



**FRENCH-EGYPTIAN
CENTER FOR THE STUDY OF THE TEMPLES OF
KARNAK
MSA-CNRS USR 3172
ACTIVITY REPORT 2011**

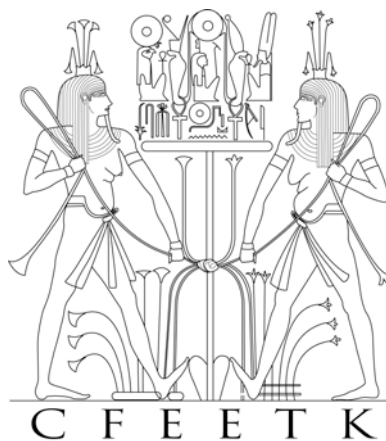


CAIRO, APRIL 2012



*Ministère d'État des Antiquités Égyptiennes
Centre National de la Recherche Scientifique
Ministère des Affaires Étrangères et Européennes*

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How to quote the activity report:

The annual activity report of the CFEETK is a compilation of reports provided by individual head of research program. Please quote the activity report as follow:

- S. Bickel, "Granary of Amun and Shena-workshop of Amun", *apud* M. Boraik, Chr. Thiers, *Franco-Egyptian Center for the Study of the Temples of Karnak. Activity Report 2011*, CFEETK, Luxor, 2011, p. 28-30 (<http://www.cfeetk.cnrs.fr/>).

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To the memory of Hamdi Abd Al-Jalil, Chief inspector

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FOREWORD

The work of the French-Egyptian Center for the Study of the Temples of Karnak in 2011 mostly took place on schedule. Because of the postponing of the Scientific Committee on January 2011, the forecast programmes were those proposed to the Scientific Committee in April 2010. However, due to the situation in Egypt in January 2011, several missions were shortened or postponed during the months of January and February. The programmes of the CFEETK were also reduced, and the SCA excavations on the sphinx avenue and on the roman baths were postponed.

In this context, the activity of the Center was mainly devoted to two programmes. The first concerns the study of the temple of Ptah. Checking of the epigraphic facsimiles has been completed but most of the activity has concerned the excavation of the chapels of the temple and of the western area; a major restoration work and anastylosis on the main axis of the temple was carried out. The second programme was assigned to the epigraphic survey of the Philip Arrhidaeus' bark-shrine located in the central area of the temple of Amun-Re and so far unpublished.

Archaeological and epigraphic fieldwork were mainly led on the Treasury of Shabaka and on the great hypostyle hall.

Programmes of restoration and conservation were devoted to limestone blocks (especially those of *Netjery-menu*) and the archaeological material excavated from the different sectors (temple of Ptah, bronze objects from the temple of Osiris the Coptite ...). At the entrance to the Open Air Museum, the reconstruction of the *Netjery-Menu* of Thutmose III and Hatshepsut rose and many are now lifts walls, allowing the volumes of the limestone monument to be understood.

Constant work concerned the documentary database of Karnak, which was enhanced by the addition of new archives (private fund, archives P. Lacau from *École Pratique des Hautes Études*) and scanning of old glass plates kept at the CFEETK. Upon the request of the SCA, the inventory of the Gadaya storeroom (near the temple of Opet) was undertaken from February to March 2011 before transferring all the objects to Abu Gud magazine; all the data have increased the archives of the Center.

Within the limits imposed by the political situation in Egypt, CFEETK has played its role to accommodate the foreign missions working within the domain of Amun-Re by delivering work authorizations, monitoring field activities and through logistical and technical support (topography, photography...).

The excavation led by G. Charloux and R. Mensan in the central area of the temple of Amun-Re between 2002 and 2007 has been recently published: *Karnak avant la XVIII^e dynastie. Contribution à l'étude des vestiges en brique crue des premiers temples d'Amon-Ré*, Paris, 2011 (with the collaboration of M. Azim, A. Garric and S. Montaser Abu al-Hagag).

All the work led at Karnak has benefitted from the constant help of Ibrahim Soliman, Director of the site of Karnak, Tarek Milad Zikri, Chief architect of Upper Egypt, Mohamed Asem, General manager of Upper Egypt, the late Hamdi Ahmed Abd Al-Jalil and Amin Ammar, Chiefs inspectors, Abd el Nasser, Director of the restoration, all the inspectors, the Raïs Mahmoud Farouk and all the workers of the SCA. It is a pleasure to thank all of them for their kind and constant support.

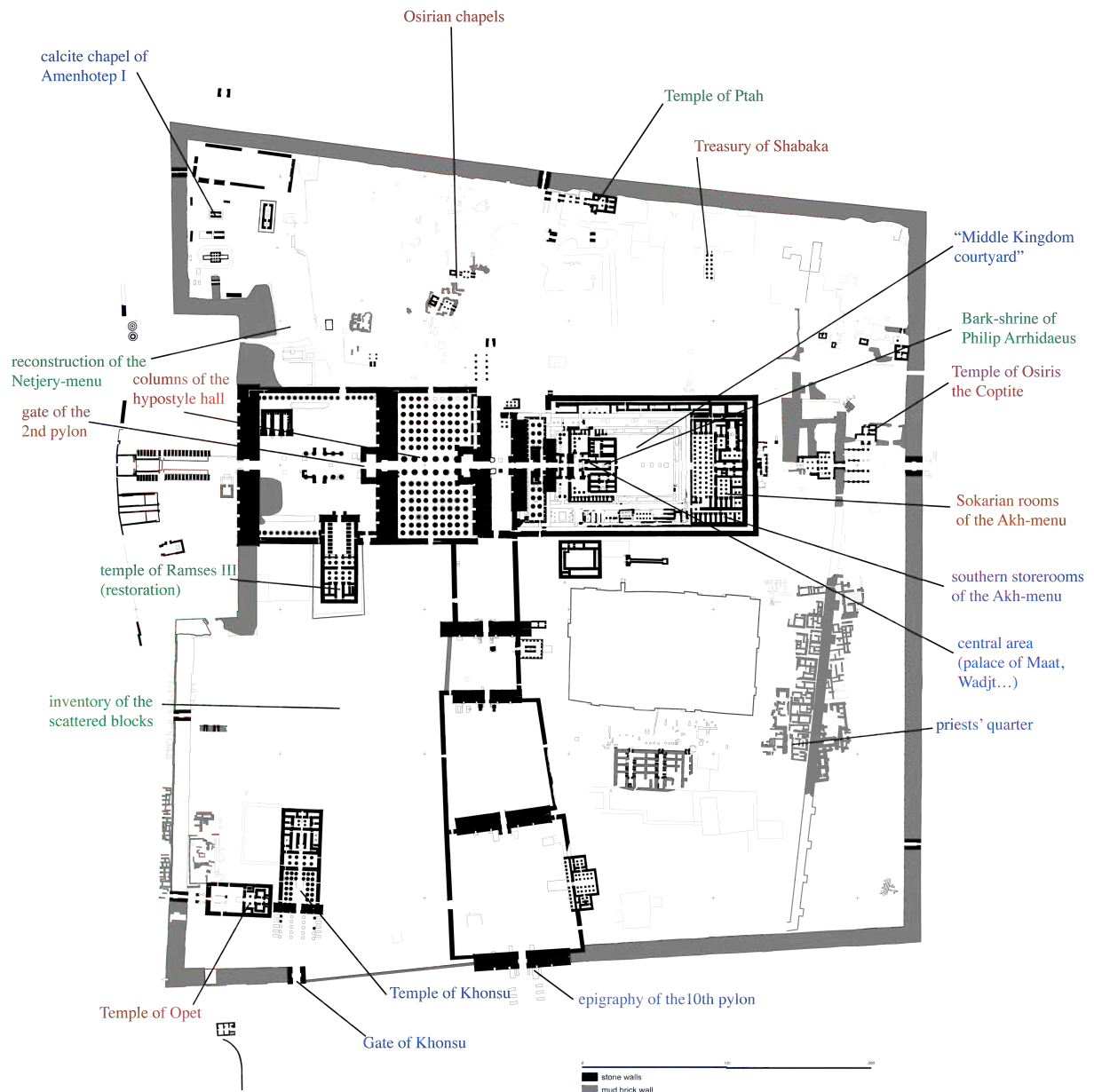
We would like to extend our grateful thanks to the french authorities of the *Centre National de la Recherche Scientifique* and of the *Ministère des Affaires Étrangères et Européennes* for their constant financial support and interest on the programmes led by the French-Egyptian Center for the Study of the Temples of Karnak.

We are always delighted with the excellent relationships between the *Ministry of State for Antiquities* and the French-Egyptian Center for the Study of the Temples of Karnak.

Mansour Boraik
General director of Luxor and Upper Egypt (SCA)
Co-director of the CFEETK

Christophe Thiers
Director of the USR 3172 (CNRS)
Co-director of the CFEETK

Amun-Ra temple, main fieldwork in 2011



temple of Ptah : main CFEETK projects
 osirian chapels : projects hosted by CFEETK
 central area : projects currently in publication

1. SCIENTIFIC PROGRAMMES

1.1. History of Amun-Ra temple during the New Kingdom

1.1.1. Epigraphic survey of the columns of the Hypostyle Hall (P.J. Brand, J. Revez, J. Karkowski)¹

The Karnak Hypostyle Hall Project worked at Karnak from May 17, 2011 through June 28, 2011. The expedition was a joint effort of the University of Memphis, USA and the Université du Québec à Montréal.² Our epigraphic work this season concentrated on recording the reliefs and inscriptions on the 127 columns which remain standing in the Hypostyle Hall and on the abacus blocks from the columns. In addition, we also continued our earlier work to document inscribed blocks from the upper levels of the walls which have fallen and now lie in the northern and southern block yards.

Documentation of the Abacus Blocks

Of the original 134 abaci that rested on the capitals of columns inside the Hypostyle Hall, more than 17 are missing today. Of those, about half were not re-erected by Georges Legrain after the earthquakes caused many columns in the northern section of the Hall to collapse. The other missing half of the abaci belonged to the southwestern section of the Hall. Some of these missing abaci no longer *in situ* are now lying on *mastabas* located in several areas within the larger domain of Amen-Ra. Others, though put back in their original position at the top of the columns by Legrain, are in such a bad state that they are covered with modern cement.

We systematically photographed all four sides of each abacus block *in situ* and the preserved faces of the blocks and fragments in the blockyards. Most of these photos were taken from the ground by our photographer with a telephoto lens. Dr. Janusz Karkowski also photographed more than 20 abaci from our scaffolding and the preserved faces of several abacus blocks in the block yards. We also checked and corrected hand copies of all the *in situ* abaci made by Ricardo Caminos during the 1950s. During this collation process, we noted the paleography, surviving paint, iconoclasm and other significant epigraphic data associated with the inscriptions. Using Dr. Karkowski's photos, we have begun to make facsimile drawings of representative examples of the abaci using Adobe Illustrator software.

Theodolite Measurements of the Abaci, Clerestory and Walls

Since photography of all four faces of the 117 standing abaci from our scaffolding was impractical, we decided to survey the abaci using a theodolite to measure the position of these abaci. Dr. Cédric Gobeil measured points on most of the abaci in the Hypostyle Hall by this method using a theodolite kindly lent to us by the Franco-Egyptian center. In collaboration with our colleagues at the Center, Dr. Gobeil was able to test a method to rectify photographs taken from the ground so that they appear orthostatic as if they had been taken directly in front of the abacus. This will make it unnecessary to take many photos from the tall scaffolding.

One of the main objectives of this year mission was to get a close photographic coverage of the columns inside the hall. Despite the use of scaffolding, we were unfortunately not able to take orthogonal pictures of each element of the column, especially the four abaci faces built above each column's capital that are the highest part of the column. Consequently, a large majority of the pictured abaci looked crooked and/or skewed.

In order to straighten our pictures, we had to use a technique developed by the Centre Franco-Égyptien d'Étude des Temples de Karnak (CFEETK). As a first step, we took six points on each abacus with a Leica TCRP 1202+ R400 laser Total Station theodolite. Since we did not want to replace the

¹ We would like to extend our grateful thanks to Dr. Zahi Hawass, Minister Egyptian Antiquities Affairs, Mr. Mansour Boraik, Chief Inspector for Upper Egypt, and Mr. Ibrahim Mahmoud Soliman, Director of the Temples of Karnak. We would also like to thank our inspectors, Mr. Ahmed Mostafa Saber and Mr. Mahmoud Ali Ab'del Aty. We would also like to thank Dr. Christophe Thiers of the Centre Franco-Égyptien d'Études des Temples de Karnak and Mr. John Shearman of the American Research Center in Egypt for their kind support of our project during our work.

² The Karnak Hypostyle Hall Project is led by Dr. Peter J. Brand, Director (University of Memphis) and Dr. Jean Revez, Co-Director (Université du Québec à Montréal). The staff included Egyptologists Dr. Janusz Karkowski (Polish Academy of Sciences), Dr. Cedric Gobeil (IFAO) and our photographer Mr. Richard Fero. Our graduate students from the University of Memphis and the Université du Québec à Montréal were Ms. Erika Feleg, Ms. Laura Glymph, Mr. Mark Janzen, Mr. Guillaume Bouchard Labonté, Ms. Nancy Moreau, Ms. Perrine Poirion and Ms. Tiffany Redman. Our reis was Mr. Mohamed Faruk, assisted by his team of workmen.

pictures in the general topographic system of the hypostyle hall, we did not have to use the total station on specific bench mark positions established in previous surveys. We then had the opportunity to place the theodolite wherever we had the best possible view of the abacai – that is to say positions with the smallest vertical angle which minimized the displacement of the station. To achieve this, we decided to use the Total Station from the top of the walls surrounding the Hypostyle Hall (the North and South walls and atop the Second and Third Pylons) and by setting it between two rows of columns. In this way, we were able to see a large number of abacai from one spot.

Once we set the theodolite in place, we had to pinpoint six precise points on each abacus face using landmarks on the hieroglyphic signs depicted on them as landmarks. Here, precision is key to the success of the operation; therefore, we had to choose signs that had at least one sharp angle, like one corner of the *mn* sign (𓄿) or of the *jjj* sign (𓄱). To maintain a high level of precision, we worked with the drawings of the abacai previously made by R.A. Caminos on which we marked all the points we measured with the Total Station. Once we recorded them and as a second step of the process, we uploaded all these points and sorted them in a computer at the CFEETK using *Covadis* software which is able to render both two-dimensional (2D) and three-dimensional (3D) virtual models that show the real distances between all the points.



Example of the West face abacus of the column n° 134, before and after Rectifying the image with *Redresseur* Software.

We assigned each point a unique number that showed its location. For example, we gave the first point taken on the west face of the abacus of column 134 the number 134w1, the second point 134w2, etc. Next, we had to manually place all of these calculated and named points on their corresponding location on each of our photographs with the help of a software program developed by the CFEETK called *Redresseur*. The Caminos drawings were very useful for placing each named point in the exact position on the photograph that we had taken on the abacus with the Total Station. To ensure the highest accuracy, we enlarged the images using the zoom feature on the software to place the points on the image. Once we had marked all six named points on the original picture, the *Redresseur* software was then able to link these named points with the same ones we had previously calculated with *Covadis* and to straighten the picture.

We also applied the same method (six points taken) to scenes carved on the tall piers of the clerestory windows located above the central nave of the Hypostyle Hall, and on inscriptions on very tall and narrow pilasters on the foregate of the Third Pylon inside the Hall. These pilaster texts were so long and tall that we had to take three pictures of each and stitch them together using *Photoshop*. We were able to measure all these points from the top of the southern wall of the hall as well as from the ground. These two other architectural elements were not too difficult to measure since they are flat; therefore, we only had to straighten the pictures using the same process we used for the abaci.

Epigraphic Findings on the Abaci Decoration

Although they appear simple at first glance, the relief decoration on the abaci proved to be highly complex. Each abacus block in the Hypostyle is roughly square in plan with each of their four sides having long rectangular panels decorated with large horizontal cartouches of Sety I or Ramesses II. In every case, both the nomen and prenomen cartouches of Sety I and Ramesses II has the phrase *mr-Imn*, “beloved of Amun” written 𓄿 or 𓄿. In addition to the invariable epithet *mr-Imn*, Sety I appended a second epithet to his “standard” premen *Mn-Mꜣ.t-Rꜥ*, placed at the flat, tail-end of the cartouche.

Most commonly this is *tit-R'* “image of Re”; *iwt-R'* “heir of Re”; or *iri-n-R'* “whom Re created.” Rarely, others appear including *hq3-W3s.t* “ruler of Thebes”; *hq3-Jwnw* “ruler of Heliopolis”; or *stp-n-R'* “chosen of Re.”

Ramesses II used the same system in his earliest abacus inscriptions which were carved in raised relief in the southern part of the Hypostyle Hall during his first year as king. Twenty six abacus blocks here contain palimpsest cartouches on each face: the first rows of columns to the north (cols. 74-80) and south (cols. 67-73) of the central nave and along the north-south axis of the south wing (cols. 16-17, 25-26, 43-44, 52-53, 61-62). These early cartouches have his nomen written Ra-ms-sw-mr-Imn while his prenomen *Wsr-M3't-R'* has one of the epithets *tit-R'*, *iwt-R'*, *iri-n-R'* and very rarely *stp-n-R'*.

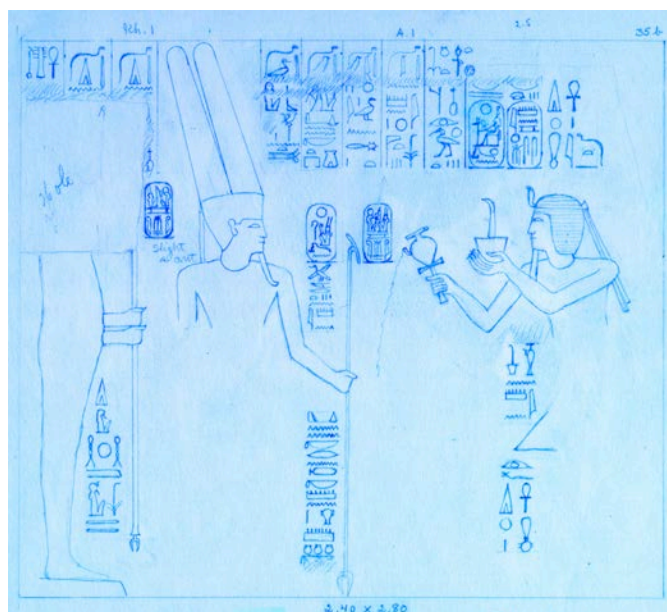
By the end of his first regnal year, Ramesses II began to carve his inscriptions in sunk relief and he also adopted the prenomen *Wsr-M3't-R'-stp-n-R'*. He then erased his own early raised reliefs on abaci in the south wing and recarved all of them in sunk relief with his final prenomen replacing the earlier variants and with his nomen written *R'-ms-s* instead of *R'-ms-sw*.

