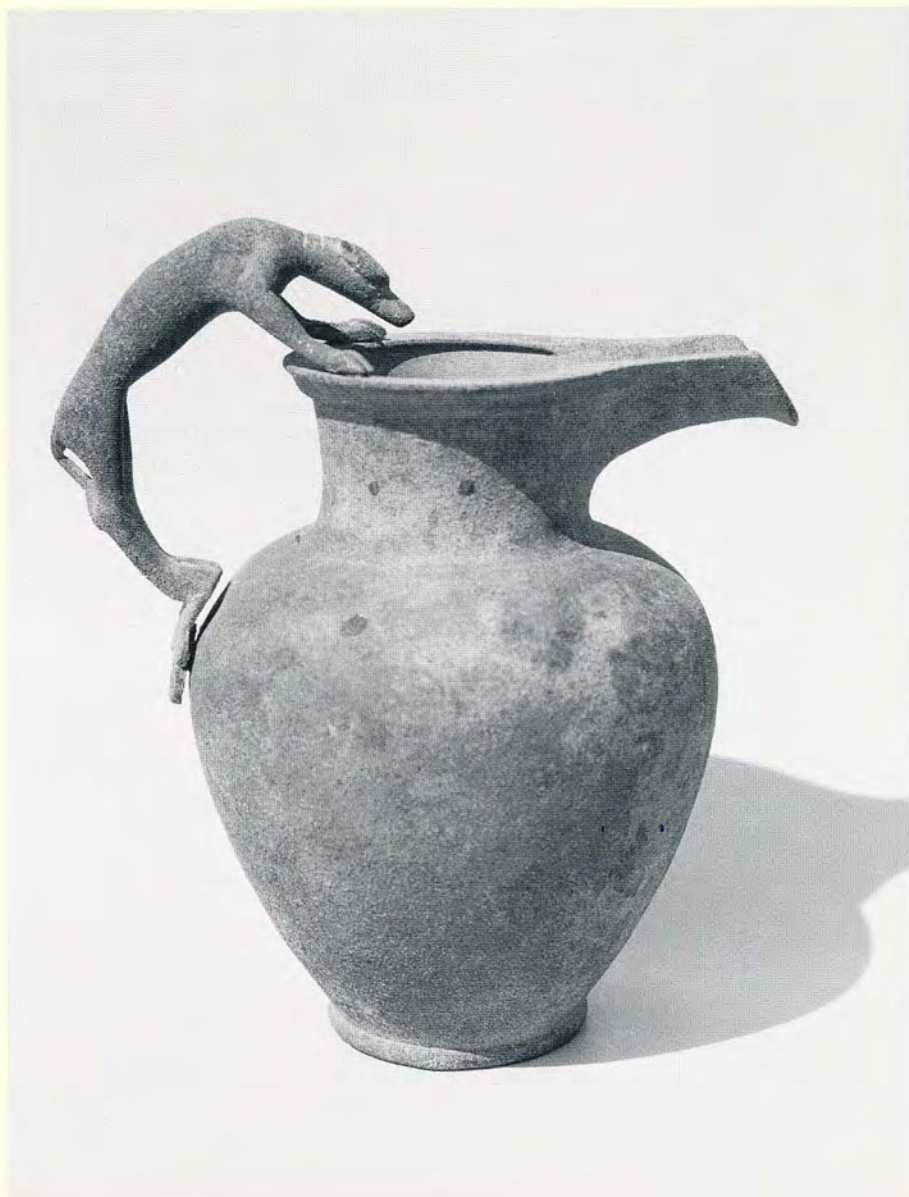


K E R M A

1999-2000 2000-2001

SOUDAN

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To Christian Simon

1. BONNET *et alii* 2000

Even after many years of excavation, the site of Kerma, which lies below the 3rd cataract, still holds surprises for the members of the University of Geneva Mission to Sudan. The archaeological richness of this region seems to be inexhaustible. The site has been occupied since the earliest prehistoric period, and lies in a particularly favourable geographical location, with naturally fertile soils protected by the desert environment. Our research has developed in stages, revealing abundant evidence for the different periods of occupation. The support of the local authorities, who visit our excavations frequently, is a source of encouragement, as is the increasing interest in our work from the local population and the scientific community. It is for this reason that the development of programmes of restoration and conservation form part of our activities.

As in previous years we have been supported by grants from the Swiss National Fund for Scientific Research and the City of Geneva Museum of Art and History, and from a private donation. A grant from the National Fund also enabled us to publish a volume on the funerary monuments of the necropolis¹. We should like to express our gratitude to these bodies and to Professor Michel Valloggia, president of the Excavations Commission of the University of Geneva, for his constant support.

The last two excavation seasons took place from 4 December 1999 to 5 February 2000 and from 29 November 2000 to 5 February 2001. As usual, our Raïs Gad Abdallah, Saleh Melieh, Abdelrazek Omer Nouri and Idriss Osman Idriss directed some 150 workmen on four or five sites. The Director General of the Antiquities Service, Mr Hassan Hussein Idriss, paid us the honour of visiting the site. Mr Salah El-Din Mohamed Ahmed, Director of the Archaeological Excavations Section of the Department of Antiquities and the National Museums of Sudan (NCAM) collaborated in both the scientific and administrative activities of our work; the work on the restoration of the remains of the site of Doukki Gel was also undertaken under his direction. Inspector Omran Ali Fatharahman replaced him for a number of days, and Inspector Yassin Mohamed Saïd prepared the topographic map of Doukki Gel. We thank everyone for their kind support and hard work.

The study of several pre- and protohistoric settlements on the site of the necropolis was continued; the results were particularly interesting as they allowed us to establish the first chronological framework based on C14 dates and pottery typology. Our understanding of the system of bastioned fortifications of the Middle Kerma town and of the evolution of the defences of the Classic Kerma town was aided by surface cleaning in the northern sectors of the ancient town. In the area around the deffufa, the main temple, stratigraphic investigations improved our understanding of the early phases of the eastern religious quarter. Other work was undertaken on the elevations of the famous monument responsible for the reputation of Kerma. In the eastern necropolis we excavated an exceptional deposit of buchrانيا near a prince's tomb of the Middle Kerma period (t 253). Work on the funerary buildings and rituals provided an opportunity to review the development of the cemetery.

2. PRIVATI 1999, PRIVATI, in press
3. HONEGGER 1999
4. See his bibliography p. xi

However, our efforts were concentrated on the site of Doukki Gel, where the remains of a temple of Akhenaten were discovered. Hundreds of decorated and inscribed blocks and fragments of stone were recorded. They demonstrated continuous occupation of the site for almost two millennia: between New Kingdom and the Meroitic periods there was a succession of at least ten sanctuaries in the settlement which seems to have taken over from the ancient town. A Meroitic well, constructed from fired brick, was partially excavated. Finally, a major conservation and restoration programme focussed on the Meroitic temple and other buildings, particularly the deffufa.

Once again we were able to count on the expertise of a dedicated team, well attuned to the requirements of our research. Béatrice Privati undertook several detailed studies of the Kerma ceramics². Matthieu Honegger's³ work, outlined below, brought new information on the pre-Kerma and Neolithic cultures. Thomas Kohler worked on the excavations of the ancient town and undertook the drawings of the remains. Marion Berti contributed both to the work in the field and to the documentation for publication, as did Alfred Hidber, who was very much involved in the architectural reconstructions of the funerary temples. Pascale Kohler-Rummler was responsible for the photographic record, including that of the stone blocks from the site of Doukki Gel. We also benefited from the presence of Françoise Plojoux, Gérard Deuber and Alain Peillex, who were particularly welcome as the recording of the remains presented some difficult problems. Dominique Valbelle, the Mission's epigraphist, played a very important role in the study of Doukki Gel; she was helped by Marc Bundi, who patiently drew the hundreds of inscribed and decorated blocks. Louis Chaix undertook a metrical study of the thousands of buchrana from tomb t 253. Ana Sofia Fonseca undertook a training course on the site. Finally, the administration and documentation undertaken in Geneva by Nora Ferrero and Patricia Berndt should be acknowledged. I should like to express my deep gratitude to them all.

