



ARCHAEOLOGY IN EGYPT

Magazine of the German Archaeological Institute Cairo

Research:

The Golden Funerary Mask of Tutankhamun: Scientific Restoration and Analysis

The Photographic Archive of the Comité de Conservation de l'Art Arabe

The Nubian Villages on Biga Island

Focus Topic:

Elephantine: The Infrastructure of a Long-Term Project

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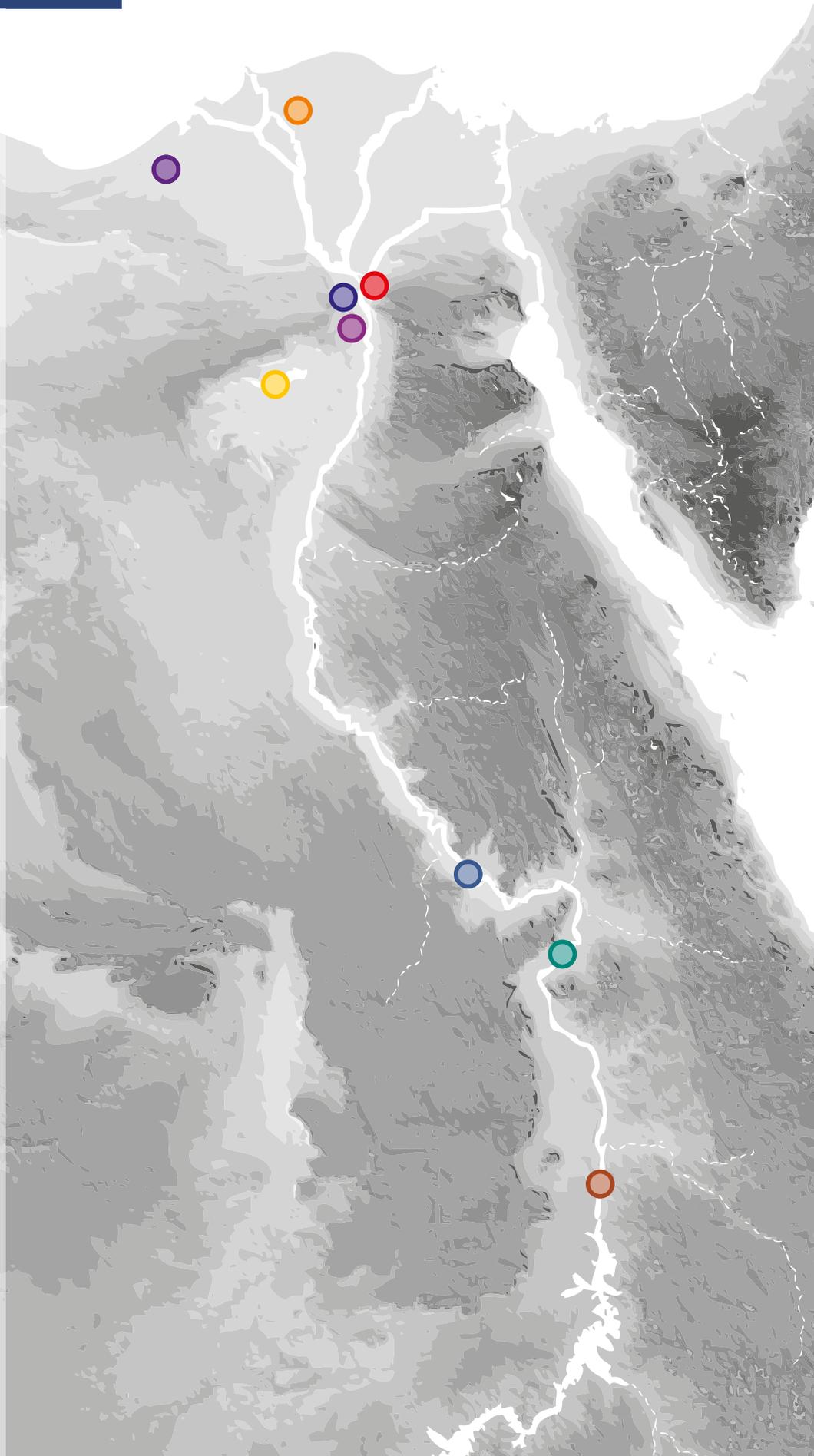


-  Buto
-  Abu Mena
-  Cairo

Many projects of the DAI Cairo are based in the Egyptian capital from the conservation of photographic material housed at the Comité de Conservation des Monuments de l'Art Arabe and the restoration of over three-thousand-year-old gold foil fittings from the famous tomb of Tutankhamun to the documentation of Graeco-Roman papyri in the Egyptian Museum Cairo.

-  Giza
-  Dahshur
-  Fayum
-  Abydos
-  Luxor
-  Aswan

The map shows the sites where the Cairo department of the German Archaeological Institute was active in 2015.



Dear readers,

The DAI Cairo has worked in Egypt for over 100 years and explores the diverse Pharaonic, Coptic and Islamic remains that are preserved throughout the country. The department aims to cover a wide range of projects in both geographical as well as chronological terms: sites from the cataract region to the northern Nile Delta that date between the 4th millennium BC to the Islamic and modern era constitute research objects. In the scope of these projects, archaeologists are constantly faced with scientific and infrastructural challenges that require new research approaches and methods.

In addition to »traditional« archaeological work, cultural preservation has also become a particularly important focus of the DAI's activities and has led to the Cairo department's initiation of various new projects in the form of conservation work on monuments as well as work in archives and abandoned Nubian villages. During the course of these activities, the cooperation with the Egyptian authorities is paramount.

And it is precisely these projects that this issue would like to focus on.

The editors

TOPICS

4 The Photographic Archive of the Comité de Conservation de l'Art Arabe

The *Comité de Conservation des Monuments de l'Art Arabe* came into being in December 1881 and was founded partly as a reaction to the neglect and occasional destruction of medieval Cairo. As the photographic and plan archive of the *Comité* represents an indispensable source of information for modern science, the DAI Cairo initiated a project to restore the over 100-years-old glass plates and plans stored there.

10 Research: The Golden Funerary Mask of Tutankhamun: Scientific Restoration and Analysis

In the autumn of 2014, the beard of the funerary mask came loose during cleaning work inside the display case. The subsequent reattachment of the beard to the mask was not ideally carried out. In order to undertake the necessary restoration and related archaeological-technical investigations, the Egyptian Minister of Antiquities Prof. Dr. MAMDOUH ELDMATY invited the DAI Cairo and the Roman-Germanic Central Museum Mainz (RGZM) to work on the mask. During restoration, decisive insights were gained into the mask's technical construction.

20 The Nubian Villages on Biga Island

Since 2008, a cooperation project between the Technical University Berlin and the DAI Cairo has been undertaken to document the architectural history and ethnology of two abandoned villages situated on the Island of Biga ca. 10 km to the south of Aswan in Upper Egypt. During the course of several fieldwork campaigns, the traditional living environment of Egyptian Nubians has been explored. Due to their



Credits

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settlement of the cataract island that lies the closest to the first reservoir dam, the inhabitants of Biga Island were severely affected by the consequences of the dam's construction as well as the two subsequent elevations of the dam, and lost their houses and the surrounding area of cultivation a total of three times.

44 **Focus topic:** **Elephantine: The Infrastructure of a Long-Term Project**

A fully-functional infrastructure is a vital prerequisite for long-term settlement excavations. Over the last few years, increased efforts have been made to improve the infrastructure of the Elephantine excavations. Steps were taken to renovate the excavation house, extend the available storage spaces, and reorganize and inventory the storerooms.



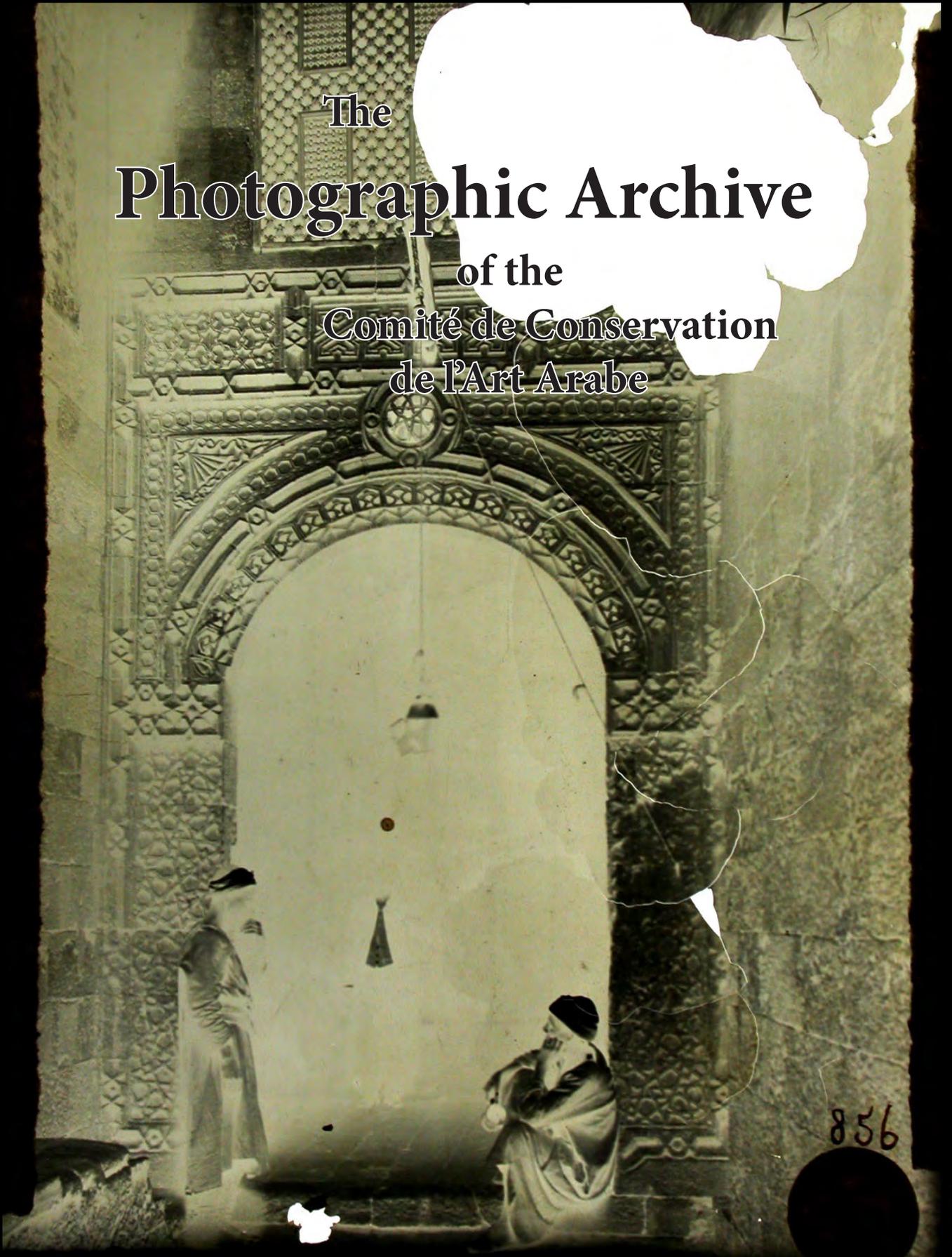
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1 *Working on a drawing on Biga Island (photo M. Kacicnik)*

2 *The island landscape around Elephantine at the First Nile Cataract, view to the western Nile bank (photo L. Borrmann)*

The
Photographic Archive
of the
Comité de Conservation
de l'Art Arabe



856

With conviction and energetic optimism that the monuments of Egypt could be documented by means of an inventoried record, NAPOLEON BONAPARTE was the first political leader to also take a host of French scientists along with him on his military campaign to Egypt. The multi-volume collection of texts and plates known as the *Description de l'Égypte* published between 1820 and 1830 not only contained surveyed and documented Pharaonic buildings known at the time but also several important buildings from the Islamic period.

Once NAPOLEON's troops had withdrawn from Egypt, the country underwent extensive modernization in the spheres of administration and urban development during the 19th century and the reign of MUHAMMAD ALI (1805–1848) and his sons. Particularly under the rule of ISMAIL (1863–1879), a grandson of MUHAMMAD ALI, Cairo was transformed into a European-style capital. The 19th century was also the time of archaeological excavations throughout the entire country which resulted in the discovery of new Pharaonic buildings. Due to concerns related to Egypt's archaeological heritage, MUHAMMAD ALI issued a decree as early as 1835 for the protection of archaeological remains and the restriction of trade in antique objects. The initiation of the Egyptian Antiquities Services in 1858 under the direction of the French Egyptologist AUGUSTE MARIETTE was also related to these concerns as well as the foundation of Egypt's first national museum in the Cairo district of Boulaq in 1863. Furthermore, the so-called *awqaf*, religious endowments e.g. for the maintenance of old Islamic buildings, were placed under central state administration. Initial restoration measures were carried out on important buildings by this state-run institution, the later Ministry for Religious Endowments (*Waqf* administration), which were however strongly criticized by numerous European scholars of Islamic architecture. During an international congress of specialists in Oriental Studies that took place in 1874, an inventory of Cairo's historical buildings was called for as a reaction to complaints about the desolate situation of Islamic architecture in Egypt.

After a decree had been issued by Khedive MUHAMMAD TAUFIQ PASCHA in 1881 that called for

the foundation of an institution to oversee the preservation of historical monuments, the *Comité de Conservation des Monuments de l'Art Arabe* was established on the 18th of December 1881 and presided over by the *Waqf* administration. In article 2 of this decree, the duties of the *Comité* are described as follows:

1. To compile an inventory of Arabian monuments of artistic or historical interest.
2. To supervise the maintenance and restoration of these monuments, whereby the *Comité* is obliged to inform the *Waqf*-Minister about measures that need to be taken, particularly high-priority ones.
3. To give an expert opinion on and sanction planned restoration measures, and to supervise their implementation.
4. To store the plans of all undertaken work in the Ministry's archive, and to notify the Ministry of any architectural remains that should be transferred to the National Museum in the interest of their preservation.