A second group of palimpsests occurs on the first row of abaci north of the central axis (cols. 74-80). Sety I originally decorated these abaci with his cartouches, but Ramesses II later erased his father's names and replaced them with his own in sunk relief. We discovered that Ramesses II did this in the later years of his reign, sometime after his 21st regnal year when his nomen had become *R'-ms-sw-mr-Imn*. We suspect that this was part of his larger programme to rename all the cartouches in scenes along the main processional axis of the Second Pylon and Great Hypostyle Hall in preparation for one of his jubilee festivals. We found evidence that his sculptors did this in great haste since on the north face of abacus 80 they never finished erasing Sety's name or recarving Ramesses II's.

Documentation of the Column Scenes

One of the main goals of this season's epigraphic work was the recording of the ritual scenes present on the 127 columns standing in the Hypostyle Hall. For the purposes of recording the ritual scenes we employed blueprint collation sheets based on drawings of the scenes made by Harold H. Nelson in the 1950s. Nelson's drawings are preliminary, focusing mainly on the recording of the texts and the general characteristics of the king and deities involved. Details such as the type of offering table present in the scene, quarry damage or iconoclastic hacking of the heads of figures had been omitted.

Our work focused on checking the blueprints against the original scene using the Chicago House method. We recorded the iconographic characteristics of the king and deities, the presence of paint and recutting. Amongst our findings we managed to establish the fact that all the scenes showing Ramesses II present on the 12 tall columns of the central aisle and the scenes on the small columns on the south half of the secondary North-South axis had originally been carved in the earliest part of his reign as raised relief and later converted to sunk relief.



Collation Sheet showing Nelson's Sketch of the scene on Column 35B.

The expedition also made detailed notes and sketches of the scenes found on columns 74-80 that originally were decorated in raised relief by Seti I, and whose scenes had later been usurped by Ramesses II. These scenes had been usurped sometime after Ramesses II's 21st Regnal Year, probably with the occasion of one of his jubilees, since his *nomen* is always spelled *R^c-ms-sw*. This usurpation involved making considerable alterations in the case of some such scenes, since the cartouches in sunk relief were carved noticeably larger than the original raised relief ones of Seti I, which lead to the suppression of entire columns of raised relief texts and alterations of the offerings the king was presenting. Besides notes and drawings, the expedition also made detailed photographs of the column scenes which will further aid our research.



Palimpsest relief from column 80 showing decoration of Sety I recarved as sunk relief by Ramesses II.

Recording of blocks from the Great Hypostyle Hall at Karnak (J. Karkowski)

The study of the blocks from the Hypostyle Hall was started by the late Dr. Murnane in the nineteen nineties. He selected 270 blocks in the open-air stores within the Karnak enclosure and made their sketchy drawings marking their localization in the Karnak storage areas. In 2000 he asked me to start systematic study of the blocks to add important information to the study of wall scenes and examine whether it is possible to establish their emplacement in the walls. This work I continued in 2002 with Dr. Brand, who replaced Dr. Murnane.

My work added a considerable number of blocks to those indentified by Murnane. Some entries of his list were eliminated as not belonging to the hall. The recording of blocks started and it was decided that whenever possible the decorated sides of the blocks will be recorded photographically. In case of difficult access to particular blocks they were traced on a transparent film in a 1:1 scale and then photographically reduced.

After 2002 a significant number of blocks were transferred by the French-Egyptian Centre to new "mastabas" in the north-eastern corner of the Karnak enclosure from a hill between the Great Hypostyle and the Ptah temple, where they were stored in disorder and access to them was limited. During the process few new decorated fragments were discovered, before hidden in the ground, and now all the blocks, previously only partly accessible, could be reexamined and recorded.

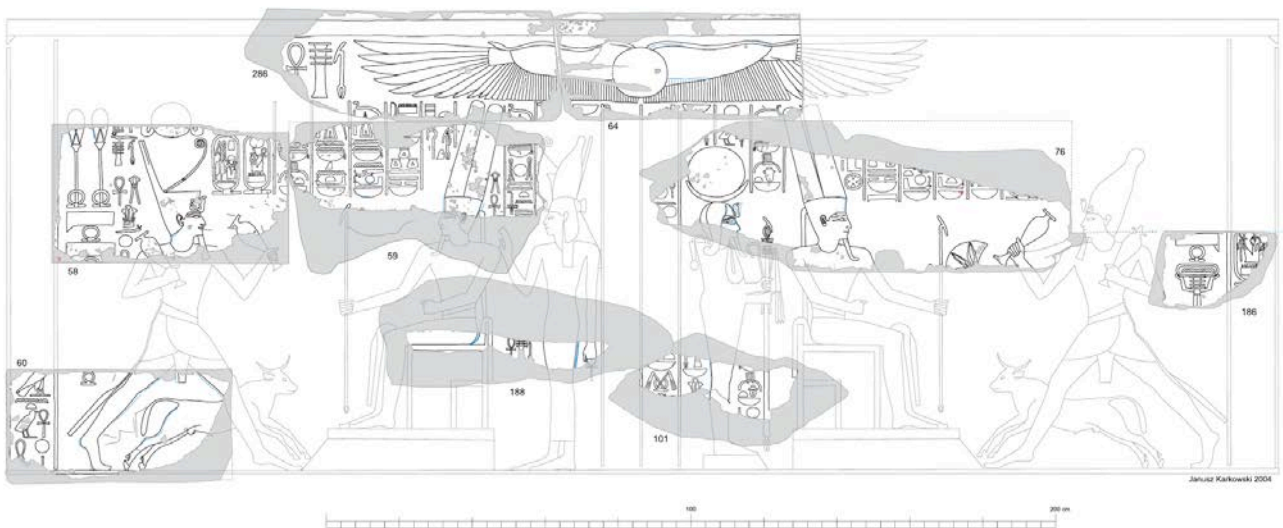
The recording was done using the digital camera of high resolution and the lens with focal length of at least 50 mm to avoid the spherical distortion. The angular measure was applied placed at the level with the decorated surface. This makes possible to correct the angular (perspective distortion) of particular photographs, which in field work conditions are almost never perfectly orthogonal to the decorated surface. Additional control measurements taken previously and completed during the season permit the accurate scaling of the photographs. Altogether 154 decorated blocks coming from the Great Hypostyle walls were recorded.

The study of the blocks was continued. At this preliminary stage the exact position of some of the blocks in the walls was established. The most spectacular example is the restoration of the inner (southern) face of the lintel above the doorway in the middle of the north wall. Another architectural element established up to now are two windows in the east wall by its south and north ends, which

brought additional light to the aisles of the hall most distant from the clerestory windows of the axial processional way. Of the partly preserved walls the best prospect of restoration are in the case of the south wall.

The expedition members studied the texts on the abaci of the columns of the hall. For this work almost 50 such inscriptions were photographically recorded including blocks in the temple storage areas. The loose blocks were recorded using the method applied for the wall blocks. The abaci still in situ were photographed from the scaffolding. To scale them the blocks were measured and whenever possible the angle of the side edges was established to enable as accurate scaling as possible using the Adobe Photoshop software. Despite a limited space between the columns requiring the use of wider angle lens, the scaling of a selection of 11 abaci sides with royal cartouches proved to be satisfactory. The remaining recorded abaci will be treated after the season.

Apart from the block recording I took a number of photographs of scenes and details to be used in the further study of the hall decoration in the process of preparing the final publication.



SETHOS I RUNNING BEFORE AMEN-RE, MUT AND KHONS. RECONSTRUCTION OF THE LINTEL OF THE DOORWAY IN THE SOUTH WALL OF THE GREAT HYPOSTYLE AT KARNAK

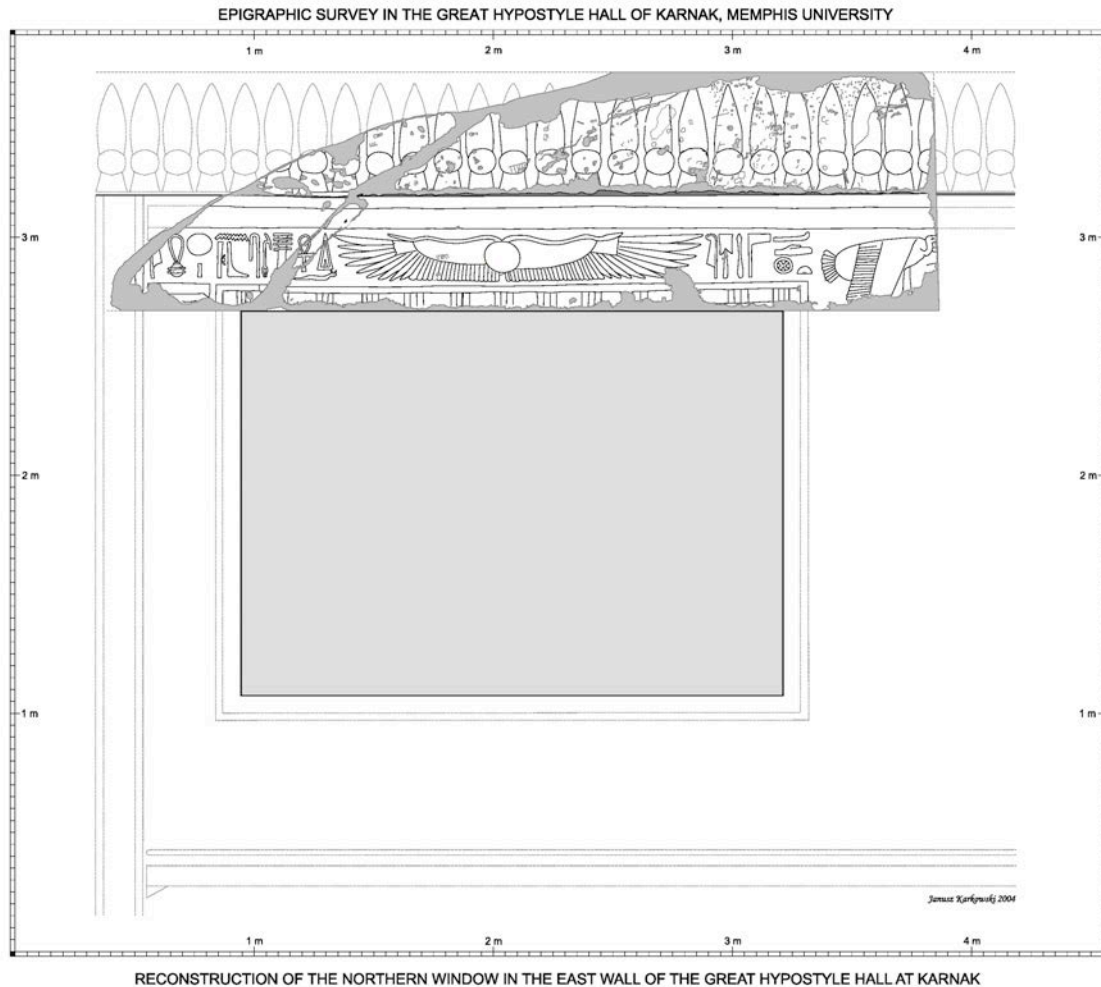
Scene from the lintel of the north gateway reconstructed from blocks. © J. Karkowski.



100 cm

COLUMN 83 S 1-5

Example of scaled abacus inscription on the southern side of column 83.



Reconstruction of the north window from the eastern wall of the Hypostyle Hall. © J. Karkowski.

1.1.2. Granary of Amun and *Shena*-workshop of Amun (S. Bickel)

During the current working season, I could spend two weeks in Karnak at the CFEETK December-January, one week in April, and one week in October. These short working periods were entirely devoted to the study of the fragmentary monuments of Amenhotep III, namely the *Granary of Amun* and the *Shena-workshop of Amun*. The blocks belonging to the first monument were reused in the Second Pylon, partly retrieved during the restoration work of Henri Chevrier in the early 1950's and are now mostly exposed on the mastabas in the south-west. The fragments of the Shena-workshop were reused in the so-called temple of Amenhotep II in the court of the Tenth Pylon.

The study of this material will contain an epigraphical and an architectural description of all the fragments known at present and suggest partial reconstitutions of the original buildings in drawings. The stays in Karnak were devoted to numerous verifications of epigraphical details, checks of measurements on the original blocks, reporting of the new numbers of the blocks, and taking additional photographs. I also profited from the Centre's archive and library to work on the manuscript.



Fragment of the *Shena-workshop of Amun* reused in the "Temple of Amenhotep II": Cartouche of Amenhotep III and restoration inscription of Tutankhamun © S. Bickel.



Several fragments from the *Granary of Amun* in the south-western block yard © S. Bickel.

1.1.3. Epigraphic survey of the Southern storerooms of the *Akb-menu* (J. Masquelier-Loorius)

The mission took place from May 9th to June 7th 2010. And was devoted to the last checkings (epigraphic drawings and study of them, erasures, etc.) before submitting the manuscript.

- All the digitalised drawings have been checked, with help of stairs, as the alterations. Some of them must be added on the drawings by using a graphic tablet;
- The amarnian and coptic erasures were differentiated on the drawings;
- Similar scenes and sequences of scenes were found in the temple, particularly in the sokarian rooms of the *Akb-menu*, the northern rooms of Tuthmosis III, and in the southern rooms of Hatshepsut; new ones were collected in the northern rooms of Hatshepsut.
- Two annexes will complete the work:
 - 1) paleographic specificities: some signs seem really particular and some parallels could be found in Karnak and in other temples;
 - 2) the colours that were used in these rooms: for example, we must note that all the divine and royal collars show the same succession of colours on every scene.

The manuscript, in two volumes (volume 1, text and volume 2, plates) will contain a presentation of more than 130 plates, with translation and commentar. A study will give some keys for understanding this sector of the *Akb-menu* of Tuthmosis III. A DVD-Rom will contain colour pictures.

1.2. The northern area of the precinct of Amun

1.2.1. The temple of Ptah (Chr. Thiers, P. Zignani)³

The aims of this third season were to continue the excavations of the southwestern sector of the temple (enclosure wall of the first Ptolemaic gate) and of the three chapels of the temple. This work included architectural, epigraphic and photographic surveys, and the development of the conservation programme (axial doors and courtyard) and the enhancement of the monument (cleaning of painted walls, new pavement inside the chapels). This season has seen a deepening of our understanding of the history of the Ptah temple.

Excavations of the southwestern area (P. Zignani)

The excavations of the enclosure wall with the gate of Ptolemy VI allowed the southern corner of the last temenos wall to be found. This wall has the particularity of not being as wide as the monumental gate giving access to the Ptah temple. After the end of worship, the enclosure wall was destroyed and used for domestic occupation. Unfortunately the late and medieval structures were severely disturbed at the beginning of the Twentieth Century by the extraction of material in order to build the ramps used by G. Legrain for the reconstruction and restoration of the great hypostyle hall. Thus the remaining elements of the late domestic occupations do not allow proper housing or production units to be identified. A level with a stone mortar was reached, showing that the space was leaning against the poor remains of the enclosure wall. The last Ptolemaic enclosure closed an axis of two gates opening onto the way of Ptah and leading to the east. Both buildings had been levelled to the first layers of their elevations. Chisel marks and masonry suggest a work of the XXVth Dynasty. These indices are enhanced by the presence of graffiti very similar to those found at the Treasury of Shabaka. Two bases of black granite columns, which belonged perhaps to a kiosk, precede the western gate. The presence of such an axis allows us to explore the development of this whole area east of the way of Ptah during the reign of Shabaka.



Secondary occupations: level of domestic activity © Cnrs-Cfeetk/P. Zignani.

³- epigraphy and egyptology: Mamdouh Abd el-Ghassul (Csa-Cfeetk), Sébastien Biston-Moulin, Christophe Thiers (Cnrs-Cfeetk), Didier Devauchelle, Ghislaine Widmer (univ. Lille 3), Elizabeth Froud (univ. Oxford);

- architecture: Pierre Zignani (Cnrs-Cfeetk), Mathieu Vanpeene, Pierre Tourvieille, Vincent Tournadre (VI MAEE);

- archaeology and ceramology: Pierre Zignani, Florian Pfingsttag (Cnrs trainee), Romain David (Cnrs), Mamdouh Abd el-Ghassul.

- photography: Jean-François Gout (Cnrs-Cfeetk), Jessie Maucor (Cnrs trainee), Karima Dowi Abd al-Radi, Ahmed Roubi, Mohamed Saïdi (Sca-Cfeetk);

- restoration: Ornella Bergès (VI MAEE), Abdou Qoraïm (Sca-Cfeetk), Mohamed Zaki (Sca-Cfeetk), Agnès Asperti (Cnrs), Anne-Claire Hauduroy (Cnrs trainee);

- SCA inspectors: Mohamed Abd el-Khalek Amin and Wahid Youssef Belal.



Architectural survey in progress of the temenos of Ptah © Cnrs-Cfeetk.

Excavation inside the chapels of the temple

Before preparing the modern pavement of the chapels to improve public access to the monument, investigations on the foundations inside the chapels were conducted to complete the documentation of the understructure. Initial observations had begun to be observed around the structure of Thutmosis III in 2009 and 2010 through the old trenches dug by H. Chevrier. This investigation led by Fl. Pflingsttag, under the direction of P. Zignani, aimed to specify the chronology of the site and to check the presence of remains in relation to a possible earlier temple. The excavation inside the three chapels allows us to observe how the building was founded. A large area was dug under the complete surface of the future building with a depth of nearly 3 cubits (± 1.45 m; lower altitude between 74.113 and 74.350 m). It was then filled with sand including a small amount of sherds, gravel and charcoal. This layer was used to establish the foundation of the external wall and limestone monolith as the floor of the temple. In the central room, we were able to observe the overlapping of two stones. One of them has a cornice on its side. As we also noticed that these elements consistently have one well dressed surface, we think that they belonged to the roofing of an older structure. Some of the rising joints present recess bands similar to those used on bearing slabs of the White Chapel re-erected in the Open Air Museum. Some blocks of the foundation of the external wall show red painted signs (two *w3s* hieroglyphs and the name of *Senmut*). Obviously, the limestone roofing slabs of an unknown monument were reused by the builders of Thutmosis III.

The original work was unfortunately destroyed by ancient robbers in the northern chapel. A work of restoration and consolidation was also done by G. Legrain (2,40m below ground level). Despite these interventions, it was possible to survey remains of mud-brick walls located in each chapel, where it was possible to reach the bottom of the ancient foundation excavation. These remains are too small to reconstruct a plan of previous structures. They do, however, show a different orientation to that of the temple of Ptah. Thanks to a preliminary survey done by S. Marchand and C. Defernez, it seems that the pottery sherds date these remains to the late Second Intermediate Period/beginning of the New Kingdom.



Views of the northern and southern chapels at the end of excavations © Cnrs-Cfeetk/ J.-Fr. Gout.

Plan des chapelles du temple de Ptah,
avec restitution des structures de briques
crues sous-jacentes

Po, D 7.6 & D 7.9 & D 7.16

Enceinte du domaine
d'Amon



- limite de mur connue
- hypothèse de restitution
- ▨ brique crue
- ▩ restaurations de G. Legrain

0m 0.5 1m 2m 5m MVP/LC/CF/AG/AMPT/IZ 11

Plan of the chapels with the mud bricks remains indicated © Cnrs-Cfeetk.

