Report on the Excavations at Elephantine

by the German Archaeological Institute and the Swiss Institute Cairo

51st Season 2023*

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Abstract

The 51st season spring 2023 of the German-Swiss long-term research project in Elephantine included fieldwork in the South-West Town, the continued consolidation of mud-brick structures, and the reconstruction of the Temple of Osiris-Nesmeti. Study of objects focused on finds from exactions in the North-West Town, House H55, papyri from the late 3rd millennium BCE, as well as 26th Dynasty pottery and Coptic ostraca form excavations in and around the late Khnum Temple. Metallurgical analyses and mirco-biological studies on samples from Elephantine were carried out in several laboratories in Cairo.

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** Members of the team were the building archaeologist M. Sählhof (Cairo), the Egyptologists M. Adel William (Cairo), D. Aston (Vienna), F. da Silva Lozada (Cairo), S. Gubler (Basel), M. Lehmann (Berlin), M. Müller (Basel), A. Pillon (Cairo), E. Sawerthal (London), M.-K. Schröder (Cairo), J. Sigl (Bonn) and C. von Pilgrim (Cairo), the archaeologists S. Bulawka (Warsaw), P. Collet (Cairo), C. Jeuthe (Cairo), P. Kopp (Warsaw), and B. von Pilgrim (Cairo), the architects S. Erhan (Berlin), O. Kassab (Cairo) and A. Krekeler (Brandenburg), the conservator P. Karlstedt (Potsdam), the anthopologists M. Schultz and T. Schmidt-Schultz (both Göttingen), the photographers B. Ezzat (Cairo) and P. Mora Riudavets (Barcelona), as well as the draftsperson O. Stephan (Munich). The work would have been impossible to be done without the team from Quft under the direction of Rais El-Amir Kamel Sadiq.

Contents

1. Introduction

The investigation at the archaeological site of Elephantine (fig. 1), started in 1969, continued work at the site with the 51st season from 16th of February until April 27th 2023 and was carried out by the German Archaeological Institute, Cairo (DAI) in cooperation with the Swiss Institute for Architectural and Archaeological Research on Ancient Egypt in Cairo (SIK).[1]

Fig. 1: Plan of the archaeological site of Elephantine (P. Kopp, O. Kassab, and M. Sählhof, © DAI).

On site Peter Kopp resumed fieldwork in the South-West Town with cleaning of the *sebbakhin* debris, to continue research on urbanism and urban history in this part of the settlement (see section 2.1.1). In the centre of the settlement mount, research-based maintenance and

consolidation of mud-brick structures were continued by the DAI; this was also done to provide better visualization of building layouts in terms of presentation (see section 2.1.2). Another part of site-management measures were the continued efforts of the SIK on the reconstruction of the Temple of Osiris-Nemeti, carried out by Achim Krekeler and Peter Karlstedt (see section 3.7). In addition, several projects focused on the study of objects and object groups: Clara Jeuthe completed the documentation of chert implements from 10 building units in the North-West Town dating between the late Old Kingdom until the late Middle Kingdom (see section 2.2.1). Andrea Pillon began an examination of papyrological material from the late 3rd millennium BCE, with a focus on papyri from the archaeological context 16400k (see section 2.2.1).

With the permit of the Ministry of Antiquities and Tourism (MoTA) natural scientific analyses on samples from excavations of the Realities of Life project in the North-West Town could be processed in laboratories in Cairo. This included metallurgical analyses by Martin Odler and Jiří Kmošek in the laboratories of the IFAO and the Egyptian Desert Research Center (see section 2.2.3), as well as micro-biological studies on phytoliths from soil samples by Elshafaey A. E. Attia at the Grand Egyptian Museum laboratory (see section 2.2.4).

The SIK continued the study of objects from house H55 on assemblages of lithics and small finds, as well as anthropological studies on human remains found during the excavation of this New Kingdom building (for further details see section 3). David A. Aston finalized the study of 26th Dynasty pottery form levels 4B and 4C in Area XXVI south of the late Khnum temple (see section 3.4). Matthias Müller documented and preliminarily edited around 300 Coptic ostraca from the Late Antique and Early Islamic strata in and around the late Khnum Temple.

(M. Sählhof)

Reorganization of the Find Storage Rooms

From 19th of February to 27th of April 2023, the work in the excavation store rooms on site and in the Central Magazine in Aswan was continued with the kind support of the inspectors Mr. Mahmoud Abdallah Abdallah and Mrs. Zeinab Elsayed Ghaleb.

Following the work program of the past years, the main objective was the systematic repacking and reduction of pottery fragments from past excavations into large pottery storage bags (*shewallat*). During the past spring season, we were able to organize and pack 74 new large bags (S1728–S1802) and thus reduce a considerable amount of space in the main pottery store room below the Satet Temple.

Fig. 2: View of the newly installed shelves in the magazine (photo: M.-K. Schröder, © DAI).

Fig. 3: View of one aisle after safe storage of all boxes (photo: M.-K. Schröder, © DAI).

Another important objective was conducted in the Central Magazine in Aswan from 27th of February till 6th of March in cooperation with the staff of the Central Magazine under kind supervision of Mrs. Zeinab Elsayed Ghaleb. In order to gain more storage space in the storeroom dedicated to small finds from the German-Swiss excavations at Elephantine (Storeroom 2), new shelves had to be installed in the central area of that space. The old shelves in this central area were completely dismantled and the old shelf boards added to the existing shelves and thus another additional storage level in each shelf was created, creating five instead of four storage shelves. This work was professionally conducted by the company *LinkMisr*. Another company, *mobica*, was then responsible for the installation of eight new shelves (figs. 2 and 3). These efforts resulted in gaining a considerable amount of additional shelf space in Storeroom 2. All shelves were given new shelf numbers, which were then updated in the inventory list.

(M.-K. Schröder)

2. Works of the German Archaeological Institute

2.1 Fieldwork

2.1.1 Work in the South-West Town

South of a still high preserved section of the town wall in the South-West Town, an area was cleaned of *sebbakhin* debris from 2007-2009 (fig. 4).[2] This area has now been extended to connect with the higher rising stratification of a Middle Kingdom house (H 79). For this purpose, another area of approximately 150 m^2 was cleared of *sebbakhin* debris in March 2023. This was an approximately 1.5 m thick layer that was heavily interspersed with pottery. It consisted mainly of sherds dating from the Middle Kingdom to the Roman period. A smaller proportion was made up of pottery from the end of the Old Kingdom and the First Intermediate Period. The Islamic Middle Ages is represented by only a few sherds.

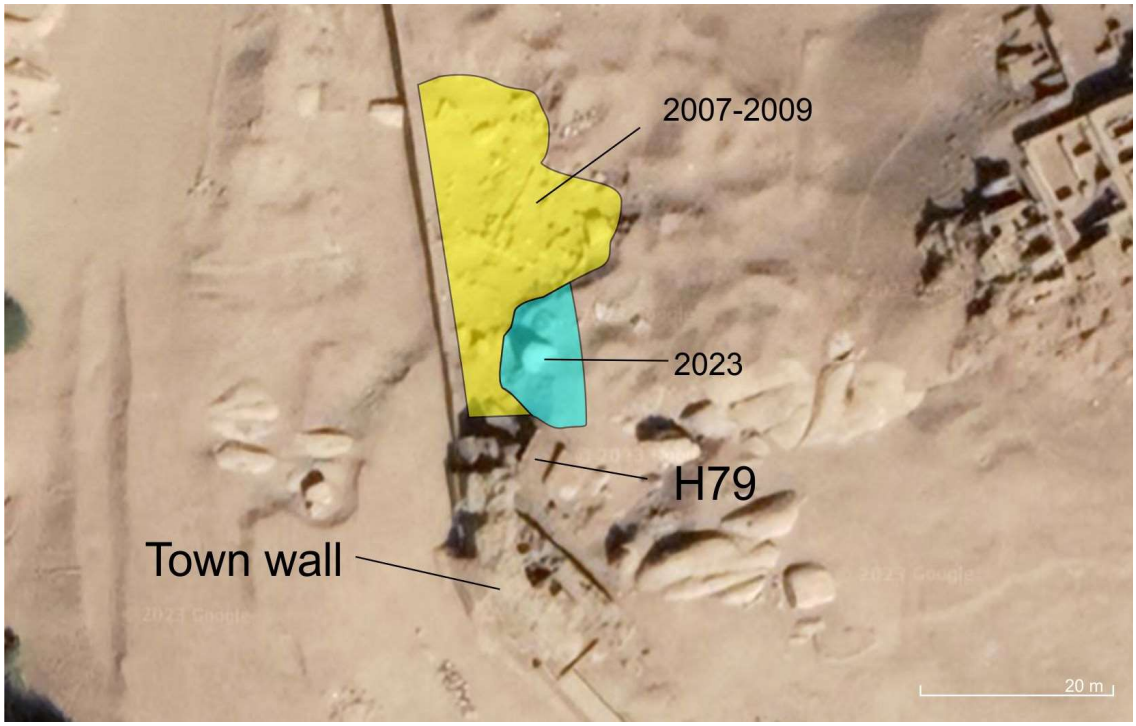

Fig. 4: Cleaned areas in 2007-2009 and 2023 (P. Kopp based on google maps © Google Maps 2023).

In addition, there are 125 small finds from these layers, which can be dated from the Middle Kingdom to the Roman period. These are typical settlement finds, as they are also known from other areas of Elephantine. Besides two ostraca, they include unsealed jar stoppers, net sinkers, hanging weights, stone vessels, faience vessels, and spindle whorls from the Middle/New

Kingdom, a vessel stand and a model of a bed with a woman from the New Kingdom, as well as fragments of oil lamps. Most of the finds are only fragmentarily preserved.

It can now be seen that at least five building layers have been preserved in the area under investigation. In a larger area, foundations of granite rubble stones can be seen between the granites *in situ*, probably dating to the First Intermediate Period. This dating is based on the pottery visible in the profiles and must be considered as preliminary. After the buildings on these foundations were demolished, the area was filled with rubble, under which some of the granite rocks disappeared, thus levelling the area.

On the levelling layer, two construction phases of buildings made of mud-bricks can be seen below the later town wall. Above them is a floor belonging to the only higher preserved building in this area. This is House 79, which was investigated as part of the research into the history of the town wall in the 19th season.[3] Its southern outer wall, two adjacent walls and parts of two rectangular installations were preserved. According to C. von Pilgrim, there was a courtyard to the north, which was used as a bakery and for keeping animals. Pottery and seals date the use of this house to the late 12th Dynasty to early 13th Dynasty, which were found in a trench dug during the 19th season.[4] The youngest sherds from this section date to the mid/late 13th Dynasty.[5] The youngest building layer in this area is represented only by a door threshold.

(P. Kopp)

2.1.2 Heritage Conservation and Site Management

During the 51st season, efforts to preserve and to manage the archaeological and architectural heritage of Elephantine were continued with special funding by the German Foreign Office.[6] Maintenance and consolidation focused on mud-brick buildings of domestic and working quarters in central areas of the settlement mount north-west of the Khnum Temple (fig. 1). Damage assessments were accompanied by comparisons between the building's current state and its state at the time of documentation.[7] On basis of these assessments, vulnerable and damaged mud-brick walls were supplemented with underpinnings and coping courses for protection (fig. 5). The contemporary supplementary bricks were molded on site, during previous campaigns, with dimensions of 24 x 12 x 6 cm using local Nile mud with aggregates of chopped straw and sand. Pottery sherd linings were inserted into the mortar to act as a clear indicator of the newer additions. Consolidation measures on these buildings also focused on the presentation of these structures for the public: across House BC wall levels were unified when possible to provide an improved readability of its overall layout (fig. 6).

Fig. 5: Consolidation of mud-brick wall in House BC (photo: O. Kassab, © DAI).

Fig. 6: House BC after consolidation and levelling of the ground (photo: O. Kassab, © DAI).

Fig. 7: The stairs leading to the Khnum Temple Nilometer before intervention (photo: O. Kassab, © DAI).

Fig. 8: The stairs leading to the Khnum Temple Nilometer after intervention (photo: O. Kassab, © DAI).

To preserve further exposed mud-brick structures and endangered archaeological heritage in the same area of the settlement mount, multiple excavation trenches were backfilled. Backfill material was sourced form excavation heaps south-west of the settlement mount. By sieving the debris from the heaps, a soft, light substance was produced that on the one hand can be applied for backfilling in fragile settings, and on the other hand can be clearly distinguished

stratigraphically within the archaeological context in future excavations. Upwards of a 20 cm thick layer of backfill was used and was interspersed with an array of pottery sherds and stones to protect the backfill mass from wind erosion.

Maintenance was also carried out on existing visitors' infrastructure with the repair of damaged stone stairs along pathways throughout the site (fig. 7). According to the severity of damage, stairs were either taken out and completely remodelled or only modified to provide even step heights and flat surfaces. For joining, mud-mortar was used without the addition of cement (fig. 8).

(M. Sählhof and O. Kassab)

2.2 Study of Objects

2.2.1 The chert implements from the North-West Town

The study of chert artefacts from excavations in the 45th to 48th seasons (North-West Town) was initially carried out between 2016-2019.[8] In March 2023, a further 500 artefacts (approximately) were recorded, reaching a total number of more than 2,500 finds in the database. Despite this high number, only about a third of the total of finds from this area are recorded, however, most of the unstudied artefacts come from large refuse deposits. By contrast, most of the artefacts coming from stratified contexts are now recorded and were found in 10 different buildings (which were excavated to a different extent). The aim in 2023 was not only to complete the documentation for individual building units, but also to have samples from all excavated phases dating between the late Old Kingdom until the end of the Middle Kingdom. Moreover, the documentation with photos and drawings was finished in 2023. Although we are still missing the documentation and records of artefacts from one large building unit, the remaining data is sufficient for analyses, aimed to be published in the coming year.

As a first overview, the data demonstrates an impressive sharp contrast to the finds from the Early Dynastic Period and Old Kingdom at Elephantine.[9] This refers to both the availability of raw materials as well as tool production. The decline in variations was already notable in the previous studied contexts from the late Old Kingdom/ beginning of the First Intermediate Period. In this data set, only 87 artefacts were identified as imported materials and not produced on the island (or made from blanks produced elsewhere). Almost 1,000 artefacts are classified as locally produced, but on imported nodules; this is twice as much as the amount of those made from fluvial cobbles that may or may not have been collected locally.

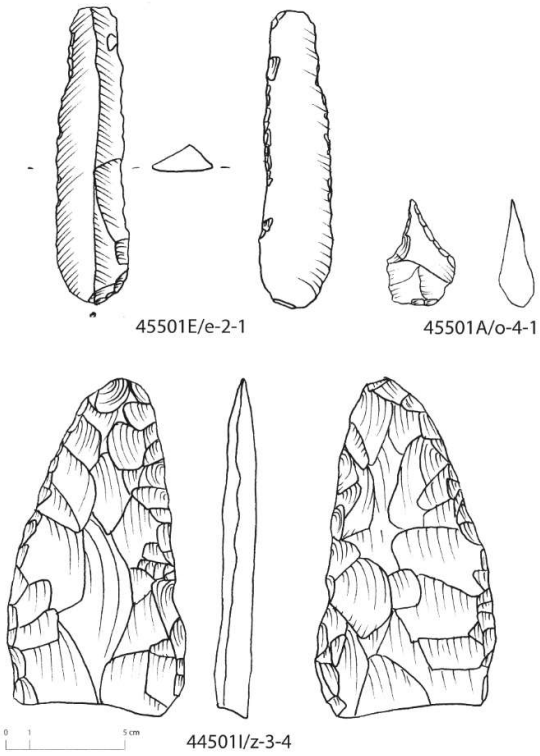

Fig. 9: Tools from the North-West Town excavations, scale 2:3 (drawing: C. Jeuthe, © DAI).

Even if this ratio was simply observed in the older periods, it is now the proportion of fluvial cobble pebbles that is clearly increased compared to the Old Kingdom. However, this needs to be followed up in the individual archaeological phases in the forthcoming in-depth study. Concerning the tool kit, further conclusions have to be based on the assemblages from the individual contexts. However, the low occurrence of classified tools is striking: only 113 artefacts are identified as such, with a further 83 that also exhibit use damage only (which is in contrast to the usual ratio). Most common are sickle implements (44501E/e-2-1, fig. 9), that is segmented blades. The other large group are fragments from bifacial knives (44501I/z-3-4, fig. 9) and unidentified or reused bifacial fragments, which has not been observed as such in the studied contexts from the Old Kingdom. Other tools such as microdrills (45501A/o-4-1, fig. 9), scrapers or edge retouched tools (44501E/e-2-1, fig. 9) appear in low numbers only. The detailed evaluation that we are aiming for thus promises interesting results.

(C. Jeuthe)

2.2.2 Hieratic Written Evidence

An initial study mission was carried out in March 2023 to examine papyrological material of the late 3rd millennium BCE from earlier excavations, with a goal to publication.[10] In particular, the study focused on the archaeological context 16400k, exposed during the on 7th of March 1987 amidst *sebbakhin* debris. This excavation context is located in the South-East Town sector that was excavated by Martin Ziermann (neighbouring area XXIV of House 154/155).[11] This is an exceptional archaeological assemblage, comprising a coherent set of objects in terms of their archival function: a jar, sealed with a clay stopper, in which at least four folded papyri were placed, with three sealings preserved.[12] A first reading of the texts reveals the type of documents

they represent: rather than letters, as previously suggested, they appear to be administrative or legal documents.

Document P 68[13] (*Rolle* 3: 33.5 x 18 cm) is a papyrus sealed with a clay bulla (*Siegel* 1: 2.8 x 2.5 cm) preserving the imprint of the cloth used for wrapping. The reading is compromised by the numerous gaps between each fragment, but an administrative nature of the document is likely.

Document P 69 (*Rolle* 1: 26.5 x 17.5 cm) was sealed with a clay bulla (*Siegel* 2: 2.6 x 2.2 cm) impressed with a seal containing the Horus name (most probably) of King Pepy I in a *serekh* (*mry-[tȝwy]*). The page has been preserved in its entirety despite several gaps between the fragments. In the header of the document, the geographical indication (*[ȝ]bw*, "Elephantine"), perhaps the season ([…] *prt* […]) and the name of King Pepy I in a cartouche (*mry-rʿ*) are well recognizable. A column of text is reserved for the official designation of a person who is defined as a *mtrw*. "witness". In the lower margin, three lines of text seem to contain conclusive legal phraseology concerning the family circle.

Then, Document P 70 corresponds to three glass plates (from a to c), that keep three major parts of the page together (the lower, middle, and upper parts). A section contains columns of epistolary text, followed by administrative records in lines, all in relation with a unit of barley (*jt-šmʿ*) and one "chair (?)" (*mnbt*) and mentioning a *šps(w) nswt* "noble of the king" and *jmy-rȝ ʿw* "overseer of foreigners" called Senenu (*snnw*). This officer is not known from any tomb at Qubbet el-Hawa, but he could be the same officer who was active in the southern part of the Eastern Desert, where he left several inscriptions in the wadis (one is dated to the reign of Pepy II).[14]

Finally, Document P 71 corresponds to two glass plates: P 71a contains the larger fragments (21 altogether), and P 71b the smaller ones (43 in total). All of them are without any immediate joins. In one of the fragments of P 71a the text mentions a unit of *jt-šmʿ* and a unit of *mn(bt)* together, which suggests there is an association between P 71 and P 70.

The remains of a fragile folded papyrus are preserved in a box. This papyrus is unidentified, but it should be *Rolle* 2, which was closed in a rare way because the clay seal was not placed on top of the folded papyrus but covered both sides of it, along one edge (*Siegel* 3: 3,4 x 2,2 cm). In addition, the clay bulla was inscribed with a stylus, with the date on both sides of the packet and the nature of the content on the margin.

Archival photographs of the stopper do not show any traces of inscriptions or stamps, and no marks are preserved on the jar. This absence raises questions about the jar's archival use since

the contents do not appear to be visible from the outside. What kind of archiving purpose would such an anonymized container have served?

A study of the texts will undoubtedly enable us to better define the nature of these materials and its place in the papyrological production of Elephantine. It should be remembered that late Old Kingdom papyri from the island – which arrived in museum collections at the end of the 19th century and the beginning of the 20th century – were initially perceived by scholars as the private archives of local governors.[15] More recently, it has been observed they are not just private letters, but also heterogeneous administrative documents that resemble an institutional production, like the contemporary tablets from the governor's palace of Balat/Ayn Asil in Dakhla Oasis.[16] The variety of documents attested even raises questions about the presence of different groups and contexts of use (even magical-religious) and the widespread use of everyday writing in the local community, with evidence of women's agency too.[17]

Due to the state of carbonization of the fragments, a further study mission will be necessary to complete the documentation, most-notably by use of an infrared camera.[18]

(A. Pillon)

2.3 The Realities of Life Project[***]

Since autumn 2013, the "Realities of Life" project (RoL) is part of the research agenda of the German Archaeological Institute Cairo (DAIK) on Elephantine Island, Aswan. Excavations until 2018 focused on domestic buildings in the North-West Town of the ancient settlement[19]. Find processing on site is carried out until the present, as are scientific analyses of chosen samples of soil, pottery, metal, and other materials in suitable laboratories in Egypt. The aim of the combined archaeological and archaeometric work is to get a multi-perspective view on found objects, never forgetting the archaeological context they came from. Through this

[***] Our sincere thanks go to our D. el-Meliegy, A. Nageh and their colleagues of the Centre of Research and Conservation of the Ministry of Tourism and Antiquities for supporting our sample transport from site to the laboratory, N. Mounir and A. Quiles of IFAO Cairo for the preparation of samples for analysis and providing the laboratory equipment to study them. We are sincerely grateful for the administrative work and financial support of the endeavour to the directors of the DAI Cairo, St. J. Seidlmayer and D. Raue, and the Elephantine project director M. Sählhof. For their assistance of our work on site and in the excavation house we thank the workmen under Rais el-Amir and A. El-Amir, and the staff of the DAI's excavation house. We are grateful for the support by the local inspectors of the MoTA, especially by M. Abdallah Abdellah.

approach we hope to gain insight into the realities of everyday life of the inhabitants of the island settlement at the first Nile Cataract during the (late) Middle Kingdom.

House 169 (H169), a large residential building, provided a well-preserved stratigraphic sequence of around 150 years of occupation dating to the late Middle Kingdom and early Second Intermediate Period (mainly late 12th to late 13th Dynasties, approx. 1800–1650 BCE).[20] The excavations provided a rich source of find material and sampling ground to answer the project's research questions.[21] Further material from both (highly disturbed) contemporary and strata dating as far back as the 6th Dynasty were used to enlarge the dataset for statistical purposes and test the results gained from studying material from H169. Site work was carried out in a small group in spring 2023 with the focus on refining the project's database and find storage, and gaining overall data from animal remains as well as stone tools. Besides work on site, further work was done at laboratories in Cairo and on processing data gained from the archaeological material in the past seasons. All original excavation data is in the process of transfer to the German Archaeological Institute's platform iDAI.field for sustainable storage and future open accessibility.[22] This report will give short summaries of the most recent work done by the RoL team members in the laboratory setting and in home-offices.

