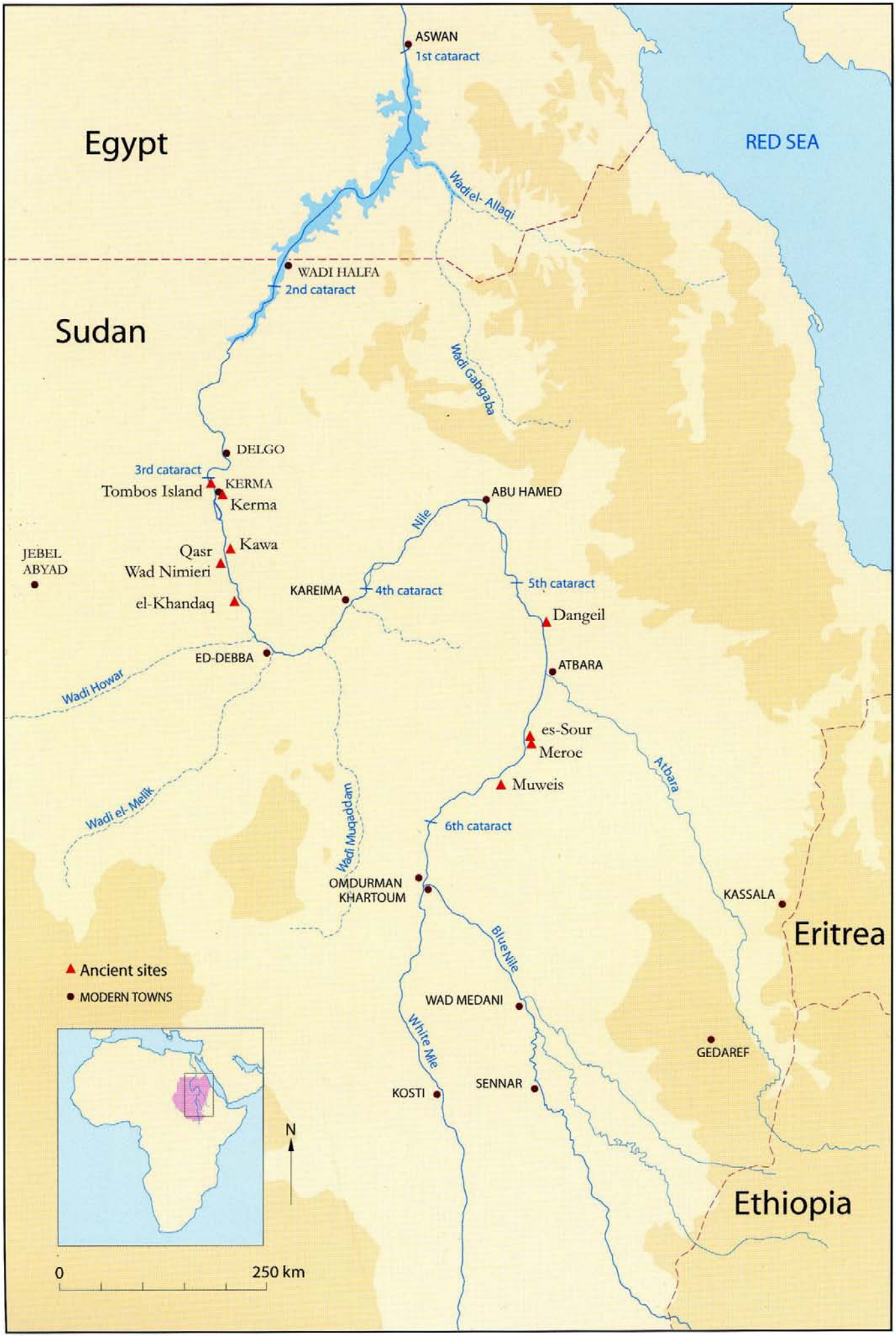
SUDAN & NUBIA

The Sudan Archaeological Research Society

Bulletin No. 12 *2008*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Contents

Front cover: Rescuing rock art from the Sudan Archaeological Research Society's concession at the Fourth Nile Cataract. This collaborative project between the British Museum, Iveco and New Holland was undertaken in November 2007 and resulted in the removal, from the SARS concession, of over 50 boulders bearing rock art or used as rock gongs. The pyramid, offering chapel and enclosure wall from site 4-F-71 were also relocated. Here the work is being filmed by a cameraman from the Italian TV news channel Rei Due (photo D. A. Welsby).

The Meroitic royal city of Muweis: first steps into an urban settlement of riverine Upper Nubia

Michel Baud

The site of Muweis, located about 50km south of Meroe, was almost unknown until the survey performed in December 2003 by Patrice Lenoble and Ahmed Sokari. The result of their examination was published in a recent issue of *Sudan & Nubia* (Lenoble and Sokari 2005). From the identification of five different loci, surface debris and recently dug pits, the authors identified this overlooked site as a large city dating from at least the Classical and Late Meroitic periods, i.e. 1st-4th centuries AD. The settlement included a major building reduced to a hill-shaped ruin, Gala'a el-Howara, some scattered sandstone blocks, possibly from a temple, a settlement area and an industrial mound, partly covered with iron slag. This promising survey prompted the authors to conclude that "it would be wise to begin a program there and to seek a university which would be responsible for it".

Thanks to a recent partnership between the National Corporation for Antiquities and Museums and the Louvre Museum, centred upon the study of the civilisation of the Meroitic heartlands, it was decided to settle a long-term excavation at Muweis, a site now threatened by new irrigation programs and the dramatic invasion of *prosopis juliflora* "mesquite"-trees. The mission's goal primarily is to understand the overall structure of the city and to study its urban material culture. The choice of such a site owes much to the advice and encouragements of Patrice Lenoble, who unfortunately, due to his untimely death, could not see the project's first results.

Indeed, the question of the structure of the Meroitic city remains a major issue for understanding the civilization of Meroe, whose truly urban character remains debated (Edwards 1999c, 67-68 and following discussion p. 97; also Edwards 2004, 147-149). Until recently limited data about the layout of "normal" towns could be gathered for Meroitic Upper Nubia, despite efforts towards a synthesis (Ahmed, S. 1992, 109-114; Welsby 1996, 148-151; Török 1997b, 516-523; Edwards 1999c, 65-69; Török 2002, 25-34; Edwards 2004: 145-154), mostly because of a lack of extensively excavated sites. The present situation is not unlike that which prevailed in Egyptology until the 1970's when, without a proper evaluation of the phenomenon, the importance of cities in the pharaonic state was largely underestimated (Bietak 1979) and town planning poorly understood (Lacovara 1997; Kemp 2006, 195-244). This situation is now changing for Meroitic heartlands between the 5th and 6th cataracts, thanks to the new fieldwork at Dangeil (Ahmed and Anderson 2005), Hamadab (Wolf 2002; 2004) and el-Hassa (Lenoble and Rondot 2003; Rondot 2006). Many other settlements of debatable type, as well as cemeteries, were identified in surveys over the last 40 years (e.g. Edwards 1989; Ahmed, K. 1984; Bradley 1992; Lenoble 2008). The number and distribution of these have considerably changed our perception of Upper Nubia's level of occupation. The identification of proper towns still poses many problems, since settlement size, or the presence of monumental buildings are not crucial elements for the label "city", a term which requires, among other criteria, a set of specialised activities (crafts, administration, official cults), social stratification, regional impact and exchange network (e.g. Trigger 1985, 343-344). To remain in the area of riverine Meroe and the savannah of the Western Butana, many sites raise specific problems of interpretation in relation to their essentially urban character (Bradley 1992, 24-25, 36-37, 198); some like Naqa, or Wad Ben Naqa, could well be central places limited to monumental buildings, temples and palaces, until proven otherwise (Edwards 1989, 141; Welsby 1996, 148-151).

Keys for approaching a town site

In this context, evaluating a site's overall structure is a priority and this is the Louvre mission's aim at Muweis. This is facilitated by a combination of topographic mapping, aerial and satellite views, surface and magnetometer survey, surface clearing, core drilling and traditional sondages. Little remains on the surface, apart from scatters of potsherds and fragmentary fired bricks, grinding stone fragments and iron slag; almost no structures are visible, apart from isolated portions of badly weathered walls in areas which were recently dug out illegally, or scoured by tractors.