We cannot complete this account without mentioning the tragic loss of our friend Christian Simon, an active member of the Mission for twenty years and to whom this report is dedicated. For his noble heartedness, his humour and his gently modesty, he was loved by everyone and all have sadly felt his loss. Over the years, Christian had gathered together an extraordinary corpus of material from the eastern necropolis; he exploited this material in an original manner, providing a new dimension to the study of the burials. The analyses of this well-informed researcher were particularly valuable as they were based on very extensive investigations. The list of his publications on Sudan illustrates clearly the extent to which we are indebted to him⁴.

The Neolithic and pre-Kerma settlements

A notable discovery relating to the Neolithic environment was made during the 1999-2000 season in levels dated to c. 4500 BC. Excavation revealed various structures – groups of sheltered hearths, huts, palisades – in a completely coherent relationship. This represents an important stride for the prehistory of Sudan, as until now, the period was represented mainly by spreads of material. Other pre- and protohistoric settlements and cemeteries were located through surveys undertaken by Matthieu Honegger 10 to 20 km east of the banks of the Nile. A pre-Kerma assemblage, consisting of huts and an enclosure built of solid posts set at more or less equal distances, was found slightly separated from the main settlement; a contemporary tomb was found not far away. Finally, a rela-

tively recent pre-Kerma site (c. 2600 BC) was also discovered; little by little, gaps in the chronology up until the Ancient Kerma (c. 2450 BC) period are being filled in.

The ancient town

It is likely that the urban zone extended over a peninsular, or even an island, and that the branches of the Nile carved out channels that could be modified artificially according to need. Terraces of alluvial silt were used in order to protect the town from enemy incursions. To the north, for example, an immense bastion measuring nearly 50 m by 40 m was constructed on a natural terrace. All around were the remains of constructions in wood, stone and earth. A ditch with a depth of at least 3 m surrounded the fortified construction. On the terrace there was a wall several metres thick that was almost entirely eroded, and in the centre postholes indicated several wooden structures. There was a smaller structure to the west of the central bastion (fig. 2).

Another terrace could be defined to the north-west (fig. 3). It was first separated from the town by a ditch and then later, as the ditch filled in, it was linked to the ancient fortifications. This favoured the development of an important access route towards the urban centre: a very large gate was built on the terrace replacing the ancient routeway across the ditch. This gate, which was modified several times, formed part of the most northerly line of bastions. These building programmes were dated to the end of the Middle Kerma period (c.1800 BC) and, in particular, to the Classic Kerma period (1750-1450 BC).

The visitor who entered the town through this gate could be kept under constant surveillance from numerous military buildings along the road. The study of these latter is particularly difficult due to their use of *galous* (lumps of prepared earth) as a construction material; all that is usually left are rounded shapes with imprecise outlines. Several semi-circular bastions, with diameters between 3 and 4 m, could however be traced on older Middle Kerma foundations. Another series of bastions, with smaller diameters – 0.8 to 1 m – were part of an impressive rectangular structure, 11 by 8 m, with towers at the corners; the bastions were solid and, on the basis of their dimensions, must have risen several metres (fig 4.). Traces of ochre wash were seen on the corners and on the door that opened to the south-west. A defensive purpose seems the most plausible for this enigmatic structure, which may have been a guard tower. The discovery of the handle of an ivory dagger in the entrance may add weight to this hypothesis. The plan of the structure is reminiscent of certain fortified farms or tower houses in the Volta basin in West Africa⁵, Burkina Faso or Togo. However, this type of analogy raises many questions that cannot be dealt with here, particularly as the chronological gap is of several millennia. Other structures punctuated the route of a road which led towards a narrow elongated gate in the facade of the Middle Kerma town.

We have yet to record that presence of a final defensive system found close to the large bastion sited to the north, in the central zone of the town. It consists of a series of circular foundations with diameters from approximately 3 to 3.50 m, built on more or less the same alignment at 0.50 or 1-2 m intervals. Similar juxtapositions have already been studied on the western edge of the enclosure of the Middle Kerma town. This new alignment was found in front of the “quadrilateral” formed by the walls of the early Middle Kerma period. We have attempted to reconstruct these structures, which seem to correspond to a defensive wall flanked by towers set at close intervals. Other foundations of the same

6. BARRY 1999, p. 73; D'ESME 1931, pls 90, 92, 93; GUIDONI 1995, fig. 239 and 240

7. BONNET *et alii* 2000, pp. 60-61, fig. 47

type appear in front of or behind this line. Once again one is struck by the analogies with the construction techniques used in the relatively recent past, in particular the walls of the village Moundang in Chad (Léré region)⁶, but other examples could also be cited.

Close to these remains thirty-five narrow ovens had been excavated, some of which were vaulted; they were arranged in two rows. They were dated by the domestic pottery to the Middle Kerma period. Moulds for bread offerings were almost absent although these were very common in similar ovens found several years ago to the east of the town. On the other hand, large quantities of cattle bones were recovered, attesting the preparation of meat on site, although few of these were burnt (fig. 6).

Surface cleanings in the north-west quarter of the town revealed the plans of houses (M 182, 183, 184, 185 and 186) bordering a road that led towards the Nile. Curiously, the end was closed off by two rounded structures facing each other. The sherds of pottery recovered in successive layers could be dated to the final Middle Kerma and Classic Kerma periods.

The deffufa and the religious quarter

Particular attention was paid to the deffufa and the buildings that surround it in the interior of the *temenos* with a publication in mind. Following stratigraphic research in the north-west, a large area was cleared to allow further analysis of the first occupation levels in the western sector. A monumental portico with a double colonnade, dating to an ancient period from the very beginning of Middle Kerma, could be reconstructed. The remains of wooden structures in the levels dated to the Ancient Kerma period (2300-2050 BC in the ancient town) were more difficult to interpret; there is evidence for a side entrance in the early religious complex in a series of posts defining two semi-circular structures and a road leading towards the centre of the quarter.

Analysis of the deffufa's elevations showed that the final construction took place very rapidly. The earlier buildings were levelled for approximately 2.50 m to serve as the substructure of a new masonry structure that was built in layers with a thickness of 3 to 3.50 m. The four layers of the main structure and the five of the projecting part of the building or "pylon" to the south were covered by a coat of plaster that indicated a levelling layer or a break in the construction. Wooden reinforcements were laid in the middle of the masonry levels in order to prevent any compression and to improve the cohesion of the mud brick. Other smaller pieces of wood (beams or planks) were also laid horizontally against the walls or embedded in the brickwork. We have already studied a similar system of reinforcement in one of the funerary temples of the necropolis and had noted the diversity of its components⁷.

The eastern necropolis

The excavation of the prince's tomb t 253 (CE 25) was finally completed. It took almost four seasons to excavate the grave (2 m in depth with a diameter of 12 m) and in particular to record the extraordinary deposit placed at the southern border of the tumulus. This consisted of approximately 4500 cattle frontal bones arranged in a crescent of several rows. Some were characterised by vertical parallel horns, a peculiarity obtained through progressive deformation, while others bore traces of red ochre paint.

8. BONNET 1999, pp. 70-74

9. BONNET *et alii*, in press

10. VERGNIEUX 1990, pp. 4-6

The site of Doukki Gel

The various investigations at the site of Doukki Gel have focussed mainly on the area of the temples, uncovering remains from the Amarna period. Also studied during the last two campaigns were remains from later periods and the enclosure wall of the architectural complex.