(J. Sigl)

2.3.1 Metal Studies at IFAO Laboratory

During the 21st to 24th of May 2023, archaeometallurgist Jiří Kmošek (Institute of Science and Technology in Art, Academy of Fine Arts Vienna, Austria; Nuclear Physics Institute, Academy of Sciences of the Czech Republic) and Egyptologist Martin Odler (Newcastle University; School of History, Classics and Archaeology) continued the study of the samples from Elephantine Island transported to *Le pôle archéométrie de l'Institut français d'archéologie orientale du Caire* (IFAO).

The focus of our study was on archeometallurgical material that was found from the 43rd to the 48th seasons of the DAI mission, within the framework of the Realities of Life (RoL) project. The material is datable to the Middle Kingdom (from the 11th to 13th Dynasties) with a few pieces from Second Intermediate Period levels. Previously, the list of samples and documented fragments was checked by Fernanda da Silva Lozada with the database of finds, in order to identify any mistakes or typographical errors. 48 selected samples were transported to Cairo in early March 2022 (IFAO laboratory numbers 13289 to 13336), approved and carried out by the Ministry of Tourism and Antiquities.

In May 2023, from almost all samples thin sections were prepared (fig. 10), by the standard procedure. The procedure is based on mounting the samples in epoxy resin, grinding on silicon carbide (SiC) metallographic plates, polishing with 2 and 0.7 μm diamond pastes, and etching of prepared metallographic cross-sections by a $FeCl_3$ solution. The sample study was performed using an optical metallographic microscope in bright field observation mode available at the IFAO archaeometry laboratory. Digital images of the samples' microstructures were taken by the digital camera Nikon D3S and processed by the Camera Control Pro 2.26.0 M software (fig. 11).

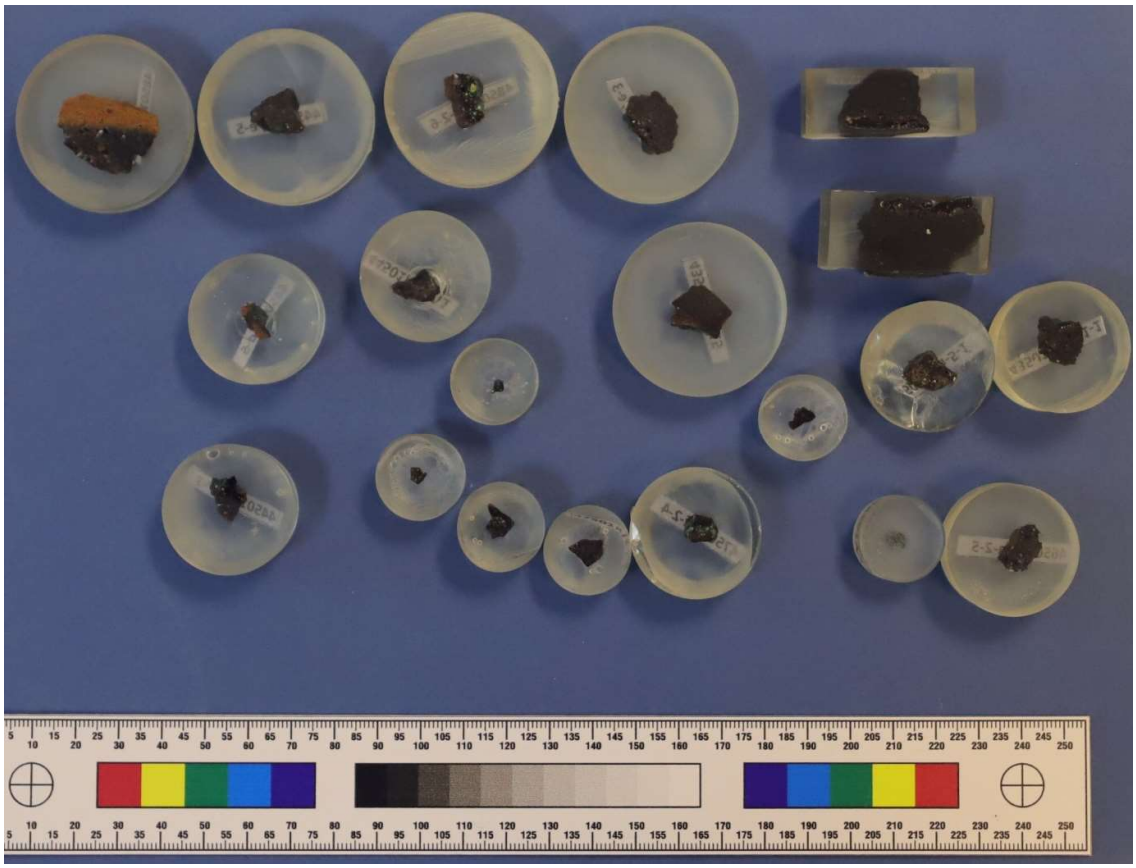

Fig. 10: Metallurgical samples mounted on epoxy resin blocks prior to grinding (photo: M. Odler, © DAI).

Metallurgical material from all stages of metal production were identified, from the ores, through the prills, slags, crucibles, and alloying materials, along with the finished artefacts. The chemical composition of the metallurgical waste and artefacts and their fragments was established, and provided more information regarding the typological distinctions of the excavated material. The specific alloys represented are predominantly arsenical coppers, typical of the Middle Kingdom, but there are also tin bronzes, marking this alloy's incipient general use in ancient Egypt. This change in bronze composition is thus far rarely identified from a documented and stratified context from settlements, especially in the Middle Kingdom (with the exception of Tell el-Dab^{c}a[23]).

Fig. 11: Work at the microscope at IFAO Cairo (photo: M. Odler, © DAI).

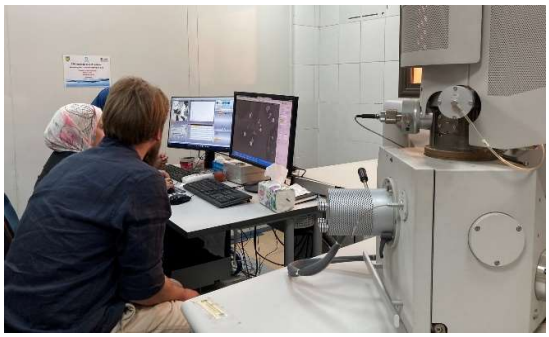

Fig. 12: Work at Desert Research Center, Cairo (photo: M. Odler, © DAI).

Also, the samples from an earlier batch, transported before the Covid pandemic, were studied anew, with IFAO lab numbers 12532 to 12538. These samples on 24th May 2023 were transported to the Desert Research Center, affiliated with the Ministry of Agriculture and Land Reclamation. The transport of these samples was facilitated with help from the IFAO lab staff, Prof. Sameh Hussein from the Cairo University, and was kindly approved by the Ministry of Tourism and Antiquities. There, a selection of eight samples were analysed with the Scanning Electron Microscopy and Energy Dispersive Spectroscopy (fig. 12), which gives a much higher resolution for the study of samples and enables us to analyse the particular phases of the metallographic samples. The work on the interpreting of the results of these analyses and their eventual publication is still ongoing.

(J. Kmošek and M. Odler)

2.3.2 Studies on Phytoliths from Soil Samples from House 169

In continuation of the study of the micro-botanical remains as part of the RoL project, phytoliths from 14 soil samples were examined in October 2022. The samples were taken as part of the micromorphological sampling by Dagmar Fritz during the 47th season of excavation in 2018.

Goals

The principle question in the RoL project is to identify daily-life activities. For this reason, the sampling strategy is designed to recognise routine practices of plant use in the buildings excavated. Furthermore, the archaeobotanical studies including the integrated phytolith analysis help to reconstruct the environmental conditions in the 1st–2nd millennium BCE in the area of the First Nile Cataract.

Materials and Methods

A total of 14 soil samples were retrieved from House 169 (H169), with stratigraphic layers that are particularly well preserved, and from deposits relating to the use of later buildings in the same location. In the laboratory of the Grand Egyptian Museum (GEM) in Cairo, the method employed for recovering phytoliths from soil samples followed the protocol published by Dolores R. Piperno.[24] Identification was completed according to standard morphological classification systems.[25]

Preliminary Results and Interpretations

A pilot study of phytoliths obtained from stone tools excavated throughout the RoL project's excavations opened up a new perspective on our understanding of the use of these tools.[26] The dominant presence of phytoliths of wild grasses suggested that they were cultivated and processed for consumption or harvested and crushed by pounding and grinding for the production of (textiles and) mats. Mats made from bundled grasses were found in the archaeological material in the RoL excavation area in several instances (fig. 13).

Fig. 13: Mat fragment 47501B/b-3 *in situ* (photo P. Kopp, © DAI).

Among the organic matter found in the 14 soil samples under investigation, phytoliths that can be attributed to (wild) grasses are again dominant. It is interesting to note the absence of cereals in the previously studied stone tool samples, their frequent presence in the soil samples in the

shape of dendritic phytoliths (fig. 14: red) characteristic for grain husks, and their overwhelming occurrence in the macrobotanical assemblage.[27]

The most common morphotypes were bulliform phytoliths (fig. 14: green), indicative of the mesophyll or epidermis of Poaceae (most likely Phragmites).[28] Various other morphotypes of phytoliths show connections to reeds (Phragmites).

Considerable numbers of the spheroid echinate palm phytoliths (fig. 15) in many samples are now interpreted, due to their higher resistance to post-depositional processes, to indicate the presence of palms over a long period of time, possibly the duration of the deposition of the sedimentary level.

Phytolith slags that form at temperatures above 800°C[29] were identified in many samples, even those that did not derive from the ashes of the main hearth of H169 in Room 7. Within the hearth burn, partly burnt and unburnt contents were mixed in the ashes. It could be due to combustion at varying temperatures or different oxygen regimes. Judging from the identified components in general, any kind of household waste was used as fuel. Faeces from small ruminants seem to have been collected and used for this purpose as well,[30] which again contain phytoliths of the fodder of these animals.

Fig. 14: Dendritic (red) and bulliform (green) phytoliths in sample MB77-3 (photo E. A. E. Attia, © DAI).

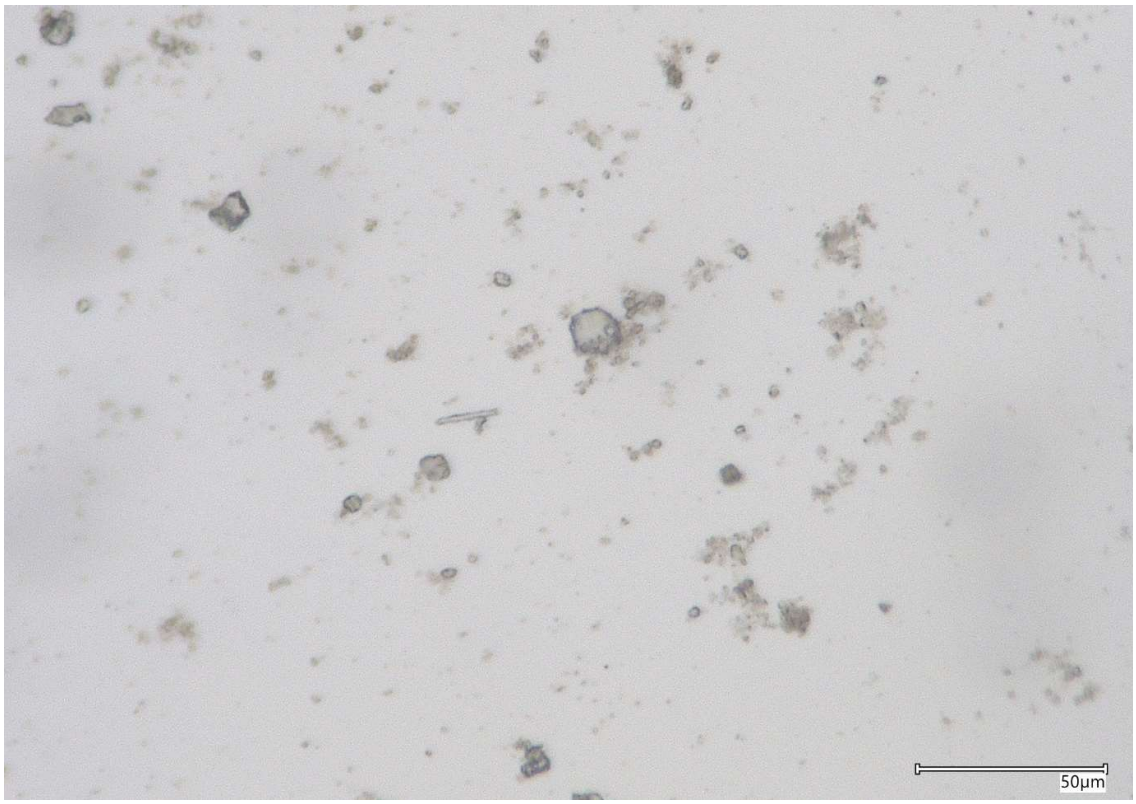

Fig. 15: Sphere echinate phytolith in sample MB88-3 (photo E. A. E. Attia, © DAI).

Fig. 16: Sponge spicule in sample MB89-2 (photo E. A. E. Attia, © DAI).

Several Commelinaceae phytoliths types are present that were attributed either to Marantaceae or Cyperaceae. These are only preliminary identifications that have to be checked with more reference material.

Sponge remains (fig. 16) point to the handling of substances that were obtained from the river, such as water for cleaning the house or mud for the production of floors and plasters.

To exploit the full potential of this approach, more samples should be investigated.

(E.A.E. Attia)

2.3.3 Seal Impressions of the Late Middle Kingdom

Katherine M. Consola analysed a corpus of 372 seal impressions excavated during the scope of the RoL project.[31] Her research was handed in as a master's thesis under the supervision of Joshua A. Roberson to The University of Memphis in 2021,[32] and is currently in preparation for publication. This includes the primary data, which will also be openly accessible through the German Archaeological Institute's web-repository iDAI.field.[33] In the following, only a short summary of the most important results of K. Consola's work is given.

The focus for the study was on the iconography and texts of the seal impressions themselves, as potential dating criteria, and on diagnostic back types, where available, as a record of objects sealed on site. The sealing types were identified within the established typologies of Tufnell and Ward.[34]

Most of the studied impressed sealing remains came from H169, dated by stratigraphic and pottery evidence in three main phases from the late 12th to the late 13th Dynasties. Only five fragments each came from the neighbouring houses H166 and H73. Within H169, 43% of the seal remains were excavated in the rear courtyard of the house, Room 8 (R08). A considerable amount of these fragments came from floor levels, and thus point towards the opening of sealed objects in this area. The central courtyard R04, which is interpreted from other finds as the main production area for jewellery as well as foodstuff, yielded 53 examples, while the main hearth of the house located of the courtyard (R07) yielded 35 examples. Smaller amounts of fragments came from the other rooms of the house as well as from within walls, where they had found their secondary deposition during the building of the house.

K. Consola was able to identify 163 impression types on the former front or outside of the sealings. The other fragments have been categorized either as "unclassified/unclear", meaning the impression was too fragmentary or worn to read, or "uninscribed/none", meaning the sealing mud did not preserve any traces of the original seal impression.

Most of the legible impressions used the typical Middle Kingdom scaraboid or ovoid shape (table 1). Apart from that there were a few button types pointing towards the late Old Kingdom and First Intermediate Period,[35] two incised impressions, and two shield shaped impressions, the latter deriving from sealing practices in institutions rather than by an individual person.[36]
On 236 fragments, the back types were identified (table 1). Of these, 140 objects once had sealed pegs, others were placed on wood, fabric, papyrus, wicker, and door-bolts. 31 fragments showed non-diagnostic fibre or cord impressions.[37] Finally, about 105 examples of the corpus had unclear or no back types.

Impression Type	Number of Instances	Back Type	Number of Instances
Scarab	154	Peg	140
Button	4	Wood	54
Incised	2	Fabric	20
Shield	2	Papyrus	15
Cartouche	1	Wicker	5
Unclear	174	Doorbolts	2
None	35	Cord only	31
		Unclear	103
		None	2

Table 1: Summary of occurrences of impression and back types.

The sealing back types support the theory that H169 and the surrounding structures were used for multiple purposes, for both daily life and industrial and/or administrative production. Peg back types are associated with sealing boxes and doors. The wide variety of impressions (and the lack of many identical impressions) in the currently presented corpus suggests that many different officials were responsible for sealing. This may indicate that many different officials living in various regions of Egypt sealed boxes containing goods that were sent to Elephantine. Alternatively, many different officials living in Elephantine could have sealed the few doors blocking access to goods that needed to be protected, which seems less likely, but is certainly not impossible.
Felix Arnold notes that most of the seal impressions found in nearby H70 were peg back types and suggests that they were used for sealing wooden boxes that stored goods transported to the house.[38] He suggested that the goods inside might have been textiles, and building on this hypothesis, K. Consola pointed out what is known of Egyptian storage and transportation of textiles, which are indeed shown being transported in boxes in tomb paintings and reliefs.[39] However, there has not yet been any physical evidence at the site to support this theory.
Alternatively, K. Consola suggested that jewellery, or raw materials for making jewellery, were the content of these boxes. While jewellery is often carried in baskets in ancient Egyptian art,

there is also evidence of jewellery being transported in chests.[40] In H169 and its neighbouring houses, plentiful evidence for jewellery production was found. As the houses were the location where jewellery items were fabricated, it should be expected that broken sealings point to the delivery of the necessary raw material. The wall paintings, however, provide evidence for finished jewellery being held in chests, but not the raw gemstones. Thus, the idea that raw amethyst or other gemstones arrived at Elephantine in boxes and were responsible for some of the broken peg sealings is still open for discussion.

The majority of legible sealings in this corpus are motifs and patterns typical of the Middle Kingdom. The prevalence of scroll and spiral (44 impressions, Tufnell/Ward Class 2) as well as Egyptian sign and symbol patterns (48 impressions, Tufnell/Ward Class 3) is consistent with other Middle Kingdom sites. The appearance of 17 impressions with names and/or titles provides a *terminus post quem* since this class does not appear before the reign of Senwosret III in the late 12th Dynasty.[41]

Object Number	Impression Type	Text	Translation
47501H/t-12	Scarab	*ḥwt*-[ꜥ*ȝt*]	"Temple [of…]"
47501S/o-2-7	Unclear	[…] *b-y* […] / […] *smn-ḥtp* […]	"[…] | […] Semenhetep[?]"
47501V/m-21	Scarab	[…]-*w-jb-ḫkr mr*(*y*) / *rn* [*?*] *wr n wr mdw.w šmꜥw ḫmmj*	"Beloved of [name]-kheker, Great one of the tens of Upper Egypt, Khememi"
47501V/w-18	Scarab	*zȝ-Rꜥ nfr-ḥtp*	"Son of Ra {Neferhotep}"
47501Y/i-13	Scarab	ꜥ*nḫ-ḥr zȝ ḥr-nḫt*	"Horankh/Ankh-hor, son of Hornacht"
47501Z/h-12	Scarab	*….s/ḫtm…ḥ..*	"[…] sealer […]"
47501Z/h-13	Scarab	[…] *sbk ḥtp* ꜥ*nḫ ḏ.t* / […] *jwḥ*[*.t*]-*jbw*	"[…] Sobekhotep, may he live eternally | […] Iuhetibu"
47501Z/h-15	Scarab	*ḫtm.tj bj.tj*	"Seal-bearer for the king"
47501Z/h-22	Scarab	*š* […] *s*/[…] *jmj-r pr*	"S […] s | […] overseer of the house/steward"
47501Z/h-24	Cartouche	*Nj-Mȝꜥt-Rꜥ*	"Ni-Ma'at-Re"
47501Z/y-20	Shield	*ḫtm-šnw* […] / *w r*(*?*) *n* (*?*) […] *w*	"Sealer of the entourage [of…] | [name?]"

Table 2: Seal impressions bearing legible names and/or titles.

Generally, few seal impressions with legible hieroglyphic inscriptions came from the same locus. But locus 47501Z/h, a "stone step and fill" layer in room R08 of H169, brought about two out of the three impressions bearing king's names (table 2),[42] as well as impressions mentioning the titles of persons and locations, of which the names are lost: a seal-bearer for the king, an overseer of the house, a temple, and a sealer of the entourage. Last but not least, the feature contained twelve amuletic impressions, including three duplicate amuletic impressions.

This group is much better preserved on average than the entire corpus. Both front types and back types were consistently more easily identifiable than most of the other finds from the RoL project. Unfortunately, these impressions cannot be directly tied to the house, since they all came from a secondary find context. Considering that this fill layer has a much higher concentration of seal impressions than the many other fill layers from which sealing remains have been studied, it seems possible that this waste came from a house in the vicinity that was unsealing items on a more regular basis. Even if these sealings did not come from the same house, since waste pits were generally communal, they link the inhabitants of the island to a high level of Egyptian administration, based on the inclusion of such high titles as were previously mentioned. This again is consistent with a wide network and exchange of goods, which can also be followed by the turnabout of raw materials, such as amethyst and iron ore, and finished products, like beads and pigments, visible in the studies by other members of the RoL team.

(K.M. Consola and J. Sigl)

2.3.4 Some Calculations on Animal Remains, Herd Sizes and Space Requirements

In archaeology, the diet of the population of an ancient settlement is reconstructed, among other, from their food waste. Bones, seeds, and fruits preserve particularly well whenever they cannot be destroyed by microorganisms, wind, sun, or human intervention. Abundant animal and plant remains are found in contexts covered by sand, soil, and other objects that are in areas without rain and above groundwater level. This is the preservation situation that is present, for example, at the settlement mound on Elephantine Island. The studies of the material by Claire J. Malleson, Elshafaey A.E. Attia, and myself,[43] assisted in particular by Mariam Adel William Eshkaroun and Sandra Gubler, have provided preliminary data on these remains. The data and studies demonstrate a wide use of local flora and fauna, domesticated plants and animals, as well as possible imports to the area of the First Cataract from supra-regional sites.

Humans need nutrients, water, minerals and trace elements, vitamins, and dietary fibre to live. Among the nutrients, protein is particularly important, along with fat and carbohydrates, especially when the person has to perform physical work every day. Protein along with several of the other above-mentioned food components could theoretically be obtained in various amounts from the foodstuff available to the people of Middle Kingdom Egypt. From animals, next to being extracted from meat during digestion, they are available in blood, milk, eggs, fat, and bone marrow. With the availability of enough data, calculations can be made as to how

many animals were necessary for meat production to sustain a town's population during the year. Based on the amount of necessary resources to feed a certain number of persons, additional calculations can be made on, for example, the number of animals necessary to maintain herds, the space they need for adequate feeding, and the number of people it takes to supervise them. As a preliminary thread of thought in this report, I will refrain from unravelling the whole long chain of calculations to establish a thorough picture of farming around the First Cataract. Instead, I concentrate on protein as a basis for calculations as well as household animals as providers of protein from meat.[44] More extensive studies including all other initially mentioned elements as well as more precise calculations are planned to be published once all results are available.

