

**Report on the Excavations at Elephantine**  
**by the German Archaeological Institute and the Swiss Institute**  
**from autumn 2012 to spring 2013**

by

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## **1. Introduction**

The excavations in the ancient town of Elephantine carried out by the German Archaeological Institute Cairo in cooperation with the Swiss Institute for Egyptian Building Archaeology since 1969 were continued in the season 2013/2014<sup>1</sup>. Research concentrated on two major areas, namely excavations in the ancient town and in the area of the temple of Khnum.

In the ancient town, a major focus was on the area between and in front of Elephantine museum and its annex building. Here the sequence of occupation levels at the slope of the island was studied. In addition, the Swiss Institute continued here its search for the later phases of the town walls.

Regarding the temple of Khnum, the reconstruction of the New Kingdom temple and its decoration was continued. Under the auspices of the Swiss Institute excavations were continued there, including the study of the Late Antique pottery. In addition, work on the reconstruction of the equipment of the late temple of Khnum and on the graffiti on the floor of the late temple were carried out.

Important research was also done regarding the interpretation of botanical remains from the excavations and on the Arabic ostraca from the site.

(St. S:)

## **2. Excavations between the Old and the Annex Museum**

In the spring season of 2013 the excavations between the old museum of Elephantine and the museum annex were completed (Fig.1)<sup>2</sup>. The trench was, in most of the excavation area, taken down to the natural bedrock. Because the Old Museum's foundation was not laid in its full extension on this natural bedrock but on ancient settlement layers, it was first necessary to strengthen the foundations by an underpinning.

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<sup>1</sup> We are grateful to the Aswân inspectorate of the MSA, its director Dr. Fathi Abu-Zeid and the inspectors who accompanied and supported the mission throughout its work.

<sup>2</sup> Participants were P. Kopp, R.D. Colman, M.-Kr. Schröder, G. Heffernan and V. Pasquali.

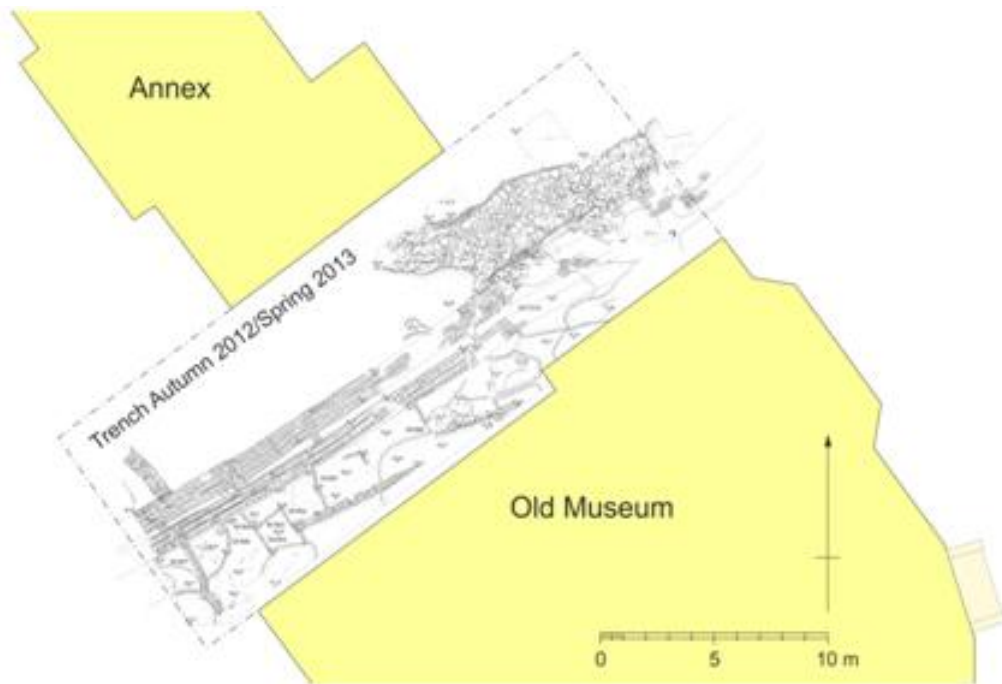


Fig.1: Location of the trench of autumn 2012 / spring 2013

In preparation for the underpinning a trench was dug step-by-step in several sections along the building and the archaeological features recorded (Fig. 2).