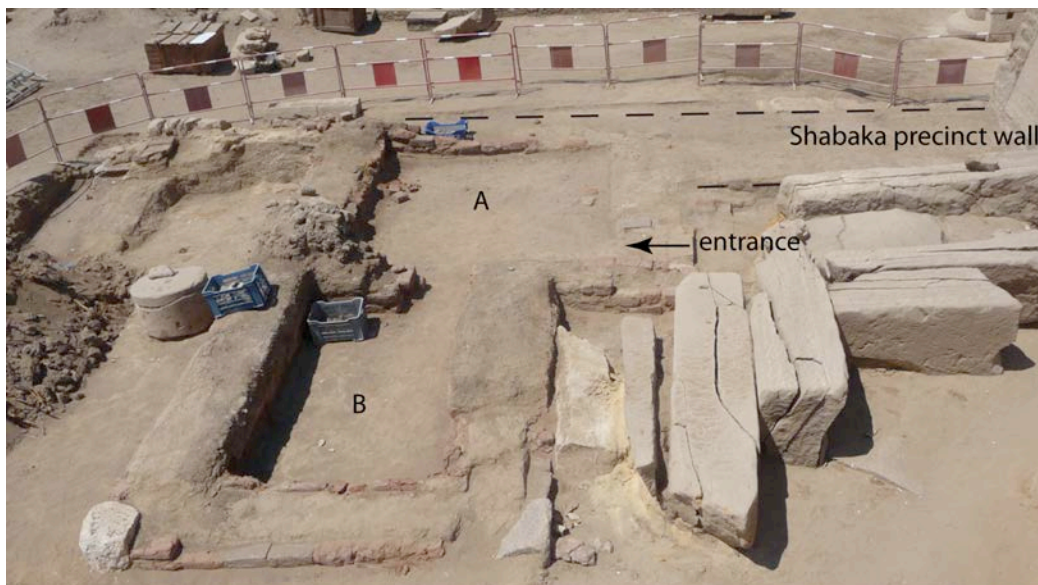
A “Romano-Byzantine” house (Chr. Thiers)

In order to proceed to the future restoration of the third enclosure wall associated with a gate of Shabaka (gate D), a cleaning was undertaken on the remains of this mud-brick wall. To the south, a two-room house was uncovered, located partly on the Ethiopian mud-brick wall. The main entrance opened on the north side, with a stone threshold. An outside room with a wall built with reused pharaonic blocks (talatat module) is located against the southern wall of this building.

The bottom of the preserved wall was built with two walls of baked brick, a mud brick filling and part of the elevation also of mud brick. The outer corners of the easternmost room (B) are reinforced by two blocks, one in granite, the other in limestone. The floor was relatively well preserved in the main room (A), covered in part by spreading ash. The pottery was quantitatively rather poor and seems to date from the Roman-Byzantine period (the study of ceramology has not yet been performed).

It must be emphasized that the presence of this structure impacted the storage of the roofing slabs of the temple during the work of G. Legrain, who noted this building with a dotted line on his plan published in 1902. Old photographs show that this construction was preserved in some parts with several layers of brick. The recording of the layout of this structure (and neighbouring slabs) is in progress, before dismantling it in order to rebuild the Kushite wall as part of the site management programme of the temple.

To the south, cleaning brought to light a wall with reused blocks of the “talatat” type, badly preserved, running to the East, parallel to the south wall of the Temple of Ptah.



The “Romano-Byzantine” house partially built upon the Ethiopian enclosure wall (gate D) © Cnrs-Cfeetk/Chr. Thiers.

A ptolemaic gate (Chr. Thiers)

Continuing the archaeological investigations in the southern area of the temple, it was decided in June 2011 to clean a loose block (2598) belonging to a doorjamb. The debris accumulated around the stone was removed, after which there appeared two stone layers belonging to a western doorjamb of a gate, with a north-south orientation. The first block of the eastern doorjamb is totally destroyed but a block of this doorjamb was found lying just to the east: it belongs to the third layer of this doorjamb. The passage through that gate retains the cavities of the sockets of the door. A pavement made of reused blocks (“talatat” type) is preserved on the northern side of the gate. No text allows us to know the role of this modest building or to whom it was dedicated. The lower part of a cartouche still preserved on the western doorjamb and the part of another one on the block lying to the East bear the name of a Ptolemy but these are not complete enough to be more precise.

The inner threshold is a reused lintel bearing the Horus name and Golden Horus name of Shabaka, both erased. One can also note that the blocks of “talatat” type belonging to the pavement in front of the gate are similar to those used in the inner masonry of the two large gates built in the southern area of the temple of Ptah.

The excavation of the area around the ptolemaic gate will continue in 2012 and epigraphic and architectural surveys conducted.



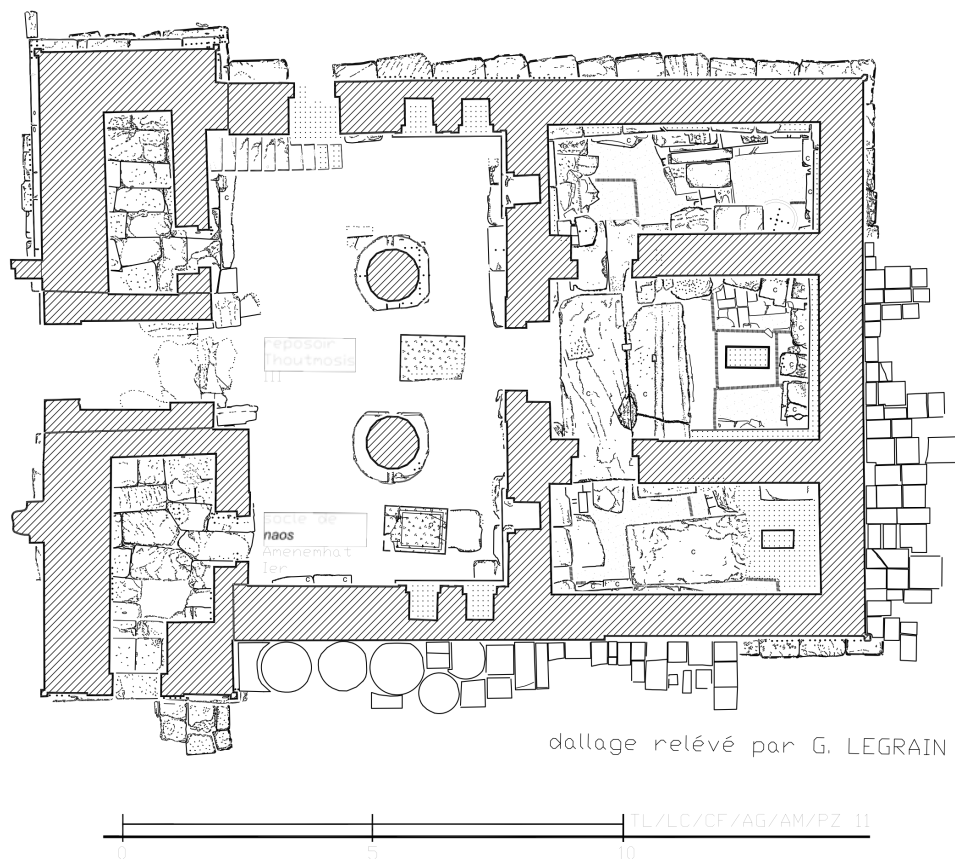
The small ptolemaic gate after cleaning © Cnrs-Cfeetk/Chr. Thiers.

Architectural survey (P. Zignani)

The documentation has been completed in many ways due to the removal of the concrete floor made during the previous restorations of G. Legrain.

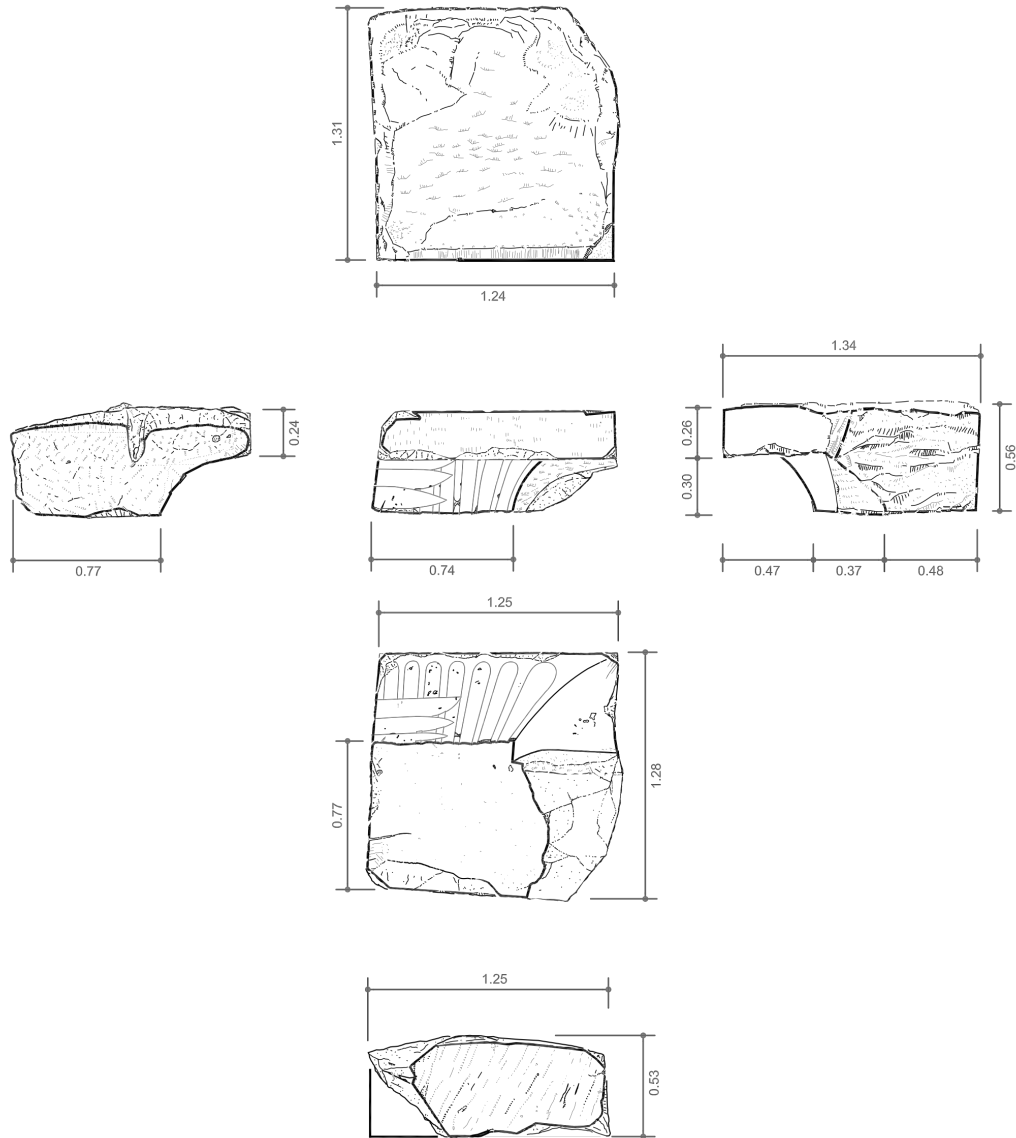
The ground plan has also been enriched by the inclusion of external pavements, which are now lost. They were drawn according to photographs of H. Chevrier and sketches from Lacau's archives (EPHE, Paris).

A new section, facing west, has been undertaken inside the courtyard of the sanctuary to better understand its roofing during the Ptolemaic period.

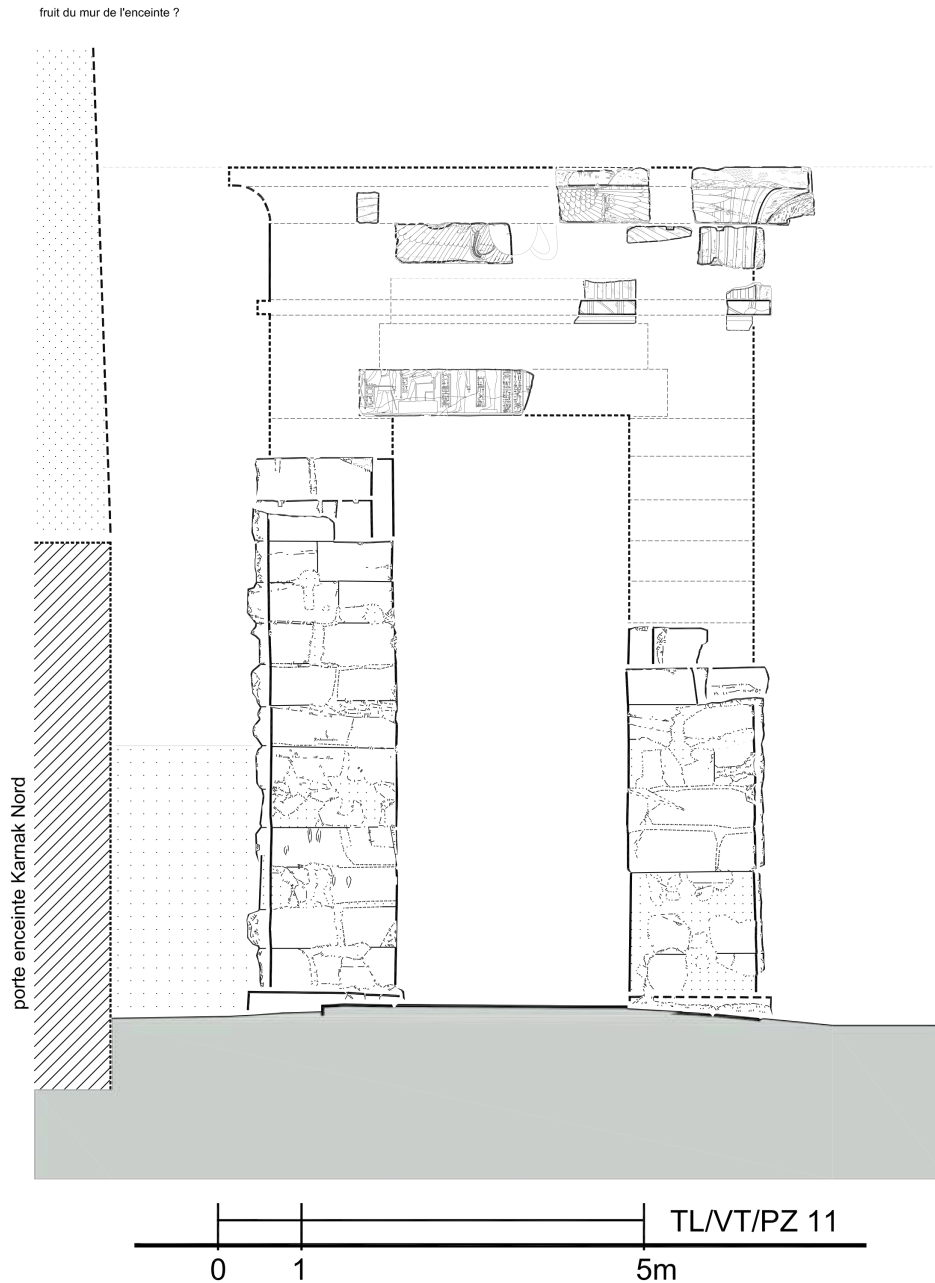


Ground plan with the external paving according to the photographs of H. Chevrier and sketches of P. Lacau © Cnrs-Cfeetk.

The survey of blocks stored east of the way of Ptah has been finalized through a file which allowed the graphic reconstruction of the crowning of the gate of Ptolemy VI. This research will be included in the project of enhancing the visiting quality of the temple of Ptah when the archaeological exploration of its precinct has been achieved.



0 0.5 1 1.5 2 3m TLVT/PZ 11
 One block of the cavetto cornice from the first Ptolemaic gate © Cnrs-Cfeetk.



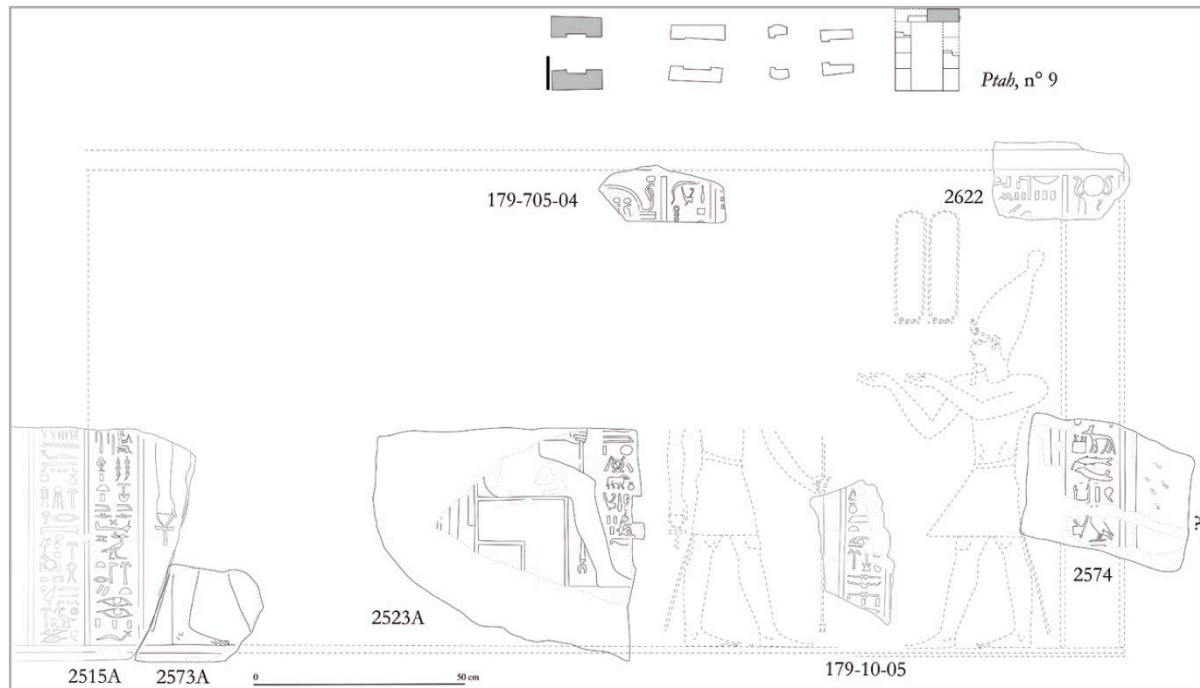
Graphic reconstruction of the crowning of the gate of Ptolemy VI © Cnrs-Cfeetk.

Epigraphic survey (Chr. Thiers)

After digitalization, checking of the epigraphic records have been undertaken. The old black cement which masked some texts and reliefs was removed (see below) which allowed the completion of several drawings, especially on the gates of the main axis. A block discovered during the excavation of the northern chapel (above) has been identified and put back on the inner western wall of the central chapel. It completes the epigraphy of the second lintel of the entrance door.

The inventory of loose blocks continued systematically and blocks uncovered during the excavation of the chapels of the temple have been identified and drawn. In addition, the removal of old cement has highlighted several decorated stones which had been used in the masonry during restoration work of G. Legrain. These stones were extracted from the walls and inventoried. The study of loose blocks has allowed many scenes to be completed and offers a possible reconstruction of the lintel of the first Ptolemaic gate.