Basic considerations for calculation

Our esteemed and sorely missed late colleague Richard Redding worked on Old Kingdom subsistence economy by examining the data from the workmen's village at Giza and its counterpart in the Delta. His analysis suggested that humans need 45–50 g of pure protein daily, which can be gained by consuming 370 g of meat. However, as meat mostly is seen as food not readily available for everyone at all times, a maximum of 50 % of the necessary daily protein would have come from animal sources, while at least half of the protein was gained from plant foods like lentils and beans.[45]

Unimproved races of the most common household mammals provided, according to various studies,[46] the following average amounts of meat per animal at best slaughtering age:

- sheep and goats: 20 kg
- cattle: 100 kg
- pigs: 25 kg

To gain meat from these household mammals and still ensure there are plenty of new animals available to slaughter in the next year, herd management is necessary. It is mostly male animals that are used for meat production, while females ensure the stability and growth of the herd. These animals are taken out of the herd at an age where they have the most potential for meat production but the least fodder costs. Pigs are slaughtered around the end of their first or second year of life. Intensive feeding on household wastes and little exercise when they are kept in stables close to the farm helps to ensure abundant production. Sheep, which generally yield a little more meat and fat than goats, are best taken out at the end of their second year, but the same derives for the (billy) goats not used for reproduction. Cattle slaughtering generally happens between the second and third year of life of the animal, if no veal is asked for. Veal

again would be tenderer but at the same time has a less sensible cost-use-ratio, as the animal has not gained its maximum muscle and fat yield yet.[47] For the archaeozoologist this means that a lot of the faunal material found at a site where the animals were consumed can be expected to be identified as male individuals and of young age. If (old) females are present or more abundant, it can be interpreted either as a result of other aims for slaughtering (for example, if wool is wanted, male sheep are kept to a higher age) or the breeding of the species on site, while surplus animals are traded away to another site.

For estimating herd sizes, it is assumed that birth rates of both sexes are in a ratio of 1:1 to each other. While cattle reproduction lies at a mean of 0.7 calves per year, sheep and goat tend to bear 0.8 offspring annually. Pigs on the other hand may have two litters per year, each about 6 animals strong.[48] However, the study of ancient husbandry practices in Egypt based on evidence from Linear Enamel Hypoplasia (LEH) conducted by Louise C. Bertini revealed that pigs reared in the vicinity of the First Cataract most likely only gave birth once a year.[49] For reproduction, choice male animals will accompany the herds of females and young animals. According to Roman sources, one ram or billy goat to thirty ewes or she-goats, one bull to fifteen cows, and one boar to ten sows was sufficient to ensure stability of the herd.[50]

While pigs, and probably occasional also sheep and goats, were fed on household waste, and thus were kept near to where people lived, grazing land for the (big) ruminants was essential for the keeping of these animals. Parts of this grazing land might have been farmed fields, over which the herds of sheep, goat, and cattle would be driven to pick out the last remains of fodder and to provide dung for fertilizing after harvest. Nevertheless, sufficient feed in the shape of hay or specially designated grazing land would have to be provided during the time of the inundation and growing of the farmed plants. Following Egyptian farmland distribution rules of the 20th century and estimating that in the area of the First Nile Cataract only a small and scattered grazing land was available (with its rocky islands and close ranging desert margins, extending for several square kilometres north and south of the cataract), it is here assumed that one Egyptian *feddan* (= 0.42 ha) would feed one cow or three sheep or goats.[51] Based on modern mapping of the area from satellite photographs and height estimations,[52] in combination with the average flood and low water tables estimated for the Middle Kingdom,[53] in the stretch along the Nile that is nowadays is north of the British dam and reaches until Kom Ombo, approximately 31 km^2 of arable land during low water and 16 – 22 km^2 non-flooded land during high water season were available (fig. 17).[54]

Archaeological basis from the RoL project

In the faunal material excavated in the scope of the RoL project, and from the stratigraphic context and ceramic analysis dated from the 11th to 13th Dynasties (the Middle Kingdom), fish and mammals were identified in the highest numbers (table 3). Of the 42 % of bone weight recorded for mammals, 21 % came from cattle, 12 % from sheep and goat, and 6 % from pigs. A preliminary ratio of recorded sexes was established at ♀1 : ♂2 for both cattle and pigs, and an average of ♀3 : ♂1 for sheep and goat.[55] Even though most animal remains came from individuals in good slaughtering age, the presence of very young and elderly animals especially among the small ruminants was noted. It can therefore be assumed that a certain amount of breeding of all of these household mammals happened in the wider area of the First Cataract. Due to the distribution of sexes and considering the small available space on the island of Elephantine, it may be assumed that cattle and pigs were kept mostly on the mainland and maybe even a farther distance from the cataract area. Sheep and goat seem to have roamed the island, similar to as they do today. There is no proof of stabling of the animals in the excavated houses during the scope of the RoL project, and it is assumed that instead during the night or during critical life phases, such as lambing, the small ruminants were kept in pens or stables in the agricultural area north of the island's town.[56]

animal class	**NISP (n)**	**NISP (%)**	**MNE (n)**	**MNE (%)**	**weight (g)**	**weight (%)**
Amphibia	5	0%	5	0%	0.2	0%
Aves	1,698	6%	1,012	5%	470.4	1%
Mammalia	11,141	37%	7,226	37%	14,547.7	42%
Mollusca	3,736	13%	1,149	6%	2,067.4	6%
Pisces	12,990	44%	9,860	51%	15,652.7	45%
Reptilia	285	1%	131	1%	1,802.3	5%
total	**29,855**	**100%**	**19,383**	**100%**	**34,540.7**	**100%**

Table 3: Basic distribution of the to-date studied and identified faunal material dating to the 11th to 13th Dynasties.

Calculating herd sizes, grazing space and manpower for heard management

Felix Arnold suggested that the town of Elephantine counted around 2,400 inhabitants during the Middle Kingdom.[57] Using the above stated basic considerations and the preliminary archaeozoological data from the RoL excavations, estimations on how many animals might have formed the herds that fed these people can be made.[58]

If one person needs 0.185 kg of meat daily to sustain his protein needs, then 2400 people would consume in 365 days of the year a total of 162,060 kg. A major amount of this meat came from fish, but 34,032.6 kg (21 %) was derived from cattle, 19,448.2 kg (12 %) from sheep and goats,[59] and 9,723.6 kg (6 %) from pigs. Converted into numbers of individual animals this

means that 341 cattle, 973 small ruminants and 389 pigs were slaughtered each year. Of these were, according to the above stated sex ratios, 113 cows, 227 bulls, 730 she-goats or ewes, 243 billy-goats or rams, 129 sows and 260 boars.

To have this number of animals available, approximately one to two years earlier at least 454 cattle, 1,460 sheep/goat and 520 pigs had to have been born. To produce these offspring 649 cows and 45 bulls, 1,825 female small ruminants and 61 of their male counterparts, and 87 sows plus 9 boars were needed. The total size of the herds therefore had to be at least 1,148 individuals of cattle, 3,346 sheep and goat, and 616 pigs, not counting overaged animals or very young ones of the year after birth of the first mentioned animals.

As mentioned above, pigs most likely were fed on household wastes and were kept close to the buildings of their tenders. The ruminants on the other hand needed adequate grazing land to yield enough meat (and other animal products for consumption). If one cow needed 0,42 ha of land, then a herd of at least 1,148 cattle required 483 ha, which is 4.83 km^2. The calculated sheep and goat herd would eat what grew on another 469 ha, 4.69 km^2. Thus, a total of 9.52 km^2 of green land for them to feed on was needed annually.

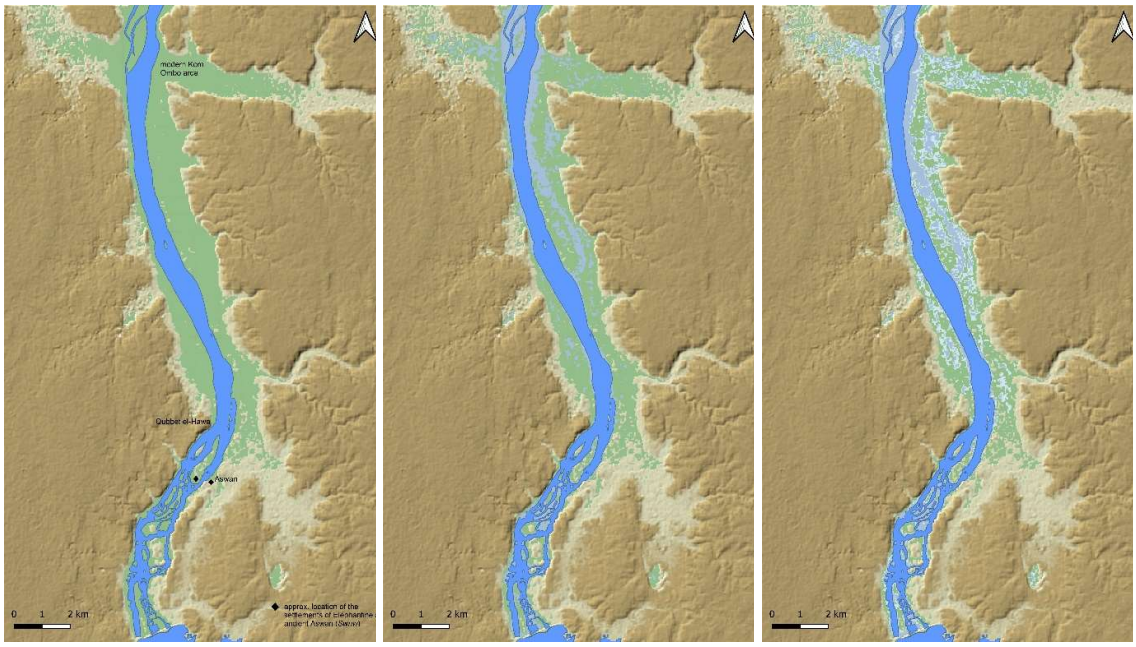

Fig. 17: Modern satellite-based elevation model of the area from the First Cataract to Kom Ombo with (a) green land and low water season (Nile water height at around 82 NN), (b) flooded to around 92 m NN and (c) flooded to around 94 m NN (images created from OSM maps: C. Hartl-Reiter, © DAI).

In the immediate vicinity of Elephantine Island only very narrow patches of land along the desert margin and on the islands of the cataract, many of them in danger of being flooded during high water season, were available (fig. 17). In the area of the pharaonic settlement mound underneath the centre of modern Aswan remains of buildings dating to the Middle Kingdom

were found by the Swiss-Egyptian Mission, proving the existence of a modest settlement on the eastern side of the river. This area was also used since the Old Kingdom already for quarrying rose granite.[60] Further small-scale settlements may have dotted the floodplains and turtlebacks along the river. Fields for cereal and such were flooded during several months of the year – be it natural or regulated by human intervention. Later, the delicate growing plants would not allow them to be used to graze animals either. The space they took up, therefore, was only available for some months after harvest for feeding the herds of ruminants. A certain percentage of the calculated 16–22 km^2 above the floodplain between the cataract and Kom Ombo areas was probably used for growing foodstuff for everyday use, if it was not covered by settlements or transport routes, or already was too dry to yield any kind of vegetation. It is therefore feasible to assume that the herds of animals that were needed to provision the inhabitants of Elephantine Island with meat were spread out quite far, and most likely to the north of Qubbet el-Hawa, where the valley widens to provide agricultural land on both sides of the river. Only isotopic analysis could possibly produce proof as to how far away from the cataract area the animals were raised. The plain of Kom Ombo, which is nowadays already more than one hour car-ride away from Aswan and would probably have been a day's travel during pharaonic times, was only used as a hypothetical margin in the here presented calculations.

The settlements in this area probably were home to most of the herdsmen who were needed to look after the livestock. In theory, these should have accounted for around 192 persons supervising the calculated amount of cattle and 67 persons looking after the sheep and goats. However, several of the smaller ruminants may have roamed the island of Elephantine and the small settlements along the river unsupervised during their lifetime, similar to nowadays. Nevertheless, these herdsmen and their families as well as plant farmers and other people living in the area had to be provisioned with meat as well, increasing the here calculated numbers of animals further.

(J. Sigl)

2.3.5 Fish for the Inhabitants of the North-West Town of Elephantine

Sandra Gubler analysed the data of more than 38,500 fish bones (table 4), which were excavated throughout the RoL project and studied by Johanna Sigl, Mariam Adel William Eshkaroun, and Sandra Gubler until 2022. Her research was submitted as her master's thesis in January 2023 to University of Basel, supervised by Susanne Bickel and Sabine Deschler-Erb, as well as unofficially by Johanna Sigl. The thesis will be prepared for publishing in due course, but a short summary will be given here.

The aim of this study is to investigate how the inhabitants of the Middle Kingdom fished and how they subsequently processed and consumed their catch. Of particular interest are the composition of the catch, hunting methods and strategies (e.g. seasonality, hunting grounds) as well as the reconstruction of methods and processes (e.g. working steps and locations, waste behaviour) in the subsequent (or further) processing, as can be traced in the archaeological and archaeozoological evidence. For the interpretation of the finds, published knowledge about fishing and fish processing from other contexts in Egypt was used, especially representations from tombs of the Old, Middle, and New Kingdoms.

The majority of the bones originate from fill layers in the excavated houses, thus they have mostly been brought in from a waste heap in the vicinity. The animal remains therefore reflect the use of the fish in a wider area in the north-western settlement of Elephantine. At the same time, remains of mainly smaller fish (table 6: < 5 mm),[61] which may have died due to natural reasons and not because of fishing, regularly found their way unnoticed into the settlement with the clay used for various construction works.

Based on the analysis of the bone finds of the individual fish species (tables 5 and 6), it becomes obvious that the inhabitants in the area mainly caught and ate Silurifomes, especially those of the genera *Synodontis* and *Bagrus*, as well as Nile perch, the only species of Perciformes that was available. This diet was supplemented by the occasional catch of other fishes such as barbels (*Barbus sp.* – Cyprinidae) or Characiformes like *Alestes sp.*

Animal class	**identified NISP (n)**	**unidentified NISP (n)**	**sum NISP (n)**	**identified weight (g)**	**unidentified weight (g)**	**sum weight (g)**
Pisces	12,404	26,191	38,595	15,196.78	3,271.52	18,468.3

Table 4: Fish remains from strata of the Middle Kingdom (11th – 13th Dynasties).[62]

Animal order	**NISP (n)**	**weight (g)**
Siluriformes	313	99.45
Perciformes	1,283	639.89
Cypriniformes	1,137	151.16
Characiformes	6,491	5,850.85
Osteoglossiformes	43	25.28
Cichliformes	3,120	8,415.55
Tetraodontiformes	17	14.60
sums	**12,404**	**15,196.78**

Table 5: Identified fish of the Middle Kingdom on the taxonomic level of animal order.

ORDER **Family** **Genus** ***Spezies***	**> 5mm NISP (n)**	**> 5mm weight (g)**	**< 5mm NISP (n)**	**< 5mm weight (g)**
CHARACIFORMES	1,075	146.78	62	4.38
CHARACIFORMES indet.	6	1.29		
Alestidae	920	77.36	50	1.39
Alestes	534	31.69	44	0.96
Alestes baremoze	6	0.38		
Alestes sp.	528	31.31	44	0.96
Hydrocynus	386	45.67	6	0.43
Hydrocynus brevis	14	3.41		
Hydrocynus sp.	372	42.26	6	0.43
Citharinidae	101	42.46	9	2.52
Citharinus	101	42.46	9	2.52
Citharinus sp.	101	42.46	9	2.52
Distichodontidae	30	16.67	3	0.47
Distichodus	30	16.67	3	0.47
Distichodus sp.	30	16.67	3	0.47
Citharinidae/Distichodontidae	18	9		
Citharinus/Distichodus	18	9		
Citharinus sp./Distichodus sp.	18	9		
CICHLIFORMES	42	25.19	1	0.09
Cichlidae	42	25.19	1	0.09
Cichlidae indet.	27	14.66	1	0.09
Oreochromis	15	10.53		
Oreochromis niloticus	15	10.53		
CYPRINIFORMES	1,259	637.45	24	2.44
Cyprinidae	1,259	637.45	24	2.44
Cyprinidae indet.	111	171.68	5	0.34
Barbus	952	418.58	11	1.86
Barbus bynni	2	0.3		
Barbus sp.	950	418.28	11	1.86
Labeo	196	47.19	8	0.24
Labeo coubie	127	23.48	8	0.24
Labeo horie	16	4.3		
Labeo sp.	53	19.41		
OSTEOGLOSSIFORMES	308	98.2	5	1.25
Gymnarchidae	21	10.27		
Gymnarchus	21	10.27		
Gymnarchus niloticus	21	10.27		
Mormyridae	285	87.77	5	1.25
Mormyridae indet.	160	37.59	4	1.24
Hyperopisus	5	0.32	1	0.01
Hyperopisus bebe	5	0.32	1	0.01
Mormyrops	45	14.37		
Mormyrops anguilloides	22	5.33		
Mormyrops sp.	23	9.04		
Mormyrus	75	35.49		
Mormyrus kannume	1	0.43		
Mormyrus sp.	74	35.06		

ORDER **Family** **Genus** ***Spezies***	**> 5mm NISP (n)**	**> 5mm weight (g)**	**< 5mm NISP (n)**	**< 5mm weight (g)**
Osteoglossidae	2	0.16		
Heterotis	2	0.16		
Heterotis niloticus	2	0.16		
PERCIFORMES	3,114	8,414.42	6	1.13
Latidae	3,114	8,414.42	6	1.13
Lates	3,114	8,414.42	6	1.13
Lates niloticus	3,114	8,414.42	6	1.13
SILURIFORMES	6,238	5,796.23	253	54.62
SILURIFORMES indet.	101	29.77	9	0.7
Bagridae	1,793	3,058.81	58	17.35
Bagrus	1,793	3,058.81	58	17.35
Bagrus bajad	27	23.59		
Bagrus docmac	233	878.78		
Bagrus sp.	1,533	2,156.44	58	17.35
Clariidae	74	108.18		
Clarias	74	108.18		
Clarias anguillaris	1	11.64		
Clarias sp.	73	96.54		
Claroteidae	131	149.66		
Auchenoglanis	118	143.23		
Auchenoglanis sp.	118	143.23		
Chrysichthys	5	1.83		
Chrysichthys auratus	1	0.82		
Chrysichthys sp.	4	1.01		
Clarotes	8	4.6		
Clarotes sp.	8	4.6		
Malapteruridae	8	1.31		
Malapterurus	8	1.31		
Malapterurus electricus	8	1.31		
Mochokidae	4,131	2,448.5	186	36.57
Synodontis	4,131	2,448.5	186	36.57
Synodontis batensoda	3	1.15		
Synodontis frontosus	8	8.05		
Synodontis membranaceus	729	649.99	26	11.34
Synodontis schall	348	393.7	5	8.05
Synodontis serratus	140	123.51		
Synodontis sorex	3	6.02		
Synodontis sp.	2,900	1,266.08	155	17.18
TETRAODONTIFORMES	16	14.42	1	0.18
Teraodontidae	16	14.42	1	0.18
Tetraodon	16	14.42	1	0.18
Tetraodon lineatus	6	8.01	1	0.18
Tetraodon sp.	10	6.41		
sums	**12,052**	**15,132.69**	**352**	**64.09**

Table 6: Identified fish bones of the Middle Kingdom separated to the highest level of identification and by retrieval method (dry sieving > 5mm or wet/dry sieving < 5 mm).

Since fish such as the *Lates niloticus* are mainly found in open, deep waters,[63] the recorded remains from the RoL project prove that a large amount of fishing activity in the Middle Kingdom took place in these zones. *Synodontis sp.* can live in a wide variety of river and lake environments, and is today preferred as a winter dish because of its fatty skin.[64] The fish, however, prefer oxygen rich waters, which are available in sandy bottomed and rocky areas with considerable depth, such as the First Nile Cataract, or in swampy areas close to the surface. In contrast to *Lates niloticus*, the most numerous identified species *S. membranaceus*, *S. schall* and *S. serratus* tend to form swarms in moderately fast flowing waters often close to the shore.[65] For these fishing grounds, boats as well as fishing gear, such as nets or fishhooks, were necessary. Such fishing gear has been found in the excavated material,[66] so it was most likely in use by people living in the area studied by the RoL project.

Ancient Egyptian tomb depictions show that the inhabitants of the Nile Valley resorted to a variety of different fishing methods, but most often catching fish with large nets is shown.[67] This catching method is confirmed here by the discussed material from Elephantine Island of species like the *Lates niloticus* and *Bagrus sp*., which are found in the open waters where the net offers the best means for fishing. Furthermore, the recorded size spectrum of these species in the archaeological material points towards the frequent (and selective) catching of Nile perch, catfish and barbels of around 100 cm length and more. Such high selectivity of all observed fishing methods can only be achieved with nets of different mesh size. Net remains with a mesh width of 10–50 mm and mesh openings up to 70 mm were recorded in the excavated material next to net sinkers and netting needles. At the same time, eight fishing hooks appear in the material, providing evidence of fishing with this gear.[68] It is likely that hooks were used to catch, among other things, the very large fish documented in the present material, which would have destroyed the nets with their strong and sharp pectoral and dorsal fin spines.

The presence of many crepuscular or nocturnal fishes such as *Synodontis* and some *Hydrocynus* species also indicates the use of passive fishing methods. Some of the smaller fish hooks may be related to (long) hook lines set overnight. Present-day fishers from Elephantine use nets to trap fish close to the rocky shores, and long sticks or paddles, which they beat onto the water surface or plunge into holes between rocks, to scare the fish into the nets in the early morning hours.[69] This method, along with fish traps set out in the lee of the island or in still waters between rocks during low water seasons, is effective for catching those species preferring a shallower environment with good hiding space. Old Kingdom depictions show fishing with traps,[70] but there are no such pictures dating to the Middle Kingdom. Moreover, from the

excavations on Elephantine or in other locations in Egypt, fishing gear that could be used for the described methods of fishing, especially fish-trapping, has not been identified.

Fishing in the open channels between the islands probably took place primarily outside the flood season, likely due to the fact that the Nile was difficult to navigate in several stretches during this time in the area around Elephantine because of the strong current and the numerous rocks in the wake. Furthermore, to battle a fish like the Nile perch that can grow to a length of 150 cm or more and can have a body weight of a fully grown human up to 175 kg,[71] during this time of the year the open stream of the Nile might have been deemed too dangerous in itself. During the flood season, fishing probably took place primarily in the area around the island itself, for example in the small bays where fish species such as *Alestes sp.* were found in large quantities.[72] At the same time, the presence of fish such as *Clarias sp.* or Nile cichlids, which prefer shallow water zones rich in vegetation,[73] could indicate that the river landscape north of Qubbet el-Hawa was also used for fishing. In the months of inundation, the alluvial plains were flooded and especially in the retreating water at the end of the season fish could be caught easily from remaining puddles and ponds.[74]

The analysis for processing fish proved to be difficult, since a strong taphonomic influence on the preservation of individual skeletal elements was evident in the material. This meant that evaluations of skeletal part spectra – especially for smaller fish or species with fine bones – were of little value. There were also few cut and chop marks found on the material, but this means either the actual cut bones are lost, decayed, or scattered, or the butchers were so familiar with the anatomy of the fish that they did not cut the bones, or both. Evidence of segmentation was found primarily on large fish, which, due to their dimensions, were presumably cut up into smaller pieces for better transport and/or preparation. This does not necessarily mean that smaller fishes were not also butchered, but as said, evidence has rarely been found. Most frequently, the breaking or cutting of the pectoral fin spines of *Synodontis sp.* was recorded. These elements were prone to destroy nets and injure fishermen with their hooked sharp edges, and thus this practice has also found its way into the ancient Egyptian pictorial evidence.[75] For the portioning of fish cutting off of individual body parts, such as heads and tails, as well as the shortening of body portions along the spine of large individuals can be traced.