In its current state, the site is surrounded by a belt of fields and appears as a sandy island (Colour plate XXI). Its dimensions are 450m east-west and an average of 350m north-south, with a total area of 16.5ha. It may have extended further south, as was visible in an aerial photograph of 1979; about 1.3ha of the sandy margin is now under cultivation and is bordered by a canal, which cuts through the site, separating a small southern hill (Palace A) from the rest of the site. On the north and east sides, where large amounts of wind-blown sand have accumulated, the connection between present and ancient site limits is obviously complex. Test drills (tar 14-15) in adjacent fields have hit archaeological layers 1m below the present cultivated surface, showing that the site was originally slightly(?) larger than it is today.

The probes, which do not yet cover the whole site, have shown that the settlement was not established upon a gravel or sandy levee, but on brown Nile silt (Munsell 7.5 YR 4/4), with the usual white kankar (calcium carbonate) crust, as

in Meroe, for example (Shinnie and Bradley 1980, 27). Here this natural level has a mean slope of 0.7% towards the Nile (i.e., north west), from 369m asl at the southern limit of the site, which corresponds to field level, to 366.3m at its northern side.

Topographically, the site is composed of three hills, separated and surrounded by a rather flat surface, barely undulating. The larger hills, on the west and east sides, are respectively +3 and +2m above field level; the smaller one on the south being at the highest point at +4m (372.8m asl). The use of different methods of investigation, mentioned above, gives clues about the city's organization and how this relates to the topography, although caution is advised at this very early stage of research. The attached map is a preliminary combination of these results, some of which are detailed below (Colour plate XXII).

Settlement and industry on the Eastern Hill

This area of the site was one of dense occupation which underwent a rapid evolution. Four core drills (tar 2, 19, 21, 24) revealed approximately 3m of accumulated archaeological deposits, alternating in a sand, ash, clay or a mixed matrix, including potsherds, grinding stone fragments, iron slag, pieces of fired, or mud bricks, charcoal, animal bones – all typical signs of settlement activities. Excavation locus B, on the west slope, took advantage of a recently dug trench (Lenoble and Sokari 2005, 59-60), 8 x 6m in size, to examine the stratigraphy, with additional excavation at its base to the virgin soil and an extension of the test of 6 x 6m to the west. Numerous mud-brick walls were met at almost every level (Plate 1). Most of them are 350-400mm in thickness

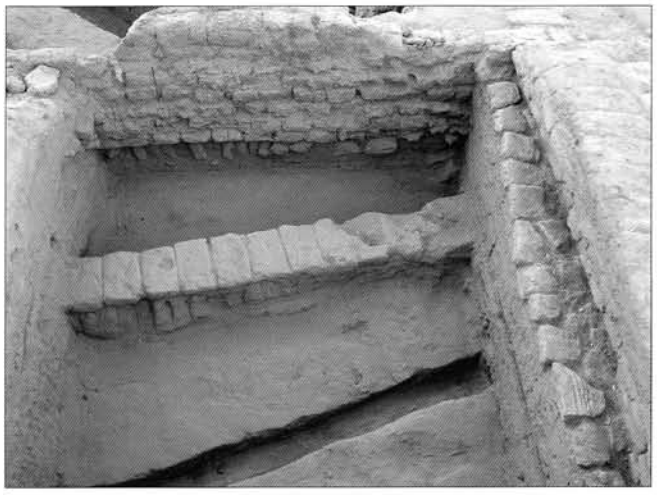

Plate 1. Stratified walls in trial trench B (2007).

(one header, bricks varying in size 340/380 x 170/190 x 70/90mm), of similar structure with alternating headers and stretchers, on a foundation of a single course of bricks, lain on their sides and with a similar orientation to the north east (with variations between 45° and 60°). They are usually preserved up to a height of three to four courses and the remains are sometimes reused as the foundations for the next building level – hence the difficulty in identifying the phases. Eight such building levels could be identified, some in direct succession, others separated by a period of abandonment, or change in function, such as a dumping area, riddled with large pits (one example being 3m in diameter, cutting to a depth of 1.8m through earlier layers).

The magnetometer mapping partially revealed the large extent of this densely settled area, sometimes revealing short wall lines on the same orientation as the building remains in trial trench B. These results could be tested by tracing the walls immediately below the surface in a small area (45 x 25m) connecting loci C-D, indicating the dense network of what appeared to be houses, orientated around 50° to the north east.

Both magnetometer and surface survey also identified a large area dedicated to pottery and iron metal industries on the north-eastern part of the hill. The links between this area and the settlement at the southern fringe in trial trench B seem evident at the latest building levels, where widespread layers of black ash were found, which are unlikely to be connected to household activities. The same conclusion may be drawn from the discovery of terracotta pipes, a small canal cut into the ground, an alignment of several jar emplacements and at least one concentration of iron slag, close to the surface. The centre of the industrial area is a large mound 50m in diameter. It is covered with potsherds in an ash matrix and includes numerous iron slag. Two kilns, FaF1 and 2, were identified by surface clearings on its north side, with an additional one, FaF3, found under kiln 2 and reused as the foundation for the later structure (Colour plate XXIII). None of them shared the same entrance orientation. Other kilns, indicated by high magnetic signatures, may well have been isolated to the west.

Kilns 1 (Figure 1) and 3 are of the well-known, cylindrical, double-chamber type, probably not domed (Adams 1986, 13-33; Ahmed S. 1992, 76-77, 83-85; Adams 2005, 46-47, 112-116). Only the lower parts are preserved, namely the furnace chamber, beneath the level of the floor which supported the firing chamber. As kiln 1 is still 1m high, this indicates the minimum height of the furnace chamber. Its internal diameter is 1.6 to 1.7m, with an enclosing wall 450mm thick; at a later stage, its vaulted stoke-hole was protected by thick flanking walls. Kiln 3 is not yet excavated but its outer, rear part, is much larger in size, with an external diameter of 3.8m. As so often, both structures are deeply set into the ground to achieve better insulation, respectively 0.8 and 1.45m; the matrix into which they are installed composed of layers of refuse with very abundant potsherds, some of them re-heated to the point of vitrification, a fate also shared by the brick fragments. The unpreserved floor of the firing chamber of kiln 1 had been supported on three arches, separated by only 100/150mm, a narrow space which may negate the potential existence of the customary floor, perforated by small holes in order to conduct heat

