of spoil heaps that were selected because of their proximity to the excavated areas and because their removal and landscaping will be carried out anyhow in the next future.

Specimens were collected in the middle portions of the heaps at a minimum depth of one metre. Samples were then sieved (two millimetres) and the retained archaeological inclusions stored for future analysis. A minimum size of ten cubic centimeters was considered sufficient for every sample.

A preliminary session on empirical testing was undertaken in order to have comparable results. Evaluation was carried out only after completion of tests and the main concern was that the repair medium should be weaker than the historic material so as to guarantee the philosophical need for sacrificiality of repair interventions. Sedimentation tests were undertaken by visual analysis only, as loess clay can be deceptive and separation layers between particles of different sizes are not clearly identifiable. A simple assessment method was therefore preferred and comparisons were made between the historic samples and the samples collected in the spoil heaps. Other empirical tests include: wet-dry colour, smelling, dry strength, dry

impact, hand texture, luster, adhesion, tapping, cigar, ribbon, efflorescence, and shrinkage. The most striking result of the empirical testing session was the excellent behaviour of the historic samples to the majority of tests.

Collection of historic samples was carried out by considering the different phases of construction of the structures. The overall number of samples of historic material was that to be representative of the structure under examination. Samples were collected by choosing typical, extreme, and marginal cases:

- i. Typical cases. It is about exploring structures which, according to previous information, seem to be the best expression of the ideal type of that category;
- ii. Extreme cases. The advantage of employing extreme cases is that they can give an idea of the limits between which variables can operate;
- iii. Marginal cases. This is about finding atypical or anomalous cases in order to, in contrast, know the parameters of normal cases and the possibilities of causes of deviation.

In order to allow repeatability by future conservators, tests were meticulously described by defining their scopes, by explaining the methods in straight chronological order, and by explaining results and conclusions.

The size of available material of samples was such that the following experiments could be undertaken: soil colour, soluble salts content, carbonates content, grain size distribution, and Atterberg limits. Physical tests (erosion, shrinkage, wetting and drying, abrasion) were carried out only on the mud brick samples collected from the city wall.

Mortar repointing trials were undertaken with the best performing samples after empirical testing. Their wet and dry behaviour was monitored closely and the selection of the best performing mortar was carried out by studying adhesion, colour, presence of shrinkage cracks, and the behaviour to water spray.

The criteria through which the best performing sample was selected is based on how readily moisture is absorbed by the mortar and by the surrounding brick. If the brick absorbed more moisture than the mortar, the latter was rejected. Splashing tests were also carried out on the rendered samples in order to assess the most hydrophilic mix. Presence of shrinkage cracks (detachment cracks between mortar and brick, and cracking of the mortar itself) was also used as an assessment tool for mortars.

Experiments were undertaken with gypsum with

the aim of studying the most adequate mixes to use in repair. Gypsum was added to soil in varying proportions. After setting, specimens were analysed and compared in terms of water absorption and brittleness.

Similar experiments were undertaken with lime putty. The assessment of the quality of lime was achieved by visually analysing the reaction during slaking, whilst its employment as soil stabilizer was studied similarly to what done with gypsum.

The schemata adopted for the repair of the Palace Area and Later Mosque masses is the following (in volumetric units):

- i. *Mortar 1.* Repointing of middle and higher courses of historic brickwork: 20 soil (spoil heap F), 2.5 lime putty, 2.5 gypsum, 3 crushed fired brick;
- ii. *Mortar 2.* Repointing of lower joints and bedding of new fired brick: 10 soil (spoil heap F), 5 lime putty, 5 gypsum, 1 crushed fired brick;
- iii. *Mortar 3.* Repair of cracked brick: same as Mortar 1, but crushed brick units were trebled.

The conservation of the masses of the Palace Area and Later Mosque was regulated by ethical and philosophical questions and by interdisciplinary discussion within the conservation group. Consolidation work was preceded by the following activities: photographic documentation and damage report of masses, inspection before cleaning, selection and collection of samples of historic mortar and plaster to be analysed in the laboratory, brushing off all loose mortar, and removal of plants and weed.

Gentle brushing was achieved by using soft brushes and attention and care was taken in order to assess what was authentic and what not. This was possible by comparison of actual masses with the archival photographs. Only the bricks which obviously did not belong to the original wall mass were removed. Following these guidelines, the repair of the masses was therefore carried out as follows:

- i. Employment of the new mortars which are clearly legible once applied and dry. Such mortars are characterized by a low binder ratio which allows its sacrificiality towards the historic fired brick and not the opposite. All decayed joints were repointed at a depth of one centimeter from the brick surface;
- ii. It was considered to be ethical to use chips of brick in order to allow adequate repair interventions of loose bricks;
- iii. Masonry bee damage was repaired by wetting down the area and by inserting new mortar;

iv. Broken fired bricks were reassembled by employing a mortar that was especially designed for this kind of repair (mortar type 3). The mortar is rich in crushed brick so that to make the repair clearly legible by future generations as a modern intervention;

v. The first two joints from the bottom were not repointed as this could cause build up of water bridges;

vi. An important step in the consolidation of the Palace Area was the replacement of decayed fired brick and the repair of lacunae. It was noticed that comparatively to the masses of the Later Mosque and the Old Mosque, the masonry of the Palace Area is of poorer quality. Several masses were made structurally sound by reconstructing the missing parts with reused fired bricks. Old bricks were therefore recycled and, in order to allow legibility of the intervention, holes were drilled on two sides. These were then filled with a gypsum putty to which a blue pigment was added (following what already done for the conservation of the Later Mosque);

vii. The Palace Area showed evidence of several *sufas* and such elements were made more legible by adding a minimum number of courses of fired brick as a border. The inside of the *sufa* was covered with geotextile (Dupont Tyvar Style SF 32) on which sieved soil (spoil heap) was rammed until reaching the line of the fired brick border. *Sufas* were then provided with a finishing layer (5 cm) of mud and straw;

viii. Repair intervention was documented during the work.

Capping bricks were manufactured at the Ahmed Yasawy Mausoleum Workshop, Turkestan. They are easily identifiable as a new intervention and are provided with a stamp (UNESCO 2003). The loam used for their manufacture is a mix of different clays quarried in the region of Sauran (north of Turkestan).

Assessment of the behaviour of such brick to freeze and thaw attack was tested by undertaking 50 cycles. The result of the analysis was that the tested element did not show any symptom of decay and this allowed employment of the brick. This is a relevant finding as visual inspection revealed that the main agent of decay of the structures of the Tobe is represented by freeze and thaw (and this is particularly evident for top areas of wall masses).

Backfilling of rubbish pits was achieved by using geotextile as a separation layer between the archaeology and the backfilling material. The latter

was made of a mixture of soil (sieved spoil heap) and gravel that was wetted and rammed in. The excavated *tandyr*s were consolidated for the winter by backfilling with soil or straw so that to be properly conserved in the future.

The fragile nature of some of the structures and the harsh climate of the site influenced the designing of temporary devices for winter protection. Sheltering against freeze and thaw was the most important issue. It was felt that the disruptive action of such cycles is as high as rain erosion or soluble salts attack. Some monuments of the Tobe were revealed after cleaning and they will be conserved after having sheltered for the winter.

Both Later Mosque and Palace Area was affected by improper drainage and this was often visible after heavy precipitation. Consequently, a drainage plan was developed after taking readings with a water level. Drainage work was carried out as follows:

i. construction of a main channels with the purpose of diverting water towards a rubbish pit located in the west end of the corridor;

ii. drainage of individual rooms by channeling water towards central wells. Some rooms showed no need for drainage work because direct inspection revealed that absorption of rain water was uniform;

iii. drainage of areas between retaining walls and cliffs in order to divert water towards central wells.