This butchering of fish is best observed in the so-called fish kitchen[76], features 44501Q/p, 44501Q/u and 44501S/c. These features date from the beginning of the Middle Kingdom, when the excavated area lay fallow. Here skull and caudal fin remains of at least eight very large (> 800 mm in length) Nile perch and *Bagrus*-catfish were found (fig. 18), several of which were still in anatomically correct positions relative to each other. Additionally, smaller parts of the

pectoral girdle and mid spine, where the fish had been portioned, were discovered. Furthermore, some of the bones showed hack and cut marks. The anatomical connection of several elements indicates that the fish parts have not been relocated after first deposition. The settlement area was thus used, even if only for a short time, as a butchering site for such large fish. Due to the fact that the meat rich parts of the fish are missing, it can be assumed that these were taken elsewhere to the settlement for consumption.

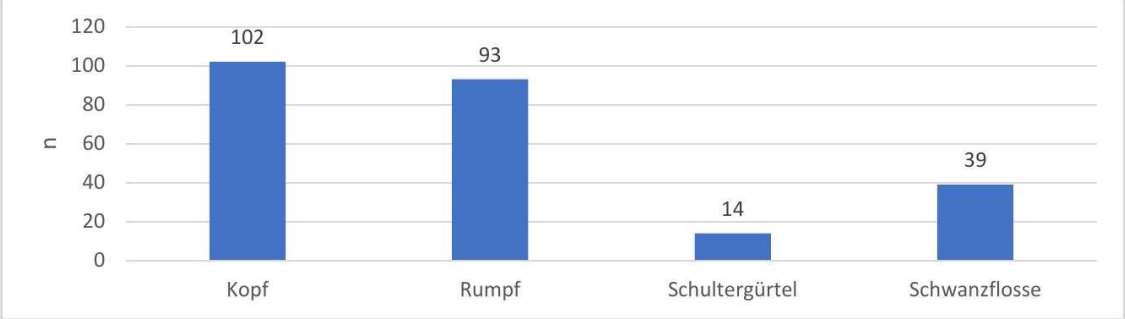

Fig. 18: Recorded bone fragments from head, body, pectoral girdle, and tail (left to right) of fish from the so-called fish kitchen (diagram: S. Gubler, © DAI).

Analysis of burn marks indicated that fish remains were often disposed of in fires, among other hearths of the houses, and thus give insight into waste management by the occupants. Sporadically, however, traces were found that may indicate preparation of the fish as roast or barbeque. But the recorded traces are too few to discern any kind of general habit of cooking. Some of these traces could, furthermore, have been covered by subsequent burning.

(S. Gubler and J. Sigl)

3. Work of the Swiss Institute Cairo

The Swiss Institute participated in the current working season of the German-Swiss Mission at Elephantine from 26th of February to 17th of April 2023. Besides the continuation of restoration at the Nesmeti Temple, the focus of the work was primarily on the examination and recording of various groups of objects in the site magazine and in the central magazine of the MoTA in Aswan. As part of the processing of the finds from House 55 (late SIP/early 18th Dynasty) in Area VIII, Manuela Lehmann continued the documentation of the small finds and Sylwia Bulawka completed the documentation of the lithics from the 44th to the 47th season.

Additionally, in House 55 ten burials of infants were found. The mostly new-borns were buried in simple pits or in the lower parts of broken vessels. They were distributed in almost all rooms

and building phases of the house. The anthropological and palaeopathological examination of the skeletons was carried out this season by Michael Schultz and Tyede Schmidt-Schultz. These burials complement a larger series of similar burials from the houses of the adjacent residential area from the same period, which had already been studied by the same team in 1991.[77]

David Aston completed the documentation of the pottery from the 26th Dynasty layer 4B in the area south of the Khnum Temple (Area XXVI) and started with the pottery from the preceding, earlier Saitic layers 4D and 5 from the same area.

In the magazine of the MoTA in Aswan, Matthias Müller continued the documentation and collation of the Coptic ostraca from the Swiss excavations in the area of the Khnum Temple. In the two weeks of his stay from March 18th to March 30th, he examined approximately 300 ostraca. These were measured and photographed, and preliminary transcripts were made of the short texts. In a couple of cases, joining fragments were identified. However, none of these have been glued as they were often stored in separate boxes. He also examined the Coptic/Greek papyrus fragments from the same area, but due to their fragile state of preservation, no further work can be done on them prior to restoration.

(C. von Pilgrim)

3.1 House 55: Small Finds

The study of objects deriving from House 55 (H55) continued this spring season. A total of 773 objects were documented, in addition almost 200 objects were drawn and about 150 were professionally photographed. House 55 is located in Area VIII directly south of the Heqaib Sanctuary on Elephantine Island. It is a residential building used as a workshop that can be dated to the late 17th and early 18th Dynasty. It was in use during five different building phases, with phase a as a final filling up of the house with rubble.[78]

This season the large group of stone tools continued to be studied and in addition reused ceramic sherds were investigated, however due to the high amount of find numbers the here presented results are only preliminary.

A total of 822 reused pottery sherds were identified among the find assemblage from this building, with 246 found in the later filling phase a which are not considered here in this discussion. This constitutes about 14% of the total object assemblage from H55. Roughly two thirds of these reused sherds could be documented this season. Regarding the different building phases, reused pottery sherds were mostly identified in phase d and phase b, with very few of them found in phase e and phase c (fig. 19).

However, this result is not surprising given that most objects can be allocated to phase b (2589) followed by phase d (604). When looking at the whole composition of the find assemblages in each building phase (fig. 20), reused pottery sherds take a total of 12.8% among all finds of phase b. Somewhat similar numbers are found within the find assemblage of phase c (14.8%) and phase e (19.4%). However, phase d has a higher number of reused sherds within the find assemblage, with 23.51%. This shows that reused sherds in phase d are higher in percentage amongst all finds than in phases b, c or e.

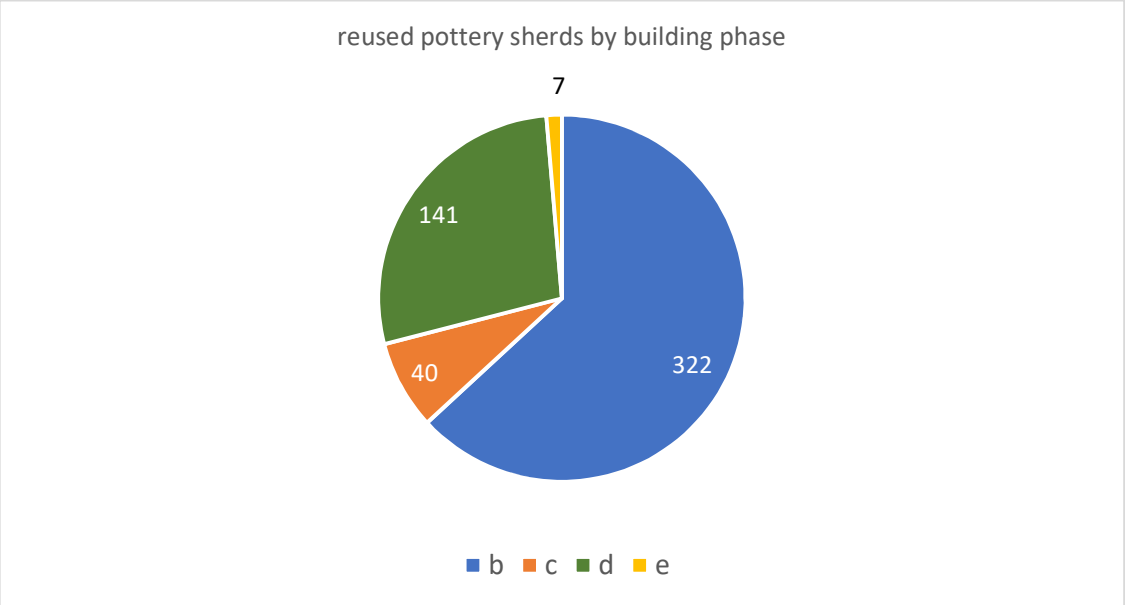

Fig. 19: Reused pottery sherds by building phases b-e (diagram: M. Lehmann, © SIK).

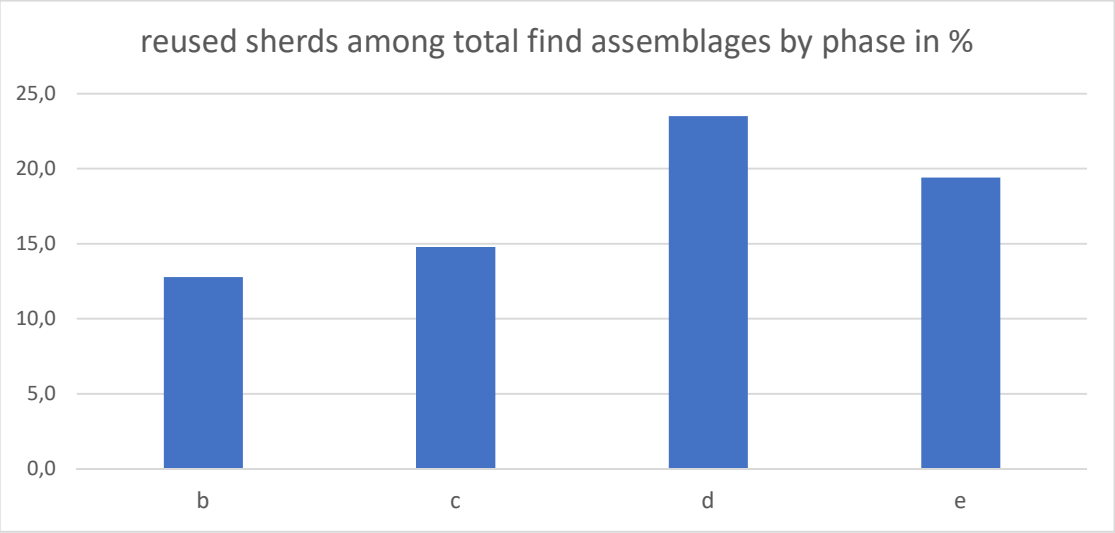

Fig. 20: Reused sherds among the total find assemblage of each building phase in percent (diagram: M. Lehmann, © SIK).

In general, identified reused pottery sherds were equally made of Nile and Marl clay, in a roughly 50:50 ratio. Marl clay is much less represented among the pottery assemblage in the New Kingdom, constituting less than 10%.[79] However, this high percentage of reused Marl sherds in H55 is not surprising given the harder consistency of this clay, with a hardness of 4-5 of the Mohs scale in comparison to 2-3 of Nile clay. This allows a longer usage of the sherds. Similar material from Qantir shows a much higher percentage of Marl clay for scrapers with over 80%.[80] However, this includes only scrapers while the material at Elephantine contains other types as well. 56% of the scrapers from Elephantine are made of Marl clay showing that Nile clay was intentionally used in 44%.

In the workshop area of Qantir, scrapers were mostly made of Marl meat jars (76.1%),[81] which are not attested among the material from H55 with one exception, maybe due to the dating of H55 from the end of the 17th Dynasty to the early 18th Dynasty. Instead, sherds from water storage vessels made of Marl clay, the so called *zir* vessels, were quite often identified.

Typically, reused sherds were taken from the body of the vessel but a certain amount of bases (mostly ring bases) and very few rim sherds are attested as well.

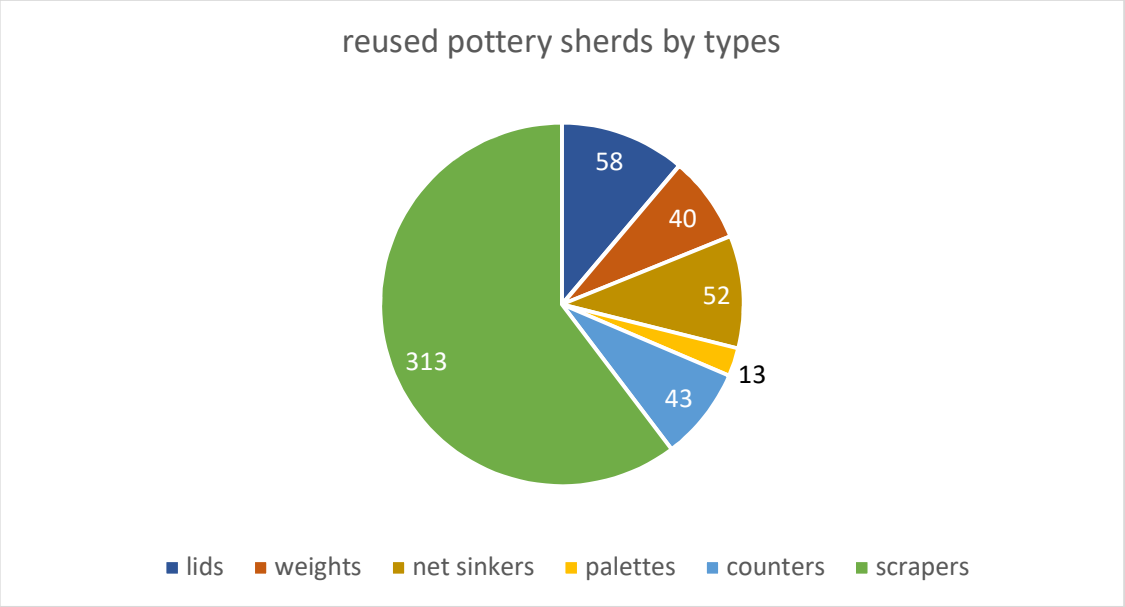

Fig. 21: Types of reused pottery sherds (diagram: M. Lehmann, © SIK).

Sherds were in general reused as paint palettes, counters or gaming pieces, lids, weights, and net sinkers, as well as scrapers (fig. 21). Lids are sherds cut into a circular shape; the edges were mostly smoothed after cutting but more rough examples are attested as well. They have a somewhat larger diameter with 5 cm and above. Counters are also circular cut sherds but smaller in size, often varying in diameter between 2-4 cm. Weights are usually perforated sherds to

allow an attachment of a string while net sinkers, a special type of weight, show smaller grooves along the lateral sides for an attachment to fishing nets. All these types occur in relatively similar numbers in the find assemblage of H55, varying between 40 to 58 occurrences (fig. 21). Scrapers are sherds that were flattened and smoothed along one or several sides of the sherd. Bevelled edges to both surfaces are also frequently attested. Scrapers constitute the highest amount among the reused pottery sherds excavated in H55, with 313 objects (60.3%). This is a very high number for the 155 m² of House 55 compared to the 275 scrapers excavated in the much larger workshop of area Q I in Qantir of over 3500 m².

Fig. 22: Oval tool 46603N/d-1, from all sides (photo: P. Mora Riudavets © SIK).

Among the scraper material of H55, a larger number of sherds were used along one or several lateral sides. However, also certain shapes were sometimes created to be reused as specific

tools. Among these, especially an oval tool with a pointed edge that was bevelled from both sides is striking. At least 24 of these were excavated in H55 and 17 of these were found in the two first rooms of the building where most of the workshop activity took place, suggesting they were a commonly used tool in the workshop.

Sometimes the shape of these tools is more triangular or trapezoidal (4 examples) but most of them are oval in shape (20 examples), as in 46603N/d-1 (fig. 22) and they fit well into one hand. The lateral sides show traces of scraping, probably from bringing the object into its specific shape. These oval scrapers vary in length between 5.4 and 7.2 cm and are typically made of Marl clay, except for one example made of Nile clay. These objects are often found broken through the width in half showing that they were used with a certain force, probably in the area of the bevelled tip.

15 of these oval tools can be allocated to building phase b, one to phase c and eight to phase d suggesting a continuity of activities between phase d and b in this workshop area. However, an identification of a specific function for this tool remains difficult to determine at this time.

Different functions for scrapers in Qantir were suggested, such as use in leather production (for removing hair), but also in ceramic production (for removing clay while shaping the object), or even the smoothing of wood or softer stones.[82] For the oval tool, a function within a context of textile production or net repairing might be more likely, however a more detailed study of the remaining find assemblage and the interaction of different find groups in their specific find contexts is necessary.

(M. Lehmann)

3.2 House 55: The Lithic Assemblage

During a short stay in March 2023, the examination of the chert assemblage from House 55 of Elephantine was continued. The analysis of this collection began in the spring season of 2020.[83] House 55 is a residential house from the late Second Intermediate Period and the early New Kingdom with five stratigraphic building phases (phases a-e).[84]

An assemblage of 279 chert artefacts was studied this season with a total weight of 2.05 kg. Detailed documentation has been carried out, with measurements, photographs and drawings. Analyses were focused on the *chaîne opératoire* and comparison to previously studied artefacts.[85] Additionally, attempts at refitting were made to obtain further information about the technological process. Unfortunately, this appeared to be impossible, although the colour and structure of some artefacts indicates that they were struck from the same nodule.

Raw material

It was possible to identify four main raw material groups: 1. chert (273 pieces), 2. carnelian (four pieces), 3. quartzite (one piece), and 4. alabaster (one piece). The macroscopic features necessary to define the raw material group are colour (according to Munsell Soil Color Charts), cortex (colour, thickness, smoothness), lustre, texture, and transparency. Cherts were divided into groups, taking into account the results of the previous seasons and the other areas surveyed on Elephantine.[86] 45 pieces were burnt making further identification impossible. The most numerous chert group (154 examples) contained beige, greyish, and brown colour cherts, with smooth, weathered 1-3 mm cortex, mottled structure, lightly banded or with small inclusions, matt and non-transparent. The second-most numerous chert group (14) was a pinkish-beige chert, with a thin smooth cortex, mottled structure, mat and non-transparent surface. Some of the chert raw materials could not be assigned to any of the groups. However, a microscopic examination should be performed in the future for more detailed results.

Analysis of lithic assemblage

Table 7 depicts an overview of the 279 chert artefacts examined during this season. The collection is presented in building phases and with consideration for the locations within House 55. The lithics are divided into four major categories: cores, debitage, tools, and natural nodules/fragments of nodules. Flakes, blades, technical flakes/blades (including crested blades/flakes), splintered pieces, chips (flakes less than 15 mm), and waste pieces are considered different types of debitage. Sickle blades, scrapers, end-scrapers, retouched flakes/blades, arrowheads, pounders, and grinders are all examples of tools. A large proportion of the assemblage examined consisted of flakes or blades with traces of use. They were also classified as tools. It was possible to observe some technological changes or developments within specific periods by synthesising the data.

The largest number of chert artefacts comes from phase b of House 55, with 148, a slightly smaller number from phase d with 48, followed by phase c, with 28 examples. A small percentage also comes from layers below House 55 and the upper surface.

There are only three chert artefacts from phase e of the building. This group included one flake, one crested blade/flake, and one flake with traces of use found in room E.

The building phase d of House 55 is represented by a set of three cores (two of which were flake multiplatform cores), 25 debitage elements, and 20 tools. The debitage group includes 14 flakes, one blade/flake, one crested blade/flake, two chips, and seven wastes. The tool assemblage, on the other hand, includes three pounders, one retouched blade, three blades, and

13 flakes with traces of use. By far the largest number of pieces of this assemblage were found in Room C (29 pieces) and slightly fewer in Room K (11 pieces).

Building phase	Room	Core	Debitage							Tools													Natural fragments/nodules	Sum	
			Flake	Blade	Blade / Flake	Crested bl. / fl.	Splintered piece	Chip	Waste	Used flake	Used blade	Used Chip	Used Waste	Retoushed flake	Retoushed blade	Retouched splintered piece	Sickle blade	Scraper	Endscraper	Arrowhead	Pounder	Pounder / Grinder			
a	(C_D)										1													1	
	F		1							2														3	4
	SW																				1			1	
b	C	3	6					1	1	10											1			22	
	D		5						4	16	5	1		2							1			34	
	E		2							1														3	
	H		29	1				11	13	16	3	3	1			1	4	1	1		3	1	2	90	180
	K		4						1	11								1			5			22	
	M		3	1					1	1				1							2			9	
b-d	C					1			1	1														3	3
b1	H		3						1															4	4
c	C	1	13				1	1	2	4	4	2												28	28
d	A	1								3	1										1			6	
	B									1														1	
	C	2	10		1	1		1	3	7	1				1						2			29	48
	H									1														1	
	K		4					1	4	1	1													11	
e	E		1			1				1														3	3
below H55	E																			1				1	
	K		1						1	3														5	8
	M		2																					2	
Sum		7	84	2	1	3	1	15	32	79	16	6	1	3	1	1	4	2	1	1	16	1	2	**279**	

Table 7: The lithic assemblage from House 55 (Spring Season 2023).

In Room C, building phase c, 28 chert artefacts were discovered, of which 1 was a core, 17 were debitage, and 10 were tools. Small blades and flakes were extracted from the multiplatform core. In the debitage group, 13 flakes, 1 splintered piece, 1 chip, and 2 wastes were found. Flakes and blades were used as tools. These are the only tool forms from this phase of the building.

Phase b of the building concealed the largest amount of chert products. Three flake multiplatform cores, 83 pieces of debitage, 92 tools, and 2 natural nodules can be distinguished here. A total of 49 debitage pieces are flakes, while 20 are wastes, 12 are chips and 2 are blades. Tools, in turn, are represented by 2 pounders, 1 pounder/grinder, 4 sickle inserts, 2 scrapers, 1 end-scraper, 1 retouched splintered piece, and 3 retouched flakes. The remaining part contains flakes (55), blades (8), chips (4), and waste (1) with some traces of use. Half of the assemblage was located in Room H, 34 pieces were found in Room D, and 22 each from Rooms C and K.

There are only four artefacts from phase a of House 55: 1 flake, 1 pounder, 2 flakes and 1 blade with traces of use. Of these, 3 were found in Room F.

From a technological point of view, the most prominent technique visible in this season's assemblage is that of flake and blade. However, no blade cores were found within House 55. Most of these were flake multiplatform cores, which mainly produced small-size flakes. These small flakes are also clearly visible in the lithic assemblage. The technique of manufacturing the desired tool forms was not sophisticated. Many of the lithics, therefore, have hinges. The group of artefacts included 50 burnt or heated cherts. As many as 38 of these were discovered in building phase b. It is also interesting to note the occurrence of ochre traces on the chert artefacts - 8 elements of the set. Ochre was recorded in building phases b and d.