After its inaugural meeting in 1882, the *Comité* comprised two sub-committees: a commission responsible for the listing of Arabian architectural monuments (founding members: HUSAIN FAHMI PASCHA, ROGERS BEY and ALI FAHMI EFFENDI), and a commission to survey and inventory buildings in need of restoration (the architects FRANZ BEY (later PASCHA), BAUDRY, BOURGOIN and IZZAT EFFENDI). All members worked on a voluntary basis. In 1889, MAX HERZ (later HERZ PASCHA) was appointed head architect. In order to accomplish the tasks related to this work, he was provided with a technical

office with three members of staff and received a salary from that point on.

As stated in article 2, the *Comité* regarded the compilation of a comprehensive list of the monuments with which it had been entrusted as the most pressing issue particularly in view of the continuing destruction of Islamic architectural monuments. For this purpose, a further commission was founded, which by 1883 had already compiled an initial list of 664 buildings in Cairo's urban area that were worthy of protection. In addition to preparing a register of historical buildings, photographic documentation of these buildings was also started. In 1890, the *Comité* published the first *classement* of Arabian monuments, which included 205 buildings in Cairo and 10 in the provinces. Of the 664 buildings located in Cairo that were listed in 1883 as monuments worthy of protection, only 205 were classed as listed buildings. The antiquities law at that time stipulated that a building had to be at least one hundred years old in order to be classified as worthy of preservation. The last of these *classements* was published in 1950 and included more than 480 architectural objects in the capital.

In its form defined in 1881, the *Comité* retained its legal status until the year 1924, however only few meetings were held after the First World War. During the course of an administrative reform, the *Comité* subsequently became part of the Ministry of Education in 1936. Under GAMAL ABDEL NASSER, the *Comité de Conservation des Monuments de l'Art Arabe* was then incorporated into the *Service des Antiqués Égyptiennes*, and finally dissolved as an independent authority in 1961.

cluded photographs and plans of historical monuments.

From 1882 onwards, the inventory lists were regularly supplemented with architectural documentation and photographs of specific buildings. The fact that the historical monuments, regardless of whether they were Pharaonic or Islamic, were particularly suitable objects for early photography with its lengthy exposure time, led to an alliance between the documentation of monuments and photography. The *Comité's* official task to compile and supply inventory lists was its declared scientific goal; a love of Cairo's historical centre was an added bonus. Today we therefore have a large number of glass plates that show daily scenes from Cairo's old town. Renowned pho-

Photography as a means of cultural preservation

of 40 volumes were published which, alongside the proceedings of the meetings, also in-

The first volume on the results of the *Comité's* work was published as early as 1882 in the form of an annual report. Up until 1953, a total



tographers of the time were commissioned for this work. Alongside a large number of unknown photographers (presumably members of the *Comité's* staff), distinguished photographers of the time such as A. BEATO, LEKEGIAN, BONFILS, SEBBAH, BE-



❶ Citadel, military barracks, today the Center of Documentation ❷ State of the wooden shelving units in 2002 with stored glass negatives (photo G. Harich-Hamburger) ❸ Extent of the damage made by insects on a glass negative (photo G. Harich-Hamburger)



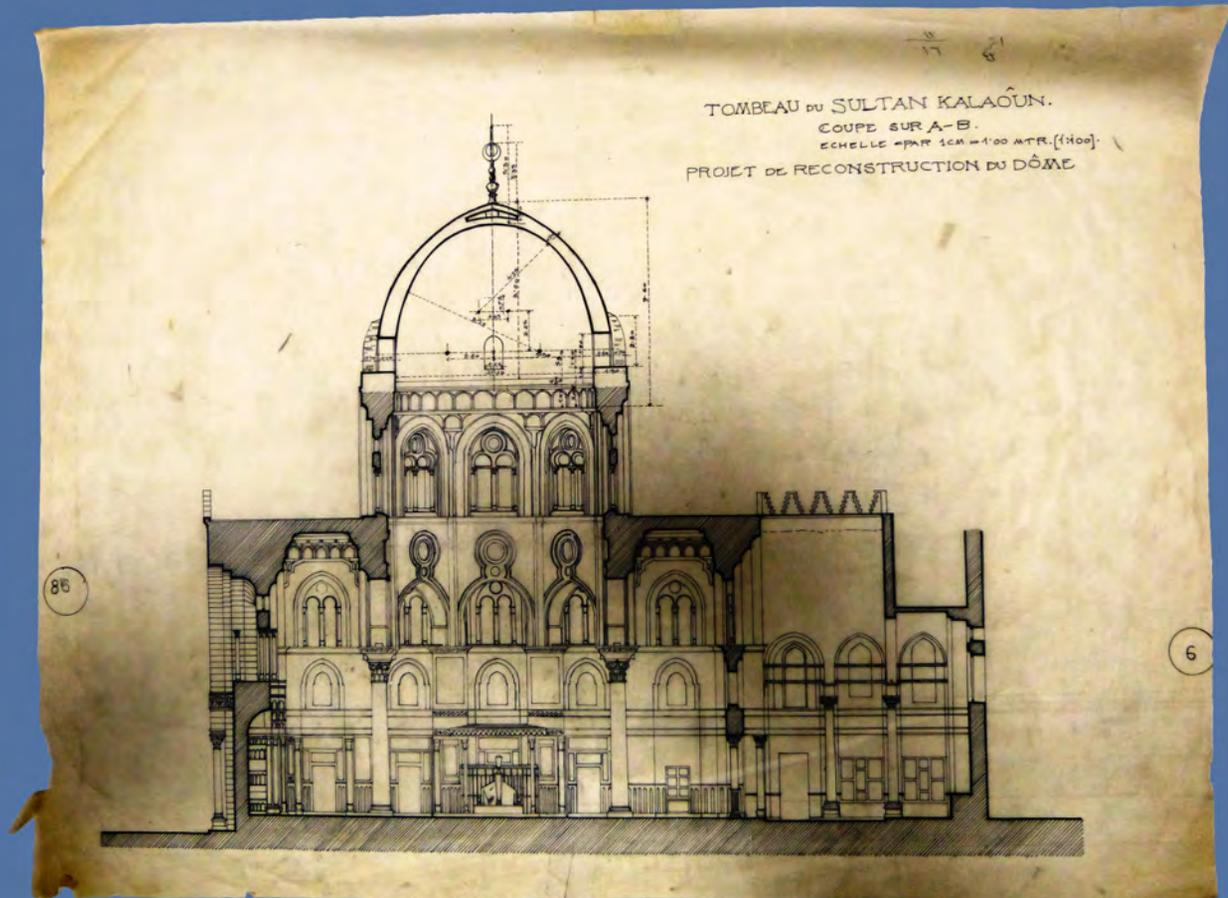
CHARD, REISER GUINETTO and FUIRILLO are recorded on the photos. These early photos constitute the basis of the *Comité's* Photographic Archive. In 1931, the archive was set up in a building next to the Sarghatmish mosque in order to house the photographic plates that already numbered in their thousands at the time. In 1985, this archive, together with the architectural plan archive, was transferred to the Center of Documentation on the citadel. A second area was also set up in the upper storey of the Supreme Council of Antiquities in Abassia, which houses all meeting protocols and annual reports.

The Photographic Archive comprises ca. 14,000 objects, mainly silver gelatine glass negatives and acetate sheet film negatives. The ca. 13,500 glass negatives in formats measuring between 13 x 18 and 30 x 40 cm are stored in 27 wooden storage units with slide-in drawers. The remaining objects are kept in boxes made of

photographic paper. The glass plates stored on the citadel have been registered in a book, and numbered with a corresponding number on the individual glass plate. For suitable storage, specially-made wooden cabinets were built, in which the photo plates could be stood upright. Unfortunately, several glass plates were broken during the work on site and transportation, and also as a result of incorrect handling of the plates. As the wooden shelving units are not dust-proof, the surfaces of all the glass plates are substantially covered with dust.

Initial conservation measures

The photographic heritage must be examined, put into order and stored in an appropriate manner after conservation and digitization. This scope of tasks formed the basis of an application for our work on the citadel. In 2002, a joint application was filed by the Egyp-



tian Antiquities Services, the Sorbonne University, the IFAO Cairo, the CULTNAT and the DAI Cairo to conserve, restore and digitalize the Photographic Archive of the *Comité*. This project aimed to preserve this significant cultural asset and to document it in such a way that the archive as a whole is accessible for scientific purposes.

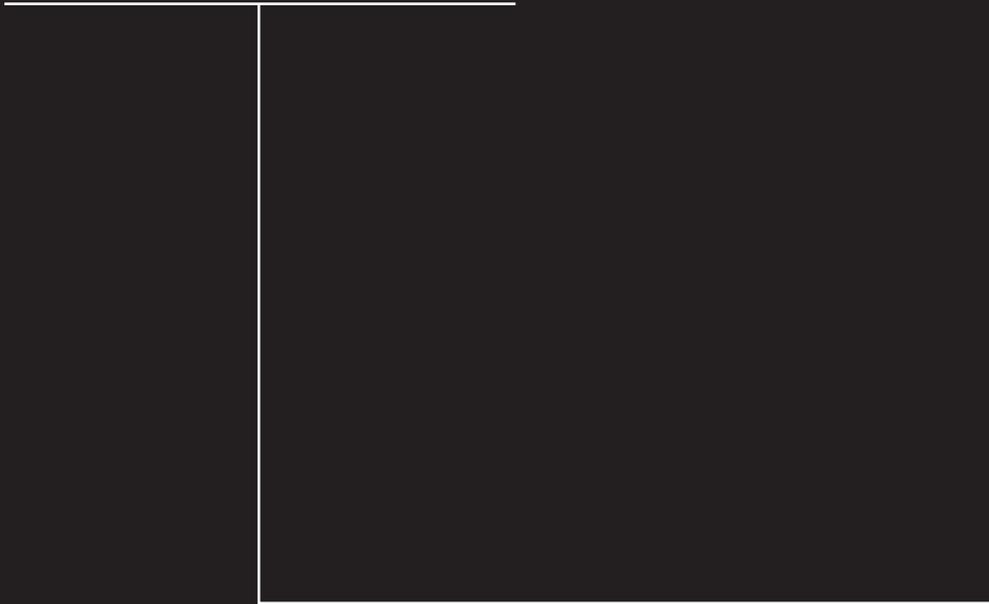
With financial support from the Foreign Office of the Federal Republic of Germany, the restoration of the glass plates was started in the autumn of 2002 by the DAI Cairo. Between October 2002 and October 2003, an initial restoration phase was carried out under the direction of the restoration specialist, GISELA HARICH-HAMBURGER from Germany together with members of staff from the Egyptian Antiquities Services. With the induction and sensitization of Egyptian personnel, the project also aimed at training additional capacities for future restoration. The scope of the damage at the project's outset was alarming: dirt, insect damage, infestation of microorganisms, breakage of glass,

fingerprints, oxidation mottling, delamination and shrinkage of the substrate in the case of the acetate negatives had had a major impact on the archive's holdings. The following restoration objectives were defined as a result of these problems: the professional cleaning of the glass and the sheet film negatives, the conservation and restoration of the photographic plates and the sheet film negatives, the appropriate filing and storage of archive material (in acid-free paper envelopes as well as in dust-free and temperature-controlled rooms), and finally the digitization of the entire collection of negatives.

Unfortunately, the restoration and the conservation of the photo plates could not be completed in the first phase. Also the digitization of the holdings arranged with the IFAO Cairo came to a standstill. After an interruption of ten years, a second phase of restoration and conservation was begun, which will be completed by summer 2016. The work was supervised by KERSTIN BARTELS, a qualified restorer who specializes in photography. In the course of this project phase, employees of the Antiquities Services, the Sorbonne University, the IFAO Cairo, the CULTNAT and the DAI Cairo to conserve, restore and digitalize the Photographic Archive of the *Comité*.

The Golden
Funerary Mask
of Tutankhamun

[Scientific Restoration and Analysis]





When the majority of people throughout the world think of ancient Egypt, one name immediately springs to mind: Tutankhamun. The discovery of his tomb in 1922, which had been left untouched for almost three thousand years, sparked a veritable »Tutomania«, influenced fashion, design and creative artists, and fascinated scientists, children, journalists, heads of state as well as millions of travellers beyond all measure. Above all, the golden funerary mask of the young pharaoh is respected and celebrated worldwide as an icon of Egyptian archaeology. During the Arab Spring in 2011, stylized graffiti of the mask adorned buildings and walls surrounding the Tahrir Square as a symbol of national identity. Therefore, it is hardly surprising that speculations related to the irreparable damage of the mask that arose in January 2015 received worldwide attention.

Inexpertly attached beard with adhesive residue (photo Ch. Eckmann, RGZM)



What had happened?

In August 2014, maintenance work was carried out on the display case of the funerary mask for which the mask had to be removed. During the removal, the ceremonial beard that is decorated with glass inlays became loose. After this unfortunate accident, which is not uncommon when handling objects that have been subjected to restorative measures of the past century, regrettably the beard was hastily glued back onto the mask using a quick-setting epoxy resin. This process resulted in the formation of a yellowish-brown residue as a result of excess artificial resin, which ultimately tarnished this extraordinary masterpiece.



Custom-built multi-part negative form for storage of the mask (photo V. Iserhardt, RGZM)

What happened then?