A temple of Aten

Excavation of the Napatan and Meroitic temples in the south showed that the sanctuaries had been completely destroyed. However, a granite plinth was found, giving an impression of the size of the cult building. It should be noted that another plinth, of a *naos* or a sacred boat, was found in line with a stone chapel built at right angles to the temple (fig. 7). During the work undertaken to complete the plan of the western edge of this chapel, we discovered the foundations of a new temple that seemed to be associated with a series of small decorated and incised blocks that were reused in the floor of the Napatan temple⁸. The use of a considerable quantity of plaster to join the stone masonry, the presence of blocks of equal size (52 cm by 27 cm) and the New Kingdom ceramics also argue for an attribution for the building to the reign of Akhenaten and Nefertiti.

This discovery is very important as it proves that the heretic sovereign's building programme had expanded upstream from the third cataract, as might be surmised from the ancient name for Kawa, Gematon, which is even further south. The proximity to the town of Sesebi, founded by Amenophis IV-Akhenaten, provides a very useful comparison; only 60 kilometres downstream, the archaeological site includes some important remains yet to be investigated. This provides a new dimension to the site of Doukki Gel and we have done everything possible to facilitate its study. Our efforts were thus concentrated on the site of the temple of Akhenaten, of which one of the corners was discovered during the season before last⁹. The task proved to be very difficult as the ground had been disturbed by systematic exploitation of the stone blocks after the Meroitic period. More recently, the *sebhakhin* had also taken away part of the earth structures to fertilize their fields. However, some imposing foundations still remained and these were partially unearthed (fig. 8).

The sanctuary and its annexes occupied a limited area of about 19 m by 11 m. We are not able to provide a complete plan of this sector as only half of it was excavated, but there is enough evidence to reconstruct a tripartite sanctuary with a vestibule in front. In front of this, two square rooms were recognised. The monument was built on large foundation trenches filled with sand that were only partly taken up by the large blocks of sandstone. The stone blocks were bound together with a mortar of silt mixed with a large quantity of sandstone fragments. On their surface, and very occasionally deeper down, blocks of smaller dimensions were placed, bound with an abundance of plaster. Their position was determined by architect's lines engraved on the foundation stones. Named *talatat* by villagers of Karnak since the beginning of the nineteenth century, these small blocks arranged in headers and stretchers are characteristic of buildings that were often built hurriedly during the reign of Akhenaten¹⁰.

The floor of the sanctuary and of the central aisle is partially preserved, and consists of large slabs that we were able to follow only over a very limited area. Plaster impressions

of masonry made from *talatat* were found to the north in the aisle; we shall need to extend our excavation to be able to interpret them. Still within the area of the sanctuary, two very well built mud brick walls with a white rendering on one side were also found (fig. 9). Together with two foundation blocks, these may belong to an early building. An excavation at the south-west corner of the sanctuary showed that the southern mud brick wall continued in a westerly direction.

A foundation deposit of Tuthmosis IV

The cleaning of these brick remains and of the foundation trench for the corner of the temple was undertaken at the end of the season. To our surprise, several faience plaques in the form of cartouches and some tubular beads were arranged along a masonry edge in a layer of hardened silt and sand. Two of the plaques and some of the beads were incorporated in the mortar of the foundation blocks of the temple of Akhenaten, indicating that a part of the deposit had been disturbed during the construction of the temple. One of the plaques and some of the beads had even been broken. We recovered 16 faience cartouches, thirteen with the name of Tuthmosis IV and three with Tuthmosis III, but the objects that were found *in situ* indicated that they were all from the same single deposit. The beads were all of the same type (fig. 10).

We can thus be certain that the temple of Akhenaten replaced an earlier monument of the Eighteenth Dynasty, perhaps founded by Tuthmosis IV or constructed with the involvement of this pharaoh. A reused block found several metres away in the doorpost of a Napatan period, mentioned the names of Amenophis II, the predecessor of Tuthmosis IV. It seems clear that a vast building programme was undertaken at Doukki Gel at the beginning of the New Kingdom. Plates and vases upturned along the mud brick wall, to the south, suggest that the building works of the Amarna period were merely a modification of a pre-existing state. Nevertheless, we have the impression, although this still needs to be verified, that the new temple destroyed many earlier walls.

The Napatan and Meroitic remains

Excavations were undertaken in front of the sanctuary of Akhenaten for a distance of over 20 metres. It is certain that the monument continued in this direction but the depth of the remains and above all, the very many later reconstructions, make analysis particularly difficult. Some of the mud brick and stone walls follow the diagonal layout of the Amarnan sanctuary but remains that are squarer in relation to the neighbouring temples are attested from the Napatan period at least. Several Meroitic and Napatan structures can be associated with these two adjacent temples (fig. 11). Thick walls that seem to belong to a temple succeeding the cult buildings of the New Kingdom and the Twenty-fifth Dynasty could be distinguished. We should also note the presence of a second transverse chapel linked to the temples of the Napatan period by side doors; three column bases provided the first indication of the plan of the chapel. The masonry was restored during the Classic Meroitic period to judge by the liberal use of fired brick and by the pottery.

Very deep trenches were dug to exploit the stone blocks of which only impressions now remain. While investigating the stratigraphy of these robber trenches, brick masonry or fragmentary blocks laid very roughly and surrounded by a hard silt mortar were

identified, still *in situ*. In the northern extremity we found paving stones of a floor at a depth that indicates an ancient structure, perhaps a *dromos*. In addition there were well-constructed mud brick walls and two column bases, and it is interesting to note that one of the walls was made from mud brick bound with plaster. This very degraded masonry must belong to the Amarna period.

A paved passageway of the New Kingdom

While we were preparing mortar for our restoration work we discovered, at shallow depth in front of the temples we have recently studied, a very meticulously laid floor of yellow sandstone paving stones (fig. 12). Despite heavy wear on the surface of the stones, the quality of this floor, interpreted as a passageway, is surprising. It may be that in an early period this passageway gave access to a temple or a palace, but its origin beneath the large Meroitic temple poses some problems of chronology. On the edges of the pavement the rammed earth contained potsherds dated to the New Kingdom. Enlargement of the excavated area will no doubt answer these questions, especially as there are mounds to the east which may be destroyed religious buildings.

The Meroitic well

To the south of the complex, a circular structure 6 m in diameter internally and 8 m externally had been dug very close to remains currently dated to Tuthmosis IV (fig. 13). We were only able to excavate the well to a depth of just over a metre. The exterior wall is made from mud bricks frequently set on edge, while the interior wall is made from fired bricks. These are placed in such a way as to form a decoration that is particularly well highlighted by the oblique light: a row of flat bricks is followed by a row in which two bricks set on edge are alternated with two flat bricks. On the southern side, large reused blocks covered by a paving of sandstone blocks form the first steps of a stair more than a metre wide.

Very little material was recovered during the excavation of the upper levels, but the high proportion of bread moulds of a late type together with Classic Meroitic sherds provided an indication of the date of the well's construction. Its interior fill was almost entirely composed of sand, no doubt wind blown. A few painted potsherds were found in the fill and confirmed the Meroitic date. It is likely that this splendid structure was a well, even though its location beside the sanctuary of a temple is unusual. It will be necessary to completely excavate the layers of sand in order to determine whether this well was used to monitor the variations in the level of the ground water or to add to the volume of water needed for the outlying bakeries. An alternative hypothesis is that the structure was a *noria* or *saqqhia* for cultivation.

The wall of the architectural complex of Doukki Gel

A little to the south of the sanctuary of Akhenaten, a careful excavation was undertaken of a segment of the precinct wall 18 m long (fig. 14). Mud brick alignments provided glimpses of several phases of construction and confirms the use of redans, a characteristic reminiscent of the New Kingdom fortified towns established below the 3rd cataract.

11. MORKOT 2000, pp. 74-90

12. BONNET 1999, p. 74

13. LAMING MACADAM 1955, pp. 41-44 and 188-198

However, this enclosure did not have the solidity of these other examples. In fact two relatively narrow walls (1.25 m and 1.35 m) were juxtaposed; they were built at different times as the redans were reused in the masonry of the second phase. Surface cleaning was all that was necessary to follow the traces of these walls, which seem to have been strengthened at a later date. The south-west corner was found at approximately 60 m and the return to the north was even longer, and seemed to continue for fairly long way.