Fig. 2: Excavation and underpinning of the foundation of the old museum

These were mainly a part of the 2<sup>nd</sup> Dynasty settlement at the north-eastern end of the town in this period. After completion of the underpinning it was possible to continue the excavations between the old museum and the annex in the full extension of the trench.

The oldest archaeological remains in this area comprise the town and the town enclosure wall of the 2<sup>nd</sup> Dynasty (Fig. 3). This wall is well known from the excavation in the areas of the Satet Temple and the northern town<sup>3</sup>. It is constructed of three connected walls and follows the contours and in most cases sits on top of large granite boulders. The wall extends from near the Satet Temple to the northeast between the old museum and the annex and continues to the area in the vicinity of the magazine building. There, in all probability, it turns to the east and then follows the Nile shore to the eastern corner of the early dynastic fortress.



Fig. 3: The town wall of the 2<sup>nd</sup> Dynasty

In its first phase it consisted of two connected walls and in a second phase, also in the late 2<sup>nd</sup> Dynasty, a third wall was added on the inner side (Fig. 4). This resulted in a loss of space in the settlement but was necessary due to the steeply sloping gradient in front of the earlier wall. This older wall was built on the large granite boulders which were on a level sufficiently high to give protection from the annual Nile inundation. As also found in the northern part of the settlement its bottom height is always more than 94.50 m above sea level<sup>4</sup>. An strengthening wall on the outside of the original town wall may well have been reached by the inundation as it could only be built on the lower level in front of the granite boulders. Additionally, a significantly lesser amount of building

<sup>3</sup> M. ZIERMANN, *Elephantine XXVIII: Die Baustrukturen der älteren Stadt (Frühzeit und Neues Reich)*, AV 108, Mainz 2003, p. 119.

<sup>4</sup> M. ZIERMANN, *Elephantine XVI: Befestigungsanlagen und Stadtentwicklung in der Frühzeit und im frühen Alten Reich*, AV 87, Mainz 1993, p. 100.

material was needed.



Fig. 4: The town wall with the latter inner addition and magazine rooms

Between the annex and the old museum was a well preserved strip of the settlement of the 2<sup>nd</sup> Dynasty. Nearly 4 m of stratification with several floor layers and the associated walls were excavated. During the earliest phase the area was broken by the large granite boulders and therefore no part of the area including the floors were level. The deep holes and gaps between the boulders were filled with settlement debris and rubbish from other areas of the town. In a number of these filled gaps several complete beer jars were found. They all date to the late 2<sup>nd</sup> Dynasty and therefore it must be concluded that this area of the island was not intensively used before this period.



Fig. 5 and 6: Storage jars of the late second Dynasty

In this period there were a lot of rather thin walls, curling around the granite outcrops (Fig. 3)<sup>5</sup>.

<sup>5</sup> A similar pattern was already found further south-west. M. ZIERMANN, *Elephantine XXVIII: Die Baustrukturen der älteren Stadt (Frühzeit und Neues Reich)*, AV 108, Mainz 2003, figs. 14-16.



They formed relatively small rooms with irregular shapes. In the following building layer the area was more horizontal, most granite boulders were already covered by settlement debris. Next to the town wall were now several rectangular small rooms (Fig. 4). According to the pottery repertoire from these rooms, they were mainly used for storing goods and commodities (Figs. 5 and 6). At the end of the 2<sup>nd</sup> Dynasty the character of the area changed. The rooms were bigger and there were many ash layers and a number of burnt walls. This would indicate that here we should expect some form of industrial area in this period.