Even though these measures were clearly visible for everyone to see, surprisingly not much notice was initially taken of this unfortunate mishap. It was not until half a year later in January 2015 that this chain of events came to the attention of the press and subsequently triggered a worldwide storm of outrage, which culminated in the accusation that the mask had been irreparably damaged. During this particularly difficult situation for the Egyptian Antiquities Services, the former minister, Prof. Dr. MAMDOUH EL DAMATY, requested two conservators of the Roman-Germanic Central Museum, Mainz (RGZM) to act as independent evaluators and provide an extensive analysis of the damage. At that time, the two RGZM members of staff were involved in another cooperation project at the Egyptian Museum in Cairo to study previously unpublished gold finds from the tomb of Tutankhamun (see also *Archaeology in Egypt*, Issue 2/2014, pp. 16–21). On the one hand, the damage report revealed the deficiencies of the measures carried out but on the other hand also ascertained that the incorrect restoration could indeed be reversed. This assessment, which was publicly announced during a press conference given by the Ministry of Antiquities, together with

the explanation that the beard had not been attached to the mask when the tomb was first discovered and therefore had not strictly been broken off, finally led to an objective debate about the mask and an abatement of public uproar. At the time of the tomb's discovery by HOWARD CARTER in 1922, the ceremonial beard had already become detached from the mask, and the mask and the beard were separately exhibited in the Egyptian Museum in Cairo for quite some time. In the 1940s, the beard was reattached to the mask for the very first time.

The technically correct restoration of the golden mask of Tutankhamun was of vital importance. In light of this, the Minister of Antiquities approached the Cairo Department of the German Archaeological Institute (DAI) and the RGZM, and requested that they conduct the restoration of the funerary mask. Several aspects were essential for the decision to meet this request: It is astounding that the funerary mask of Tutankhamun has not been studied exhaustively in terms of archaeology, technology and the natural sciences since its discovery in the Valley of the Kings (KV 62). For example, it was still unclear how many sheets of gold had been pieced together to create the mask, which gold alloys were used to produce the sheets, what materials were used for the glass and gemstone inlays, and which putties

and compound masses these were embedded into. This request therefore provided a »golden opportunity« in every sense of the phrase to extensively analyse this artistic masterpiece using the most up-to-date research methods for the very first time with a particular focus on the previously unexplored production technique of the mask.

In addition to the fundamental research of one of the key pieces of the tomb's funerary equipment, a scientific-political aspect of this project also came into effect. The fact that German expertise was requested in such a difficult situation demonstrates the high level of trust that has been built up during the cooperation with the Egyptian Antiquities Services for many years. When this bond of mutual trust is strengthened and the concept of a research-oriented restoration is conveyed during which every action is in accordance with the object and which forms the basis for gaining precise knowledge of the object itself, awareness of the fields of restoration and archaeology in Egypt is promoted, and the partnership between both countries is reinforced in these areas of work.

As a result of the positive signal that the DAI Cairo and the RGZM sent to the Egyptian Minister of Antiquities, the Minister issued a decree implementing a scientific advisory committee composed of international scholars including appointed representatives from the DAI Cairo, the RGZM and also other high-ranking institutions, i.e. the Egyptian Museum in Cairo, the Grand Egyptian Museum as well as the University College London. The committee's task was to oversee the specific restoration measures as well as to support the planned investigations on the mask within the frame of a continual process of coordination and decision-making.

Initial preparations

Once the constitutive session of the advisory committee had been held in April 2015, a concept for the restoration measures was developed, and the specific work procedure

was planned. The first priority was to fulfil all necessary requirements for the safe and successful investigation of the funerary mask. Consequently, a storage room located in the Egyptian Museum was rearranged to function as a laboratory with the sole purpose of working on the funerary mask. It was of vital importance that this laboratory was equipped with the necessary infrastructure whilst also taking security issues into account.

Parallel to these preparatory steps, the mask, which remained on display during this phase of the project, was measured three-dimensionally using a structured-light scanner. The primary aim of this step was to create a geometrically exact virtual representation of the mask in its actual state, which could then act as a basis for the documentation of all changes

*Preparations for transportation of the mask
(photos A. Amin, Egyptian Museum Cairo)*





*above:
chin area of the mask
with the remains of
the broken tube*

*below:
inside view of the
beard and tube with
a substantial amount
of epoxy resin (photo
Ch. Eckmann,
RGZM)*

made to the mask once the incorrectly attached beard had been removed and subsequently reattached. This work was supported in an unbureaucratic way by the Institute for Spatial Information and Surveying Technology, 13 Mainz.

Furthermore, the obtained data was used to produce a custom-made, multi-part »negative-form« which was manufactured by means of a 3D-milling process. This form not only guaranteed safe transportation of the mask from the current exhibition space to the laboratory but also provided for stable storage and ideal protection of the mask throughout the scientific investigation as it was necessary to position the mask horizontally for this purpose.

Preparation for the project also involved raising the necessary funds in order to finance the planned measures. On the initiative of the DAI Cairo, the Foreign Office of the Federal Republic of Germany as well as the Gerda Henkel Foundation kindly granted funding at short notice which constituted a fundamental prerequisite for the successful realization of the project.

The restoration

The concept for the controlled detachment of the beard was initially based on a relatively simple strategy: The epoxy resin, which is generally unaffected by common solvents, was to be

systematically subjected to an accelerated, artificial aging process by repeatedly heating and cooling the glue joint (by means of a temperature-controlled hot air blower with a nozzle outlet measuring ca. 2 mm). The aim of this process was to reduce its powerful adhesive strength and binding properties, i.e. to make the resin brittle. At the same time, this process was used with the intention of reducing the viscosity of the adhesive, which stays extremely solid at room temperature, and temporarily transforming it into a slightly softer substance. This was the only way to gently remove the adhesive with fine lime-wood scrapers from the highly scratch-prone surface of the gold.

Prior to the planned measures, the Henkel Company analysed the physical properties of the adhesive, and therefore contributed valuable information to the development of the concept.



In October 2015, the actual restoration of the mask could finally be started. The developed concept turned out to be a success and the controlled separation of the beard from the mask was accomplished according to plan within the expected timeframe. However, a factor which had not been foreseen and which came to the surprise of all team members was what was actually found inside the beard. All previously stated and also published ideas, i.e. the assumption that the beard had originally been attached to the mask's chin by means of a wooden tenon or the notion that the beard



left:
team members analysing the composition of the gold via p-RFA

right:
The Egyptian Minister of Antiquities Mamdouh Eldamaty (right) and the team of restorers at the celebratory presentation of the funerary mask

had been filled with a ceramic-like mass and weighed 2.5 kg, turned out to be incorrect. In actual fact, the beard was made from a relatively thin sheet of gold with a total weight of ca. 160 g and was therefore hollow, and there were no traces of a dowel or of any necessary components for a counter attachment (e.g. a perforation of the gold sheet on the underside of the chin). Instead, a second, ca. 5.5 cm-long tube made of beaten gold with a D-shaped cross-section had been inserted into the ceremonial beard which originally functioned as the connecting element between the mask and the beard, and had probably broken off during Antiquity. As a result of the rash reattachment of the beard, an alarmingly large amount of epoxy resin had seeped into the extremely narrow space (less than 1 mm) between the two separately manufactured pieces and glued both objects together into an almost inseparable compound. However, the extraction of this inner tube was a vital prerequisite for the beard's reattachment, and we can say without a doubt that this step became the most difficult challenge of the project: In view of this unexpected turn of events, it was unclear for

quite some time whether the plan to extract the inner tube would actually work. The adhesive resin surrounding the inner tube was removed in millimetre-thin sections from a space that was so narrow that only few instruments fitted inside, until after several weeks of laborious work, the two pieces could finally be separated from one another. Consequently, the inner tube was re-fixed to the jagged edge underneath the chin, and the actual beard was then pushed over it. In order to join the two separate parts, the minute gap was filled with beeswax and fixed additionally at two specific points inside the beard with a reversible, specially-modified thermoplastic adhesive.

During the course of the restoration measures, extensive investigations and scientific analyses were conducted to establish the production techniques and materials used to create the funerary mask. Renowned experts from the University College London and Heidelberg University contributed to the cooperation with specialist knowledge from the fields of archaeometallurgy and archaeological material studies. The results of



these investigations are currently being analysed and evaluated, and will be presented in their entirety in a conclusive joint publication that will also include the extremely interesting story behind the discovery of the object as well as several archaeological and art historical questions.

On the 16th of December 2015, this highly-challenging and exceptional project finally came to a successful end. In the frame of a press conference arranged by the Minister of Antiquities in Egypt and attended by high-ranking representatives of the Foreign Office of the Federal Republic of Germany and the German Embassy in Cairo, the newly-restored funerary mask of Tutankhamun was ceremonially presented. The mask is now displayed in its usual spot in the Egyptian Museum in Cairo and can be viewed once again by the interested public in its original splendour.

AUTHORS



KATJA BROSCHAT is a conservator at the Roman-Germanic Central Museum in Mainz. Her specialist field is the restoration of ancient glass and its production methods. She is currently working on the gold-plate fittings of Tutankhamun in the Egyptian Museum in Cairo.



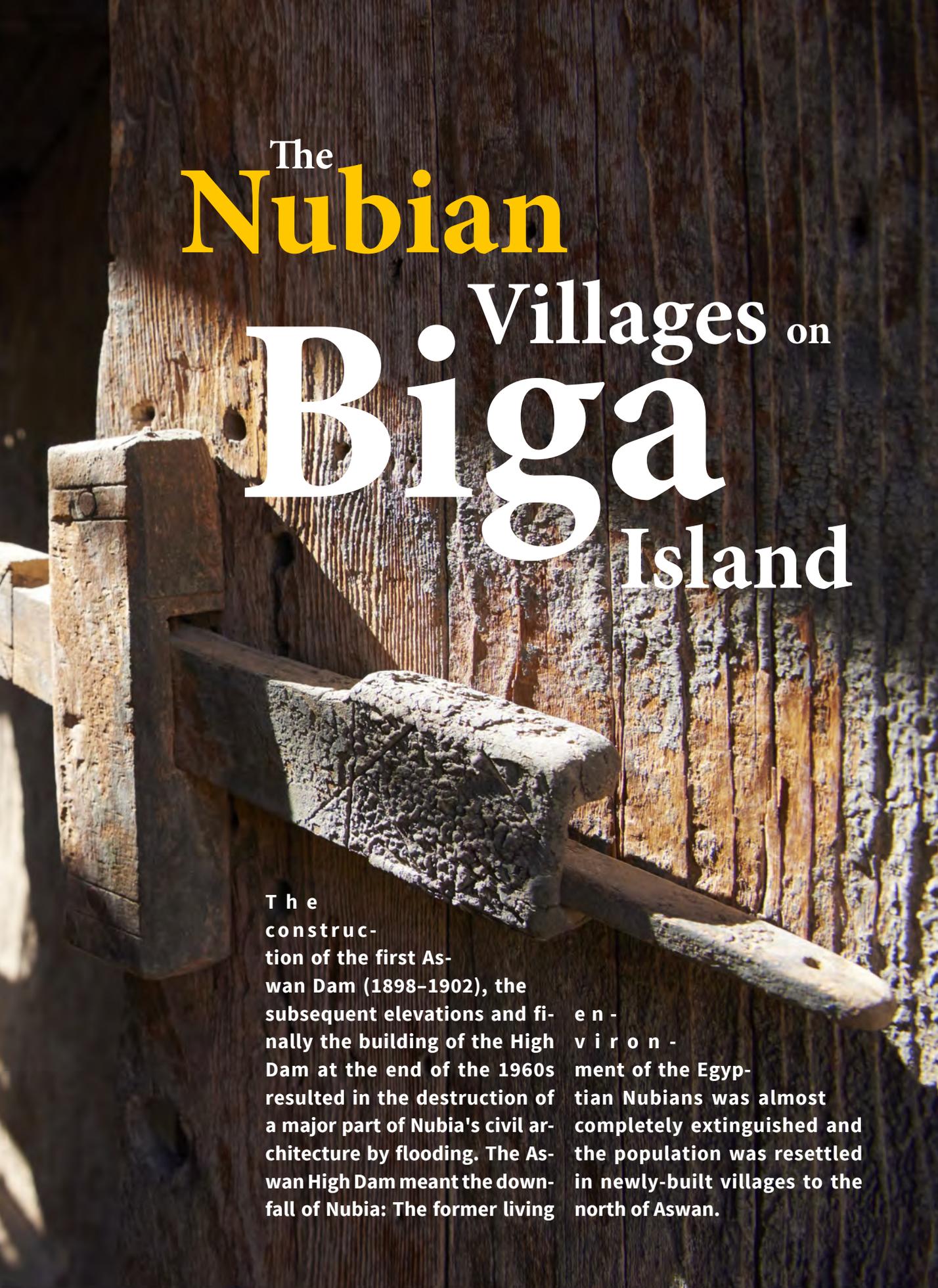
CHRISTIAN ECKMANN is a conservator and works for the Roman-Germanic Central Museum in Mainz. He was jointly responsible for the restoration and conservation of the large and small copper statues of the pharaoh Pepi I in the Egyptian Museum in Cairo.



STEPHAN SEIDLMAYER is an Egyptologist and Professor at the FU Berlin. He has been actively involved in a wide range of projects in Egypt for almost 30 years. In 2009 he was appointed as the managing director of the Cairo Department of the German Archaeological Institute.