In the foundations of the chapel of Hathor, two blocks of sandstone have yielded painted red marks. Both have a pair of *was*-scepters, the same type as those revealed last year; the other is more interesting because it gives the name of the architect Senenmut who worked under Thutmose III and Hatshepsut (above).

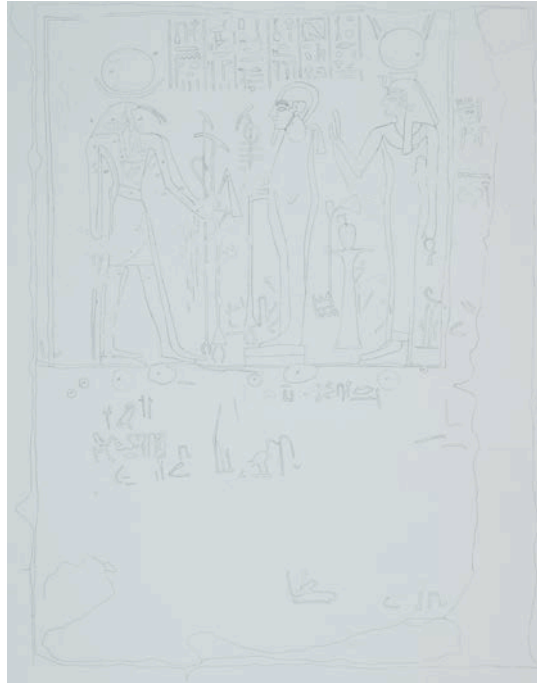


Possible restoration of the southern part of the first Ptolemaic gate lintel © Cnrs-Cfeetk/Chr. Thiers.

Hieroglyphic and hieratic graffiti in the Temple of Ptah (E. Frood)⁴

A short season was held from April 7–27 2011, focusing on epigraphic recording of graffiti on the exterior walls of the temple of Ptah, as a sub-project of the larger Ptah temple project. As this was the first full season of the sub-project, different approaches and methods of recording were tested. Figural graffiti on the north, east, and west exterior walls were recorded (ca. 12 blocks, 15 individual graffiti), but the primary focus was the extensive hieratic and hieroglyphic graffiti on the south exterior wall. This material is particularly challenging to record due to the lightness and fineness of the inscriptions and the degradation of the wall surface in places. Two different drawing methods and three recording ‘styles’ were tested here, producing mixed results. Drawings of the graffiti on five block surfaces were completed, including one of the two scenes of gods, and detailed studies of the layering of graffiti on these and the other blocks on this wall were undertaken. The copies and analyses produced by Claude Traunecker during his previous work on the graffiti are a vital resource for the work. At this stage, it seems that much of the hieratic (and occasionally hieroglyphic) textual graffiti, mainly names and titles, may date to the late Ramesside and Third Intermediate periods, although further comparative study of orthography and palaeography will refine and perhaps change this assessment. The two scenes of gods on this wall overlay earlier inscriptions and may date to the Late-Ptolemaic periods, raising questions as to the changing meanings of this area in terms of inscriptional practices and collegial associations over time. Traces of paint observed on these scenes were noted and consolidated by Ornella Berges.

⁴ I would like to thank Ibrahim Soliman, Director of the Temples of Karnak, for his generous support of this project, and also the inspector Wahid Youssef Bellal. My thanks also to Christophe Thiers, Sébastien Biston-Moulin, Jean-François Gout, and Raïs Awad for facilitating the work.



Graffiti on the wall of the temple of Ptah © Cfeetk-Cnrs/E. Frood.

Demotic graffiti (D. Devauchelle, Gh. Widmer)

The aim of this a short mission (April 21st to May 3rd 2011) was to check last year's readings and to correct the drawings which Martyne Bocquet (UMR 8164 HALMA-IPEL) vectorized in Lille. Jean-François Gout (CFEETK) took some new photographs of these inscriptions, such as the following graffiti on which the person's name was voluntarily (?) erased, for a reason which remains still unknown:



“The beautiful name of [... son of ...], may it(?) remain here before Ptah” © Cnrs-Cfeetk/J.-Fr. Gout.

Conservation programme (O. Bergès, Abd el-Nasser)

Within the framework study of the Temple of Ptah, different conservation and restoration work has been developed and finished.

The sandstone altar⁵

The whole structure of the altar was very disturbed mainly because of the juxtaposed palm-tree. Damage caused by roots were also intensified by the capillary action of the tree, causing cycles of crystallization and dissolution of salts in the sandstone. To restore the structural and visual unity of the

⁵ Ornella Bergès (VI MAEE), Vincent Cabrol (Cnrs), Anne-Claire Hauduroy (Cnrs trainee).

altar, all the fragments with a loss of cohesion were consolidated very extensively. The altar was dismantled and evacuated, using a hoist and a goat, so that each fragment could be treated separately. The consolidation of the fragments was performed by bath perfusion or, depending on their size, by using a mixture of ethyl silicate Wacker OH diluted to 60% of diacetone alcohol. The assembly of the upper part was made by doweling with two strands of glass fibers that were inserted into the broken sides and then sealed with a liquid epoxy resin: Araldite AY103 and hardener HV427.

The restoration of the base was done in two stages: the assembly of surviving fragments was performed using the same protocol set up for the plate and then a new block of sandstone was cut in order to restore the lower incomplete part. The altar was carried back to its original location, this having been examined, found and cleared before removal. A slab of concrete foundation was poured to ensure stability and prevent landslides. In addition, it was coated with tar to stop any capillary rise thereafter. The new unit was installed, using a wooden goat equipped with a hoist at the desired height, and then sealed by pouring the mortar. Finally, we reunited the refurbished block with the carved one by applying some Araldite 2015 on the common carvings. Then, after pointing the joints with a grout hydraulic lime and sifted sand, we sealed two fiberglass studs (with the same liquid epoxy resin) to ensure a continuation of the two solid blocks in place. Mortars (adapted to the color of the stone) were used in areas with cracks and gaps.



The altar before and after restoration © Cnrs-Cfeetk/O.Bergès.

The roofing slab (block 2527)⁶

Moving and restoring the roofing slab 2527 has been an early priority because it was in a critical state of preservation and its storage was threatening the stability of the earthen wall of the temple of Ptah. The first objective was the removal of every fragment in order to achieve the restoration work and at the same time consolidate part of the damaged earthen wall.

The seven fragments were moved outside the temple to allow their restoration and assembly. Its total weight of over 2 tons and the inability to bring the crane in situ required the installation of a scaffolding structure to establish an IPN and a crane, adjacent to the wall structure and to the scaffolding. Subsequently, a railway track was set up to allow the removal of each fragment using a suitable carriage. Once removed, the fragments were stored on blocks of wood to allow the restoration and consolidation. All these manipulations were carried out without a crane, using a wooden goat and a hoist. Only fragment 5 had to be studded in situ prior to removal as a network of large cracks threatened irreversible loss of material once it was moved.

⁶ Ornella Bergès (VI MAEE), Abdou Qoraïm and Waffa Abbas El Hamd (Sca-Cfeetk), Vincent Cabrol (Cnrs), Anne-Claire Hauduroy (Cnrs trainee).



The roofing slab before and after restoration © Cntrs-Cfeetk/J.-Fr. Gout, O. Bergès.

We consolidated every fragment through impregnation with ethyl silicate Wacker OH diluted to 50% in toluene in the powdering areas and drip infusion. A total of 52 liters of mixture was used. Mechanical cleaning was necessary first to remove all the layers of dust and dirt to facilitate the penetration of ethyl silicate by capillary action and to avoid fixing dust and foreign objects on the surface. The salt crusts were removed using compresses of cellulose pulp and water. After impregnation, each fragment was isolated from air and light by plastic films and thick fabrics of cotton during a period of three weeks pending a full consolidation.

The heaviest elements were assembled using the crane. Once the blocks were in place, common breaks were put next to each other using a lever and wooden blocks for greater accuracy. Initially, we carried out the impregnation of the contact faces with an acrylic adhesive: Paraloid B44 diluted to 5% in acetone, preventing the resin used in the collages from entering deeply into the stone and without causing tearing. Once the fragments were wedged in their original locations and then caulked and infiltrated, we were able to achieve the different blinding, numbering 13 in total. We used stainless steel, providing a solid and permanent maintenance of the various fragments in place. We sealed them with an epoxy resin liquid: Araldite AY103 and hardener HV427. Finally, we injected grout, based on hydraulic lime, sand and finely sifted crushed brick, into fragments between 4 and 5 which had a very large incomplete area.

We have consolidated the old coating on the surface of the decoration as, due to a disconnected support, they threatened to fall. After various tests, we opted for injections of Primal E 330 S to 5%. The latter is an acrylic resin in aqueous dispersion and can be used as a binder to improve the mechanical strength of a coating. Different mortars followed the interventions of consolidation and were made from a mixture of lime, sand and pigment deficient areas.

The importance and completeness of our interventions included the different manipulations of the fragments, their bindings and their assembly, and has optimized the structural and visual recovery of the block. The roofing slab will be restored on a storage bench in the temple of Ptah, next to Block 2620, in order to restore the whole.

Conservation of sandstone loose blocks⁷

The consolidation treatments of sandstone blocks scattered around the Temple have been pursued in order to allow their study by epigraphists. These last ones, stored in areas south / south-west around the Temple, were mostly partly buried and were in a very critical state of conservation. Powdery areas were marked and very visible at the edges of buried blocks. Their movement and their documentation were impossible, which led us initially to pursue the conservation-restoration treatments involved in the Ptah temple since February 2008:

- All the blocks have undergone a consolidation of ethyl silicate (SILRES Wacker-OH) combined with 1/3 or 1/2 of Diacetone alcohol (as appropriate) to stop the ongoing powdering. The silicate was impregnated either by bath or by drop by drop followed by a drying time of about three weeks.
- The consolidation works were then recorded for three quarters of the blocks. They were mostly made with epoxy resin. Collages of fragments were made by the paste Araldite 2015. The liquid resin AY 103 (hardener HV930) was used for infiltration. Those stones that were impossible to move were doweled in place. The dowels were soaked in the liquid resin.
- Mortars-capping tinged with lime were placed in the missing stone to keep the pieces in place and make them easier to read. Joint breaks in the coating had been previously insulated with an acrylic resin (Paraloid B44 to 10% in acetone).
- Blocks have mostly been moved to be stored on appropriate benches for their long-term preservation.

The main axis and the southern doorjamb of gate B⁸

Consolidation treatment of sandstone blocks of the gates of the main axis of the temple continued from 2009 to 2011 in order to make possible their study by epigraphists. The removal of old cement mortars has been very successful and helped to reveal some of the engraved decoration which had been covered. Records of epigraphists have been completed.

Once the heavy work of clearing finished, we were able to set a priority for interventions to implement consolidation. All areas that need to be consolidated were cleaned. The blocks were treated in an elevation of ethyl silicate impregnated Wacker OH diluted to 50% in toluene at powder areas and drip. The infusions were installed in the previously drilled holes. After impregnation, each fragment was isolated from air and light for a period of three weeks pending a full consolidation. There were also different areas with cracks or fragments detaching. We have remedied these problems by performing various treatments tailored to each case. For open cracks, we injected grout hydraulic lime and finely sieved sand. The fragments were dissociated glued with epoxy resin Araldite two-component paste (2015 (AV 5308 / HV 5309-1). The sides of the collage were first isolated by a layer of 5% Paraloid B44. Some blocks have been removed and consolidated in order to reintegrate them into the masonry.

Finally, various mortars were made from a mixture of lime / sand in lacking areas. We then carried out the finishing work and cleaning such as removing old mortar residue around the blocks and the absorption of moisture tasks and salts..

The southern doorjamb of gate B presented a work in itself, where three scattered blocks were returned *in situ* (2527, 2533 and 2668) and with a necessary deposit of a damaged block. This work required a winding scaffolding structure quite consistent with the establishment of an IPN with a hoist trolley suspending and a big section of the scaffolding allowing the removal and installation of the blocks weighing over two tons.

⁷ Ornella Berges, Abdou Qoraïm, Mohammed Zaki, Waffa Abbas El Hamd and Najoua Abdel Khafour.

⁸ Ornella Bergès, Vincent Cabrol, Abdu Koraim, Mohammed Zaki, Zeineb Abd el Muahsen, Abdel Nasser, Mahmoud Said, Najoua Abdel Khafour, Waffa. Abbas El Hamd, Adel, Ghaad Nubi Hussein and Ahmed Hassan Fuli.



Gate A, northern doorjamb, during conservation and with the final mortar © Cnr-Cfeetk/O. Bergès.



Detail of old mortar covering the relief © Cnr-Cfeetk/O. Bergès.



Locking system of the Gate B, before and after the removing of the mortar © Cnrs-Cfeetk/O. Bergès.

Initially, we introduced the top of Block 56 because its state of degradation was very advanced and we could not continue the anastylosis without this first step. The treatments were necessary because the block was fragmented; assembly with a cement mortar was accelerating the powdering in its core. A large

building operation in ethyl silicate (not originally planned) was necessary. In addition, fragments deposited on the ground have been put together, after consolidation, with two studs. The lower part of the block was treated in situ. Once ready, the block was reassembled in place. All masonry restoration and filling operations on this gate were made with a mortar made from Egyptian hydraulic lime with crushed brick, and a small proportion of white cement. Thereafter, brick masonry was required to replace the incomplete parts. A reinforced concrete slab for the installation of the upper strata was cast at the foot of the scaffold with a wooden form to order. Once the slab ready, it was mounted through the pine trees and laid dry. A white cement grout was then injected under pressure. Foundation bricks were mounted until they reached the desired altitude for the installation of three blocks over the sixth and seventh seat.

These three blocks, 2527, 2533 and 2668, were the subject of conservation-restoration treatments including a comprehensive building operation with ethyl silicate (for further details refer to the work sheets "scattered block Ptah 2009-2011"). A second reinforced concrete slab was cast in place, at the sixth sitting, to ensure a bed waiting so with a view to laying two massive blocks constituting the seventh seat. Being limited by the height of action of the hoist, the establishment of the two blocks required a complete enhancement of the scaffolding structure. These two blocks have been placed on hold at an intermediate height by raising the structure. Once this in place, the biggest block was laid dry, allowing the adjustment to the level of epigraphy as well as slope and lower courses of siding. Once set, it was stuck. The second block was also laid to dry in the south of the first, allowing all control manipulations. Once everything was set up, they were studs in three places, to keep the original unity of the restored seat. The studs were sealed with a liquid epoxy resin: Araldite AY103 and hardener HV427. Once the winding and assembly work completed, finishing work could be undertaken. All the blocks were cleaned with local clay: the "Hiba" and mortars were placed in succession.



The eastern side of the southern doorjamb of Gate B, before, during and at the end of the work

© Cnrs-Cfeetk/O.Bergès, Chr. Thiers.

The work presented above was a priority because the state of degradation of certain stones was very advanced, but also because the old cement mortars were threatening the earlier cohesion while being aesthetically unsatisfactory. Doors that have been processed are now stable and have achieved a structural and visual unity. The mortars of the court of the temple were also removed and replaced. Finally, this joint project was very motivating and excellent training for the CFEETK team and allowed them to work in genuine cooperation.

1.2.2. The Treasury of Shabaka (N. Licitra)

The sixth and seventh excavation seasons at the Treasury of Shabaka took place in the spring and autumn 2011. The work was directed by Nadia Licitra, graduate student of Paris-Sorbonne University, and supervised by D. Valbelle and C. Bonnet.

After the discovery of the hall of the niche in autumn 2010, a new excavation area (7x15m) has been opened to the west in order to check the extent of this hall.

The western wall of the hall is badly destroyed and the elevation does not exceed 60-70 cm, reaching only 2-3 cm in few points. Nevertheless in the middle of this wall a gate (1.80 m high) leading into the hall of the niche is still preserved.



The gate and, in the background, the hall of the niche © Cnrs-Cfeetk/J. Fr. Gout.

This gate is built with small sandstone blocks and the same scene decorates each of the two sides of the doorjamb: Shabaka in front of Amon in the act of offering the goddess Maat. The cartouches of the king and the classical offering formulas accompany this scene.



The western scene of gate's southern doorjamb © Cnrs-Cfeetk/J. Fr. Gout.

The threshold, made with sandstone blocks, retains traces of the white plaster which covered it. Inside the new room, to the west of the hall of the niche, two bases of sandstone columns were brought to light: for the time being it is not possible to tell whether these columns are related to a porch or to a hypostyle hall.

To the south of these columns, two small sandstone doors were found: all the elements (doorjambs, lintel and cornice) are preserved, but in the case of the western door, the western doorjamb remains below the limit of the excavation and the cornice is broken. The small size of these two doors shows the presence of two new parallel rooms, of which only the entrance is currently visible, probably two storerooms of the Treasury.

After the destruction of the Treasury, the area of the ruins had been covered with filling earth to create a horizontal level for new buildings.



The two doors of the storerooms fallen on the floor © Cnrs-Cfeetk/J. Fr. Gout.

The first phase after the destruction of the Treasury is poorly preserved: a south-east/north-west building was founded on the fill of the Treasury: just two rooms have been located. The northern one was probably a court because about ten pits for plants have been discovered in it.



The first phase after the destruction of the Treasury: the garden in the courtyard © Cnrs-Cfeetk/J. Fr. Gout.

Afterwards, a new building with the same orientation settled on the ruins of the older one. This second building had probably been in use for a long time and, during its first phase, two small silos were put against the southern wall.



The second phase after the destruction of the Treasury: the two silos of the Ptolemaic building
© Cnrs-Cfeetk/J. Fr. Gout.

The only large room of this building was transformed later: the two silos fell out of use and a small wall was built in the room to form two different spaces.

Finally, in Ptolemaic times, a building with deep foundations was built on the ruins of the older one. The excavated part of this large building is the eastern one: three rooms and a staircase have been brought to light.



The third phase after the destruction of the Treasury: the last Ptolemaic building

The data collected during the campaign allowed our knowledge of the stratigraphy in the northern area of the excavation to be improved and completed the sequence of the phases subsequent to the Treasury of Shabaka.

The discovery of the gate and the location of the two storerooms consolidate the hypothesis with regard to the plan of the Treasury and helps with the understanding of the different areas of the Treasury.

1.3. Ptolemaic studies

1.3.1. Epigraphic survey of Philip Arrhidaeus' bark-shrine (Chr. Thiers)⁹

Initiated in fall 2010, the epigraphic survey of Philip Arrhidaeus' bark-shrine, located in the central area of the Amun-Re temple, has significantly increased during the 2011 season. It is based on notes taken by Cl. Traunecker and A. Cabrol in the years 1980-1990. Several French students were trained in the field epigraphy as part of the framework of this project, supervised by P. Calassou with the help of M. Abd el-Ghassul.

The work began with the outer walls. The northern, eastern and western sides were completed, the southern wall has been partially completed. The sandstone vestibule at the entrance of Min-Kamutef's chapel, located on the north side of the bark-shrine, was also surveyed, and completed for the western entrance. The inner lintel of Min-Kamutef's chapel has been drawn and digitized, including trying to make visible the most substantial remains of colors.