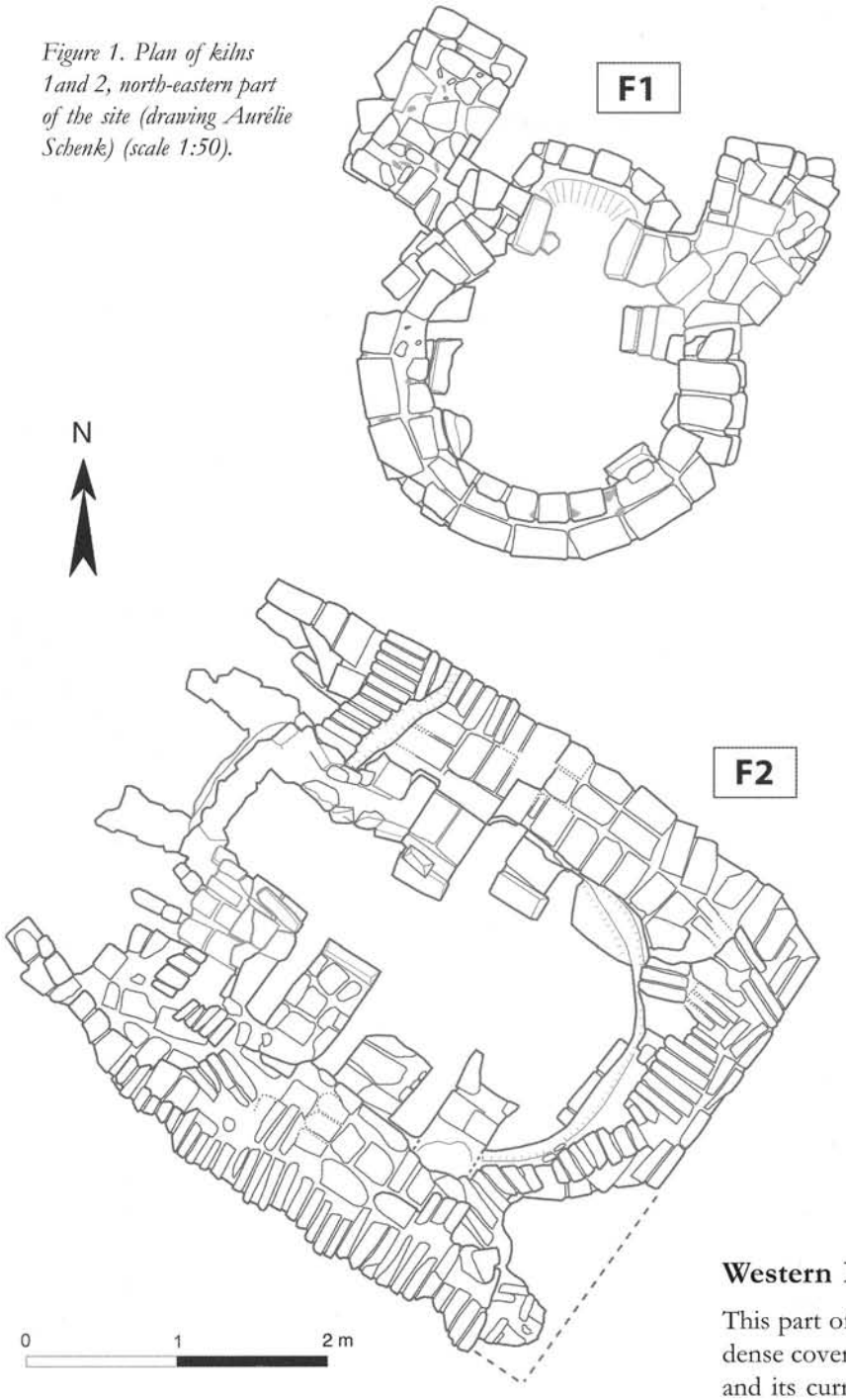

Figure 1. Plan of kilns 1and 2, north-eastern part of the site (drawing Aurélie Schenk) (scale 1:50).

upwards into the firing chamber. This was not the case for kiln 2, where the three arches are more widely spaced, up to 250mm apart. This last structure's outer appearance is rectangular, 3.7 x 4.4m in size, but semi-circular on the inside, with a 2 x 2.25m chamber. The stoke-hole is a narrow corridor 650 x 800mm, with two longitudinal and two perpendicular channels for ventilation, running along its sides. Whether the rectangular shape of the kiln, its thick walls and long entrance passage are an alternate means of providing insulation to a non-buried structure, or whether it testifies to a use other than pottery production, remains moot. As the presence of iron slag is almost totally restricted to the surface, these kilns were not used for iron working. Although the evidence for their use is inconclusive, with an almost total lack of identifiable wasters (only two deformed sherds), unfired fragments of vessels, or potters' tools (see the material recovered in Court 224 at Musawwarat's Great Enclosure, Edwards 1999a, 37-39), the parallels indicate that the circular ones at least were utilised elsewhere for pottery production. The absence of tuyères at the base of the kiln walls (Shinnie and Anderson 2004, 73-79) contraindicates metal production. The great quantity of human (69) and animal figurines (256) found nearby, in all stages of production, together with lumps of mixed clay bearing fingerprints, may indicate that the kilns had various uses concerned with ceramic production. From the scant evidence of a few tiny animal figurines made of kaolin, it is possible that Meroitic fine ware was also produced on the site. It is, contrary to earlier assumptions, now recognised that fine ware production was not restricted to Lower Nubia (Zach 1988, 140-141); Meroe, possibly and certainly Musawwarat, have revealed similar workshops (resp. Török 1997a, 173-174, pl. 140-143; Edwards 1999a). In any case, if Muweis also produced eggshell vessels, an assumption that requires more evidence, it would have been only a minor part of the potters' activity, as only about 1% of the potsherds counted elsewhere in the city (surface clearings A and trial trench B) were of this type. This figure is very similar to what was observed in Meroe by the Calgary-Khartoum mission, namely 1.8% of the total sampled sherds (Robertson and Hill 2004, 152, table P2).

Western Hill, progress report

This part of the site poses a variety of problems, due to its dense cover of *mesquite*-trees, large amounts of surface sand and its current use as a cattle compound, with enclosures and small shelters. These must be dealt with in the near future, but could not be overcome at this early stage of the work. Some attempts in probing failed, as the sand behaved like a liquid pouring into the drilled holes. The south slope of the hill, being cleared of sand, could fortunately be probed successfully and the drill essays (tar 5, 23, 26) gave results not dissimilar to those of the eastern hill in terms of stratification, matrix type and variety of objects. This should once again indicate a settlement area. The magnetometer survey also produced a densely dotted map which we interpret as a close-knit network of light walls and small structures. Most of the surface on this part of the hill is scattered with fragments of quartzite grinding stones, delineating a large zone

of 70m east-west by 35m north-south. One probe within this perimeter (tar 5) extracted pure or mixed ash accumulated to a depth of 1.7m. These provisional data need to be tested by excavation, which would help in identifying whether this place is a large bakery.

A monumental centre

Between these two large hills, separated by 150m, lies a low, sandy, plain which is practically bare. Drilling cores revealed occupation here to a depth of about 1m in the south (tar 28, 29, 9), 1.7-2m in the site's centre (tar 23, 24) and once again to 1m in the north (tar 14). In this large area, the magnetometer offered a crucial means of investigation (Figure 2). A major building, or complex of about 60 x 80m, was identified close to the south-eastern limit of Western Hill. A small rectangular test-trench, trial Ga, revealed several building phases, with quite substantial walls at certain levels (750mm and 850mm), but smaller structures at others (walls only one stretcher wide), all adopting the same north-east orientation of 29°, but curiously shifting in location. The walls are made of mud bricks in the lower levels tested, but of reused fired bricks for the last two, possibly three (an intermediate level did not reveal any structure), as in trial trench B. In this instance however, the most recent phase must be distinguished from the previous ones, as it shows a completely different orientation. The remains of a large house, post-Meroitic, or later, were unearthed at this level; its main long room 8.5 x 6m had a roof supported by three wooden posts (not recovered) resting on sandstone bases, reused column elements, certainly from a Meroitic building (Plate 2).

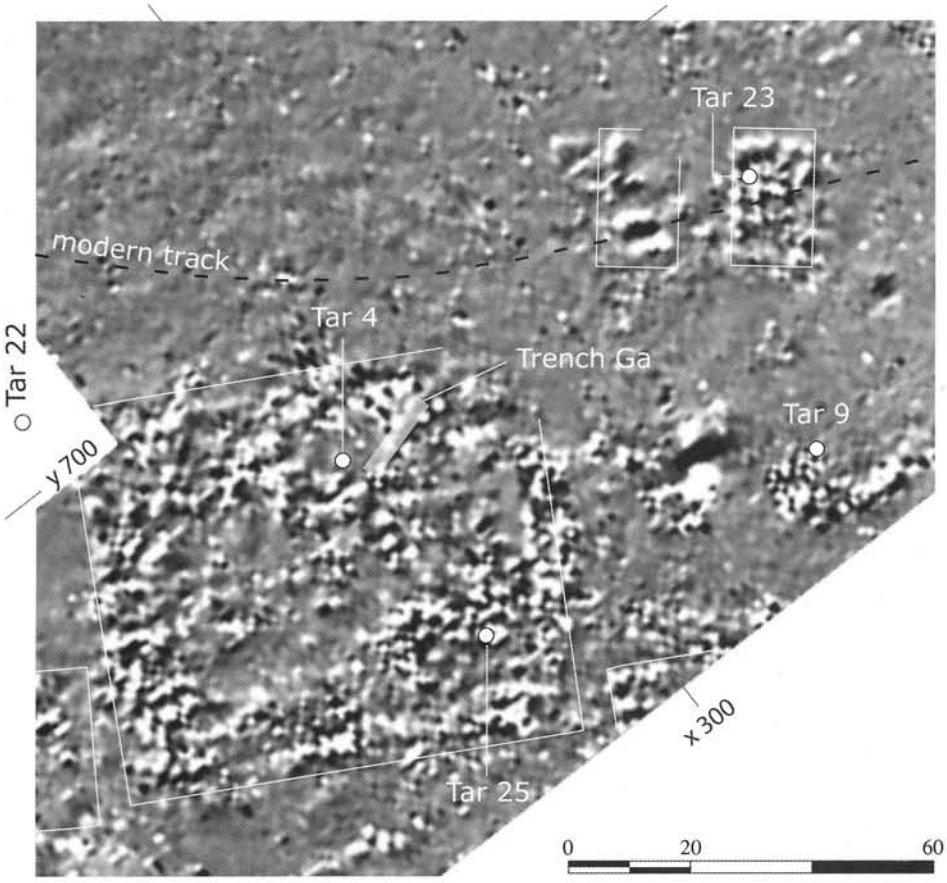

Figure 2. Magnetometer map of the city centre, delineating buildings and open spaces (mapping Yves Bière). The numbers are those of the core drills of the area.