Retaining walls were built with mud brick and mortar that were manufactured by employing the soil dug from spoil heap F. Capping of such walls was achieved by laying mud bricks of better quality. A sheet of geotextile was employed as a separation layer between the retaining walls and the archaeology. Wall height varied from case to case according to the height of the cliffs. In some cases (such as the north-west corner of the Palace Area) walls were built so that to provide the neighbouring wall with a buttress. In all cases a separation gap of at least 10 cm was left between the walls and the cliffs. When the retaining wall was built so close to the profile, the last course of mud brick was partially inserted in the cliff in order to provide protection against water erosion.



Scientific Documentation for Archaeological Conservation

by *Tarcis Stevens*

There was always confusion about the true nature of representation. Paintings, drawings, pictures in particular and documents in general are not what they represent. They reveal or hide aspects of reality, deliberately or not. Documentation doesn't duplicate reality. It is a transposition, not a copy.

A document is a carrier of information. Information is communicated data. The raw assembled data are transposed with and by a medium: a total station, a camera, a pencil, paint...and their applications. In present day terminology we could speak respectively of hard- and software.

The drawer, the painter, the topographer, thinks through his medium and knows its possibilities and limits. The user or spectator of the document doesn't need to know the particularities of a medium to understand. He or she captures the imbedded information by decoding, consciously or unconsciously.

Article 16 of the Venice Charter says:

"In all works of preservation, restoration or excavation, there should always be precise documentation in the form of analytical and critical reports, illustrated with drawings and photographs.

Every stage of the work of clearing, consolidation, rearrangement and integration, as well as technical and formal features identified during the course of the work, should be included. This record should be placed in the archives of a public institution and made

available to research workers. It is recommended that the report should be published".

We will investigate the process of documenting in the field of conservation by going through 3 stages:

- the capturing of data and documentation by expertise
- the processing of data and comprehension through documentation
- the managing of data and dissemination of documentation

The required expertise in documentation is twofold: expertise on documentation techniques and principles is needed as well as expertise on the monument or site to be documented.

A short overview will be given on documentation techniques and principles. To fulfil a documentation task, an appropriate technique is chosen. Several criteria can be considered.

Capturing data in itself is not enough to produce a good documentation. It is difficult to document properly if the object of documentation isn't understood, just as it is then impossible to restore it.

The documentation specialist must be able to distinguish between what is relevant and what is irrelevant, between meaningful and accidental.

Knowledge on what has to be documented is a condition as basic as the knowledge of documentation techniques and principles. Multi-

disciplinary collaboration or combined expertise are therefore necessary.

By the process of documenting, the specialist can improve his understanding of the subject

To clarify new elements to oneself, to colleagues or to a larger public, the documentation result is of prime importance. According to the need this result can be 3D or 2D. The documentation should be accurate, complete, reliable and repeatable, in other words scientific.

Often, the fulfilment of these requirements results in an attractive documentation. The issue is not to deliver a pretty image. The main issue remains the monument we want to conserve or to protect and a useful documentation should serve this objective.

Documentation is a continuous investigation. Regular feed-back is necessary. A critical eye is as important as the capability to use advanced documentation tools.

Documentation should be accessible for conservators on the short-term of a conservation project, as well as for professionals, policy-makers, public and press on the long-term.

The amount of data and documents can be considerable. Apart from new documents, the archival documents must be taken into account. Nowadays we use all kinds of digital documentation techniques, producing a multiple of digital and analogue printed data. The link between analogue and its digital counterpart should be maintained.

Managing this data-flow is necessary. All data and documents must be retraceable and identifiable. What can't be found, does not exist. What can't be identified is useless.

The methods to manage the amount and the different types of data range from traditional archiving systems to newly developed databases. Each method has his pros and cons. Which criteria can be used to set up an appropriate data-management structure?



Historical Significance of the Ancient City of Otrar

by Karl Baibakov

Otrar is one of the several ancient towns situated in the territory of Kazakhstan. Written sources depict its development from the beginning of the 8th century AD till the mid of 18th century AD. These are Turkic runic sources, information of Arabic and Persian historians and geographers, Turkic and Russian sources. However, according to the archaeological research the city of Otrar was founded at the turn of eras, and is at least two thousand years old.

Archaeological research at Otrar-tobe started in 1904, though intensive excavations have been conducted since 1971 by the South Kazakhstan Complex Expedition of the Institute of Archaeology named after Margulan.

During this period spectacular ruins were revealed: quarters of the town at levels of 11th-12th, 13th-15th and 16th-18th centuries. Lay out of the city - quarters, houses, public buildings, fortification - was examined over time they appeared and developed. Archaeologists also obtained information about unique constructions – Mosque of Timur`s epoch, Bath of 11th-12th and 13th-14th centuries, Kilns of 13th-15th centuries.

Besides Otrar the other tobets of Oasis – Kuiruk-tobe (1st-14th), Kok-Mardan (1st-8th), Altyn-tobe (1st-10th), Mardan-Kuik (1st-14th) – were investigated. The irrigation of Oasis was also studied.

The collection of artifacts: ceramics (pottery), goods from metal, bone, stone, and coins allowed to receive information about crafts, trade and spiritual culture of citizens during twenty centuries.

The historical and cultural significance of the tobe, its

role in the history of Kazakhstan was defined based on analyses and systematization of documentation, archaeological, written and numismatic sources.

Needless to say, Otrar was a big town in history of Kazakhstan, situated on the borders of settled and agricultural civilizations. Otrar was the centre of great oasis and political district. The town played an important role on the Great Silk Road, being a key-point connecting Kazakhstan with China, Europe, Near and Middle East, Siberia and Ural.

Otrar and Oasis were the key-points of ethnogenesis in Central Asia. During many centuries Otrar was one of the centers between several states – Kangui, Kangar`s Dominion, Karahanids, Ak-Orda and Kazakh Khanate.

Otrar was the cultural centre where Aby Nasr al-Farabi was born and Arustan-Bab – a great representative of Islamic culture and teacher of Khozha Ahmed Yassawi - preached here.

Otrar Oasis is a unique place where the irrigation and agriculture developed during two thousands years. Canals and irrigation network preserved till current days allow us to study their development in the context of the whole Central Asia.

Almost all buildings and structures in Otrar Oasis are built from mud bricks. This opens opportunity to evaluate and choose the best technologies for conservation mud brick structures. Certainly, within the framework of the UNESCO-Kazakhstan-Japan Funds-in-Trust project and further projects, Otrar must be turned to one of the important centers of tourism on the Silk Road.



Methods of Conservation for Otrar Archaeological Sites

by Elena Khorosh



Non-destructive Archaeological Activities for Otrar Archaeological Sites

by *Dmitriy Voyakin*

Destruction is the word which can give badly negative picture of situation where neither reality nor virtuality is exist. Demolition, devastation, pernicious are synonyms emphasizing facets of destruction.

Archaeology is a science which studies past societies primarily through their material remains. Main method of investigation in archaeology is excavation. No doubt that excavation every time brings both discovery and destruction.

Growing speed of research in archaeology is illustrating by the fast developing methods which permanently open new perspectives of investigation. There are seismic and acoustic methods, methods of electrical resistivity and magnetic survey, methods of radioactivity, neutron scattering and thermography, geochemical analysis etc. All these methods belongs to the non destructive. But, despite the growing importance and popularity of such a survey, the only way to check reliability of surface data, confirm the accuracy of the remote sensing techniques and actually see what remains of these sites is to excavate them.

Standing on the cross-roads of necessity of realization excavation activity from one hand and attempting to avoid inevitable destruction from other could give only one acceptable solution to solve this problem – *documentation*.

Documentation in this sense is a set of methods used for reflecting-visualizing, preservation and presentation of reality discovered and often destructed during excavation practice.

Often for specialist only one possibility to explore the site which was already excavated is to study

virtual. Virtual thereupon is what reality has to be. So, reality was destroyed and exist only in photos, notes, sketches, graphical reconstructions etc. as virtuality.