Fig. 7: Town wall with berm (left), rectangular porch (centre) and the rounded wall in the south-western profile

On the north-western side of the town wall different features of its development can be observed. From the beginning there was some kind of a rectangular porch (Fig. 7). In the lower part a berm was built to strengthen the wall. At some stage in the late 11<sup>th</sup> Dynasty parts of the wall and the berm were damaged probably due to their weakness. They were replaced by new brickwork with bricks of much larger size (Fig. 8). In the south eastern profile is a rounded wall (Fig. 7). It cuts the rectangular porch and is a later attachment to the town wall. Because of the rounded shape it may possibly be a semi-circular tower<sup>6</sup>.

Between the annex and the old museum a structure made up of numerous granite slabs was uncovered (Fig. 9). It is partially parallel to the Early Dynastic town wall and the upper sections formed part of its foundation. It then curves in front of a high granite boulder to the north. It is

<sup>6</sup> Compare ZIERMANN, *loc. cit.*, fig. 13.

unlikely that this structure served as the foundation of a later town wall as in the section to the west of the Satet temple.



Fig. 8: Repair of the town wall (on the left side)

The structure was built together with the foundation of the 2<sup>nd</sup> Dynasty town enclosure wall and therefore can't be the foundation of a later town wall like in the area west of the temple of Satet<sup>7</sup>. It may possibly be the substructure of a causeway leading up to a small town gate. During the Early Dynastic Period and the Old Kingdom it may well have been a landing place for boats south of the Hassawanarti rocks. From there a route could be found going along a small *wadi*, past a group of granite rocks with an inscription by king Unas and after a curve to the south it led to the granite causeway and to the town gate. Because of the difference in altitude between the *wadi* and the settlement it was necessary to build a way up to the gate in the town wall. The highest Nile floods may well have reached 94.50 m above sea level. Parts of this construction are below 94.00 m and therefore it had to be built of granite slabs to protect it against the waters of the Nile during the inundation. After the Old Kingdom the way was no longer in use and the upper courses of its stones were taken away and used as building material. Thus the present height of the remaining slabs no longer corresponds with its original height in the Old Kingdom.

<sup>7</sup> P. KOPP, *Siedlung und Stadterweiterung westlich des Satettempels*, in: D. RAUE et al., *Stadt und Tempel von Elephantine. 36./37./38. Grabungsbericht*, MDAIK 67, 2011, p. 191.



Fig. 9: Granite structure (photomontage)

The oldest feature in front of the town wall dates, in this area, to the Old Kingdom. It is a beehive shaped cellar of the 6<sup>th</sup> Dynasty made of brickwork in the west of the trench<sup>8</sup>. From the 11<sup>th</sup> Dynasty onwards all the area in front of the town wall was permanently used<sup>9</sup>. In a natural whirl pool in the granite was another beehive shaped cellar (Fig. 10). It was formed by a 7.5 cm thick layer of Nile mud with straw inclusions and dates to the 12<sup>th</sup> Dynasty. On top of the cellar, parts of a room of the 12<sup>th</sup> Dynasty were preserved (Fig. 11). It was attached to the town wall of the 2<sup>nd</sup> Dynasty. It shows that during this period the wall was still exposed and used as a type of terrace wall.



Fig. 10 and 11: Cellar and room of the Middle Kingdom

<sup>8</sup> Several cellars of this period were found in the west of the Satet temple. KOPP, *loc. cit.*, pp. 195-197.

<sup>9</sup> Compare also M. BOMMAS, *Nordoststadt: Siedlungsbebauung der 1. Zwischenzeit und des Mittleren Reiches nordwestlich des Inselmuseums*, in: W. KAISER et al., *Stadt und Tempel von Elephantine. 21./22. Grabungsbericht*, MDAIK 51, 1995, pp. 141-147.



On top of the antique layers were the remains of a building of the late 19<sup>th</sup> century AD. It was already known from earlier excavations in the area of the annex<sup>10</sup>. The walls were mainly built of mud bricks with fired bricks at the doorways as well as with stone foundations. Comparable to previous seasons china fragments and several mineral water bottles were found on the floor layers. The china included imports from Germany and Belgium.

(P. K.)

