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エジプトのトゥナ・エル＝ゲベル遺跡における観光計画の
実用化に向けて (英文)

モハメッド・カーター, 大城道則, ワヒード・オムラン

ウズベキスタン, カフィル・カラ遺跡出土木彫板の保存修復

村上智見

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TOURISM PLANNING IN PRACTICE AT THE SITE OF TUNA EL-GEBEL, EGYPT

Mohamed KHATER*, Michinori OHSHIRO** and Wahid OMRAN***

Abstract

This study will provide critical analysis of what tourism plan is and what the benefits of its implementation are. The tourism plan will assess the planning process, the elements to include in tourism plan, and the modalities for its implementation. The implications of the adoption of a tourism plan for the region of Tuna El-Gebel will be determined.

The area was designated for this plan is the archaeological site of Tuna El-Gebel in Minya governorate in Upper Egypt, specifically in middle Egypt, which suffers from the absence of any current tourism plan. It is a mountain place that contains many unique archaeological elements that are distinguished by the site more than the other archaeological sites in Egypt.

1. Introduction

Tourism Planning is a gradual process that must be comprehensive, continuous, integrated, and environmental with a focus on achieving community participation and sustainable development [Inskeep 1991]. Before reviewing the steps to be taken in the planning process for the site of Tuna El-Gebel, it is necessary to clarify the identity of the site and its distinctive elements.

The ancient cemetery of Tuna El-Gebel is located in Mallawi [Badawy 1932]. It is the cemetery of the old city of Hermopolis Magna today's Aschmunen [Hawas and Sharkawy 2005] (Fig. 1 and Fig. 2). Tuna El-Gebel "Hermopolis West" was consecrated to the Greek god Hermes and his Egyptian accomplice Thoth [Gabra 1932]. It is best known for the widespread catacombs at the foot of the western hills, where thousands of ibises committed to Thoth and other sacrosanct creatures buried from the New

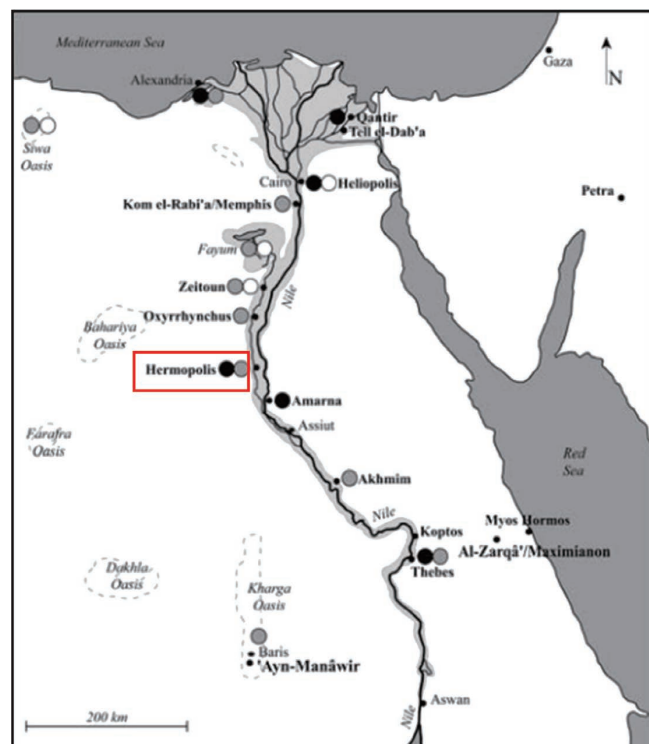


Fig. 1 Map of Egyptian archeological sites including Tuna El-Gebel (marked with a red box). [After Newton, Terral and Ivorra 2006]

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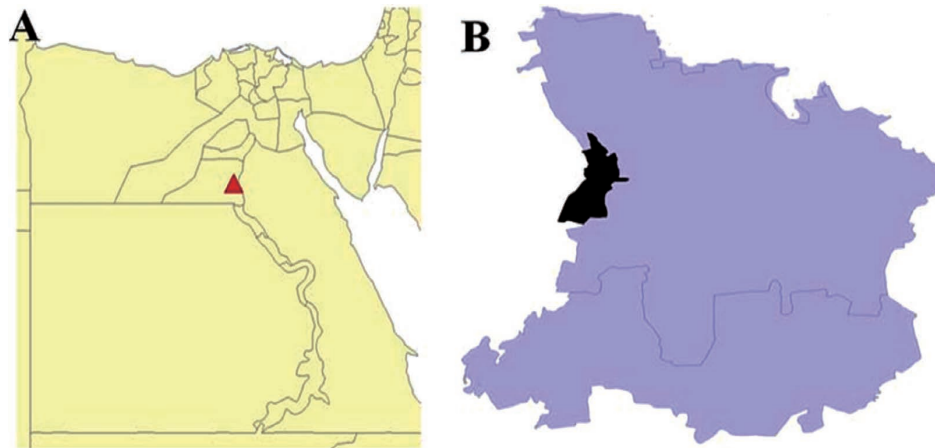


Fig. 2 Map of Egyptian archeological sites including Tuna El-Gebel (marked with a red triangle). [After Harby 2011]

Kingdom till the Roman times [Gabra 1939]. Another primary fascination of the location is the early Ptolemaic tomb of a high cleric of Thoth named Petosiris, enhanced with reliefs in a mix of Greek and Egyptian styles [Pensabene 1993]. Several Roman-era tombs lie the south. The most magnificent one of these, the tomb of Isadora whose mummy lies in her grave in a glass case [Kaplan 1999]. The oldest monument at Tuna El-Gebel is a stela on the northwest boundary of Akhenaten's city at Amarna, partway up a slant north of Hermopolis West [Wilkinson 1835]. It bears scenes of Akhenaten and Nefertiti while worshipping Aten [Wilkinson 1843; Murnane and van Siclen III 1993]. The site also contains a water wheel that maybe a tank developed in the shape of a round and hollow well. It is the most abundant water source of its kind in Egypt during the Roman period. Additionally, it is the oldest water wheel in Egypt [Tyldesley 1999; Badawy 1956].

2. Literature Review

The preparation of this tourism plan is based on many previous studies of other sites that have the same characteristics of Tuna El-Gebel site such as the plan of the Petra area in Jordan as well as the instructions issued by the World Tourism Organization and many articles in the process of planning. Tourism is a complex activity that overlapped with many other sectors of society and economy, and without scientific planning may lead to many undesirable and unexpected impacts [World Tourism Organization 1994]. Therefore it must be developed and managed in ways that are both controlled and sustainable while based on sound planning. In addition to this, tourism must be integrated with broad planning processes to promote economic, social, and environmental goals that can be achieved through appropriate tourism development [Hall 2000]. Tourism planning is related to the same concepts and approaches as general planning, where we can define it as a set of different decisions that designed for future planning [Hall 2000]. The tourism planning objectives should be four main objectives: sustainable use of resources, enhanced visitor satisfaction, integration of the local community and the region, and improvement of economic and business success [Gunn 2002].

3. Methodology

The philosophy of pragmatism is the most confined approach to manage this study because it considered a descriptive approach. Consequently, qualitative and quantitative (adductive) methods will be employed throughout the study, additionally, photography and interviews with the local

community, site crew, inspectors, and stakeholders to will represent the qualitative part of the present study, on the one hand. Many methodologies were used to implement this tourism plan as follows.

The study relied on the latest research in many different scientific sources such as scientific books, research articles, and various encyclopedias which are directly related to the subject of the study. Comparing all available information to arrive at the appropriate method to design a tourism plan that suits the archaeological site understudy and following the Egyptian conditions to make the most of the application of that plan. The study also relied on direct observation of the researchers through frequent site visits and inspecting all the elements of the site of Tuna El-Gebel to identify the current status of the archaeological site in terms of the conservation status, available tourist facilities, technical performance within the site as well as threats that may hinder the development process and accordingly, an appropriate tourism plan is prepared.

Finally, the researchers analysed all the data obtained and adapted it to be suitable for the archaeological site to prepare a tourism plan that serves as a guide for all other heritage sites in Egypt.

4. Results and Discussions

4.1 The Avails of Tourism Planning

The planning of tourism is of great importance, as has been emphasized by many specialists [Godfrey and Clarke 2000; Hall 2000; Gunn 2002; Inskeep 1991], stressing that planning is the development and implementation of action plans to achieve the goals and objectives of the tourism sector more efficiently and effectively through planning and to integrate them into the country's comprehensive development plans and programs. Proper planning and good management are essential tools needed to improve tourism benefits and minimise problems that may occur [Inskeep 1991]. The project also helps to reduce potential negative impacts and maximise profits and economic returns to the target area, which in turn will lead to a more positive response to tourism in the long term from the local community. As the World Tourism Organization (WTO) referred in 1994, that the areas where tourism already established are often in need of planning to revitalise the sector and maintain its future powers. Tourism planning in Tuna El-Gebel area can help achieve sustainable development to ensure that the resources available on the site, whether natural, cultural, or other resources available, are maintained for future use. It will also bring benefits to the community as well as to achieve tourism satisfaction, which will lead to the success of tourism in the region and the country as a whole through analysing the current situation in Tuna El-Gebel region, as well as make recommendations for improvement in the area for sustainable development.