Archaeological visualization is a way of modeling information of the past and not just a simple photography of ancient data. Thus it will be not right to create beauty pictures of the past but use geometry for explanation some characteristics of data set such as form, size, structure, time, position. If consider virtual archaeology as thinking instrument used in the current investigation then it is essential also develop scientific process of collection and checking notes for most complete understanding of ancient environment and sites.

Danger of destruction of separate parts of the site and problem of data collection (collect as much as possible) during archaeological excavations pushed different schools of thought as well as independent archaeologists to develop their own models of essential archaeological documentation.

Main idea of this kind of models is guarantee of achievement of certain level of data collection. At the same time presence of field book (notes) is not such a guarantee.

Raw description of model developed by German Aachen University under scientific supervision of Prof. Michael Jansen is put below.

Series of forms are offered for explorer, namely: "Activity sheet" stipulate for filling following information – general description of the site or separate excavation and also plans, aims, objectives as well as fulcrums; "Log sheet" – this is kind of field diary using which every day scientist

describe activity (daily routine) implemented on the site, information concerning interesting finds, sizes, levels etc.; "Unit list" – every revealed structure, removal layer, separate feature could be named and marked as unit with unique continuous number (1,2,3...); "Find label" – special form for finds obviously differ from other collected material; "Photo list" is a kind database of the photos which were made during excavation activity. Place indication, direction of photo, raw description of documented features is put in this form as well. First three types of forms have square frame for planum, profile etc sketching. Each form supplied with special columns for marking the measurements of day leveling and geographical coordinates. No doubt this is basic information which could be enlarge during investigation process.

Plenty of software and electronic equipment came as an assistant in the way of collection and processing information. Most popular is AutoCAD with its applications and GIS (for example ArcView or MapInfo), what about electronic equipment – undisputed leader here is Total Stations. Use of these software and such equipment in aggregate gives universal and interesting results.

Conclusion is very simple – documentation process is a basis of every archaeological investigation. And only way of use combinations of all kind of scientific methods could give high scientific result.

Bibliography:

Renfrew C., Bahn P. *Archaeology: Theories Methods and Practice*, 2001. P. 106

Barcelo A. *Visualising what it might be: an introduction to virtual reality techniques in archaeology// VR in archaeology*. Oxford, 2000

Cattani M., Fiorini A., Rondelli B. *Virtual archaeology or time machine: scientific paths for a reconstruction of archaeological landscape//The reconstruction of archaeological landscapes through digital technologies*. Italy-United States Workshop. Roma, 2003. P.8



Cultural Heritage at Risk, ICOMOS Principles of Management

by Michael Petzet

The annual *Heritage at Risk Report* of ICOMOS is proof that the situation of the cultural heritage is still highly critical in many regions of the world. As a non-governmental organisation, ICOMOS can identify monuments in danger from a strictly preservation-based perspective without political considerations, can bluntly address the absolutely desperate situation facing the historic heritage in many countries of the world, and can reveal dangerous trends, including the effects of globalisation. The types of threats that show up in the reports that are presented here are very diverse. On the one hand mankind's built historic heritage has always been threatened by natural disasters: by the consequences of earthquakes, typhoons, hurricanes, floods and fires, as well as by the effects of natural weathering and attack by insects or plants. On the other hand wars and ethnic confrontations are still leading to tremendous losses. But man-made disasters also include the consequences of world-wide pollution of our air, water and land such as the pollution-linked destruction of monuments of metal and stone, which in some cases have deteriorated faster in the last decades than they had in the previous centuries. Indeed, the current threats to our cultural heritage are in many ways incomparable to those of earlier times now that we live in a world that has been undergoing faster and faster change since the last decades of the 20th century. This rapid development, taking place under the pressures of world population growth and progressive industrialisation, leads to ever-greater consumption of land - destroying not only archaeological evidence under the earth but entire historic cultural landscapes - and to faster and faster cycles of demolition and new construction with their concomitant burden on the environment.

With its *Heritage at Risk* initiative ICOMOS is concerned with monuments and sites in the broadest sense: not only individual monuments but also different types of immovable cultural properties such as archaeological sites, historic areas and ensembles, cultural landscapes and various types of historic evidence from prehistory up to the modern movement of the 20th century, as well as monument-related collections and archives. Given our cultural diversity, the threats and dangerous trends outlined above naturally have different effects in the different regions of the world and in some circumstances endanger only special groups of monuments. For example, rock art and archaeological sites, belonging to the earliest witnesses of mankind, are threatened world-wide by road construction, dams and other unscrupulous plans. In many countries archaeological sites continue to be plundered by illegal excavations, and the illicit traffic of works of art represents a continuous loss of cultural goods that from a preservation perspective should be preserved on their original site. Not only paintings, sculptures and the artefacts of cult sites are being decimated in many countries through theft, but art monuments are actually being destroyed in order to gain fragments for the market: temple complexes are being looted, sculptures decapitated, frescoes cut up. The wave of destruction is also affecting historic town centres as well as villages. Innumerable historic urban districts suffer from a careless, often totally unplanned renewal process and uncontrolled urban sprawl in their environs. In the face of the industrialisation of agriculture, vernacular architecture is particularly endangered in many countries, disappearing altogether or

sometimes "surviving" only in a few open-air museums. Construction methods using clay, wood and stone - materials that are obtainable locally (a fact of great importance in terms of sustainable development in the future) and which once defined entire cultural landscapes but now represent a mostly unprotected historic heritage that is not recorded in any monument list - are being lost forever. But also the built evidence of our industrial history, structures erected with once modern techniques and now themselves worthy of preservation, poses difficult problems for the conservationist when the original use is no longer possible.



UNESCO Cultural Heritage Preservation Projects along the Silk Roads in China and in Central Asia

by Roland LIN Chih-Hung

Inner Asia: the 'Western Region' of China

Inner Asia, today corresponding to Central Asia, Chinese Turkestan and the Chinese Xinjiang Uighur Autonomous Region, has been called the "Western Region", in Chinese, *Xiyu*, since the time of the Chinese Han Dynasty. Today, however, this region is better known to the world as part of the Silk Roads, due to the legendary trade route that ran through it and that began to flourish during the Han dynasty in the 2nd century BC, when the Han Empire sent an envoy to the Western Region. Consequently, cities were built, and by the 2nd century AD, the Western Region had absorbed cultural characteristics from the Chinese Central Plains, Central Asia, Arabia, India, Tibet and the Mediterranean.

Buddhism prospered in the Western Region from the Han Dynasty onwards. Beginning in 401 AD, in Chang'an, today corresponding to Xi'an City, the famous Buddhist priest Kumarajiva translated approximately 300 Buddhist scriptures into Chinese. For these translations and the introduction of Buddhist scriptures to the Chinese Central Plains, Kumarajiva has since been honoured as one of the great figures of Buddhist history. Over 200 years later in approximately 630 AD, the Chinese priest Xuan Zang visited the Western Region and reported the existence of 100 temples and 5,000 priests, all of whom practiced Hinayana Buddhism. However, during the later Sui and Tang Dynasties, the Western Region declined politically, economically and culturally. Mirroring this decline, Buddhism had almost completely disappeared by the time of the Muslim invasion of the Western Region in the 9th century.

Over the past several years, the UNESCO Beijing Cluster Office, in close collaboration with the UNESCO Division of Cultural Heritage and with financing from the UNESCO / Japanese Funds-in-Trust for the Preservation of the World Cultural Heritage, has launched a series of operational projects in the Silk Roads region of China, including a project for the Conservation and Restoration of the Longmen Grottoes, Luoyang, Henan Province, a project for the Protection and Conservation of the Hanyuan Hall of the Daming Palace, Xi'an City of Shaanxi Province, and a project for the Conservation and Restoration of the Kumtura Thousand Buddha Caves in the Xinjiang Uighur Autonomous Region.