### 3. Town wall of the Middle Kingdom and Second Intermediate Period

The Swiss Institute completed the investigation of the town wall in front of the Site Museum. The aim of the work was twofold: Firstly, the stratigraphical relationship of the two phases of the town wall and the sequence of domestic buildings inside the town was to be investigated. Secondly, the outer face of the town wall was to be uncovered on its whole length in order to clarify the extent of repair works executed at the face of both phases of the wall.



Fig. 12: Section through all phases of the town wall at the northern limit of the area.

Despite deep destructions by *sebakhin* activities at the northern limit of the area the stratigraphical relationship between houses and town wall was ascertained and shows the following development (Fig. 12): After the construction of the older phase of the town wall (M1634) a house was erected on its western side. It was partially excavated during the 40<sup>th</sup> season and

<sup>10</sup> BOMMAS, *loc. cit.*, p. 147.



dated to the reign of Sesostri III. In contrast to an earlier assessment, when the phasing of the town wall was still unknown, the house is evidently post-dating the construction of the town wall because an inner division wall of the house with a doorway abuts the town wall (Fig. 13).



Fig. 13: Limestone threshold of a doorway abutting the town wall of the 12<sup>th</sup> dynasty (M1634).

The alignments of the division wall and of the southern exterior wall adapt the new orientation of the town wall, which significantly differs from all older structures in this area. The house was demolished when the town wall was rebuilt (M1633). A thick layer of debris that covers the ruins of the house joins the later phase of the town wall (Fig. 12). Thereby, the older phase of the wall is clearly linked to the time (of Sesostri III) when the house was in use. This date corresponds well with previous results obtained during the investigation at the southern limit of the town<sup>11</sup> confirming a fortification of the town during the reign of Sesostri III.

The outer face of the town wall shows serious damages from erosion (Fig. 14). Due to its low position very close to the ancient riverbank erosion may have been facilitated through rising moisture in the ground that inevitably affected the brickwork. Further evidence for problems with ground water is indicated by a ditch densely packed with pottery sherds. It runs along the wall on

<sup>11</sup> C. v. Pilgrim, Untersuchungen zur Stadtbefestigung: Die Stadtmauer des Mittleren Reiches, in: Raue et al., Stadt und Tempel von Elephantine. 36./37./38. Grabungsbericht, MDIK 67, 2011, pp. 198-201.

its outside at a distance of two meters and may have served as a drainage.



Fig. 14: Eroded face of 12<sup>th</sup> dynasty town wall M1634.

After a part of the wall sheared off it was repaired (M1644). Pottery sherds from layers connected to the repairing suggest a date in the late 12<sup>th</sup>/early 13<sup>th</sup> Dynasty providing at the same time a *terminus post quem* for the entire reconstruction of the town wall (M1633).

The new wall was built immediately on top of the older one. It was apparently due to the unstable building ground above the older repair (Fig. 15) that at a later date the outer face of the wall sheared off in the same section as the preceding one and had likewise to be repaired in the 17<sup>th</sup> dynasty (M1643). At the same time the slope outside the town wall was reinforced with a construction of roughly shaped granite blocks in order to consolidate the foot of the wall. Subsequently, a sequence of layers of different kinds accumulated on the slope. The most remarkable layer consists of chips from smashed limestone blocks. Numerous fragments bear traces of decoration in sunken and raised relief (Fig. 16). The style of hieroglyphs lets assume that the debris derives from a cult chapel of the Middle Kingdom. According to ceramological evidence from the same layer the chapel was demolished not later than in the late Second Intermediate Period.

(C. v.P)



Fig. 15: Cracks in the brickwork of later town wall M1633 and repairing M1643.



Fig. 16: Decorated limestone fragments from a cult chapel of the Middle Kingdom



#### 4. Excavation work in the Middle Kingdom town

The investigation of the Middle Kingdom houses in the vicinity of the step pyramid was continued<sup>12</sup>. This season the early settlement history of the area was studied (Fig. 17).