4.2 Elements of the Tourism Plan, Planning Process, and Implications.

4.2.1 Tourism Resource and Attractions

The area of Tuna El-Gebel enjoys the elements of tourism, which is considered one of the most important cultural tourism sites in Egypt. Besides, its archaeological contents are unique and recognised as a comparative advantage to the archaeological site than the other archaeological sites in Egypt. The tourism resources on the site are as follows.

4.2.1.1 Identity of the site

The first question raised by the Tuna El-Gebel is that of its character, and by starting from this point, can a marketing concept be developed in terms of tourism products, information, and promotion. This methodological approach is essential to guarantee the quality and authenticity of the cultural product to be sold abroad and experienced on the spot by both national and international tourists and excursionists. There are several scientific approaches to the site: historical, artistic,

urbanistic, ecological, and geological. These approaches should nourish the cultural content of the different discovery products of Tuna El-Gebel in keeping with the spirit of the place, and with its function of transmitting a cultural heritage site. The theme of archaeological buildings can be said to be the foundation of the identity of the site, the unique architectural designs that appeared for the first time in that site gives the ancient city its character. In this sense, Tuna El-Gebel bears a message of life, science, and art, as, the site contains unique tombs designs that appeared for the first and last time in Tuna El-Gebel. Some of these tombs in the shape of a temple and others in the form of a house. Also, it contains the oldest remains Roman waterwheel and well-shaft in all Egypt. Besides this, the antiquities in the site date back to various ages start from the new kingdom till the Greek-Roman period, and the site was in use till the Arab times.

4.2.1.2 Site description.

The area of Tuna El-Gebel, west of the sea of Youssef, is located 8 km from Ashmounin, 20 km from Mallawi. The area containing the antiquities is 3 km from the village of Tuna al-Gebel. It has been used by Ashmounin residents to bury their dead since the late period [Lefebvre 1923–1924]. Tuna El-Gebel contains 12 temples, 24 funerary houses, as well as the temple of Ba-de-Osir in addition to the underground galleries and boundary stele of Akhenaten [Gabra 1974]. The study area in Tuna El-Gebel includes a group of tombs in the form of temples, the general layout described as a front hall (Pronaos) followed by a temple (Naos) and an altar in front, and this is the first time to see tombs in the form of temples in Egypt. The most important of these temples is the temple of Petosiris and the temple of Paddikam [Grimm 1975]. The area also includes a group of tombs in the form of houses and usually consists of a front hall and a burial chamber with a funerary bed. These houses are one of the essential sources for the study of the models of humans in that region of the Egyptian provinces in the Roman era. It is also the first time in Egypt that there are tombs in the form of houses and perhaps the most important of these houses Isadora house [Istituto Papirologico and Vitelli 1989] (Fig. 3 and Fig. 4). The site also contains the Ibis and Baboons cemeteries. The symbol of the god Thoth the idol of the city. It is composed of 4 serdabs carved into the rock and includes thousands of mummies for ibis and baboons [Nur Ed-Din 1996]. Tuna El-Gebel consists of the Roman water wheel, which is a steeple over a two-story well that represents one of the architectural wonders of the ancient world. Besides the Akht-Aton boundary stela which is the best-preserved boundary stela, that carved in one of the rocks of the site before the entrance of the Tuna El-Gebel cemetery, which is about 8 meters high [Cadalvène 1836].

4.2.2 Infrastructure Analysis of the Site.

4.2.2.1 Lack of tourist accommodation

Generally, the number of hotels in Upper Egypt and especially in El-Miniya governorate is insufficient and not at the appropriate rate.

4.2.2.2 The current capacity at Tuna El-Gebel

Presently, there are no hotels in the entire village, where the site in Tuna El-Gebel suffers from a lot of neglect and lack of tourism facilities from the accommodation places and others.

4.2.2.3 Poor technical efficiency of the site

The archaeological site of Tuna El-Gebel suffers significantly from the lack of facilities and access. The most urgent problems the lack of lavatories and the only existing one is in terrible conditions, also the lack of public facilities.



Fig. 3 Satellite image of the study area, Tuna El-Gebel. [© Mohamed Khater]



Fig. 4 The site of Tuna El-Gebel, Egypt.
[Source: <https://tunaelgebel.wordpress.com/tuna-el-gebel/>]

4.2.2.4 Circulation

There are no specific paths for visitors to enter and exit the archaeological site, so visitors are forced to return from the same route they came from which leads to congestion and challenging to pass between those who have finished their visit and the entrants. The current routes also are not well paved, which will make it more difficult (Fig. 5 and Fig. 6). Also, the visitors' trails outside the archaeological site need to be defined (Fig. 7). The creation of a minibus service could be imagined to pick up visitors from the proposed tourist accommodation places to the site to start their visit, and at the end of their stay, they take them back to their recommended tourist accommodation places.



Fig. 5 Trails inside the archeological site, Tuna El-Gebel. [© Mohamed Khater]



Fig. 6 Trails inside the archeological site, Tuna El-Gebel. [© Mohamed Khater]



Fig. 7 Trails outside the archeological site, Tuna El-Gebel. [© Mohamed Khater]

4.2.2.5 Transitional measures

The site is suffering from a lack of public facilities such as transportation inside the site, such as horses, camels, and donkeys. So, they should exist to carry a visitor-tourist to start the visit and return to the entrance again from another route than the first one to take other passengers.

4.2.2.6 Absence of signposting

The signposts are almost totally absent from the site, and the currently exist panels inside the archaeological site also are inferior quality, and it is not coherent which makes it difficult to read and understand it (Fig. 8, Fig. 9 and Fig. 10). There are also no qualified local guides, and in many cases it is the primary thing for both individuals and groups of tourists, to provide some information for each one of the elements of the site. To preserve the harmony of the site, a completely new signposting system should be designed by a group of specialists, only dedicated to the archaeological site of Tuna El-Gebel.



Fig. 8 Current signposts, Tuna El-Gebel. [© Mohamed Khater]



Fig. 9 Current signposts, Tuna El-Gebel. [© Mohamed Khater]



Fig. 10 Current signposts, Tuna El-Gebel. [© Mohamed Khater]

4.2.2.7 Absence of sanitary facilities

The archaeological site of Tuna El-Gebel suffers from the lack of hygienic facilities which directly incite the people, particularly groups of older people to do not prolong their stay duration in the site (Fig. 11). The site needs to fix the current non-human lavatories and need many new bathrooms, discretely hidden from view in unique planned spaces, and provide a water supply system and dispersion tanks to it.

4.2.2.8 Absence of specific borders

One of the high weakness points in Tuna El-Gebel zone is the lack of appropriate boundaries; therefore, the site suffers from great difficulty in securing its elements from theft as well as preserving it from damage (Fig. 12 and Fig. 13).



Fig. 11 Current sanitary facilities, Tuna El-Gebel. [© Mohamed Khater]



Fig. 12 Current borders, Tuna El-Gebel. [© Mohamed Khater]

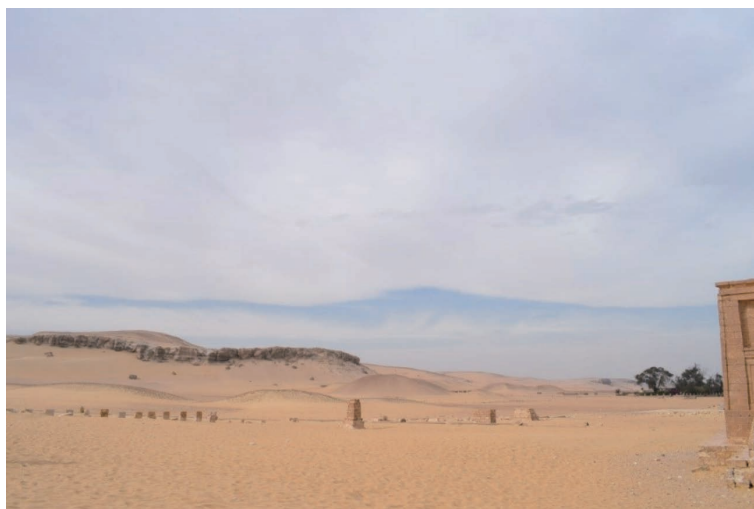


Fig. 13 Current borders, Tuna El-Gebel. [© Mohamed Khater]

4.2.2.9 Harm due to the sand of the desert

According to the lack of specific borders and windbreaks in the site, most of the site elements partially merged under the sand of Tuna El-Gebel desert and also caused a movement obstruction to the site visitors (Fig. 14 and Fig. 15).



Fig. 14 Funerary houses under the desert sand, Tuna El-Gebel. [© Mohamed Khater]



Fig. 15 Funerary houses under the desert sand, Tuna el-gebel. [© Mohamed Khater]

4.2.2.10 Lack of information policy (visitor center)

The site of Tuna El-Gebel suffers from the absence of the visitor center. This problem must be remedied to acquire a frame of reference for understanding the site and should be explained the geological formation of the site, the history of the site; the occupation periods, the historical eras, the architecture characteristics, the main god of the site and the archaeological discovery trails. We should hire a guide or one of the ministry of tourism staff from the site, visiting one of the archaeological digs, reserving for a horse, camel, donkey, etc., will be indicated precisely. The visitor center should also contain a tourism counter for reservation. The main themes will be advanced in the form of relief models, maps, graphical panels, and showcases containing selected objects from different eras.