The Silk Roads of Central Asia

Central Asia has long been at a crossroads of cultures and situated at the periphery of great civilizations, such as those of Iran, India, Russia, China and the Turkic-speaking peoples extending from Kazakhstan and into the Caucasus. The richness and importance of the region as a place of fertile exchanges where diverse cultures have developed and interacted is now widely recognized. Previously parts of the Soviet Union, the transition to a market economy has had far-reaching consequences for the cultural heritage of the five Central Asian republics, including changes in funding, management, presentation, and, as far as excavations of archaeological heritage sites are concerned, methods of investigation.

Funding for the culture sector in general, and for cultural heritage in particular, has diminished

since the emergence of the independent ex-Soviet republics. Whereas under communist rule the culture sector enjoyed state funding, together with an importance in state planning and a certain level of prestige, under free-market conditions this is no longer the case. Museum directors, cultural heritage specialists, and indeed all those involved in the culture sectors of the countries concerned, have underlined their concern at this drop in funding.

Over the past several years, the UNESCO Division of Cultural Heritage, in close collaboration with the UNESCO Almaty Cluster Office and the UNESCO Tashkent Office, with financing from the UNESCO / Japanese Funds-in-Trust for the Preservation of the World Cultural Heritage and the UNESCO / Norwegian Funds-in-Trust, has launched a series of operational projects in the Silk Roads region of Central Asia, including a project for the Management, Conservation and Presentation of the Tamgaly Petroglyph Site, Almaty Region, Kazakhstan, a project for the Preservation and Restoration of Otrar Tobe in Kazakhstan, a project for the Preservation of Silk Roads Sites in the Upper Chuy Valley in Kyrgyzstan, a project for the Preservation and Restoration of the Ruins of Fayaz-Tepa, Termez, in Uzbekistan, and a project for the Preservation and Restoration of the Ruins of Ajina Tepe in Tajikistan.



Principles of Site Management for Conservation of Archaeological Sites

by Michael Jansen

‘The archaeological heritage constitutes the basis record of past human activities. Its protection and proper management is therefore essential to enable archaeologists and other scholars to study and interpret it on behalf of and for the benefit of present and future generations’ (Charter of Lausanne 1989, Introduction)

As archaeology is a ‘destructive’ science, documentation of the full process and conservation of the remaining setting is a most important task. A proper conservation management begins with the first excavation. According to today’s standards, a structure conservator and, of course an object conservator should be permanent members of an excavation team.

With good site management time and costs can be spared, both in excavation and conservation. Best and most economic conservation is scientifically reburying the site/ monument. There are often reasons to keep an excavated site open, reasons such as public interest, cultural tourism etc. Under such conditions programmes have to be worked out to keep an archaeological site prepared to be visited by the public. This is best done in form of archaeological parks matching all desires of protection.

The activities can be summarised as: excavation, conservation, landscaping (access, protection), didactics, site management.

Site/project management is a major component of optimised activities. Training projects, executed by the author have clearly shown that the problem of excavation/ conservation training programmes lies not primarily on the economic/

foreign expert sector but on the local management sector. Normally sufficient funds are available as well as UNESCO expertise. The traditional local management structures often do not allow to adopt modern site management practices. They are often dictated by seniority for leading positions and not quality of the expert. Low national salaries and missing of hardship allowance prohibit enthusiastic field activity, often the economic need of earning additional income complicate the financial execution of projects. These pre-conditions in the periphery have to be more and more re-considered by the project planner. In addition case studies have clearly shown that technical training of government employees on the long run is not very successful because either the trained expert leaves the Service in favour of better paid private enterprises or joins a leading position within the Government thus losing his/her capacity as a working field expert. Therefore the authors advise is to integrate education systems such as universities to include teachers in the training to allow at wide scale the wanted multiplication factor. Conservation and project management has to become integral part e.g. of architectural education, as is common case in countries like Italy, Germany, Britain, France etc.

Besides the above mentioned system inherent problems there are managerial problems which can be solved in principle.

Besides an adequate horizontal management structure (project co-ordinator with an collegial management structure of different experts) an adequate recording/ registering system based on computing has to be applied to allow permanent control over all data. This is reflected in **excavation**

manuals with a clear instruction how to excavate, how to apply adequate registration systems for locus, strata, mobile objects and structures, **documentation manuals** collecting all necessary data also for the accompanying or later conservation activities and finally the **conservation manual**, for both mobile and immobile objects. The scientific desire is a system allowing a full 3D reconstruction of the original condition with recording devices for all added treatments in conservation. The basic need is **transparency of action**, to allow any later re-study of a setting.

The aim of each activity should be to apply systems which can be transferred, if needed into national/ regional data bank systems. For World Heritage Programmes the control of conservation activities should be pre-requisite.

Selected Bibliography:

Stanley Price, N. 1995 Conservation on Archaeological Excavations. Rome

Recommendation 1964 Recommendation on the means of prohibiting and preventing the illicit export, import and transfer of ownership of cultural property, UNESCO, Paris 19.11. 1964

European Convention 1971 European Convention on the Protection of the Archaeological Heritage, Council of Europe, Strasbourg 1971

Charter of Lausanne 1989 Charter for the Protection and Management of Archaeological Heritage



Planning, Monitoring and Management for Cultural Heritage sites including Master Plan Preparations

by Elena Khorosh



The Promotional Activities of Otrar Project

by Aina Zubair

Promotional activities are considered as part and parcel of Otrar project. From the early stage of project planning UNESCO elaborated a strategy for promotion with intertwined tasks:

1. Raise awareness about historical and cultural significance of Otrar city both at national and international levels. Otrar city was promoted as one of major political and cultural centers of Otrar Oasis, gigantic medieval city at the Great Silk and phenomenon of urban civilization. Phenomenon of Otrar Oasis was also stressed in all publications and promotional materials.

2. Promote UNESCO/Japan Trust Fund project and notably restoration and conservation activities implemented at the site within the framework of the project. It was important to deliver key messages such as: new approaches in archaeological research, enhanced collaboration between archaeologists and conservators from early stage of planning of archaeological excavations, non-destructive methods of archaeological research, significance of scientific documentation for conservation, national capacity-building and international scientific exchange.

In order to implement the strategy UNESCO used mass media and more importantly arranged meetings with stakeholders in Almaty and Shimkent, regional capital of South Kazakhstan Region where Otrar site is located.

In June 2001 UNESCO Almaty Office in collaboration with Akimat of South Kazakhstan Region organized site visit for national and regional journalists. They received a warm reception in UNESCO Test House

in Shaulder and had a prolonged conversation and discussions with international and national specialists working in Otrar. The main point of interest was future nomination of Otrar to the World Heritage List. Following the site visit Otrar project received an extensive coverage in national newspapers and on TV.

On 9th of September 2002 UNESCO held a workshop «Preservation of cultural heritage: world vision and regional perspectives». Embassies and international organizations accredited in Kazakshtan. During the workshop Kunio Watanabe, Professor at Geosphere Institute of Saitama University and Yasuyoshi Okada, Professor of the Institute for Cultural Studies of Ancient Iraq, Kokushikan University shared their experiences and know-how, Dr. Michael Jansen, professor, Aachen University, Germany, Dr. John Hurd, Director Hurdconservation, UK, and partners from Kazakhstan also presented their points of view and expertise in the area of cultural heritage. Prof. Karl Baipakov, Director of the Institute of Archaeology talked about history of medieval towns in Central Asia and experts from the National Institute for Restoration spoke about monuments recently inscribed in the Tentative World Heritage List.

Other promotional activities included:

1. Web-site about Otrar www.otrar.unesco.kz was designed in Russian and English languages and included important information about: history of Otrar tobe and archaeological excavations since 1904, information about geo-archaeological study and conservation techniques, tour of Otrar tobe and etc.

