

SUDAN & NUBIA

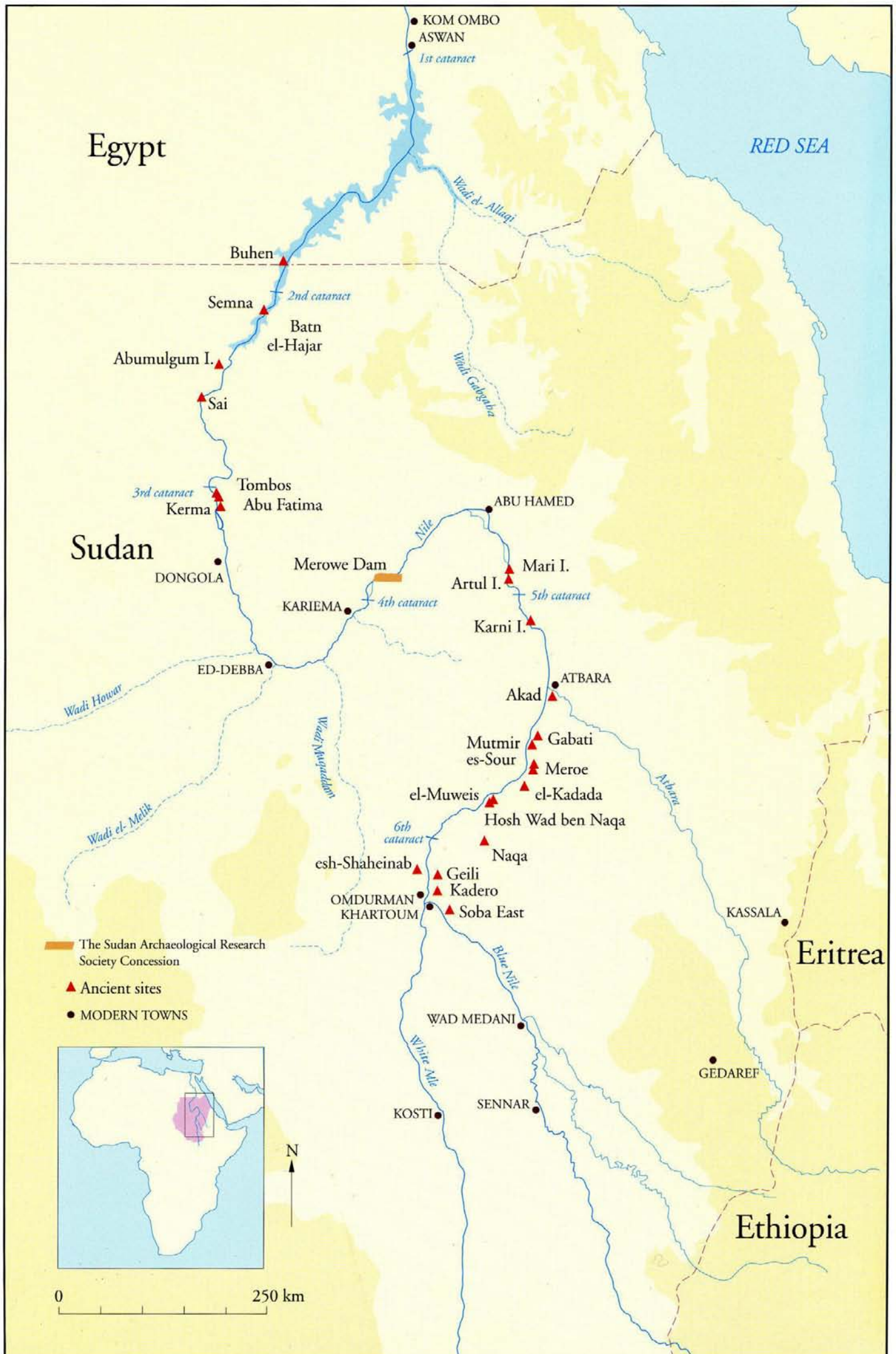
The Sudan Archaeological Research Society



Bulletin No. 9

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Contents

The Merowe Dam Archaeological Salvage Project

Survey in the vicinity of ed-Doma (AKSE), 2004-2005 2
Derek A. Welsby

Excavation of the Late Kushite and Medieval 9
settlement on Umm Muri
John Payne

Excavations at Site 3-J-23, et-Tereif 14
Gerardo Carpio and Sonia Guillen

Architecture of the modern houses 17
at the Fourth Cataract
Frances Welsh

The Second Season of the SARS Anglo-German 23
Expedition to the Fourth Cataract
Pawel Wolf and Ulrike Nowotnick

Christian period rock art landscapes in the Fourth 32
Cataract region: the Dar el-Arab and et-Tereif rock
art surveys
Cornelia Kleinitz and Camilla Olsson

Reports

Es-Sour: A Late Neolithic Site near Meroe 40
Azhari Mustafa Sadig

Meroe, the Capital of Kush: Old Problems and 47
New Discoveries
Krzysztof Grzymski

A forgotten Meroitic agglomeration in the region 59
of Meroe: el-Muweis (NE-36-O/8-H-2)
Patrice Lenoble and Ahmed Sokari

A preliminary report of rescue excavation at Akad: 62
the 2004 season
Mohamed Faroug and Alexandros Tsakos

Nubians in Egypt: Survey in the Aswan-Kom 72
Ombo Region
Maria Carmela Gatto

Recent Discoveries and new Southern Place Names 76
at the Mortuary Temple of Amenhotep III,
Kom el-Hettân
Hourig Sourouzian and Rainer Stadelmann

Looking into the Past – 82
the SARS photographic archive
David N. Edwards

Miscellaneous

Obituary - Francis Geus 85
Yves Lecoq

Obituary - Lech Krzyżaniak 85
Michał Kobusiewicz

Reviews -
Robert Steven Bianchi 2004. *Daily Life of the Nubians.* 87
Julie R. Anderson

P. L. Shinnie and J. R. Anderson (eds) 2004. *The* 88
Capital of Kush 2. Meroë Excavations 1973-1984.
Derek A. Welsby

Note -
A Faience Cup of King Aspelta in Spain 91
Miguel Jaramago

Front Cover: Representation of a bound Kushite from the
Mortuary Temple of Amenhotep III at Kom el-Hettân
(photo © Memnon/Amenhotep III Project).

Meroe, the Capital of Kush: Old Problems and New Discoveries

Krzysztof Grzymski

After years of neglect and delay, the last decade brought a proliferation of publications and excavation reports from Meroe, the capital city of Kush. This “Meroitic revival” began with the appearance in 1997 of László Török’s publication of Garstang’s excavations, a book that greatly facilitated our own work at Meroe. This was followed by the study of the history and architectural remains of the Royal City by F. W. Hinkel and U. Sievertsen (2002), the first report of the renewed Sudanese-Canadian excavations at Meroe by K. Grzymski (2003) and the second and final report of the University of Khartoum - University of Calgary excavations by P. L. Shinnie and J. R. Anderson (2004). A brief 1992 Sudanese-German field campaign at Meroe has also been published in a series of articles (Wenig 1994; Wolf 1996; Eigner 1996; Näser 2004). Thus, the present author, who co-directs, with Professor Ali Osman, the University of Khartoum - Royal Ontario Museum¹ expedition to Meroe, found himself in an enviable position of having at his disposal an almost complete set of reports on earlier excavations at the site. This article presents the results of our most recent investigations at Meroe carried out between 2002 and 2004. During that time we conducted two brief study campaigns (March 2002; March 2003) and one excavation campaign (14th January – 27th March 2004).² This work encompassed the following activities:

geophysical survey of selected parts of the site, survey and mapping of the South Mound, excavations and study of M 712

study and planning of rooms M 270 and M 270a in the Amun Temple

excavations and planning of the south part of M 750

excavations at mound M 711

excavations and study of building SM 100

This work effectively completed the first stage of our research, namely the study of the distribution and spatial arrangement of buildings and other features at Meroe. The results obtained so far allow us to elaborate in this article on certain important and frequently discussed aspects of the site’s history and development, particularly the question of the origins and topography of the city of Meroe.