Conclusions

A large number of chert artefacts were found in House 55. During this spring season, 279 items of this assemblage were studied. The assemblage shows that tools were manufactured inside the building and that they were also used on-site. The most numerous chert artefacts were found in Room H, mostly in the building phase b, but also in Room C, in phases b, c, and d. The raw material that represented the lithic set most abundantly was chert. However, examples of carnelian, quartzite, and alabaster were also found. Most of these were obtained locally.

The production technology used by the residents of House 55 was simple. It was mainly a flake technique. Finished products include sickle blades, scrapers, end-scrapers, arrowheads, pounders, grinders, retouched blades and flakes, and flakes, blades, chips, and wastes with traces of use. All tools have traces of use, also glossing, and traces of ochre.

The lithic material still requires a combination of the study results from all previous research seasons and conducting several further analyses. This is undoubtedly a valuable set of artefacts that will bring new information about the inhabitants of House 55 and about the stone technology used during the period of the late 17th and early 18th Dynasties in Egypt.

(S. Bulawka)

3.3 House 55: Short Report on the Examination of the Human Skeletal Remains

In March 2023, the very well-preserved skeletal remains of ten children excavated in House 55, dating to the Second Intermediate Period and the beginning of the New Kingdom, were examined anthropologically and paleopathologically in the Site Magazine of Elephantine Island using macroscopic methods and techniques (table 8). The first preliminary results are presented here. In some cases, a diagnosis could not be made with certainty without the results of a microscopic examination of bone samples from the affected area of the skeleton. However, there was no approval for taking samples for such an investigation.

Find-No.	Building layer	Phase	Room	Type of burial	Age
45601Q/b-2	10	b	D	vessel	Fetus
45601W-2	10	b	K	vessel	(3 -) 6 Mo
45603Q-1	11	c	A	pit	7 - 9 (12) Y
46602E-2	11	c	A	vessel	3 - 6 Mo
46602W-1	11	c/d	E	pit	3 - 6 Mo
45603F/h-9	11	d	A	pit	B - 3 Mo
45603P-1	11	d	A	pit	B - 3 Mo
46602V-2	11	d	M	vessel	2-3 (6) Mo
46601M-2	11	e	D	vessel	B - 2 (3) Mo
46602Z/b-2	11	e	H	vessel	3 - 4 (6) Mo

Table 8: List of burials in House 55 (B = Birth; Mo = Month; Y = Year)

The state of preservation of the skeletons with regard to the bone surfaces, anatomical representation of the skeletons, and bone consistency can be generally described as good to very good. It is noticeable that nine of the ten children are foetuses, new-borns, or young infants. Only one child died at the age of 7-8 (possibly up to 12 years) and thus belongs to the Infans-II age group. A cause of death could not be proven with certainty in any case. However, the vestiges of some diseases suggest that these may ultimately have resulted in death.

In nine out of ten cases, vestiges of a haemorrhagic-inflammatory process could be detected on the inner surface of the neurocranium. Such processes can have different origins, such as birth trauma (bleeding), scurvy (chronic vitamin C deficiency), or an inflammatory meningeal irritation (meningitis) that was accompanied by bleeding. The frequency of the disease group of meningeal affections is striking. However, in some cases, extraordinary bone growth, i.e. a physiological process, must also be considered in the differential diagnosis.

Relapsing appositional bone growth or disturbed bone growth can be observed in three out of ten cases. Only in one case, in the skeleton of the older child, linear enamel hypoplasias (LEH) are detectable on the crowns of the permanent anterior teeth. No LEHs were found on the crowns of the deciduous teeth in any of the children. This apparently indicates that these infants were breastfed until their death.

(M. Schultz and T. Schmidt-Schultz)

3.4 26th Dynasty Pottery

In the past few seasons, all pottery from Levels 4B and 4C in Area XXVI south of the late Khnum Temple was examined and drawn, as were several contexts from Level 4D.[87] Sealings would suggest that Level 4B can be correlated with the later 26th Dynasty, Psammetichus II - Amasis, and level 4C with the earlier 26th Dynasty.[88] However, whilst this report is only of a preliminary nature, at this stage there does not appear to be any major differences in the pottery between the two levels. In both levels the majority of the pottery is made from local Nile clays, most often in the fabric termed Nile B2 variant 2, or Nile C1 which is, as usual for Nile clay fabrics in the Aswan region, much more micaceous than in the rest of the Nile Valley.[89] In addition, a large amount of a Nile C2 type clay was utilised for handmade pithoi and their associated lids. Contemporary pottery made of Marl clays is somewhat scarcer, and all such vessels are made from Marl A4 variant 2 (= Marl A5). The pottery was generally very broken up, and very few complete profiles could be reconstructed.

The repertoire in each level is somewhat small, and unless stated otherwise, all vessels made of Nile clays were made from the fabric termed Nile B2 variant 2, and were left uncoated, with much of the pottery, particularly that from Level 4B, showing traces of burning. Some vessels were somewhat coarse and can be termed Nile B2 near Nile C1

As most of the pottery examined comes from Level 4B, this is the material that will be described first. In this phase, small, thin-walled dishes with direct rims and flat bases (fig. 23a) are very common. Such vessels are generally cut from the wheel with string and are often somewhat

asymmetrical.[90] Interestingly, in many cases the base is made as a separate plug to which the sides are then added. Bowls/Beakers with direct rims and ledge bases of various sizes (fig. 23b-c), are also frequently found. Carinated bowls, in as far as they could be reconstructed, are found with round (fig. 23d), raised (fig 23e-f), or slightly bevelled bases (fig. 23g). Rim sherds also attest to the presence of bowls with direct rims and, probably round bases, similar to *Elephantine XIX* pl. 49, nos. 1540-1547, but none could be reconstructed. Larger bowls with vertical ring handles are also found (fig. 23h). Recognisable ringstands were scarce, but were present in small quantities, and of various types (cf. fig. 5i-j, 24a), as were red slipped stoppers (fig. 24b). Closed shapes are dominated by two-handled storage jars with rounded rims, and with their handles placed near the rim (fig. 24c). The rim diameters tended to vary from 16 to 22 cm, and although none could be reconstructed they would have been similar to *Elephantine XIX* pl. 70, no. 2006. Such vessels were also generally uncoated, but some examples were given a thin pale red wash, or bore thick white slips. Other types of closed vessels were much rarer, but they included bottles (fig. 24d), and perhaps a spouted vessel similar to *Elephantine XIX* pl. 65, nos. 1898-1900, although the spout was not preserved. It is worthy of note, however, that a similar vessel from Kafr Ammar can probably also be dated to the reign of Amasis, since it was found with pottery, which on the basis of parallels at Tell Defenneh, should date to the reign of this king.

Vessels made of Nile C2 are frequent, although the range of shapes is limited. Most often found are fragments of uncoated hand-coiled pithoi (fig. 24f), and their lids (fig. 24e), with diameters generally around the 56 cm mark. Often the tops of the pithos rims were decorated with herringbone patterns made with a comb. The hand-made lids tended to have a large solid handle in the middle, and were often ornamented with parallel ridges made with the fingers. Numerous fragments of bread platters with a diameter of around 20 to 30 cm (fig. 25a), generally uncoated, but sometimes coated with a pale red wash or a white slip, similar to *Elephantine XIX* pl. 62, nos. 1835-1836, were also fairly frequent. Less common were platters (fig 3b), often red slipped on the interior, and fragments of three-legged stands – cf. *Elephantine XIX* pl. 65, no. 1895.

Numerous tubular bread moulds, (fig. 25c) made of a uniform brownish, low fired sandy Nile clay, were also common. These were often white slipped on the exterior, whereas the interior was given a smoothed coating.

The Marl A4 variant II (= Marl A5) vessels comprise bowls with out-turned lips (fig. 25d), and probably bulb bases, larger bowls with modelled rims (fig. 25e), which probably had two vertical handles,[91] whilst rim sherds attest to the presence of jars similar to *Elephantine XIX* pls. 55-56, nos. 1684 and 1697-1698 (figs. 25f-g).

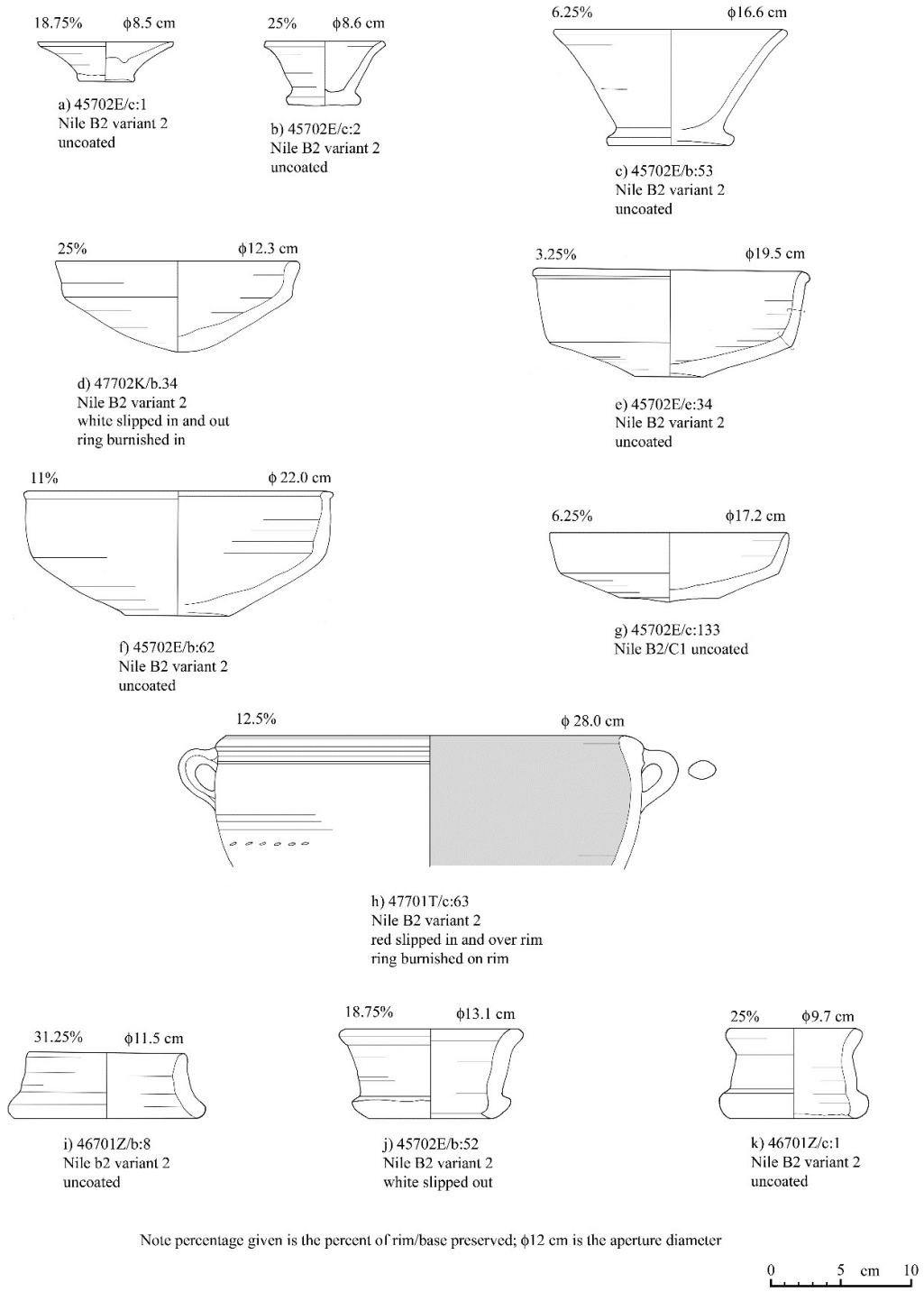

Fig. 23: Pottery from Level 4B in Area XXVI (drawing: D.A. Aston, © SIK).

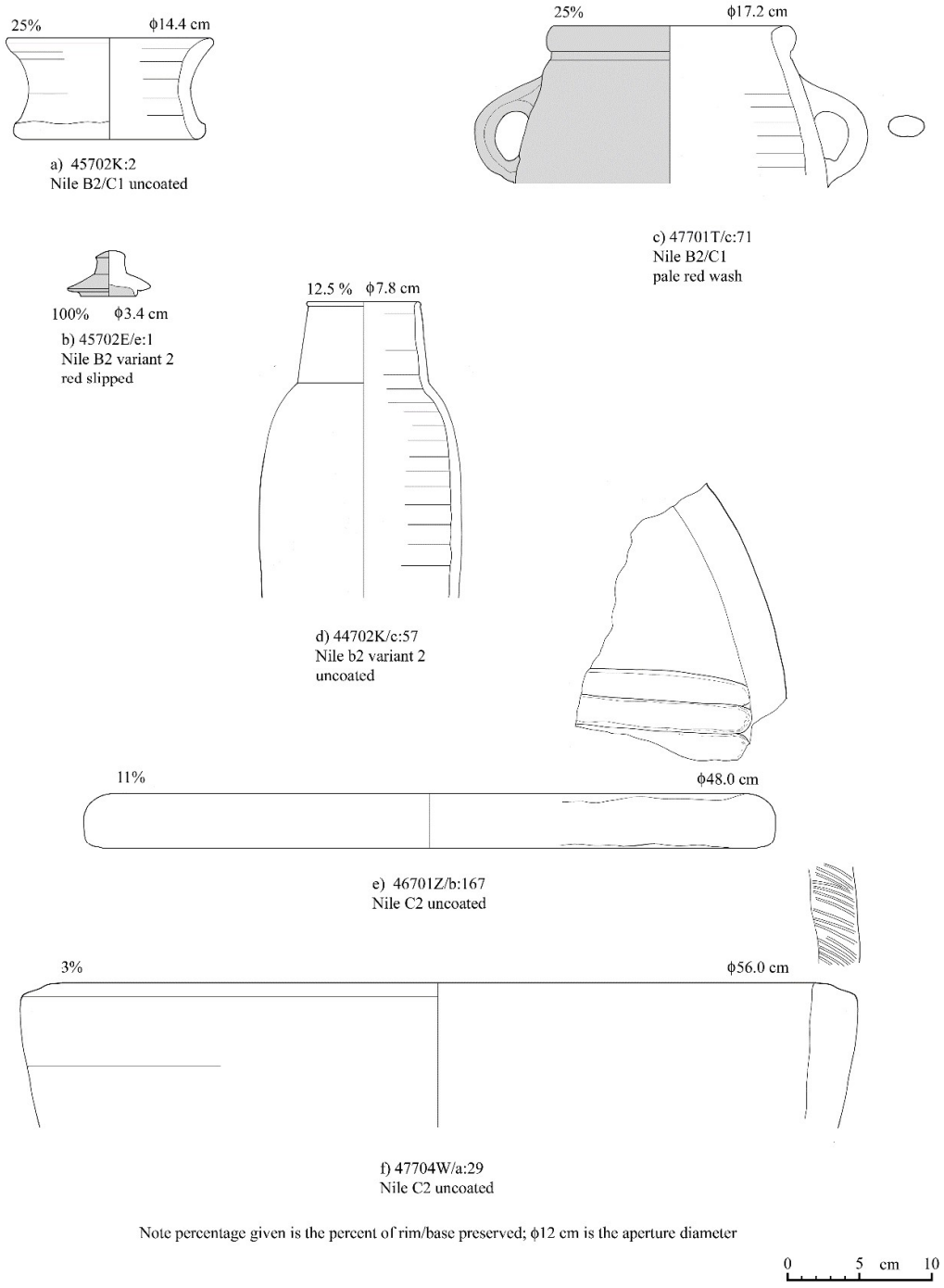

Fig. 24: Pottery from Level 4B in Area XXVI (drawing: D.A. Aston, © SIK).

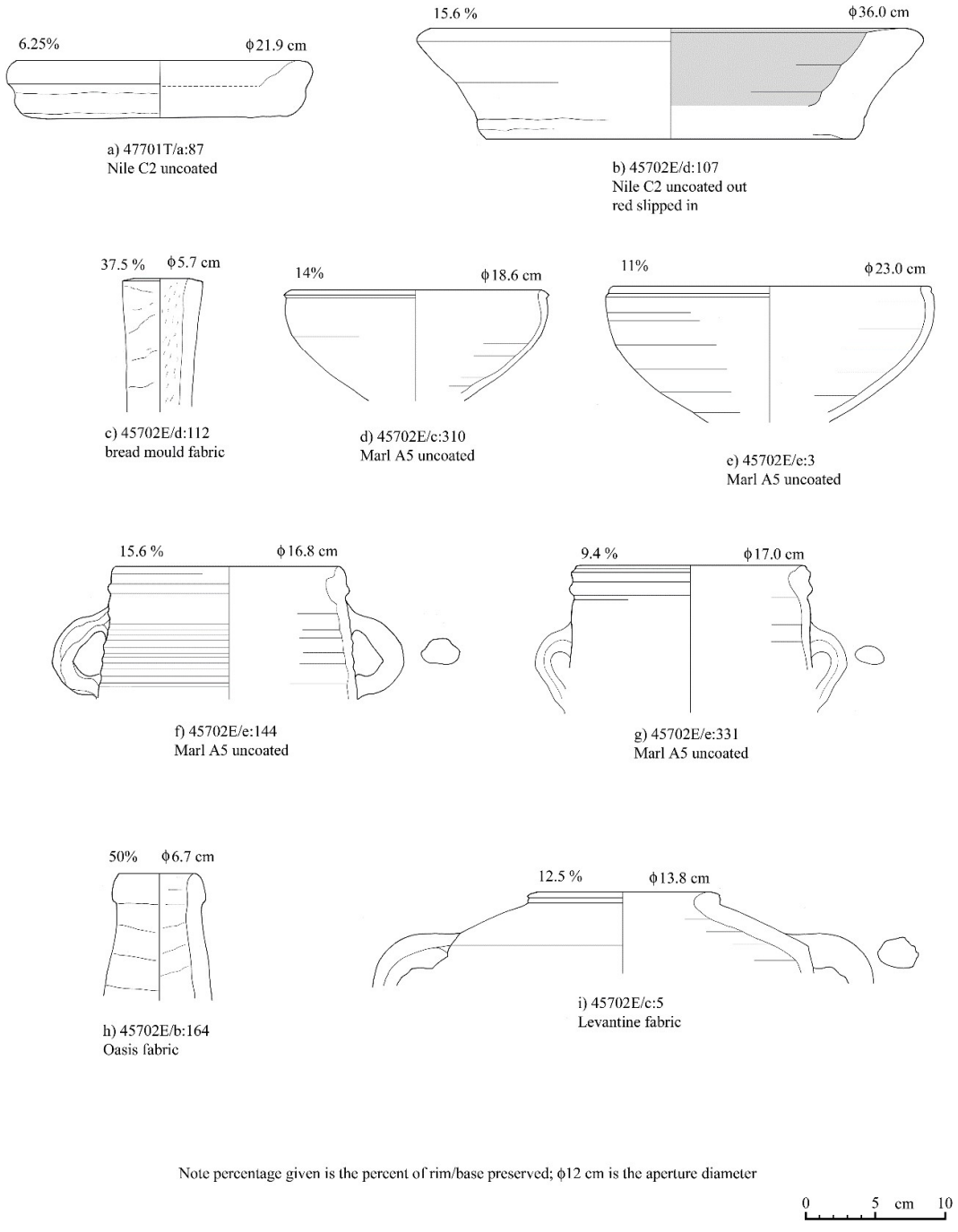

Fig. 25: Pottery from Level 4B in Area XXVI (drawing: D.A. Aston, © SIK).

A number of sherds from oasis kegs (fig. 25h) are also usually present in each context. This would appear to be a little surprising, but coupled with the large number of pithoi fragments, would suggest that most of the material from Level 4B originally derived from a storage/distribution centre. True imports are rare, and, when present such sherds usually derive from Phoenician storage jars (fig. 25i), although the odd fragment from basket-handled jars were also found. A number of Nubian sherds were also encountered but it is not clear whether these are contemporary with the 26th Dynasty or are older, residual pieces. Although this material has not yet been fully studied it would appear that the Level 4B pottery has more in common with Elephantine Phases III and IV than with that from the rubbish deposit associated with the *Speicherbezirk* H118.[92]

The amount of pottery from Level 4C was much smaller, both in terms of the number of sherds, and in the number of forms, which consists almost entirely of Nile B2 variant 2, or Nile B2 near Nile C1 two-handled storage jars akin to fig. 24c, and fragments of Nile C2 pithoi and their lids. A few bowls and jars made of Marl A4 variant II (= Marl A5) sherds are also present.

The pottery from Level 4D has not yet been studied in depth, but it appears to be more similar to the Level 4B repertoire than Level 4C.

(D. Aston)

3.5 The Coptic Ostraca from the Khnum Temple Area

Between 18th and 30th of March 2023, work on the Coptic material from Late Antique and Early Islamic strata in and around the Khnum Temple was resumed after an initial visit in 2021.[93] In accordance with the responsible excavators Felix Arnold and Cornelius von Pilgrim, the material given priority for study was limited at the moment to those pieces found in stratified contexts. The work on the Coptic ostraca is undertaken in cooperation with the editors of the Greek and Demotic material, Ruth Duttenhöfer (Trier) and Friedhelm Hoffmann (Munich). Note that initial work on the Coptic material was undertaken by Sofia Schaten.[94] Most of the work was done in the Central Magazine of the MoTA in Aswan, where the material is stored nowadays.

Within the two weeks, 300 Coptic ostraca were documented and preliminarily edited. As during the first research visit, matches between fragments of ostraca were identified. When the work commenced, the number of fragments from the archaeological contexts was 642 pieces. During the two research stays at Aswan, this number was reduced to 602 by identifying matching fragments.

Language	BP 01	BP 01–02	BP 02	BP 02–03	BP 03	Unclear	Total
Greek	6	9	66	8	2	2	93
Coptic	46	36	210	47	15	6	360
Gr./Copt.	13	25	55	0	7	0	100
Demotic	6	10	3	4	0	3	26
Arabic	0	0	1	0	1	0	2
Uncertain	3	2	2	0	0	0	7
Drawing	1	7	4	0	2	0	7
Total	75	89	341	59	27	11	602

Table 9: Distribution of ostraca according to languages and building phases (BP)

BP 01: ca. 425–540, BP 01-02: ca. 540–560, BP 02: ca. 560–700, BP 02–03: ca. 560–950, BP 03: ca. 850–950

In addition, a preliminary examination of the papyrus and paper fragments from the same area confirmed the expected need for their further consolidation before any edition can be achieved.[95]

Pieces classified as Gr./Cop., i.e., Greek or Coptic, are too damaged to enable the linguistic classification of the preserved text and can be identified only according to the script. The Demotic ostraca pieces were not written during the dates assigned to the archaeological strata but result from ancient construction works that cut into older strata, thereby mixing older material with more recent ones. Not unexpectedly, Arabic texts are attested only after the conquest of Egypt.