2. Panel Exhibition. Exhibition was held on 25th of September 2003 in the Central Museum in Almaty. Major stakeholders representing international organizations, Kazakh authorities, students and mass media were invited. UNESCO invited Henry Cleere, Archaeological Heritage Consultant for UNESCO, Professor of the Institute of Archaeology at London University, former World Heritage Coordinator for ICOMOS to present his speech about World Heritage Convention. For visitors UNESCO designed and produced 10 panels devoted to Otrar to be and illustrated with photographs, maps and drawings.

3. Otrar Booklet. UNESCO Almaty Office printed 3000 booklets in Russian, English and Japanese languages. Distribution is still continued.

4. Otrar Poster. Posters – calendars were printed and distributed.

5. Otrar video. UNESCO Almaty Office signed a Contract with local producer, Victor Zadvitzkyi to shoot a 25-minutes documentary about Otrar. Currently, all footage was shot and processed in a studio, all major experts were interviewed, script was written and submitted to UNESCO for approval and sound track was created. Aachen University prepared 3-D simulation which will be included in the video. Pre-view of documentary will be presented during the Central Asian Training Workshop in Turkestan (23 August-1 September 2004). Documentary will be broadcasted on national TV and also shown in UNESCO Headquarters in Paris.



Conception of Otrar State Archaeological Reserve-Museum, Structure of National Management for Cultural Heritage Sites in Kazakhstan

by Mukhtar Kojas

Otrar State Archaeological Reserve-Museum (OGAZM) was the first historical and cultural reserve-museum created in Kazakhstan. It was established by the Order of the Council of Ministers of the Kazakh SSR in 1979 and came under the Oblast Department of Culture. Besides of Otrar Tobe, all archaeological sites and architectural monuments of the Otrar Oasis came under its responsibility and protection. However, according its governmentally approved Regulations, the structure and functions of the Reserve-Museum were mainly concerned with its work as a museum rather than as a state reserve for the protection and safeguarding of cultural heritage sites. The above-mentioned Regulations served as a specific sub-law on the protection of cultural heritage sites under the responsibility of the Otrar Reserve-Museum. The sites situated close to roads were provided with explanatory boards. Otrar Tobe was the only site provided with the protective fencing (core zone only). In 1993 r. the Reserve-Museum has defined the boundaries of zones of legal protection for the most of its monuments and sites in accordance with their historical and cultural importance. Those zones have been formally established by the governmental orders for 86 sites scattered over the territories of 7 existing state farms. In total, there are 11546 ha secured as the territories of cultural heritage sites and their protection buffer zones, where any activities other than archaeological research are prohibited. Since 1998 OGAZM has got a status of the national institution subordinate to the Committee of Culture, the agency of the Ministry of Culture of the Republic of Kazakhstan. In summer 2003 when it came directly under the Ministry of Culture, the Reserve-Museum has got its

new Statutes, instead of the former Regulations, at variance with the Law of the Republic of Kazakhstan of 1992 "On the Protection and Use of Cultural Heritage". The Law 1992 reads that the historical and cultural reserves-museums are established in the territories possessing particularly important cultural heritage sites and managed in accordance with their specific Regulations. It is stipulated in the Law 1992 that any kinds of developments and other works in the territories with cultural heritage should not take place without a permission of the relevant State Agencies for the Protection of Monuments and Sites. The Article 34 of the Law 1992 reads that restoration and conservation works on monuments and sites also should be conducted only with the permission and under the control of the above-mentioned Agencies. Those works should be implemented only by those organizations and individuals who have a license for this kind of activities. Since OGAZM acts as the State Agency for the Protection of Monuments and Sites of Otrar Oasis, therefore the control over all conservation and restoration works is a part of its responsibilities.

The inclusion of "Archaeological Sites of Otrar Oasis" in the UNESCO WH Tentative List and the future preparation of the WH nomination imply a need to upgrade the Otrar Reserve-Museum and to improve its activities. There is a need to optimize the structure and responsibilities of its sections, to rise the capacity of the staff, to revise the boundaries and regulations for the protected areas, and to establish a close co-operations with the local population and other stakeholders for the safeguarding and use of the Otrar Oasis as a significant cultural landscape.

The Ministry of Culture of the Republic of Kazakhstan represents a Central National Agency for the Protection and Use of Cultural Heritage. It is responsible for the implementation of the State policies in this field, for issuing permissions on the archaeological research, conservation, restoration and all other kinds of activities related to the monuments and sites of national significance. It is also responsible for the control over, co-ordination and financing of activities of all national organizations and institutions working in the field of protection, conservation and restoration of monuments and sites, including the historical and cultural reserves-museums.



Enhancement of National Capacity Building for Project Management through Otrar Project

by Yuri Peshkov

Modern economical and political development of Central Asian Republics has a great impact on their cultural heritage. Not only in the way of historical, national, cultural identification and rethinking but also physical impact on the monuments themselves throughout the establishment of new museum/ reserve structures, conservation and preservation aspects, archaeological activities, tourists flow, natural and anthropogenic destructions, etc. Often, present legislation is not capable to reflect all aspects of present archaeological site conditions and impacts.

There is an urgent need in Central Asia to provide a balance between the practical application of archaeology (particularly excavations which are often temporary and destructive), and identification, evaluation and management of archaeological resources with its permanent maintenance and conservation.

Operational projects of UNESCO / Japanese Funds-in-Trust for the Preservation of the World Cultural Heritage provided to several countries of Central Asia, give an excellent opportunity for local scholars and managers, as well as for the governments' bodies and institutions, to improve their site management capacities through on-hands conservation activities, trainings and working with prominent international experts.

From the history of Otrar Project, one can learn the improvement of management structure through the years, in the shape of increasing number of experts trained, improvements of institutions involved, increase of awareness of local people and administration, better management of project data and archives, use of modern computer technologies,

development of master plan, etc. Experience gained from this pilot project by all the parties involved, had brought more UNESCO projects of this kind to Kazakhstan and other Central Asian Republics.

The Otrar Project has undoubtedly been essential to the enhancement of capacity of the Kazakh people to manage and conserve their unique cultural heritage. In particular, it has helped to increase awareness of both international and national bodies, to the need for significant investment in the research and conservation of archaeological sites and monuments. As one of the impacts, State Programme for preservation of cultural heritage had been developed in Kazakhstan for 2004-2006.



Year of Cultural Heritage in Kazakhstan: Perspectives and Retrospectives

by Aidar Konusbayev

Currently, all of us and the whole world are going through difficult and controversial times. Central Asian States after gaining sovereignty ten years ago have experienced transformation of socio-political formations and large-scale reforms in state governance. Despite these changes neighboring Central Asian nations still enjoy friendly relations based on mutual penetration of cultures and historical fates.

Referring to situation in Kazakhstan, one could witness tendency for growth in newly developing market economy, improvements in governance at both national and local levels and enhancement of culture and education.

State Programme for "Cultural Heritage" developed and accepted for 2004 - 2006

Multidisciplinary, complex approach towards protection and utilization of sites

At this stage it is vital to unite professionals dealing with preservation and utilization of cultural and historical heritage in Central Asia. Only united efforts of various scientific, scientific-industrial, creative schools, individual scientists and craftsmen make significant contribution towards preservation of cultural and historical heritage.

Participation of Kazakhstan in Preservation and Utilization of World Heritage.

The last two years were very intensive and fruitful for Kazakhstan in terms of its representation at the international level. This is linked to several activities such as participation at the nomination process of Architectural Mausoleum Akhmed Yassawi in Turkestan to the World Heritage List; preparation of the dossier-nomination of Archaeological

Petroglyph Complex in Tamgalu, Almaty Region; participation at the several UNESCO projects linked to preservation of the ancient city of Otrar; creation of data bank of petroglyphs of Central Asia, management of petroglyphs of Tamgalu.

Activities of NIPI

Since 1980, the year when NIPI was established, vast experience in the area of scientific research, project planning and conservation of historical sites was gained. Professional architects, planners, restorers and other specialists were trained.