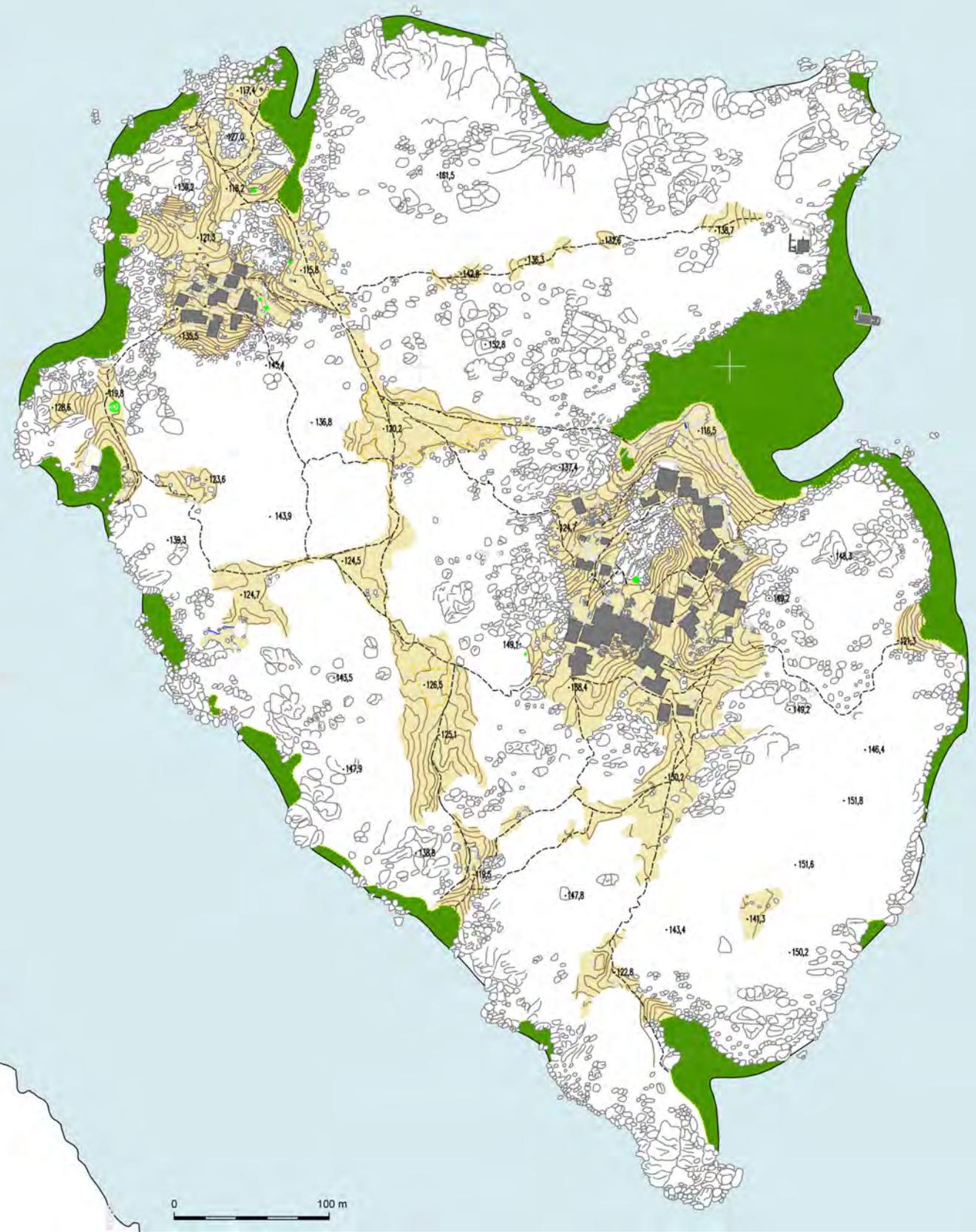
A door with a traditional wooden lock opens into a room in which the majority of the original furnishings are still preserved (photo M. Kac-icnik)





The
Nubian
Villages on
Biga
Island

The construction of the first Aswan Dam (1898–1902), the subsequent elevations and finally the building of the High Dam at the end of the 1960s resulted in the destruction of a major part of Nubia's civil architecture by flooding. The Aswan High Dam meant the downfall of Nubia: The former living environment of the Egyptian Nubians was almost completely extinguished and the population was resettled in newly-built villages to the north of Aswan.



Map of Biga Island (C. Hartl-Reiter/D. Schäffler)



THE PROJECT

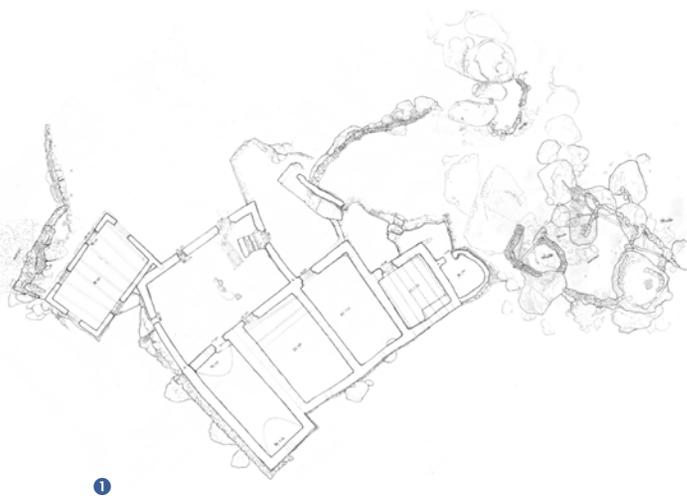
Together with Hesa and Awad, Biga was one of the three occupied islands that are located in the reservoir between the two Aswan dams. »Was« is used intentionally in this case because, while the two other islands are still occupied, Biga has gradually been abandoned since the mid 1980s.

In the scope of a project funded by the German Research Foundation (DFG) and conducted by the German Archaeological Institute Cairo in cooperation with the department for the History of Architecture and Urban Planning of the Technical University Berlin, the two abandoned villages on Biga island have been documented.

The project is extraordinary in two ways: On the one hand, this project does not involve any archaeology, in fact it was not even necessary to carry out surface cleaning, and on the other, the project does not encompass any ancient sites or even monumental buildings. Therefore, the study object is unique: On Biga Island we are dealing with two villages which remained standing after the flooding of the entire Egyptian Nubian land, and which display features of historically preserved Nubian building tradition. As the original character of Nubian culture is in continual decline and the few existing Nubian villages in the Aswan region are being increasingly transformed to create



*above: view over Biga village
below: survey work on Biga (photos M. Kacicnik)*



1

1 Ground plan of one of the houses with an extended economical area fitted into the space between the natural bedrock (drawing O. Wolter)
 2 Ground plan of the hamlet Balle. Analysis of the network of paths



2

3 Section through one of the houses. The difference in height between the individual levels contributes greatly to the picturesque character of the building. On the other hand however, the varying levels of the house made it difficult to use as it was actually conceived as a one-storey building (drawing W. Rózewicz)
 4 and 5 Typical mo-

4 and 5 Typical mo-

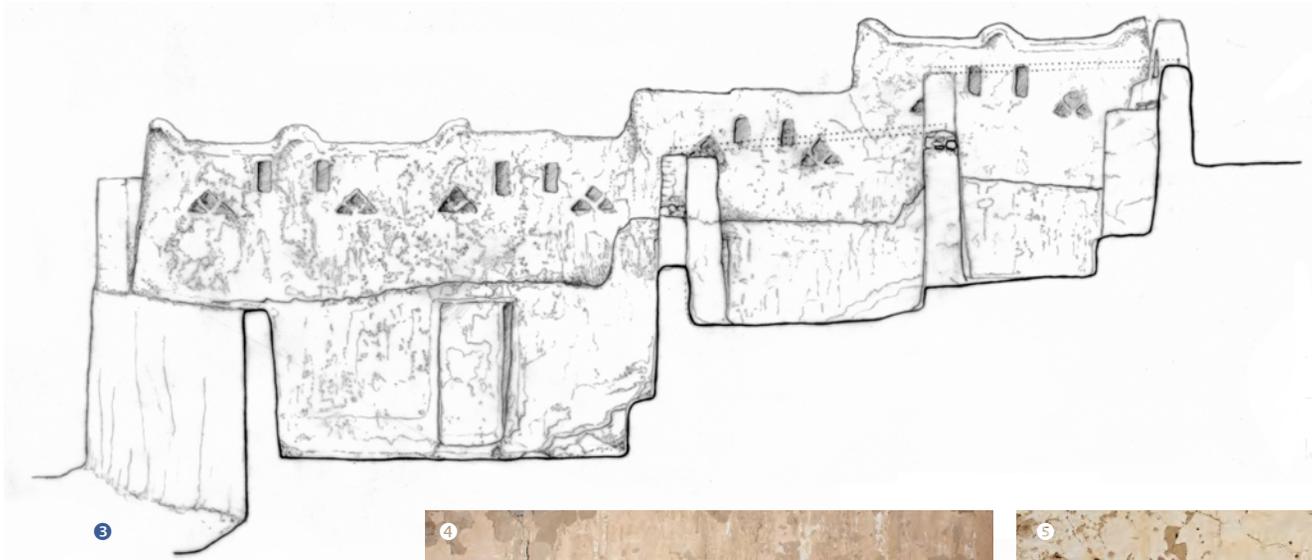
an artificial backdrop in order to fulfil pre-existing folkloristic expectations of travellers, present-day housing construction is completely overshadowed by examples of architecture with which Nubians and Egyptians in general come into contact during their work stays in the cities throughout the entire Arabian cultural region.

The settlements on Biga which were abandoned almost 30 years ago and are composed of buildings that date between ca. 1910 and 1980, are predominantly preserved in their authentic state despite the fact that they have been subjected to gradual deterioration. Therefore, they provide an ideal opportunity to carry out a thorough and time-consuming investigation with a focus on their architectural history that would not be possible in an occupied settlement.

The aim of the research project is to contribute to the research, conservation and visualization of the traditional culture of Nubians in Egypt by means of an

interdisciplinary approach to document and analyse the two villages. Two lines of closely-related research will be pursued, i.e. an investigation of the villages' architectural history as well as an ethnological study of their former inhabitants. The research encompasses the architectural-artistic idiosyncrasies of the preserved buildings as well as the traditional Nubian way of village life as it existed before the island's inhabitants were resettled.

Another important aim of the project is to provide young scientists with the opportunity to further their qualifications. For example, an MA-thesis was written by O. ZENKER in the scope of the project which provides an in-depth analysis of the settlement structure and the construction methods employed in the smaller of the two villages. Observations made during field studies according to an ethnological approach will constitute an important part of F. KESHK's PhD-thesis on the use of open spaces in ancient Egypt. In addition, two further research projects are planned for students: a BA-thesis on the potential and opportunities provided by the restoration of the villages and



3

tifs of the wall paintings in the houses on Biga Island: a train with a laid table below, and a plant in full bloom placed in a pot (photo M. Kacicnik)



4



5

the development of a concept for tourism on the island as well as a second project on digital site management.

FIELDWORK

In the autumn of 2015 and the spring of 2016, two research campaigns took place on Biga. The material substance of the two villages was documented in an extremely high level of detail that is uncommon for profane architecture, and was described and explored in depth as a witness of the increasingly threatened and to a large extent already lost Nubian culture.

The documentation provides information on several different levels: from the entire island as a living environment with houses, agricultural terrain and rocky landscape, the spatial organization of the individual residential and economical structures, architectural details, mobile furnishings of the rooms to the social structure of the village community. Accordingly, the working methods used on site were diverse. Differential GPS, computer-aided

measurement, 3D photography and, despite the varied technical support, the indispensable measurement by hand constituted the basis of the working methods used to study the architectural history, whilst structured interviews and extensive enquiries were part of the repertoire of the ethnological methods.

A topographical map of the whole island as well as detailed plans of all preserved houses and economical buildings were drawn up. When developing these plans, attention was not only paid to the individual houses within their enclosure walls; the relationship of the clearly defined enclosed rooms to their immediate and extended surroundings was also incorporated into the examination. The predominantly unavoidable and ambitious integration of the natural topography into the design and arrangement of the living and economical spaces is one of the most significant characteristics of the two villages as well as of the individual buildings.

The plans represent a fundamental basis for further analysis such as the spatial and social organization, the chronological development,



① Furnishings of a bridal room on Biga (photo A. Goo-Grauer 1964) ② A toy radio made from discarded wood (photo B. Schäfer) ③–④ A former inhabitant of Biga (photo A. Goo-Grauer 1964 und 2015)

the utilization, the detailed construction or the state of preservation of the villages.

ARCHITECTURE AND ORNAMENTATION

The individual houses consist of a sequence of both roofed and open spaces, the majority of which were used for multi-functional purposes. Only few rooms can be assigned a non-varying function. For the construction of these houses, natural materials were used that almost exclusively originated from the island itself. Despite the simple design of these constructions, they provided the most comfortable living conditions possible for the prevailing climate.

Compared with the houses of ancient Nubia that are famous for their rich ornamentation, the architectural decorations in Biga are extremely modest. They are essentially limited to two rather simple elements: curved gable walls of vaults bounded by a rim of narrow ledges as well as pierced compositions consisting of triangular forms. The latter are used in a variety of ways: as handrails for steps, balustrades for terraces or as wall copings, to decorate the panels of walls and finally as a motif in wall paintings.

The structure of the walls and the employed building materials combined with the proportions, colours and the fall of light and shadows gave the houses aesthetic qualities that go far beyond the intentionally formed structural ornamentation.

WALL PAINTINGS AND ROOM FURNISHINGS

Unlike other villages of ancient Nubia, in which the painting of houses exclusively belonged to the domain of women, the male inhabitants of Biga were also involved in this process. The motifs, which predominantly adorned the inner walls of the courtyards and houses, can be classified into several groups. Plants count as one of the most common images, particularly the palm tree. Modes of transport such as trains and cars as well as laid tables also belong to the more popular representations. Only a few paintings show genre scenes or tell stories. And finally, commemorative paintings of pilgrimages are also represented.

In contrast to the simple structural decoration and wall paintings, the tradition of bridal rooms was as alive on Biga as in other Nubian regions. Prior to the wedding, young women prepared the furnishings of the bridal rooms which were part of her dowry and were intended to be the pride of the new household. In a *horror vacui*, the women covered the walls and the ceiling of the room with objects that were considered to be valuable as well as objects which they had made themselves such as mats, baskets or lids. The wealth of colours and structure of this seemingly magical



world that was plunged into semi-darkness is unfortunately hardly perceptible in the empty rooms that remain.

The reconstruction of the complex interrelationship of public, semi-public, semi-private and private rooms was made possible thanks to the preservation of much of the original room furnishings. In the case of the everyday objects, the items are similar to those that are still used today but in certain cases they already possess an antique character. The diversity of materials and things that have been retrieved and repurposed is remarkable, starting with ancient building stones and ending with tin cans for preserving food. Refuse and remains were converted into objects of everyday use, toys, kitchenware, boats, furniture, and finally into jewellery and ornaments. This admirable scale of creativity that is undoubtedly rooted in a lack of means has, in the face of ever-increasing environmental problems, the power to inspire.