This fieldwork has improved the reading of several inscriptions, including the badly preserved western gateway. Several loose blocks have been integrated into the graphic reconstruction (north, east and west walls). Many epigraphic details (color preservation, preparatory work, carving mistakes etc.) were observed, as well as the special care given to the achievement of the carving (details of the inner right hand of Amun-Min for instance).

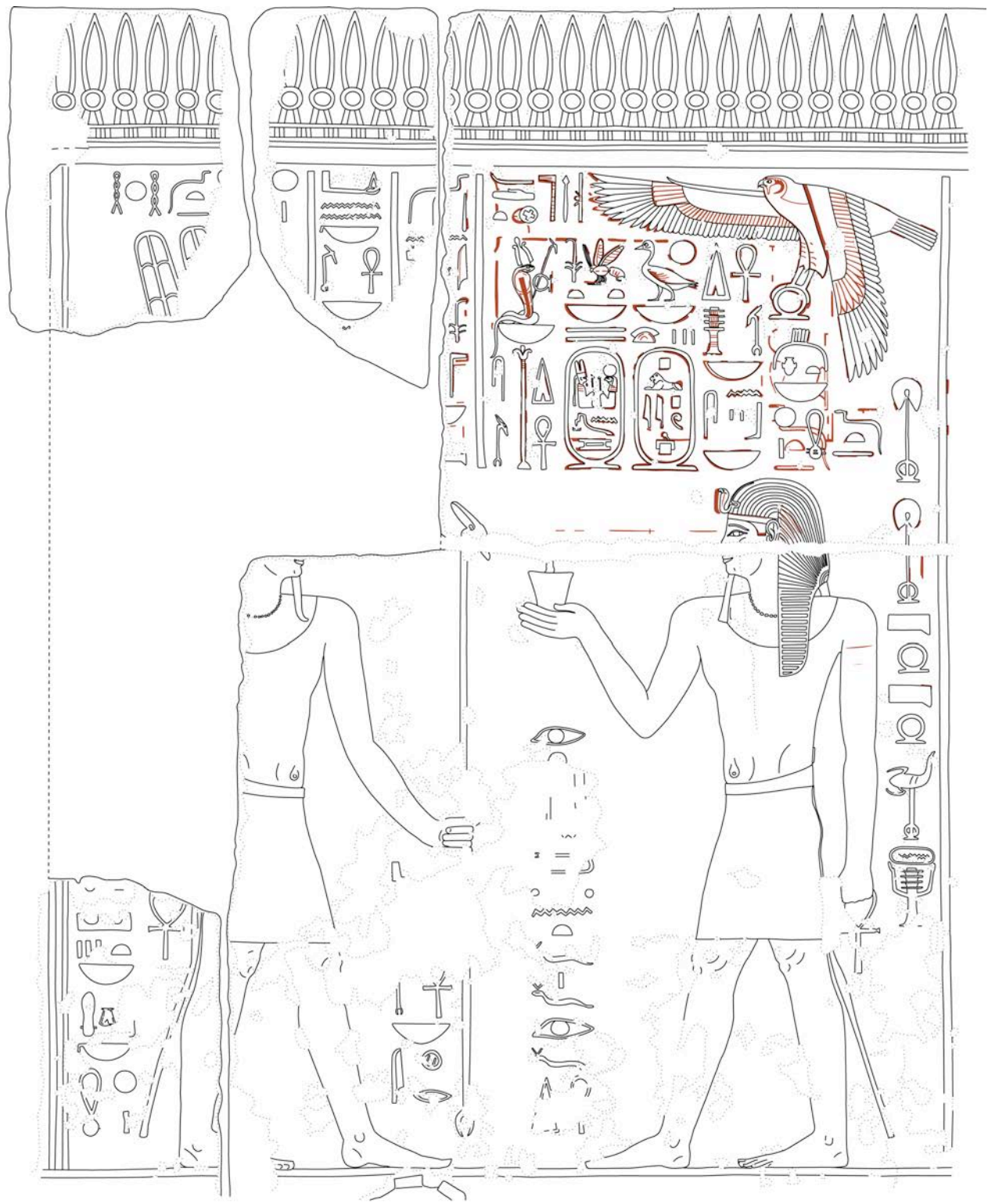
For the publication of the monument, the creation of the hieroglyphic text in-line (using JSesh software) with a critical apparatus, as well as the implementation of key plans, have been initiated.

Photographic survey of the outer walls were made by J.-Fr. Gout and J. Maucor, completing the photographic documentation already available in the archives of the center.



The hand of Min-Kamutef © Cnrs-Cfeetk/J.-Fr. Gout.

⁹ P. Calassou (Cnrs-Cfeetk), M. Abd el-Ghassul (Csa-Cfeetk), C. Bouanich, J. Hourdin, S. Klein, Ch. Labarta, A. Tillier (Cnrs trainees).



0 50 cm
Philippe Arrhidée, n° 40
Cl.

Scene from the outer northern wall, with addition of three loose blocks © Cnrs-Cfeetk/Ch. Labarta.

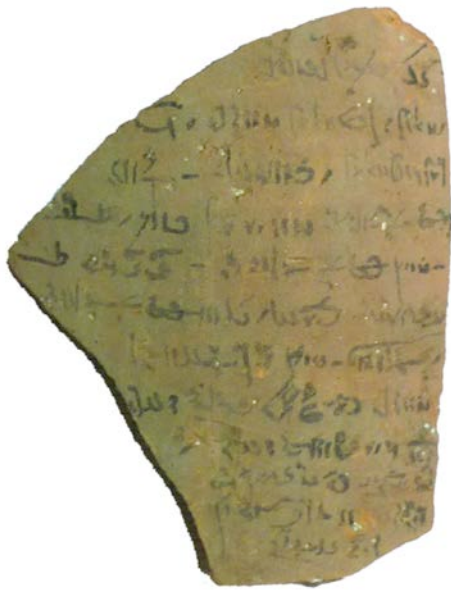


Inner lintel of Min-Kamutef's chapel © Cnrs-Cfeetk/P. Calassou.

1.3.2. Survey of the demotic documentation (D. Devauchelle, Gh. Widmer)

The mission (from April 21st to May 3rd) was devoted to the study of demotic graffiti from the Ptah Temple (*supra*) and also to the study of demotic ostraca from the Sacred Lake excavations and from the Northern Bubastide wall excavations. The work was done inside the Abou Goud storeroom. While consulting the registers of the objects formerly preserved in the Caracol store-room, several groups of ostraca were located and identified as those discovered to the North of the Bubastide wall and those found during the excavations of the Sacred Lake. Because of the limited time for the mission, interrupted by a couple of bank-holidays, we could only skim over this documentation, consisting of several hundreds of ostraca, and took new photographs of some of them. An extra mission will probably be necessary in

order to study in more detail some of the most interesting pieces, in particular the letters between priests. During our work we were assisted by Mrs Hanan Mohamed Abdelrady, inspector.



Letter sent by Hor, son of Heriou, to Pasherimen, son of Ankhpakhered, priest of Mut, concerning the making of *kâkât*-breads.

The text bears a date: year 6(?), second month of the *akhet*-season, day 29 and can be paleographically ascribed to the Ptolemaic period.

ODK LS 462.2

© D. Devauchelle, Gh. Widmer.

Thanks to Mr Mansour Boraik and with the help *in situ* of Mr Salah el-Masekh we could draw the demotic inscription engraved on a block discovered in 2010 in a layer apparently containing backfill from older excavations. This two lines text, mentioning a *hierous*-priest, will be published in the forthcoming *Cabiers de Karnak*. We thank Mansour Boraik, Salah el-Masekh and Bérangère Redon (IFAO) for making this collaboration possible.

1.4. Osirian cults

1.4.1. The chapels of Osiris to the North to the hypostyle hall (L. Coulon, Fr. Payraudeau)

Study of Ankhnesneferibrê's building at Naga Malgata (L. Coulon)

Due to the situation in Egypt at the end of January 2011, our excavation campaign on the Osirian chapels to the north of the Hypostyle hall (IFAO-CFEETK) had to be postponed. A short campaign of epigraphic and archaeological survey was conducted by L. Coulon and Fr. Payraudeau in the first days of February 2011, with the kind permission of Mansour Boraik and Christophe Thiers, directors of the CFEETK. The SCA was represented by Mr. Oussama under the direction of Mr. Ibrahim Soliman, director of Karnak.

In the field, drawings and measurements were made and notes and photographs were taken in order to record the blocks (granite thresholds, columns) lying to the north-west of the temple of Amun, on the outskirts of the village of Naga Malgata. These blocks come from a large building discovered by M. Pillet in 1924 (the so-called "temple of Osiris Pameres") and dating to the God's wife Ankhnesneferibrê (26th dynasty). As it was erected at the same period as the Saite chapels of Osiris along the path to the temple of Ptah, this construction is an important testimony to the architectural programme undertaken in the northern part of Karnak during the second half of the 26th dynasty.



General view of the current state of the area where the building of Ankhnesneferibrè was standing © L. Coulon.

The aim of the survey was to identify the architectural elements mentioned by M. Pillet in his report on Ankhnesneferibrè's building at Naga Malgata (*ASAE* 25, 1925, p. 19-23), which are also visible on photographic plates realized by him in 1924 and now kept at the Maison de l'Orient et de la Méditerranée (viewable online at www.mom.fr).



Pl. - Ensemble du temple d'Osiris Paniers, vu du S. E.
Ramsès Novembre 1924

View of the building of Ankhnesneferibrè from the north-east. November 1924 © Archives Pillet, ms ASAE, F 305, published in *ASAE* 25, 1925, pl. VII.

The following granite thresholds (complete or fragmentary) were recorded:

1	3.76 m	1.07 m	0.45 m +
2	4.70 m	1.42 m	0.70 m
3	3.92 m	1.20 m	0.28 m +
4	4.70 m	1.25 m	0.86 m
5	3.35 m +	1.30 m	0.55 m
6	4.50 m	1.20 m	0.80 m
7	4.50 m	1.20 m	0.80 m
8	2.06 m +	1.22 m	0.50 m
9	2.88 m +	1.07 m	0.50 m
10	1.86 m +	1.07 m	0.40 m
11	2.76 m +	1.20 m	0.70 m
12	3.37 m +	0.82 m +	0.70 m
13	1.20 m +	1.13 m +	0.50 m
14	4.10 m	0.70 m +	0.50 m

NB : The sign + indicates that the exact dimension of the block, partially buried, could not be recorded.

As for the column bases lying on the site, their diameters range between 1.50 m and 1.66 m.



The south-eastern part of the building of Ankhnesneferibrê in 1924 © Archives Pillet B 132.6.



Granite threshold (inv. # 1) visible on Pillet's photograph B 132.6, in its current position © L. Coulon.



Half of a base of column from the peristyle hall of the building of Ankhnesneferibrê © L. Coulon.

Two inscribed blocks copied by M. Pillet in the same area and now kept in the Open Air Museum at Karnak were recorded:

- Lintel of Ankhnesneferibrê. It is now broken, but a photograph taken in 1971 offer a view of this block in a better condition.
- Fragmentary doorjamb with titles of a Divine Votaress.



Lintel inscribed with the cartouches of the God's wife Ankhnesneferibrê (1971) © Cnrs-Cfeetk, n° 5883.



The same lintel (2011). Traces of blue and yellow pigments are preserved © L. Coulon.

By analyzing together the report and photos of M. Pillet, the aerial view taken by the RAF in 1921 and others taken more recently, and the data collected, and by studying the various epigraphic material which can be connected with this building, its structure and its characteristics can now be better understood. An inventory of the blocks of the same date coming probably from the same area and sold by art dealers in Luxor in the first half of the XXth century was established in June-July 2011; the most interesting

documents related to these blocks have been found in J.J. Clère's archives (Griffith Institute, Oxford, and Musée du Louvre, Paris). It can be inferred that Ankhnesneferibré's building was not a chapel of Osiris (although a chapel dedicated to Osiris Pameres was probably located next to it), but housed the performance of rites related to the Divine Votress and was probably located near her "Harem". The existence of this large architectural complex to the north of Karnak during the Saite period is an important clue to understanding why chapels of Osiris were settled along the alley leading to the temple of Ptah, which provides an access from the central part of the temple of Amun to this area.



Aerial view of the building of Ankhnesneferibré at Naga Malgata - RAF -1921 © Archives Pillet, MOM.

Epigraphic research (Fr. Payraudeau)

Blocks from the Osiris Chapels in the Cheikh Labib

General documentation (measurements, photographs, drawings) has been led on several blocks coming from the Osiris Chapels of the God's Wives of the 25th and 26th Dynasties:

- Block 94CL1938 from a pillar of God's Wife Shepenupet II, daughter of Piankhy, of the 25th Dynasty, has been registered, drawn and photographed.
- Block 95CL199 from a chapel of God's Wife Nitocris, daughter of Psammetichus I, of the 26th dynasty, has been registered, drawn and photographed.
- A block with a Nile God has been registered and photographed. The style indicates a date in the 25th Dynasty.
- Two blocks from a doorjamb of King Tanutamani (25th Dynasty), that may pertain to the chapel of Osiris-Ptah south of the Amun Enclosure, have been registered and photographed.
- Four blocks from a lintel of king Tanutamani (25th Dynasty), that may pertain to the chapel of Osiris-Ptah south of the Amun Enclosure, have been registered and photographed.



50 cm

Block 95CL199 from a chapel of God's Wife Nitocris (26th Dynasty) © Fr. Payraudeau.



50 cm

Block from a doorjamb of king Tanutamani (25th Dynasty) © Fr. Payraudeau.



50 cm

Block from a lintel of king Tanutamani (25th Dynasty) © Fr. Payraudeau.

Blocks from the Gate of the Osiris-Heqadjet Chapel

The chapel of Osiris-Heqadjet was partly published by Legrain and he identified the gate of the forecourt of the Osiris-Heqadjet Chapel from the Libyan Period (Reign of Osorkon III). D. Redford and his team prepared the forthcoming publication in the 1970's, but they did not publish this door, which is in poor state of preservation. The present study aims to precisely document the decoration of this door and to determine its date by studying the different blocks *in situ* and in magazines.

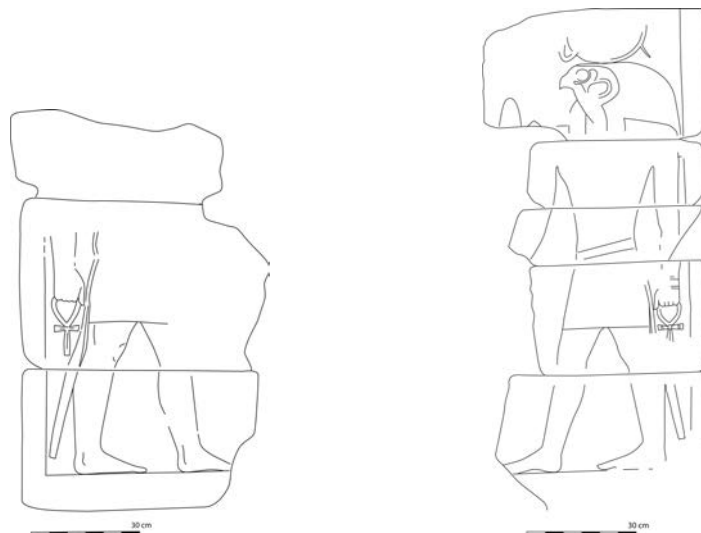
The *in situ* blocks have been studied and a lintel has been drawn, leading to a first attempt at the reconstruction of the decoration of the rear face of the door. The style of sculpture seems to indicate that, contrary to G. Legrain's opinion, this part was made during the Kushite Period.



View of Osiris Heqadjet chapel's court door blocks © Fr. Payraudeau.



Osiris Heqadjet chapel's lintel fragments on the floor © Fr. Payraudeau.



Western and Eastern Doorjambs, reconstitution of southern sides with god Montu (drawing on photographs only) © Fr. Payraudeau.

1.4.2. The temple of Osiris the Coptite (Fr. Leclère)

The Fifth season of work at the temple of Osiris the Coptite, in the north-eastern area of the Amun temenos at Karnak, funded by the Sorbonne university (Paris IV), proceeded in two steps, from the 16th January to the 9th February and then from the 28th April to the 1st June 2011.¹⁰

This season consisted mainly of gathering and arranging the blocks found during the excavation on new concrete mastabas built near the temple of Osiris, in completing the study of the pottery material, and doing some conservation work and documentation on important finds: a group of fragments of bronze figures, a fragment of sandstone statue representing a Greek style winged female sphinx, and a carved and painted block covered with mortar.

Storing of blocks

During summer 2010, two new mastabas were built by the CFEEK to the north-east of the temple of Osiris, orientated North-South and parallel to each other, along the western side of the neighbouring Nectanebo mudbrick enclosure wall, to the south of the temple of Osiris Heqa-Djet.

During the excavations from 2006 to 2010, the larger inscribed blocks, mostly from the Ptolemaic, Saite and Kushite Periods, with a few additional blocks dating to earlier periods, were temporarily moved from the chapel and its surroundings to existing mastabas in the north-eastern corner of the temenos and along the eastern side of the temple of Amun, to the north of its axis, where space was available, as well as in the spans of the Taharqa colonnade to the south of the chapel of Osiris the Coptite. In 2010, un-inscribed blocks with architectural features were already gathered on wooden beams close to the north-east corner of the chapel of Osiris.

This year, the decorated and inscribed sandstone blocks were transferred again to both new mastabas, in the southern half of them (Antoine Garric, François Leclère): Ptolemaic blocks on the western one, Saite and Ethiopian on the eastern one. The northern part of both mastabas is now occupied by blocks with architectural features: fasciculated column drums, long and heavy stone beams coming from the collapsed ceiling of the north-eastern lateral room. The rest of the available space is now filled with smaller fragments, including granite pieces.



Osiris the Coptite. Transfer of blocks on the new mastabas.

¹⁰ The members of the mission were: Dr. François Leclère (archaeologist, responsible for the project), Miss Aude Simony (ceramologist), Miss Virginie Ternisien (Conservator), Miss Shayma Montaser and Mr Oussama Mohamed Mustafa (inspectors of Karnak Temples, under the direction of Mr Ibrahim Soliman, director of Karnak temples). Several members of the CFEEK also took part in the work: Miss Ornella Berges and Miss Wafa Abd el-Hamd (conservators), Antoine Garric (stone cutter), Pierre Tourville (architect), the French-Egyptian team of photographers (Jean-François Gout, Jessie Maucor, Karima Dowi, Mohamed Saidi et Ahmed Roubly), and workmen under supervision of Reis Mahmoud Farouk.



Blocks arranged on the new mastabas © Fr. Leclère.

Study of pottery

The pottery from the excavation had been largely studied during the last season but some of it needed further documentation. The material is now entirely studied and all the sherds are drawn (François Leclère, Aude Simony). All the pottery is now arranged in numbered cloth bags (US 169.x) stored in plastic boxes, in the dedicated storeroom under the Sound & Light Tribune.