4.2.2.11 Depletion of water resources

There will be a shortage of water resources, especially for the increasing needs of the local population of water continuously as a result of the increase in the people, which must be the priority in the water to them. In addition to the needs of tourism also of water and is likely to grow and increase the demands of tourism from water in the planning framework for new hotel projects which may lead to exceeding the capacity of the region. Therefore the water supply system should be developed to provide water for all the above needs until the development process is stable. Consequently, it is necessary to create many recommendations and solutions that will overcome these problems for proper tourism planning and make full use of tourist activity. These recommendations are as follows.

4.2.3 Program: Tourism

4.2.3.1 Sub program: tourism infrastructure

At Tuna El-Gebel, the issue of tourist accommodation is simple to resolve. Currently, there's a significant need for visitor's facilities in Tuna El-Gebel. Demands for visits as of now surpass the current facilities, and they will increment with time. However, it isn't a matter of restricting the flow of visitors, but of overseeing tourism more efficiently. Tourism can be harmful to the site, but it can be a figure of preservation and a financial opportunity that ought to certainly be favoured to hurtful and dangerous industries. The statistics of guests per day recorded for the site of Tuna El-Gebel that I clarified before recently appear colossal as they were in comparison with the facilities' deficiencies, but it is still shallow in comparison with other worldwide touristic sites. A distinctive management program is required. The ministry of tourism branch in Minya governorate in cooperation with specialists of the location of Tuna El-Gebel will prepare new itineraries and chances for more extended visits. The traveller show of the vast lodging in an all-encompassing and prevailing setting, away from the town, requests a brief and costly remain, cut off from the town centers, and with no advantage for the last mentioned. A new program might meet the prerequisites of the nearby populace to advantage more from tourism and might coordinate the requirements of tourism with the point of securing the architectural design and natural scenes. Thematically and geographical expansion of touristic activities ought to be the spine of this management program. To this conclusion, we propose many distinctive frameworks of tourist accommodations.

4.2.3.1.1 Action: possible hotels projects

In any case, it is possible to build a hotel infrastructure at Tuna El-Gebel. Therefore, several projects inside and outside the site of Tuna El-Gebel can be studied:

- Hotel tourism

Because of the low hotel level in El-Minya governorate, the creation of a tourism and hotel Centre with the construction of luxury hotels at the beginning of the road that leads to the archeological site in vast areas on both sides of the way, which is a considerable distance from the archeological site to save the authenticity and integrity of the site. The existing of this kind of hotel will be a good marketing point for the village of Tuna El-Gebel in general and the archaeological site in particular.

- Eco-lodges

The archaeological site needs this type of tourist accommodation intended to have as little effect as possible on the natural environment in which it is located. Besides being environmentally conscious in a nation that desperately requires, the beauty of eco-lodges is that their focus on nature is genuinely a disincentive to many individuals, so they offer an opportunity to leave the town behind and give your mind a much-needed break. In Tuna El-Gebel, there are many vast areas around the mountains of the site that allows the establishments of this type of tourist accommodation (Fig. 16, Fig. 17, Fig. 18 and Fig. 19).



Fig. 16 Eco-lodge sample, Petra, Jordan. Petra visitor center.

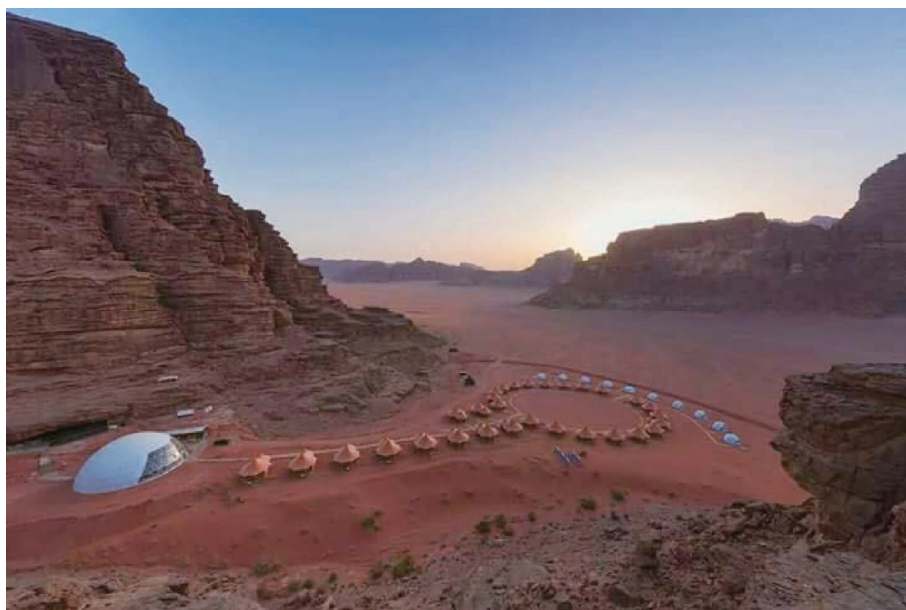


Fig. 17 Eco-lodge sample, Petra, Jordan. Petra visitor center.



Fig. 18 Eco-lodge sample, Petra, Jordan. Petra visitor center.



Fig. 19 Eco-lodge sample, Petra, Jordan. Petra visitor center.

- Nomadic tourism

Tuna El-Gebel and the large area surrounding it offer a variety of landscapes that an exhaustive visit can only provide by itinerant tourism (Fig. 20). The trip with guides, by camel, on horseback, with donkeys or on foot, could be made by small groups using temporary accommodation and tents (Fig. 21 and Fig. 22). Sufficient preparation of the itineraries, a thorough knowledge of the terrain would be necessary, and no initiative outside the pointed plans should be allowed.



Fig. 20 Nomadic temporary accommodation sample, Petra, Jordan. Petra visitor center.

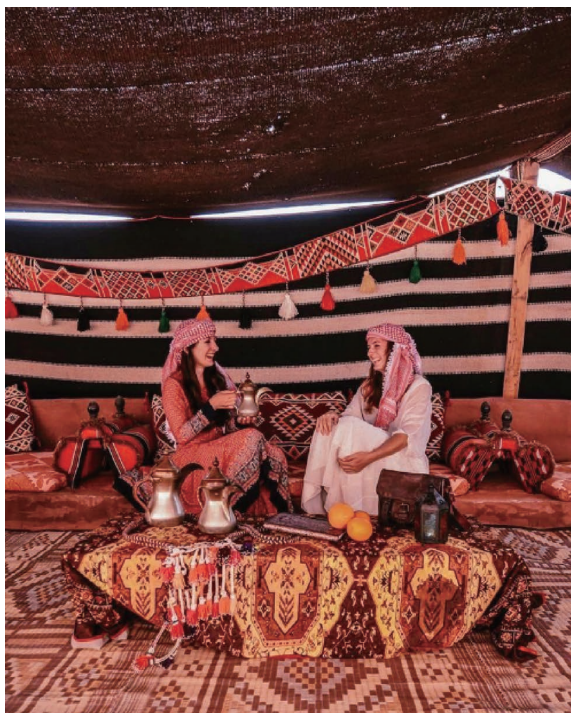


Fig. 21 Nomadic tent sample, Petra, Jordan. Petra visitor center.



Fig. 22 Nomadic trip sample, Petra, Jordan. Petra visitor center.

4.2.3.1.2 Action: sanitary facilities development

The archaeological area suffers from vast poverty in the health services, which are almost non-existent. The health services there is a water cycle not suitable for human use at the beginning of the site for the workers on the site. In addition to one for another but not fully used, which leads to the lack of completion of the visit on the site, especially for groups of older people because of the lack of any comfort methods for them. The archaeological area needs a sufficient number of restrooms for those purposes with water supply systems in addition to the reservoirs, and also small cafes beside these restrooms and places for refreshments and points of sale. To balance the development process with the available site resources, several detailed studies must be carried out to maximise the water supply at the site as well as to maintain the identity of the site by integrating the design of these new facilities in the surrounding areas so as not to be visually visible and affects the harmony of the site and distorts the landscape of the archaeological sites.

4.2.3.1.3 Action: establish new cafes and shops

The Tuna El-Gebel archaeological site suffers from the lack of cafés and shops, which are a cornerstone for the convenience of visitors. The tiny and only café is located at the entrance to the site and offers nothing but tea to the employees inside the venue. To find out that the site is in need to create more than a cafe to provide convenience to visitors as well as provide their requirements. We also find that the site completely free from any shops, whether to sell antiques or handicrafts for local people, so it is necessary to create a group of shops to market the products of the local population. The construction of permanent traditional markets at the current entrance of the site for guidebooks, films, postcards, and the local community handicrafts is essential. Also, two or three tea shops inside some of the less critical spots would make the visit more comfortable and facilitate contacts with the bedouins. Besides establishing a souvenir shop at the end of the main itinerary to sell certified copies of the artefacts that will be located in the museum alleged establishment at the archaeological site is very important.