THE PEOPLE

The fortunate circumstance that the former inhabitants of Biga still live in the surrounding area provides us with a chance to verify our hypotheses developed on site via interviews. The field of ethnology plays a key role in this process.

Dr. ARMGARD GOO-GRAUER, one of the few specialists on Nubian culture worldwide, lived on the island for several weeks in 1964. Numerous personal contacts that developed during her stay over 50 years ago could be reactivated and enabled us to conduct interviews on site. Thanks to the in-depth enquiries made during the course of our project, the spatial coherences have become clear, and the rhythm of daily life could be reconstructed.

The scientific recording of oral transmission, the juxtaposition of objective facts and subjective memories of the former inhabitants provides us with a unique opportunity that is otherwise non-existent in the study of abandoned villages or in archaeology in general, and in this way contributes to the exceptional nature of the project.

AUTHOR



BERNADETA SCHÄFER is an architect and works as a research associate at the department for the History of Architecture and Urban Planning of the TU Berlin. Since 2006, she has participated in numerous research ventures mainly throughout the Arabian cultural region in her capacity as an architectural historian and conservator.

Ceramic vessels made in the tradition of the Lower Egyptian Buto-Maadi culture (photo R. Hartmann)



Lower Egypt

Tell el-Fara'in/Buto

As the development of an economical complex from the beginning of the 1st Dynasty (ca. 3100 BC) to the construction of a palace-like building complex in the late 1st Dynasty and its destruction in the mid 2nd Dynasty (ca. 2800 BC) could be traced over the last few years, the focus of ongoing excavations currently lies on the study of the preceding predynastic structures in order to find evidence for the beginning of this development. Although

the area excavated so far is too small to provide a complete picture, the structures dating to the beginning of the 1st Dynasty seem to have developed from a largely continuous series of several building phases consisting of farm-like units for living and working that date to the late predynastic period (Naqada IIIB). Various features such as hearths, ovens and circular storage bins are testimonies of the agricultural and household activities of the inhabitants. A large fire pit contained for example several conical and ca. 80 cm-long pottery supports that could have been placed in the pit to keep a large vat upright during the production of beer.

A particularly remarkable feature was found in a courtyard and constitutes an approx. 5 x 4 m-large installation consisting of 10 small, parallel-running and only ca. 40 cm-high walls with the partial remains of a mat covering. This construction could have been used to dry agricultural produce such as grain or other fruits but perhaps also meat or fish that was laid out on the raised mat to dry in the sun and thereby protected from the humidity of the ground underneath. Hardly any comparable installations are known throughout Egypt for this time period but they are regularly attested in settlements located in the Near East.

In a certain section of the excavation trenches, underlying settlement remains of the Naqada IIIA-period were also reached during last year's campaign. In the areas uncovered to date, these structures are not com-



posed of mud-brick buildings of the subsequent settlement phases conform to traditions of the Upper Egyptian Naqada culture. The excavated structure made of light materials obviously represents the latest settlement phase of the Buto-Maadi culture, the representatives of which were the first settlers in Buto several hundred years before during the early 4th millennium BC.

ULRICH HARTUNG

❶ *Late predynastic fire pit with pottery supports*

❷ *Possible installation to dry grain or other agricultural produce (Naqada IIIB) (photos U. Hartung)*

posed of mud-brick buildings but of light constructions presumably with wattle and daub walls that are only recognizable in the archaeological record as a discolouration of their narrow foundation trenches. The oldest feature excavated to date (Naqada IIIA1, ca. 3350 BC) was found in such a structure, which seems to have been destroyed by fire, namely the remains of the associated ceramic inventory including fragments of storage and cooking vessels, numerous bowls from small bag-shaped vessels and other vessel types. Over half of these vessels have been made in the tradition of the Lower Egyptian Buto-Maadi culture whereas the pottery associ-

ated with the mud-brick buildings of the subsequent settlement phases conform to traditions of the Upper Egyptian Naqada culture. The excavated structure made of light materials obviously represents the latest

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ULRICH HARTUNG

using local quarriestones and clay, and were erected quickly and without any particular care. The ground plan and range of finds attested in Dahshur have direct parallels in the gallery-like workers' settlements in Giza and Wadi el-Jarf. Buildings of this type were mainly used in the context of large-scale construction sites of the Pyramid Age and during expeditions, and were used as storerooms, as spaces for eating, resting and sleeping and as areas for food production. Future excavation and scientific analysis of several cells is highly promising.

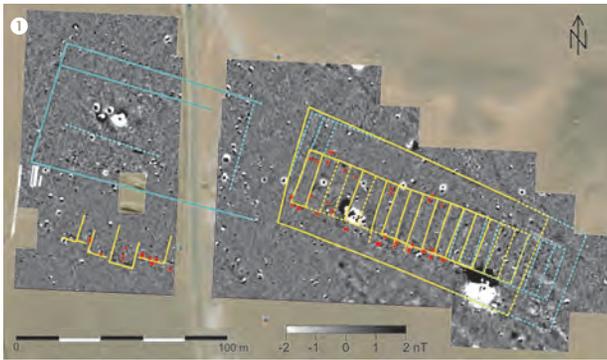
During the Ramesside period approximately 1300 years after the construction of the Bent Pyramid, the Valley Temple of the Bent Pyramid was torn down in order to reuse the large and already hewn limestone blocks in other buildings. Even blocks with relief decoration were not spared during this process. The transportation of the heavy blocks through the soft desert sand was facilitated by creating a path made of waste limestone chips and blocks that had accumulated when the blocks were cut to a smaller size. In the spring campaign of 2015, we were able to establish via auger drilling that this path led all the way to the fertile plain and runs over a total distance of around 775 m. To our great surprise, numerous limestone fragments decorated with relief had fortunately been built into this path and we were able to recover 140 such examples. On the basis of these new finds, our aim is to provide a more complete reconstruction of the decoration programme of the oldest pyramid temple in Egypt.

To the west of the pyramid of Amenemhat II (12th Dyn., Middle Kingdom, ca. 1900 BC) lies a burial ground composed of shaft tombs belonging to subordinate court officials. These shaft tombs are arranged in two rows which lie at right angles to one another. In the area where the two rows of shafts meet, a miniature mastaba (7M8) measuring 1.84 m in length and 0.97 m in width, and the 6 m-deep shaft located in front of it were both excavated. In

Middle Egypt

Dahshur

In the spring of 2015, fieldwork was once again undertaken in Dahshur with the intention of clarifying questions that still remained unanswered. In the so-called workers' settlement located to the south of the Red Pyramid, the magnetometric survey came to a successful close. The magnetogram shows 20 ca. 27 x 7 m-large, adjacently-arranged cells. The cells are surrounded by a ca. 130 x 56 m-large enclosure wall. All walls were built



❶ The magnetogram embedded into a satellite image in Google Earth shows the workers' accommodation. Features in yellow are the results of measurements taken in 2013, blue are measurements made in 2015, whereas red indicates hearths and kilns (T. Herbich, DAI Cairo) ❷ Whitewashed miniature mastaba with a central offering niche as well as the associated shaft in front (i.e. to the east) surrounded by a mud-brick wall (photo J. Pinke, DAI Cairo, DAH-2015-F-JP-00130).

the chamber situated in the south-west, a well-preserved burial was found contained in a wooden coffin. The buried individual was covered with the remains of a cartonnage and wore a neckpiece composed of faience beads and stylized beetles. The tomb was constructed at the end of the Old Kingdom and does not belong to the cemetery of Amenemhat II but to an older necropolis. Clarification of the tombs' superstructures is of particular importance as hardly anything is known about how Middle Kingdom shafts were marked aboveground. Clarification of this typologically and chronologically important question concerning the superstructures will be a focus of future work.

NICOLE ALEXANIAN

The Early Dynastic Royal Tombs of Umm el-Qaab

The work undertaken in 2015 by the DAI in the early dynastic royal cemetery of Umm el-Qaab and in cooperation with the University of Vienna since 2014, focussed on working through and publishing the enormous amount of finds recovered during previous excavations. For example large amounts of pre- and protodynastic pottery from Cemeteries U and B, and early dynastic pottery from the tombs of the kings Djer (early 1st Dynasty), Semerkhet (late 1st Dynasty) and Khasekhemwy (late 2nd Dynasty)

were classified and documented in the form of drawings and photographs. In addition, numerous stone vessels made of varying types of stone such as basalt, porphyry and dolomite, objects of ivory, copper, semi-precious stones, wood, plant fibre and unfired clay were recorded in order to reconstruct the original tomb inventory and to gain further information on the material culture and technology of this formative phase of pharaonic history.

Due to substantial transformation processes within the tombs, which can be explained by the long and intensive cultic use of the royal necropolis that continued into the Graeco-Roman period as well as by previous excavation activities carried out for example by EMILE AMÉLINAU and FLINDERS PETRIE, the attribution of individual objects to specific tombs and the reconstruction of the inventories is an extremely difficult task.

Furthermore, the extremely fragmented human remains as well as archaeobotanical samples such as wood and plant seeds were thoroughly investigated in order to collect more data on the bioarchaeological setting of the necropolis. These intensive campaigns to review the excavated material have made a considerable contribution to the progress of the documentation and to the prompt publication of this important site.

CHRISTIANA KÖHLER

The Cult of Osiris in Umm el-Qaab

The project to study the cult of Osiris in Abydos was continued in 2015 and one of the objectives of the autumn campaign was to clean several objects from an *in-situ* deposit found in the area between the tombs of Djer and Peribsen (O-5N, pit 7). These objects include a wooden, double-columned headrest, which on the basis of its typology can be dated to the Old Kingdom. This find together with several recently discovered fragments of ceramic vessels that can also be dated to the Old Kingdom shows that secondary ritual practices in Umm el-Qaab – after Khasekhemwy's burial at the end of the 2nd Dynasty the site was no longer used as a royal necropolis – did not initially start during the Middle Kingdom or the late First Intermediate Period as previously assumed but can be traced back to a much earlier time.

The headrest was found in the same archaeological context as several rectangular wooden boxes with sliding lids, which were also cleaned in autumn 2015 and studied in detail. The interpretation of these wooden boxes is somewhat enigmatic particularly in view of their contents: lumps of a resin-like substance was recovered inside, in which human teeth had been embedded. Another surprise came when the contents of a vessel found in the *in-situ* deposit



Headrest and wooden boxes containing human teeth (photo A. Gatzsche)

O-NNO were investigated more closely. At first glance we were rather disillusioned with the material as it was composed of small to minute pieces of thinly formed clay that surrounded a resinous mass and small amounts of botanical remains. However, after thorough investigation we were able to establish that the material in question was in fact the remains of a cult figure. This object is an unfortunately extremely fragmentary, hollow mummiform statue made from a light, cream-coloured clay with only a marginal amount of temper. The figure was originally coated with a dark resinous mass. The fragments originate exclusively from the front side of the figure. The entire back as well as the rear part of the legs, and unfortunately also the whole section above the shoulders are missing. The reconstructed total height of the figure (the preserved part of the feet to the neck area) measures ca. 45 cm. The hollow, mummiform figure was obviously filled with a resinous mass that was interspersed with numerous small botanical particles.

ANDREAS EFFLAND

Upper Egypt

Living Environments: Middle Kingdom Residential Buildings on Elephantine

The aim of the sub-project »Realities of Life« conducted by the DAI as part of the ongoing work on Elephantine, is the study of everyday life in a pharaonic city. Since the autumn of 2013, excavations have taken place in the north-western part of the settlement mound on the Nile island. These excavations focus on the remains of houses dating to the Middle Kingdom (ca. 2000–1700 BC) in order to find indications of three components of everyday life that were essential in ancient times and are still valid today, i.e. sustenance, work and living environment. Modern methods adopted from various fields of the natural sciences (biology, chemistry, pedology etc.) provide archaeological research with opportunities to obtain information from the smallest details, similar to

the techniques used in forensics. Seen in a global context, the use of such techniques in the archaeological field is not new but they have only been employed in Egypt to a limited degree: This was mainly due to an absence of the necessary infrastructure, above all laboratories. In the meantime, this situation has changed. The local university institutes for geology and biochemistry throughout Egypt, and particularly also in Aswan, are exceptionally well-equipped. Until now, these facilities have only been used on rare occasions in the scope of archaeological projects, or in the case of Aswan, have never been used for this purpose. In the autumn of 2016, initial samples will be analysed in the laboratory of the Faculty of Science of Aswan University. In this way, it is hoped that a successful cooperation will be initiated to the advantage of both parties. In addition to methods from the natural sciences, theoretical models as well as the integration of ethno-archaeological studies provide an exceptional background for interpretation. For example thoughts on the dispersion of smells

or the visibility of houses could be projected onto the current archaeological state of Elephantine. Such influential factors are decisive for the sense of well-being of the people who originally lived there. Initial results show that the excavated houses were indeed well-protected from external smells and observers walking past on the village paths by means of a skilful arrangement of doors and rooms. Therefore, the construction principle of the ancient Egyptian houses not only took the functionality of various rooms into account but also the private sphere of the inhabitants.

JOHANNA SIGL

The New Kingdom Khnum Temple on Elephantine

In autumn 2015, documentation of the structural components of the New Kingdom Khnum temple was continued. The research object of this year's work were blocks that had been re-used in the foundation of the temple of Nectanebo II. These structural components do not originate from the actual Khnum temple but were used to construct a range of smaller structures that must have stood at the western rear side of the temple. According to the current state of our investigations, the blocks in question come from at least two different buildings. One of the buildings was a way station equipped with a peristyle and

donated by Hatshepsut for the processional bark of Khnum during the first years of her reign when she was still depicted as a woman. The pillars of the peristyle and the walls of the bark chamber are decorated with scenes of rituals associated with the offering table. Traces of burning and graffiti on the exterior walls of the building indicate the eventful existence of this structure. The second building dates to the preceding reign of her husband, Thutmose II. The decoration of a number of these wall blocks includes for example the donation of animals to the temple, the initiation of the king into the temple, the coronation of the king as well as the presentation of year-branches to the king. Additional fragments from pillars and architraves are also preserved with inscriptions in sunk relief. This building could also have functioned as a way station for a divine bark. The representations suggest that the building served to temporarily house the bark of the king. This could have been the original location of the seated statue of Thutmose II garbed in the *sed* festival robe which is now exhibited in the Museum on Elephantine.