Conservation

A doorjamb from the Ramesside or the Third Intermediate Period

Among the sandstone blocks transferred to the new mastabas, one of the biggest, found initially broken in two pieces in the back of the north-east lateral rooms of the chapel, presented an oblique cut for lighting on one side and a thick layer of lime mortar on the other, hardened by salts. When transporting the block, traces of painted decoration appeared under the mortar where it was partly abraded. The removal of the entire layer of coating (Ornella Berges, Wafa Abd el-Hamd) revealed a scene carved in sunken relief showing two standing figures, the king on the left, facing the god Amun on the right, with the body painted in blue. The upper part, which might have contained inscriptions, is unfortunately broken and missing, but the style of the decoration points to a Ramesside or Third Intermediate Period dating. The right side of the block also bore a decoration, unfortunately almost entirely erased. The block must have belonged to the left doorjamb of a gate. It is now set at the southern end of the eastern mastaba, covered with a protective cloth. Frédéric Payraudeau made a fac-simile of it.



Clearing the painted decoration of the Ramesside or TIP doorjamb from the mortar coating © Fr. Leclère.



Bronze figures

In 2009, a group of around 20 fragments of bronze figures was discovered outside the north-eastern corner of the chapel. They probably correspond to a kind of consecration deposit made just after the construction of the extension of the building under Ptolemy XIIth. Some of them might be scraps from a metal workshop, others show clearly gold and glass decoration and sometimes traces of repair, indicating that they have been in use before being deposited. Other examples of such groups of bronze fragments, mostly osirian figures, were found in the area, for example by Henri Chevrier in 1950 to the north-west of the Tomb of Osiris, and by us in 1994 outside the south-west corner of the Osirian Ptolemaic catacombs. One might suggest that the builders of the chapel chanced upon our fragments when digging the foundations of the eastern and southern extensions of the construction, and piously reburied them in the corner of the new part of the building on completion. The faience seated ape found in 2009 in the foundations of the court of the chapel, at one corner, and the fragments of the sandstone statue of a female sphinx found in 2010 in the eastern part of the central axial room of the chapel must have resulted from the same phenomenon.

Virginie Ternisien mechanically cleaned these fragments of surface corrosion wherever it was possible, revealing sometimes traces of glass inclusions and gilding.

The doorjamb after clearing; painted decoration showing the king holding the hand of Amun © Cnrs-Cfeetk/M. Saïdi.

The group is composed of the following bits:

- 6 fragments of single feathers, all of different sizes, from the sides of Osirian headdresses; 2 fragments of a small one have been re-joined; the fragments of a largest one, found folded and broken in several parts, have also been re-joined.
- 2 pairs of feathers, one from a headdress of Amun, incomplete, the other probably from the headdress of a queen or a god's wife, with a solar disc provided with pair of uraei).
- 1 cylindrical base from the headdress of a queen or a female deity, surrounded by a frieze of uraei; the lower fragment of a small Osirian figure was welded to it by corrosion, so advanced and strong that the two objects in the end could not be separated; another small item, also stuck to the object was isolated: a lunar disc, with the crescent moon under it, and an uraeus in front, certainly belonging to a small figure of Khonsou.
- 2 single bird-legs from 2 different Ibis.
- 8 fragments of Osirian figures, mostly incomplete, 7 of small size and 1 head of larger size.

A few additional bronze objects from other contexts in the excavation of the chapel of Osiris the Coptite, such as a few coins and fragments of statuettes, have also been cleaned in the meantime, as well as two pottery vessels.



Head of a bronze Osirian statuette before and after conservation work © Cnrs-Cfeetk/J.-Fr. Gout.

Sandstone Greek style female sphinx

During the 2010 season, part of a sandstone statue of a female sphinx had been discovered in the foundations of the eastern part of the main axial room of the chapel. The statue was found incomplete, broken in several fragments, sometimes much decayed and pulverulent as if it had burnt. The fragments were consolidated immediately after their extraction and temporarily stored for drying. This year, Ornella Bergès gathered and rejoined the fragments and filled in the cracks and some missing parts. The restored statue is now stored with the rest of the material in the Evergete storeroom.



Fragment of a sandstone female sphinx when discovered and after conservation work © Cnrs-Cfeetk/Fr. Leclère, J.-Fr. Gout.

Photography and documentation

Despite several very long power cuts inside Karnak temple, which delayed the work to the last moment, all the bronze and sandstone items mentioned above were finally re-photographed after the conservation work (Jean-François Gout and his team).

Mohamed Saidi and Ahmed Rouby also went to the chapel of Osiris the Coptite to re-photograph a few reused blocks as well as the new Ramesside doorjamb, in order to complete the documentation, while Pierre Zignani and Pierre Tourvieuille, architects of the CFEETK, documented a few blocks on the mastabas for their study of ancient lighting in the Karnak monuments.

Conclusion

The documentation of the temple of Osiris the Coptite is now largely ready to be used for the preparation of the publication. The vectorization of pottery and object drawings is in progress. Final cross-checks still must be done on the epigraphy and the architecture of the monument. A short study season is planned in 2012. Some architectural blocks, stored on the new mastabas near the chapel, such as fasciculated column drums, will also need further consolidation. A project of consolidation and valorisation of the construction was proposed last year and still needs to be planned for, if possible, in the near future.

1.4.3. The temple of Opet (E. Laroze)

The architectural study project continued this season with a second field campaign. The mission took place between December 5th to 18th 2010. The expedition was for the purpose of verifying and complementing the survey.

According to a recent restitution of a pronaos which was standing in front of the Opet temple, the block statue found in 2008 could have been buried to mark the position of a row of the future columns. If this hypothesis is correct the second line of columns would also been marked with an artefact. A small sounding has thus been undertaken under the supervision of Miss Chaïma Montasser alongside the northern wall of the forecourt to verify this hypothesis. Situated 3,5m west to the facade, the area measures 1 x 1m and was excavated down to the level 76.20 m which is the lowest possible position. The substrate was exclusively composed of crushed stones which were used as fill for the ancient foundation trenches. Unfortunately, nothing else has been found.



The sounding against the northern wall of the Opet temple forecourt © E. Laroze.

1.5. Varia

1.5.1. The temple of Khonsu (J.-Cl. Degardin)

The mission which took place from March 19th till April 3rd 2011 was dedicated to checks inside the temples of Khonsu and Opet, and also inside monuments of the Theban West bank. The support of the staff of the CFEETK substantially facilitated the progress of this mission.

The collaboration over several years with the ARCE and Chicago House continued. The access to the material found during the cleaning of the grounds of the central axis of the temple as well as some rooms, was pursued.

The ongoing work of restoration of the colors in the court of the temple (western wall) and on some eastern columns of the peristyle contributes to a more accurate vision of the monument and generates precious information on paint as well as elements concerning the symbolism of colors. Those begun on the southern wall of the chapel II, to the West of the sanctuary, are very promising and should be continued across all the walls. The understanding of the decoration should be facilitated, maybe even modified.

Chapel III, as well as chapels VI and VII, were the object of particular checks, always with the aim of trying to define the ritual functions of these chapels and their integration in those of the temple, as well as the priorities which presided over their construction.

As expected in the programme, other checks were made on the northern sides of the pylon, and also on the decoration of the inner doorjambs of the gate of the pylon, the orientation of the divinities not following the usual rule of the ritual.

Also, the decorations of chapels IV and IVA and, for this last one its singular structure, as well as those of the chapel X (osirian chapel) were investigated again. The chapel IVA looks like a chapel of Medinet Habu, both by its structure and by its decoration and is also located beneath a staircase giving access to the roof. They both date to the reign of Ramses III.

Others observations were made at Karnak, as on the southern and eastern outer walls of the eastern part of Amun temple where appear particular representations of Khonsu.

A paper entitled "The axial chapel of the temple of Khonsu: essay of restorations and interpretation" was submitted to *JARCE*.

1.5.2. Pottery from the excavations of the courtyard of the IXth pylon (Ch. Van Siclen)

Work in the court between the Eighth and Ninth Pylons began on 13 November and ended on 27 November 2011. This was a study season in preparation for publication of the excavations in the court, and it will be continued in 2012. The work has consisted of examining and recording as necessary pottery stored on the concrete slab to the north of the west tower of the Ninth Pylon. The pottery examined during this period came from all periods present in the Court: from the Second Intermediate Period through the late Roman Period. Most of this pottery comes from fill deposited when the ground level of this part of the temple was raised.

At the request of the SCA, the removal of the camel thorn which had grown up in the court as well as in the Edifice of Amenhotep II was undertaken. An attempt to kill the camel thorn by spraying in October was unsuccessful, but it will be tried again at a better time.

1.5.3. Archaeological artefacts from the northern courtyard of the IVth pylon (R. Le Bohec, M. Millet)

The documentary mission (April 18th - June 4th, 2011) is the third campaign of the ceramic study.¹¹ This material was discovered in the north courtyard of the IVth pylon during the last excavations (2004-2007). The work was carried out with the cooperation of Marie Millet, ceramologist, and was primarily devoted to the drawing of the diagnostic sherds isolated last year. This study is part of the programme of research undertaken on the central part of Amun Temple since 2000 and concerns the monuments of the 18th dynasty as well as the prior installation phases dated from the Middle Kingdom. The last occupations of the site have also been studied.

All my thanks to Mansour Boraik, Ibrahim Soliman and Christophe Thiers, directors of CFEETK, for the working conditions which they provided me as well as the inspectors who kindly participated and

¹¹ April 11th - May 21th, 2009; April 13th - June 10th, 2010; April 18th - June 4th, 2011.

facilitated this study: Mohamed Abd el Khaleq, Mahmoud Abd el Hady, Hind Ali, Amr Abu el Magd et Hagag Mohamed. I finally wish to thank N. Beaux-Grimal, N. Grimal and F. Larché, without the support of whom this study would not have been able to take place.

The ceramic study of the northern courtyard of the IVth pylon was realized with the collaboration of Marie Millet.¹² This analysis is based on the ceramic typology (forms and fabrics) used for the south-east area of the sacred lake. It completes Guillaume Charloux's research¹³ on the pottery discovered to the east of the Vth pylon of Amun's Temple. The contexts retained by Marie Millet for the south-east area are the civil occupations of the Middle Kingdom and the foundation trench of the mud brick enclosure wall of the 18th dynasty. These two contexts correspond to the chronological context of the central part of Amun's Temple. Use of the typology of the south-east area to study the ceramic discovered inside Amun's temple will allow for an easy comparison of the material from these two zones at Karnak.

The ceramics found in the northern courtyard of the IVth pylon are primarily made up of small sherds of pottery. Complete ceramic pieces were rare and the only entire pieces belong to the foundation deposits of the 18th dynasty. The systematic sieving of all of the layers gives us a rather exhaustive image of the preserved material. The small fragments collected reveal a significant presence of material from the 12th dynasty. This consists primarily of small bowls in alluvial clay, A18a, with a very thin body. From the end of the 12th dynasty, these bowls are lined with red on the lip. This material is an essential *terminus post quem* to date the archaeological layers and thus the mud brick structures associated with them. The 2011 mission continues both previous campaigns of materials study, dedicated to the systematic analysis of the ceramic of all of the Stratigraphic Unities (US). The main aim of this research is to know precisely the contents of archaeological layers and to establish the pottery corpus (forms and fabrics). Every diagnostic sherd (edge and bottom) was recorded in this way and then illustrated.

The mission of this year was primarily dedicated to:

- the drawings of ceramic;
- the preliminary study of the foundation deposits;
- the study of the material from the disturbed layers;
- the beginning to general overview of the data.

The drawing of ceramic

The ceramic drawing occupied the major part of the time of the mission. It concerned:

- The diagnostic potsherds isolated during the previous two documentary missions and resulting from archaeological layers dating from before the beginning of the 18th dynasty;
- The majority of the ceramic from the foundation trenches of the mud brick structures: the structure M1 situated directly below the Vth pylon (Soundings 6G, 6B, 6C, 10B) and the wall M2 which leans against the western face of the extremity of M1 and which is built east-west under the two south columns of the courtyard (Soundings 10B, 7A, 7D, 13C);
- The ceramic material from foundation trenches and pits of the 18th dynasty buildings: the foundation trench of the Vth pylon (Soundings 6B, 6C, 10B); the foundation trench of the IVth pylon (Soundings 13C, 13G); the foundation pit of the obelisk (Soundings 6B, 7); a north-south trench situated between the foundation pit of the obelisk and the foundation trench of the Vth pylon;
- The pottery of the foundation pit of the buried calcite base (Sounding 9);
- The Roman Period ceramic resulting from disturbed and destroyed parts of the sandstone floor.

The study of the foundation deposits

Numerous foundation deposits were discovered in the central part of Amun's Temple. They are dated from the beginning of the New Kingdom. Placed beneath the foundations, in the angle of the constructions or below and along the building foundations, these deposits are mostly made of potteries. Three such deposits were found in the northern courtyard of the IVth pylon.

- Two were placed under and/or against the foundation of the sandstone floor of the courtyard: 1°/ along the east face of the casing wall of the north obelisk of Queen Hatshepsut for the first [DF2], and; 2°/ and below the threshold of the casing wall door for the second [DF1]. The burial of these two deposits was probably later than the construction of the courtyard floor. It required the destruction of the pavement and its subsequent restoration with thin paving stones.

¹² M. MILLET, « Architecture civile antérieure au Nouvel Empire : Rapport préliminaire des fouilles archéologiques à l'est du Lac sacré, 2001-2003 », *Cahiers de Karnak* XII, 2007, p.681-743.

¹³ G. CHARLOUX, « Typologie sommaire des poteries du début du Moyen Empire provenant des cours du VI^e pylône », *Cahiers de Karnak* XII, 2007, p.247-260.

- One was discovered at the base of the foundation pit of the obelisk [DF3].

After their discovery, these deposits were restored by the specialists of the CFEETK. Metallic objects were highly oxidized. These were treated by electrolysis baths and mechanic action for their restoration. Pottery, often broken, was carefully reconstructed. Drawings and photographs were then made. The copper blades and the faïence cartouches are now on display in the new museum of Fustat, in Cairo. The work conducted during the study mission this year consisted of:

- The review of the finished drawings: the completion of the pottery pieces of the deposits DF1 and DF3 have been checked, but only 2/3 of the DF2 have so far been verified;
- The analysis of every piece of pottery. Work to be finished for the DF2;
- The continuation of the restoration: reassembly and montage.

- Foundation deposit DF1 was placed under the western slope of the door in the casing wall and along the interior western side of this door. The area was very disturbed. At this place, the pavement is missing and only the blocks of its foundation remain. Protected in an angle between two blocks of this foundation, only the south extremity of this deposit was still in position upon its discovery. It consisted of eight pottery pieces among which only three were complete¹⁴: a white engobe big plate [DF1.1], a large cup/jar [DF1.2] and a miniature plate [DF1.5]. Other potsherds found came from small dishes with red lips and from a jar with an oblique neck. The rest of the deposit was completely destroyed. The fragments of the crushed pottery were found scattered in the sand of the foundation, but also in the destroyed layers recovered from the area. This material was well studied this year and the list of the pottery pieces originally belonging to this important deposit has been completed.

It was constituted by numerous white engobe plates, long leg pottery pieces (présentoirs), miniature plates, jars with or without necks, numerous small dishes with red lips and small pots. The study of this material will give, when finished, a precise idea of the quality and value of this deposit.

- Foundation deposit DF2 was found along the East facing of the casing wall, in similar conditions as DF1: the sandstone floor was cut to place the deposit into the sand below the foundation. A large block of pink granite fell and blocked the space where the pavement blocks were missed. Its fall protected the deposit from later plunderers. Very well confined, this deposit contained calf bones (skull, foreleg, etc.), 72 entire or almost complete pottery pieces and one calcite pebble carved with the name of Queen Hatshepsout. The continuation of restoration allowed for the reconstruction of new pottery pieces and to establish a first typology of the forms: long leg pottery (présentoir), jars with or without necks, spherical or tubular jars, small dishes, large cups, bowls, plates and pots with red lips, etc.

- Foundation deposit DF3 placed at the bottom of the obelisk foundation. It covers a surface probably more important than the part that has been excavated. It was very fragmented and composed primarily of bases of spherical or tubular jars. It contained also small dishes with red lips, cups and plates. About forty such pottery pieces were able to be identified. The long and laborious work of reassembly is now required.

The study of the ceramic material from destroyed layers (filling)

The ceramic material of disturbed layers had not yet been studied. These were thus given priority this year. This study had two objectives:

- to isolate and study the fragments coming from the foundation deposits and the potsherds of the New Kingdom;
- to establish a first corpus of the forms of the Roman Period in order to develop a typology. Numerous drawings have so far been made: they form an important basis for more detailed later work.

The documentation established during these three missions must to be verified and harmonized. This work is partially finished for zone 175 situated outside of the courtyard, to the North of the IVth pylon. But it has just been started for the courtyard soundings (op. 18) and must be continued during the next mission.

¹⁴ It also contained copper blades carved with texts (3 axe blades; 3 knife blades; 3 blades of herminette; 3 chisel blades; and 2 burins) and of numerous faïence cartouches with the name of Hatshepsut or Thutmosis III (28 cartouches with the name of Maatkare and 6 with the name of Menkherpere).

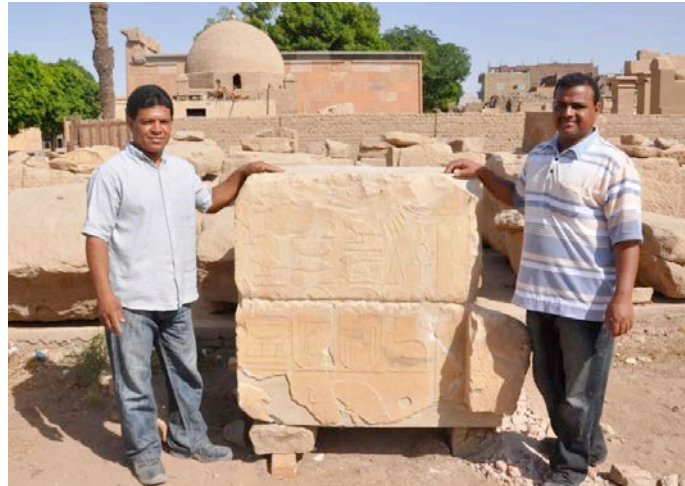
2. RESTORATION AND RECONSTRUCTION PROGRAMMES

2.1. Restoration (O. Bergès, Abd el-Nasser)

Conservation of limestone blocks of Thutmosis II, Hatchepsut and Thutmosis III in the Open Air Museum¹⁵

The reconstruction project of the Neteri-Menu of Hatshepsut and Thutmosis III continued this year. Two restorers from the center participated full-time to deal with scattered limestone blocks, and also those blocks put together in elevation which required interventions of consolidation or spot cleaning. The conservation-restoration interventions were performed with the same materials and following the protocol established last year at the start of work:

- The fragments were assembled and glued to the resin paste Araldite 2015, and then infiltrated with epoxy resin Araldite AY103 (associated with its hardener).
- The installation of dowel was necessary to preserve the fragments of larger size and have also been sealed or infiltrated with epoxy resin to hold them.
- The weakest blocks with a high degree of fragmentation were infiltrated by some resin without disassembly, in order to be able to consolidate them by digging access and by re-injecting the resin.
- Powdery blocks were consolidated with an acrylic resin (Type Paraloid B44) to maintain –for most of them- fragments of faces including epigraphy.
- Many interventions on old restorations were needed. Rusty clips as well as cement mortars were removed and replaced with lime mortar.