4.2.3.1.4 Action: site electricity

Although the site draws the current energy sources from the electrical wires coming from the village of Tuna El-Gebel. However, with all these constructions and developments within site, there must be a large electricity generator inside the venue and placed in a dedicated room below the ground so as not to cause inconvenience for visitors the result of his voice is very high during work.

4.2.3.2 Sub Program: visitor circulation

Several points will have clarified which will preserve the cultural heritage of the region. By introducing many services to the area to facilitate tourists' visit and to provide them with the highest possible comfort during their stay, they may have a lot of damage and adverse effects on the region and its archaeological buildings. Therefore, concerning that part of the management plan for the routes of visitors, there should be a park for the buses of visitors before the current entrance to the archaeological site and at a distance of 1 or 2 km. Then the visitor's choice either entering the archaeological site on foot or using open vehicles, which will be prepared especially for the archaeological site. They can also choose between the use of such cars, carriages, horses, camels or donkeys, all of which will determine from the ticketing terminal, which will be constructed next to the tourist bus park. After arriving at the current entrance to the archaeological site, visitors will have to start the visit inside the site using one of the suitable transportation or on foot. These also will be set at the beginning at the ticketing outlet where it will specify in the value of the ticket and the services offered by each form of different tickets on, according to the services provided. When planning the new itineraries within site, the tracks will be accommodating more than a group of

visitors, whether walking on foot or using transportations, so that neither group will affect the other negatively. But if you choose to visit by carriage, the visit will take place according to the specific route, but when you reach the area of the funerary houses at the tomb of Isadora and if the tourists want to walk between these houses, they must leave the conveyances to wait while they do this part because of, the narrow space between the houses of the funerals and each other and also to preserve them and after the completion of that part they back to the carriages again to complete the rest of the visit either by going to the Roman water wheel. Then the bedouin tent, which will be created on a specific distance from the archaeological site or go directly to the bedouin tent. These tracks will undoubtedly be subject to modification after that according to the data that will be available at that time and also according to the services and facilities to be added after that. Through the preceding, the preservation of the region's heritage should be taken into consideration, not to be affected by the new services that will be provided at the site, also, taking into account the economic interest of the local population as well.

4.2.3.2.1 Action: the creation of new itineraries and current signposting development

The archaeological site needs to develop the routes of the visit within site widely and urgently. The existing tracks have a significant adverse effect on the underground galleries as a result of the pressure of the visitors in some seasons, so it is necessary to develop these itineraries holistically, in addition to creating many routes to connect the contents of the site. Currently, in some places, especially in the funerary houses, there are no itineraries, which is mandatory for visitors to walk in the sand, which moves difficult and exhaust visitors. Also, to create routes to link the facilities that will have established, such as bedouin tent and eco-Lodge hotels as well as bedouin hotels in addition to the restaurants that will set in the site. Besides, the signs must develop inside the place in front of each archaeological building, in a manner consistent with the nature of the archaeological site. In addition to the development of signposts in the entrances and exits as well as in the itineraries that dedicated to pedestrians or carriages, as well as placing signs on both sides of the routes to clarify some information about the site while moving from building to other, as we should put signs and guidance as well as information boards about the site from the beginning of the road after the village of Tuna El-Gebel and even access to the entrance to the archaeological site.

4.2.3.2.2 Action: the creation of a minibus service.

It is necessary to establish a small company that follows the administrative structure of the archaeological site and is responsible for the operation of these small vehicles that transport visitors from the moment they get off the buses to the archaeological site. Also, to carry them after the end of their visit to the hotels of the site if they wish. It is, therefore, necessary to have from 5 to 7 vehicles to transport from 25 to 35 passengers to and from the archaeological site. It is also essential to consider that these vehicles should be environmentally friendly, where it is preferable to use electric cars to reduce emissions that may negatively affect the archaeological buildings, in addition to the establishment of a workshop to maintain these vehicles.

4.2.3.3 Sub program: handicrafts expansion

It is regrettable that despite all of the unique archaeological properties of the site, there is no any form of selling and marketing the products of the local population of handicrafts whether they are related to certified copies or other handicrafts products, so there must be some steps which should follow for the development of that part.

4.2.3.3.1 Action: establishing a visitor center

It is necessary to create a visitor center, and its role will serve as a guide that will help the visitors

to form a general idea about the archaeological site and explain its contents in a better manner. Several topics will be described to the visitors to interpret the archaeological site regarding the geological formation of the archaeological area and the periods in which it formed. The history of the archaeological region from the late pharaonic times through the Greek era in Egypt to the present time. The characteristics of the architecture that characterise the archaeological area, the god Thoth; the main god of the region and the ways of worship and forms and his priests and everything related to the religion, as well as the modern archaeological discoveries in the area. There will also be a possibility through the visitor center to rent a guide or visit one of the sites of recent archaeological discoveries, which will dedicate to the visit by the management of the site and the archaeological mission can also book a trip within site on the camels, horses or donkeys. There will be a presentation of selected pieces of art from different periods, as well as within the contents of the visitors center will be a lecture hall, with all the necessary equipment to present an audio-visual presentation in a panoramic form of the site from all sides.

4.2.4 Economic Analysis of the Site

Before the revolution of 2011, the number of monthly tourists was relatively large, and there was a slight interest in the region. However, after the revolution, the site, like many archaeological sites, suffered from lack of support and weak services, which led to a decrease in the number of tourists. At present, during the winter and autumn months, the number of tourists is between 500 to 900 foreign tourists per month and 200 to 300 Egyptian visitors, in addition to the school groups, which sometimes represent a very high pressure on the region as a result of increasing numbers. In addition to the days of events such as Easter, we find that the area suffers from the number of visitors as it reached to about 6000 visitors in one day. During the spring and summer months, the numbers are much smaller than that, so that the number of foreign tourists during this period no more than 100 tourists, and the number of Egyptians visiting the region is also decreasing coincide with the final examinations with those months. One can start from the hypothesis that the volume of tourism will reach three times the current number, reaching 300 foreign tourists per day as a first stage and work to increase the number after that to reach about 600 visitors over the next five years. (Set up many hotels and camps, promotional activities, etc.). Despite the total number of tourists is not very high, the concentration of people in only a few places such as Petosiris tomb, Isadora tomb and a small part of the animal necropolis.

4.2.5 Antiquities Legislation in Egypt

The previous antiquities law (n117, 1983) was strong enough to protect the archaeological remains, but owing to the lack of funds, law enforcement was feeble. Moreover, the law was inadequate for the preservation of the surroundings of the antiquities, but the amendments made by parliament in 2010 and 2018 to the antiquities law would have faced the imbalance in the old law and adds more protection to antiquities. The boundary of the archaeological site of Tuna El-Gebel must demarcate permanently to carry out the monitoring process well and regularly. In the process of demarcation, clear physical lines such as vertices, gorges, or roads should have chosen. Signs and beacons must be placed on regular dimensions according to site boundaries.

4.2.6 Economic, Socio-cultural and Environmental Impacts of Tourism to the Site

When tourists come to a place, they not only bring with them money, but they also attend their customs, traditions, values, and many more. Therefore, the impact of these things is excellent on the local community in the tourist destination, but the intensity of these factors depends on a critical factor in the number of tourists. When the number of tourists increases, the influence of these factors on the local community also increases, especially during the tourist seasons, where the number of tourists

is growing significantly, but despite the positive effects of these factors, but it can become factors that harm the local community, due to the close interaction between them and the tourists from different cultures, leading to changing social values [Lickorish and Jenkins 2006]. Therefore, the number of tourists should not exceed the limit of the number of visitors to limit the adverse effects of tourism. Thus, the capacity of archaeological sites has defined as “the level of tourists’ presence, which creates many positive impacts on the local population, the environment, the economy and tourists and will be sustainable in the future” [Magas 2003]. During weekends and school holidays, Tuna El-Gebel has invaded by a high number of uncontrolled young urban people. They make a high noise, the site becomes unclean, and sometimes they commit vandalism, which leads to the occurrence of many harmful environmental impacts either on the site or on its archaeological contents, which over time, they may become extinct. In addition to the above, the effect of tourism on the local community is also deliberately on the degree of social and cultural differences between them and visitors, where the higher the differences, the greater of effects, so the international or foreign tourism more influential than local tourism because of the different cultures significantly. We find that all sectors have linked to each other. There is a correlation between the economic effects of tourism on social influences and vice versa, where both benefit from tourism. Tourism in culture and local society benefits from improving the image of the site Tuna El-Gebel and increasing the length of stay and increase the satisfaction of tourists on the products provided and work to motivate them to re-visit again and the opening of many new sectors in the tourist market. On the other hand, tourism offers additional sources of income for the local population and the country [Bulic 2009]. Due to the absence of a specific system through which the economic effects of cultural tourism can assess, it is difficult to quantify these economic effects measurably. This type of tourism considered a complex phenomenon because it closely linked to many other commercial branches, cultural tourism, so the economic impact of cultural tourism is difficult to estimate.