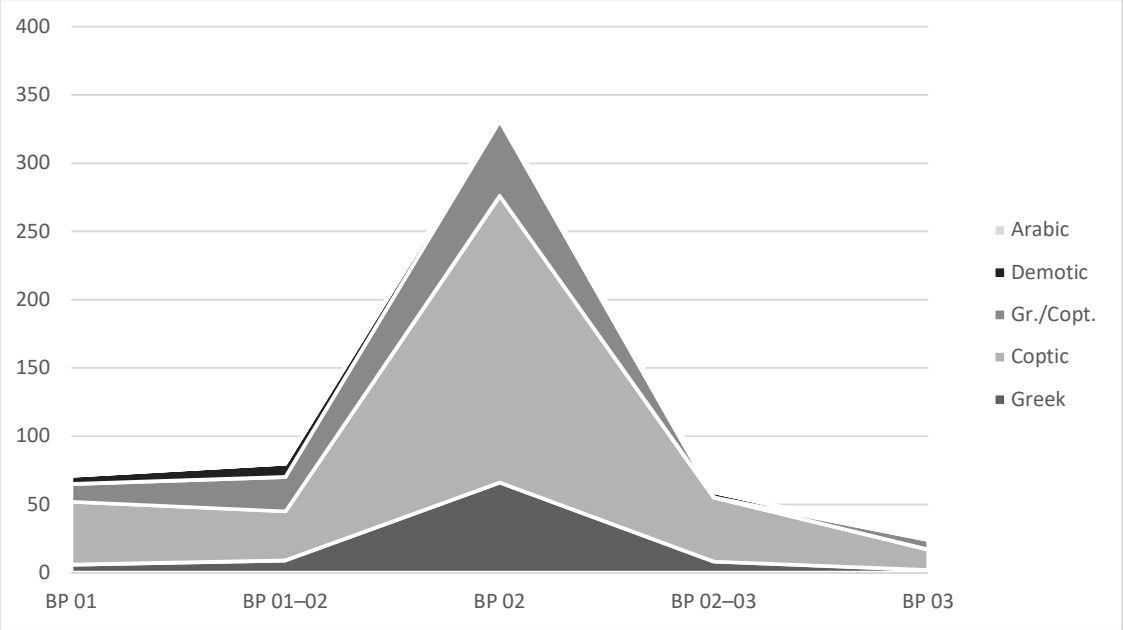

Fig. 26: Languages according to building phases (diagram: M. Müller, © SIK).

Fig. 26 presents the overall distribution of the inscribed material. The material peaks in Building Phase 02 (ca. 560–700). Numbers decrease markedly in the aftermath, falling even below those

of the periods prior to Building Phase 02. If one ignores the archaeological strata, and only includes the total amount of texts, Coptic texts dominate all other languages (fig. 27, with Arabic being the small square bottom right).

Fig. 27: Ratio of languages in total corpus (diagram: M. Müller, © SIK).

This situation is rather uncommon in a settlement context of the 1st millennium CE[96] (in contrast to monastic contexts of course) and can only be compared with the situation in the town/village of Jême/Madīnat Hābū on the Westbank of Luxor. There, however, Greek documents are rather underrepresented.[97] One might therefore surmise that the settlement in and around the Khnum Temple area reflects a part of society in which Greek was of lesser importance in everyday business administration and written communication.[98]

Focusing again onto the material and disregarding the Arabic and Demotic texts, the distribution of the Coptic and Greek texts, as well as the pieces that cannot be attributed with certainty to either of the languages, shows a certain peak in Building Phase 02 (ca. 560–700). However, similarly to the Demotic ostraca mentioned above, it cannot be excluded that some of the material from this building phase also contains earlier material. Due to the state of preservation of many of the ostraca, the lack of explicit dates in the dates, and the difficulties of dating Coptic texts by handwriting, the identification of possible earlier texts will prove difficult. Yet, even in the phase prior to that, the Coptic ostraca outnumber those in Greek (even if one would add the uncertain texts to the Greek material). This stands in stark contrast to the general understanding of the use and distribution of Coptic versus Greek in official documents, i.e., that only the latter must be used in official and legal documents.[99]

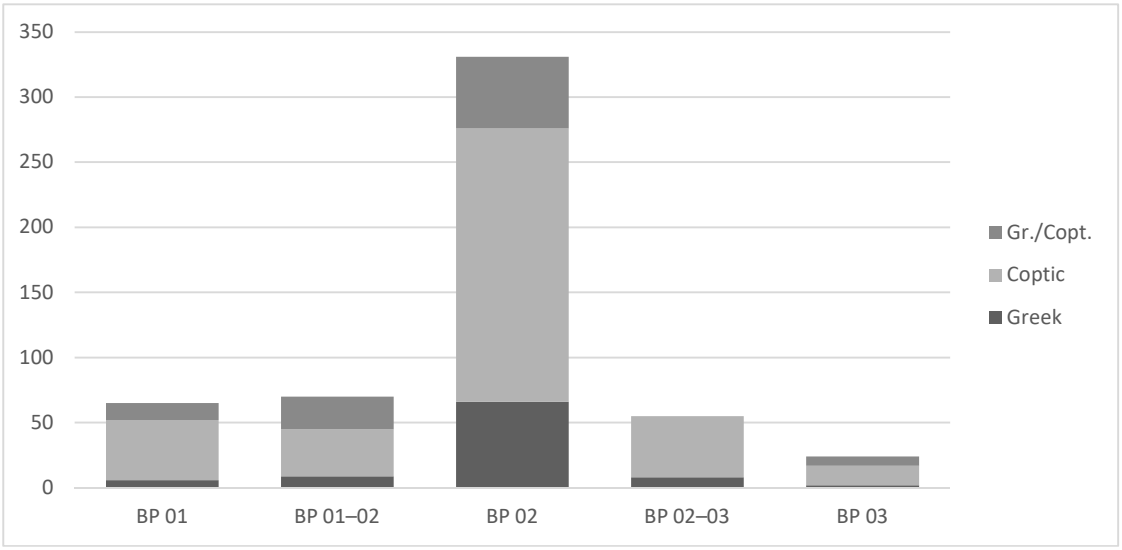

Fig. 28: Distribution of ostraca according to building phases and languages restricted to Greek, Coptic and Greek/Coptic (diagram: M. Müller, © SIK).

House (not in connection with specific rooms)			
BP 01	2719	6 incomplete lines of a deed or a letter in Coptic	6 × 5.3 cm
BP 02	3525+3526	6 lines of a list in Coptic or Greek	10.3 × 14.6 cm
BP 03	2740	Drawing	7.5 × 5.0 cm
Northern room			
BP 01.2	4126	Endings of 4 lines in Greek	7.2 × 8.4 cm
	4127	3 incomplete lines in Coptic or Greek	4.0 × 6.3 cm
BP 01/02	4152	Beginnings of 6 lines in Greek	9.6 × 11.5 cm
BP 02.2	2808	2 incomplete lines in Coptic	5.4 × 5.3 cm
	2809	Incised mark, 1 line in Coptic	4.8 × 8.9 cm
Southern room			
BP 01/02	2806	Jar label in Coptic or Greek	4.7 × 3.9 cm
Courtyard			
BP 01.2	2817	4 incomplete lines of an account in Coptic, maybe once part of 2823	6.4 × 3.6 cm
	2823	3 incomplete lines of an account in Coptic, maybe once part of 2817	3.1 × 2.3 cm
	4153	Endings of 3 lines of a list in Coptic or Greek	4.3 × 3.7 cm
BP 01/02	2815	2 incomplete lines in Coptic	2.6 × 3.0 cm
	2816	Beginnings of 4 lines in Coptic	6.9 × 6.1 cm
BP 02.1	2713	Beginnings of 2 lines in Greek	3.7 × 6.8 cm
	2739	2 incomplete lines in Greek	3.0 × 9.0 cm
BP 02.2	2782	Beginning of a letter in Coptic, 7 lines	10.3 × 10.0 cm

Table 10: Ostraca found inside House M12A.

All ostraca and fragments thereof are pottery sherds, with, not unexpectedly, Aswan-wares being predominant.

Ultimately, the corpus derives from two different archaeological contexts: debris accumulating in houses, often on the floors of later building activities, along with refill of trenches. Those pieces from the houses are unfortunately often less well-preserved or are preserved as rather small fragments only. Those ostraca from the refill of trenches and areas that were left open for some time (such as the site of the dismantled Khnum Temple) are usually better preserved.

To exemplify this, the situation in and in front of House M12A has been chosen.[100] Table 10 lists all the ostraca found inside the house and in the courtyard.

Therefore, of the fourteen ostraca found, only a single ostracon yields substantial amounts of text, and even that one breaks off before the end. This is 2782, the edition of which is provided below (Text **1**).

Yet, due to the preserved size of the fragments, the types of texts they bore cannot always be ascertained. If enough is preserved to identify the text types within the present corpus, the majority are debt acknowledgements, letters, accounts, and lists. There are only very few non-documentary texts in the corpus.[101]

1. Pick up Message

O.DAIK/SIK 2782 [TM 986821]	10.3 × 10.0 × 0.8 cm	House 12A yard
Aswan amphora		ca. 625–650

Sherd from the neck of an orange-coloured amphora, breaks on all sides. Text on outside with black ink in bilinear handwriting, super-linear signs and trema. The top, left, and right are original edges; unknown loss in lower part. The ink is partly faded and abraded.

This short missive tells the recipient to take three vessels of (probably) unmixed wine, if the text restoration is correct. So far, a filiation of the type Johannes, son of Ap(a) Apollonios is unattested. It would therefore be possible that the relation given pertains to an institution such as a monastery of an Apa Apollonios, which, however, is otherwise unattested in the region. Noteworthy is that the sender is a woman by the name of Maria. She is not yet known from any other document from the island. Any further details, should there have been such, are lost in the missing lower part of the ostracon.

As the text does not preserve anything but the address and a part of a sentence, it is difficult to be more specific about the dialect. Nothing points specifically to the local variety. Noteworthy is the spelling of ⲏⲣⲡⲓ as ⲣ̅ⲡ̣ⲓ̅ (line 6).

ⲧ ⲧⲁⲁϥ [. . .]ⲁⲛ
ⲛⲏⲥ ⲁⲡⲁⲡⲟⲗⲗⲟ
ⲛⲓⲟⲥ ⲅⲓⲧⲛ̄ⲙⲁ
ⲣⲓⲁ ⲙⲁⲛⲉⲕ
ⲫⲟⲙⲛ̄ⲧ ⲛ̄ⲕⲟⲩ̈ⲥ
ⲛ̄ⲣ̄ⲡ̄ ⲛ̄ⲛ̄ⲁⲕ[.]
[. . . .]̄ . ̄ [. .]
– – – – – – – – – –

6 l. ⲛ̄ⲏⲣⲡ || **6-7** ἄκρατος

Give it [to Joh]annes (son of) Apa Apollonios from Maria.

Take your three vessels of unmixed (?) wine …

1 Only traces of letters remain after the middle of the line up to the right margin. However, in the right most part, ⲁ and ⲛ seem possible, so the name ⲓⲱⲁⲛⲛⲏⲥ is the best option, even though the Saidic Coptic spelling would usually employ an ⲅ (i.e., ⲓⲱⲅⲁⲛⲛⲏⲥ).

2 The writer left some space between the ⲥ and the ⲁ.

4 The ink is partly blurred at the right edge but the proposed ⲛⲉⲕ seems to fit the traces. These could be analysed as above, i.e., as the plural possessive with the 2nd masculine singular. Another possibility would be to identify them as an indirect object (with the southern variation ^{AL}ⲛⲉ- against ^{S}ⲛⲁ-). This would have to assume, however, that the writer forgot the direct object marker (i.e., an emendation to ⲙⲁ ⲛⲉⲕ ‹ⲛ›ⲫⲟⲙⲛ̄ⲧ ⲛ̄ⲕⲟⲩ̈ⲥ ⲛ̄ⲣ̄ⲡ̄ … would be necessary) and therefore the analysis as above has been preferred.

6-7 Probably read ⲛ̄{ⲛ̄}ⲁⲕ[ⲣ|ⲁⲧⲟⲛ] or ⲛ̄ⲛ̄ⲁⲕ[ⲣ|ⲁⲧⲟⲛ] ‘of the unmixed wines.’

It is the aim of the project to edit the whole textual evidence from this occupational area in connection to the archaeological context, avoiding separate publications for each of the individual languages represented. In addition, all texts shall be entered into the database of the Elephantine Project of the Berlin Museum (headed by Verena Lepper).[102] Some texts have already been inserted there, especially those Greek texts from the corpus that were published by Wagner in *O.Eleph.Wagner*.[103]

In order to detect possible connections to texts from undocumented contexts, better preserved ostraca have also been preliminarily documented and edited, especially those with personal names and professions, or those dealing with craftmanship or trade. Two of these are edited here. Text **2** displays a feature already encountered among edited debt acknowledgements from Berlin, i.e., members of the local clergy acting as scribes.[104] The other text (Text **3**) contains an order of distribution sent to an inhabitant of the island. He is being told to give out yeast or sour dough and to expect reimbursement once the unnamed sender comes to do so.

2. A Future Sale of Mats

O.DAIK/SIK 4853 [TM 986822] 12.8 × 15.2 × 0.7–0.9 cm Elephantine, 42001–227
marl, amphora, brown VI–VIII CE

Complete, except for a few chips and surface scratches. Bilinear hand, no ligatures and connections, use of super linear stroke and trema; the style of handwriting shows a certain similarity with that on *O.CrumVC* 19.[105]

The text is styled like a debt acknowledgement but is probably a future sale on mats according to which the couple Victor, son of Mouses, and his wife Kyriake, owe one hundred of these to the water carrier Josef. They commit themselves with this ostracon to repay him in a certain month, apparently after the harvest.[106] The text was written by the priest Psakho, who acts also as witness to this agreement. None of these four individuals is attested so far elsewhere in the material from Elephantine or Aswan.

One of the issues of the text is the meaning of the word ϣϵ *še*. It could be either, as translated below, the numeral 'one hundred' or the homograph word for a bronze coin. The choice for the former is based on the lack of an expected determiner if it would be the coin, see also the note to the edition below. According to Crum, *Dict.,* 415, the word тнн denotes a 'mat of reeds.' One hundred of them seems a rather grand number, but since we lack any further details about size, style, and craftmanship, it is impossible to contextualize the number.

The use of the conjunctive (line 5–6) directly after a Present I pattern (line 4–5) is unexpected. Possibly, the usual clause "If God appoints it, …" has been left out (e.g., from Elephantine *SB Kopt.* I 25.7–8). The direct object incorporation of the verb сϩаї (line 9) is common in documentary texts.

ⲃⲓⲕⲧⲱⲣ̄ ⲙⲟⲩⲥⲛⲥ ⲙ̄ⲛ̄ⲕⲩ
ⲣ̈ⲓⲁⲕⲏ ⲧⲉϥⲥϩⲓⲙⲉ ⲛⲉⲧ
сϩⲁ̈ⲓ ⲛ̄ⲓⲱⲥⲛϥ ⲃⲁ̈ⲓⲙⲟⲟⲩ
4 ⲧⲛ̄ⲭⲣⲉⲱⲥⲧⲉ ⲛⲁⲕ ⲛ̄ϣⲉ
ⲛ̄ⲧⲙⲏ ⲛ̄ⲧⲛ̄ⲧⲁⲁⲩ ⲛⲁⲕ
ϩⲛ̄ⲧⲁⲩⲥⲁⲧⲉ ⲭⲱⲣⲓⲥ ⲗⲁⲁⲩ
ⲛ̄ⲁⲛⲧⲓⲗⲟⲅⲓⲁ ·
8 ⲁ̣ⲛⲟⲕ ϥⲁⲭⲱ ⲡⲉⲡⲣⲉⲥⲃ(ⲩⲧⲉⲣⲟⲥ)
ⲁ̈ⲓⲥϩⲁ̈ⲓⲧⲉ̈ⲓⲃⲗ̄ⲭⲉ ϯⲟ ⲙ̄
ⲙⲛ̄ⲧⲣⲉ·

4 χρεωστεῖν || **6** χωρίς || **7** ἀντιλογία || **8** πρεσβύτερος

Biktôr (son of) Mousês and his wife Kyriakê are writing to Josef, (the) water carrier.

We owe a hundred mats to you and we give them to you in the (month) Tausate without any dispute.

I, Psakhô, the presbyter, wrote the sherd. I am witness.

1 The scribe's motivation for using a super-linear stroke at the end of the name ⲃⲓⲕⲧⲱⲣ̄ is unknown. Maybe it serves to indicate the following filiation.

4–5 It seems grammatically easier to assume in ⲛ̄ϫⲉ ⲛ̄ⲧⲙⲛ 'hundred mats' here than, for instance, ⲛ̄-(ⲛ̄)-ϫⲉ ⲛ̄-(ⲛ̄)-ⲧⲙⲛ 'wood for the mats' or even ⲛ̄-(ⲛ̄)-ϫⲉ ⲛ̄-ⲧ-ⲙⲛ 'wood for the urine.'

6 For the month named ⲧⲁⲩⲥⲁⲧⲉ, Jacques van der Vliet/Leiden referred me to the designation of the eleventh month of the year, the use of which is more common in the Fayum though; see Crum, *Compléments*, 66 sub ⲧⲁⲡⲥⲁⲧⲉ, discussed by Drescher, 'A New Coptic Month', *JEA* 46 (1960), 111–112, who concluded that it is another designation for the month of Epeph (June 25th–July 24th).

3. Order for the Expenditure of Yeast/Sour Dough

O.DAIK/SIK 2155 [TM 986823] 11.0 × 12.5 × 0.7–0.9 cm Elephantine, 20700

Marl, amphora, red VI–VIII CE

Almost complete, except for a few chips at the lower right and left margin; some dirt/salt stains on the surface. Quadrilinear hand, letter connections, use of super linear stroke, no trema.

The unnamed sender of the missive gives an order to a man from Elephantine named Manados to give to the person carrying the ostracon a hundred units of a commodity, presumably sour dough. The sender is going to account for it once he arrives. Although one might assume that Manados is the sender and the addressed person is not mentioned, one would expect in the latter case a different phrasing of the header, such as 'It is Manadaos who writes …'.

The name Manados or Mandos (see the note to the text below) seems to be unattested; the most similar attested name is Μανδρος.[107] The following ⲡⲉⲕϣϣ could be paternal name or an ethnonym, I am inclined to the former as there is no linking morph, as in Text **2** above. In addition, the use of two non-lineage identifiers, i.e., by ethnonym and place of origin, seems underrepresented in Coptic texts.[108] Our text seems to be the first to attest this specific word for 'sourdough', unless the word ⲥⲓⲣⲡⲁⲥⲉ is a variant of ⲧⲉⲣⲡⲁⲥⲉ 'baked brick.' In favour of the latter might be the lack of a measure or container.

The grammar displayed in the text is that of Saidic Coptic with a couple of regional features, such as the avoidance of ϭ in ⲡⲉⲕϣϣ (line 1), the spelling of ⲃⲓ 'bring' (line 5) or the form of

the preposition ⲛⲏⲙⲁ- ‘with’ (line 6). Beyond that, the line breaking does not always obey syllable structures, as shown by ⲃ|ⲗ̅ⲭ̅ⲉ (line 3–4).

Ⲣ ⲙⲁⲛⲁ̣ⲇⲟⲥ ⲡⲉⲕⲣ̣ⲱ
ⲡⲣⲏ̅ⲉⲓⲛⲃ ϯⲱⲉ ⲛⲥⲓⲣ
ⲡⲁⲥⲉ ⲙ̅ⲡⲣⲱⲙⲉ ⲉⲧⲛⲁⲛϯⲃ
4 ⲗ̅ⲭ̅ⲉ ⲛⲁⲕ ⲱⲁⲛⲧⲁⲡⲱⲧ̣
ⲉⲃⲟⲗ ⲧⲁⲉⲓ ⲧⲁⲃⲓ ⲙ̅ⲡⲗⲟ
ⲅⲟⲥ ⲛⲏⲙⲁⲕ

5–6 λόγος

+ Manados (the son of) Pekôš, the man from Elephantine.

Give a hundred (units) of sourdough to the man who will bring you this sherd until I will depart so as to come and settle the account with you.

1 The fourth letter of the name is partly smudged and the ink has been smeared. Maybe the scribe attempted to write ⲁ, but was not content with the outcome, trying to delete the letter. In that case, the name should rather be read as Mandos.

2–3 I assume ⲥⲓⲣⲡⲁⲥⲉ to be a word formation similar to ⲧⲉⲣⲡⲁⲥⲉ ‘baked brick.’ The initial noun is most probably the word ⲥⲓⲣ, ⲥⲉⲣ ‘leaven.’

4 Maybe, the Terminative serves as an independent future main clause here: ‘Give … to the man who will bring you this sherd. I will depart, and come, and bring the receipt for you.’

5–6 For ⲫⲓ ⲛⲛ-, see Crum, *Dict.*, 620b.

As can be seen, these texts contribute some information to the situation of crafts such as mat weaving or food production in the settlement.[109]

(M. Müller)

3.6 Graffiti and a Triangular Niche in the Nesmeti Temple

During the ongoing restoration work in the Nesmeti Temple, the documentation of all graffiti visible in the temple was completed, with six more being added to the corpus of already known graffiti. Since the blocks of the temple were reused in the mid-6th century in a river terrace on which a church has been assumed,[110] the question arises as to the context in which the graffiti were applied: when the temple was still standing or when its blocks had already been built into the terracing wall.

Graffiti can be found on a total of 27 blocks, all of which can be reliably assigned to the temple, and of which 23 blocks were used in the anastylosis. The vast majority of the 49 graffiti, apart from three Greek inscriptions,[111] are 10 boats[112] and 28 crosses left by early Christian visitors. These graffiti were all visible on the front of the waterfront terrace. However, since a third of these graffiti are upside down in the anastylosis of the temple or were placed on blocks that were difficult to access, they can only have been engraved in the terracing wall, which supports the assumption of a former church on the terrace. The uniformity of the corpus of crosses and boats suggests that these graffiti were all made on the terracing wall.

Only two graffiti are clearly different in quality and style from all the others. They are very carefully and deeply engraved, and they are each located in a very prominent place within the temple. Based on the archaeological find spot of the blocks in question, these graffiti must have been applied in the temple before its demolition around the mid-6th century AD, as they were not visible in the terracing wall. They are two six-pointed stars on the unfinished lintel of the side entrance, which have so far been misunderstood as hexagrams,[113] and two hieroglyphs neatly engraved above a triangular niche on the inner door jamb of the main entrance in a post-Pharaonic style. Both the two stars on block Y 44 and the group of signs on block Y 427 have no parallels in Egypt so far, so that their meaning in the context of the temple is not yet directly apparent.

Fig. 29: Graffito and triangular niche in the Temple of Nesmeti (photo: C. von Pilgrim © SIK).

The two signs on the inner side of the door jamb of the main entrance are placed directly above a small triangular niche to which they undoubtedly refer (fig. 29). The niche is at about head height and is accurately carved. It measures 10 cm in width, 12 cm in height and is 13 cm deep.