This enclosure is particularly interesting as we know that to date no other fortified town has been found in the Kerma basin, nor beyond the 4th cataract. Egyptian control seems less well established and the absence of support points in this region seems to have permitted uprisings up until the reign of Tuthmosis III. The administrative reorganisation of the territory into two provinces under the pharaoh Amenophis II or under Tuthmosis IV helps to understand how the collection of taxes and tribute was effected¹¹. It is clear that we must show that this is not merely a *temenos*, but the walls of a town that replace those of the ancient town and its *deffufa*. An incomplete survey has shown that the archaeological remains extend 200 m to the north, and so the chronology of these walls must be studied.

The archaeological material

The archaeological material recovered in these two seasons is exceptional. Almost 600 inscribed and decorated blocks or fragments were found, although they were not all of the same value and certain minor pieces were kept for repair and reconstruction. Unfortunately many of the blocks had been recut. Their excavation was very time-consuming and some had completely disintegrated and had to be recorded *in situ* while others were consolidated and then mended. This material has now been deposited in a new store, in which the work of recording and photography can continue.

A large number of faience decorations and moulds were found at the site of the temple of Akhenaten. These objects had clearly been made on site, in the small workshop situated to the north of the transverse chapel¹². Similar material in faience was found at Kawa in temple A of Tutankhamun¹³, and in the temple of Taharqa. Further research will no doubt provide a more precise date for these decorative elements. The inventory also includes several fragmentary stelae and magnificent pieces of sculpture belonging to statues of the Egyptian Middle or New Kingdoms, and much pottery.

The Meroitic cemetery

These last two excavation seasons have again shown the importance of the Meroitic cemetery built within the ancient town. Although a number of entrance passages were revealed by surface cleaning, very few of them could be fully excavated to the level of the tomb. Such investigations would involve the destruction of the structures of the Kerma period, which are already very disturbed by the grave passages as well as an increased accumulation of rubble, which would complicate our surface analysis considerably. Specific research on these graves must be planned for the future. However, surface discoveries and some excavation, particularly in the ditches, made it possible to study some of the tombs, confirming earlier findings. In the northern sector, for example, the majority of the inhumations were dated to the Classic Meroitic period by sherds of large orange-coloured beer jars scattered on the ground.

The tombs had usually been badly plundered either in ancient or more recent times. Thus two large tombs (CO 154 and 147) constructed in mud brick in the Classic Kerma ditches contained not a single bone *in situ*. However, in one of the less disturbed corners of tomb CO 154, three intact vessels were found: an *arybalos* with a flower decoration on its body, a glass *unguentarium* with a large base 17.5 cm high, and a burnished bowl with an inverted lip. Tomb CO 147 contained the disturbed remains of an adult male; in the fill there were four broken bowls, including one carinated bowl decorated with *ankh* signs, plants and horns which is to be noted in the series of fine painted vessels of the beginning of our period up to the 4th century.

The most exceptional grave goods came from tomb CO 144, whose east-west entrance passage had almost entirely disappeared. The tomb, whose vault was still partly preserved, had been disturbed. The inhumation was a male over 40 years old who was lying on his back, his arms beside his body, and his head to the east; some of the bones were missing. Several bones of a second individual were found in the fill, together with the pelvis of an infant. The surviving grave goods included a bronze ring with a bezel decorated with the head of a ram, iron tweezers, a small red jar and several fragments of carinated bowls of the Classic period. One of these latter was distinguished by a fine representation of the head of Hathor (fig. 15). However, the most remarkable object was found almost at ground level in perfect condition. It was a bronze ewer with a handle in the shape of the elongated body of a dog. This exceptional piece was without doubt the product of one of the best workshops of the Nile valley (figs. 1 and 16).

Conservation and restoration

We needed make at least 30,000 fired bricks in order to undertake the restoration of the Meroitic temple of Doukki Gel; they were larger than those in use today. In addition 40,000 mud bricks were needed. The restoration was directed by Salah El-Din M. Ahmed. The fragile remains of the great Meroitic temple are now protected; the importance of this monument can best be appreciated from the top of 'kom des bodegas', the mound formed by the accumulation of discarded bread moulds (fig. 17).

Examination of the western deffufa brought us face to face with the fact that the continual degradation of the monument was likely to lead to the collapse of entire sections of masonry. Wind erosion and thousands of birds have seriously undermined the upper parts, not to mention the thoughtless visitors who climb the walls and tear out mud bricks for the pleasure of seeing them explode 15 metres below. Urgent measures were called for, in particular to the south-eastern part of the portico, where fissures had widened to a worrying extent. We therefore had to resort to constructing an enormous foundation almost 8 metres high, which, although altering a little the well-known silhouette of the monument, will prevent the collapse of further masonry. The increase in the number of tourists prompted us to introduce tourist trails. Several houses were restored in the quarter where the main entrance to the site is to be found. These buildings were constructed on either side of one of the access routes leading to the *temenos*. The large administrative building close to the eastern gate, and some 'bakeries' were also restored, in order to bring life to an area where all the activities related to traffic in goods took place: sealing or unsealing packages, baskets or recipients of products, some of which originated from far distant lands. In the religious quarter, the focus was on the remains of the palace, porticos and a chapel in order to facilitate understanding of an architectural complex that had developed

over 700 to 800 years. Finally, contacts made with the architect Abdulla M. Sabbar were cemented through the development of a project for a site museum and a tourist area along the eastern side of the site.

Bibliography

- BARRY 1999 Rahim D. Barry, *Portes d'Afrique*, Paris 1999
- BONNET 1999 Charles Bonnet, "Les fouilles archéologiques de Kerma (Soudan) · Rapport préliminaire sur les campagnes de 1997-1998 et 1998-1999", *Genava*, n.s., XLVII, 1999, pp. 57-74
- BONNET *et alii* 2000 Charles Bonnet, in collaboration with Dominique Valbelle, Louis Chaix et Béatrice Privati, *Édifices et rites funéraires à Kerma*, Paris 2000
- BONNET *et alii*, in press Charles Bonnet, Dominique Valbelle, in collaboration with Salah El-Din Mohamed Ahmed, "Les sanctuaires de Kerma du Nouvel Empire à l'époque méroïtique", *Comptes Rendus de l'Académie des Inscriptions et Belles Lettres (CRAI)*, in press
- DENYER 1978 Susan Denyer, *African Traditional Architecture*, New York 1978
- D'ESME 1931 Jean d'Esme, *Afrique équatoriale · Images du Cameroun et de l'Afrique équatoriale française (Oubangui-Chari, Tchad, Congo, Gabon)*, Paris 1931
- FAIRMAN 1938 Herbert W. Fairman, "Preliminary Report on the Excavations at Sesebi (Sudan) and Amarah West, Anglo-Egyptian Sudan, 1937-1938", *Journal of Egyptian Archaeology*, 24, 1938, pp. 151-156
- GUIDONI 1995 Enrico Guidoni, *Architecture primitive*, Venice 1995²
- HONEGGER 1999 Matthieu Honegger, "Kerma · Les occupations néolithiques et pré-Kerma de la nécropole orientale", *Genava*, n.s., XLVII, 1999, pp. 77-82
- MACADAM 1955 Miles Frederick Laming Macadam, *The Temples of Kawa*, 2 vol., Oxford – London 1955
- MORKOT 2000 Robert G. Morkot, *The Black Pharaohs · Egypt's Nubian Rulers*, London 2000
- PRIVATI 1999 Béatrice Privati, "La céramique de la nécropole orientale de Kerma (Soudan) · Essai de classification", *Cahier de recherches de l'Institut de papyrologie et d'égyptologie de Lille*, 20, 1999, pp. 41-69
- PRIVATI, in press Béatrice Privati, "Kerma · Classification des céramiques de la nécropole orientale", *XI^e Conférence Internationale des Études Nubiennes* (Boston 1998), in press
- VERGNIEUX 1999 Robert Vergnieux, "Recherches sur les monuments thébains d'Amenhotep IV à l'aide d'outils informatiques · Méthodes et résultats", *Cahiers de la Société d'Égyptologie*, 4/1, Geneva 1999