To the north east of this large complex, the magnetic signature defined two parallel rectangular buildings, about 21 x 12m for the clearest, which could well be shrines as the apparently tripartite plan of the eastern one would indicate. One test drill (tar 23) inside this building recovered fragments of fired bricks and white plaster coating to a depth of 900m beneath the surface (800mm above virgin soil), which contraindicates reuse of material, as elsewhere, for the most recent levels of the city. The presumed buildings appear to be aligned perpendicularly with a large avenue, orientated north west / south east. This avenue, bordered with wide open spaces, apparently abuts another building, or group of buildings, to the north west. No clear data was apparent for the location of a large temple, which would logically be connected to this avenue. Although sculptured yellow sandstone blocks were found lying on the surface of the site in various locations, such as the cornice identified by Lenoble and Sokari (2005, 60, pl. 4) and other column fragments by the present mission, their small size do not suggest that they came from a major cultic building.

The general picture resulting from the magnetic map is that of a monumental centre, alternating important buildings and open spaces, adopting broadly the same north-east orientation 28° to 40°. These data are evidence for central planning. The palace of Gala'a el-Howara (see below) is accommodated into this scheme, as a large building orientated 28° north east. This structure is the southernmost of the monumental strip, situated about 100m to the south east of the 60 x 80m complex. Unfortunately, it could not be connected by magnetometer survey to the other part of the city, as it is separated from it by a recently dug canal, with its flanking heaps of excavated mud. Its orientation is evidence that it belongs to the same scheme as the other large buildings of the centre, the whole probably in direct connection to the ancient course of the Nile. A relationship with the Nile, especially for temples, is amply demonstrated for Egypt (Bietak 1975) as well as in Nubia, where the Nile axis acts as a local north (e.g., Meroe: Török

Plate 2. The surface-level house in trial trench Ga with its three stone bases reused from a Meroitic building.

1997a, 22) and is the most obvious orientation in terms of cognitive geography (Török 2002, 11-16, 19-34, with other determinants such as astronomy and topography). It is certainly because of the strong relationship between Amun and the Nile that many of his temples are set perpendicular to the river's course (Török 2002, 11-34). Newly excavated sites in Upper Nubia provide further examples of this practice, such as Dangeil (Ahmed and Anderson 2005, 15, for the temple, about 10° east for its minor axis), Hamadab (27° for the enclosure wall and 31° for the housing area, Wolf 2002, 102; similar orientation for other southerly buildings as shown by the magnetic survey, see Goldmann *et al.* 2007) and el-Hassa (about 40° for Amun temple and Damboya palace, *i.e.* identical to the ancient Nile bed, see Lenoble and Rondot 2003, fig.1), where all the variations may be explained by the local direction of the Nile which flows in a north to north eastwards direction. In the case of Muweis, however, the comparison between the recent orientations of the river (old maps, aerial view and satellite image) and also the limits of adjacent fields, as well as that of the site itself, indicates a more eastward "Nile-north" of 50° to 60°, more in keeping with the orientation of houses on the Eastern Hill, than the buildings of the monumental centre.

The palace of Gala'a el-Howara

The major discovery of the first season was a Meroitic palace (Figure 3). The surface survey of Lenoble and Sokari (2005, 59) already indicated the presence of a major building here, due to a dense cover of fired brick fragments, small black ferricrete sandstone slabs and white lime plaster fragments, in a context broadly dated by potsherds to the Classical and Late Meroitic periods. Very soon after we started the removal of the surface debris on the sides of the hill, mud-brick walls 1.5m to 1.7m thick, i.e. four bricks 340-370mm long, began to appear. The walls were then followed by surface clearings on the top and at the foot of the 4m high mound, but operations were interrupted when they went too deep under the surface at the base of the *kôm*. On the south side, they could be followed to the limit at which they had been destroyed by cultivation. All the walls in this part of the palace were founded upon several layers of black sandstone slabs which had separated naturally along natural faults (Bradley 1984, 285-286); they are similar to those identified by Lenoble and Sokari, solving the question of their use. A number are now found scattered in the fields west of the building, obviously as a result of the levelling operation which destroyed the southern part of the hill.

Our deep trial trenches in the central part of the building, rooms 1 to 4, extending to the base of the walls, encountered mud-brick foundations, sometimes protruding beyond the wall line (Plate 3). Here it appears that the building, founded also on the virgin soil, had cut deeply into the remains of a previous Meroitic occupation. These earlier levels were separated into four phases in the 900mm accumulation of room 3, above the natural Nile silt. The last two phases were also excavated in room 2 and the last three in room 4. The remaining structures indicate a normal settlement area: mud-brick walls one header, or one stretcher, thick, fireplace/braziers made of broken jars laid upside down and set into the floor (Ahmed S. 1992, 98; Edwards 1999a, 9; Lenoble and Rondot 2003, 110-111), circular silos, sunken mud containers and pottery storage jars. The amount of animal bones (sheep and cattle) is noteworthy,

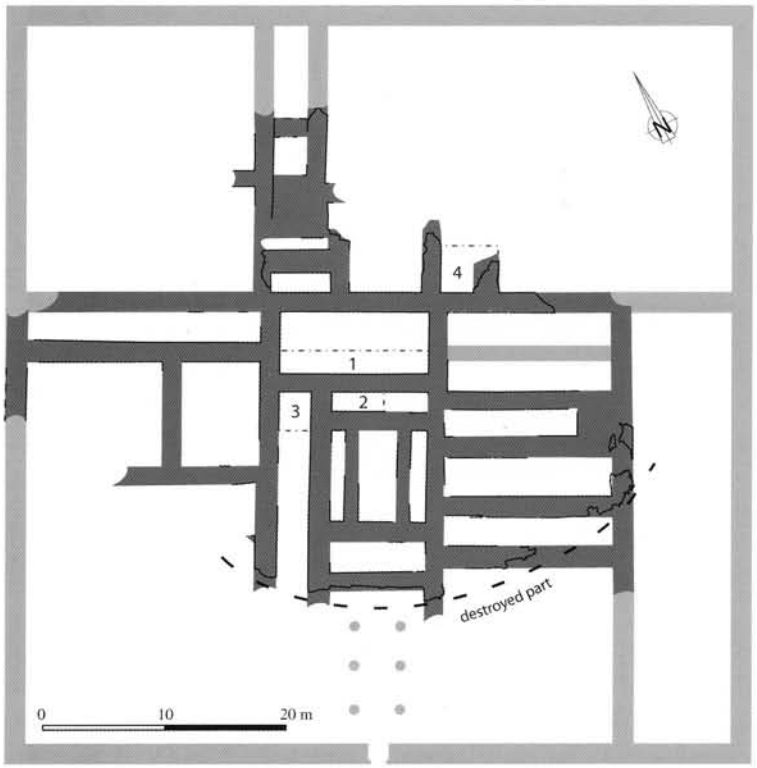

Figure 3. Provisional plan of the palace after surface clearing, with proposed limits and additions by comparison with the palace of Wad Ben Naqa (drawing Michel Baud). The numbers are those of the rooms tested in 2008.

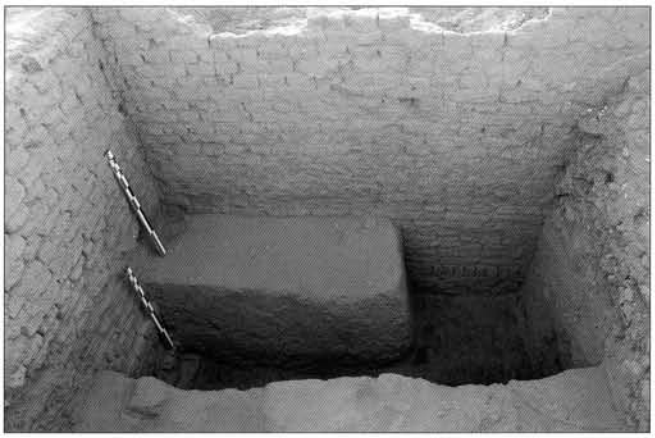

Plate 3. The palace walls in room 3, excavated down to their foundations.

especially in the context of room 4, where it appears as a dense 100mm-thick layer of refuse. As in Meroe, it seems, therefore, that meat was a significant part of the diet (Carter and Foley 1980, 298-310).