The South Mound

The first general plan of Meroe was published in Lepsius’s work (Lepsius 1849, Bl.132). Afterwards the site of Meroe was surveyed and mapped on three separate occasions; first by Garstang, whose map was published in 1916 (Török 1997, fig. 1), then by the Khartoum-Calgary team (Shinnie and Bradley 1980, fig. 3) and finally by the surveyors from Cottbus for the 1992 Meroe Joint Expedition. The latter, an updated version of Shinnie’s map, remains unpublished but was kindly placed at the author’s disposal by Drs Onasch and Wenig and adapted to our needs in *Meroe Reports I* (Grzymski 2003, fig. 1; see Figure 1). Additionally, a simplified map of Meroe and surrounding area was also prepared by Hinkel (Hinkel and Sievertsen 2002, Abb. IX.3 and IX.4). There are some discrepancies between these various site maps, most notably between the early one of Garstang and all the later ones. That is so because Garstang was able to visit and map mounds and ruins presently covered by the village of Deragab on the north side of Meroe. All the subsequent maps had to be limited to the areas within the modern fence installed by the antiquities officials. This gives a somewhat skewed view of the topographic layout of the site and its ruins. Interestingly, even within the fenced area there are differences between Garstang’s and the later maps, especially with regards to the South Mound. While Garstang emphasized the east-west extension of the mound and indicated the presence of smaller *koms*, all the modern maps show only general outlines of the South Mound, thus giving an impression that it extends from north to south. In the light of these discrepancies it was deemed necessary to update the site map and consequently a detailed 1:1000 map of the South Mound was prepared for our expedition by Mr Yassin Mohammed, a surveyor from the National Corporation for Antiquities and Museums. This new topographic map clearly shows the basic correctness of Garstang’s plan. Two of the smaller mounds visible in this part of the site were designated by Garstang M 710 and M 711, and we retained these designations. To other mounds we assigned three digit numbers preceded by the letters SM (for the South Mound) numbered consecutively from east to west as SM 100, SM 200, SM 300, SM 400, etc. (Figure 2).

¹ In 2003 Dr Intisar ez-Zein joined the project as co-field director. The author wishes to extend his thanks to both co-directors and to other colleagues from the University of Khartoum, particularly Ms Howaida Mohammad, for their constant support. We are grateful to Mr Hassan Hussein Idris, Director General, and Dr Salah eldin Mohamed Ahmed, Director of Excavations, of the Sudan National Corporation for Antiquities and Museums (NCAM), for issuing us the excavation license. During the field campaigns mentioned in this article NCAM was represented by inspectors Mohammed Faroug, Ahmed Sokari, Muawiya Ali, Yassin Mohammed and Naeema Ali Abdel Razig. The Royal Ontario Museum was represented by the author and Dr Caroline Rocheleau.

² Our recent fieldwork in the Sudan was financially supported by grants from the National Geographic Society and the ROM Department of Museum Volunteers Research Fund. Additional support was provided by Tilley Endurables, Inc., the University of Khartoum and the University of Toronto. The author wishes to express his gratitude to the sponsoring institutions and individuals.

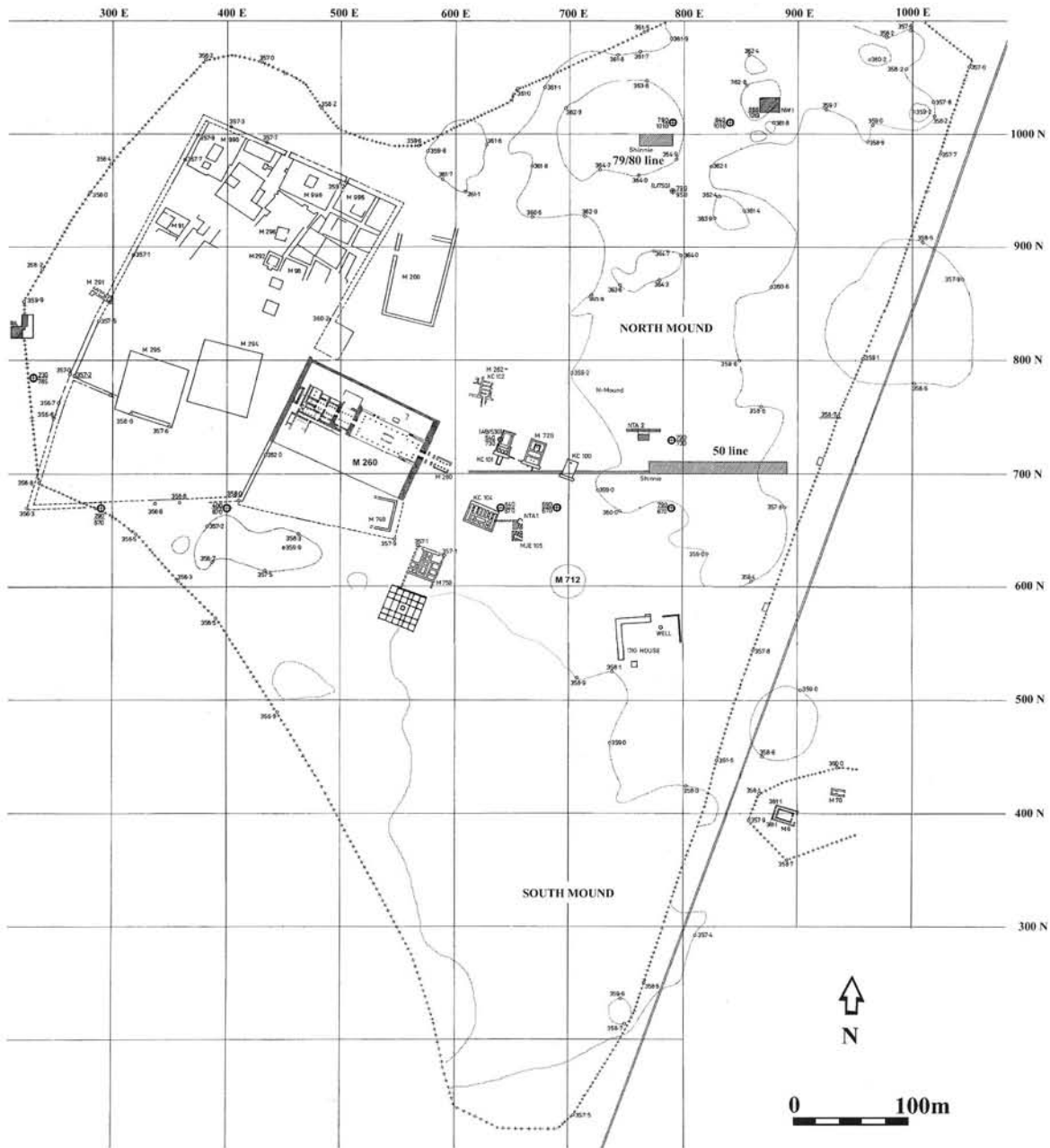


Figure 1. Map of Meroe (after Shinnie and Bradley and MJE with additions by K. Grzymyski).

For all practical purposes the entire South Mound may be considered a *terra incognita*, an archaeological virgin land, even though Garstang apparently carried out some test excavations there during his second season. Although he uncovered there, in his own words, “instructive remains of workshops and other buildings” (Garstang 1912, 46), he left no detailed description of his discoveries. Török lists only two objects, a stone axe-head and a mace-head, as having come from this area (M 710). Shinnie also left the South Mound unexplored, although according to a local guard, a mini-trench was excavated one morning near a small iron slag mound placed on the east slope of M 711.

Judging from the numerous stone blocks and architectural fragments dispersed around M 711 and in other parts

of the South Mound, one may expect the presence of some substantial buildings in this area. In fact, walls of at least one major structure, SM 100, were recognizable on the surface and it was thus decided to conduct excavations in two locations on the South Mound, namely at M 711 and at SM 100. In the latter case it was expected, wrongly as it turned out, that brushing the surface would suffice to uncover the plan of the structure.³ The clearance of the eastern and northern walls of what is almost certainly a temple was a relatively simple matter. They were made of irregular slabs of dark, ferricrete sandstone bonded in mud mortar. It seems

³ Most of the work in this area was supervised by Ms Howaida Mohammed of the University of Khartoum.