Triangular niches are not known in Pharaonic architecture. They are also extremely rare in Egypt in late Roman and Byzantine times. A very comparable niche in size, shape and quality is to be found in the Ptah Temple at Karnak.[114] Remarkably, it is also located on the inner side

of a door jamb (Gate B) at a comparable height (about 1.80 m above the ground). Since it cuts into the original relief, it was likely made in post-Pharaonic times.

Other small triangular niches are so far only known from clearly early Christian contexts and are generally regarded as lamp niches.

In a rare and presumably very early type of Coptic funerary stelae, there is a precisely worked triangular niche in the centre of a stela. In this only example published so far, the niche is framed by two palm trees and occupies the space usually taken up by a building (tomb façade) or an arched niche resting on two columns.[115] In some stelae this is empty, in others it is filled with a sculptured figure or an emblematic sign. For iconographic reasons, compared to the typical design of Coptic funerary stelae, the interpretation as a lamp niche in the sense of a place for a small oil lamp or candle is not convincing. It is also questionable whether the space in the stelae would be sufficient at all. The triangular shape also seems to be inappropriate for a lighting device, as the shape unnecessarily reduces the illuminated space. Possibly, in the cases where the arched niche remained empty, it was filled with either a separate sculptural figure and a cross or an Orans figure was set there.

However, M. Cramer already referred to this hypothesis in this context to the small triangular niches in the façades of the tombs in el-Bagawit (Kharga),[116] in which W. de Bock also assumed the installation of lamps.[117]

Very similar to the more elaborate niches in el-Bagawit is the triangular niche in another, very simple funerary stela in the Coptic Museum in Cairo.[118] In this one, as in many tombs at el-Bagawit, the niche is enclosed by a beading, while an outer beading suggests a rectangular frame (of the façade?). Ahmed Fakhry, who studied the tombs at el-Bagawit extensively, rejected the interpretation as lamp niches by pointing out that there were no traces of blackening or soot in any of them.[119] After the discovery of a small incense altar in a single niche, he assumed instead that this finding could be applied to all triangular small niches in the tombs and tomb stelae, and he suggested that incense burners were placed in the niches.

In the Convent of Apa Jeremias at Saqqara, however, a triangular niche is found in a very prominent position. It is placed in the centre of the side of a pillar facing the main church in the courtyard in front of the south portico of the main church, directly below a frieze block with three crosses and the names of bishops and saints.[120] Quibell also interpreted it as a lamp niche but had to leave open whether the existing traces of smoke were not from a secondary fire.

Even if it cannot be decided what purpose the triangular niches may have served, it cannot be denied that they seem to be a rare and special phenomenon in an early-Christian secular and funerary environment. The find context of the respective block from the Nesmeti Temple

provides the first reliable clue to the dating of this specific shape of niche in a Pharaonic temple (before the mid-6th c. CE) and allows us to assume that the building of the Nesmeti Temple still had a special significance after the end of the Pharaonic cult in late Roman/early Christian times, perhaps even in a funerary context.

(C. von Pilgrim)

3.7 Reconstruction of the Temple of Osiris Nesmeti

After an interruption of three years, the Swiss Institute resumed the work on the anastylosis of the Osiris Nesmeti Temple, which was rebuilt south of the antiquity area. This year's work was again led by the restorer P. Karlstedt and the architect A. Krekeler, actively supported by the inspector of the Ministry of Tourism and Antiquities Houida Mohamed Ahmed.

Fig. 30: View into the temple with newly laid stone floor (photo: C. von Pilgrim © SIK).

During earlier seasons the existing original sandstone blocks of the temple had been assembled and rebuilt according to the reconstruction drawings of Chr. Ubertini.[121] Since only a small number of the original blocks are still preserved, the temple is only rebuilt up to the height of the highest preserved block. Wall areas, of which no original components were preserved, were replaced with sand-lime bricks. The plastering of these brick wall surfaces was started in the last 2020 work season.[122] The plastering consists of three different layers. In a first step, the sand-lime brickwork was coated with a coarse-grained spray plaster (1st layer). For the second

step, a coarse levelling plaster (2nd layer) was applied in a thickness of 1 to 3 cm to compensate for the differences in height. The quality of this plaster layer is essential for the bearing capacity of the finishing plaster. The final surface will consist of a finishing plaster in a thickness of 0.5 to 1 cm (3rd layer). The joint pattern will then be indicated by incised lines. This season, the levelling plaster (2nd layer) was completed in all rooms and exterior wall surfaces (cf. fig. 30). The finishing plaster will have to be completed next season.

Since no original floor slabs of the temple survived, this season also raised the question of the design of the inner floor covering. In close consultation with the inspector accompanying the project, it was decided to lay a floor of stone slabs, following the example of the restoration of the floor in the Isis Temple in Aswan, which was successfully carried out by the Inspectorate of Antiquities, Aswan in the last few years. In order not to create too great a contrast with the appearance of the treatment of the temple's wall surfaces, it seemed appropriate, as in the Isis Temple, not to use newly cut stones, but to reuse all the roughly dressed stones that were recovered during the excavation of the temple. In order to obtain an even surface of the floor, the upper sides of the slabs were reworked. In two rooms of the building, the work was completed for the time being (fig. 30). Only after the floor has also been laid in the last room, the joints between the floor slabs will be sealed with a special mortar.

(A. Krekeler and C. von Pilgrim)

[1] Reports from previous seasons are available in the download section of the project homepage: https://www.dainst.org/projekt/-/project-display/25953 (last accessed 12.07.2023). This paper cites the following online reports: Seidlmayer, *et al.*, *Report on the 44th Season*: St. J. Seidlmayer, *et al.*, 'Report on the Excavations at Elephantine by the German Archaeological Institute and the Swiss Institute from autumn 2014 to spring 2015'. Elephantine – Report on the 44th Season (ENGLISH); Seidlmayer, *et al.*, *Report on the 45th Season*: St. J. Seidlmayer, *et al.*, 'Report on the Excavations at Elephantine by the German Archaeological Institute and the Swiss Institute from autumn 2015 to spring 2016'. Elephantine – Report on the 45th Season (ENGLISH); Sigl, *et al.*, *Report on the 46th Season*: J. Sigl, *et al.*, 'Report on the Excavations at Elephantine by the German Archaeological Institute and the Swiss Institute from autumn 2016 to summer 2017'. Elephantine – Report on the 46th Season (ENGLISH); Sigl, *et al.*, *Report on the 47th Season*: J. Sigl, *et al.*, 'Report on the Excavations at Elephantine by the German Archaeological Institute and the Swiss Institute from autumn 2017 to summer 2018'. Elephantine – Report on the 47th Season (ENGLISH); Sigl, *et al.*, *Report on the 48th Season*: J. Sigl, *et al.*, 'Report on the Excavations at Elephantine by the German Archaeological Institute and the Swiss Institute from autumn 2018 to summer 2019'. Elephantine – Report on the 48th Season (ENGLISH); Sählhof, *et al.*, *Report on the 49th Season*: M. Sählhof, *et al.*, 'Report on the Excavations and Site Management at Elephantine by the German Archaeological Institute and the Swiss Institute from autumn 2019 to spring 2020'. Elephantine – Report on the 49th Season (ENGLISH); Sählhof, *et al.*, *Report on the 50th Season*: M. Sählhof, *et al.*, 'Report on the Excavations at Elephantine by the German Archaeological Institute and the Swiss Institute from autumn 2021 to spring 2022'. Elephantine – Report on the 50th Season (ENGLISH).

[2] D. Raue, 'Elephantine Herbst 2006 – Frühjahr 2009', in D. Raue, *et al.*, 'Stadt und Tempel von Elephantine. 36./37./38. Grabungsbericht', *MDAIK* 67 (2011), 184-186.

[3] C. von Pilgrim, 'Zur Stadtummauerung im Neuen Reich', W. Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 23./24. Grabungsbericht', *MDAIK* 53 (1997), 162-165; C. von Pilgrim, 'Untersuchungen zur Stadtbefestigung: Die Stadtmauer des Mittleren Reiches', in Raue, *et al.*, *MDAIK* 67 (2011), 189-201.

[4] Elephantine pottery formation F3 after reassessment in March 2023. See on pottery formations P. Kopp, 'Die Keramikformationen der 1. Zwischenzeit und des Mittleren Reiches auf Elephantine', *BCE* 29 (2019), 243-304.

[5] Elephantine pottery formation F4, Kopp, *BCE* 29 (2019), 243-304.

[6] For site management measures form previous seasons see M. Sählhof, 'Site Management Concept', in Sählhof, *et al.*, *Report on the 49th Season*, 9-11, https://www.dainst.org/projekt/-/project-display/25953; M. Sählhof and O. Kassab, 'Heritage Conservation and Site Management', Sählhof, *et al.*, *Report on the 50th Season*, 12-19, https://www.dainst.org/projekt/-/project-display/25953.

[7] For the excavation reports of this area see A. Krekeler, 'Untersuchungen im Stadtgebiet nordwestlich des späten Chnumtempels', in W. Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 15./16. Grabungsbericht', *MDAIK* 44 (1988), 170-174; A. Krekeler, 'Stadtgebiet nordwestlich des späten Chnumtempels: späteres Neues Reich bis Spätantike', in W. Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 17./18. Grabungsbericht', *MDAIK* 46 (1990), 209-224; A. Krekeler, 'Stadtgebiet nordwestlich des späten Chnumtempels: späteres Neues Reich bis Spätantike', W. Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 19./20. Grabungsbericht', *MDAIK* 49 (1993), 170-181.

[8] See also C. Jeuthe and M. Hamdan, 'The cherts of Elephantine Island – an insight into the economic networks', *MDAIK* 74 (2019), 99-122

[9] Jeuthe and Hamdan, *MDAIK* 74 (2019); I, Forstner-Müller, *et al.*, 'Second Preliminary report on the town of Kom Ombo 2019-2021', *BIFAO* forthcoming.

[10] On the late 3rd millennium BCE papyri found during recent excavations at Elephantine, cf. D. Raue, 'The Central Building Unit in the City of Elephantine from 2300-2000 BC', in M. Bietak and S. Prell (eds.), *Ancient Egyptian and Ancient Near Eastern Palaces* I, *CAENL* 5 (Wien, 2018), 144, n. 51-53; H.-W. Fischer-Elfert, *Grundzüge einer Geschichte des Hieratischen*, EQAE 14, II (Münster, 2021), 141-147. On the papyri from Elephantine, largely preserved in museum collections, see also A. Pillon, 'Les archives administratives de la ville d'Éléphantine au IIIe millénaire: introduction et perspectives de recherche', in Ph. Collombert and P. Tallet (eds.), *Les archives administratives de l'Ancien Empire* (Leuven/Paris, 2021), 213-280.

[11] I thank D. Raue and M. Sählhof for authorizing me to study this material. I am indebted to P. Kopp for providing me with extensive information on the excavation records.

[12] The papyri were unfolded and conserved in glass plates by M. Krutzsch in 1999.

[13] The number of each papyrus is marked on the glass plates.

[14] Cf. R. Klemm and E. Eichler, 'Neue Expeditionsinschriften aus der Ostwüste Oberägyptens', *MDAIK* 54 (1998), 259-263, doc. 33, 36, 39, 42; R. D. Rothe and W. K. Miller, 'More Inscriptions from the Southern Eastern Desert', *JARCE* 36 (1999), 100, fig. 21 (the reading *ndw* of the anthroponym should be amended).

[15] G. Möller, *Hieratische Papyrus aus den Königlichen Museen zu Berlin* III (Leipzig, 1911), p. 10; H. Goedicke, *Old Hieratic Paleography* (Baltimore, 1988), xix. See also P. Posener-Kriéger, 'Les papyrus de l'Ancien Empire', in *Textes et langages de l'Égypte pharaonique. Hommage à Jean-François Champollion* II, BiEtud 64 (Cairo, 1974), 31; G. Burkard and H.W. Fischer-Elfert, *Ägyptische Handschriften* IV (Stuttgart, 1994), 70.

[16] L. Pantalacci, 'Nouvelles récentes des archives anciennes trouvées dans la ville d'Éléphantine', in Chr. Gallois, P. Grandet and L. Pantalacci (eds.), *Mélanges offerts à François Neveu*, *BiEtud* 145 (Cairo, 2008), 243 and note 25.

[17] Pillon, in Collombert and Tallet, *Les archives administratives de l'Ancien Empire*, 272-275.

[18] I would like to thank D. Raue and C. Jeuthe for making available to me the numerous photographs taken after the discovery of the jar and especially after the restoration of the papyri, documentation kept at the DAI Cairo.

[19] See reports listed for download at: https://www.dainst.org/project/4711172 (last accessed 20.06.2022). The Realities of Life team was in the field from 28th February to 27th April 2023. Additional laboratory work was conducted in Cairo by J. Kmošek and M. Odler. At their home offices, J. Sigl worked with P. Kopp, F. da Silva Lozada and M. Adel William Eshkaroun intensely on the structuring of the excavation database and the transfer of data into the sustainable and publicly available database services of the German Archaeological Institute, iDAI.field. Furthermore, the master's theses *A Lasting Impression? A Study of Middle Kingdom Seal Impressions from Elephantine Island* (by K. M. Consola at The Memphis University), and *Fischfang und -verarbeitung im Mittleren Reich am Beispiel von Elephantine* (by S. Gubler at University of Basel), as well as the successfully defended PhD dissertation *Nachbarschaft im Wandel. Untersuchungen zu Siedlungs- und Nekropolenbefunden in Oberägypten und Unternubien (2300 – 1700 v.u. Z.)* (by M.-K. Schröder at Leipzig University, dealing with Nubian pottery from the RoL project) are all currently in the process of publication.

[20] Dates after E. Hornung, R. Krauss and D. A. Warburton, *Ancient Egyptian Chronology, HdO* 83, (Leiden, Boston, 2006), 491-492.

[21] Research questions and overview over methodology in detail see J. Sigl, P. Kopp and D. Fritzsch, 'Stadt und Tempel von Elephantine: Methodological Approach to the Project 'Realities of Life' (Lebenswirklichkeiten) and its First Application during the 43rd and 44th Excavation Campaign on Elephantine Island.', *MDAIK* 74 (2018),

161-165. See some of the results as online available lecture in English language at https://www.youtube.com/watch?v=hsw-oVcOmOo (last accessed 24/06/2022).

[22] Currently only available as a desktop database, but to be transferred to a web-version in the upcoming years following the example already published online: https://field.idai.world/ (last accessed 29/06/2023).

[23] See e.g. G. Philip, *Tell el-Dabʿa XV. Metalwork and Metalworking Evidence of the Late Middle Kingdom and the Second Intermediate Period* (Wien, 2006). doi:10.1553/0x001231b7.

[24] D. R. Piperno, *Phytoliths: A Comprehensive Guide for Archaeologists and Paleoecologists* (Lanham, 2006).

[25] Piperno, *Phytoliths*.

[26] See https://www.youtube.com/watch?v=hsw-oVcOmOo.

[27] See reports by C. J. Malleson of the past seasons accessible through download section at https://www.dainst.org/project/4711172 (last accessed 20.06.2022).

[28] D. M. Pearsall and E. H. Dinan, 'Developing a Phytolith Classification System', in G. Rapp, S. C. Mulholland (eds.), *Phytolith Systematics: Emerging Issues* (Boston, 1992), 37-64. https://doi.org/10.1007/978-1-4899-1155-1_3.

[29] D. Fritzsch, C. Langan and A. Röpke. 'Geschmolzenes Stroh – Brennexperimente an Getreide und seine Bedeutung für die Interpretation von erhitzten archäologischen Sedimenten', in *Archäologische Berichte* 30 (2019), 165-175.

[30] D. Fritzsch, 'First preliminary report on archaeological soil micromorphology and phytolith studies', in Sigl, *et al.*, *Report on the 48th Season*, 4-8, https://www.dainst.org/projekt/-/project-display/25953.

[31] In the recent excavations of the RoL team, a further 925 fragments of sealings were unearthed. It is important to note that this number does not reflect how many *sealings* were definitively found, since the fragments could each be from different sealings, or some fragments put together could have formed one sealing.

[32] K. M. Consola, *A Lasting Impression? A Study of Middle Kingdom Seal Impressions from Elephantine Island* (MA Thesis, University of Memphis, 2021), https://digitalcommons.memphis.edu/etd/2169; for a preliminary report on parts of the material see J. A. Roberson, 'The seals and seal impressions from the north-western town area of the Middle Kingdom', in Seidlmayer, *et al.*, *Report on the 45th Season*, https://www.dainst.org/projekt/-/project-display/25953.

[33] Accessible through: https://field.idai.world/.

[34] W. A. Ward, *Studies on Scarab Seals* 1*, Pre-12th Dynasty Scarab Amulets* (Warminster, 1978); O. Tufnell, G. T. Martin and W. A. Ward, *Studies on Scarab Seals* 2*, Scarab Seals and Their Contribution to History in the Early Second Millennium B.C.* (Warminster, 1984); W. A. Ward, W. G. Dever. *Studies on Scarab Seals* 3*, Scarab Typology and Archaeological Context. An Essay on Middle Bronze Age Chronology* (San Antonio, Tex, 1994).

[35] Ward, *Studies on Scarab Seals* 1, 45-46.

[36] D. Ben-Tor, 'The Administrative Use of Scarabs during the Middle Kingdom', in M. Ameri, S. Kielt Costello, G. Jamison and S. Jamaer Scott (eds.), *Seals and Sealing in the Ancient World* (Cambridge, 2018), 289-301. https://doi.org/10.1017/9781108160186.020.

[37] Cord wrapping might appear on any of the known back types, e.g., pegs for securing boxes, fabric bags, or papyrus; as such, cord alone cannot be used to identify the object to which the sealing was affixed originally.

[38] F. Arnold, 'Communal Space at Elephantine.', in J. Sigl (ed.), *Daily Life in Ancient Egyptian Settlements*, *SDAIK* 47 (Wiesbaden, 2022), 154-57.

[39] E.g. in the scene of the collection of taxes from south-Egyptian towns: N. de Garis Davies, *The Tomb of Rekh-Mi-Rē' at Thebes*, *Publications of the Metropolitan Museum of Art Egyptian Expedition* 11 (New York, 1943), pl. 30.

[40] E.g. in the tomb of Antefoqer and Senet: N. de Garis Davies, A. Henderson Gardiner and N. M. Davies, *The Tomb of Antefoker, Vizier of Sesostris I, and of His Wife, Senet (No. 60)*, *Theban Tomb Series* (London, 1920), pls. 10, 13 and 33.

[41] Significant administrative changes that occurred under Senwosret III directly resulted in the earliest mass-production and use of private name and title scarab seal impressions. See G. T. Martin, *Egyptian Administrative and Private-Name Seals Principally of the Middle Kingdom and Second Intermediate Period* (Oxford, 1971), 3; E. Hornung and E. Staehelin, *Skarabäen und andere Siegelamulette aus Basler Sammlungen* (Mainz, 1976), 50; D. Ben-Tor, *Scarabs, Chronology, and Interconnections: Egypt and Palestine in the Second Intermediate Period*, (Fribourg, 2007), 23-26.

[42] 47501Z/h-13, naming Sobekhotep, and 47501Z/h-24, which names Nimaatre (Amenemhet III).

[43] See reports of the past seasons accessible through download section at https://www.dainst.org/project/4711172 (last accessed 20.06.2022). Also see report by E.A.E. Attia above.

[44] Methods are following the study of the late R. W. Redding, 'A Tale of Two Sites: Old Kingdom Subsistence Economy and the Infrastructure of Pyramid Construction', in B. De Cupere, V. Linseele and S. Hamilton-Dyer (eds.), *Archaeology of the Near East* (Leuven, Paris, Walpole/MA, 2013), 307-322.

[45] Redding, in De Cupere, *et al.*, *Archaeology of the Near East*, 316.

[46] R. W. Redding, *Decision Making in Subsistance Herding of Sheep and Goats in the Middle East* (Michigan, 1981), 93 and 96: tables V-2 and V4; C. A. Yokell, *Modeling Socioeconomic Evolution and Continuity in Ancient Egypt: The Value and Limitations of Zooarchaeological Analyses, BAR International Series* 1315 (Oxford, 2004), 30–31.

[47] J. Boessneck, *Die Tierwelt Des Alten Ägypten,* (München, 1988), 77; N. Benecke, *Der Mensch Und Seine Haustiere*, (Stuttgart, 1994), 122-23.

[48] Redding, in De Cupere, *et al.*, *Archaeology of the Near East,* 317.

[49] L. C. Bertini, *Changes in Suid and Caprine Husbandry Practices throughout Dynastic Egypt Using Linear Enamel Hypoplasia (LEH)*. (Durham, 2012), 184. http://etheses.dur.ac.uk/1388/

[50] J. Peters, *Römische Tierhaltung und Tierzucht*, *Passauer Universitätschriften zur Archäologie* 5 (Rahden, 1998), 29, 81, 83 and 113.

[51] Redding, in De Cupere, *et al.*, *Archaeology of the Near East* 317-18; J. Sigl, *Syene* II. *Die Tierfunde aus den Grabungen von 2000 – 2009*, *Beiträge zur ägyptischen Bauforschung und Altertumskunde* 19, (Gladbeck, 2017), 286.

[52] My thanks to my colleague Christian Hartl-Reiter, Commission for Archaeology of non-European Cultures (KAAK), for processing OSM data and creating the GIS-maps and calculations of available land north of the old English dam until the area of Kom Ombo. It has to be noted, that e.g. Gezirat Aswan, which on its southern tip hosts the town of Elephantine, is nowadays enlarged towards the north considerably. This land theoretically is in the calculated amount as well. Yet, there is other land that would most likely have been available elsewhere along

the Nile, but is now unavailable due to either the changed course of the river or in some other way is not available. This will not have been added to the sum proposed here and therefore most likely provides a rough equalization. Nevertheless, the here stated data has to be considered as rough estimations only.

[53] S. J. Seidlmayer, *Historische und moderne Nilstände*, (Berlin, 2001), 104.

[54] Basis of calculation is the available land until an elevation of 100 m NN (= 31.863 km^2) of which the flooded land during an inundation to 92 m (= 8.578 km^2) and 94 m (=15.117 km^2) was subtracted.

[55] Due to the fact that not all of the excavated animal remains have to date been studied in detail, the above stated numbers may still change slightly.

[56] Sigl in Sählhof, *et al*., *Report on the 49th Season*, 35-37: https://www.dainst.org/projekt/-/project-display/25953; J. Sigl and P. Kopp, 'Made on Elephantine Island. Interdisciplinary research on productive activities in Middle Kingdom House 169, in J. Sigl (ed.), *Daily Life in Ancient Egyptian Settlements*, *SDAIK* 47 (Wiesbaden, 2022), 57-74.

[57] Arnold, in Sigl (ed.), *SDAIK* 47 (Wiesbaden, 2022), 153.

[58] It has to be noted that the faunal material from the houses excavated in the scope of the RoL project is only a small random sample taken out of the theoretically available material from this period from the entire town. However, only some of the animal remains excavated previously on the island were studied and published in detail. Again, the here stated suggestions may therefore be refined through additional data available in the future.