A limestone block during the restoration works © Cnrs-Cfeetk/O. Bergès.

Conservation-Restoration of the various archaeological objects from the excavation campaigns in the Temple of Amun¹⁶

Many artifacts were recovered from excavations this year; however their states of preservation as well as their support are multiple. Interventions of conservation and restoration have been developed in the laboratory for items coming from: the Temple of Ptah (Chr. Thiers), Treasury of Shabaka (N. Licitra) and the Temple of Osiris the Coptite (Fr. Leclère). More treatments were performed in situ to the Treasury Shabaka for consolidate the polychrome blocks of different doorjambs.

Conservation-restoration of a female sphinx statue, from the temple of Osiris the Coptite

As part of the programme of the Temple of Osiris the Coptite led by Fr. Leclère, the search led to the discovery, in March 2010, of a set of sandstone fragments belonging to the upper part of a statue of female sphinx. Highly degraded by fire and with a significant loss of cohesion, we immediately moved to the workshop at the Euergetes gate to develop an appropriate protocol for the conservation and restoration.

The first aim was the consolidation of all the fragments in order to limit the possible loss of information and to be able to achieve, in a second stage, the assembly and structural restoration of the sculpture (recorded on video). This step was carried out shortly after the excavation of the object in 2010. The surviving fragments were placed in trays and then impregnated with a reinforcement: the Wacker OH

¹⁵ Ornella Bergès (VI MAEE), Abdou Qoraïm, Abdel Nasser, Mahmoud Said and Mohammed Zaki (Csa-Cfeetk).

¹⁶ Ornella Bergès (VI MAEE) and Virginie Ternissien (Cnrs trainee).

ethyl silicate diluted to 50% in the diacetone alcohol, until saturation. After drying and consolidation we have pursued comprehensive treatment in June 2011 to implement the memorandum of assembly. The latter has proven quite complex because we had four main fragments and about thirty small fragments from strategic areas of bonding. The first step was the restoration of the left wing with a collage of first contact, made using Araldite epoxy resin, a two-component paste (2015 (AV 5308 / HV 5309-1) and a doweling. the fragment of the top of the Sphinx had a central fissure, deep and slightly open. We dowed using a fiberglass rod and sealed with a liquid epoxy resin: Araldite AY103 and hardener HV427.

The second step of the assembly was the recovery of the underlying part of the neck with various small fragments to obtain the contact surfaces between the torso and the upper part of the sculpture. We used the same epoxy resin paste, quoted above in the text and then after drying and caulking of all joints, we have infiltrated all with an epoxy resin liquid.

Finally, we were able to assemble the upper body with a collage of contact and a doweling. After sealing the pinning and completely dry injections of liquid resin, we removed and cleaned all residues of PLM with different nozzles mounted on a micro-tower Dremel brand.

Finally, we reconstructed the right wing with a dozen pieces, always using the same materials and the same sequence of interventions. These are relatively small; we opted for a simple collage stud, holding them with a strap with a slight pressure. After drying we injected the grout mortar of lime and sand, finely sifted; incomplete in parts. Different finishing mortars followed the interventions of consolidation and were made from a mixture of lime / sifted sand. We have colored in the mass to be closer to the overall appearance of sandstone and its considerable alterations. These were carried out in lime-water (water recovered from the settling of lime) mixed with pigments on the areas only resealed. The latter completed the mortars to mimic the different shades of sandstone. This work of editing was necessary to standardize the heterogeneous appearance of the entire sculpture.



Fragments of the female sphinx during the work and after the complete restoration © Cnrs-Cfeetk/O.Bergès, J-Fr. Gout.

Conservation work on various monuments

A large programme of restoration is devoted to the Karnak buildings. Old mortar is removed and replaced by a new one which is better for the walls. This work is ongoing in the central area and also in the Temple of Sethi II.



Restoration of the Temple of Sethi II © Cnrs-Cfeetk/Chr. Thiers.

2.2. Reconstruction programme (A. Garric)

Reconstruction in the Open Air Museum of a building in limestone of Tutmosis II, Hatshepsut and Tutmosis III: the Netery-Menu

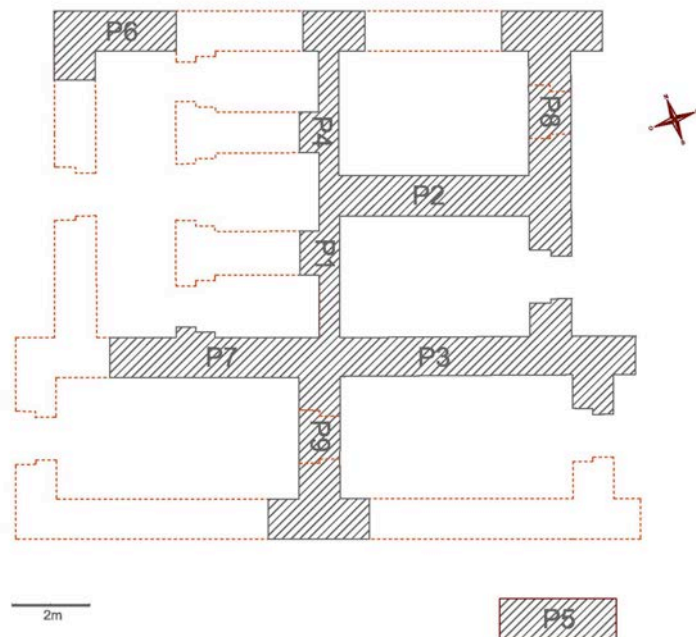
The rebuilding of the *Netery-menu* walls was the main activity of 2011. This work was performed in several stages to allow the crane to cover the entire area under construction. All lifting and block-moving was achieved using the CFEETK crane.

Each phase of work was formed by laying a paving area required for complete reassembly of the walls therein.

Before each stage of paving installation, the surface covered was also sealed with a layer of tar, preventing any capillary rise in the future. The paving is now complete and thus covers the entire foundation.

A projection of a few centimeters high, carved in the pavement, marks the location of the walls.

This projection, through large horizontal strips cut at its base, has also allowed a millimetric levelling of the general ground level.



Numbering of the walls of the *Netery-Menu*.



Block of the wall 1 being laid © Cnrs-Cfeetk/A. Garric.

Note that the pavement is made of large slabs of sandstone (2m x 1.5m x 0.11m approx), cut according to the ancient method that uses each slab to its full dimensions, creating a non-regular design called *opus-incertum*.

Many of the building blocks were cut in ancient times into several large fragments to be reused. Others were also dissociated by the presence of natural fractures. Prior to rebuilding, it was therefore necessary to restore their original dimensions by reassembling their fragmented elements. About twenty blocks were treated and received this structural consolidation: adjustment of the different parts, drillings and stainless steel dowel insertions, resin injections and sometimes restitution of the *resting surface* by a masonry base. The blocks thus treated can finally regain their original location within the walls.

Reassembly of the walls of the building (consisting of one hundred blocks of several tons each) began in September 2010. The *Netery-menu* includes a total of nine walls, all interconnected except for one (wall 5) whose position is unknown. This will be rebuilt separately, just outside the building.

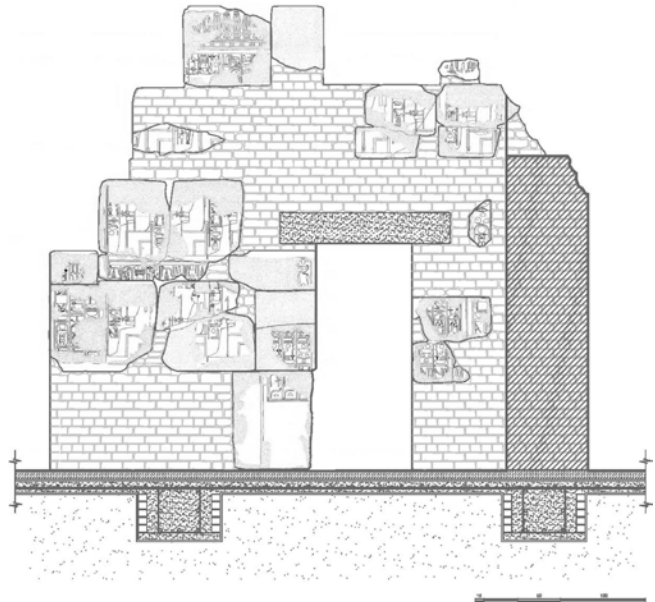
Wall 8, the only one with at least one block per layer, was used to determine accurately the original height of the building: 5.38 m under cover slabs.

Six walls are now completed (walls 1, 2, 3, 4, 6 and 8) and two others are still being assembled (walls 7 and 9). Only wall 5 remains to be rebuilt, its foundation is ready.

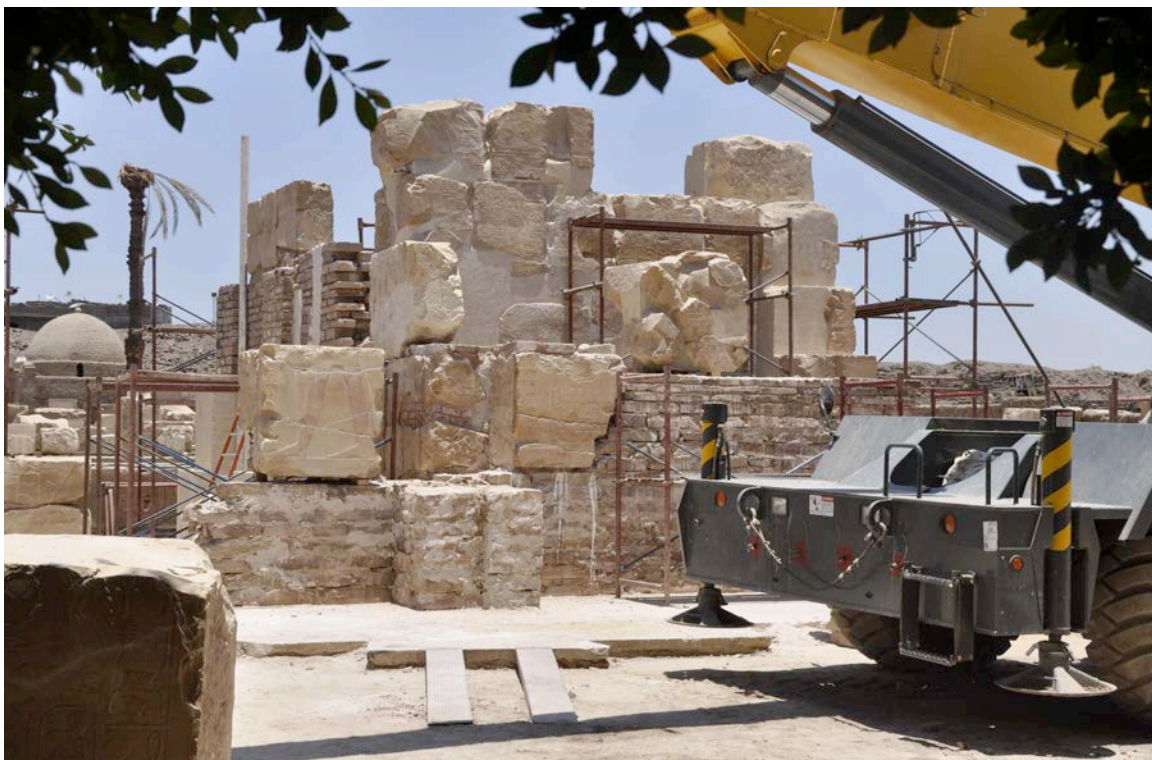
Incomplete parts of the building are rendered by traditional masonry - made of bricks, rubble sandstone and lime mortar - which will receive a final coat with the same colour as the old *facing*. This colour will be determined after testing different cleaning of the *facing*. In fact, restorers will conduct a homogenization final cleaning of all *facing* since ancient blocks, reused and stored in a variety of settings, sometimes show large differences in alterations.

Finally, a development of the reconstruction site will be performed: leveling and paving of the building contours and installation of a staircase creating a connection between the access way to the Open Air Museum and the anastylosis area.

Parallel to the rebuilding, a technical characteristics study was performed on all the *Netery-menu* blocks by a systematic survey of the elements related to technical implementation of the stone (traces of different types of tools, their nature and their dimensions, remains of *slots* carved into some blocks that allowed the dismantling of the old building, etc.).



Wall 8, eastern side © Cnrs-Cfeetk/A. Garric.



Blocks of the wall 3 and 7 being adjusted © Cnrs-Cfeetk/A. Garric.



Overview, walls 1, 2, 3, 4, 6, 7, 8 and 9 © Cnrs-Cfeetk/A. Garric.



Overview, Walls 7 and 9 © Cnrs-Cfeetk/A. Garric.



4th layer adjusted on wall 7 © Cnrs-Cfeetk/A. Garric.

3. ARCHIVES AND SCIENTIFIC DOCUMENTATION

3.1 Archives and documentary tools (S. Biston-Moulin)¹⁷

The activities of the service for 2010-2011 were organized around three main areas: the continued development of a new software tool to manage effectively the mass of documents in the archives of the CFEETK and answer the needs of researchers involved in a research programme; searching for new archives related to Karnak; and developing new bibliographic tools.

3.1.1. Management of the archives

Standardization of data and preparation for the online release

Reprocessing of data from old databases developed within the CFEETK continued this year as planned. The first stage of the migration was to add a standardized location to documents to enable searches using the nomenclature of Karnak developed by Michel Azim (*Karnak et sa topographie*, Paris, 1998) and the archaeological operations of the CFEETK are largely complete. The second step, to reprocess the other basic information on documents (dating, photographer, etc.) using a thesaurus tool, is in progress. Finally, the standardization of other information (description, bibliography, etc.), which is the final step of this programme, has begun.

Researchers' access to the database

The second objective is to give researchers access to the documentation on which they work. Work on the new database is still ongoing, but access has been created to allow researchers to test the interface and add new data from their own documentation.

List of researchers using the interface:

AZIM, M., Architect-archaeologist, Lyon (France)
BICKEL, S., Egyptologist, Basel (Switzerland)
BOUDH'ORS A., Coptic studies, Paris (France)
BRAND P., Egyptologist, Memphis (United States)
BROZE M., Egyptologist, Brussels (Belgium)
CARLOTTI J.-Fr., Architect, Lille (France)
CHAPPAZ J.-L., Egyptologist, Geneva (Switzerland)
COULON L., Egyptologist, Lyon (France)
DAVID E., Egyptologist, Paris (France)
DEVAUCHELLE D., Egyptologist, Lille (France)
FROOD E., Egyptologist, Oxford (United Kingdom)
GABOLDE L., Egyptologist, Montpellier (France)
GOHARY J., Egyptologist, Arce, (Egypt)
JOHNSON W. R., Egyptologist, Chicago (United States)
KARKOWSKI J., Egyptologist, Warsaw (Poland)
LARCHÉ Fr., Architect, Jerusalem (Israel)
LECLERE Fr., Archaeologist, London (United Kingdom)
LOEBEN Chr., Egyptologist, Hanovre (Germany)
LORAND D., Egyptologist, Cairo (Egypt)
MASQUELIER-LOORIUS J., Egyptologist, Paris (France)
MCCLAIN J.B., Egyptologist, Chicago (United States)
PREYS R., Egyptologist, Leuven (Belgium)
REVEZ J., Egyptologist, Montreal (Canada)
SOUROUZIAN H., Egyptologist, Cairo (Egypt)
VERGNIEUX R., Egyptologist, Bordeaux (France)
WIDMER, G., Egyptologist, Lille (France)

¹⁷ Magdi Louis (Sca-Cfeetk), Jérémy Hourdin (Cnrs trainee), Catherine Bouanich, Jean-Luc Fissolo (Cnrs).

A special effort has been made this year on Henri Chevrier's archives kept in the CFEETK. The fund of approximately 10,000 documents, mainly consisting of glass photographs, is invaluable for the history of the work of Karnak from 1926 to 1954. The documentation work was divided between the photographic service that started a new scan of this unique photographic collection and the archives service for the identification and documentation of these photographs. The new scanning campaign was necessary because of the low resolution of the first scans performed on a flatbed scanner which were not sufficient for research purpose or publication. The new scanning campaign is using the same technique as the scanning programme of the glass photographs of the French Institute of Oriental Archaeology in Cairo (IFAO). About 5000 photographs were processed, much of which will be available to the public when the database of Karnak is opened. Alongside this work on the archives of the CFEETK, comparing these data with the photographic archives of Pierre Lacau (see *below*) has been extremely valuable.

A specific archives set related to the work of Karnak from 1954 to 1966 has also been identified among these glass photographs; this was isolated from the Chevrier archives with which it had been confused so far and is now the subject of an independent programme of documentation.

3.1.2. Search for new archive related to Karnak

The discussions started last year for the integration of Pierre Lacau archives preserved at the Ecole Pratique des Hautes Etudes (EPHE) led to the establishment of a comprehensive programme for scanning documents and photographs relating to temples of Karnak. After an inventory of the archives in May 2011 which confirmed the presence of numerous handwritten documents related to the work of Henri Chevrier at Karnak (descriptions, drawings etc.), document scanning was performed by C. Boiniche and J.-L. Fissolo. The scanning work is largely completed; a second campaign will still be required to complete the digitization of Pierre Lacau's inspection notebooks. The information provided by the comparison of photographic archives stored in the CFEETK with these documents are of major interest for the history of the temples of Karnak. The integration of these documents in the database is in progress. Documents from the Lacau archives will be documented following the rules in place for the archives of Karnak (classification, thesaurus, etc.) and will be directly accessible via the interface of the database of Karnak. An EPHE-CNRS agreement is being finalized.

The inventory of the archives of Abbot Thedenat kept in the Egyptian Department of the Louvre Museum has been completed. We are grateful to Guillemette Andreu-Lanoë, Chief Curator of the Department of Egyptian Antiquities of the Louvre Museum, and Elizabeth David, in charge of documentary studies at the Louvre Museum, for their hospitality and the help they have provided us.

A first inventory of the Rifaud archives stored in Geneva was made by P. Zignani. Many documents, particularly concerning the Temple of Ptah at Karnak, were identified. The first inventory shall be completed by future missions.

A new photographic archives, kept in a private home in Luxor is being acquired. These photographs are related to the work of Karnak and the Theban region in general in the years 1950-60. These photographs are particularly interesting since they cover a period from which published information is very limited, and they complement the glass photographs identified inside the Chevrier archives for the years 1954-1966 (see *above*). A set of glass photographs (size has not yet been determined with precision) was also identified in the same collection; the glass photographs are related to the work of Henri Chevrier at Karnak and seem to be complementary to the photographs held in the CFEETK.

3.1.3. Development of documentation tools

The bibliographic database dedicated to the archaeological operations carried out by the CFEETK since 1967 is nearing completion. The integration of this new tool in the archive database of Karnak is in progress, following the reorganization of the data related to the excavations of the CFEETK into operations.