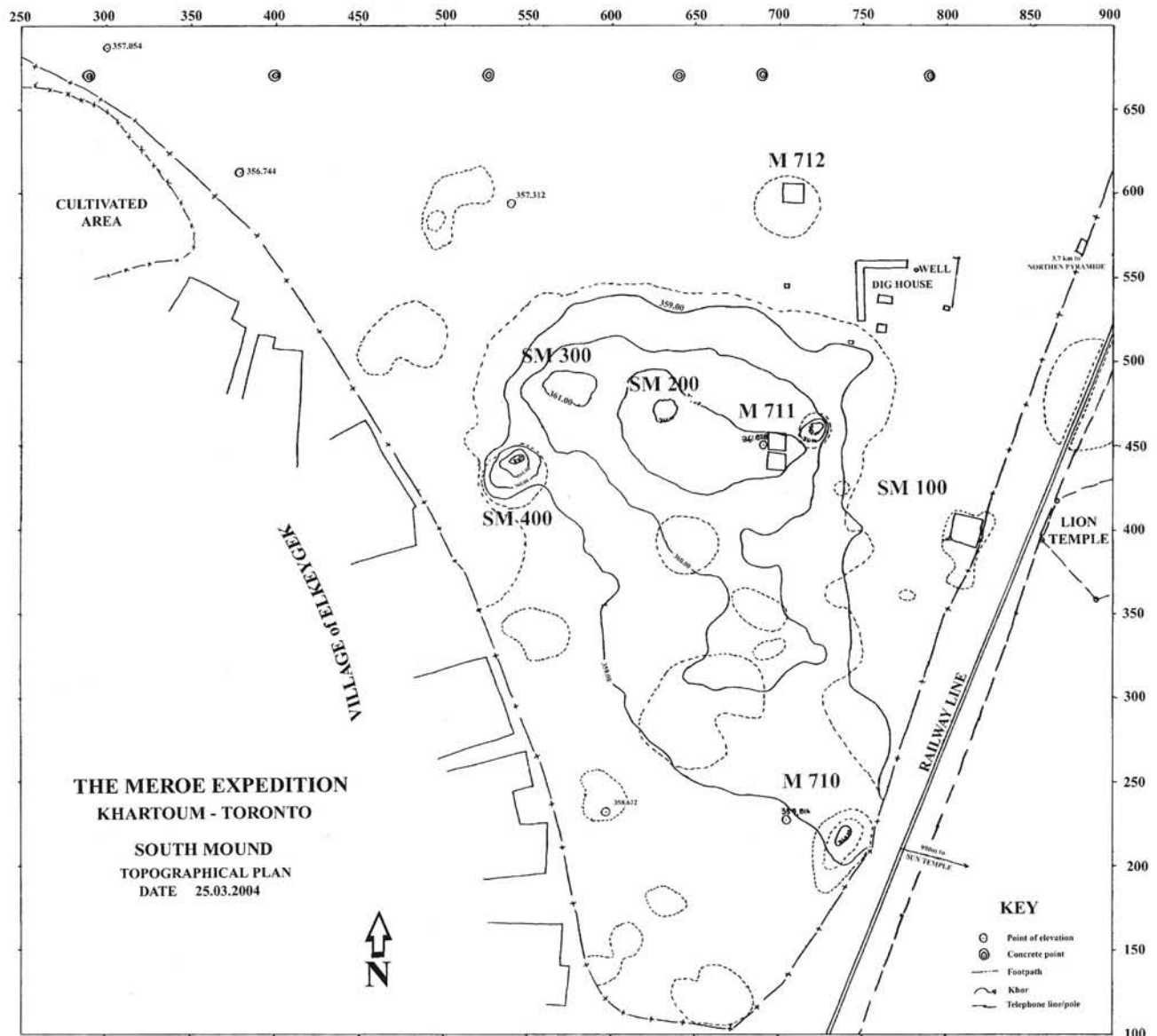


Figure 2. Topographic plan of the South Mound.

that these ironstone walls rested on the foundations made of red brick. No similar wall was found on the west side; instead, a jumble of mud-brick walls was exposed, with a break in the wall suggesting a side entrance (Figure 3). At the south-west corner of the excavation unit we found four column drums of yellow sandstone each having a diameter of 51 cm, i.e. 1 cubit. The interior of the building was empty except for four square pillars. Two of them were connected by a red-brick wall, presumably a stylobate, although one could also interpret it as the remains of an internal wall. Due to the large amount of wind-blown sand filling the interior we were unable to finish the clearance of the building and produce the complete plan of SM 100 during the 2004 season. The whole structure, as exposed, measures approximately 16 x 13.50 m. The dating of the structure is uncertain. The use of dark, ferricrete sandstone slabs was reminiscent of the construction techniques used in KC 100,

KC 101 and M 282 (i.e. KC 102) and suggested a late date for SM 100. Since the only finds were a dozen non-diagnostic utility ware sherds they could not help with dating the structure. However, we were able to collect two charcoal samples, one embedded in the wall foundation and another coming from a later occupation level. The first sample produced a 2 sigma (95% probability) calibrated date of 820 - 410 BC (1 sigma, i.e. 68% probability, calibrated date of 800 - 740 BC and 710-530 BC), while the second sample dated to 520 - 370 BC (1 sigma cal. 410-390 BC). While not very precise, they indicate a surprisingly early date of construction and use of SM 100.

Although Mound M 711 was presumably explored by Garstang there were no clear indications of this past work. Several stone blocks were found in this area suggesting that the mound covered the remains of an important building. The two 10 x 11 m units excavated by us to the depth of

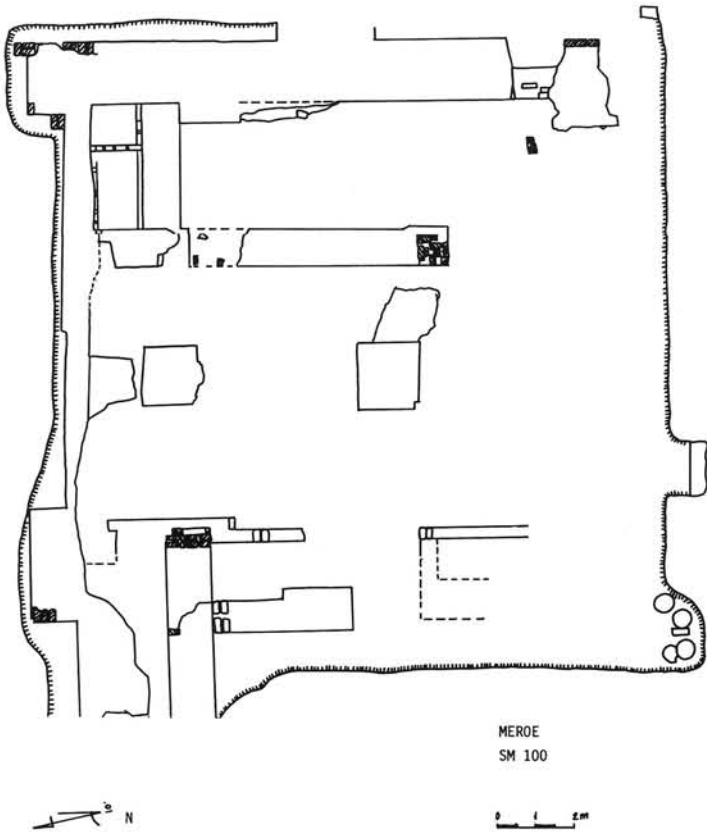


Figure 3. Building SM 100 (scale 1:200).

about 50 - 80cm showed no such remains; instead, mud-brick walls of domestic structures were found together with storage areas. Although the houses were made of mud brick and were plastered with dark yellow/reddish mud plaster, several stone fragments were found, including a sandstone window grill and a mysterious object, perhaps part of a sundial (Plate 1). It is very likely that underneath these late Meroitic remains are ruins of a more substantial structure,



Plate 1. A sundial (?) from M 711.

or structures. We have only one C-14 date from this unit, 2 sigma calibrated AD 60 - 350 (1 sigma AD 110 - 250). A few eggshell ware pottery sherds confirm the late date of these domestic structures.

Geophysical Survey

The use of geophysical techniques in Sudanese archaeology remains rather uncommon and the results are not always encouraging. It was for this reason that we treated the application of magnetometric survey to the study of Meroe as something of an experiment. We were as much searching for indications of sub-surface features as testing the applicability of the method itself. Considering that the majority of the monumental buildings were constructed of local, Nubian sandstone, the very same material that formed the underlying bedrock and presumably possessed the same magnetic characteristic, there was a degree of uncertainty involved as to whether walls could be distinguished. For this reason Palace M 750 was chosen as an ideal testing ground. The southern part of the building was never explored by Garstang, but an outline of the building must have been visible in those days as it was published by him (Garstang 1912, pl. X; Török 1997, fig. 29). Nowadays the entire area is overgrown with acacias and in only a few places could one see wall fragments. The geophysical work was carried out by Tomasz Herbich using a fluxgate magnetometer (gradiometer FM 36).⁴ The investigated area measured 3750m² and each survey unit measured 20 x 10m. The measurements were taken every 0.25m along lines placed 0.5m apart. The results were presented as grey tone magnetic maps with negative anomalies showing up as white and positive as black (Figure 4). The magnetic map of the south part of M 750 confirmed the basic correctness of Garstang's plan while proving the usefulness and applicability of this particular geophysical technique to the discovery of sub-surface structures. Whether the magnetic readings marked as anomalies were actually walls or, as seems more likely, the archaeological debris and soil filling the rooms, is immaterial so long as we can identify and plan a structure invisible on the surface. In other words what one sees on the magnetic map is not the magnetically neutral wall but rather a negative of the wall. Interestingly, in the case of M 750 South, the information gleaned from Garstang's plan has now been supplemented by the discovery of another chamber standing apart like a sentry post to the southwest of the main building. The anomalies in the south and south-eastern part turned out to represent later red-brick additions.