Problems Encountered in the Sphere of Protection of Historical and Cultural Sites

- 1) Under current situation, financial planning of restoration activities does not consider scientific research, repair- restoration activities and project planning as chains of one production cycle.
- 2) There are many examples of sites destruction revealed by archaeological excavations. This can be rectified if annual and long-term planning of archeological research, approved by the Ministry of Education and Science, will be coordinated with the Ministry of Culture.
- 3) Currently, preservation of petroglyphs, as integral part of cultural heritage of Kazakhstan, is of primary importance.
- 4) State Registry of Sites of National Importance was approved by Decree of the Council of Ministers № 38 issued on 26th of January 1982. Today registries of historical and cultural sites require comprehensive and meticulous consideration based on new criteria of significance which any object of cultural heritage should meet. These criteria still

should be developed.

5) As a result of non-sufficient and non-stable financing of scientific-research and project planning it is impossible to train and prepare specialists. During last years, many high-caliber specialists left the Institute.

6) Creation of a unified state governing body for protection and utilization of heritage in Kazakhstan remains on the agenda during the past few years.

7) It is vital to enhance acceptance and handover of completed scientific and repair-restoration works financed from the national budget and ordered by the Ministry of Culture.

8) One of important problems is development of legislative and normative acts in the sphere of protection, maintenance, restoration and utilization of historical and cultural heritage.



Practical session: Documentation

by Tarcis Stevens

Date: 27.08 – 28.08 – 29.08.2004, 3x 3h.
Place: Otrar Tobe, tripod OT1000 (part 1), Later Mosque and Palace (part 2)
Subject: Field presentation, part 6 documentation
Material : GPS, total station, north-compass, laminated maps and drawings

1. SURVEYING

Capturing data

- geodetic points OT1000, KU2000, AL3000, KM4000
- geographical maps, national grid
- UTM, longitudinal-latitude, GPS
- installing local polygon
- EDM, basic principles of surveying

Processing data

- CAD-extensions
- TIN-surfaces
- contour lines
- levels
- sections
- renderings

Managing data

- old and new data
- kind of data: drawings / images / texts
- type of data: analogue / digital
- nomenclature

metric

- EDM and REDM, basic principles of recording
 - measuring for a specific purposes
 - 3D input / 2D-3D output
- non-image and image based documentation
- digital and analogue pictures

Processing data

- processing CAD-drawings: plans / sections / elevations
- processing images: basic narrative images / panoramic images / rectified and stitched images

Managing data

- old and new data
- kind of data: drawings / images / texts
- type of data: analogue / digital
- nomenclature

2. RECORDING

Capturing data

- methods of recording, planimetric, altimetric,



Practical session: Empirical tests, laboratory analysis and inspection of conservation work at Otrar

by Enrico Fodde

Programme for EF's practical session to be held between Shaul Der and Otrar (3 hours for every group)

SHAULDER

1. Introductory lecture to the nature of soil (10 min)

Short introductory lecture on:

- what is soil?
- definition of soil constituents: gravel, sand, silt, and clay;
- sampling procedures and methods.

2. Empirical tests (60 min)

All participants will be provided with three soil samples of different nature so that to have comparable and clear results. Training will consist in the carrying out of the following tests:

1. wet-dry colour
2. smelling (organic content)
3. bottle
4. dry strength
5. dry impact
6. hand texture
7. luster
8. adhesion
9. tapping
10. cigar
11. ribbon
12. efflorescence

Every group will be provided with three different samples and datasheets. Comments of results and of their practical applications.

3. Laboratory analysis (80 min)

This session to take place in the laboratory. Experiments to include:

	Test	Type of sample	Number of samples	Datasheet
1	Soil colour	Loose soil	3	Yes
2	Sieving	Dry sand	1	Yes
3	Wetting and drying	Soil cubes (5x5x5 cm)	3	Yes
4	Water absorption	Soil cubes (5x5x5 cm)	3	Yes
5	Erosion test	Soil prisms (5x5x1 cm)	3	Yes
6	Plastic limit	Loose soil	1	No
7	Liquid limit	Loose soil	1	Yes
8	Carbonates	Loose soil	1	No
9	Shrinkage	Loose soil	1	No
10	PH	Loose soil	1	No

Comments of results and practical applications of mortar to the Test House wall.

Coach to Otrar Tobe

OTRAR TOBE (30 min)

Inspection of repair materials as applied to the following monuments:

- Later Mosque;
- Palace Area;
- Old Mosque.



Practical session: Conservation

by Elena Khorosh

Date: 27.08 – 28.08 – 29.08.2004, 3x 3h.
 Place: Otrar Tobe: Archaeological remains within the courtyard of the Old Mosque
 Subject: Conservation planning

1. Brief introduction to the history and issues of the particular sub-site and its context (15 minutes)
 The archaeological remains within the courtyard of the excavated XIV-XV c. Mosque of Otrar Tobe represent cultural layers, deposited here during several centuries of occupation of this area after the time when the monumental complex of the Timurid Mosque was ruined and abandoned. Presently this “island” of cultural deposits remaining almost intact in the middle of a large excavation dig is a subject to discussions between the Otrar Project team members and other stakeholders. The recent excavations of a small portion of this sub-site revealed the well-preserved remains of the XVI c. dwelling made of mud-bricks and showing several stages of reconstruction over the time of its occupation.

2. Group work (3 hours):

- Identification of aims of conservation
- Assessment of values
- Condition assessment of the excavated portion and damage recording exercise
- Assessment of the context
- Establishment of guiding principles
- Identification of objectives and definition of strategies required to fulfill them
- Preparation of the integrated action plan

The participants will be given with plans and other relevant printed graphic documentation to facilitate their work during the implementation of the exercise. All the necessary consultations and advice will be provided by the Otrar Project team members.

3. Presentation of results and discussion (45 minutes)

Besides of the necessary evaluation of results, this part of the exercise is meant to provide for conservationists and other professionals an opportunity to exchange opinions concerning the values, basic principles and methodological matters related to the conservation and presentation of archaeological sites in Central Asia.



Practical session: Management

by Elena Khorosh

Date: 27.08 – 28.08 – 29.08.2004, 3x 3h.
Place: Otrar Tobe: Mosque of XVI c. (Later Mosque)
Subject: Preparation of the site monitoring & maintenance programme

1. Brief introduction to the history of research and conservation of the Otrar XVI c. Mosque and its context (15 minutes)

The XVI c. Mosque is the latest known monumental structure of Otrar Tobe. It has been revealed in 1999 during the archaeological excavations on the earlier ensemble of the XIV-XV cc. The Later Mosque was constructed on the top of cultural layers deposited over the northern part of the demolished and abandoned structures of the Timurid period. The surviving archaeological remains of the Mosque, built of bricks with clay mortar, represent the evidence of monumental building construction in Otrar in the Late Middle Ages. The recent conservation works were implemented in 2002-2003 within the framework of the current UNESCO/JFIT Project.

2. Group work (3 hours):

- Condition assessment of the site after conservation
- Identification of affecting factors and risks of decay
- Definition of a programme and key indicators of monitoring
- Definition of a programme for the preventive maintenance

The participants will be given with the necessary reference materials to be used during the implementation of the exercise. All consultations, if needed, will be provided by the assisting Otrar Project team members.

3. Presentation of results and discussion (45 minutes)

This part of the exercise is meant to give an opportunity to evaluate and discuss the present state of knowledge and experiences related to the monitoring, evaluation and maintenance as practical tools in the conservation and management of archaeological heritage in Central Asia.