Christian Simon : publications on Sudan

- 1980 "Étude anthropologique préliminaire sur le matériel de Kerma (Soudan)", *Genava*, n.s., XXVIII, 1980, pp. 65-67
- 1982 "Étude anthropologique préliminaire sur le matériel du Kerma ancien (Kerma, Soudan)", *Genava*, n.s., XXX, 1982, pp. 65-66
- 1984 "Étude anthropologique préliminaire sur le matériel du Kerma ancien (Kerma, Soudan)", *Genava*, n.s., XXXII, 1984, pp. 34-46
- 1985 "Diachronic Study of Internal Structure of the Population of the Nile Valley by Means of Multivariate Analysis of Morphometrical Data", *Antropologia contemporanea* (Florence), 8, 2, 1985, pp. 95-108 (in collaboration with Roland Menk)
- 1986 "Étude anthropologique préliminaire sur le matériel de Kerma (Soudan) · Campagne 1984-1986", *Genava*, n.s., XXXIV, 1986, pp. 29-33
 "Contribution à la connaissance de l'anthropologie du Kerma ancien", in M. Krause (réd.), *Nubische Studien*, Tagungsakten des 5. internationalen Konferenz der International Society for Nubian Studies (Heidelberg, 22-25 Sept. 1982), Mayence 1986, pp. 179-186
- 1987 "Notes anthropologiques sur les restes humains de Kadrouka (Soudan)", *Archéologie du Nil Moyen*, 2, 1987, pp. 63-67
 "Genetics and History of Sub-Saharan Africa", *Yearbook of Physical Anthropology*, 30, 1987, pp. 151-194 (in collaboration with Laurent Excoffier, Béatrice Pellegrini, Alicia Sanschez-Mazas and André Langaney)
 "Taphonomie d'une sépulture du Kerma ancien (Soudan) : résultats préliminaires d'une étude biophysique et biochimique", *Méthodes d'étude des sépultures*, comptes rendus de la table ronde du Groupe de recherche 742 (Saint-Germain-en-Laye, 16-17 mars 1987), Paris 1987, non paginé (in collaboration with Maximo Klohn, Alberto Susini, Charles-Albert Baud and M. Sahni)
- 1988 "Notes anthropologiques sur les restes humains · Kerma (Soudan) · Campagne 1986-1988", *Genava*, n.s., XXXVI, 1988, pp. 25-26
 "Taphonomy of an Ancient Kerma (Sudan) Burial : a Biophysical and Biochemical Study", in *Physical Anthropology and Prehistoric Archaeology · Their Interaction in Different Cultural Contexts in Europe from the Late Upper Paleolithic to the Beginning of the Historical Times*, Proceedings of the international symposium of Rome (5-8 october 1987), *Rivista di Antropologia*, suppl. 66, 1988, pp. 21-34 (in collaboration with Maximo Klohn, Alberto Susini, Charles-Albert Baud and M. Sahni)
- 1989 "Les populations Kerma · Évolution interne et relations historiques dans le contexte égypto-nubien", *Archéologie du Nil Moyen*, 3, 1989, pp. 139-147
- 1990 "Étude des ossements humains", in Charles Bonnet (éd.), *Kerma, royaume de Nubie · L'Antiquité africaine au temps des pharaons*, Genève 1990, pp. 101-108 (in collaboration with Christiane Kramar and Alberto Susini)
- 1991 "Étude anthropologique de squelettes provenant d'une tombe chrétienne de Koya et d'une tombe méroïtique de Kerma", *Genava*, n.s., XXXIX, 1991, pp. 35-41
 "Quelques réflexions sur les sacrifices humains à Kerma (Soudan)", *Méthodes d'étude des sépultures*, Proceedings of the meeting of the Groupe de recherche 742 (Saintes 8-10 mai 1991), Paris 1991, pp. 85-89
- 1992 "Les sépultures de Kerma Soudan (3000-1550 B.C.) · Apport de l'anthropologie", *Archéologie du Nil*, 2, oct. 1992, pp. 99-113
- 1995 "Kerma · Quelques résultats de l'étude paléodémographique des squelettes de la nécropole", *Genava*, n.s., XLIII, 1995, pp. 60-64
- 1999 "A Taphonomic and Anthropological Study of Some Napatan Graves from Kerma and the Island of Sai (Upper Nubia, Sudan)", D. A. Welsby (éd.), *Recent Research in Kushite History and Archaeology · Proceedings of the 8th Int. Conference for Meroitic Studies*, British Museum Occasional Papers, 131, London 1999, pp. 35-43 (in collaboration with Bruno Maureille)

1. Cf HONEGGER 1999, pp. 77-82

2. Wind erosion is the most significant natural agent in the destruction of archaeological sites in the region. However, the expansion of the cultivated area is now the main threat to the archaeological heritage.

3. Cf HONEGGER 1999, pp. 80-81

During the last two excavation seasons of the University of Geneva mission, work on the periods that precede the Kerma civilization took place at the site of the eastern necropolis. This remains the preferred site for the study of Neolithic and pre-Kerma settlements, not only because of its topographical and geographical situation¹ but in particular because the funerary tumuli of the Kerma period have played a part in protecting the earlier sites from wind erosion². At the same time, a project to survey an area 22 km by 35 km, situated on the right bank of the Nile in the vicinity of the town of Kerma was begun last year (fig. 1). Survey and excavation of archaeological sites situated in the alluvial plain was undertaken in response to the increasing threat of destruction by the expansion of the cultivated area towards the desert. The work was also required for the achievement of one of our objectives, the establishment of a chronological and cultural framework for the recent prehistory of Upper Nubia (fig. 2).

The pre-Kerma settlement and necropolis

Excavation of the pre-Kerma settlement was undertaken in the western part of the town, this being the last area that we are able to study using the means available to us. To the west, the limit of the inhabited zone seems to have been reached, while towards the south and the southeast, very many centimetres of sediment have been lost through erosion, destroying the pre-Kerma remains and revealing structures dating to the Neolithic³. To the north, the archaeological layers are better preserved, but they are covered with a considerable depth of wind-blown sand, making it impossible to clear large areas by hand.

In 1999, the discovery of a pre-Kerma grave in the western sectors suggested the presence of a cemetery adjacent to the settlement. The discovery this winter of a second grave of the same period supports the earlier interpretation. It will, however, be difficult to provide a representative impression of this cemetery. These two tombs are situated very close to the surface and had been particularly exposed to destruction by erosion and by the insertion of graves of the Kerma period. The two burials did not seem to have been placed in a grave, but the bodies were probably laid directly on the surface of the ground before being covered with a mound of earth. Such a practice makes them particularly vulnerable to deterioration and it is very likely that the majority of these tombs have now totally disappeared.

The rarity of postholes and the presence of graves in the western sector suggested that the limit of the inhabited area had also been reached at this side of the settlement. Now, further cleaning has revealed structural remains, showing that the pre-Kerma settlement extended to the west, although the density of structures is much less than in the central zone of storage pits. The remains materialised as two new structures indicated by postholes. The first was a large round house, six metres in diameter and perfectly circular, with very regularly-spaced posts (fig. 3). It was possible to identify the entrance which opened to the south, directly opposite the direction of the prevailing wind. Neither a central post,

nor any particular fittings were found in the internal space, apart from four small circular depressions, placed in groups of two. Their shallowness suggests that their function was to support pots, probably jars to hold foodstuffs. Several meters from this hut was a second structure of a less regular shape, slightly oval with well-spaced posts. This may have been a small enclosure for animals. A circulation area leading to this structure was identified, characterised by many footprints and some cattle hoof impressions. A sample of charcoal found on the surface is being dated to determine whether or not this area was contemporary with the pre-Kerma occupation. If the original ground surface is well preserved in this sector, the depth of the postholes of the hut and the oval structure can be known with precision. They would be particularly shallow, of the order of 20 to 30 centimetres.