[59] From identification so far, goats are more abundant in the material than sheep. This confirms prior studies, in which *Capra hircus* also features more frequently than *Ovis aries*, e.g. A. Hollmann, *Säugetierknochenfunde aus Elephantine in Oberägypten*, (München, 1990), 44–45. Nevertheless, sheep might have had a more active and important role in cultic context and thus rams could have been slaughtered and used on the island in a different section of the town, while ewes were used for heard maintenance and private uses. Billy goats on the other hand probably were a ready exchange item and could have been traded regionally and supra regionally against other resources.

[60] C. von Pilgrim and W. Müller, 'Report on the Tenth Season of the Joint Swiss-Egyptian Mission in Syene/Old Aswan (2009/2010)', 3, 10-13:
http://swissinst.ch/downloads/Report%20on%20the%20Tenth%20Season%20of%20the%20Joint%20Swiss_Egyptian%20Mission%20in%20Syene_Old%20Aswan%20(2009_2010).pdf;
C. von Pilgrim and W. Müller, 'Report on the Eleventh Season of the Joint Swiss-Egyptian Mission in Syene/Old Aswan (2010/2011)', 5-6:
http://www.swissinst.ch/downloads/Report%20on%20the%20Eleventh%20Season%20of%20the%20Joint%20Swiss_Egyptian%20Mission%20in%20Syene_Old%20Aswan%20(2010_2011).pdf;
C. von Pilgrim, 'Middle Kingdom Settlement Geography at the First Cataract', in A. Jiménez Serrano, A. J. Morales (eds.), *Middle Kingdom Palace Culture and Its Echoes in the Provinces* (Leiden, 2021), 393-416 https://doi.org/10.1163/9789004442825_016.

[61] Many of these remains were retrieved through wet and dry sieving by smaller than 5 mm mesh, which was extensively done in the scope of botany and insect sampling, while most of the bigger bone fragments were picked out during excavation by hand or dry sieved at the trench with a mesh of ca. 5 mm.

[62] Note that these numbers do not include the data generated in spring season 2023 and thus differ from those in table 3.

[63] P. Lalèyè, A. Azeroual, M. Entsua-Mensah, A. Getahun, T. Moelants and G. Ntakimazi, 'Lates Niloticus', *The IUCN Red List of Threatened Species 2020*, May 15, 2019. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T181839A84244538.en; D. J. Brewer and R. Friedman, *Fish and Fishing in Ancient Egypt*, *The Natural History of Egypt* 2, (Warminster, 1989), 74; A. Gautier and W. Van Neer. 'Animal Remains from the Late Paleolithic Sequence at Wadi Kubbaniya', in F. Wendorf, R. Schild (eds.), *The Prehistory of Wadi Kubbaniya* 2, (Dallas 1989), 119–161; W. Van Neer, 'Evolution of Prehistoric Fishing in the Nile Valley', *Journal of African Archaeology* 2, no. 2 (2004), 251-69. https://doi.org/10.3213/1612-1651-10030.

[64] Personal information from R. Abd el-Hafiz and fishermen on the island, Gezirat Aswan, May 2019.

[65] I. Diallo, A. Awaïss, A. Azeroual, A. Getahun and P. Lalèyè. 'Synodontis membranaceus', *The IUCN Red List of Threatened Species 2020*, April 15, 2020. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T182570A134964605.en; A. von den Driesch, 'Der Fiederbartwels *Synodontis schall* als Lieferant von Pfeilspitzen im Alten Ägypten', *Annalen des Naturhistorischen Museums Wien* 88/89 (1986), 305-308; P. Lalèyè, A. Awaïss, A. Azeroual and A. Getahun, 'Synodontis schall', *The IUCN Red List of Threatened Species 2020*, February 6, 2019. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T182928A134966319.en; C. Levêque and D. Paugy, 'Diversity of Responses to Environmental Constraints and Extreme Environmental Conditions', in O. Otero (ed.), *The Inland Water Fishes of Africa: Diversity, Ecology and Human Use* (Marseille, 2018), 259-268. https://doi.org/10.4000/books.irdeditions.25220.

[66] Examples: hooks: 47501L/e-2-8, 43501H/v-11; net fragments: 46501D/d-8 with mesh width of 50 mm, and 46501F/k-43 with mesh width of 15 mm.

[67] O. Bates and F. H. Sterns, *Varia Africana* 1, *Harvard African Studies* 1, (Cambridge, Mass, 1917), 258-263; Brewer and Friedman, *Fish and Fishing in Ancient Egypt*, 42-46; M. J. Van Elsbergen, *Fischerei im Alten Ägypten: Untersuchungen zu den Fischfangdarstellungen in den Gräbern der 4. bis 6. Dynastie*, *ADAIK* 14, (Berlin, 1997), 9-23; M. Keith, *Fish and Fishing in Old Kingdom Tomb Wall Scenes: A Comparative Analysis of Fish and Fishing Related Scenes from the Memphite and Provincial Regions* (Ph. D. diss., Macquire University, 2017), 51-80 http://hdl.handle.net/1959.14/1283018; L. Klebs, *Die Reliefs und Malereien des mittleren Reiches: (VII. - XVII. Dynastie ca 2475 - 1580 v. Chr.), Material zur ägyptischen Kulturgeschichte* (Heidelberg, 1922), 100-101; L. Klebs, *Die Reliefs des alten Reiches (2980-2475 v. Chr.), Material zur ägyptischen Kulturgeschichte* (Heidelberg, 1915), 74-75; L. Klebs, *Die Reliefs und Malereien des Neuen Reiches (XVIII.-XX. Dynastie, ca. 1580-1100 v. Chr.), Material zur ägyptischen Kulturgeschichte* (Heidelberg, 1934), 36-37; D. Sahrhage, *Fischfang und Fischkult im Alten Ägypten*, (Mainz am Rhein, 1998), 104-112; J. Vandier, *Manuel d'Archéologie Égyptienne* (Paris 1969), V:559-598.

[68] See note above; hooks are mostly shown in tomb paintings next to other fishing methods: Brewer and Friedman, *Fish and Fishing in Ancient Egypt*, 29.

[69] Observed by J. Sigl at Aswan 2017–2019 on various occasions.

[70] Keith, *Fish and Fishing in Old Kingdom Tomb Wall Scenes*, 124; Vandier, *Manuel d'Archéologie Égyptienne*, V:601.

[71] Brewer and Friedman, *Fish and Fishing in Ancient Egypt*, 74; A. von den Driesch, *Fische im alten Ägypten. Eine osteoarchäologische Untersuchung, Documenta naturae* 34, (München, 1986), 24; P. Lalèyè, *et al.*, 'Lates Niloticus', *The IUCN Red List of Threatened Species 2020*: https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T181839A84244538.en; Van Neer, *Journal of African Archaeology* 2, no. 2 (2004), 253; W. Pekkola, 'Seasonal Occurrence and Edibility of Fish at Khartoum', *Sudan Notes and Records* 1, no. 2 (1918), 88-98; H.

Sandon, 'The Problems of Fisheries in the Area Affected by the Equatorial Nile Project', *Sudan Notes and Records* 32, no. 1 (1951), 5-36.

[72] G. A. Boulenger, *The Fishes of the Nile, Zoology of Egypt,* (London, 1907); K. Diouf, *et al.*, 'Alestes baremoze', *The IUCN Red List of Threatened Species 2020*: https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T182568A134737567.en; K. Diouf, *et al.*, 'Alestes dentex', *The IUCN Red List of Threatened Species 2020*: https://doi.org/10.2305/IUCN.UK.2020-2.RLTS.T182128A134739360.en.

[73] R. G. Bailey, 'Guide to the Fishes of the River Nile in the Republic of the Sudan', *Journal of Natural History* 28, no. 4 (1994), 937-970: https://doi.org/10.1080/00222939400770501; Brewer and Friedman, *Fish and Fishing in Ancient Egypt*, 60 and 77; I. Diallo, *et al.*, 'Oreochromis niloticus', *The IUCN Red List of Threatened Species 2020*: https://doi.org/10.2305/IUCN.UK.2020-3.RLTS.T166975A134879289.en; von den Driesch, *Fische im alten Ägypten*, 23 and 25; W. Van Neer and A. Ervynck, 'Remains of Traded Fish in Archaeological Sites: Indicators of Status, or Bulk Food?', in S. Jones O'Day, W. Van Neer and A. Ervynck (eds.), *Behaviour Behind Bones* (Oxford, 2004), 203-214.

[74] Alternatively, these species could indicate trade with fishermen farther to the north along the river where the flood plains extended wider. In this case, the long transport would have been the biggest issue for trade and the fish could only have been brought in as pre-processed goods.

[75] On the habit of breaking of these spines and the reuse of these bones: von den Driesch, *Annalen des Naturhistorischen Museums Wien* 88/89 (1986).

[76] P. Kopp, 'Excavations in the northern town', in Seidlmayer, *et al., Report on the 44th Season*, 4-10: https://www.dainst.org/project/25953; Sigl and Kopp, *E-Forschungsbericht* 2017, no. 1 (2017), 47.

[77] M. Schultz and T. Schmidt-Schultz, 'Erste Ergebnisse der osteologischen Untersuchungen an den menschlichen Skelettfunden der 16.-20. Kampagne', in W. Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 19./20. Grabungsbericht', *MDAIK* 49 (1993), 182-187.

[78] C. von Pilgrim, 'House 55: A workshop of the late 17th and early 18th Dynasty (Area VIII)', in Sigl, *et al.*, *Report on the 46th Season*, 27-35: https://www.dainst.org/project/25953.

[79] D.A. Aston, *Die Keramik des Grabungsplates Q I. Teil 1: Corpus of Fabrics, Wares and Shapes*, Forschungen in der Ramses-Stadt 1 (Mainz, 1998), 8.

[80] Ch. Raedler, 'Keramikschaber aus den Werkstätten der Ramses-Stadt', in Ch. Raedler, *et al.*, *Die Keramik des Grabungsplatzes Q I, Teil 2: Schaber – Marken – Scherben*, Forschungen in der Ramsesstadt 5 (Mainz, 2007), 15.

[81] Raedler, in Raedler, *et al.*, *Keramik des Grabungsplatzes Q I, Teil 2*, 17.

[82] Raedler, in Raedler, *et al.*, *Keramik des Grabungsplatzes Q I, Teil 2*, 45-47.

[83] S.Buławka, 'The lithic assemblage from House 55. Preliminary results', in Sählhof, *et al*., *Report on the 49th Season*, 57-63: https://www.dainst.org/project/25953; S. Buławka, 'The lithic assemblage from House 55', in Sählhof, *et al*., *Report on the 50th Season*, 39-43: https://www.dainst.org/project/25953.

[84] C. von Pilgrim, 'Excavation of House 55', in Seidlmayer, *et al*., *Report on the 44th season*, 10-12: https://www.dainst.org/project/25953; C. von Pilgrim, 'Excavation of House 55 (18th Dynasty)', in Seidlmayer, *et al.*, *Report on the 45th season*, 22-25: https://www.dainst.org/project/25953; C. von Pilgrim, 'House 55: A workshop of the late 17th and early 18th Dynasty (Area VIII)', in Sigl, *et al.*, *Report on the 46th saeson*, 27-35: https://www.dainst.org/project/25953.

[85] A. Leroi-Gurhan, *Le Geste at la Parole* (Paris, 1964); J. Pélegrin, C. Karlin and P. Bodu, 'Chaîne opératoire: un outil pour le préhistorien', *Technologie préhistorique, Notes et Mongraphies techniques* 25 (1988), 55-62.

[86] M. Brandl, 'Work on the small finds and pottery from the excavations at the town wall in Area BXXXVI. Part E. Chipped stone assemblages', in Sählhof, *et al*., *Report on the 49th Season*, 69-72: https://www.dainst.org/project/25953; Jeuthe and Hamdan, *MDAIK* 74 (2019), 38-54; T. Hikade, *Elephantine XXXV. The Lithic Industries on Elephantine Island during the 3rd Millennium BC*, AV 121 (Wiesbaden, 2013).

[87] C. von Pilgrim, 'The temple precinct south of the late Khnum temple (Area XXVI)', in Sigl, *et al.*, *Report on 47th Season*, 21-22: https://www.dainst.org/project/25953.

[88] C. von Pilgrim, 'Study work on materials from the area of the late Khnum Temple', in Sigl, *et al*., *Report on the 48th Season*, 42-43: https://www.dainst.org/project/25953.

[89] Cf. D.A. Aston, *Elephantine XIX. Pottery from the Late New Kingdom to the Early Ptolemaic Period*, AV 95 (Mainz, 1999), 3.

[90] Cf. Aston, *Elephantine* XIX, 163, pl. 48 nos. 1515-1537.

[91] Cf. B. von Pilgrim, 'Zu Keramikgefäßen aus einer spätzeitlichen Abfallgrube des Speicherbezirks H118', in W. Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 25./26./27. Grabungsbericht', *MDAIK* 55 (1999), Abb. 22 no. 43.

[92] B. von Pilgrim, *MDAIK* 55 (1999), 124-141.

[93] For the architectural and (partly) the archaeological situation, see F. Arnold, *Elephantine XXX: Die Nachnutzung des Chnumtempelbezirks. Wohnbebauung der Spätantike und des Frühmittelalters, AV* 116, (Mainz, 2003). Recent socio-economic and historical descriptions of the region in the Late Byzantine/Early Arab period can be found in S. Schmidt, 'Economic Conditions for Merchants and Traders at the Border between Egypt and Nubia in early Islamic Times', in S. R. Huebner, *et al.* (eds.), *Living the End of Antiquity. Individual Histories from Byzantine to Islamic Egypt* (Berlin, 2020), 207-222; S. Schmidt, 'Zum Grenzhandel am Ersten Katarakt. Regionale Entwicklungen zwischen Spätantike und frühislamischer Zeit', in R. Haensch and P. von Rummel (eds.), *Himmelwärts und Erdverbunden? Religiöse und wirtschaftliche Aspekte spätantiker Lebensrealität* (Berlin, 2021), 323-335; S. Schmidt, 'The Frontier Zone at the First Cataract before and at the Time of the Muslim Conquest (Fifth to Seventh Centuries)', in J. Bruning, J. De Jong and P. M. Sijpesteijn (eds.), *Egypt & the Eastern Mediterranean World. From Constantinople to Baghdad, 500–1000 CE* (Cambridge, 2022), 73-102; S. Schmidt, 'Viel Verpackung, wenig Trauben – Überlegungen zum Weinanbau im römischen Syene', in L. Berkes, W. G. Claytor and M. Nowak (eds.), *Papyrologische und althistorische Studien zum 65. Geburtstag von Andrea Jördens* (Wiesbaden, 2023), 73–85; S. Schmidt, 'Border trade between Egypt and Nubia in the 8th century and some considerations on the *baqt'*, in S. Esders, S. Polla and T. S. Richter (eds.), *The 8th Century. Patterns of Transition in Economy and Trade Throughout the Late Antique*, *Early Medieval & Islamic Mediterranean in Multidisciplinary Perspectives* (Berlin, forthcoming).

[94] For a preliminary report on the Coptic and Greek ostraca see S. Schaten, 'Die koptischen Ostraka', in G. Dreyer, *et al.*, 'Stadt und Tempel von Elephantine. 31./32. Grabungsbericht', *MDAIK* 61 (2005), 125-128 and R. Duttenhöfer 'Die grieschischen Ostraka', in Dreyer, *et al.*, *MDAIK* 61 (2005), 121-125, as well as the more recent overview by R. Duttenöfer, 'Greek Ostraca from Elephantine', in D. Raue, St. J. Seidlmayer and P. Speiser (eds.), *The First Cataract of the Nile. One Region – Diverse Perspectives*, *SDAIK* 36 (Berlin/Boston, 2013), 53-58; for overviews on the demotic ostraca see F. Hoffmann, 'Zu den demotischen Ostraka', in W. Kaiser, *et al*., 'Stadt und Tempel von Elephantine. 21./22. Grabungsbericht, *MDAIK* 51 (1995), 185-187; F. Hoffmann, 'Zu den

demotischen Ostraka', in Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 25./26./27. Grabungsbericht', *MDAIK* 55 (1999), 224-226; F. Hoffmann, 'Zu den demotischen Ostraka', in D. Raue, *et al.*, 'Stadt und Tempel von Elephantine. 33./34./35. Grabungsbericht', *MDAIK* 64 (2008), 132-137; as well as F. Hoffmann, 'Demotic Ostraca from Elephantine', in Raue, *et al.*, *SDAIK* 36, 91-96.

[95] Cf. Arnold, *Elephantine XXX*, 55 n. 246, 57 n. 257, 77 n. 320.

[96] See J.-L. Fournet, *The Rise of Coptic. Egyptian versus Greek in Late Antiquity, The Rostovtzeff Lectures*, (Princeton/Oxford, 2020).

[97] As far as texts can be attributed with any certainty to the settlement and not, as the majority of texts in Trismegistos, to the region. For a recent overview, focusing mainly on the situation in the first two centuries after the *hijra*, see J. A. Cromwell, *Recording Village Life. A Coptic Scribe in Early Islamic Egypt, New Texts from Ancient Cultures* (Ann Arbor, 2017), 9-14.

[98] So already Arnold, *Elephantine XXX*, 23.

[99] See most recently Fournet, *The Rise of Coptic*, (Princeton/Oxford, 2020).

[100] For the archaeological situation and the building history, see Arnold, *Elephantine XXX*, 56-59, 78-79, Taf. 12.

[101] This is also the case outside of the corpus, from a preliminary impression of the Coptic material found at the island.

[102] See the website https://elephantine.smb.museum/ (last accessed 07.06.2023).

[103] See G. Wagner, *Elephantine XIII: Les papyrus et Les ostraca grecs d'Elephantine (P. et O.Eleph. DAIK), AV* 70 (Mainz, 1998). The ostraca from the present corpus edited by Wagner are: *O.Eleph.Wagner* 198, 268-273, and 328.

[104] This will be further elaborated in a paper in preparation by the present author ('New evidence for the evolvement of Christianity on Elephantine Island from the Coptic material' to appear in S. Schmidt (ed.), *Con-Texte* (Berlin, 2024).

[105] https://elephantine.smb.museum/objects/object.php?o=309571 (last accessed 07.06.2023).

[106] As the text itself is undated, it is not clear how far in the future that would be.

[107] D. Foraboschi, *Onomasticum alterum papyrologicum, Supplemento al Namenbuch di F. Preisigke, TDSA* 16, *Serie papyrologica II* (Milan, 1967–71), 186; see also TM Nam 36661 (although no attestations given there).

[108] A. Delattre, 'Éléments de l'identification en Égypte (IV^{e}–VIII^{e} siècles)', in M. Depauw and S. Coussement (eds.), *Identifiers and Identification Methods in the Ancient World, OLA* 229 (Leuven/Paris/Walpole, 2014), 157.

[109] For another text, see M. Müller, 'Politeness in Coptic. With an Appendix on A Coptic Business Letter Found at Elephantine', in R. Gautschy, N. Grütter and M. Müller (eds.), *Von Elephantine bis Ugarit. Festschrift für Hanna Jenny*, Ägypten und Altes Testament 116 (Münster, 2023), 165-191. Another ostracon mentioning bricks from Elephantine, now in the British Museum, will be re-edited in a forthcoming paper by the present author.

[110] H. Jaritz, 'Monumentaltreppe', in W. Kaiser, *et al.*, 'Stadt und Tempel von Elephantine. 13./14. Grabungsbericht', *MDAIK* 43 (1987), 107; S. Schönenberger, 'Untersuchungen im Südosten der Monumentaltreppe', G. Dreyer, *et al.*, 'Stadt und Tempel von Elephantine. 28./29./30. Grabungsbericht', *MDAIK* 58 (2002), 200; H. Jaritz, 'Die Treppenanlage des nördlichen Sakralbezirks', in H. Jaritz, E. Laskowska-Kusztal and W. Niederberger, *Elephantine XXXVI. Der ptolemäische Satettempel mit seinen Nebenanlagen und die Treppenanlage des nördlichen Sakralbezirks*, AV 127 (Wiesbaden, 2019), 195.

[111] J.H.F. Dijkstra, 'Late Antique Inscriptions from the First Cataract Area Discovered and Rediscovered', *JJP* 33 (2003), 59-66 (nos. 5-8).

[112] J.H.F. Dijkstra, *Syene I. The Figural and Textual Graffiti from the Temple of Isis at Aswan,* BeiträgeBf 18 (Darmstadt/Mainz, 2012), 167-9 (nos. 353-6).

[113] C. von Pilgrim, in S. Seidlmayer, *et al.*, *Report on the 45th Season*, 39, figs. 41-42.

[114] S. Biston-Moulin and Ch. Thiers, *Le Temple de Ptah à Karnak II. Relevé photographique*, BiGen 49 (Cairo, 2016), pl. 45. Cf. also the less precisely worked triangular niche at the corresponding height on the outside of gate F, Biston-Moulin and Ch. Thiers, *Le Temple de Ptah à Karnak II.*, pl. 88.

[115] S. Schaten in Gustav-Lübcke Museum der Stadt Hamm (ed.), *Ägypten. Schätze aus dem Wüstensand. Kunst und Kultur der Christen am Nil* (Wiesbaden, 1996), 115-116, Nr. 62.

[116] M. Cramer, *Koptische Inschriften im Kaiser-Friedrich-Museum zu Berlin*, Publications de la Sociétè d'Archéologie Copte (Cairo, 1949), 54.

[117] W. de Bock, *Matériaux pour server a l'archéologie de l'Ègypte chrétienne* (St. Petersburg, 1901), 10.

[118] I. Kamal, *Coptic Funerary Stelae,* Catalogue Général des Antiquitès du Musèe Copte (Cairo, 1987), Pl. XLIV No. 99; É. Drioton, 'Portes de l'hadès et portes du paradis', *BSAC* 9 (1943), 62 (No. 4).

[119] A. Fakhry, *The Necropolis of El-Bagawat in Kharga Oasis* (Cairo, 1951), 26-27. P. Grossmann does not seem to have been convinced by this interpretation, as he continues to write about "small triangular niches for lamps", see "el-Bagawat", in P. C. Finney (ed.), *The Eerdmans Encyclopedia of Early Christian Art and Architecture* (Grand Rapids, 2016), 154. In rare cases, small triangular niches, 1.70 m above the ground, are also attested in Byzantine houses, see The Paleological Association of Japan (ed.)*, Akoris. Report of the Excavations at Akoris in Middle Egypt 1981-1992* (Kyoto, 1995), 86, fig. 61.

[120] J.E. Quibell, *Excavations at Saqqara (1907-1908)* (Cairo, 1909), 7, 98 (pl. V).

[121] Ch. Ubertini, 'Restitution Architecturale du "Temple Y"', in G. Dreyer, *et al.*, 'Stadt und Tempel von Elephantine. 31./32. Grabungsbericht', *MDAIK* 61 (2005), 64-75.

[122] A. Krekeler, 'Reconstruction of the Temple of Osiris Nesmeti', in Sählhof, *et al.*, *Report on the 49th Season*, 3: https://www.dainst.org/project/25953.