5. Implementation

The proposals mentioned above will implement through numerous consultations in various disciplines through national specialists as well as international consultants. The construction work is carried out by a specialised company in the design of exhibitions and museums through the submission of a detailed architectural plan. The scientific program has implemented through cooperation between a committee of specialists in Egyptian archaeology as well as one of the international experts specialised in this field as well. Also, some of the technical works will be carried out through the cooperation between the Egyptian authorities represented in the ministry of antiquities should be carried out in collaboration with the NGO.’

6. Conclusion

Proper tourism planning is an essential factor behind the benefits of many archaeological sites and countries as well. Because of its many and varied influences, the area of Tuna El-Gebel in Minya governorate should adopt this tourism plan extensively and achieve the principle of sustainable development, which will make the archaeological site more developed from the tourism side and become one of the most successful tourism destinations. The plan will remove most of the constraints facing that development and help to achieve a high level of satisfaction of tourists and thus will benefit the community and the country as a whole.

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ウズベキスタン, カフィル・カラ遺跡出土木彫板の保存修復

村上 智見*

CONSERVATION AND RESTORATION OF WOOD CARVING UNEARTHED
FROM KAFIR-KALA IN UZBEKISTAN

Tomomi MURAKAMI*

Abstract

The wooden panels have been discovered from the innermost central room (R 15/16) of the citadel of Kafir-kala. All of the panels are carbonized and consist of one square wooden panel (about 130 × 114 cm), one wooden arch-shaped panel (about 300 × 55 cm, of which 156 × 55 cm are preserved), and several other pieces. The type of wood used for these panels is determined to be poplar.

The panels bear numerous small cracks across their surface. However, they did not break down in the soil due to their carbonization and could survive to this day. The engraved patterns are almost completely preserved in detail. On the square and arch-shaped panels, the goddess Nana and human figures bringing various offerings in their hands to her have been depicted.

In order to safely take these up from the excavation site, we applied paraloid B-72 and paraffin to the wooden panels. After successfully transporting them to the laboratory, they have been undergo a special cleaning process. In cooperation with the Louvre Museum (Paris), we are currently seeking the most optimal method of conservation and restoration for these panels.

1. はじめに

ウズベキスタン共和国のサマルカンド市は、東西・南北交易路の十字路として古くから都市が形成され繁栄してきた。サマルカンドはシルクロード交易で活躍したことで知られるソグド人の本拠地・ソグディアナの中心地でもあり、彼らが築いた 220 ha にも及ぶ都市遺跡・アフラシアブからは美しい壁画などが出土し、当時の繁栄ぶりを今に伝えている。

2005年度から始まった日本・ウズベキスタン共同調査（日本側は2005年～2013年度まで国際日本文化研究センター、2013年度から帝塚山大学、2019年度から国立民族学博物館。ウズベク側はウズベキスタン共和国科学アカデミーサマルカンド考古学研究所）は、ユーラシアにおける東西交流において大きな役割を果たしたソグド人の歴史と文化、およびシルクロード交流の実態解明を目的として、ソグド人の本拠地であるソグディアナ地域（ザラフシャン川中流域）において調査を実施している。2013年度からはカフィル・カラ（Kafir-Kala）遺跡シタデルの発掘調査を行っている。

2017年度の調査で人物群像が刻まれた木彫板数点が出土した。これらはほぼ完全に炭化しており非常に脆弱な状態であったが、図像は細部に至るまでほぼ完全に残存しており、ソグディアナの文化や美術、宗教観を知る上で極めて重要な資料となった。

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これらは無事遺跡から取り上げることができたが、今後どのような方法で保存・修復・保管を実施していくかが大きな課題となっている。炭化木製品の保存・修復事例は現地においても報告が少なく、日本の事例を見てもこれといった方法は確立されていないように見受けられた。

そこで本稿では、中央アジアにおける当該出土木製品の保存・修復事例を紹介し、炭化木製文化財保存の問題点を提起することを目的に、調査過程において明らかとなった木彫板の図像および製作技法、および木彫板の取り上げ・保存・修復過程について報告する。

2. 遺跡の概要

カフィル・カラ遺跡は、ソグディアナの中心都市であるサマルカンドから南に約12キロ、ダルゴム運河沿いに位置する都市遺跡である（図1）。カフィル・カラとは「異教徒の城」という意味であり、イヴン・ハウカルが著した中世アラビア語史料に見られる「サマルカンドの王たちの離宮」にあてる見方が有力視されているが、ゾロアスター教寺院説を唱える研究者もあり、今のところ遺跡の役割は明らかになっていない。

カフィル・カラ遺跡は、シタデルと呼ばれる約76 m × 76 m の城と推測される小高い丘* 状の遺構を中心に（図2）、シャフリスタン・ラバドと呼ばれる居住区などが広がっており、総面積はおよそ16 haである（図3）。

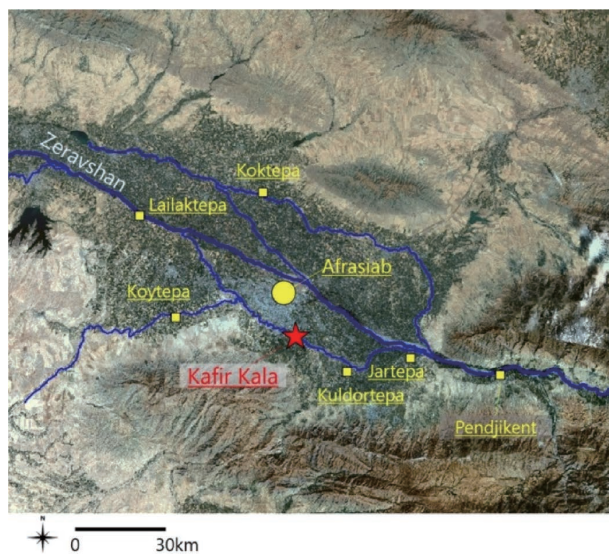


図1 遺跡の位置（宇佐美智之氏作成）



図2 シタデル全景



図3 カフィル・カラ遺跡全景

遺跡は二重の堀に囲まれており、2019年度のシャフリスタン試掘調査では、ダルゴム運河に面する場所から分厚い壁が確認された。さらにシタデルを取り囲むように南北に3基ずつ、合計6基の塔が配置され、そのうち南の中央の塔はシタデル正門への入り口として機能していたと推測されている。

南の正門がシタデルへの唯一の入り口であることや、城壁には矢狭間が設けられていることなどから、強固な軍事的機能を備えていたことが明らかとなっている。さらに四隅にはそれぞれ塔が配置され、それを繋ぐように回廊がめぐらされている（図4）。シタデル中央には樹木を植えた中庭があり、その北の一段高い場所に壁画を持つ大型建物、さらにその北側奥には7つの部屋が設けられている。

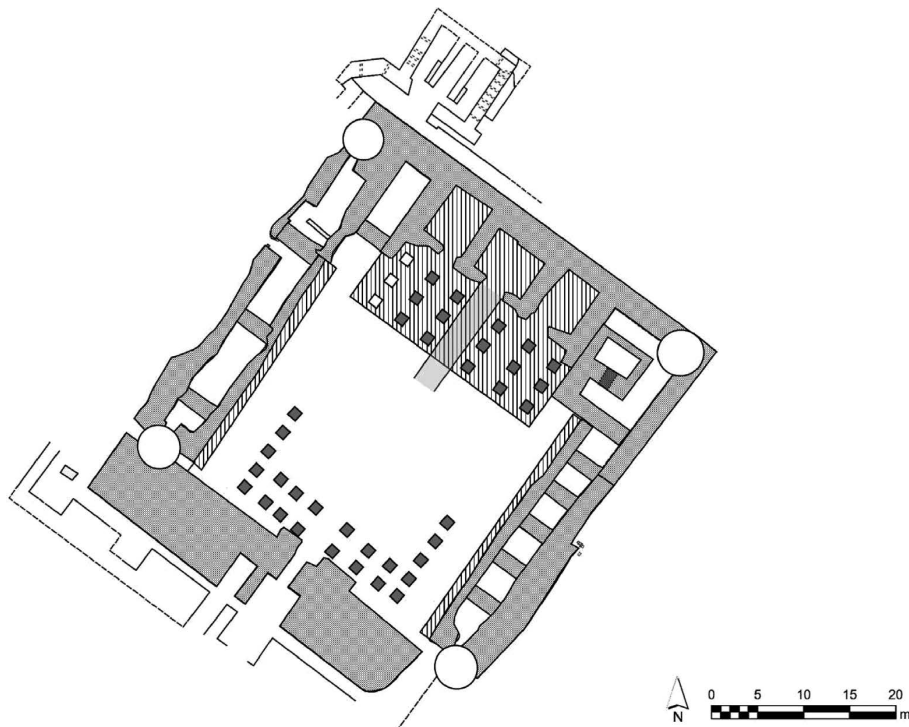


図4 シタデル平面図（宇佐美智之氏作成）

2019年度までにシタデルは火災層のレベルまで発掘され、ほぼ全面が8世紀初頭の火災層で覆われていることが分かった。火災層とその直下には豊富な遺物・遺構が包蔵されていた。火災層中から発見された最も新しい時期の貨幣から、タルフン王 *trxwn MLK'*（在位700～710年）の在位中もしくはそれ以降に火災に遭ったと推定される¹⁾。これは710年頃にイスラーム勢力の攻撃を受けたという歴史的出来事を裏付けるものである。