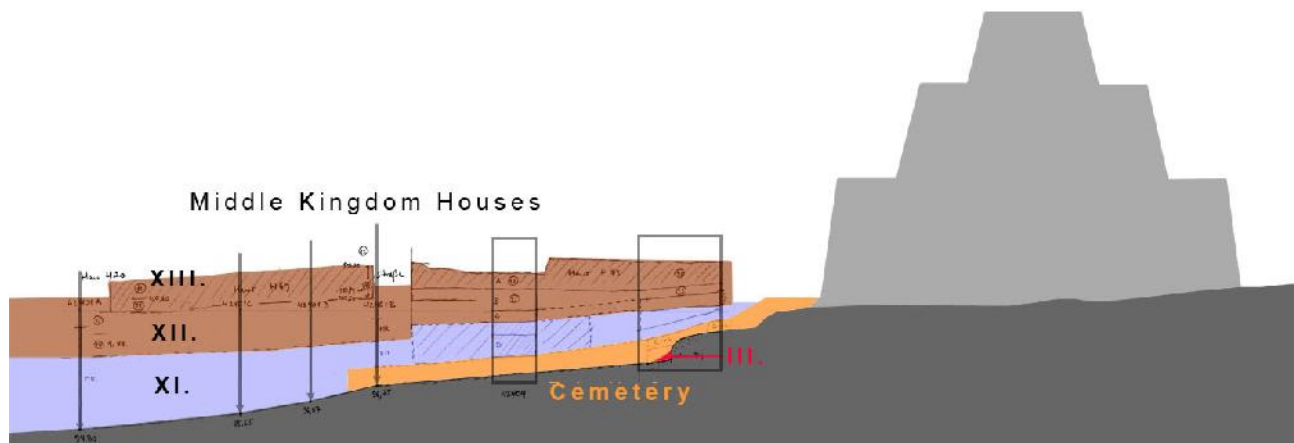


Fig. 17: Settlement history south of the pyramid

The area originally formed part of the eastern slope of the western island of Elephantine, directly opposite the Old Kingdom town. With the help of several drillings the topography of the slope can now be reconstructed with greater accuracy, from a level of +99 m at the foot of the pyramid down to a level of 94,80 m about 30 m further east. In a trench excavated in a Middle Kingdom house (H73) next to the pyramid further remains dating to the first occupation of the western island in the Third Dynasty were found. The structures may form part of the royal building project which also included the pyramid. On top of these remains several mastaba tombs of the Fifth and Sixth Dynasties were found extending about 17 m east from the pyramid. Further east no structures of the Old Kingdom were detected, thus giving an indication of the extent of the cemetery. On top of the tombs a sequence of settlement strata were found, dating to the First Intermediate Period and the early Middle Kingdom. Noteworthy is a well constructed building which appears to date to the Eleventh Dynasty.

In addition the pottery found last season in Area IX was documented. The pottery, originating from a building found below House H70, dates to middle the Middle Kingdom (reigns of Amenemhat II till Senwosret III, stratum 14). The area later occupied by house H70 was at that time used as a courtyard, apparently forming part of a much larger compound.

(F. A.)

<sup>12</sup> For previous work in the area see S. J. SEIDLMAYER, *Die Staatliche Anlage der 3. Dyn. In der Nordweststadt von Elephantine*, in: M. BIETAK (ed.), *House and Palace in Ancient Egypt*, Vienna 1996, pp. 195-214; C. v. PILGRIM, *Elephantine XVIII*, pp. 129-144.



## 5. The Khnum Temple of the New Kingdom

The documentation and study of the building blocks originating from the Khnum temple of the New Kingdom was continued<sup>13</sup>. This season the focus lay on the blocks deriving from the temple house. A number of blocks previously thought to come from the temple house actually formed part of the walls temple courtyard of Thutmosis III, thus reducing the number of blocks of the New Kingdom temple house known so far to about 45. All of these 45 blocks were found in the foundations of the Ptolemaic pronaos, and none of them in the foundations of the temple house of Nectanebos II. A renewed excavation in the Ptolemaic pronaos brought to light 15 new blocks, thus bringing the grand total to about 60.