The Neolithic settlement

To the south-east of the pre-Kerma settlement, cleaning was undertaken in sectors where erosion had revealed an underlying Neolithic level dated to the middle of the fifth millennium BC (fig. 4). In some locations the nature of the sediments made it difficult to identify postholes, particularly when there were sandy deposits that were very hard to interpret. It is thus not certain that we were able to recognise the remains of all structures. However, the area situated at the eastern edge of the known settlement, opened during the winter season this year, was particularly well-preserved and very clear posthole alignments were found (fig. 5). Several hearths were also identified, together with two grindstones *in situ*. Pottery, flint flakes and animal bones were found on the surface. Their presence in the settlement has, however, little significance as the area had been washed by ancient Nile floods, bringing or moving the majority of artefacts that lay on the ground.

The general layout of this settlement did not have the same cohesion as the pre-Kerma town, although the area studied is relatively small at present, limiting our understanding. The structures, revealed by postholes, are characterised by fairly short palisades, oval huts with a diameter of around four metres, and by two rectangular structures, one of which could be confidently reconstructed (fig. 5). The palisades created divisions in the interior of the inhabited area; in some cases they formed small courtyards associated with the huts.

The location of the hearths, eighteen in all, was not in all cases clearly related to the structures of the settlement. Three of them were found on the periphery of the palisades and huts. It is not impossible that they belong to a period of occupation slightly later than the rest of the excavated remains. At the eastern edge, where preservation is better, the hearths were distributed in a more coherent manner in relation to the structures. Two groups of four or five hearths were recognised, and both were located to the south of a short palisade describing an arc of a circle. This latter could have been a windbreak, designed to protect the hearths from the prevailing wind. The two grindstones found *in situ* were slightly to the south of one of the groups of hearths.

This Neolithic settlement is promising and excavation will be continued during the next season in the north-eastern sectors, which seem to be better preserved. It is the first Neolithic village in Sudan which has structural remains that are clearly defined. Up until now, research on the settlements of this period had only revealed a few hearths accompanied by artefacts. Poor preservation has prohibited the recognition of wooden structures and the organisation of the buildings.

Archaeological survey

4. These are Neolithic sites within the area of the eastern necropolis or in its immediate surroundings (HÖNIGGER 1999) and a lower Palaeolithic site (CHAIX *et alii* 2000)

5. A preliminary study of the finds from these outcrops has already been completed (CHAIX *et alii* 2000).

6. On the subject of the deviations in the course of the Nile, cf. MARCOLONGO/SURIAN 1997

7. The study of the animal bones from the sites of the Kerma regions is being undertaken by L. Chaix, Museum of Natural History, Geneva.

8. Cf. GARCEA 1996

9. Cf. BONNET 1986, pp. 17-18

10. Other surveys undertaken in the Kerma basin, to the south of our area of study, have however noted the presence of numerous Neolithic cemeteries (REINOLD 1993, WELSBY 1997).

The first surveys in the Kerma region have proved to be particularly fruitful. In addition to more than eighteen sites that had already been located⁴, twenty-two new sites were discovered. The oldest of these dated to the lower Palaeolithic and consists of four outcrops of a shingle beach situated on the edge of the Nile. They yielded worked flint tools and animal remains going back around a million years (fig 1)⁵.

The sites dating to the Mesolithic were found beside the desert, at the edge of the alluvial plain. They must have been sited along ancient channels of the Nile, which flowed to the east of its current position⁶. Two locations yielded only a few artefacts and seemed to correspond to very eroded sites. The two others that were discovered were more interesting. They were fairly close to each other, each associated with a small cemetery. The first was rather poorly preserved, judging by the absence of an archaeological stratigraphy and by the state of the graves, whose skeletons appeared directly on the surface of the ground. However, the occupation area seemed little disturbed. There was a fairly dense scatter of artefacts within a well-defined area, including flint tools, cores and debitage, and small grindstones. In contrast, there were no animal bones and no pottery; these must have been reduced to powder through the wind erosion.

The second site is much better preserved; the archaeological stratigraphy is quite thick and yielded many artefacts (worked flint, pottery, charcoal, grinding materials and animal bones). Preliminary analysis of the fauna visible on the surface indicates that it mainly consists of wild animals of an aquatic environment (hippopotamus, silurid, tortoise, crocodile)⁷. Some fragments of decorated pottery placed this site in the Early Khartoum horizon, dated broadly between the second half of the eighth millennium and the beginning of the sixth millennium BC⁸. The graves adjacent to the occupation area were fairly well preserved, although some skeletons appeared on the surface. In some cases, the super-structure of stones covering the burial is still in place (fig. 6). Sandstone pebbles arranged in concentric circles evoke the stones still found on the tumuli of the Kerma civilisation. These two Mesolithic sites were found close to the cultivation zone and are threatened with destruction in the medium term. Excavation must be undertaken in the near future.

The sites dated to the Neolithic period are more numerous: seven deposits can be added to the seventeen already recorded at the eastern necropolis or in its immediate surroundings. They all relate to occupation areas, but they are very eroded and have yielded only a few objects and the remains of hearths. In general, they are less well preserved than those at the eastern necropolis. Other than the cemetery already known at Ashkan, near Tumbus⁹, no Neolithic funerary assemblage has been found in the Kerma region¹⁰.

Two new pre-Kerma sites were found 4 km to the east of the settlement excavated over the last few years. Both are more recent than this latter. The first covers several hectares, but it has been largely destroyed by cultivation. Some artefacts were however found on the surface (pottery, worked flint, grinding material, animal bones). Excavation of an area 200 metres square close to two fairly undisturbed hearths yielded no structures such as pits or postholes. Furthermore, finds were much less abundant than those collected on the surface. The other site was found several hundreds of metres further south. A hearth was preserved together with a few artefacts, but arable land had already covered almost the whole site.

11. Cf BONNET *et alii* 1990,
BONNET/REINOLD 1993

12. Particularly in the areas of the Kerma
basin surveyed to the south (REINOLD 1993)

Some sites of the Kerma civilisation were identified. They consisted of two groups of tombs located in the desert and three poorly preserved occupation areas. These discoveries add to the list of other sites known from this period, particularly those currently being excavated (the ancient city and eastern necropolis), the salvage excavations in the modern town and the cemeteries and fortress found during earlier survey work¹¹.

There were no important sites post-dating the Kerma civilisation found during the last season, apart from a very eroded Christian site. It may be that recent settlements are less numerous close to the desert, where the research undertaken last winter was concentrated. It seems to indicate that the distribution of sites of these periods is concentrated along the current course of the Nile.

The Neolithic and later pre-Kerma settlements are not found as close to the desert as those of the Mesolithic (fig. 1). Between the eighth and the third millennium, the course of the Nile shifted to the west, dictating the location of sites close to it. The translatory movement of the river involves a shift over time of archaeological sites from east to west, as has already been observed elsewhere¹². For the sites of the Kerma period, this rule is no longer applicable as sites are no longer located only along an ancient river course, but spread over the whole alluvial plain and even beyond it.

Chronological and cultural framework

The pre- and protohistoric periods in Upper Nubia are for the moment poorly understood and a reference chronology is sorely lacking. At present, comparisons with other dated assemblages can only be made with distant regions – Lower Nubia and central Sudan – through a lack of firm local references. The increase in radiocarbon dates, together with the typological study of pottery and lithics from different locations will make it possible, in the medium term, to draw up a table of the cultural evolution of society from the eighth millennium up to the beginning of the Kerma civilisation.

The earlier dating of the sites of the Kerma civilisation have been re-evaluated and new analyses are regularly undertaken. Following the dating of a large number of samples, it has been shown that the material used for carbon 14 analysis plays an important role in respect of the quality of the results. Charcoal gives the most reliable results, while other organic material from graves, which have undergone a process of natural mummification (leather, bones), provide less reliable results and are usually too recent. We should thus take account only of those dates obtained from charcoal. What emerges is quite coherent (fig. 2), and dates of events can be given a precision of one or two centuries.