これまでの発掘調査によって、それぞれの部屋の機能も徐々に明らかになってきた。シタデルの南東には竈が設置されていることから、台所のような場所であったのかもしれない。この竈の周囲からはギリシャの神々やササン朝ペルシャ、突厥など様々な地域の図像を持つ封泥500点余りが集中して出土しており（図5）、イスラーム勢力から襲撃された際に大量の書簡が故意に燃やされたことがうかがえる。中にはソグド文字やバクトリア文字を伴うものもある。2013年以前に発掘された封泥も併せるとその数は700点にもおよぶ²⁾。

大型建物の最奥部（北東部）に位置する4部屋（Room 12, Room 13, Room 15/16, Room 17）の調査では、

1) ベグマトフ他 2017b, 2018

2) ベグマトフ他 2017a, 2018



図5 封泥

Room 12 は半地下構造であり、部屋の南半分はワインやオイルを貯蔵していたとみられる平底の大甕が少なくとも8点床に据えられているのが確認された(図6)。北半分からは大量の炭化穀物や豆、ニンニク、クルミなどが出土していることから、Room 12 は食料貯蔵庫であったことが明らかとなった。Room 13 (6.1 × 3.3 m) では、火災層の床面から王冠様の青銅装飾やソグド貨幣、貴石や金属類などが出土したことから、貴重な品を保管していた部屋の可能性がある。床面から炭化木材が殆ど出土しないことから、火災後に清掃され再利用されたものと推測される。Room 17 (5.8 × 4.5 m) は貯蔵施設と推測され、部屋の方形区画範囲に土器が集中するとともに、入り口付近において炭化木材と金属類が多く見つかった。

そして、シタデル最奥の中央に位置する Room 15/16 (4.7 × 6.4 m) から、炭化した木彫板(図7)や金銀石玉製の装飾品類(図8)が出土した(図9)。床にはこの部屋にのみ焼成レンガが敷き詰められ、シタデルの他の部屋とは様相が異なることから、玉座を備えた王の間ではないかと推測されている。

火災層の上層でも遺構が確認されており、火災後にも再利用されていたことが判明した。これまでにアッパース朝、タヒリー朝、サーマーン朝、カラハン朝時代の貨幣や土器断片が出土している。シタデルではイスラーム期³⁾にも火災があったことが分かっている。



図6 Room 13 平底甕出土状況(寺村裕史氏撮影)

3) サーマーン朝かカラハン朝時代と推測される。



図7 方形木彫板出土状況



図8 宝飾品類

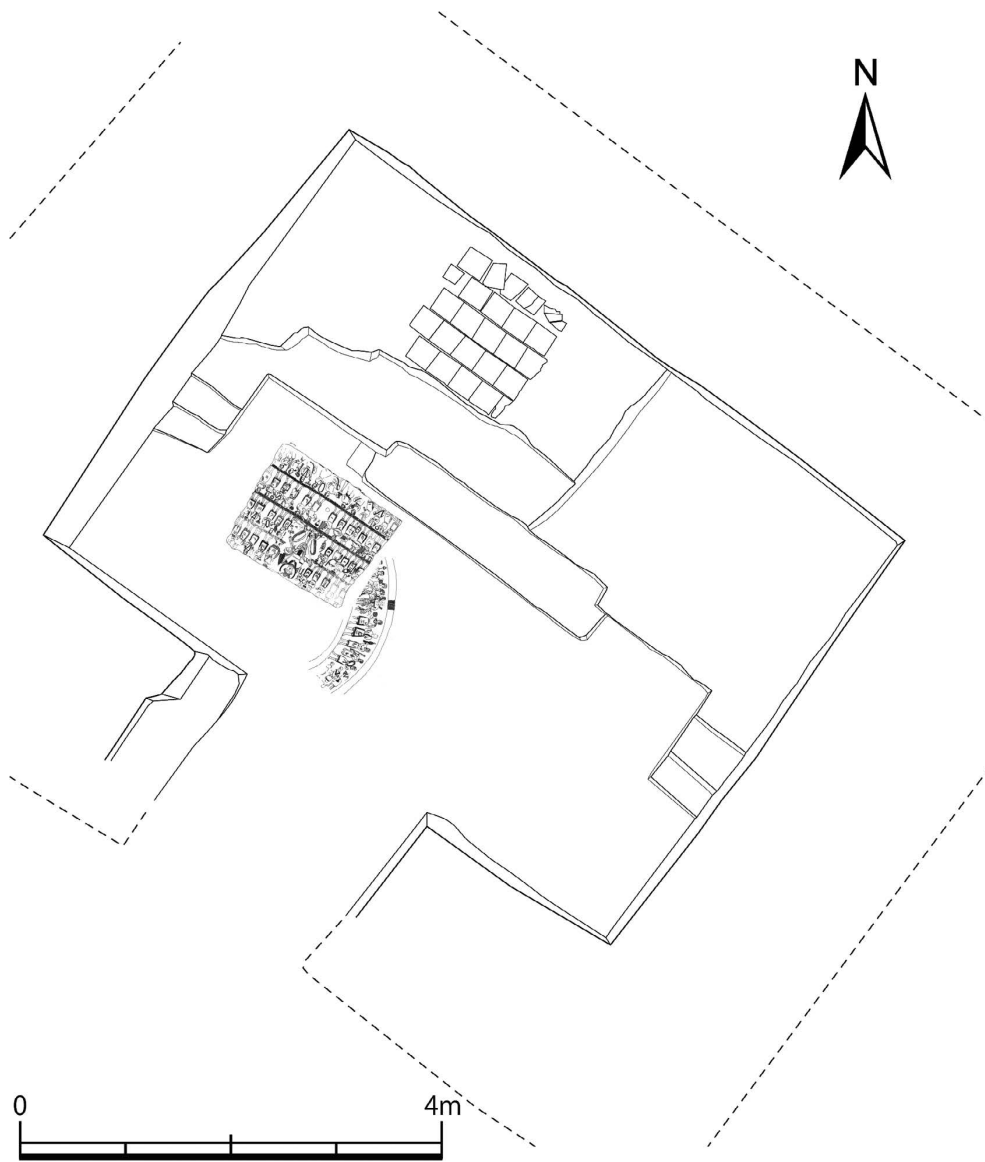


図9 Room 15/16 木彫板出土状況 (寺村裕史氏作成)

3. 資料について

木製品はシタデル最奥部中央に位置する部屋（Room 15/16）の8世紀初頭の火災層床面から、完全に炭化した状態で出土した。

(1) 方形木彫板（約 130 cm × 114 cm）：(図10)

図像は四段からなり、中央には上二段に獅子の玉座に座った女神ナナが大きく表現されている。ナナの両脇には少なくとも45名の供養者たちが配置され、様々な供物を持つ人々、火や音楽を捧げる人々などが確認できる。楽器にはタンバリンの様なものや角笛の他、排簫⁴⁾に似たものや、琵琶、箏篋⁵⁾など、正倉院宝物に類似するものもみられ、楽器東遷過程を考える上でも重要である。

供養者達は両脇にスリットを設けた膝丈の貫頭衣にベルトを締め、先がやや尖った細身のブーツを履き、ブーツと上衣の間にはズボンがわずかに覗いている。スリットと細身のブーツ⁶⁾からは、日常的な騎馬の習慣を連想させる。服飾表現は5～6世紀のペンジケント遺跡、ジャル・テパ遺跡出土壁画の供養者と酷似しており、ソグディアナの5～6世紀の壁画に共通点を持つ。次いで7～8世紀のダルヴェルジン・テパの壁画にも類似点が多い。また、6～7世紀のタリム盆地に見られる遊牧民の騎馬の風習を取り入れたという爪先立ちの表現⁷⁾が当該資料