Field Presentation

by Dmitriy Voyakin

Date: 27.08 – 28.08 – 29.08, 3 x 3 h.
 Place: Otrar Tobe, Excavation Area of 2004
 Subject: Field Presentation, Archaeology
 Material: Total Station, 3 Sets of Archaeological Equipment, 2 Sets of Maps prepared during Archaeological Campaign of 2004, Analogue/Digital Cameras, 3 Sets of Archaeological Forms

THEORY AND PRACTICE OF AN ARCHAEOLOGICAL DOCUMENTATION (Difficulties and perspectives)
 30 min

Introduction and discussion on the following topics:

- Code system
- Activity areas
- Unit/Locus
- Finds
- Analogue Photos
- Digital Images (advantages and disadvantages)
- Drawings
- Creation of the virtual reality

INSPECTION of an ACTIVITY AREA (What does it mean)
 30min

Participants will be invited based on some collected materials practically go through following steps:

- Archives (photos, plans, reports\publications)
- Aerial photography
- Macro topography
- Micro topography
- Geophysical survey
- Crop marks (measuring and analysis)
- Collecting and documenting surface finds
- Comparing and overlapping old and current data

EXCAVATION AND DOCUMENTATION (Archaeology which should be)

2 hours

Participants will be divided by three small groups and choosing one of the excavated rooms of Activity Area 2004 will be invited to fill out archaeological forms according with what they will find and brush out; draw planum, sections and profiles using new techniques widely implemented in Otrar Project.

Part 1 (Forms)

1 hour

- Activity form
- Log Sheet
- Unit sheet and Unit list
- Harris Matrix
- Finds label and Pottery label
- Finds registration form and Pottery registration form
- Photo Form (Photo Index)

Part 2 (Graphical information)

1hour

- Symbols
- Planum
- Sections
- Profiles

Appendix

Plan of Otrar Tobe



Archaeological monuments of Turkestan

The site of ancient settlement - Turkestan located on the eastern edge of the modern rayon (district) centre of Shymkent Oblast (region) of the same name - is an important archeological monument of the urban culture of South Kazakhstan. The major role this town played in the Late Middle Ages in Kazakhstan is widely known. It was the attracting place for the economic and political development of various states, trade and cultural centre on juncture of vast steppes and ancient agricultural areas, the place of preaching activities of the Turkic Sufi Khodja Akhmed Yasawi, the political centre of the Kazakh Statehood and the „second Mecca“ of the Moslem East. Medieval Turkestan experienced a stormy history with periods of flourishing and decline. This town absorbed cultural traditions of various origin.

P.I. Rychkov, the researcher of Orenburg area, was among the first ones who that took an interest in of the ancient Turkestan. Notably he indicated the location of Turkestan - on the place of the former Yasy. In 1867 P.I.Lerkh investigated the ancient settlement Turkestan on the task of the Russian Archeological society. He scientifically grounded the location of Yasy at the place of the modern Turkestan.

The works of V.V.Bartold and A.I. Dobromyslov should be marked among the number of investigations of Turkestan made before the Great October Socialist Revolution. V.V.Bartold identified the towns of Yasy- Turkestan-Shavgar. The first archeological excavations were made in 1928 by M.E.Masson. He concluded that on the place of the modern Turkestan the large town existed even before the Timur epoch, but in this town there were no cultural layers earlier the XII century. M.E Masson identified Yasy- Turkestan with the town of Shavgar, that appeared in the written sources beginning from the X century.

The first archeological data testifying to the fact that this area was habitable in the early historic periods were obtained by T.N.Senigova, who in 1973 investigated the mound Kul Tobe, situated 300 m south-east off the mausoleum of Khodja Akhmed Yasawi. At this place the fragments of the early medieval ceramics, coins of VII-VIII centuries of the Otrar coinage have been found. A specific character of the historic and topographic development of the town Yasy-Turkestan conditioned the complexity of the town planigraphy, where before the recent time there was a clearly seen part adjoining to the mausoleum on the north-east and surrounded by

the stronghold walls that survived to the beginning of the XX century. This part had the shape of an improper pentagon with a square of 2,6 hectares, in the western edge of this pentagon there was the architectural complex of the mausoleum of Khodja Akhmed Yasawi. It was namely the „citadel“ of the ancient settlement of Turkestan, and to the current period this part is investigated best of all archeologically. At this section the stratigraphic prospect-holes and cuts of stronghold walls were repeatedly made to reveal then the cultural layer of the XIV-XIX centuries, the thickness of the layer comprised about 6 meters, it was laying on the mainland. The cuts of the citadel stronghold walls had every reason to determine that the time of their erection was the XV century - the period followed the erection of the architectural complex of Khodja Akhmed Yasawi. West and south-east off the citadel the area of shakhristan was located, it had a shape of an improper quadrangle with a square of about 23,5 hectares (350x670m). On the north and west this area is surrounded by the clearly survived remnants of walls with towers on the corners. The southern wall is not so good survived, however here there is an obvious over-fall of horizons emphasizing thickness of the cultural sediments within the „shakhristan“ as compared to the southern „rabad“ that was probably surrounded by the wall in the XIX century. The wall of „rabad“ made of clay pieces in a form of a high „duval“, by the width up to 1,2-1,4 m in the ground, survived up till now at some sections. This wall as the smooth arc rounded the descended area with a square of about 8 hectares, adjoining to the southern wall of shakhristan. The mound Kul-Tobe, with an artificial sheer edge on the south and south-east, also was included into the area of Turkestan. On the east the remnants of the shakhristan and rabad walls as well as of the southern, and partially eastern and western walls of citadel did not survive.

All available stratigraphic data on citadel and nearby area of shakhristan testify to the fact that here the construction horizons aged by XV-XVI centuries are laid down. The pre-Mongol layers indicating the place of the early settlement Yasy had not been discovered here. In search for these remnants near the southern precipice edge of Kul-Tobe Smagulov E.A. made a stratigraphic excavation with a square more then 70 sq. m. It has opened the whole thickness of cultural layers of Kul-Tobe that comprised 6 metres (I-XII stages) and delved deeply (XIII and XIV stages) into the sterile continent. The cultural layers is divided into seven construction horizons. I construction horizon

- IV-V centuries; II construction horizon - V century, III construction horizon (with burial of a horse) - VII century, IV-V horizons - IX-XI centuries; V-VII horizons - (XIII century ?) - the first quarter of the XIV century; VII horizon - XVIII-XIX centuries.

Within the III construction horizon the burial of a horse has been discovered, with the following things: the iron stirrup, one-ring bit and a pendant for the strap thong. It is known that in early periods single burials of horses - „kenotaph“ were typical of the Turkic burial ceremonies. This finding made it possible to reasonably determine the age of the earliest horizons. Oval shaped stirrups with a widened foot board strengthened with an edge and a quadrangle plate of the eye, were common for the Eurasian steppes during VI-VII centuries. The researchers determine the age of the few burials with horses found in Central Asia and Kazakhstan as the end of the VI-VII centuries i.e. the time of conquest campaigns undertaken by the first Turkic Kaghanate when the groups of the Altai Turks moved through the vast areas from the Great Chinese Wall to the Black Sea. If to consider the first half of the V century to be the real age of the III construction horizon, then sediments of the II and II construction horizons may be referred to the VI-VI centuries. It is also confirmed by the findings.

Thus, judging from the above, the appearance of the ancient settlement Yasi that began to rapidly develop from XIV to XIX centuries and turned into the large town known in XVI-XIX centuries under the name of Turkestan, may be referred to the middle of the I thousand A. D. Archeologically this was the period of the second stage of so-called Otrar-Karatau early medieval culture, when the number of settled areas emerged in South Kazakhstan, that laid a foundation for the medieval urban culture.

The town of Turkestan - one of the few towns of Kazakhstan with a 15 century-long history.

Architectural complex of Khodja Akhmed Yasawi

Architectural complex of Khodja Akhmed Yasawi (the end of the XIV century) - is a striking sample of the Timurid architecture. Within its structure the complex combines premises having various functions: jamaatkhana, gurkhana (burial-vault), the major and minor aksarais, kitapkhana, askhana, kudukkhana and a lot of khujdras. Resulting from all these functions of the complex scientists still argue concerning its name, so it has different names: mausoleum, mosque, memorial complex, khanaka. Each of these names emphasizes only one of the functions of this immense complex and obviously does not reflect all services and rituals foreseen by it. Recently specialists began to prefer the name „khanaka“ i.e. reception houses (monasteries) for dervishes.