Two of the blocks that were found in the foundation of Nectanebo's temple bear the name of Thutmose I. One of the blocks in question was originally part of the inner side of a lintel, the other shows a scene in which the king presents goddess

Anuket with an offering of ointment. It is possible that these structural components originate from a third and as yet unknown building. All three structures are older than the Khnum temple, which was built during the reign of Thutmose III, and therefore must have been erected at a time when the preceding Middle Kingdom building of the Khnum temple was still standing.

FELIX ARNOLD

The Rock Inscriptions and Rock Art of the Aswan Region: A New Epigraphic Feature on the Island of Sehel

In the region of the First Cataract roughly halfway between the old Aswan Dam and Elephantine lies the Island of Sehel. Once a regional site for the worship of the local goddess Anuket, the island is now known primarily as the location of several hundred rock inscriptions from pharaonic times. These inscriptions can mainly be found in the south-eastern area of the island on the rock faces of the granite hills Hussein Tagug and Bibi Tagug that rise high above the island's shoreline. There, within sight of the earlier rock shrine dedicated to Anuket, participants and observers of the annual festival processions that took place in honour of the goddess immortalized themselves especially during the New Kingdom (ca. 15th to

Block from Elephantine with the names of Thutmose I. The king presents an offering of ointment to Anuket





Aswan, western face of the rocky hill of Bibi Tagug. The imposing granite formations characterize the south-eastern area of the Island Sehel (view from Hussein Tagug). Several hundred ancient rock inscriptions and images were carved into their surface from the Old Kingdom to the Graeco-Roman period but above all during the New Kingdom (photo L. Borrmann)

12th cent. BC) so that they could continually partake in the events performed for her cult.

In addition to the inscriptions of the festival participants, the rock faces of Sehel however also bear other epigraphic sources which have not received much attention throughout the almost 200 year-long exploration of the island: The sources in question are textless dynastic images that do not primarily seem to be related to the aforementioned cult activities. These images, which are rather small and have only been superficially scratched into the rock surface, mainly depict one or more standing men who sometimes hold a staff, a sceptre and/or a stick as an attribute. Besides this motif, only few other themes are attested including occasional representations that could be interpreted as scenes.

In the course of an extensive survey of the terrain, which was carried out during two field campaigns in 2014 and 2015, a total of 65 as yet unknown images and groups of

images were discovered. As a result, the number of sources of this very specific object group increased from 66 to 131.

It became particularly noticeable that the rock art was not predominantly located in the immediate surroundings of the ancient shrine but were scattered over three find spots along the shoreline of Sehel's south-eastern point. Therefore, these images seem to mark a second functional area of the island which, similar to its sacred significance, also led to epigraphic productivity. The motifs as well as the spatial arrangement of the rock art indicate that the images were optically oriented towards the southern landing point as well as the south- and north-easterly course of the Nile and thematically related to the events that occurred there. Instead of being engraved by the region's artisanal workshops as was normally the case, these images were created by the inscription owners themselves who obviously belonged to the illiterate or semi-literate social

strata. In all likelihood, these individuals were responsible for tasks related to administration, policing or transport logistics which also involved controlling the terrain, and set their connection with the island into stone at the very spot of their activities. Thus, an independent epigraphic tradition emerged alongside the elaborate tableaux in the surrounding area of the Anuket shrine and along the processional route(s), which sheds new light onto the ancient usage of the Sehel landscape and its historical development.

LINDA BORRMANN

Deir Anba Hadra (Monastery of St. Simeon)

Over the course of two campaigns that took place in 2015, investigations into the architectural history and archaeology of the monastic church and the economical area were conducted for the very first time in the »Monastery of Saint Simeon«. Once wind-borne sand had been removed in selected ar-

eas of the monastic complex, a local measuring grid was set up in the interior of the monastery and linked to the grid system used on Elephantine. With this measuring grid as a basis, SEBASTIAN OLSCHOK, M. A. (BERGSAS, FU Berlin) and Dr.-Ing. HEIKE LEHMANN (University of Cologne) were able to create a 3D-model for the economical areas and the church respectively using the Structure from Motion technique and the software product Agisoft. These models were then used to produce drawings of the ground plans, elevations and cross-sections in a scale of 1:20. Small trenches were excavated in the economical area by SEBASTIAN OLSCHOK, and the unearthed organic materials were analysed by the palaeobotanist Dr. MENNAT-ALLAH EL-DORRY (Cairo).

Work on the layers of plaster and whitewash that cover the walls of the monastery's church was continued by the conservator Dipl.-Rest. ALEXANDRA WINKELS (Freiburg i. Br.), documentation of the wall paintings was once again undertaken by Dr. GERTRUD VAN LOON (Catholic University Leuven) and the collation of the Coptic inscriptions by LENA KRSTELL, M. A. (BerGSAS, FU Berlin). At the same time, Dr. KATHRYN PIQUETTE (University College London) aimed at making highly-weathered wall paintings and inscriptions more visible via Reflectance Transformation Imaging (RTI) and infrared-reflectography. The best results were achieved with high-resolution photographs that were processed for the computer programme ImageJ with the plug-in DStretch.

Documentation of the Arabic inscriptions by ANNA CHRYSOSTOMIDES, M. A. (Oxford University) and SARA MASOUD (SCA Aswan) in a monk's cell

① Gold foil fitting from the chariot equipment of Tutankhamun (photo Ch. Eckmann) ② Decorative binding of Georg Ebers' »Aegypten« ③ Repair work on a metal lamp of the Mamluk period

in the monastery yielded interesting results. Inscriptions of Mecca pilgrims from the late Ayyubid (1171–1250) and Mamluk (1250–1517) periods show that individual rooms of the monastery were used as a hostel for *haji*-pilgrims.

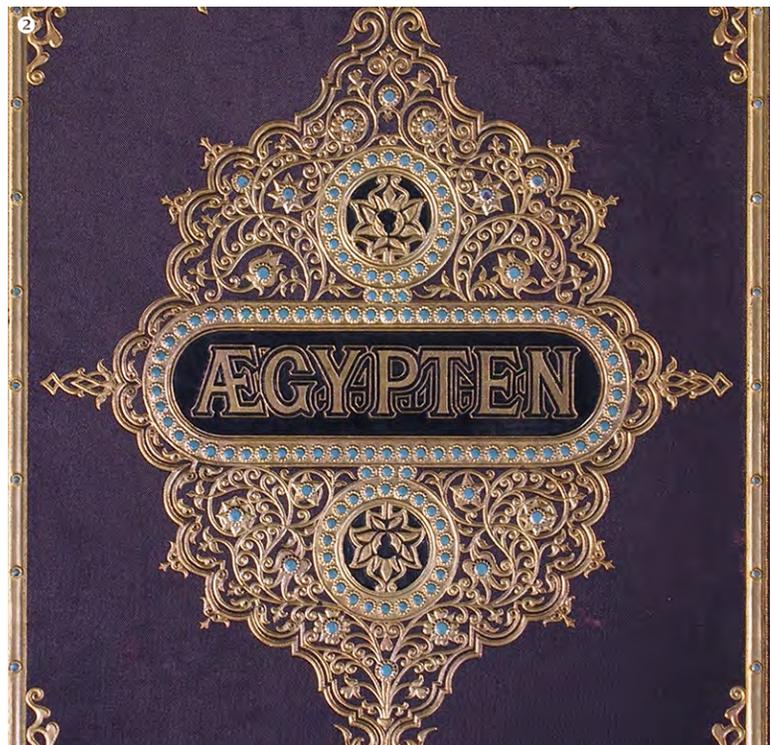
LENA KRSTELL

Cairo

The Gold Foil Fittings of Tutankhamun

In the scope of a project to study the gold foil fragments from the tomb of Tutankhamun, a project carried out as a cooperation between the DAI Cairo, the Roman-Germanic Central Museum in Mainz and the IANES Institute at the University of Tübingen, substantial progress was made during 2014 and 2015. In addition to the ongoing archaeological-iconographic investigations and the restoration of the fragments, various archaeometric and technological analyses were also conducted. For example, the

use of a portable device to analyse the X-ray fluorescence of the objects in question yielded decisive results, which show that the gold foil fragments can be separated into several clearly distinguishable groups on the basis of their chemical makeup. These groups generally correspond with the stylistic classification of the objects that was established by



means of an iconographic analysis so that the evaluation of these consistencies will lead to new insights.

Furthermore, various investigations were conducted on the substrates, which had largely survived and formed a base for the gold foil. The layers of leather that form these bases were technologically analysed and could be related to comparable material preserved in the context of the chariot equipment as was also the case with the gold foil fragments themselves. Textiles, which were also used as a base for the gold foil besides layers of leather and plaster cast, were investigated as well.

JULIA BERTSCH

Book and Library Statistics 2015: A Slightly Different Approach

Normally, a statistical evaluation of this kind is expected to provide numbers on the three larger areas of acquisition, cataloguing and usage: Thanks to the annual addition of 500 new acquisitions obtained in 2015, the over 1,000 library guests

had over 44,000 volumes at their disposal including approximately 300 continuous periodicals and series, a few maps and other non-books. And another 3,200 books can be accessed by scholars working on long-term on-site projects in the seven excavation houses.

For more detailed statistical data, a whole range of other criteria are relevant. The colour of the most frequent binding however is not on this list despite the fact that this is a helpful memory tool when trying to find a particular book. A more important category is the size and/or height of a book, which is why this was integrated into the catalogue index entry especially since the libraries holding millions of books have no other choice than to arrange their books according to size simply due to lack of space. Our range of books still remains under the one-metre-mark starting from 10 cm and rising gradually to a height of 89 cm, which of course has a major impact on the weight of the books: Currently the four storeys of our library hold roughly 22 tons of paper which is equal to the weight of a fully-loaded

truck with three axles. If the books were set upright in a row next to one another, they would stretch over a distance of more than one kilometre – a distance, which can be covered by the fastest women in the world in two and a half minutes.

Regarding the form, it is normally the case that a book takes on the appearance of a square, rectangular or an oblong form, at least in the West. However, there are always exceptions to this rule. It stands to reason and is almost self-explanatory that one of the special cases in Egyptological publications represents a pyramidal triangle – what else. Incidentally, the Egyptologist GEORG EBERS used an artistic design of fake gemstones on the binding to enhance his masterpiece that describes the land along the banks of the Nile.

One of the most fundamental features of the books is the language in which they are published. The upper ranks are occupied by the traditional academic languages of Egyptology: 37 % in German, a smaller third in English, 20 % in French. Much further down on the scale is Arabic with 3.5 % in approximately 1,600 volumes and just below that, Italian. The remaining books are mainly published in Latin, Dutch, Spanish and Russian with 230 to 140 titles in descending order. And at the lowest end of the scale are 19 languages, of which Japanese is geographically the most distant one from the DAI Cairo's library.

Over two thirds of the books were published during the 20th century, and in second place is the 21st century with 17 %. The 19th century is represented by 7 % of the holdings and the last percent encompasses 210 titles that were published between 1482 and 1799. Our oldest book is a »Journey to the Holy Land (Reise in das gelobte Land)« by the Nuremberg pilgrim HANS TUCHER, which became a bestseller at the time. And for remarks on the inner life of the books and other curiosities, we will have to wait until the next issue.

ISOLDE LEHNERT



Conserving a Mamluk Metal Lamp housed in the Museum of Islamic Art, Cairo

When a bomb exploded in 2011, the Museum of Islamic Art in Cairo was severely damaged. Numerous objects displayed in the exhibition rooms were badly damaged and in some cases almost completely destroyed. Following an appeal made by the UNESCO, the German Archaeological Institute Cairo together with the Foreign Office of the Federal Republic of Germany financed conservation work to restore the museum's metal objects. The work could be initiated in November 2015. Of the affected metal objects, a lamp from the Mamluk period suffered the greatest damage from the explosion. According to the museum's head conservator, the metal lamp is one of the oldest examples of its kind as it dates to the 16th century. The lamp is composed of six pieces and has a height of 303 cm and a diameter of 96 cm. The main body of the lamp is made of brass and, in its original design, was fashioned out of individual brass sub-sections to create a cylindrical form (lantern form). The individual brass elements were then joined together by using a special solder connecting technique. The main body is supported by legs, and it ends at the top in a dome. The engraved decoration is typical for the time during the Mamluk-Burji Dynasty (early 16th cent. under Sultan AL-ASHRAF-QANSUH AL-GHAWRY).

In order to produce an initial draft for the restoration of the lamp, a work group was formed that included the museum's head conservator, Dr. HAMDI, and other conservators employed at the museum to draw up a catalogue of measures for the conservation of the lamp. It was only possible to restore the brass fragments, many of which had buckled during the explosion's impact, to their original state with an enormous amount of effort. At the end of an extremely time-consuming heating process, the bent and



Holders of the travel grant in 2015 during a workshop at the DAI Cairo on the 24.01.2016

twisted brass could, to a certain extent, be reshaped to its original form. The brass fragments, which were not severely misshapen, were not straightened out but left in their current state as a testimony to the destruction and vandalism of our time.