The exact size of the building is not yet known, but is a minimum of 51m on its east-west axis and 40m north-south. The partial plan, which in the central part of the building displays long corridors, very elongated rooms (11-14m by 2m) and larger rooms, is strikingly reminiscent of the basement of the palace at Wad Ben Naqa, hence our proposed identification of the Muweis building. The core rooms are distributed in the very same fashion, generally possessing similar proportions, even if their size is about 10% greater at Wad Ben Naqa. The absence of several partition walls may be explained by the fact that most of the present plan was revealed by surface clearings, meaning that walls which were preserved at a lower level are likely to remain buried under the debris.

The partly-excavated rooms have not revealed any traces of occupation so far apart from the pre-palace ones, the last level of which was removed to form a surface for the palace's construction. The foundation trenches were filled with the material resulting from their digging out and their top covered with bricks set irregularly along the walls when the trenches were narrow. No floor covered this irregular surface and no render protected the mud-brick walls. The rooms were also found empty, with no trace of use. This indicated casemate rooms, functioning only as support for an upper storey. The casemates were unfilled, as it is clear from the debris found inside which came from the collapse of the upper storey, namely fragments of yellow sandstone, numerous pieces of hard white lime plaster (sometimes painted blue), or bricks of special shape (cornice?). Other Meroitic palaces in Meroe and at Jebel Barkal exhibit the same characteristics: large size 50-60m a side, square in plan, two-storied with many rooms without means of entry at ground floor and a decorated upper level including stone architectural elements (Hinkel and Sievertsen 2002, 71). The situation is once again extremely similar to that of the palace of Wad Ben Naqa (Vercoutter 1962, 279-287), although the excavators (and several subsequent commentators) did not make a distinction between casemate rooms and magazines, wrongly deducing that all the closed rooms were of the latter type and accessible from the upper level (*ibid.*, 281).

It is especially intriguing that only the heart of the building is preserved to a height of 2-3m above the foundations, while its outer parts are reduced, at best, to the lowest courses of bricks. This differentiated destruction is not the result of natural decay, but was caused by humans. Fired bricks were extensively quarried in the past and it appears that this material was widely (if not exclusively) employed in building the walls of the outer perimeter, as well as for the first floor of the whole building, while only the basement's core was erected in mud brick. How systematically red bricks were removed is clarified when both types of bricks were used for the walls at the same level. Several walls of the northern part have a mixed structure in some courses, with a red-brick core and both faces of mud brick, a surprising technique in itself, since the contrary might be expected and is well attested in monumental buildings (one-sided, or two-sided, red-brick facing: Hinkel and Sievertsen 2002, 71; additional evidence at Dangeil, see Ahmed and Anderson 2005, 13). These walls now have their cores robbed out while their faces remain several courses higher.

This robbing could have taken place quite recently, as elsewhere in the region (e.g., el-Kadada or el-Hassa), and indeed local informants told us that the nearby *qubba* of Hosh Ben Naqa and its surrounding cemetery had been partly built in bricks taken from the palace area. It appears, however, that this represents a secondary phase of robbing as an extensive cemetery developed at more or less the level of the quarried building and its simple grave pits were cut either into the already destroyed walls, or the debris filling the rooms. No date could be suggested in the absence of grave goods, but the variety of orientations and the absence of pottery favoured a date within the Christian period. Samples of bones taken from two different skeletons (Fo4 and 8) for C^{14} analysis gave the results of 13th-14th century AD (from Kikirpa laboratory, Brussels). More decisively, all our trial trenches in the city (trials B, Ga and Fa) revealed that the last two or three phases of buildings had their lower parts extensively built from broken red bricks, some still retaining their original white plaster render. Several yellow sandstone, architectural pieces, such as column elements (drums, capitals), were also encountered in the foundations. This suggests the palace is a likely candidate as the source of this building material, although its fate may have been shared by other structures of the monumental "central strip".

Site history and material culture: first data

The evidence for material culture collected from the sur-

face clearings and retrieved in the deep trial trenches is at first glance homogenous and typical of the Classical to Late Meroitic periods. The unmistakable signal of these times, the famous decorated "egg-shell" fine ware (Adams class M, Shinnie class F), was detected, for example, at all levels in trial trench B (eastern settlement), including its earliest phase, i.e. occupation layers 14, 90, 95 and demolition level 13. This would date the first occupation of the town to the late 1st century BC at the earliest, although the exact date of appearance of this pottery remains controversial (see e.g., Edwards 1999a, 40; Wolf 2002, 108-109, n. 21; Robertson and Hill 2004, 130-131). Both stamped and/or painted fragments of cups and bowls were found, in accord with the rich corpus of Meroe (Shinnie and Bradley 1980; Török 1997a, 285-286) and now Musawwarat (Edwards 1999a, 28-35) and Hamadab (Dittrich 2003, 81-88), including for example some rare, stamped motifs, like the grapevine (as in Meroe: Török 1997a, fig. 86, no. 197-81 and 83). One of the most unusual eggshell vessels recovered to date is a fragmentary barrel-shaped aquamanile (Colour plate XXIV) similar to the Wad Ben Naqa exemplar (SNM 62/9/71: Vercoutter 1962, 292, fig. 27; Welsby and Anderson 2004, 258-259, no. 236); its extensive polychrome decoration is extraordinary in every respect, with a heavy borrowing of pharaonic symbols, set in a composition of its own: the legged *udjat,* with protruding uraeus, is indeed god-like. It is bearded and topped by an eyebrow, in the shape of a temple cornice upon which rests a crocodile. It is probable that both sides of the vessel were symmetrically decorated with the same pattern, as the partially remaining crocodile on the most fragmentary side suggests. With all of these highly protective symbols, there is no doubt that the liquid stored in this vessel (water?) had a special apotropaic value and probable cultic usage.

Apart from pottery, many kinds of objects typically belong to the Meroitic cultural assemblage, as found at other urban sites such as Meroe (Shinnie and Bradley 1980, 163-220; Näser in Shinnie and Anderson 2004, 212-262), Hamadab (Wolf 2002, 107) or Wad Ben Naqa (Vercoutter 1962). Among other items there are faience plaques, with cartouches and feathers (only small fragments), decorated terracotta spindle whorls, or archers' looses. These are of the typical rather short type, in hard stone as usual, but one of ceramic was also recovered, as in Meroe where, however, their interpretation as archer's looses was challenged on weak grounds (Näser 2004, 253). Human figurines, found in great quantity in the kiln area, are of a type well-known at Meroe in the Classical to Late Meroitic levels (Shinnie and Bradley 1980, 180-181, figs 70-72, mostly from terminal levels 1-4; Näser 2004, 261). Heads and bodies are usually made separately and held together by a small stick, inserted into the hole cut at the base of the head and on the top of the body, while for C-Group figurines the separately made heads were inserted onto an elongated pointed neck (see e.g. Wenig 1978, nos 14-18). Stylistically, most heads belong to the group displaying incised exaggerated large eyes, a circular groove around the upper part of the head and frequently three vertical scars on the cheeks

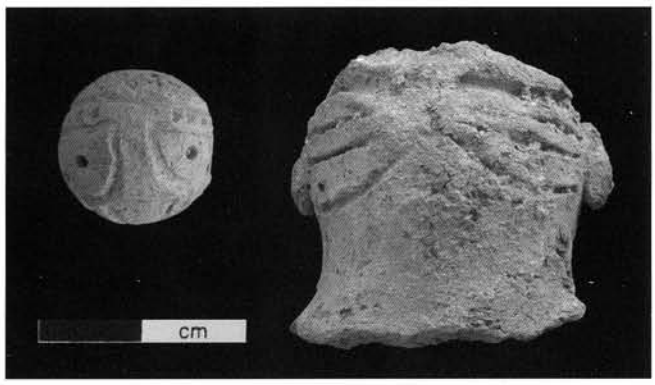

Plate 4. Human heads in clay, incised decoration.