The encouraging results of the first test led us to examine other parts of the site. Thus, a geophysical survey was

⁴ The description of the magnetometric survey presented in this article is based on Herbich's report prepared for the forthcoming publication of the excavations of the University of Khartoum - Royal Ontario Museum Meroe Expedition (Grzymiski, forthcoming).

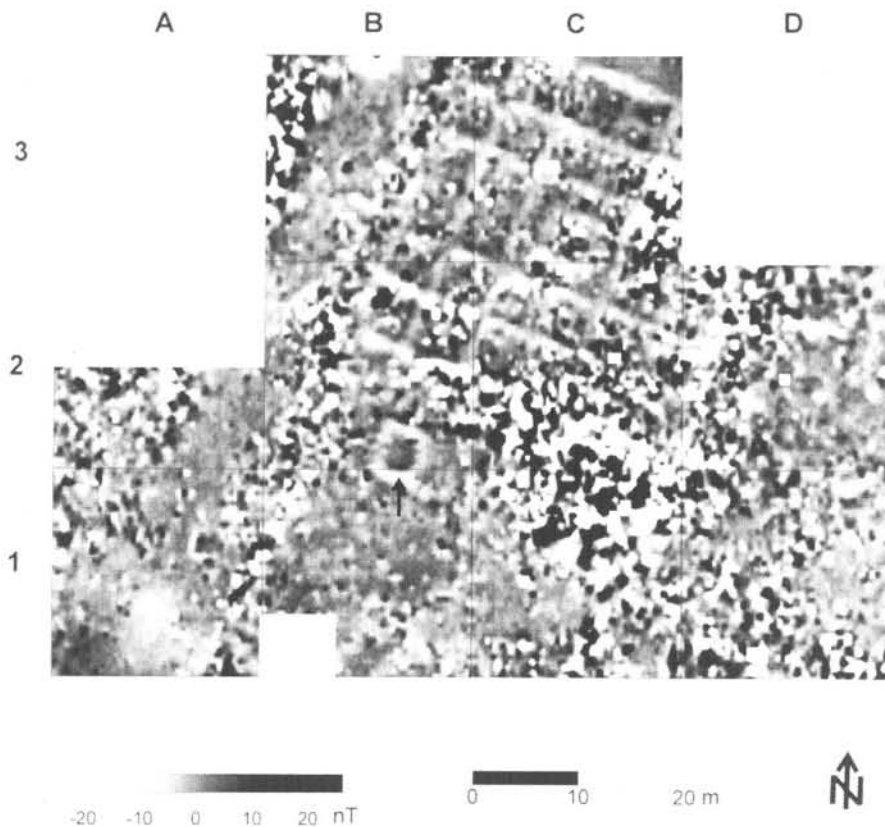


Figure 4. Magnetic map of M 750S.

carried out in the south part of the Royal City, which had not been explored by Garstang. The only excavation in this part of Meroe was conducted in 1983-1984, the last season of the Calgary - Khartoum expedition, when the South Gate was explored to a considerable depth. Unfortunately, the results remain unpublished (Shinnie and Anderson 2004, 3-4; Shinnie in Grzymski 2003, 31). From among several interesting features it was the one immediately to the north of the gate that called for special attention. Here, four pairs of circles appeared on the magnetic map. Normally it would be difficult to identify the function of such symmetrically placed circles without first excavating the area. In this case, however, there can be little doubt that these circles represent the remains of brick-lined tree pits like the ones discovered by Garstang in the Great Avenue M 920 at the North-West Gate (Török 1997, 193 and fig. 3; Hinkel and Sievertsen 2002, 124-125).

The third area explored by our team extended along and across the main Processional Way between mound M 712 partially excavated by the Canadian - Sudanese team in 2000-2001 and Temple MJE 105 to the west and towards KC 100 to the north. While no structure was revealed beneath the surface of the Processional Way, a number of walls appeared between M 712 and MJE 105. This would suggest either that Temple 105 was a large building surrounded by a *temenos* wall encompassing a temple complex comprising other buildings or that there was another temple to the east of MJE 105. Subsequent excavations carried out by

our team immediately to the north of M 712 revealed remains of a bakery (Colour plate XXIV) suggesting that the first hypothesis is more likely. This area was also experimentally studied by means of electric resistivity by Ali Mohammed Abdelwahab of the University of Dongola. The results also suggested the existence of walls and possibly a ditch north of the previously excavated part of Mound M 712.

Amun Temple

This main temple of Meroe is one of the best known monuments in the city, its plan(s) frequently published in books and articles on ancient architecture and yet it has never been properly investigated. It is clear from Garstang's report as well as from his photographs that the temple was excavated from inside out with the debris dumped over and next to the presumed exterior walls. Even within the excavated areas the walls were never fully traced and many elements of the plan are mere conjectures. One of our goals was to correct mistakes and prepare a new and

updated plan of the temple. After completing the study of the first courtyard M 271 (Grzymski 2003, 5-22) our attention has turned to the hypostyle hall M 270, where Garstang's original plan showed a single row of four columns or pillars on each side of the central passage way, while Hinkel's recent plan suggested the presence of two rows of columns (Hinkel 1996, Abb. 52). Clearance of the interior of M 270 not only confirmed the basic correctness of Garstang's plan but also exposed the large libation or purification basin embedded into the floor of this room (Figure 5).⁵ This feature was described and photographed by Garstang, but never presented on his plan (Török 1997, 120 and pl. 89). The north and south walls of M 270 on the other hand were marked on the plan, but the layout was incorrect. Our clearance revealed the presence of entrances at the west end of each wall, immediately in front of a large wall or pylon separating M 270 and M 273. Additionally, there was another opening in the south wall which led to a long and narrow room M 270a. The function of this room is unclear and since there were no traces of steps leading towards the wall separating M 270 and courtyard M 271 it could not have been a stairwell leading to the pylon. There was, however, a staircase between M 270a and the south

⁵ Clearance and mapping of M 270 was carried out under the supervision of C. Rocheleau. For the position of the Amun Temple at Meroe within the broader context of Meroitic temple architecture see Rocheleau 2005.

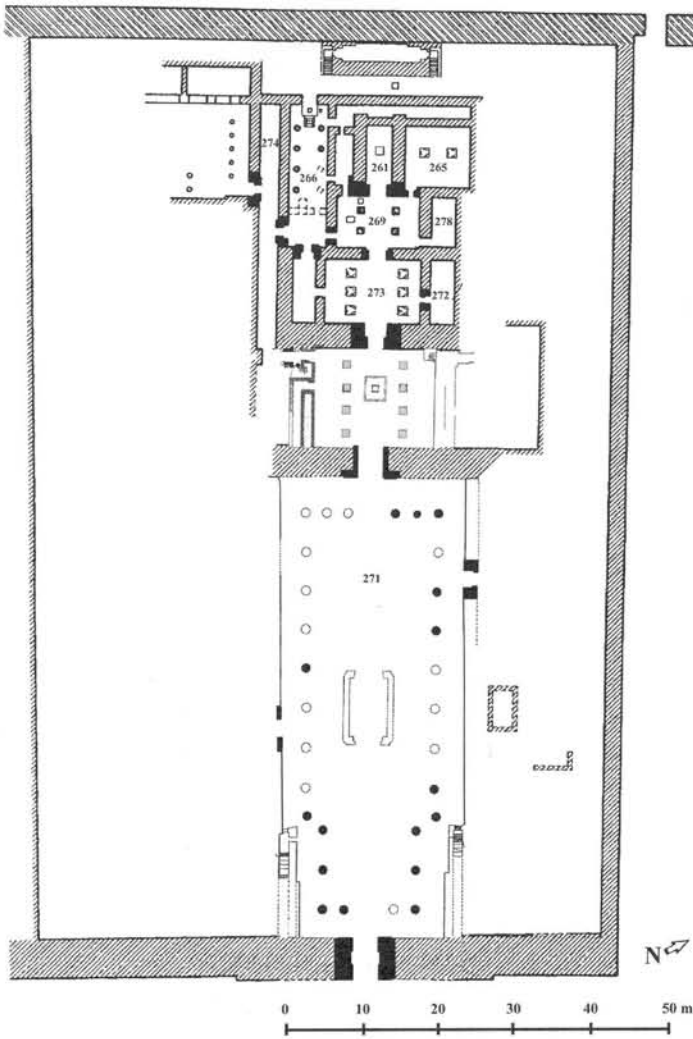


Figure 5. Amun Temple M 260 incorporating a new plan of M 271 and M 270 (scale 1:1000).

entrance to M 270. There we found a small chamber, M 270b, accessible from the south entrance, filled with red bricks forming steps. The long corridor M 274 and its eastern extension M 274a, appearing on the Garstang plan immediately to the south of M 270, were not yet explored by our mission but will be in future seasons.