ERICO PEINTNER

Study Material on Egyptian Archaeology

Thanks to financial support provided by the Foreign Office and granted in the frame of the Transformation Partnership formed between Egypt and the Federal Republic of Germany, the associated project that was initiated at the DAI Cairo in 2012 could be continued. The past year's activities included the development of two new exercise books, and the organization and implementation of interactive days with children. The exercise book that will be published in 2016 deals with methods in archaeology. The main aim of this book is to provide a description of all aspects of the excavation process including its systematic nature, documentation standards, and legal requirements, i.e. aspects that contrast strongly with the ever-increasing activity of illegal excavation. With this in mind, the importance of the archaeological context is emphasized in the study material compared with the uselessness of one more beautiful but contextless statue. The second exercise book concentrates on plac-

es of interest in Upper Egypt to aid teachers preparing and conducting day trips in the region. In addition to developing teaching materials, interactive days with children were organized and carried out in cooperation with the public relations department of the DAI Cairo and the local inspectorates. These events aimed at providing young people with information on certain topics in a creative and interesting way. In spring, the Elephantine children's workshop took place in Aswan, in which ca. 130 children from the nearby schools participated. Alongside a writing- and a 3D-puzzle-station, the children could also take part in a guided tour of the archaeological site on the island. On the premises of our cooperation partner, the German Evangelical High School in Cairo, an event called »Nubia Day« was also held in 2015, where the DAI Cairo presented the archaeology and history of Nubia. With the help of different arts and crafts stations, the children were taught about the numerous pyramids that were built in the Sudan and are not particularly well known in Egypt, with the aim of awakening their interest for archaeological sites beyond Egypt's borders.

HANNAH SONBOL

The Scholarship Programme of the DAI Cairo

In 2015, the DAI Cairo was once again able to grant scholarships to

young Egyptian scientists thanks to the financial support of the Foreign Office. A total of 29 scholarship holders from the fields of Egyptology, Coptic Studies, Islamic Archaeology, Papyrology, Museology and Conservation could be awarded with a travel or research grant. The group of scholars who received a travel bursary was the largest with a total of 15 scholarship holders. In the autumn of 2015, they travelled to Germany in three groups each for a period of ca. two weeks and visited Egyptological institutions and museum collections. Another focus of 2015 was a papyrological workshop organized together with the Egyptian Museum and Papyrus Collection Berlin, which took place over four days in November. The DAI Cairo was able to grant ten scholarships to students of Greek papyrology of the Ain Shams University in Cairo to attend this workshop.

A third focus was the funding of young scholars who are currently working on independent research projects or qualification degrees. In this line of funding, the DAI Cairo was able to grant four scholarships to young Egyptian scientists, who each spent a month in Berlin and Hamburg in autumn 2015 and spring 2016 researching for their projects or completing an internship. As was the case in previous years, the cultural and personal exchange was, in addition to scientific aspects, of

utmost importance to the travel programme of all scholarship holders of 2015, and was made possible thanks to the support of our partners in Berlin, Bonn, Heidelberg, Hildesheim, Leipzig, Mannheim, Munich and Würzburg. In order to complete and evaluate their scholarship, the travel grant holders of 2015 came together for a workshop on the 24.01.2016 on the premises of the DAI Cairo where they presented their work, exchanged feedback, and shared their experiences.

SEBASTIAN FALK

* * *

For several years, the DAI Cairo has endeavoured to broaden the range of its research projects, which are mainly focussed on the pharaonic and Coptic periods, by also encompassing the subject area of Egypt's younger Islamic history. With this aim, the DAI has granted post-doctoral scholarships since 2001 to scholars investigating areas that diverge from the department's key focuses. In this way, the DAI promotes interdisciplinary exchange and supports the development of scientific networks that are upheld long after the time frame of the scholarship itself. In October 2015, the historian S. SCHMIDT was granted a scholarship and since then has conducted independent research at the DAI Cairo. The project addresses

economic transformation processes during the transitional phase from Late Antiquity to the early Islamic period in Egypt (6th to 8th cent. AD). Written and archaeological sources will be studied in order to investigate how the Arabian conquest in the year AD 642 influenced the economic environment of Egyptian society, particularly the urban centres. The study focuses e.g. on the changes to the taxation of land and individuals, financial administration, and also the opening of new trade routes. A key focus of the study will be the region of Aswan and Elephantine. This region has been archaeologically investigated since the late 1960s by the DAI Cairo and its cooperation partners. Understanding continuity and change over a period of several thousand years is the major advantage of these long-term projects, and will unequivocally benefit a study of these transformation processes. The scholarship as well as the opportunity to exchange information and ideas with the relevant specialists allows greater access to the topic than would otherwise be possible by studying the texts and the maps alone. I would like to extend my thanks to the DAI for this change in perspective and especially to all colleagues who are accompanying the study and have patiently answered all questions posed.

STEFANIE SCHMIDT



Order of Merit Award of the Federal Republic of Germany

On the 9th of February 2015, AMANI GHANEM, long-term employee of the DAI Cairo, received the Order of Merit on a ribbon of the Federal Republic of Germany. For generations of both Egyptian and German scientists, students and guests, AMANI GHANEM was an immense help in dealing

Amani Ghanem with the Order of Merit

with complex administrative procedures related to the local authorities and consequently enabled the realization of a whole range of ventures and research activities, which without her mediation would not have been possible at all or would have been delayed to a great extent. In addition to her initial duties as an administrative clerk and interpreter, AMANI quickly became more involved in the Institute's activities and took on further tasks particularly the representation of the Institute when communicating with the Egyptian authorities or in the field of »public

relations« between the Institute and the Egyptian media. Furthermore as a result of her diplomatic skills she made a significant contribution to the relationship between Germany and Egypt throughout her career by acting as a mediator during the controversial return of Egyptian objects. In 2013, after 40 years' service, AMANI GHANEM retired from the DAI Cairo but remained dedicated to the Institute. In recognition of her contributions to the Egyptian-German relationship and to the DAI Cairo, AMANI GHANEM was awarded the Order of Merit by the German ambassador during a celebration held at the Institute's premises in February 2015.

* * *

On the 23.07.2015, the Faculty for Cultural Studies of the Ludwig-Maximilian's University Munich awarded JOHANNA SIGL, scientific associate of the DAI Cairo, with one of the three prizes for exceptional PhD-projects for her study on *The animal finds of Syene/Aswan. A contribution to the environmental and cultural history of an Upper Egyptian town from the pharaonic Late Period to the Mamluk period.*

Project Days

As is the case with every year, the project directors of all DAI Cairo ventures came together for a workshop in June 2015, the annual project days. This event aims to constitute an information platform and to promote scientific exchange.

Lepsius Day 2015

The annually held celebrations to honour KARL RICHARD LEPSIUS, the »father« of German Egyptology took place in 2015 on the traditional date of the 9th of December and focused this year on Sudan archaeology. The ceremonial lecture was given by Prof. Dr. ANGELIKA LOHWASSER on current investigations undertaken in the surrounding area of Gebel Barkal.



Opening of the exhibition »Papyri from Karanis« in the Egyptian Museum in Cairo in March 2015 with St. Seidlmayer (right), the German ambassador Hansjörg Haber (second from right), the Minister of Antiquities Mamdouh Eldamaty (front row, centre) and Cornelia Römer (second from left) (photo P. Windszus)

Scientific Events

In February 2015, the DAI Cairo and the DAAD Cairo celebrated the opening of the exhibition »Papyri from Karanis. Voices from a multicultural society in ancient Fayum« by Prof. Dr. CORNELIA RÖMER. This special exhibition shown in the Egyptian Museum was initiated on the occasion of a publication of papyri editions from Karanis, which are housed in the Egyptian Museum, and therefore honours the publication project of CORNELIA RÖMER together with MOHAMED EL-MAGHRABI and their students of the Ain Shams University Cairo.

Due to the great success of this exhibition, it will be shown for a second time at the »Egyptian Center for International Cultural Cooperation«.

* * *

At the beginning of March 2015, an international workshop took place in Cairo on »The Goldsheet-Appliqués from the Tomb of Tutankhamun – Design, Function and Technology«, during which specialists from different scientific fields came together to discuss the extensive and diverse procedures, and to present initial results and exchange related ideas. Amongst other things, an in-depth investigation of further

objects from the tomb of Tutankhamun that are functionally and iconographically close to the gold foil fittings is planned for the future. This includes for example the chariots, the quivers and boxes containing bows as well as the golden dagger sheaths. In combination with the ongoing work, these additional analyses aim to comprehensively understand the gold foil fittings in terms of their function, technology and cultural history, and ultimately to contextualize them within the range of objects found in the tomb but also to put them into the overall context of the late 18th Dynasty.

* * *

In Late Antique Egypt, churches and monasteries are described as »topos«. The localization of specific knowledge, which consisted of the story of a saint and his relationship with a particular »place« was a constituent factor of local identity. At the same time, churches and monasteries, as the owners of resources, producers and consumers, were potent agents of the economy.

The workshop »Christian Archaeology in Egypt: Recent Achievements, New Strands«, which took place at the beginning of April in 2015, aimed at combining present research and methodical questions

related to archaeology, architectural studies, wall paintings, epigraphy and material culture in Late Antique Egypt, and to form a platform for the discussion between the associated scholars. Furthermore, the workshop was also held to address the academic discourse on national heritage and the role of the Coptic Church, which have both become important issues in post-revolutionary Egypt. In the scope of the workshop, the project undertaken by the DAI Cairo in cooperation with the Excellence Cluster TOPOI (Berlin), Research Group B4 in Deir Anba Hadra (the so-called »Monastery of St. Simeon«) near to Aswan, was set into a wider scientific context.

* * *

With the »Ramesside Project«, which was initiated by JAN ASSMANN in 1978, the Institute of Egyptology in Heidelberg upholds a year-long tradition of research into the 19th and 20th Dynasties. This tradition inspired Prof. Dr. JAN ASSMANN, Dr. SABINE KUBISCH and Dr. UTE RUMMEL to organize an international conference at the beginning of June 2015 in Heidelberg (»The Ramesside Period in Egypt: Studies into Cultural and Historical Processes of the 19th and 20th Dynasties«) on this important historical time period. This workshop aimed to elucidate the full extent of the topic and to outline the current state of research by means of describing, combining and discussing the characteristics and problems of this era: The 19th and 20th Dynasties were characterized by an

extraordinary intellectual and cultural productivity as well as by profound political and social developments. Spanning the years between the end of the Amarna period and the *whm-mswt*-era, the Ramesside period was framed by times of crises, which served as the catalyst for a wide range of developments and changes for example the religious revolution of Akhenaten which heralded the start of an intellectual turning point. The intentional restoration of politics implemented by subsequent rulers was an attempt to overcome the negative consequences of the Amarna dogma. The resulting politics paved the way for a well-functioning state. Economic wealth characterized the following period, during which the administrative apparatus become more complex and cultural productivity was stimulated. Gradual demise began at the end of the New Kingdom. The socio-economical crisis and political unrest under the last Ramesside kings led to the disintegration and ultimately to the total collapse of the central state.

* * *

A seminar for students of papyrology at the Ain Shams and the Cairo Universities was held on the premises of the DAI to replace the Field School which was planned for September 2015 but had to be cancelled due to security issues. The students received specialist training to produce archaeological drawings and plans, they learnt to reassemble a broken pot and date it, and how

to deal with topics that are related to archaeology and papyrology in order to enable an interdisciplinary approach. The training was organized by Prof. Dr. CORNELIA RÖMER (Ain Shams University/DAAD Cairo).

Lectures

- 27.01. CHRISTIAN ECKMANN: The Gold-Sheet Appliqués from the Tomb of Tutankhamen – Preliminary Results of Conservation, Technological Investigation and Natural Scientific Analyses
- 04.02. NICOLE ALEXANIAN: The Workmen's Barracks South of the Red Pyramid at Dahshur
- 04.03. SALIMA IKRAM/ANDRÉ VELDMEIJER: From Tutankhamun to Tano: Chariot Leather in the New Kingdom
- 31.03. GAWDAT GABRA: How to »Revive« the Project »Catalogue Général du Musée Copte«?

TELL!-Lectures

- 7.10. FATMA FARAG ABD EL-HAY (Ain Shams University): Border-Control Work from Elephantine during the Old Kingdom and MARIE-KRISTIN SCHRÖDER (DAI Cairo): The Nubian C-Group at Hierakonpolis. The Pottery of Cemetery HK27C during the Middle Kingdom.

Participants of the Project Days 2015 at the DAI Cairo

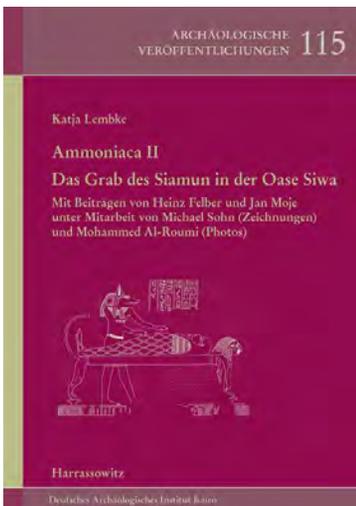




Mitteilungen des Deutschen Archäologischen Instituts Abt. Kairo, Bd. 69 (2013)

For more than 80 years now, the annually published »Mitteilungen« of the Cairo department have provided an international platform for contributions on archaeological investigations as well as on the cultural and social history of Egypt. The topics span a time frame ranging between the predynastic and Pharaonic ages to the Christian and Islamic eras.

246 pages, 174 figures, ISBN 978-3-11-044010-2, Walter de Gruyter Publishing House, Berlin/Boston 2015, 84.00 €



KATJA LEMBKE ET AL., Ammoniaca II. Das Grab des Siamun in der Oase Siwa, AV 115

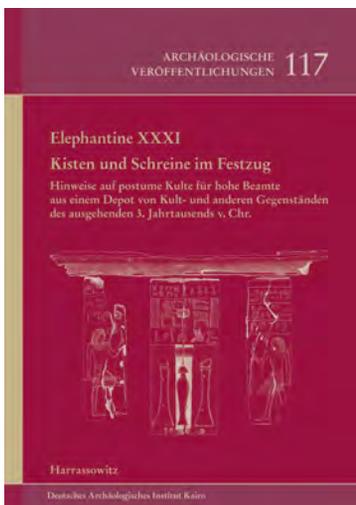
During the reign of the Ptolemies, who ruled Egypt after Alexander the Great, Gebel el-Mota which rises high above the oasis became a central burial ground for the elite. The tomb of a man named Siamun counts as one of the most important private tombs of the oasis and is pivotal to late Egyptian art due to the exceptional quality and realism of the decoration. The book presents the results of a DFG-project that has been conducted over a period of several years. Drawings of the wall decorations made on-site in a 1:1-scale by MICHAEL SOHN, which were then subsequently scanned and computer-edited, form the basis of the monograph together with the photographic documentation undertaken by MOHAMMED AL-ROUMI. This basis was used by an interdisciplinary team to analyse the ar-

chitecture, decoration and inscriptions. The result not only constitutes the very first complete documentation of the tomb but also provides a fundamentally new interpretation of the structure, which is among the most important architectural remains from the turn of the eras.