(Plate 4). Other heads have facial features made from additional lumps of clay for the ears, eyes and mouth (Plate 5). Female figurines are of the steatopygous kind, seated leaning backwards, rather triangular in shape, in contrast to earlier figurines (Plate 6); similar examples, with, or without, heads were again found at Meroe city with an additional

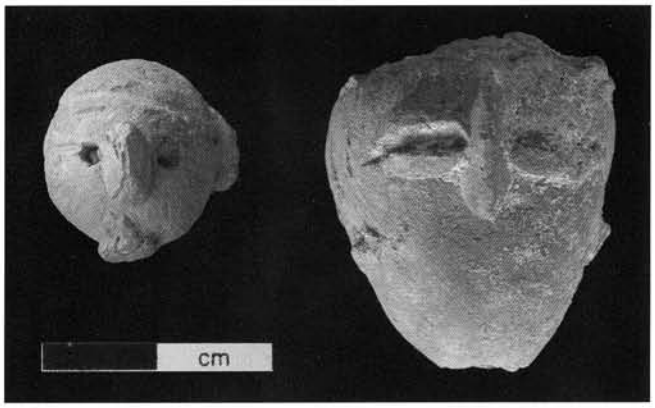

Plate 5. Human heads in clay with applique.

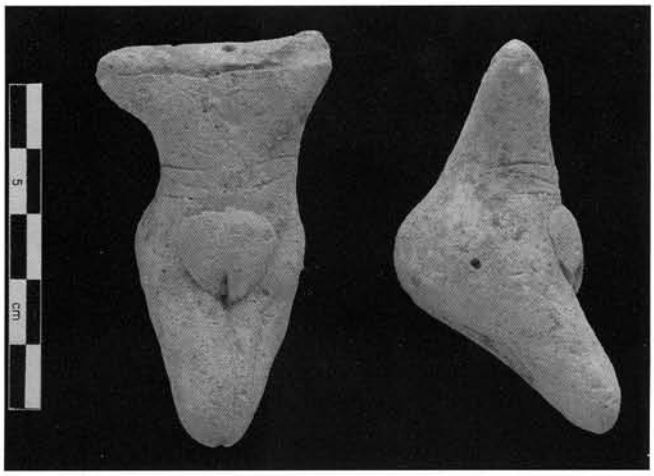

Plate 6. Female steatopygeous figurine.

example from pyramid Beg.W.323 (Wenig 1978, no. 142). One barely noticed fact is that the body was not always made of a single piece of clay incised to render the body features. In the case of most of the female figurines at Muweis, three different pieces of clay were used: one for each exaggerated thigh, pressed together and adjoined to the upper body; this technique is attested for C-Group figurines (Williams 1983, pl. 102c). As for the heads, small extra pieces of clay helped to suggest more anatomical details, such as sex and (dotted) pubis.

The type and shape of the seals and cretulae are another typical characteristic of Meroitic material culture. All the seals recovered to date are of terracotta, either button- or ring-shaped (Colour plate XXV), with a small, circular base/bezel, usually decorated with simple geometrical patterns; they are probably identical to the "crude finger bezels with incised designs" of Meroe (Shinnie and Bradley 1980, 181, no figure), although those from Muweis have a ring which is too small to wear on a finger. In as much as the seal impressions usually bear figurative designs, delicately modelled (*ba*-bird, baboon, falcon, ram-headed seated figure, uraeus, *ankh*-sign, flowers, hand, etc.) and perfectly delineated within a small oval, or circle 10-20mm in diameter (Plate 7), it is certain that they come from other seals, namely bezel rings in metal (Vincentelli 1993, 140; 2001, 73). This raises questions about the use of the previous ring "seals" as both rings (as stated above) and seals. The cretulae from the metal bezels usually bear several impressions from the same seal-ring. The pieces of clay were either free-standing, oval in shape, enclosing the two extremities of a string, or adhering to various items such as basketry or a cloth bag. Exact parallels for the shape, size and design of the seal impressions, as well as the types of the cretulae, are found in Upper Nubia at Meroe (Shinnie and Bradley 1980, fig. 69) and Wad Ben Naqa, a collection unpublished but recorded in the object files of the National Museum, Khartoum (currently under study by Aminata Sackho-Autissier).

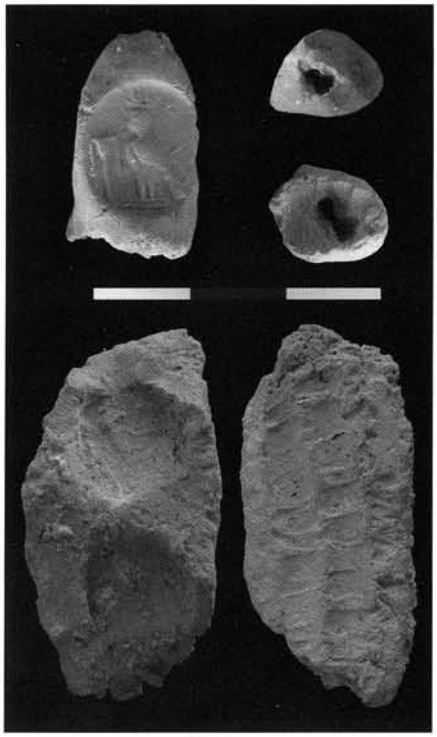

Plate 7. Seal impressions on clay. Top, ba*-bird; bottom, seated ram-headed god.*

Our limited trial excavations do not allow a chronological seriation of the pottery and objects and the impression of similarity between the levels, in particular, is certainly subjective. One area of scrutiny in the future will certainly be the brown/black decorated handmade ware (Shinnie's class J/K), the variety in form and decoration technique and design of which is impressive (see e.g., for Meroe: Shinnie and Bradley 1980, 157, 161-162; Robertson and Hill 2004, 125-129; for Hamadab: Dittrich 2003, 77-80) and may bear chronological implications. Contrary to earlier statements, this rather C-Group-like pottery is not a typical household product, but was part of the repertoire of the pottery workshops as is demonstrated by standardisation in shape, size and decoration (Lenoble 1992, 80-83) and also by their high firing temperature (Robertson and Hill 1999). This ware is quite well represented in our corpus of potsherds, 14% in the top layers of debris in Palace A and 9.5% in trial trench B. Statistics from other urban sites are still rare; the Calgary-Khartoum mission at Meroe, however, collected an average of 17% (Robertson and Hill 2004, 152, table P2), although a much lower percentage was initially alluded to (Shinnie and Bradley 1980, 162).

Currently, therefore, within this broad historical framework of the Classical to Late Meroitic periods, the chronological controls are only those derived from the stratigraphy. As stated earlier, eight building phases were found in trial trench B, with intermediate episodes, and at least six in trial trench Ga (not excavated down to the subsoil). In both cases, the last two or three building phases are certainly posterior to the abandonment of the palace. The palace area revealed four levels of occupation prior to the monumental building. Therefore, the history of the site can be divided into three broad phases: pre-palace, palace (with sub-phases in the city) and post-palace. Of course, as is usual in urban contexts, no physical level to level connection can be expected from one area to another, although the position within the sequence gives broad indications of contemporaneity.

While it is certainly too early to draw definite conclusions, a provisional date for the foundation of the town can be approached through different means. The presence of egg-shell ware in the palace debris precludes a date prior to the late 1st century BC, if the date of appearance of this product is reliable. The similarity of Palace A to the one of Wad Ben Naqa would favour a date in the late 1st century BC / early 1st century AD, as this building is related to Queen Amanishakheto. This last dating is based upon fragments

of decoration displaying the royal name, but it is only relevant to the later history of the building, the first phase of which (Vercoutter 1962, 294-296, pl. 20a) was not investigated by the excavators. Two charcoal samples taken from a trench immediately antecedent to building phase 2 of trial trench B, i.e. early in the stratigraphic sequence of the Eastern Hill, gave the C^{14} dates of 1965 and 1885BP (±25), that is 40 BC- AD 90 and AD 60-220 respectively at 95.4% probability. As there is little reason to suppose that the famous "old wood problem" complicates the issue here, the overlap between these dates favours the period AD 60-90, which is within the reigns from Natakamani/Amanitore to Amanikhareqerem. Samples from the earlier settlement under the palace will add crucial information to these first glimpses into the history of the site.