Since room M 270 had already been excavated by Garstang, no finds were expected. We were therefore greatly surprised to have discovered, when delineating the inner perimeter of the room, several sandstone blocks inscribed in Meroitic (Plate 2). It seems that Garstang's workmen never touched these blocks as they were placed along the walls, many with inscriptions facing down. Since our primary goal was to establish the correct plan of the room we left several more blocks untouched and it is likely that they, too, may contain Meroitic inscriptions. Additionally a few fragments of stone cornices were also noted. All of this confirms the sentiment expressed by this author that the Amun Temple at Meroe had not been adequately studied and any hypotheses regarding its history and architecture

must be treated with a great degree of caution (Grzymski 2003, 5).

Palace M 750

This large building was first explored by Garstang, who not only drew a plan showing the division of the building into two uneven parts, but also excavated the northern part of the palace.⁶ He dated M 750 to the Late Meroitic Period I,



Plate 2. Fallen stone blocks including one of the seven Meroitic inscriptions found in M 270.

i.e. AD 1-350 (Garstang 1914-1916, 10). The finds and the architecture of the palace were subsequently studied by Török (1997, 181-187) and Hinkel and Sievertsen (2002, 122-124) and dated to the late 1st - 2nd century AD. Although locally known as *as sijn* ("prison"), the building has been commonly identified as a palace. Török suggested that the northern part had an official, representative character, and the southern part contained living quarters, while Hinkel and Sievertsen identified the northern part as a temple and the southern one as a palace. At the same time they also suggested that the main axis of M 750 South extended from east to west rather than from north to south as commonly accepted. Finally, in contrast to Török who identified the central room as a courtyard surrounded by a colonnade, the German scholars thought it to be a baldachin.

M 750 is clearly a very important building and the only palace located outside the confines of the Royal City. Its position on the starboard side of the Amun Temple suggests a close relationship to that building and any information gained from excavating M 750 may bear on the dating

⁶ Garstang claims to have investigated only "(...) a single chamber which was excavated experimentally" (Garstang 1912, 52), but in fact the entire northern part of M 750 had been exposed and this must have been done in the course of the Liverpool University excavations. Although Shinnie mentioned work carried out at M 750 during his 1983-84 campaign (Shinnie and Anderson 2004, 3) his activities were apparently limited to surface study (Shinnie, pers. comm.).

of this and other temples. Although the south part of the palace (M 750S) has never been excavated our geophysical investigations proved the basic correctness of Garstang's plan with the addition of a "sentry post" and indications of magnetic anomalies to the south of the building. Another feature visible on the magnetic map (Figure 4) was the empty space extending along the west side of M 750. Whether it reflects a modern pathway used by villagers walking from Kijeik to Deragab, or an ancient street or perhaps an extinct river channel remains an open question.

The south part of M 750 forms almost a square, measuring approximately 33 x 33.6m (Figure 6). Because of the size of the building, excavations were limited to five interior rooms, two trenches dug along the north and south walls, and to tracing the wall outlines. The building was con-

structed from small sandstone blocks of very soft material which often crumbled on touch. This friable sandstone was quite different in size (on average 45 x 26cm) and appearance from the stone used in the north part of the building suggesting that perhaps they were built at different times. The visual inspection of monumental structures at Meroe showed no other stone building constructed from this type of soft and often colourful sandstone, with hues varying from yellow through beige to purple. Perhaps one could venture the suggestion that the material was used in early constructions and having been found wanting was never used again. Alternatively, one could hypothesize that the softness of the stone led to the complete disappearance of structures made of this particular variety of sandstone. The use of different raw materials distinguished the north and

south parts of M 750, but what was common to both was the employment of re-used, often decorated, blocks in their construction. We found a wide variety of decorated blocks, one bearing an inscription in Egyptian hieroglyphs reading *mry maat nb nfrw nbw* (Colour plate XXV), another depicting a row of uraei, presumably from a lintel (Plate 3), and still others showing procession and offering scenes (Plate 4, Colour plate XXVI). It would seem to this author that the most likely source for these decorated reliefs would be the "Early Amun Temple" postulated by László Török.⁷ During our excavations we reached the natural soil, locally known as *rigeita* or *sara*, in the trenches dug along the north and south walls of M 750S. We also explored two corner rooms, numbered A and G, but decided not to search for the possible foundation deposits in order to avoid potential collapse of the wall. In room G, in the north-east corner of M 750S, we found a very rich deposit of cups and bowls mixed with some animal bones and charcoal. All the pottery was clearly Napatan (Plate 5) and reminiscent of the pottery found by Shinnie in his lowest level, i.e. level 16, such as form 79

⁷ During the discussion following my report on the Meroe excavations presented at the 10th International Meroitic Conference in Paris in September 2004, Prof. Török suggested that the re-used reliefs from M 750 may date to several different periods. This, of course, does not preclude the blocks having come from one and the same building, which could have been constructed and decorated over an extended period of time.

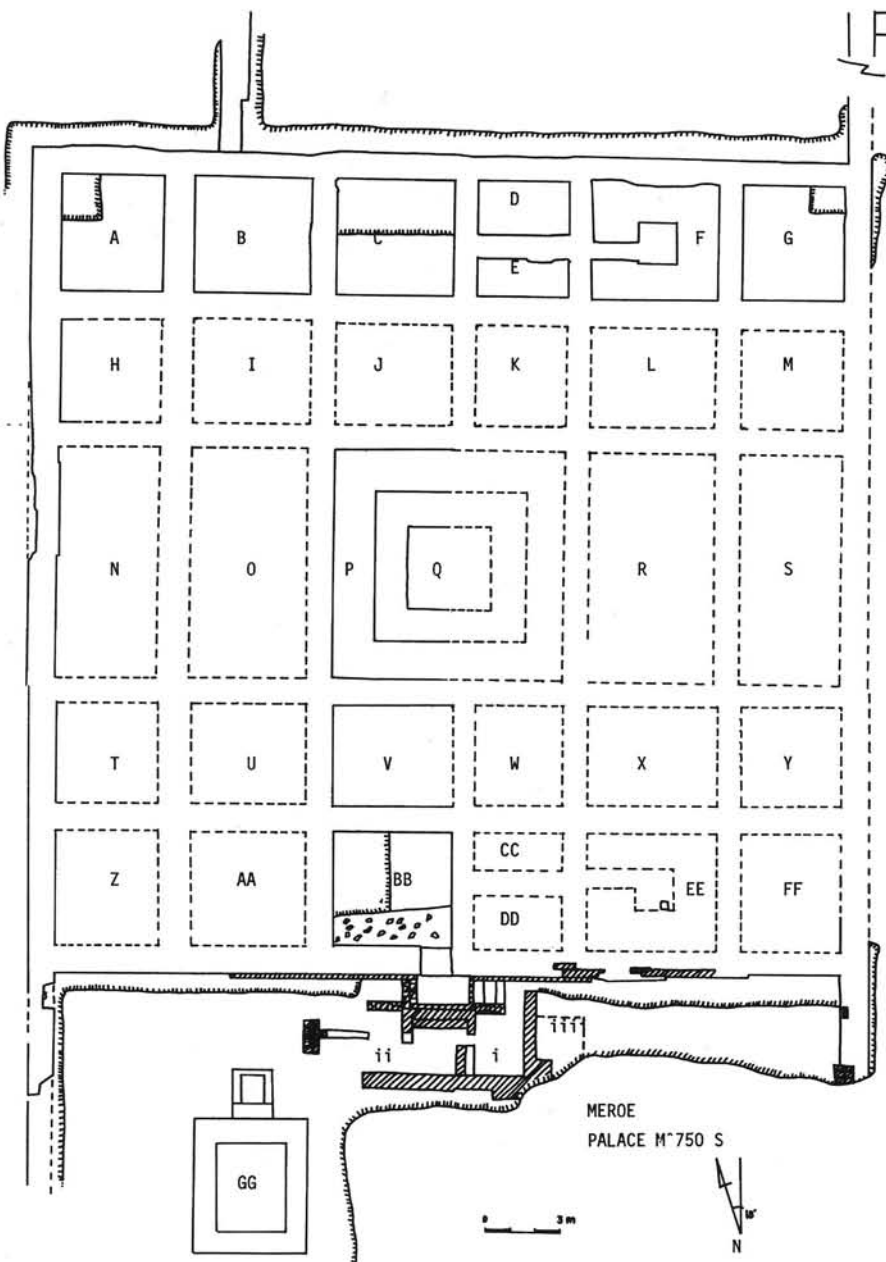


Figure 6. Plan of the south part of M 750 (scale 1:300).