Some of the sites have not been dated, and our chronology still includes many gaps, but the first results are promising. Two Neolithic sites in the eastern necropolis go back to around 4500 BC. They are followed by a long hiatus that ends around 3000 BC with the pre-Kerma settlement. After this date, there is continuous occupation up until the end of the Kerma civilisation. The two recently discovered pre-Kerma sites are dated between 2800 and 2500 BC, just before the Ancient Kerma period, which begins shortly after 2500 BC.

The preliminary study of the finds, particularly the pottery, has made it possible to more precisely define the proposed cultural groupings. The Neolithic still has too many gaps to be subdivided into phases. In contrast, it is possible to establish a three stage division for

13. The pottery from these two sites has analogies with the pre-Kerma sherds from the island of Saï, which is dated within a similar time-span (MEURILLON 1997).

the pre-Kerma period, of which the two most recent are now documented. The settlement in the eastern necropolis is attributed to the middle pre-Kerma phase, while the two settlements to the east belong to the latest pre-Kerma phase¹³. The pottery suggests a stylistic continuity between middle pre-Kerma and Ancient Kerma. Important elements such as red vases with black borders, rippled decoration, motifs of incised or imprinted lines, and successive comb impressions evolve continuously through these three known cultures. It is still too early to relate these findings to the human population. To date, everything suggests that the Kerma civilisation drew its origins from the local pre-Kerma traditions, and that it is not necessary to look for an external stimulus as the determining factor.

Bibliography

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|----------------------------|--|
| BONNET 1986 | Charles Bonnet, "Les fouilles archéologiques de Kerma (Soudan)", <i>Genava</i> , n.s., XXXIV, 1986, pp. 5-20 |
| BONNET <i>et alii</i> 1990 | Charles Bonnet <i>et alii</i> , <i>Kerma, royaume de Nubie · L'Antiquité africaine au temps des pharaons</i> , exhibition catalogue (Musée d'art et d'histoire, Geneva, 14 June - 25 November 1990), Geneva 1990 |
| BONNET/REINOLD 1993 | Charles Bonnet, Jacques Reinold, "Deux rapports de prospection dans le désert oriental", <i>Genava</i> , n.s., XLI, 1993, pp. 19-26 |
| CHAIX <i>et alii</i> 2000 | Louis Chaix, Martine Faure, Claude Guérin, Matthieu Honegger, "Kaddanarti · A Lower Pleistocene Assemblage from Northern Sudan", <i>Recent Research into the Stone Age of Northeastern Africa</i> , Proceedings of the international symposium of Poznan (23-26 August 1997), <i>Studies in African Archaeology</i> , 7, 2000, pp. 33-46 |
| GARCEA 1996 | Elena A. A. Garcea, "La culture des pêcheurs d'Early Khartoum · Un exemple dans la vallée du Nil", <i>Pré-histoire, anthropologie méditerranéennes</i> , 5, 1996, pp. 207-214 |
| HONEGGER 1999 | Matthieu Honegger, "Kerma · Les occupations néolithiques et pré-Kerma de la nécropole orientale", <i>Genava</i> , n.s., XLVII, 1999, pp. 77-82 |
| MARCOLONGO/SURIAN 1997 | Bruno Marcolongo, Nicola Surian, "Kerma · Les sites archéologiques de Kerma et de Kadruka dans leur contexte géomorphologique", <i>Genava</i> , n.s., XLV, 1997, pp. 119-123 |
| MEURILLON 1997 | Lancelot Meurillon, <i>Les greniers pré-Kerma de l'île de Saï</i> , mémoire de maîtrise, Université de Lille III, Lille 1997 |
| REINOLD 1993 | Jacques Reinold, "SFDAS · Rapport préliminaire de la campagne 1991/1992", <i>Kush</i> , XVI, 1993, pp. 142-168 |
| WELSBY 1997 | Derek A. Welsby, "The SARS Survey in the Northern Dongola Reach · Preliminary Report on the Third Sea- |

Figure captions

- Fig. 1 Map of the Kerma region with the location of sites identified during survey work undertaken in the 2000-2001 season.
- Fig. 2 Chronological table of settlements identified in the Kerma region between the eighth and second millennia BC. Carbon 14 dates, calibrated to 1 sigma, are given in a weighted histogram. Only the 28 dates obtained from samples of charcoal are included.
- Fig. 3 A round house, six metres in diameter, situated in the western part of the pre-Kerma settlement.
- Fig. 4 Plan of the Neolithic settlement situated to the south-east of the pre-Kerma settlement, beneath the tombs of the Kerma eastern necropolis.
- Fig. 5 View of the Neolithic settlement, with two palisades and a rectangular building. The circular structures are tombs of the Kerma period.
- Fig. 6 Arrangement of stones indicating the location of a grave at the Mesolithic site that yielded pottery finds. The diameter of the structure is around one metre.

1. VALBELLE 1999, pp. 83-86
2. BONNET 2001, p. 209
3. VALBELLE/BONNET, in press

A considerable amount of epigraphic material was brought to light during the last two seasons of excavation at the site of Doukki Gel. The material provided surprisingly complementary information on the various religious buildings that succeeded one another from the Eighteenth Dynasty onwards within the Egyptian town. The chronology indicated in 1998-99¹ was confirmed and new periods were attested. The ancient buildings were mostly identifiable through the reuse of their stone in later buildings, with some well-defined groupings noted in this reuse. The decorated *talatat* have, up until now, almost all been found in the floors and masonry of the Napatan temple, while there were almost none reused in the foundations of the temple of Akhenaten. In contrast, these latter included many fragments and stones from buildings of the early Eighteenth Dynasty, some of which had been recut to the dimensions of the *talatat*, something that has not yet been observed elsewhere. The various buildings are still more or less precisely dated according to the vagaries of excavation and preservation; some are currently represented by a single stone or fragment of a stone.

The work now being undertaken involves the gradual identification, in the six hundred stones and fragments so far uncovered, of the monumental buildings using all the evidence available – material, architectural characteristics, nature, style, contents of the reliefs and inscriptions, remains of polychrome colouring etc. These assemblages can be precisely dated when they bear one or more decorated elements or include all or part of a royal name. Other indications suggest attributions that need to be confirmed later.

Pre-Amarna stones and fragments

Various fragments of light grey sandstone bear a decoration in low relief that is fairly characteristic of the reign of Tuthmosis III, although the son of Re name of this king – Menkheperre – has only been found on three faience plaques from a foundation deposit of Tuthmosis IV². Several incomplete references to the king of Upper and Lower Egypt name – Djehutymose – belong to this same series. With few exceptions, such as the fragment of a recut pillar in the base of a column discovered the previous year in the transverse chapel (fig. 1), they were all found in the area of the temple of Akhenaten, which was clearly constructed on the site of an earlier monument. Several reliefs are from pillars. Two parts of a list of offerings are particularly remarkable (fig. 2). Other reliefs were carved in a very similar style although slightly less finely. A fragment bore the beginning of the son of Re name of Thutmoses III or IV: only the signs *rc* and *mn* were preserved inside the cartouche. Several pieces of a lintel and a fragment bore the names of Amenhotep II (fig. 3). The great conquerors of the first part of the New Kingdom had thus indisputably participated in the construction of at least one sanctuary that was already dedicated to Amon³.

4. MURNANE 1995, doc. 5 p. 50; bibliography p. 245

5. See VERGNIEUX 1999, pp. 169-174

6. See GABOLDE 1998, pp. 24-30, on the beginning of the reign. The oldest known evidence for the new royal cartouches is found on the Amarna frontier stele X and K, bearing the 'first proclamation' and commemorating the foundation of the town. It is dated to year 5, the 4th month of the *peret* season, the 13th day.