Muweis and the structure of a Meroitic royal city

The timeframe of Muweis and its geographical setting by the Nile allow comparison with other Upper Nubian cities of comparable size, characteristics and date. It is not the place here to review the chronological information brought about by similar sites. Suffice it to say that the reign of *qore* Natakamani and *kdke* Amanitore is now acknowledged as a peak of building activity and period of prosperity in the region (Eide *et al.* 1998, 896-904; Török 2002, 226-227), evidence of which is augmented by sites such as Dangeil (Ahmed and Anderson 2005, 21-22; Anderson and Ahmed 2007, 31-32). Recent discoveries at el-Hassa (Amun temple) and Naqa (Temple 200) also highlight the reign of Amanikhareqerem in the late 1st century AD as another period of important building activity (Zach and Tomandl 2000, 130, n. 24; Rondot 2006), as this ruler appears to have occupied the throne a century earlier than previously thought (Wenig 1999; Rilly 2001; see also Rondot 2006, 41-42, 113 for the el-Hassa evidence and Kroeper 2007, 233 for the relief style of Naga temple 200). Wad Ben Naqa, as noted above and Hamadab (Temple 1000) have elucidated traces of earlier activity in the 1st century BC if not earlier (Wolf 2004, 87). The chronological evidence for the history of towns, however, mostly relies upon the royal sponsors' names, displayed on the main temple(s), which neither encompass the whole history of the settlements nor offer a secure date for the foundation of a city or its main (re)modelling. Only extensive excavations can determine if a city was planned as a unit, by specific command of a ruler, or whether it is the result of organic growth towards which one, or several, monarchs contributed.

A number of interesting facts emerge for characterising the urban "landscape" of these more or less contemporary sites. All possess a decorated temple, either in stone, or red brick, obviously a crucial element in defining the city's status. Dangeil and el-Hassa possess a typical Amun temple, enclosed within a large *temenos* area, with a *dromos* flanked by statues of rams and a kiosk associated for a sacred bark procession. Hamadab has a temple possibly dedicated to Amun, rather than the god-king Sebiumeker, and is also protected by an enclosure wall. Wad Ben Naqa has several temples, apparently not protected, including the so-called "Isis-temple". Although this variety would account for a diversity of the godly patronage, a recent synthesis of these structures, gathering old and new arguments, considers all these buildings as Amun temples, either of the classical local ram-god, or an osiriac form of the god (Zach and Tomandl 2000, with earlier literature). Three sites have a palace of a closely related type, square in plan, 40 (?) to 60m a side, two-storied, with large walls, partly built of red brick with white plaster coating and architectural elements in sandstone: Muweis, Wad Ben Naqa and el-Hassa, although the data concerning the latter, at Domboya, was only gathered through surface survey (Lenoble and Rondot 2003, 109, fig. 2, possible size 40m - which might be an underestimate as the exterior walls, as at Muweis, may have been extensively robbed). The magnetometer survey at Hamadab also revealed large structures south of the northern enclosure, some of which might be of a palatial character. Three sites at least also have large heaps of iron slag, Muweis, el-Hassa (Zach and Tomandl 2000, 132; Lenoble and Rondot 2003, 106, fig. 1) and Hamadab (Wolf 2002, 109-110). For the last two settlements at least, the supposed workshops were close to the temple, a situation which at first glance is surprising, with regard to the nuisances of this activity, even if the temples were enclosed by strong and high walls. As the products of the iron industry are mostly military in character and therefore, were presumably under the strict control of the ruler (Lenoble 2001; 2006; Lenoble and Rondot 2003, 43-44), this element of the urban landscape is sufficient to prove that a city is royal, regardless of the presence of a palace. One may however remain cautious, since few of these slag heaps were investigated sufficiently to determine their dating except in Meroe; outside the capital some of them belong to the uppermost levels and therefore late history of the towns, such as at Hamadab (Wolf 2002, 109-110) whose terminal occupation lay within the 4th-5th century AD (Wolf 2004, 87).

On such urban sites, which clearly had a specific cultic, administrative, economic and military role, all closely tied to the monarchy, the existence of royal palaces, not only governors' residences, is meaningful. It is of particular relevance that the palaces under discussion here appear to be very similar, although only the building at Wad Ben Naqa was fully excavated. If the palace of Damboya is another example of the same kind, dated to the late 1st century AD, one can reasonably postulate the existence, from at least the turn of the 1st century BC and AD, of a regularly augmented chain of palaces along the Nile. Although these buildings certainly had a wide range of uses (Edwards 2004, 168-169), there is little reason to doubt that they were the actual residences of the monarch(s). This fact gives sup-

port to the assumption that Meroitic kingship may have been of the ambulatory type, according to a controversial hypothesis of Török based on the evidence of coronation rituals (Török 1992; 2002, 16-18 with n. 54).

Muweis and Upper Nubian settlement pattern along the Nile

Also important is the size of the abovementioned cities: all are remarkably similar, covering 15-20ha (already Edwards 2004, 148). At Dangeil, the 13 mounds and intermediate scatters of potsherds cover an area of 16ha (365 x 450m), the original extent obviously reduced by the surrounding modern village (Ahmed and Anderson 2005, 12). The main "tell" of el-Hassa spreads over slightly more than 20ha, to which must be added the neighbouring site of Damboya, about 500m to the south east, with its palace and associated settlement (Lenoble and Rondot 2003, 106, 109-111) covering an extra area of at least 4ha. The two adjacent mounds at Hamadab in total are approximately 15ha in extent (Wolf 2002). As stated above, Muweis has an area of 16ha and was probably close to 20ha originally.

This would indicate a 3-tier size hierarchy for riverine settlements in Upper Nubia, namely

1) the capital, Meroe
2) royal cities of medium size
3) villages.

In comparison to, for example, an Egyptian standard, the royal cities are of a modest size, equal to that of many *temenoi* of the Late to Ptolemaic Periods, which themselves only account for a fraction of the city (usually included, however, a large cemetery). It must nonetheless be recalled here that it is not size which defines a city, but rather its social and structural complexity. The size of many ancient cities is village-like according to our standards (Trigger 1985, 343-344; Kemp 2006, 194), but, as centres of local life and administration, they do qualify as true urban centres. It must also be remembered that size can vary widely from one area to another, such as, in our modern figure-orientated definitions, a city in France is defined as above 2,000 inhabitants, but above 10,000 in Norway, although the same standards operate. The abovementioned urban centres of the Meroitic heartlands are true towns, even of modest size.

Sharing a similar scale, a common geographical setting on the east bank of the Nile, broadly the same period and royal characteristics, these urban centres certainly belong to a chain of riverine cities close to the capital. In this respect, the character and density of settlement in the heart of the Meroitic kingdom begin to appear quite different from what was expected until recently (e.g., the tentative working hypotheses of Edwards 1999c, 67).

Between Meroe and Wad Ben Naqa, a distance of approximately 80km, are two major towns, Muweis and el-Hassa, to which can be added other poorly surveyed settlements, such as Gandetto,[1] or sites only known by their extensive cemeteries, such as el-Kadada and possibly Shaqalu/Shendi (see Lenoble 2008, with earlier literature) (see Figure 4). Gadu and Mutmir are other candidates in the area north of the capital. To remain in the Muweis region, the distance between royal sites is strikingly similar, about 10km: Wad Ben Naqa to Gandetto is 22.3km, which may account for an intermediate settlement not yet identified; Gandetto-Muweis is 10.7km, Muweis-Shaqalu 10.8km, Shaqalu-el-Kadada 11.2km, el-Kadada-el-Hassa 7.6km, el-Hassa-Hamadab 16.5km, with the intermediate city of Awlib/Abu Erteila a possible addition, although in an inland setting (Bradley 1992, 183-185). All in all, that would mean that each site survived on the resources of Nile flood agriculture from its hinterland stretching about 5km upstream and 5km downstream. Muweis for example, is actually set at the transition point between a southern island 5km long by 1.5km wide and a northern piece of alluvial land, the Shendi Reach proper, 6 x 3km in size. Without adequate irrigation systems, however, not all these areas were agriculturally viable in ancient times but the flooded low-lying basins and small adjacent *khor*-valleys could be utilised (Geus and Lenoble