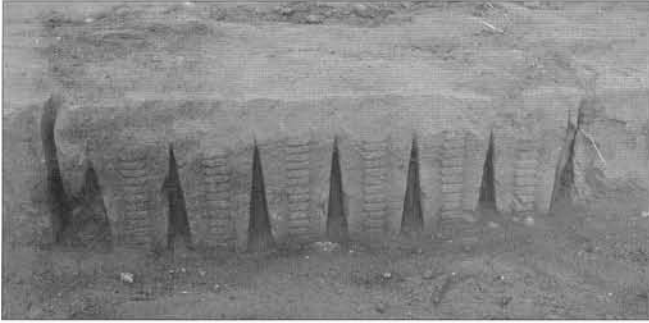


Plate 3. M 750S Room A. A row of uraei probably from a lintel.

(Shinnie and Bradley 1980, 104, fig. 34). Room C, further west, also had some of this early pottery although the bulk of the deposit contained what looked like kitchen remains: substantial quantities of animal bones, charcoal and sherds of large container vessels. Two charcoal samples collected in these rooms produced dates compatible with the associated pottery finds, but surprisingly early for the postulated construction date of M 750. Sample Beta-189854 from room C had calibrated 2 sigma date of 840 - 770 BC (1 sigma 820 - 790 BC) and sample Beta-189855 from room G dated to 2 sigma 920 - 780 BC (1 sigma 840 - 800 BC).



Plate 4. M 750S, Room A. Fragment of an offering scene.

In order to identify the function of the central room we explored the west half of spaces designated P and Q which were variously interpreted as open columned porticos or baldachin. While no column bases were found that could support the columned portico hypothesis, neither did we find anything that could define the function of this central space. Finally, an excavation was carried out in room BB in the south part of the building revealing in the top level a layer of dark, ferricrete sandstone slabs, perhaps the remains of a floor. A charcoal sample associated with this floor level dated to 2 sigma cal. 30 BC to AD 260 and AD 290 - 320 (1 sigma AD 60 - 230). This supposed floor covered only a third of the room and we left it untouched. However, the western half of the remaining two-thirds of

room BB was fully excavated. We noticed an inscription scratched in early Meroitic characters on a block from the north wall. Outside the main building stood the previously unknown room GG ("the sentry box") which was constructed from the same type of sandstone blocks as the main structure. Clearance of this area revealed stairs leading to the north side of room GG, but there was no clear indication as to the function of this room within the complex M 750S; perhaps it, indeed, served as a sentry post.

The red-brick remains identified first as a magnetic anomaly were located to the southeast of the main building. They seemed to be associated with the southern entrance to M 750S and may represent the remains of the upper (main) structure of the palace, which rested on the sandstone blocks foundation. A charcoal sample collected in this area dated to 2 sigma cal. 400 - 160 BC (1 sigma 380 - 200 BC) which seemed consistent with the early Meroitic pottery found therein.

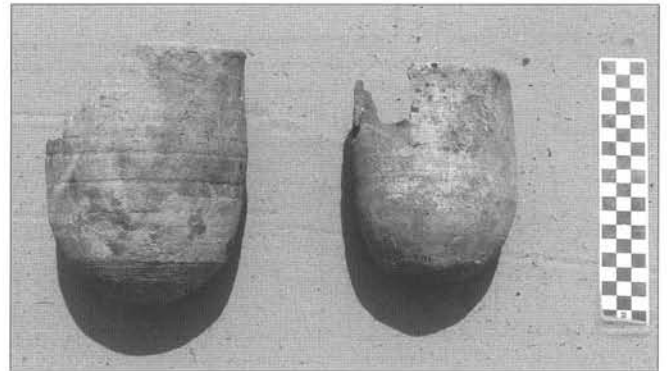


Plate 5. M 750S. Two Napatan vessels from Room G.

The work carried out so far in M 750S produced most interesting, but in many ways challenging, results. The presence of the Early Napatan material within a building containing re-used Meroitic reliefs is difficult to explain. The deposits found in rooms C and G were placed inside these rooms and do not seem to represent an early midden on which the palace was later erected. They could conceivably represent the fill placed in that position during the construction of M 750S, although the different nature of deposits in each room and the presence of complete vessels rather than broken sherds argue against this explanation. Regarding the architectural problems discussed by Török, Hinkel and Sievertsen, and other scholars, there was no clear indication as to the function and architectural design of the central room. Addressing the suggestion that the main axis of the south part of M 750 extended from east to west through a series of wide rooms, which would imply the existence of side entrance(s), we cleared the entire length of the west wall but failed to locate an entrance to the building. There were clearly no stairs leading to M 750S from the west side. The depth of the deposits overlying the east wall of M 750S prevented us from exposing it, but since we

have clearly identifiable stairs and entrance on the south side of the building, leading to room BB, I rather doubt the existence of an eastern entrance. This issue will be further pursued during the next field campaign.

The Island of Meroe

As has been mentioned above we have reached the natural soil (*riqeita*) in both the North and South trenches. In both cases the absolute levels were remarkably similar with the top of the *riqeita* located at 356.01m (north trench), 355.87m (north-west corner) and 355.93m (south trench). Sandstone blocks of M 750S were placed directly on this natural level and this raised the question of the relationship of this building to the supposed Nile channel or channels that might have once flown through Meroe. The idea that the classical references to the island of Meroe, defined as the large area encompassed by the rivers Nile, Atbara and Blue Nile, might also have reflected the fact that the city of Meroe itself was located on a small Nile island was first proposed by Rebecca Bradley (1982). Her case rested on four arguments:

- (1) the presence of river pebble deposits in TT 5 in trench line 79/80
- (2) the presence of an artifact-poor level of hard clay and silty clays in the 50-line trench between E50 and B50
- (3) the sterility of the KC temples area
- (4) the existence of an earlier floor in the SE corner of M 271 (Amun Temple)

Bradley noted that historically, the Nile is prone to frequent course changes and new branches and islands often appear and disappear after particularly high floods. Although Bradley was not very specific as to the actual course of the braided Nile within Meroe, one could deduce from her argument that at least one Nile branch must have run on the east side of the site near the modern fence, turning or perhaps branching off westwards along the Processional Way until it reached the front of the Amun Temple where it would turn northward. Since the construction of the Enclosure Wall was also associated by Bradley with the Nile floods, one of the presumed channels must have run east of the Royal City, but west of M 750, perhaps joining the branch coming through the Processional Way. In his publication of Garstang's excavations Török fully endorsed Bradley's idea but proposed a different layout of the river channels (Török 1997, 23-25). Wolf, in his discussion of the chronology of the Processional Way temples, expressed some misgivings about the proposed course of the supposed Nile channels and raised the possibility of seasonal water flows coming from the *wadis* and occasional Nile floods (Wolf 1996, 40-42). The results of our research and the publication of the second volume of the Khartoum-Calgary excavations offered some new data regarding this problem. It is regrettable that the geological study of the supposed river deposits announced in Bradley's paper had apparently not been completed, as it is not included in Shinnie and Anderson's

report. Nevertheless, the presence of pebbles in spits 33 to 40 cannot be doubted. What has been overlooked in previous discussions is the depth at which these deposits have been found. As Bradley explained, TT 5, like other trial trenches, has been excavated in a series of 20cm thick 'spits'. We can thus establish that the pebble deposits were found 6.6 - 8m below the surface. Although neither Bradley's article nor Shinnie and Bradley's book give absolute elevations of the excavation units, the surface level in 79/80-line may be estimated on the basis of the contour line of this part of the North Mound (Shinnie and Bradley 1980, fig. 3; Shinnie and Anderson 2004, pl. I). The map shows that the surface level there must have been at least 364.9m asl.⁸ This would mean that pebbles were found between 356.9m and 358.3m with the particularly rich deposit of pebbles in spit 34 at 358.1m asl (Figure 7). This is much higher than the foundations of many of the structures excavated within the city, as is apparent from the list below:

- M 750S (South trench): 355.93m asl
- M 750S (NW corner): 355.87m asl
- M 750S (North trench): 356.01m asl
- Amun Temple (Grzymski 2003, fig. 3) floor between M 271 and M 270: 356.73m asl
- Amun Temple, floor in stairwell AT 20: 356.72m asl
- KC 101 (Shinnie and Anderson 2004, 38): occupational buildup resting directly on *sara* 355.5m asl
- M 282 (Shinnie and Anderson 2004, 45): temple foundations at *c.* 356m asl

These few examples imply that if the pebbles were to be interpreted as deposited by a Nile channel, the river must have run on a level higher than that of many structures within the city. This was of course possible if dykes were constructed for protection of the city, but seems unlikely. Unless we explain the elevated position of pebble deposits as the result of tectonic movements, we must disregard this particular argument as supporting the existence of the eastern branch of the Nile. If these were indeed fluvial pebbles, their presence in TT 5 could be explained either as evidence of a massive Nile flood, an idea in fact already entertained by Bradley, or of water flows coming from the *wadis*.

The lack of information about the absolute elevations of levels in the 50-line makes it difficult to establish the depth of the supposed clay deposits used as Bradley's second argument. Assuming that Bradley referred to level 10 (Shinnie and Bradley 1980, fig. 4) one could estimate its elevation as about 355.7m asl. This would fit the river channel hypothesis providing that these were indeed fluvial

⁸ This is a conservative estimate; knowing the area from autopsy I think that the surface level of trench 79/80 must have been higher than the contour line of the entire *kom*. Shinnie and Bradley (1980, 27) in fact noted that area 79/80 was "... one of the highest points of the north mound...".

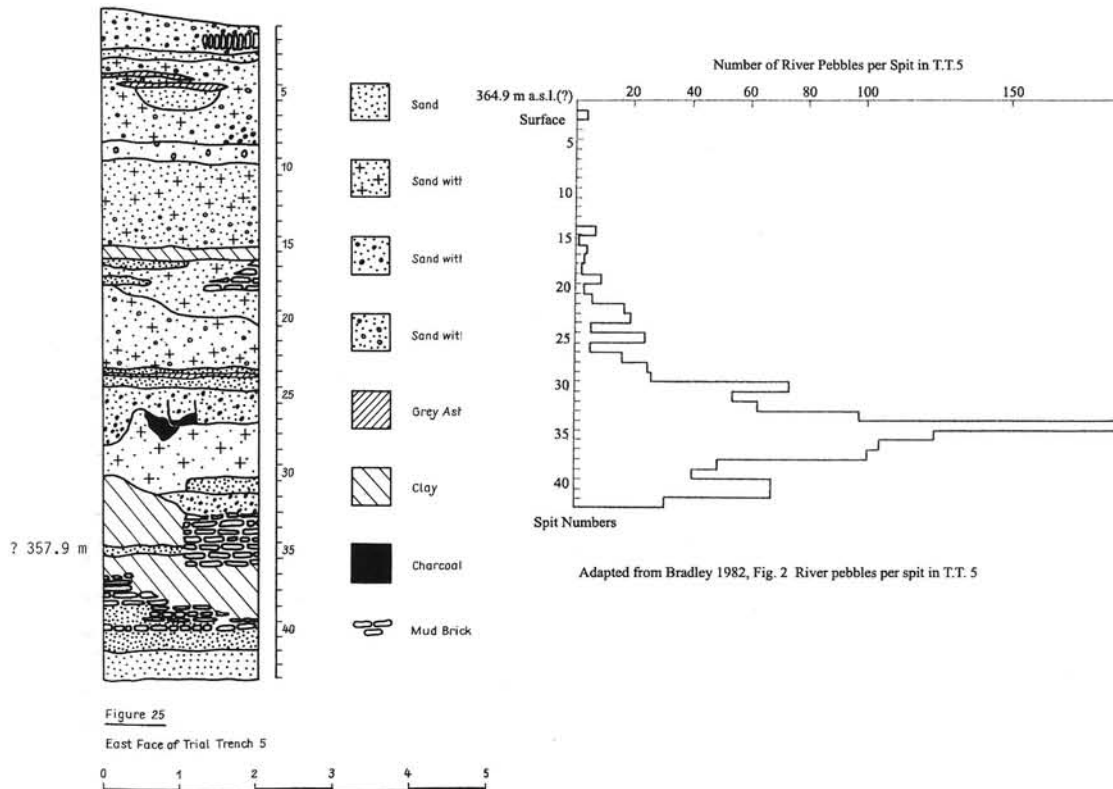


Figure 7. Left - Section of TT5 (Shinnie and Bradley 1980, fig. 25); right - a histogram showing the distribution of pebbles (Bradley 1982, fig. 2).

deposits. As for Bradley's third argument, the supposed sterility of the Processional Way area, this has already been addressed by Wolf and shown to be incorrect. Additional information about the existence of earlier structures in this area can now be found in *Meroitica* 20, where references were made to the pre-temple occupation noted at M 720 and KC 104 (Shinnie and Anderson 2004, 22, 57). Finally, our research in the Amun Temple showed that there was no evidence of an earlier floor in the SE corner of the courtyard M 271 and subsequent eastward expansion of the temple (Grzymiski 2003, 19-20). Having determined that none of the arguments forwarded by Bradley in support of the "islands" hypothesis can withstand scrutiny, one must nevertheless consider the idea itself as valid and worthy of further consideration. In this regard the most instructive information can be obtained from Lepsius's map of the site (Lepsius 1849, Bl.132; Figure 8). The features presented on the map do indeed convey a sense of Meroe being erected on a series of islands. One possible explanation would be to attribute this island-like appearance of the mounds to the accumulation of human occupation in selected areas with spaces left open either by design, as streets and open plazas, or as representing the post-occupation seasonal water flows running on lower grounds. In other words, one can reverse the "islands hypothesis" by suggesting that after the site was abandoned it was the layout of the settlement that directed the flow of seasonal water floods from the *wadis* and the Nile. Another possibility would be that the site layout was

affected by (seasonal?) water flows from a *wadi* rather than the Nile and the empty spaces between the mounds were, indeed, the ancient natural water channels. This has already been suggested by Wolf and my only correction would be to see the water as coming from Wadi Hadjala, south of Meroe, rather than Wadi Tarabil which lies to the north of the site. The map of the Meroe area prepared by Hinkel (2000, fig. 1; Figure 9) clearly shows that Wadi Hadjala joins the Nile Valley at the south end of Meroe. Since an ancient *bafir* constructed near the Sun Temple M 250 lies within Wadi Hadjala, a substantial amount of water must have been carried in the *wadi* during the rainy season. Lepsius's map also points to the same *wadi* as the possible main culprit for the seasonal flooding of parts of ancient Meroe. As for the existence of the ancient Nile branches, one would suggest as the most likely course of such a channel the area extending along the west enclosure wall. A modern canal is marked on Hinkel's plan as dry, but in fact it is frequently filled with the Nile water after the flood season (Colour plate XXVII).