Fig. 18: Scenes on the northern outer wall of the temple house

Especially the new blocks fit directly to blocks known previously thus allowing the reconstruction of several complete scenes and sometimes even sequences of scenes. The largest sequence once occupied the northern outer wall of the temple house (Fig. 18). The scenes are all related to the foundation rites of the temple and are very similar to those found on the corresponding northern outer wall of the temple of Buhen<sup>14</sup>. Only the first scene, the stretching of the cord, is missing at Elephantine. The second scene is the scattering of *bsn*, the third an unknown ritual in which the temple building is depicted between the king and Khnum, the fourth is the presentation of the house (*pr*) to Khnum, the fifth a libation offering. Another scene from which several fitting blocks have been identified once occupied the western end of the opposite, southern side of the temple. Khnum and Anuket are seated one behind the other, in front of them offerings are piled up.

<sup>13</sup> For previous work see M. BOMMAS, *Der Tempel des Chnum der 18. Dyn. auf Elephantine*, Ph.D. thesis Heidelberg 2000, and the last preliminary reports, C. v. PILGRIM, 31./32. *Bericht*, 38-44 and M. BOMMAS, 31./32. *Bericht*, pp. 44-51.

<sup>14</sup> R. A. CAMINOS, *The New Kingdom Temples of Buhen II*, London 1974, pl. 26-30 (scenes 13-16).



Fig. 19: Block depicting scenes from the daily temple ritual

Since all blocks are decorated on two sides, the reconstruction of the scenes on the outside of the temple has consequences for the inside of the temple. The back of the temple must have been occupied by a broad sanctuary, with cult statues at opposite ends. Behind them offering scenes may be reconstructed. Along the northern wall of the temple lay another sanctuary, decorated with scenes of the daily temple ritual, including the calling (*dwtj*) of the god and the cleaning of the floor (Fig. 19). Other parts of the ground plan are still unclear, especially whether there was a large sanctuary in the centre of the temple or not.

An interesting detail found on the newly discovered blocks is the writing of the name of Elephantine (*3bw*) within a rectangular wall with buttresses. Since Elephantine is not known to have had a town wall in the New Kingdom, the writing may refer to a royal foundation within the city or may be an archaic spelling copied from an earlier temple in the vicinity.

(F.A.)

In the southern half of the Ptolemaic pronaos a brief investigation of the eastern limit of the foundation pit was conducted after the reused blocks of the New Kingdom temple were retrieved from the foundation of the front wall of the pronaos. After the backfill laterally to the stone foundation was removed, traces of the sand-filled sub-foundation of the New Kingdom temple became visible. The features can be identified as a sand-filled foundation trench of the southern enclosure wall of the temple and a sand-filled foundation pit of a column from the southern ambulatorium. Both fit to the plan of the temple sub-foundations revealed during investigations of the Swiss Institute in previous seasons<sup>15</sup>.

<sup>15</sup> For previous work see C. von Pilgrim, *Der Chnumtempel des Neuen Reiches: Grabungsbefund und Architektur*, in: G. Dreyer et al., *Stadt und Tempel von Elephantine. 31./32. Grabungsbericht*, MDAIK 61, 2005, pp. 38-44.

## 6. Cultic equipment of the Temple of Khnum

The documentation of all fragments and objects that can be attributed to the former cultic equipment of the temple was continued. The register of fragments of statues, stelae, offering plates and pedestals collected in all previous seasons in the area of the Temple of Khnum was enlarged to 332 pieces in total. The fragments can be assigned to at least 79 statues, 33 altars or pedestals, 12 stelae and 11 offering plates. 13 fragments were newly joined together. Additionally, the documentation of all traces of stands of bases and pedestals for statues visible on the surface of the pavement of the temple courtyard was completed<sup>16</sup>.

(T. K./ C. v.P.)