117 pages, 24 tables, 3 fold-out plans, ISBN 978-3-447-10239-1, Harrassowitz Publishing House, Wiesbaden 2014, 89.00 €

ANDREAS DORN, Elephantine XXXI. Kisten und Schreine im Festzug, AV 117

In the south-eastern part of Elephantine Island, the remains of a large state building were discovered that was built at the beginning of the 6th Dynasty. Over the last 40 years, the German Archaeological Institute Cairo has carried out various excavations inside and outside this building which is known as House 2. During excavations in the north-west corner of House 2, boxes, shrines, unhewn blocks for statues, cylinders and offering tables made of calcite alabaster, fragments of sealings and various other objects were found. All of these objects had been disposed of in two different phases of deposition. On the basis of the location of the portable shrines and thanks to representations of similar shrines in tombs of the Old Kingdom, ANDREAS DORN was able to prove that they had been repeatedly used in the frame of festival processions. This was also confirmed by the fact that the objects had been restored in ancient times. These processions were carried out in honour of deceased non-royal individuals during festivals that took place in the necropo-

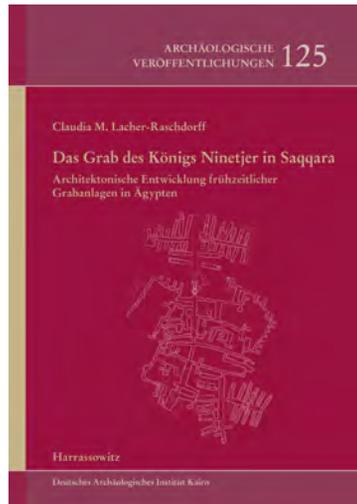


lis. The same usage could also be inferred for the wooden boxes with openwork sides and removable lids. These were found in the context of the lowermost, older deposit from the end of the 6th Dynasty. A particularly unusual box bears the name of Heqaib: both lateral sides of the box are decorated with a false door. This object therefore constitutes a mobile, extra-sepulchral false door, the existence of which is possibly due to local factors. The numerous sealing fragments span a time frame from the end of the Old Kingdom to the end of the First Intermediate Period. Double sealings attest to the co-existence of button seals and scaraboids/scarabs, which confirms the smooth transition in the usage of these two diverse object types. ERICO PEINTNER's report on the extensive restoration measures, which were undertaken on the extremely fragile wooden objects in order to preserve them for future presentation, also contains observations on working techniques and varying workshops. The evaluation and interpretation of the feature and the finds is rounded off by an extensive catalogue and indices.

268 pages, 439 figures, 16 plates, ISBN: 978-3-447-10481-4, Harrassowitz Publishing House, Wiesbaden 2015, 98.00 €

CLAUDIA M. LACHER-RASCHDORFF, *Das Grab des Königs Ninetjer in Saqqara. Architektonische Entwicklung frühzeitlicher Grabanlagen in Ägypten, AV 125*

This publication presents the results of the archaeological and architectural study of the tomb complex of King Ninetjer (ca. 2780 BC),



one of the four royal tombs of the 2nd Dynasty known to date. The tomb is situated in the Saqqara necropolis ca. 25 km south-west of Cairo and was conceived as an underground rock-cut tomb that was hewn as a series of galleries into the limestone massif. The underground complex covers an area of ca. 77.00 x 50.50 m and is divided into 192 rooms that run through the bedrock like a labyrinth. Originally, the tomb complex was probably marked on the surface by a tumulus; however no traces of such a superstructure are preserved. The main focus of the research is an analysis of the tomb's architecture. By applying methods used in the

field of architectural studies, the sequence of the tomb's building phases and phases of later use are determined, the building techniques studied and a reconstruction of the implementation of these techniques is provided. Five design proposals serve to visualize possible variations of the superstructure. Furthermore, an interpretation of the labyrinthine ground plan structure is presented for the very first time. The architectural analysis of the royal tomb is then followed by a general typological study of the architecture of tomb complexes that date between the 1st and 3rd Dynasties. The lines of development are shown on various hierarchical levels and provide a basis with which previously undated tombs can be chronologically specified. In addition, various stages of development can be ascertained with regards to the tomb's security systems, and new statements can be made concerning cult practices and notions of the afterlife based on the architectural layout and archaeological features of the tomb.

296 pages, 74 figures, 44 plates, ISBN: 978-3-447-06999-1, Harrassowitz Publishing House, Wiesbaden 2014, 247.00 €

Parts of the boxes belonging to Sobekhotep from House 2 in Elephantine (from A. Dorn, Elephantine XXXI. Kisten und Schreine im Festzug, AV 117)





SPOTLIGHT

Sunrise in the Theban necropolis: The start of a working day in the double tomb complex K93.11 and K93.12 (photo S. Michels)



Elephantine:

The Infrastructure of a Long-Term Project





*The excavation house of the
DAI Cairo on Elephantine Island
(photo P. Windszus)*

Over the past 45 years, the German Archaeological Institute has carried out excavations on the Island of Elephantine in collaboration with the Swiss Institute for Egyptian Architectural History and Archaeology in Cairo. During these excavations, an enormous amount of finds made of pottery, clay, bone, stone and organic materials have been unearthed, studied and then published in over 30 scientific publications together with the architectural features documented on the island. A long-term project of this kind is only possible with a fully-functioning infrastructure which not only includes an excavation house but also the secure and organized storage of finds as well as the provision of work spaces for the study and conservation of these finds.

THE 45 YEAR-OLD EXCAVATION HOUSE ON ELEPHANTINE

An essential requirement of the work conducted by the German Archaeological Institute in the region of the First Nile Cataract is the excavation house situated on the island of Elephantine. During the course of excavation campaigns that can last for several months, the house serves as the accommodation and working space for a team of up to 17 members, and as a storage space for the necessary equipment. Until recently, finds from the excavations were also cleaned, drawn and stored here. In addition, the excavation house is also a place of scientific exchange as lectures and scientific meetings take place on the premises.



① *The transfer of find boxes from Elephantine to the mainland is only possible by motorboat (photo J. Sigl)*

② *Ahmed el-Amir, a team member from Qift, noting the storage place of the individual boxes (photo M.-K. Schröder)*

In 1970, the excavation house was constructed in the style of Nubian domestic architecture according to plans drawn up by the architect and long-term director of the Swiss Institute for Egyptian Architectural History and Archaeology, HORST JARITZ. When designing the house, he greatly benefitted from

his experiences gained during the campaigns to save Nubian monuments in the 1960s. The walls were built exclusively using air-dried mud bricks. Vaults and domed roofs covering the various spatial units provide ideal conditions for the local climate: the heat is distributed into the house's interior only via windows and doors, and the high ceilings of the rooms dissipate the warm air of the internal spaces away from the spaces being used.

In the summer of 2013 and after being used for more than 40 years, the living spaces of the excavation house underwent radical renovation and modernization. These measures were supervised by MARTIN SÄHLHOF, an architectural historian, and financed with special funds granted by the Federal Government.

THE LOGISTICS OF A LARGE-SCALE EXCAVATION

Whereas renovation of the living spaces has already been completed, the renewal of the working spaces, which were used until 2013

for storage, still remained to be carried out. Almost all finds that had been discovered since the 1970s were stored here and studied. Further storage spaces were created during the 1990s on the excavation site in rooms underneath the reconstructed Satet-Temple of the 18th Dynasty as well as in rooms below the excavation's museum.

However the unsettled situation that has prevailed in Egypt since 2011 required an alternative solution to the permanent storage of finds in the excavation house. Due to the fact that a comparable situation existed for all archaeological sites throughout the Aswan region where excavations take place, the Egyptian Ministry of Antiquities had a central storage facility built on the eastern bank of the city for the secure storage of the finds from the entire region. In addition, the DAI extended the storage space in the area of the excavation's museum by adding another large wing composed of storerooms.

Construction and concept of the excavation's storerooms on Elephantine

Before the new storage rooms could be constructed in the area of the museum, it was necessary to carry out extensive excavations. This work was undertaken between 2009 and 2013 and supervised by PETER KOPP who excavated down to the level of the granite bedrock. In the summer of 2013 and after the archaeological investigations had been completed, the new wing of storage spaces was built beneath the floor level of the museum by the architect NICHOLAS WARNER. With a total surface area of 210 m²

this wing provides enough space to store 3,000 find boxes. Thus, previous storage capacities have been doubled. After the construction work had been completed and the storage rooms had been furnished, all finds from the excavation house were then transferred there. At the same time, the find boxes were newly inventoried and their number system standardized. As all finds from ongoing excavations will be recorded in the excavation's storage unit, the existing storage spaces had to be reorganized in order to set up a corresponding working space.

The establishment of a new central storage unit in Aswan decidedly relieved the strain on the storage spaces located on the island: finds can be stored there on a more permanent basis whereas the rooms underneath the excavation's museum can now be used purely as a working and temporary storage space for newly-excavated finds. As a result of the restructuring, the Elephantine holdings could be systematically organized and stored to save space in a relatively short amount of time. In two major operations during 2014 and 2015, 645 plastic and specially-made metal boxes were packed with archaeological material that was originally held in 1,000 wooden boxes, and then transferred to the central storage unit. The successful transfer of these find boxes is mainly due to the achievements of the skilled excavation team members from Qift. After this rearrangement, three of the eight storage rooms of the central storage unit are now full with the material from Elephantine. One of these three rooms is however reserved for finds that have been registered by the local Antiquities Services. The second room contains the manifold small finds excavated over the last 45 years, which range from clay objects, seals and ostraca to large metal boxes with wooden shrines, and were packed in no less than 398 boxes. In the third room, 200 boxes are stored that contain intact ceramic vessels and serve as a display collection of pottery from the early Dynastic period to the Roman era.

A total of three rooms underneath the excavation's museum, which were previously used as storage spaces, were

therefore completely cleared and can now be used to store the entire organic material, i.e. wood, animal bones and soil samples as well as the small finds and pottery of ongoing campaigns. These find groups are spatially separated amongst the three rooms. The largest of the three rooms was also equipped with 12 working spaces in order to record and study the finds. The same process is currently being carried out for the holdings of the two younger storage rooms which mainly contain ceramic objects.

Inventory of finds

The restructuring of the museum's storage spaces undertaken since 2013 has once again shown the excavators the enormous amount of finds which have been unearthed on Elephantine over the past 45 years: The archaeological material found to date has been stored in ca. 4,500 wooden boxes as well as 1,000 large sturdy sacks, which are normally used for flour.

The transferral of the finds made it essential to newly sort and restructure this mass of objects. In order to reduce the quantity of boxes containing pottery, related ceramic assemblages were systematically collected on the basis of an inventory list and packed together. The find bags were replaced and equipped with the original as well as a new plastic label in a zipper bag with the aim of preserving the find number on a long-term basis. The bags were ordered according to assemblage and tucked into the sacks, which in turn were numbered consecutively and recorded in an inventory list. In this way, the pottery was packed into over 800 sacks by autumn 2015. The remaining boxes were successively documented in a list that records the number of the individual box and their respective contents such as pottery, botanical remains, animal bones and small finds with the corresponding find numbers and the storage location. This record serves as a basis for the collation of a second inventory list in which the archaeological material and particularly the pottery is systematically noted according



① *The transportation of sacks filled with pottery whereby intact and almost intact vessels are stored elsewhere*

② *Space-saving storage of hundreds of thousands of pottery sherds (photos M.-K. Schröder)*

to the time period of the individual excavation campaign and the area in which the excavation took place. This inventory can be used to estimate the actual quantities of the finds, to re-assemble and merge existing ceramic find units, and also to discover gaps in the data.

In addition to the small finds made of various materials, excavations on Elephantine mainly yield enormous amounts of pottery. As is the case with all settlement excavations, the study of this find category plays a central role on Elephantine. However, the long-term storage of it represents one of the largest infrastructural challenges of the project. In accordance with Egyptian law, a remedy for this problem must be found on the archaeological site itself. As there are no ancient underground structures on the settlement mound of Elephantine which can be reused as a deposit for pottery that has been fully documented and studied, a plan was conceived many years ago to gain more space by rebuilding the ancient city wall. This reconstructed wall is also intended as additional protection for the excavation site and as a visual aid to demonstrate the original extent of the city.

RENOVATION AND NEW CONCEPTION OF THE MUSEUMS

The starting point of every visit to Elephantine Island is the archaeological museum

situated near to the landing stage of the boats.

The museum building was opened around 1906 as an administrative building of the Ministry for Public Work. At the time when the First Aswan Dam was under construction, the state secretary, ARTHUR L. WEBB, held office here. The double-winged building was built in the style of an English villa with ashlar walls made of granite and a wooden veranda. A roof pavilion with a pagoda-like, hipped roof construction is still a landmark of Elephantine Island that can be seen from miles around. The building is one of the last examples of colonial architecture in the Aswan region and is therefore a listed building.

The museum was installed for the very first time around 1914 and structurally extended in 1956. It houses objects found during excavation on Elephantine as well as objects from the region of the First Cataract before 1969. Under the direction of WERNER KAISER, a second museum building was constructed by the architect ACHIM KREKELER in 1991 to 1992 to display finds of ongoing excavations of the Elephantine project. Both museum buildings have been closed for several years due to security reasons.

The pending renovation aims to restore this building to its original state. In the scope of the site management plan of the Elephantine excavation project, both of the island's

Cover:

The funerary mask of Tutankhamun (photo Ch. Eckmann)