A bibliographic tool dedicated to the temples of Karnak is also nearing completion. This tool was necessitated by the need to normalize the metadata of the database of Karnak. Established from the previous bibliographic compilations devoted to the temples of Karnak, it serves as reference for the bibliography, like a thesaurus, directly integrated into the interface ArcheoGrid Karnak, but also on the

different bases hosted by the website of the CFEETK. Inspired by the success of the online accessibility of the articles of the *Cahiers de Karnak* (vol. 5 to 11 and 13) on the site of the CFEETK, this bibliographic tool will also aim to promote access to the bibliography related to the temples of Karnak by the availability of articles and monographs free of copyright or for which the publisher or the authors grants permission for reproduction. Authors who wish to make their publications related to the temples of Karnak available will be asked to post them on the site of the CFEETK to make this site as a reference tool for researcher, like the Giza Archives Project of the Museum of Fine Arts Boston, or the Edfu-Project of the University of Hamburg.

3.1.4. Library of the CFEETK

The library of the CFEETK was enriched this year by approximately 200 books. We are pleased to thank the Cybele bookshop for its generous donation and also Pr. D. Devauchelle (univ. Lille 3) who offered many volumes of the *CRIPEL* journal to the Center.

3.1.5. Website of the CFEETK

The trilingual website (English, French, Arabic) of the CFEETK received nearly 200,000 visitors this year, just over 400,000 since its launch in March 2009.

3.2. The scattered blocks survey

The inventory work of the scattered blocks lying upon benches continued, using the same protocol as in previous years: numbering on a piece of metal, schematic drawings, photography and integration into a database.

3.3. Epigraphic survey and archæological drawings

As the last season, the epigraphic survey of Philipp Arrhidaeus' bark-shrine, under the direction of Christophe Thiers, was done in the field by Pauline Calassou and Memduh Abdel Khasul (SCA draftsman) who trained students in field epigraphy.

3.4. Photographic department (J.-Fr. Gout)

The programme of the season 2011 took place on schedule. The photographic survey has begun on the Sokarian rooms of the *Akb-menu* and also on the outer walls of the Philip Arrhidaeus' bark-shrine.

The restoration and excavation programs were also recorded:

- Temple of Ptah
- Treasury of Shabaka
- Temple of Osiris the Coptite
- SCA excavations (till February 2011) in front of the first pylon and on the sphinx avenue, and more than 1.000 ceramics
- inventory of the Gadaya storeroom

The scanning of the oldest archives from Karnak started: more than 5.000 negatives (glass photographs) were scanned.

3.5. Architecture and topography department (P. Zignani)

In addition to the programme of the Temple of Ptah presented above, the service has been active in several programmes, specific to the Center but also to support other missions.

General map of the temple of Amun

A general map of the site has been updated with all vestiges published or present in the documentation. It was completed with the materials of the Sound and Light and the drainage system.

Gate of the second pylon

For three seasons, the epigraphic survey and study of this monument is the work by a mission funded by the National Scientific Research Center of Belgium.

An architectural survey is underway to complete the documentation and research on this gate. It has the particularity of having the highest doors of all monuments preserved around the Mediterranean Sea.

Topography, general coordinate system

Many different coordinate systems were used over the years in the numerous surveys in every area of the temple of Amun. It became necessary to check the different systems and provide a general network of reference stations. The northern part, the main object of ongoing studies, has been verified this year.

Following various exchanges with the Centre d'Études Alexandrines (particularly in the context of staff training with topographical software), a photogrammetric calibration has been set up for work on specific projects (study of inaccessible elements, such as the second pylon or the columns of the hypostyle hall).

Treasury of Shabaka

Topographic support for the survey of Nadia Licitra (Paris IV university) (*supra*).

Great Hypostyle Hall

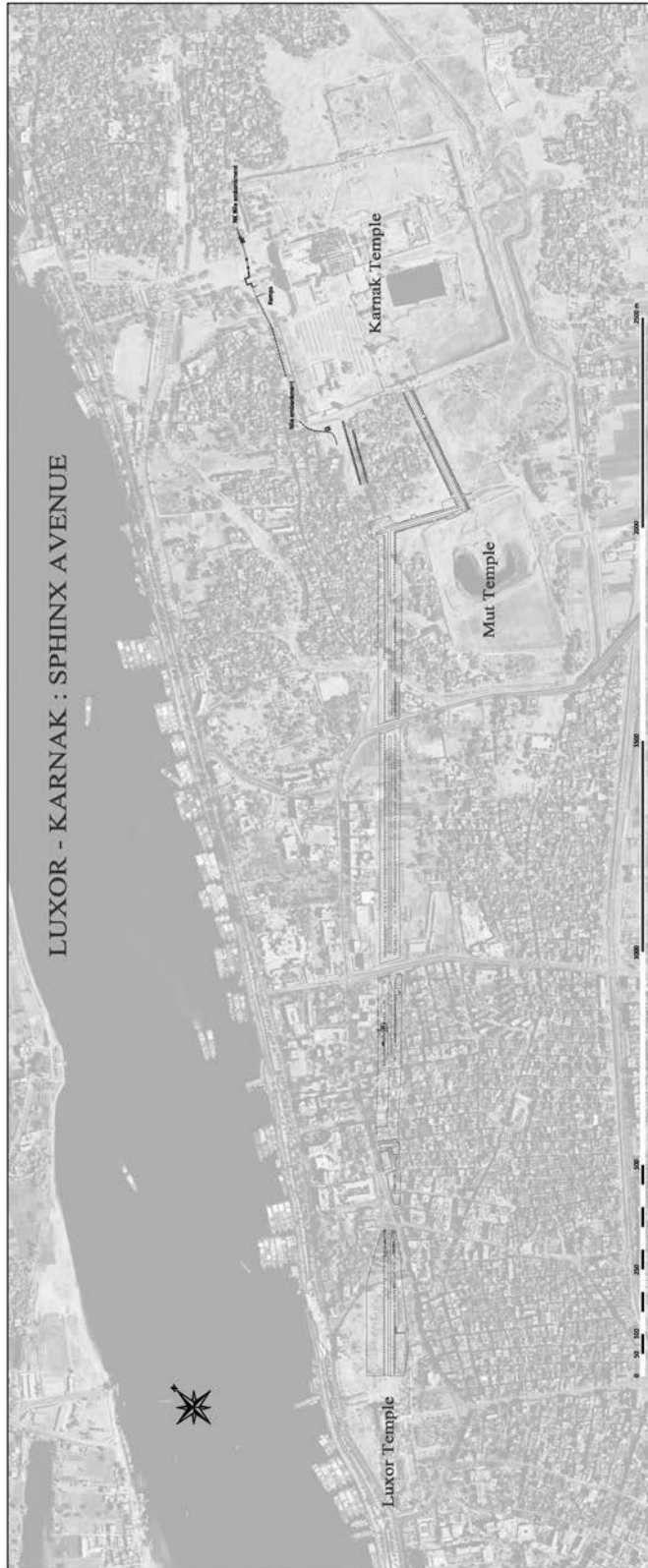
Topographic support and perspective control of digital pictures to produce the orthoimages of abacuses of the columns for the mission of the University of Quebec in Montreal and the University of Memphis in Tennessee (*supra*).

Cooperation with the Supreme Council of Antiquities at Luxor

The service provides support for topographical and architectural survey at various excavations conducted by the SCA Director of Luxor, Mansour Boraik.

It was in particular involved in the survey of the processional sphinxes avenue, which was excavated along 2.5 km between the temples of Karnak and Luxor. An explanatory map has been done for the authorities in charge of the coordination of urban, archaeological and tourist development.

A training session on the drawing of archaeological structures with the software AutoCad was also organized for staff of the SCA.



3.6. Inventory of the Gadaya storeroom¹⁸

Upon the request of Mansour Boraik and Ibrahim Soliman, an inventory of the so-called Gadaya storeroom was conducted in February-April 2011, before removing all the objects to the Abu Gud storeroom outside Karnak. The store contained primarily objects that belonged to the antiquarian Yassa Andraos Pacha (Consul of Belgium and Italy) and entered in the inventories of the SCA upon the initiative of Farouk Goma.

The objects (about 700) were documented (paper records and photographs) and stelae inscriptions, statues and fragments of tombs have been recorded in facsimile. All the documentation has been included in the database of Karnak.

We can note a large collection of funerary cones, many elements of wooden sarcophagi, blocks of chapels of the Divine Votaries, many statues and stelae fragments dating from the Third Intermediate Period to the Ptolemaic period and a wide variety of artifacts from the Coptic period. Some fragments of tombs and funeral chapels from the Theban west bank were identified. While many documents come from the Theban area, the context for the gathering of this collection does not give a precise origin to all objects. It is certain, for example, that one Ptolemaic stela comes from the necropolis of Akhmim. This important documentation will be published in preliminary papers and in a monograph of the whole.



Some objects from the Gadaya storeroom © Cnrs-Cfeetk/J.-Fr. Gout, J. Maucor, K. Dowi Abd al-Radi.

¹⁸ S. Biston-Moulin, Chr. Thiers (Cnrs-Cfeetk), M. Abd el-Ghassul (Sca-Cfeetk), S. Klein, A. Tillier, Ch. Labarta, J. Hourdin (Cnrs trainees), J.-Fr. Gout (Cnrs-Cfeetk), J. Maucor (Cnrs trainee), K. Dowi Abd al-Radi (Sca-Cfeetk).

4. TRAINING PROGRAMMES

4.1. Trainings

A trainings on AutoCad software was provided at the Center for SCA inspectors (see above).

Similarly, French students (conservators, architects, egyptologists) were welcomed to the CFEETK, allowing for successful training and practise in different programmes and fieldwork.

4.2. French language courses

With financial support granted by the French National Center for Scientific Research, courses in French have been provided at the CFEETK office particularly for several CSA inspectors and Egyptian members of the Cfeetk. This should be repeated in 2012.

5. PUBLICATIONS AND LECTURES

5.1. Selected publications of the CFEETK members and associated missions (2011)

- BORAİK M., THIERS Chr. (eds.), “Rapport d’activité 2010 du CFEETK”, available in French, Arabic and English: <http://www.cfeetk.cnrs.fr/index.php?page=rapport-2010>

- CHARLOUX G., MENSAN R., *Karnak avant la XVIII^e dynastie. Contribution à l’étude des vestiges en brique crue des premiers temples d’Amon-Ré, Études égyptologiques* 11, Paris, 2011.

- BISTON-MOULIN S., “De Sésostris I^{er} à Kamosis. Note sur un remploi de Karnak”, *ENIM* 4, 2011, p. 81-90: <http://www.enim-egyptologie.fr/index.php?page=enim-4&n=4>

- BRAND P.J., “The Date of the War Scenes at Karnak and the History of the Late Nineteenth Dynasty”, in M. Collier, S. Snape (eds.), *Ramesside Studies in Honour of K.A. Kitchen*, Bolton, 2011, p. 51-84.

- COULON L., JAMBON E., SHEIKHILESAMI C.M., “Rediscovering a lost excavation: The Karnak cachette”, *KMT* 22/2, 2011, p. 18-32.

- GHILARDI M., BORAİK M., “Reconstructing the holocene depositional environments in the western part of Ancient Karnak temples complex (Egypt): a geoarchaeological approach”, *Journal of Archaeological Science* 2011, p. 1-13 : <http://www.sciencedirect.com/science/article/pii/S0305440311001944>.

- MASSON A., “Persian and Ptolemaic Ceramics from Karnak: Change and Continuity”, *CCE* 9, 2011, p.

- MILLET M., MASSON A., “Karnak: Settlements”, dans W. Wendrich (ed.), *UCLA Encyclopedia of Egyptology*, Los Angeles, 2011: <http://escholarship.org/uc/item/1q346284#page-1>.

- THIERS Chr., ZIGNANI P., “The temple of Ptah at Karnak”, *Egyptian Archaeology* 38, 2011, p. 20-24.

- ZIGNANI P., “Another Reading of the Egyptian Temple”, in A. Verbovsek, B. Backes, C. Jones (eds.), *Methodik und Didaktik in der Ägyptologie, Ägyptologie und Kulturwissenschaft* 4, 2011, p. 227-237.

- ZIGNANI P., “Light and Function: An Approach to the Concept of Space in Pharaonic Architecture”, in P.I. Schneider, U. Wulf-Rheidt (eds.), *Licht-Konzepte in der vormodernen Architektur, Internationales Kolloquium in Berlin vom 26. Februar – 1. März 2009, veranstaltet vom Architekturreferat des DAI, Diskussionen zur Archäologischen Bauforschung* 10, Regensburg, 2011, p. 59-70.

5.3. Lectures and press

- 2nd July 2011, Montpellier, association Nefrou: Chr. Thiers, “Travaux en du Centre franco-égyptien d’étude des temples de Karnak 2010-2011”.

- 2nd July 2011, Montpellier, association Nefrou: S. Biston-Moulin, “Karnak après Hatchepsout, les premières années du règne autonome de Thoutmosis III”.

- 23rd November 2011, Ifao, Cairo: L. Coulon, “La XXVI^e dynastie à Karnak : Des chapelles de la “voie de Ptah” aux édifices disparus de Naga Malgata”.

Recent archeological researches at Karnak (Temple of Ptah and Treasury of Shabaka):

- daily press (Egyptian and French) and many releases on web forums in July 2011, after *Al-AbramOnline*, 3rd July 2011: <http://english.ahram.org.eg/NewsContent/9/40/15535/Heritage/Ancient-Egypt/Two-new-monuments-uncovered-at-Karnak-Temple.aspx>

Geomorphological researches in front of Karnak temple by Matthieu Ghilardi (Cnrs UMR 6635-Cerege):

- interviews and press releases (*AFP* 18th July 2011; *Le Nouvel Observateur*, 11th August 2011, p. 30; *La Croix*, 28th July 2011, p. 9; *Le Monde*, 23rd July 2011, p. 15; *Sciences et Avenir* Hors Série, January-February 2011, p. 59-60).

- CNRS Web site, 18th July 2011, “Le Nil ne s’est pas toujours écoulé au pied des temples égyptiens de Karnak” (<http://www2.cnrs.fr/presse/communique/2233.htm?theme1=8>).

6. MEMBERS OF THE CFEETK

6.1. SCA permanent members

- BORAİK M.	Co-director of the CFEETK, general director of Luxor and Upper Egypt
- SOLIMAN I.	Director of the temples of Karnak and Luxor
- ASSEM M.	General director of Upper Egypt
- MILAD ZIKRI T.	Chief architect of Upper Egypt
- AMMAR A.	Chief inspector
- ABD AL SATTAR B.	Chief Inspector
- ABD EL NASSER.	Chief restorer
- MAHMOOD CHOKEY A.	Inspector
- EL-BALAL F.	Inspector
- HALMI F.	Inspector
- GHARIB T.	Inspector
- FATHI M.	Inspector
- BAKHIET S.	Inspector
- SA’AD M.	Inspector
- KADRA I.	Inspector
- ABD EL GHASSUL M.	Draftsman
- ZAKI R.	Draftsman
- LOUIZ M.	Documentation officer
- DOWI ABD AL-RADI K.	Photographer
- SAIDI M.	Photographer
- FOUAD E.	Secretary

6.2. CNRS permanent members

- THIERS Chr.	Director of the USR 3172, co-director of the CFEETK, Egyptologist
- BISTON-MOULIN S.	Documentalist, Egyptologist
- GARRIC A.	Stone-cutter
- GOUT J.-Fr.	Photographer
- PUELLE V.	Administrator
- ZIGNANI P.	Architect-archæologist

6.3. Associated members

Non permanent Egyptian inspectors

- EL MASEKH S.
- ESSAM N.
- MOUNTASSER C.
- SHAFI H.
- ABU EL FADEL A.
- AL NUBI M.
- MOSTAFA O.
- YOUSSEF BELAL W.
- EL NAGAR W.
- ADB ELATY M.
- ABD EL KHALEK M.
- OUAHBY M.
- SAYED M.
- KAMEL A.
- ABD EL HARTH E.
- MOSTAFA Y.
- MOSTAFA A.
- MOHAMED SAYED A.

- EDRES B.
- ALDOSQI I.

International Volunteers (French Ministry of Foreign and European Affairs)

- PIERI L. Restorer, since september 2011
- TOURNADRE V. Topographer

Cnrs trainees and Cnrs temporary contracts 2011

- University Paul Valéry Montpellier III
- University Lille III
- University Paris X Nanterre
- École du Louvre
- École nationale de science photographique, Arles
- École d'architecture de Bordeaux
- AMAMI L. Archæologist
- ASPERTI A. Conservator
- CALASSOU P. Egyptologist
- FACON S. Egyptologist
- HAUDUROY A.-Cl. Conservator
- HOURDIN J. Egyptologist
- LABARTA Ch. Egyptologist
- LIVADITIS M.-C. Archæologist
- MOULIÉ L. Photographer
- PIETRI R. Egyptologist
- TERNISSIEN V. Conservator
- TOURVIELLE P. Architect
- VANPEENE M. Architect

6.4. Associated researchers (field mission 2011)

BICKEL S.	Egyptologist, Basel	X th pylon
BRAND P.	Egyptologist, Memphis	Great hypostyle hall
COULON L.	Egyptologist, Lyon	Osirian chapels
DEFERNEZ C.	Archæologist-ceramologist, Paris	Osirian chapels
DEGARDIN J.-Cl.	Egyptologist, Lille	Temple of Khonsu
DEVAUCHELLE D.	Egyptologist, Lille	Demotic ostraca and graffiti
FROOD E.	Egyptologist, Oxford	Hieratic graffiti (Ptah temple)
GHILARDI M.	Geomorphologist, Aix-Marseille	Landscape studies
KARKOWSKI J.	Egyptologist, Warsaw	Central area ("Palace of Maat")
PAYRAUDEAU Fr.	Egyptologist, Cairo	Osirian chapels
LAROZE E.	Architect, Paris	Opet temple
LECLERE Fr.	Archæologist, London	Temple of Osiris the Coptite
LE BOHEC R.	Archæologist, Jerusalem	Central area (Wadjyt)
LICITRA N.	Doctoral candidate, Egyptologist, Paris	Treasury of Shabaka
MILLET M.	Archæologist, Paris	Priests' quarter, pottery
PREYS R.	Egyptologist, Leuven	Gate of the II nd pylon
REVEZ J.	Egyptologist, Montreal	Great hypostyle hall
SIMONY A.	Ceramologist, Poitiers	Temple of Osiris the Coptite
VAN SICLEN Ch.	Egyptologist, San Antonio	Courtyard of the IX th pylon
WIDMER G.	Egyptologist, Lille	Demotic ostraca and graffiti

7. ACADEMIC COLLABORATIONS

France:

- USR 3134 – Centre d'études alexandrines (CeAlex)
- UMR 5140 – Univ. Montpellier III
- UMR 5189 – HiSoma Univ. Lyon II
- UMR 5607 – Institut Ausonius Univ. Bordeaux III

- UMR 6635 – Cerege Univ. Aix-Marseille
- UMR 8167 – Univ. Paris IV Sorbonne
- UMR 8164 – Halma-Ipel Univ. Lille III
- Institut français d'archéologie orientale (Ifao)
- École nationale des sciences géographiques (ENSG) / IGN

Others countries:

- American Research Center in Egypt (ARCE)
- Chicago House (Luxor)
- Univ. Libre de Bruxelles
- Univ. of Quebec (Montreal)
- Univ. of Memphis (Tennessee)
- Univ. of Oxford
- Univ. of Basel
- Univ. of Warsaw