## 7. Graffiti in the Courtyard of the Temple of Khnum

Between 14 and 26 March 2013, an epigraphic campaign was conducted to record the graffiti on the pavement of the forecourt of the temple of Khnum. These graffiti, both figures and texts, inform us about visitors to the temple and the use of the forecourt in the Roman period and into Christian times. Examples include short Greek and Coptic texts, mostly names, and figures such as a gazelle (the sacred animal of Satet) and crosses<sup>17</sup>. The total number of graffiti recorded is 180, including 42 texts and 138 figures, which were either drawn or photographed, and entered into a catalogue. The position of the graffiti was then indicated in a groundplan of the forecourt.

(J. D.)

## 8. Excavation work south of the Khnum Temple

The investigation of building K26 was finished this season, concluding the long-term study of Late Antique settlement remains south of the Khnum temple<sup>18</sup>. The building K26 is rather unusual in ground plan, occupying a very large area but apparently lacking a second story customarily found in Late Antique houses. The building may therefore originally not have served as a house but as an administrative complex. Built in the Fifth Century A.D. (Stratum 01), K26 was repeatedly remodelled in the Sixth Century (Stratum 02). On top of a first destruction level a mill and a bread

<sup>16</sup> Cf. H. Jaritz, Untersuchungen im Bereich des späten Chnumtempels, in W. Kaiser et al., Stadt und Tempel von Elephantine. Neunter/Zehnter Grabungsbericht, MDAIK 38, 1982, pp. 308-311.

<sup>17</sup> Cf. H. Maehler, Visitors to Elephantine: Who were they ?, in: J. Johnson (ed.), Life in a multi-cultural society: Egypt from Cambyses to Constantine and Beyond, Studies in Ancient Oriental Civilization 51, Chicago 1992, pp. 209-213.

<sup>18</sup> The Late Antique settlement in the Khnum Temple precinct is a long-term project of the Swiss Institute, and we are grateful to S.J. Seidlmayer that he enables F. Arnold to continue his research on behalf of the Swiss Institute. For previous work in the building K26 see F. Arnold, Elephantine XXX, pp. 69-72 and 94-98.



oven were built. Later the building was used to keep sheep. The final collapse of the vaulted roof may be dated to the Seventh Century.



Fig. 20: House K26 with remains from the Ptolemaic Period below

Below the Late Antique structures the remains of a Ptolemaic building were discovered this season (Fig. 20). Like the neighbouring multi-stored house K19 ("house μ"), the newly found building was one of the subsidiary structures of the Khnum temple complex. The building is composed of a small but well constructed and white washed room and a large open courtyard. The courtyard is completely covered by a remarkably thick layer of animal dung and must thus have been used to keep one or more animals, possibly a sheep. The courtyard had a direct connection to the southern side entrance of the Khnum temple. The building could conceivably have been used to house the ram that was believed to be a living incarnation of the god Khnum.

(F. A.)

### **9. Late Antique pottery from the Khnum Temple area**

In the 5<sup>th</sup> century AD, as the temple of Khnum was dismantled, new housing complexes were built at the former temple site. All of them have differing ground plans and, in addition to private use, some include integrated workshops in the courtyards. It is assumed that they were inhabited until the 8<sup>th</sup> or perhaps 9<sup>th</sup> century AD. The aim of the current project is to define the traditions, customs and subjected alterations of the inhabitants of Elephantine Island by analysing the pottery of four selected late antique and early Byzantine housing complexes.



More than 80% of the diagnostic and more than 60% of the whole ceramic material is made of the well known "*pink clay*". The deposits of this type of clay are supposed to be near Aswan. Although no intact pottery kiln has been found on the Island, the corpus of finds allows the assumption of a local large-scale pottery production on Elephantine Island, which had already started in the Roman Period and reached its peak in Late Antiquity. The dominance of local ceramics and the importance of the local pottery production on Elephantine show, through exporting it until the end of the 7<sup>th</sup> century AD, the enormous cultural diversity of this region in Late Antiquity. The variety of shapes, especially of tableware, is in many respects dependent on the pottery of the Mediterranean area, but there still exist significant, local, typically Egyptian shapes, which passed on over centuries. Although the inhabitants of Elephantine Island and their eating and drinking habits were influenced by the Romans and since the middle of the 7<sup>th</sup> century by the Arabs, old Egyptian traditions seem to have been retained. By the end of the project the knowledge of late antique pottery, its function and development, will be extended and the daily life and habits of the inhabitants of Elephantine Island in Late Antiquity will become easier to understand.