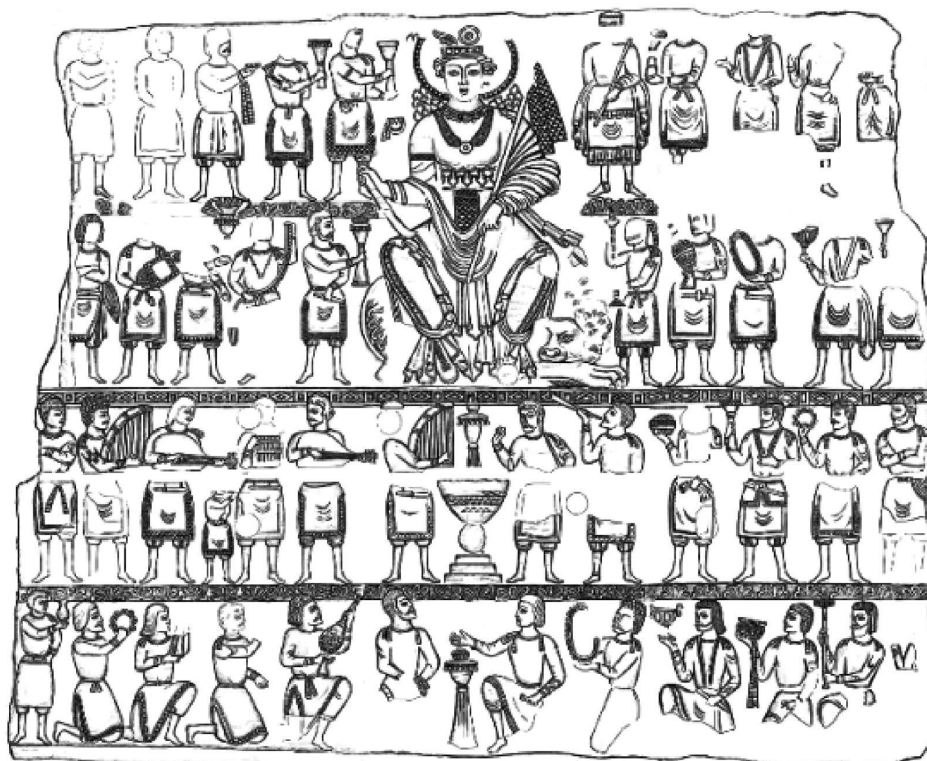


図10 方形木彫板 書き起こし図（ムニラ・スルタノヴァ氏による）

- 4) パンパイブのこと。竹などの管を横一列に合わせたもの。
- 5) 竖琴, ハープのこと。
- 6) 井上 2009
- 7) 井上 2009

に見られる。また、佩刀方法（鞘の背の二箇所に足金物を付けて長さの違う二本の紐で腰から剣を斜めに下げる方法）にエフタル支配の影響⁸⁾が見られることから、当該資料はエフタル支配期の6世紀半ば頃までに製作されたものと推測する。

供養者の衣服の裾には縁飾りが施されており、連珠円、菱文、格子文、三角文などが丁寧に表現されていた。中央アジアから出土した実際の染織品中にも類似の文様表現が確認できる。

ナナを崇める供養者を描いたものは、これまでに中央アジアのいくつかの遺跡で見つっているが、いずれも残存状態が悪く、その内容については部分的にしか把握できていなかった。図像の全体像が分かる資料の出土は初めてのことであり、ソグド研究において極めて貴重な発見となった。

木彫板は二枚の板から成り、図像の下から2段目に板のつなぎ目である直線の溝が横方向に走っているのが確認できる。板表面には直径5cmほどの鉄杭が複数穿たれていることから、壁に打ちつけて飾られていたか、支持板に打ち付けて扉として使用されていた可能性がある。

(2) アーチ形木彫板（約300cm × 55cm）：(図11)

女神ナナを中心に両脇に供養者が配置される。方形木彫板のナナは二臂であり一匹の獅子に腰掛けるのに対し、アーチのナナは四臂であり二匹の獅子に腰掛けている。

方形板の女神は一頭の獅子に腰をかける二臂、アーチの女神は二頭の獅子に腰をかける四臂である。四臂のナナは右手に月を、左手に太陽を掲げている。四臂のナナ像はインド美術の影響を受けて後に成立したものであり、二臂のナナ像はより古い形式と考えられている。しかし供養者たちの表現は方形木彫板の人物たちと変わらず、同年代に製作されたものと推測される。当該資料に見られる四臂の表現はインド方面との交流を示唆するものであり、二臂から四臂へと表現が移行する時期を知る上でも貴重である。

アーチの縁は鱗状の文様で装飾されており、アーチ底部にあたるカーブの内側にはブドウに似た果実をつけた唐草文が彫刻されている。



図11 アーチ形木彫板（ムニラ・スルタノヴァ氏による）

8) 影山 2015

アーチ形木彫板は複数の板から成り、縁飾りにも別材が用いられている。方形木彫同様に、板表面には直径 5 cm ほどの鉄杭が複数穿たれている。隣室 (Room 13) にはアーチ状の天井が残されていることから、Room 15/16 もアーチ形天井であった可能性があり、アーチ形木彫板は天井の形状に合わせた扉装飾として設置されていたのかもしれない。

(3) 長方形木彫板 (約 160 cm × 90 cm) : (図12)

数段に分けて人物が配置されている。側面に刻まれる鱗状装飾がアーチと共通することから、アーチの下半分と推測される。供養者たちの表現は方形木彫板・アーチ形木彫板の人物たちとほとんど同じである。

(4) 木彫角材 (約 131 cm × 6 cm) : (図13)

棒状の木材に人物の胸像が連続して彫られている。髪型や服装表現は木彫板の人物とは異なり、冠あるいは帽子をかぶっている。

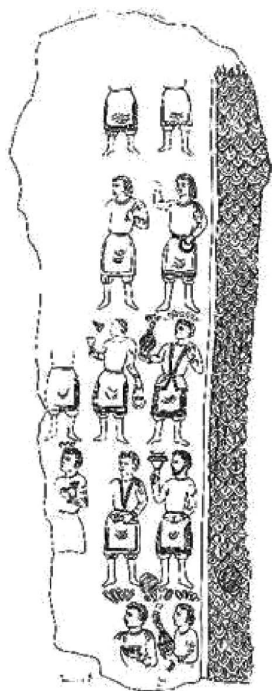


図12 長方形木彫板
(ムニラ・スルタノヴァ氏による)

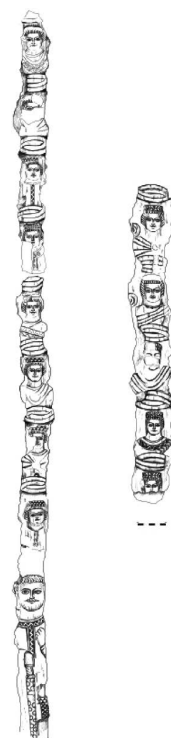


図13 木彫角材
(ムニラ・スルタノヴァ氏による)

(5) 木柁状木製品 (図14)

木柁状に組まれた木製品が出土した。木柁の内側には文様が刻まれた木彫板が確認でき、残存状態は良くないが馬と思しき動物の頭部と前足が確認できる。木柁と織方向を合わせる形で染布が出土していることから、布張り彫刻により装飾された家具であった可能性がある。

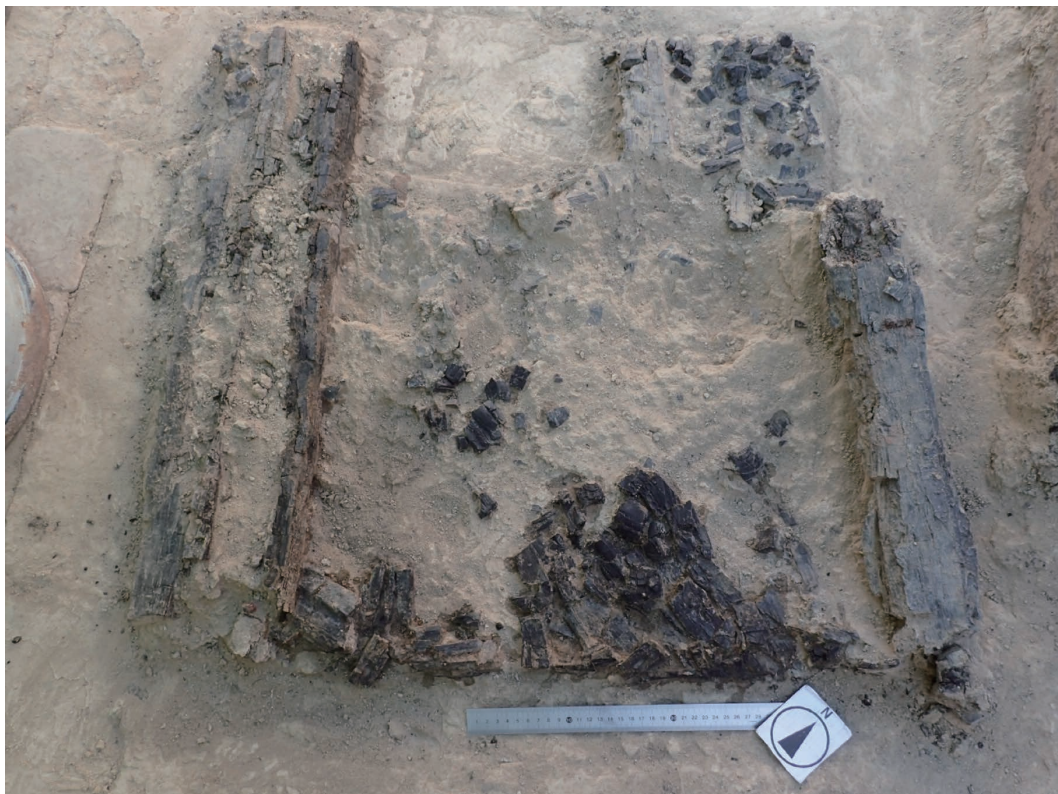


図14 木杵状木製品

(6) 人物像木彫 (図15)

長袖の裾の短い巻頭衣を着用し、長いひげを蓄えた人物像が出土した。腰には短刀を差し、左腕を曲げ壺のようなものを持っている。服飾表現は木彫板の供養者達とは異なっている。



図15 人物像木彫

4. 資料の取り上げ・保存・修復

当該資料の保存・修復は、旧ソ連期にタジキスタン出土炭化彫像に対してエルミタージュ美術館が実施した方法を参考にし、現地の保存科学者レウトヴァ・マリナ氏主導のもと実施した。