7. GARFI/KEMP 1987, pp. 103-114; MALLINSON 1989, pp. 115-142

8. BLACKMAN 1937, pp. 147-8 and pl. XIII, J-5 and XVI, 3

9. ROEDER 1969

10. REDFORD 1984, pp. 92-94 and 102-22

11. BONNET *et alii*, in press

12. VALBELLE/BONNET, in press

Decorated *talatats*

The majority of the decorated *talatats* found up until now at the site of Doukki Gel come from the paving of the Napatan temple disturbed by the *sebbakhin*. The new stones confirmed that the decoration consists mainly of large scenes figuring Akhenaten, Nefertiti and the princesses, on either side altars bearing various offerings destined for Amon, whose rays confer life on one and all. A stone bearing intact cartouches of the god in the "first form of the didactic name": "Living is Re-Horakhty who rejoices in the horizon, in his name of Shu who is in the Aton" (fig 4). This form of the name was found for the first time in the inscriptions of the quarries of Gebel Silsileh⁴ and is only in use for the first 9 years of the reign⁵. The hammered out names and faces of the sovereigns (fig. 5) and their silhouettes evidence the reform initiated by the couple from year 5 onwards⁶, placing the likely date of the construction of the temple of Akhenaten at Doukki Gel between these two dates.

Some of the segments of inscriptions are preserved on complete or broken *talatat*. Several of these provide information on the name of the temple, the arrangement of the decoration and the thickness of the internal partition walls. This information is still too incomplete to be fully exploited, but excavation in future seasons will provide further evidence. The discovery of decorated *talatats* in very close proximity to the remains of temples of the Amarna period is exceptional. Egyptologists usually have at their disposal either foundations with undecorated *talatats*, or their impressions – as at Amarna⁷ or in the temple of Aton of Sesebi⁸ – or decorated *talatats* reused in the more recent monuments of the site – as at Karnak – or on other sites – as at Hermopolis⁹ where *talatats* from the sanctuaries of Amarna were found. Apart from the temple of Akhenaten at Kerma, only the Gempaton of East-Karnak has both¹⁰. The cutting of pre-Amarna stones to the dimensions of *talatat* is a practice that has not yet been observed elsewhere.

The Ramesside evidence

Several stones and fragments can be attributed to Ramesside monuments whose situation and importance are still unknown. The oldest is also the best dated as it bears the names of the king of Upper and Lower Egypt and the son of Re name of Seti I (fig. 6). It was found at the rear part of the Napatan temple, with a *talatat* re-engraved in the Twentieth Dynasty, probably during the reign of Ramesses III. Last year we put forward the hypothesis¹¹ that some stones carrying shallow inscriptions and painted in yellow, found in the front and central parts of the Napatan temple, could have come from a building of the Nineteenth Dynasty, perhaps from the reign of Siptah whose coronation name seems partly preserved on one of them. There have been no further finds to help us to confirm or refute this proposition.

Twenty-fifth Dynasty, Napatan and Meroitic monuments

The last two seasons have provided further epigraphic and iconographic information to aid our understanding of the Twenty-fifth Dynasty, Napatan and Meroitic temples. The toponym *pr-nbs/Pnoub*s was found on several fragments of column drums, and the cartouche of Neferibre, the coronation name of Arikamanonite¹², was found on two related stone blocks. This king lists in one of his inscriptions in the temple of Kawa, the stages

13. VALBELLE 1999, p. 85, fig. 5
 14. BONNET 2001, p. 210 and p. 214
 15. Cf VALBELLE/BONNET in press
 16. VALBELLE 1999, p. 86
 17. Cf VALBELLE 1999

of his coronation in the temples of Amon who dwells in the Pure-Mountain (Napata), Amon of Gematon and Amon of Pnoub. In addition we now have seven fragments of the monument with the name of Nebmaatre, of which the first element was noted here two years ago¹³. Finally, several names of kings or queens appear in reliefs or on objects.

Stelae

Amongst the epigraphic evidence found at Doukki Gel during the last few years were small and large fragments of stelae. The majority, which are difficult to make use of because of their small size or state of preservation, seem to date to the first millennium AD. The upper part of a large stela of Napatan date was discovered this season in a second transverse chapel¹⁴. Various private New Kingdom stelae were lying in deposits that probably antedated the building of the temple of Akhenaten¹⁵. Some of these indicated the presence, both before and after the Amarna period, of a cult of Amon for which other evidence has been noted previously¹⁶.

Statues and statuettes

Twenty or so new fragments of statues made of a hard stone were found during the last two seasons. The majority of these came from the rear part of the Napatan temple and date to the Middle Kingdom. However, the head of a man made of fired *bekhen* stone, of a style characteristic of the beginning of the Nineteenth Dynasty (fig. 7), can be associated with a fragment bearing an offering incantation from the back of a pillar that was discovered a year earlier. They both came from the area to the west of the Napatan temple. It was also there, in a deposit dated to the New Kingdom¹⁷, that a second male head was unearthed.

Bibliography

- | | |
|----------------------------------|---|
| BONNET 2001 | Charles Bonnet, "Kerma · Rapport préliminaire sur les campagnes de 1999-2000 et 2000-2001", <i>Genava</i> , n.s., 2001, pp. 197-219 |
| BLACKMAN 1937 | Aylward M. Blackman, "Preliminary Report on the Excavations at Sesebi, Northern Province, Anglo Egyptian Sudan, 1936-37", <i>Journal of Egyptian Archaeology</i> 23, 1937, pp. 145-151 |
| BONNET <i>et alii</i> , in press | Charles Bonnet, Dominique Valbelle, en collaboration avec Salah El-Din Mohamed Ahmed, "Les sanctuaires de Kerma du Nouvel Empire à l'époque méroïtique", <i>Comptes rendus de l'Académie des Inscriptions et Belles Lettres (CRAI)</i> , in press |
| GABOLDE 1998 | Marc Gabolde, <i>D'Akhenaton à Toutânkhamon</i> , Lyon 1998 |
| GARFI/KEMP 1987 | S. Garfi, Barry J. Kemp, "The Amarna Survey · Sanctuary of the Great Aten Temple", <i>Amarna Reports</i> IV, London 1987 |
| MALLINSON 1989 | Michael Mallinson, "Report on the 1987 Excavations · Investigation of the Small Aten Temple", <i>Amarna Report</i> V, London 1989 |
| MURNANE 1995 | William J. Murnane, <i>Texts from the Amarna Period in Egypt</i> , Atlanta 1995 |
| REDFORD 1984 | Donald B. Redford, <i>Akhenaten, the Heretic King</i> , Princeton 1984 |
| ROEDER 1969 | Günther Roeder, <i>Amarna-Reliefs aus Hermopolis</i> , Hildesheim 1969 |
| VALBELLE 1999 | Dominique Valbelle, "Kerma · Les inscriptions", <i>Genava</i> , n.s., XLVII, 1999, pp. 83-86 |
| VALBELLE/BONNET, in press | Dominique Valbelle, Charles Bonnet, "Amon-Ré à Kerma", <i>Mélanges Fayza Haikal</i> , in press at IFAO |
| VERGNIEUX 1999 | Robert Vergnieux, "Recherches sur les monuments thébains d'Amenhotep IV à l'aide d'outils informatiques · Méthodes et résultats", <i>Cahiers de la Société d'Égyptologie</i> , 4/1, Geneva 1999 |

Figure captions

- Fig. 1 Fragment of a pillar of the Tuthmosid period with the face of a Horus on two sides; recut as a column base and found in the transverse chapel
- Fig. 2 Fragment of a relief of the Tuthmosid period figuring a list of offerings
- Fig. 3 Fragment of a lintel with the names of Amenhotep II, re-used in the jamb of a Napatan door
- Fig. 4 Talatat with unhammered cartouches of Aton
- Fig. 5 Hammered face of Nefertiti
- Fig. 6 Stone with the names of Seti I
- Fig. 7 Head of a man of the Ramesside period



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