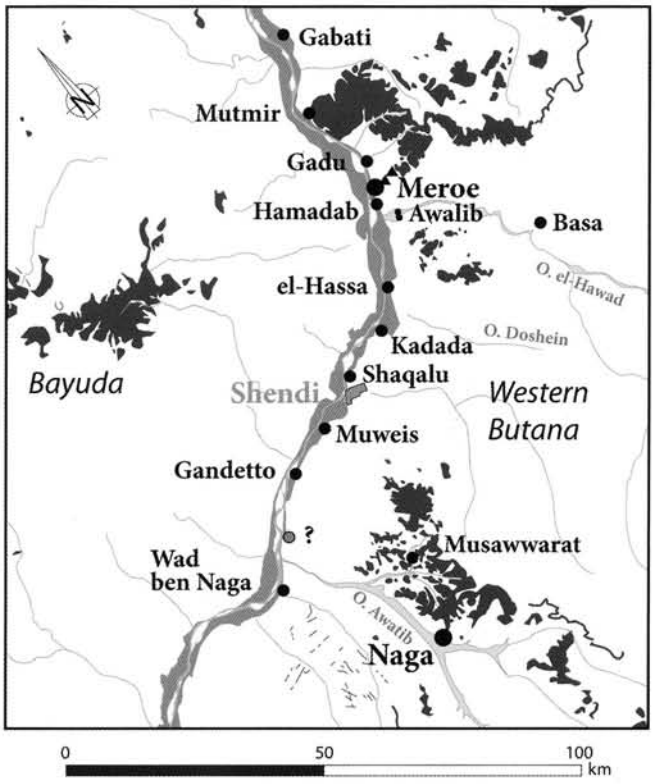

Figure 4. Map of riverine Upper Nubia around Meroe, with the distribution of towns.

[1] This site has been confused with Muweis/Hosh Ben Naqa, as in Edwards 1989, 69, no. 29, after Haycock. Its coordinates are in fact 16° 38' 30" N and 33° 16' E. The Google Earth satellite image shows just how much the site is now destroyed.

1985, 68). This greatly reduced the carrying capacity of riverine lands (Edwards 1989, 143-145; Edwards 1999b, 313-314; Welsby 1996, 137-140) although they also benefited from seasonal rainfall (Bradley 1992, 151-152). From the available evidence from surveys, these lands, cultivated through small-scale water management, were enough to support a network of settlements quite close to each other (Edwards 1989, 143-145; Ahmed K. 1999). With villages and hamlets about 2km apart, as evidenced by the number of small cemeteries between Shendi and el-Kadada (Geus *et al.* 1986; Lenoble 1992, 92, for the later Meroitic period), each city would have probably have been the regional centre of a small network of four or five riverine villages. This clearly was not large enough to support a substantial urban population of specialists and accounts for the limited size of Meroitic cities, such as Muweis, but additional villages were also possibly situated inland, extending up the wadis (Ahmed K. 1984, 103; Edwards 1989, 129).

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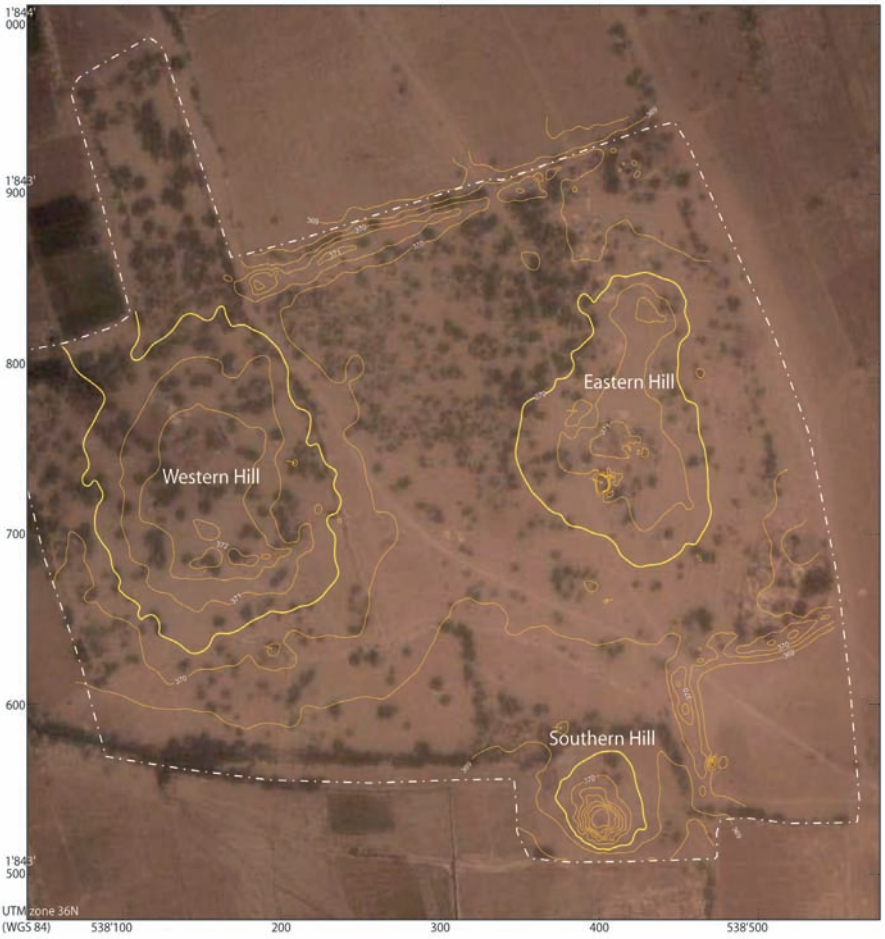
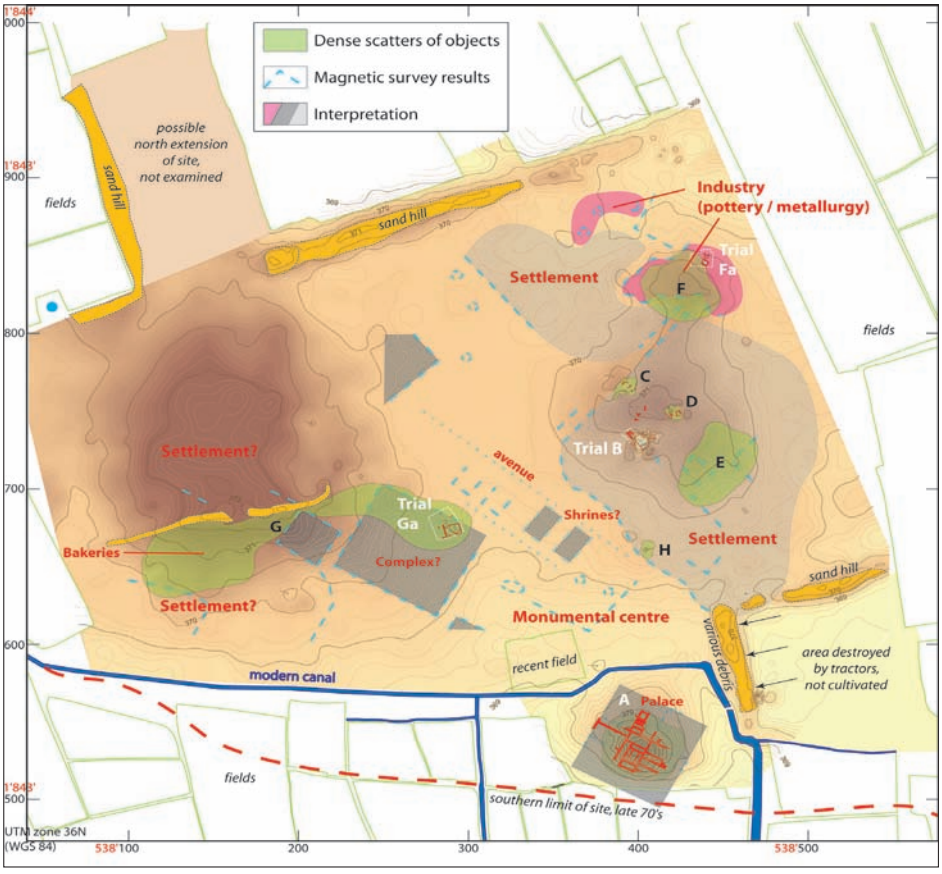


Colour plate XXI. Muweis. Google Earth image, with superimposed topographic map and current site limits (mapping Sandra Aussel).



Colour plate XXII. Muweis. General map, with identification (some tentative) of its main elements.

Colour plate XXIII. Muweis. General view of the kiln area, looking towards the south (2008).

Colour plate XXIV. Muweis. Fragment of an aquamanile with decoration based around an udjat*-eye.*

Colour plate XXV. Muweis. So-called seals in terracotta, stamp-like and ring-like.