4-1. 資料の取り上げ

発掘地点から炭化木彫板を取り上げる際には下記①～⑧の作業を行った。

- ①柔らかいブラシやスポイトなどを用いて表面の土を除去。直射日光を当てないよう影を作り作業した。
- ②土を除去した箇所から順に、パラロイド B72 をアセトンに溶解させたものを塗布した。5%～15%と徐々に濃度を上げ5回に分けて塗布し硬化させた。状態に合わせて筆やスポイト、注射器などを用いた。
- ③木彫板の周縁部分、および特に脆弱な箇所にパラフィンを流し込んで固定した。
- ④一度に取り上げることは危険と判断し、方形板を3つに分割した。
- ⑤ガーゼで資料全体を覆い、小麦澱粉糊を塗布して硬化させた。
- ⑥澱粉糊が乾いたら、その上に緩衝材として綿を敷き詰め凹凸を無くしたうえで、木彫板より少し大きめのベニヤ板を載せ固定させた。
- ⑦木彫り底部（地面に面している側）の土を掘り、ヘラなどを差し込んで少しずつ地面から分離させた。
- ⑧地面から完全に分離したら木板を裏返し、研究所へ搬送した。



図16 パラロイド塗布



図17 木彫板を分割



図18 小麦粉澱粉糊による硬化



図19 綿の緩衝材を充てる



図20 支持板を載せる



図21 取り上げ後の裏面

4-2. クリーニング

取り上げた木彫板は研究所に搬送し、クリーニングを実施した⁹⁾。

- ①木彫板の裏面に残る土を柔らかい刷毛やスポイトを用いて取り除いた。
- ②裏面のクリーニングが済んだら、緩衝材と板を当て、反転させて表面（文様側）を上にした。
- ③小麦粉澱粉糊で固めたガーゼを外した。
- ④表面に付着する余分なパラロイド B72 をアセトンで取り除いた。パラフィンも熱溶解させ取り除き、筆、スポイト、ピンセットなどを用いてクリーニングを行った。



図22 ガーゼ取り外し後の状態



図23 クリーニングの様子

4-3. 保存処置

一部の棒状木製品について、試験的に保存処置と修復を実施した。

- ①クリーニング後、パラロイド B72（5～15%）を三回ほどに分けて含浸させた。
- ②パラロイドが乾いたら、補修材を用いて脆弱部や破損部、内部の空洞部分などを硬化させた。補修材はカフィル・カラ遺跡から出土した不要な炭化木材を粉状に碎き、パラロイド B72 およびアセトンと混合させペースト状にしたものを使用した。



図24 パラロイド B72 とパラフィンによる強化処置

4-4. 科学的調査

科学的調査結果として、炭化木材の樹種同定を依頼した結果、走査電子顕微鏡観察によってヤマナラシ属（ボプラ）であることが分かった¹⁰⁾。

9) 2019年9月からフランスのルーブル美術館の援助により、木彫板のクリーニングが開始された。グリセリンとアセトンと混合してゼリー状にしたものを塗布し、表面の汚れとパラロイド B-72 を除去している。
 10) 北海道大学農学部 渡邊陽子氏による分析。

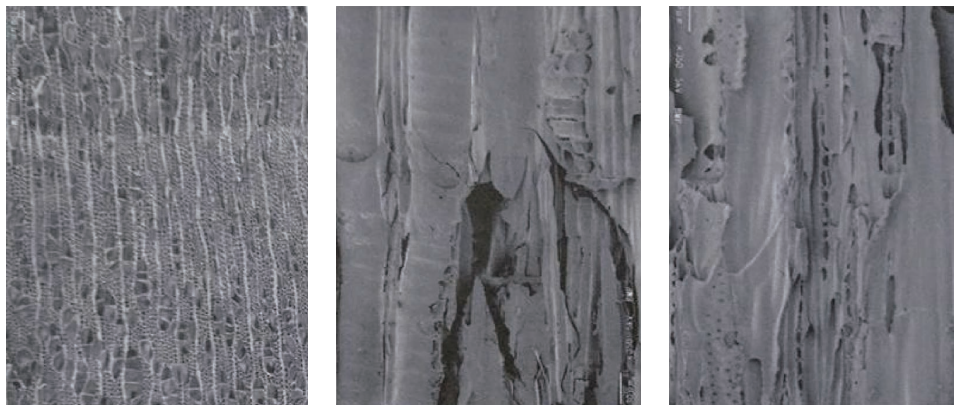


図25 木口、柀目、板目（渡邊陽子氏撮影）

5. 問題と課題

取り上げのための機材を搬入することが困難なカフィル・カラ遺跡シタデルの構造的な問題と、保存のための薬品・道具類が乏しい現地環境において、出来得限りの手を尽くし貴重な資料を無事に取り上げることができたのは、現地保存科学者の知識と経験のたまものであることは言うまでもない。今回の取り上げで参考にされたのは旧ソ連期の古い事例であったが、当時の保存科学者達が考案した方法が今日でも通用するものである事が改めて証明されたのではないかと思う。特に天然素材の小麦粉澱粉糊を使用した方法は、硬化後に容易に除去することができ、資料にダメージを与えない、今日の保存・修復の理念にも沿った理想的な方法と言える。しかしながら、国内外を問わず炭化木製品の保存・修復方法は確立されているとは言い難く、問題と課題も浮き彫りとなった。

日本においても出土炭化木製品の保存処理にはパラロイド B72 を使用するのが一般的であるが、炭化材の内部に薬液が浸透することはなく、表面をコーティングしているに過ぎないという問題がある。つまり内部から強化させるのではなく、炭化木材内部の空洞を埋める方法はまだ見つかっていないのである。

他にも難しい問題が残されている。出土状況から木彫板は火災の際に倒れ、燃えた屋根材などが覆いかぶさり、床の上でゆっくりと炭化していったものと推測される。炭化前に床に倒れたことで、運よく板の形状、文様の細部までもが良好な状態で保存されたが、実際には板全体には細かな亀裂が入っており、小さなブロックの集合体が板の形を成している状態にある。そのため板は地面の凹凸に合わせて波打った形で出土したことから、この凹凸を解消し、元の平らな板の状態に戻す必要がある。そのためどのような方法を用いるかが大きな課題となっている。

このブロック状に割れた亀裂の間を埋める補修材兼接着剤についても、適切な材料を実験を通して見つけていく必要がある。現在、棒状木彫に対してパラロイド B72 と木炭粉の混合ペーストを用いて試験的に修復を行っているが、パラロイドは乾燥すると収縮することから、収縮する際に本体との接着面が引っ張られて資料に亀裂が入る恐れもある。そこで、収縮しにくいエポキシ樹脂に黒色顔料を混合したものを使用することも検討している。今後経過を観察し、問題がなければ方形木彫板、アーチ形木彫板に対しても同様の処置を実施する。

脆弱な出土炭化木製品にとって最優先に行わねばならないのは適切な保存処理を施すこと、保管に耐えるよう収納することであり、場合によっては修復も必要となることがある。そしてどのように展示するかという問題も

重要である。展示方法によって修復の方法も異なってくるが、保存を第一に考えるのであれば、寝かせたまま展示するのが最も資料にダメージが少ない。国によって、また機関によってその方針は異なる。例えばカフィル・カラ遺跡出土木彫に最も類似する、タジキスタン出土の木彫資料がロシアのエルミタージュ美術館に展示されているが、資料は縦に展示されており、なるべく本来の状態に復原して観賞してもらおうとする意図がある。これを実現するには、別の支持体に板を埋め込む必要が生じる。

このように、現在のところ炭化木製品の保存・修復・展示方法に確立されたものはなく、基本的には所蔵機関の希望に沿いつつも、その中で資料にとって最も良い方法を選択していくことになる。類似の事例が少なく課題が多いが、本稿で紹介したウズベキスタンの事例が今後の出土炭化木製品保存の際の参考になれば幸いである。今後、各地の環境・出土状況・状態に合わせた炭化木製文化財の保存・修復研究の進展を期待したい。

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[Annahar 1943: 123; Agha 1946: pl. 15]
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8. Put all the references that have been quoted in the text and notes, and write them as follows: (1) The writers' names are to be listed in alphabetical order. The names of Japanese, Arabs, etc. must be arranged among the European names based on the supposition of their having been rewritten in Latin. (2) The writer's name, issue year, title, volume name, volume number, issue number and publisher's name (place) are to be filled in the references in regular sequence. The title of journals or independent publications should be specified, with underline or by the use of Italic letters.
9. As a rule, the first proofreading shall be done by the original author.

編集後記 (editorial postscript)

最近、本雑誌への投稿数が減少しています。次号以降、数多くの投稿がなされんことを期待します。

(小口)

News

In 2017–2018 Professor Tadateru Nishiura and Professor Ken Matsumoto retired from Kokushikan University successively. On his retirement, Matsumoto was given the title of Professor Emeritus. At the end of March 2020 Professor Yasuyoshi Okada retired from his post in the Institute for Cultural Studies of Ancient Iraq (ICSAI); however, he will continue to work as a guest professor in a graduate school of the University. Their contributions not only to ICSAI but also to the University itself deserve admiration. We wish them further success in their activities after retirement.

(H. Oguchi)

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