In the 42<sup>nd</sup> season the fieldwork of a three-year programme of pottery research was concluded. Drawings of the pottery of house M10 and of some special layers of house K26 were completed and the descriptions were entered into a database. Different fabrics of each group were determined to gain more information about local and imported pottery, respectively the manufacturing technology of single vessel types.

(D. K.)

## **10. Archaeobotany on Elephantine Island**

This season about 75 dry sieved samples were taken and analysed. Most of the samples came from the 38<sup>th</sup>, 40<sup>th</sup> and 42<sup>nd</sup> excavation campaign at Elephantine and originated from Late Antique settlement layers (5<sup>th</sup>–7<sup>th</sup> century A.D.). In most cases the content of these samples represented settlement debris, like general organic waste, threshing and cleaning remains and ashes from cooking/heating fires.

Most of the wood identified belonged to the gallery forests along the Nile. These were charred wood (charcoal fragments) and wood fragments being the result of wood chopping from the white acacia, other acacia species (most probably much of the Nile acacia, since there were many pod fragments from this species in the material), tamarisk and willow, but also of fruit trees like the date palm and fig, probably the sycamore fig.

In the excavated areas no storages of cultivated or collected plants were retrieved. But the waste revealed the remains of many economic plants used at Elephantine. This is in contrast to the material from the (Pre)Dynastic periods, which revealed only a low amount of economic plant taxa.

At Elephantine, as in Egypt in general, a major shift takes place at the onset of the Classical period in the selection of cereals. The free-threshing Hard wheat replaced the hulled Emmer of Predynastic and Pharaonic times. This replacement is most probably related to a changing economy, characterised by large-scale storage and transport and a high turnover rate of cereal based food. As before hulled 6-Row barley is still important at Elephantine. In the direct vicinity of Elephantine there is not much space for large cereal fields. This is reflected by the analysis of the temper from mudbricks of buildings from the Late Antiquity. The amount of cereal straw and other threshing remains is low. Instead all kind of other organic waste has been used to temper the bricks, like ashes and dung.

All the botanical finds indicate an oasis agriculture at Elephantine, with fruit cultivated like date palm, fig, pomegranate and vine. Many other economic plants can have been grown in the gardens in the shade of these fruit trees. In many cases it is difficult to tell whether the economic plants were growing in the direct vicinity of Elephantine or that they were grown elsewhere and transported over the Nile to Elephantine. At least the castor oil plant and wild radish seem to have grown not far from the houses, since we found many fragments of the fruit resp. the pod in our material.

Pulses from the Late Antiquity at Elephantine are lentil, pea, chickpea and white lupin. Also there are oil or fibre plants like flax and safflower and condiments like coriander, black cumin and sesame. And the gardens were stocked with taxa from the melon family: watermelon, cucumber and calabash.

The above mentioned finds at Elephantine witness an much more diverse use of economic plants in Late Antiquity societies, especially compared to preclassical periods.

(R. N./V. P.)

## **11. Ostraca with Arabic writing**

This season 32 ostraca with Arabic writing were studied. They date mostly to the second and third centuries AH / eighth and ninth century AD. While some of the pieces were inscribed on both faces, the majority of the ostraca show writing on one side only. Unfortunately, most of the are also very small; the average size is about 3-6 cm. Preliminary readings indicated that the subject matters with which the ostraca deal relate to the economy, society and to business transactions between people on Elephantine Island in that period. Among the texts are many personal letters, but also texts on farmland as well as parts of the Koran. One ostrakon mentions the city of Fustat, another deals with the pilgrimage to Mecca (Fig. 21).

(M.A.)



Fig. 21: Ostrakon dealing with the pilgrimage to Mecca