Khanaka was erected by the order of the Emir Timur in 1399 at the burial place of Khodja Akhmed Yasawi, died in the XII century. The formal history of Timur „The Book of Victories“ („zafar-name“) relates the narration about laying of this building to the events of the end of 1397, when Timur made ceremonial (ziarat) worship on the grave of Akhmed Yasawi. According to the „Book of Victories“ notably during his staying in the town of Yasy Timur ordered to erect here, on the edge of his possessions, the immense monument worthy of the memory of Khodja Akhmed Yasawi. This monument was to glorify Islam, promote to its further dissemination, improve governing of these vast areas.

Timur himself determined the size of the erection, in particular, the diameter of the great dome had to be 30 gyazes (gyaz - is the measure of length, equal to 60,6 cm). The Timur's order also provided the instructions concerning some decorative details of the building and its inner decoration. Maulyan Ubaidullakh Sadr, the person responsible for the charity matters of the Emir had to ensure implementing the order on the erection. A special deed (vakuf-name) enumerated aryks (irrigation ditches) and lands alienated in the favor of the monument. Income derived from these possessions and donations of the faithful had to be used for the repairs of the building and keeping of the serving staff including a preacher, two Koran readers, property manager, a watercarrier, a gardener and a scavenger. Well survived inscription over the entrance to the building reads: „This sacred building has been erected by the order of the sovereign Emir Timur Gurgan, beloved by the Allah ... let Allah prolong his orders for centuries!“.

The Timur's orders on the erection were strictly implemented. According to the legend, when the mausoleum was being erected, along the way from khumdan (brick plant) located in Sauran to the mausoleum the workers stood in chain to hand over to each other bricks for construction. In 1405 Timur died, and the works on erection of the mausoleum of Akhmed Yasawi stopped. The portal part (peshtak) and decorating of interiors of some premises remained unfinished.

As it was mentioned above, the khanaka of Akhmed Yasawi - is a poly-functional erection including a lot of premises: djamaatkhana - a meeting hall, a burial-vault - a burial place of Akhmed Yasawi, a mosque, the major and minor aksarais - premises to hold meetings, disputes; kitapkhana- a room to make fair copies of papers, keep books and documents; askhana - a room to prepare ritual dishes; kudukkhana- a room with a well; khujdras - rooms for the serving staff of khanaka and pilgrims. Compositionally all rooms of the khanaka are combined into a quadrangle with a square about 50x60 m, and height - 15 metres. Domes and arcs of the portal rise over up to 38 metres.

The main premises of the architectural composition of the complex is the burial-vault of Akhmed Yasawi located in the depth of the erection. Over the entrance to the burial-vault there is an inscription reading: „This sacred burial-vault „raudat“ (literally - „the garden of sheriffs“) was erected by the order of...Emir Timur Gurgan...“. The term „raudat“ is used in translations as „burial-vault, though literally this word in the Arab language means „a garden“ that as applied to the burial-vault is to be translated as „the paradise garden“. Thus, the burial-vault designed as dwelling-place of a spirit of the buried here Akhmed Yasawi, is called the paradise garden.

Accordingly, the decoration of this premises was utterly refined. In the middle of the crossshaped hall (according to the plan) there is the grave-stone of the Shaikh, in the form of the three-step podium incrustated with plates of serpentine. The corner guldasts and a cornice of the grave-stone are decorated with a fretwork in the form of tight plaits and stalactites. There are no inscriptions on the grave-stone. The premises was covered by the double dome - the inner one - 17 m high, and the outer one - about 28 m high. At the foundation of walls the panel made of sixside green plates painted with gold is placed on the fretted stone plinth.

The mosque is located in the north-west corner of the building. The premises is covered by the dome,

placed high on the drum having the light apertures. The mosque is the only premises of the monument, where the fragments of wall paintings survived. These paintings were made with light blue paints and presenting geometric and vegetable ornaments embraced into belts and frames. The mosque mihrab that was made using the techniques of the composed glazed mosaic is considered to be the unique monument of the mosaic art.

The bounding link of all premises - is jamaatkhana - the main premises of the complex, square, with sides equal to 18.2 meters; it is covered by the spheric-conic dome with an ordinary envelope, the largest one among all survived domes in Central Asia. Here the meetings and group zeals (zikras) of dervishes were hold. In the centre of the hall there is a ritual cauldron (kazan; therefore another, more preferable name of the hall is kazanlyk). According to the legend, this cauldron was founded from the alloy of seven metals. The cauldron is a symbol of hospitality and unity. Its diameter is 2.2 m., the weight is 2 tons. Exaggerated size of the cauldron may be explained by the beliefs of ancient Turkic tribes: the edge of the cauldron is to be at the mouth level of a person coming to it. The cauldron surface is decorated with three belts of relief inscriptions on the background of vegetable ornament. The upper inscription reads that this cauldron for water - is the Timur's donation to the building erected in commemoration of Khodja Akhmed Yasawi. The wording of the middle inscription is „Be blessed“, the year the cauldron was made (1399), and the master's name - Abdulgaziz ibn Sharafutdin from Tebriz. The lower inscription is „The Kingdom Glory to Allah“. The handles of the cauldron are lotus shaped and take turns with round ledges.

Thanks to polychromic glazed incrustations, turquoise tints, that entirely cover the facades, the building looks very nice. The ornament is mainly epigraphic. All walls of the monument are covered with religious texts often included into geometric nettings - girikhs. The texts from Koran are placed on under-dome friezes and written by the canonical hand-writing „suls“; on the monument khadises, used in design of doorways and window openings are specially emphasised. Carpet fillings of the walls with stylised letters contain the most common theological maxims. The only facade of khanaka remained unfretted is the southern or the main facade of the building designed as a giant portal.

The Turkistan khanaka is a complex engineering construction. The immense size of the building with two tiers of windows, and two and even three tiers

of rooms predetermined refined and complicated constructive solutions. The foundations of the monument are clay layers at the depth up to 1.5 m., served also for hydroisolation of the walls. The most loaded parts of the monument are the portal pylons, jamaatkhana basis rests upon wattle and daub foundations. The walls are built of the square baked bricks with usage of ganch grout (a kind of gypsum).

The khanaka of Akhmed Yasawi played a major role in creation of the Turkistan necropolis developed on the place of the early medieval cemetery, consisting of several over-grave constructions and mausoleums with a traditional orientation of entrances to south-west - to Mecca. Building of the khanaka influenced the appearance of further burials of Khans near it. Thus, at the end of the XV century in Turkistan the mausoleum of Rabi'i Sultan Begim - the daughter of the famous Timurid Ulugbek, and wife of Khan Abulkhair was constructed. Afterwards, the mausoleums of Esim khan, Ablai khan, Djangir khan and others were constructed near the khanaka of Khodja Akhmed Yasawi. Few burials were made inside the khanaka, but considerably later. According to the Muslim beliefs, the burial near the grave of the saint promised his protection in next world, so there was a great amount of people willing to be buried closer to the mausoleum.

The khanaka of Akhmed Yasawi is one of the unique architectural constructions on the territory of Kazakhstan. The scientific investigation of the khanaka started at the end of the XIX century, though the descriptions of this building are met in various sources, beginning from the XV century. The first scientific expedition to the town of Turkistan was undertaken in 1905 - it was arranged by the Russian Committee for researches of Central and East Asia and headed by professor N.I. Veselovsky. The aim of this expedition was to make drafts of the monument. Beginning from 1922, several commissions took part in the technical investigation of the building. The most important investigations of the monument were made in 1952 - 1958 (B.N. Zasytkin, T.Sh. Karumidze, L.Yu. Menkovskaya, K.A. Shakhurin) and also in 1970-1980 (B.T. Tuyakbaeva, A.N. Proskurin).

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