Early Settlement

The presence of burials at the West Cemetery dating to the very beginning of the XXVth Dynasty strongly suggests that the city of Meroe must have existed prior to 750 BC and must have been important enough to have been chosen as a burial ground of the royal family. In this respect the results of our research combined with those obtained by the Khar-

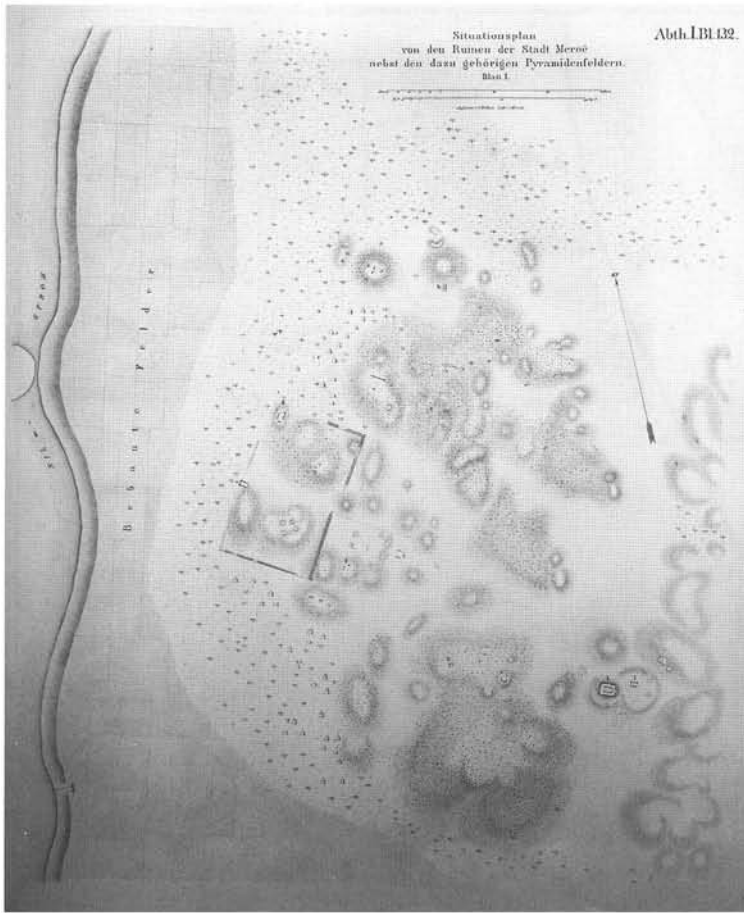


Figure 8. Map of Meroe with island-like distribution of mounds (Lepsius 1849, Bl. 132).

toum - Calgary team point to the establishment of a settlement at Meroe at quite an early date. A glimpse at C-14 dates published by Shinnie and Anderson (2004, 363-364) and those from the Khartoum - Toronto expedition shows the following groups (for the sake of clarity all dates presented below are 1 sigma calibrated).

Royal City South Gate, Trench H, level 14 (MR1-201):
6450 - 6240 BC

Pits

TT5 Spit 36 (MR1-139): 1730 - 1410 BC
L.50 below level 16 (MR1-5): 1400 - 1000 BC
L.50 below level 16 (MR1-6): 1270 - 940 BC

Building foundations

M 292 Trench D (MR1-207): 961 - 841 BC
M 292 Trench E (MR1-203): 881 - 721 BC
M 750S room G: 840 - 800 BC
M 750S room C: 820 - 790 BC

The earliest date, if correct, points to a possible Khartoum Mesolithic presence in the Meroe area, but since this particular locus has not been published little can be said about this particular result. The archaeological context of other radiocarbon dates is better known, although Török (1997, 15-16) rightly pointed out certain contradictions pre-

sented in the site report and in J. Robertson's overview of the beginning of Meroe (Robertson 1992, 44-46). A series of post-holes were found by Shinnie and Bradley in the North Mound trench M.79, level (28). These they considered to have represented the remains of a hut, the earliest evidence for the occupation of the site. It is unclear from the description as to where these post-holes were found within the M.79 square, but we know that the C-14 sample came from the 2 x 2m Trial Trench 5 which was cut into the south face of M.79 (Shinnie and Bradley 1980, 28-29, 70). Because the TT 5 Spit 36 was located 7m to 7.2m below the surface, while level (28) seems to have been found at a depth of over 9m below the surface, one would expect the post-holes to predate the C-14 date. Unfortunately, since one cannot clearly establish the relation between the strata in M.79 and those from the trial trench any attempt at connecting the post-holes with the earliest date from the North Mound would be futile.⁹ The other two dates from trench 50-line come from a pit dug into the natural soil and are not associated with any particular building remains. Thus, the earliest dates associated with specific structures are those from the foundation level of M 292 (Shinnie and Anderson 2004, 85 and 364) and from two rooms in M 750S described above. Since the latter are also tied to the find of a cache of Napatan pottery, there can be little doubt that Meroe was occupied from at least the 9th century BC and perhaps earlier. This author is convinced that further excavations will move this date even further back in time.

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⁹ Shinnie had some doubts about the correctness of the date as he found it to be "inordinately early" (Shinnie and Bradley 1980, 88), especially considering that a sample from TT 5 Spit 33 apparently representing the same Building Level IX as Spit 36 produced a 1 sigma calibrated date of 390 BC - AD 70 (Robertson 1992, 44, Table 1).

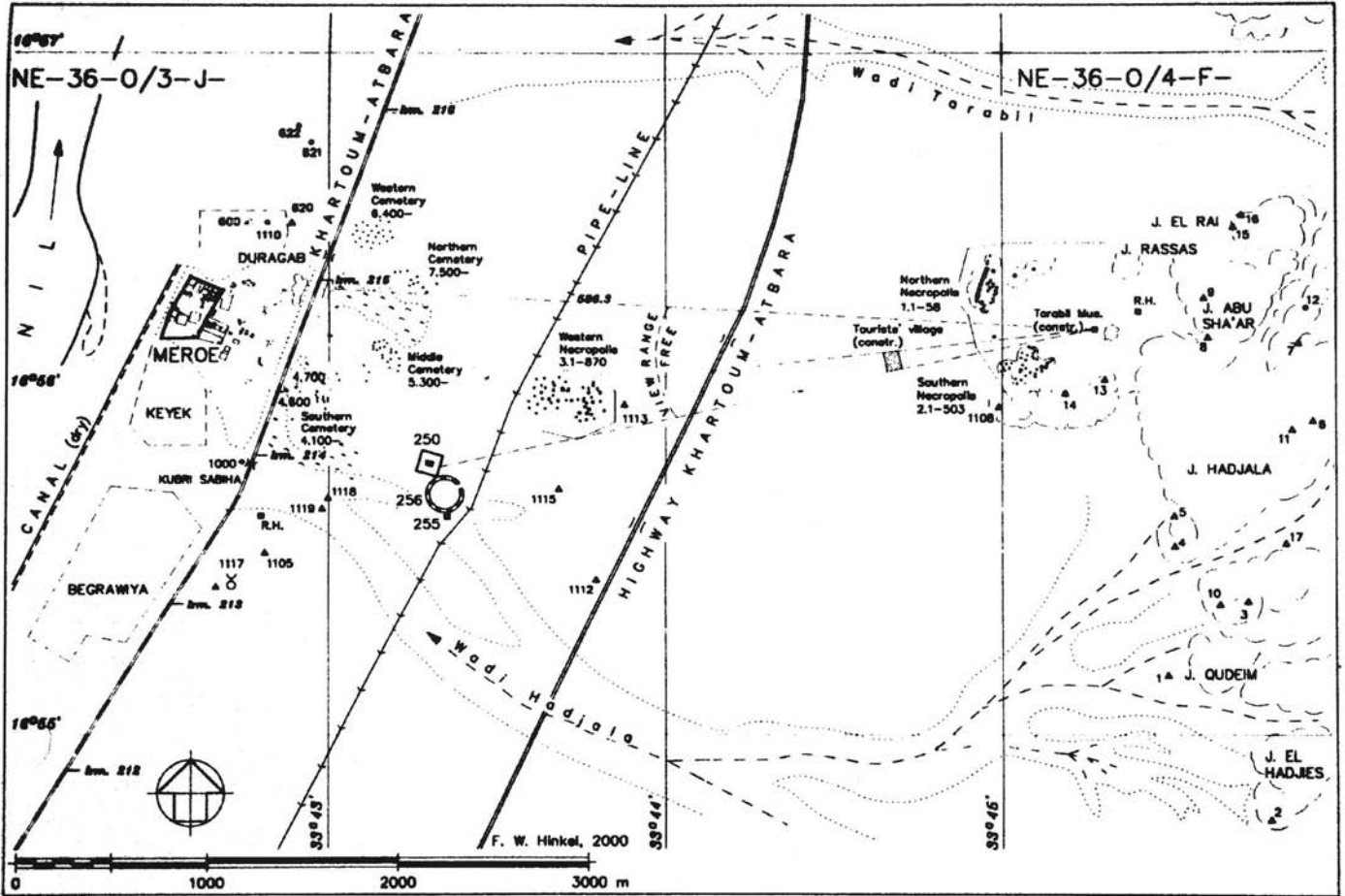


Figure 9. Map of the Meroe area with Wadi Hadjala (Hinkel 2000, fig. 1).

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*Colour plate XXIV.
Meroe. Excavation of a
bakery north of M 712.*



*Colour plate XXV. Meroe.
M 750S, hieroglyphic inscription.*



Colour plate XXVI. Meroe. M 750S, Room C, fragment of a procession.

*Colour plate XXVII. Meroe.
Water filling the usually dry canal
immediately west of the Royal City.*

