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The Pre-Kerma Settlement: New Elements Throw Light on the Rise of the First Nubian Kingdom

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1. General Context

The aim of this paper is to present the results of the excavations of the Pre-Kerma settlement, which is located a few kilometres away from the site of the ancient city of Kerma. This settlement, which antedates the Kerma civilisation by some centuries, was already organised in a very coherent manner, implying the existence at that time of a well-organised society. It was probably part of the process of social evolution that led to the formation of the early Nubian kingdom. The settlement seems to have been abandoned following the progressive drying out of the branches of the Nile, flowing nearby. The population apparently then moved and relocated to the west, on the site of the ancient city of Kerma.

1.1. Location

A geomorphological study of the Kerma region has led to the identification of a series of Nile paleochannels (Marcolongo, Surian 1993, 1997). During the Neolithic and Pre-Kerma Periods, the Nile flowed more to the east of its present channel and must have passed very near to the site of the Kerma necropolis. The site may have formed an island, circumscribed by the two river arms. The Pre-Kerma settlement is located in the centre of the necropolis, which is now 5 km to the east of the present course of the Nile (fig. 1). It was covered over and partially destroyed by the tombs of the Middle Kerma Period. Its exact extent is not yet known, but surveys have shown that it spreads out over at least 2 hectares.

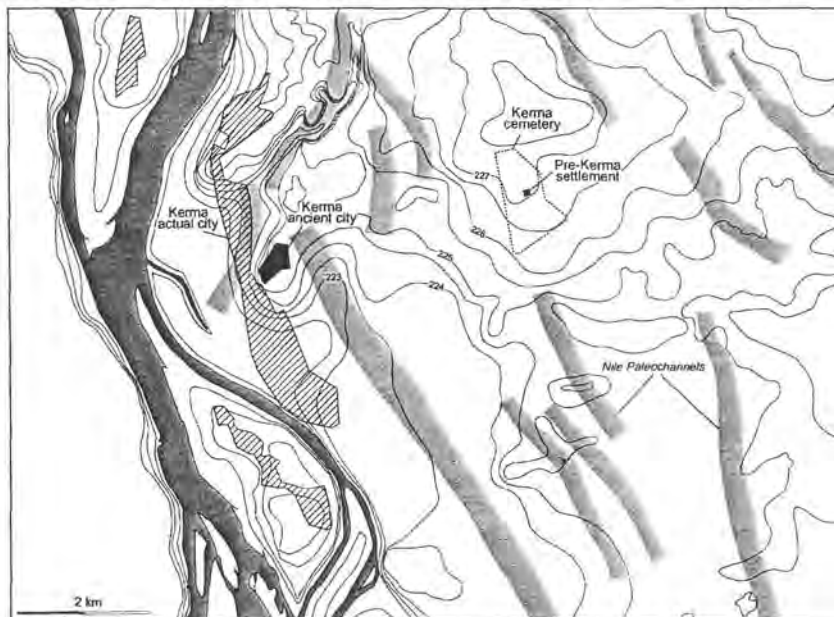


Fig. 1

Traces of earlier settlements have also been detected in the stratigraphy or at ground level; they show that the site had been occupied on several different occasions since at least 4700 BC. This location must have been particularly favourable for human settlement, as its topographical position dominates the surrounding plain.

1.2. Summary of previous investigations

The Pre-Kerma settlement was detected in 1986 during excavations of Middle Kerma tombs. An area of 1000 square meters was opened up, leading to the discovery of one hundred pits and several postholes outlining huts. Based on the pottery remains, Charles Bonnet proposed a first definition of the Pre-Kerma culture (Bonnet 1988, Privati 1988).

Between 1995 and 1998, new investigations were undertaken and the excavated area was extended to 5000 square meters in order to better understand the general organisation of the settlement (Honegger 1995, 1997). In parallel with this research, a first survey was carried out on the necropolis. Apart from the discovery of some sherds from this period, it revealed the existence of earlier settlements dispersed at ground level at a dozen different sites. In the Pre-Kerma area, levels dating from the Neolithic were also observed stratigraphically, at a depth oscillating between 20 and 70 cm below the ground surface.

2. The archaeological sequence: stratigraphy, dates and cultural attributions

Thanks to radiocarbon dates, to stratigraphical observations, and to ceramic typology, it is possible to propose a first outline of the archaeological sequence present at the necropolis. To date, the sequence includes four settlement layers which antedate the Kerma civilisation.

2.1. Preservation of the archaeological layers: sedimentation, erosion and destruction

The state of preservation of the archaeological layers was generally not very good. In some places, the only artefacts discovered were some sherds and faunal remains at ground level; these were not associated with any archaeological structures, and the corresponding archaeological layers were completely destroyed by wind and fluvial erosion. In other places, archaeological and bone remains linked to hearths were found; preservation was better, but the layer was already being eroded.¹

In fact, the best-preserved layers were observed on the site of the Pre-Kerma settlement. The settlement itself was situated very close to the ground surface, directly beneath the level of the Kerma necropolis. Overall, it had been seriously disturbed by the digging of the tombs and by the removal of soil necessary to erect the funerary tumuli. In the south part, erosion was severe, and the original ground level was not preserved. In this zone, the Neolithic occupation layers were found to be at ground level and this blurred our picture of the Pre-Kerma settlement to some extent. To the north of the excavated area, however, the archaeological layer was still partially in place. The majority of the Pre-Kerma structures identified were, in fact, structures that had been dug out: that is, pits or postholes. Under the settlement, two archaeological layers were preserved in the stratigraphy. However, the soil was always partially leached.

The succession of sediments indicates that Nile floods regularly deposited silt which separated the earliest settlement layers. Above the Pre-Kerma levels, silt was replaced by sand resulting from a wind deposit. Thus, it would seem that, after the Pre-Kerma settlement was abandoned, the Nile was some distance away.

¹ These discoveries take on a particular importance, consider-

ing the problems of conservation of the Pre- and Protohistoric settlements in the Kerma basin (see Reinold 1992).

2.2. The Neolithic occupations

The two earliest settlements were identified in several parts of the necropolis at ground level or stratigraphically. Several hearths and ovens were discovered, as well as pottery, and bovine and fish bones. Four radiocarbon dates place the first occupation around 4700 BC and the second around 4500 BC (fig. 2).

Period	Laboratory	Age B.P.	Calibration (2 sigmas) B.C. cal	Sample
Middle Kerma	ETH 17013	3460 +/- 65	1929-1611	Charcoal from earth
	ETH 14924	3675 +/- 65	2272-1882	Bones from grave
Pre-Kerma	ETH-18829	4365 +/- 55	3100-2876	Charcoal from pot's temper
	ETH-18828	4400 +/- 55	3124-2891	Charcoal from pit
Neolithic	B 6626	5670 +/- 30	4549-4410	Charcoal from earth
	CRG 770	5670 +/- 75	4713-4351	Charcoal from earth
Neolithic	ETH 14935	5770 +/- 65	4765-4463	Charcoal from earth
	ETH-18827	5815 +/- 60	4807-4520	Charcoal from earth

Fig. 2

The third settlement was not clearly located stratigraphically. Its existence was demonstrated by surface discoveries from many areas of the necropolis. No structures were identified, and only a few sherds are known. This occupation is not radiocarbon dated, but comparisons based on the pottery indicate affinities with the A-Group and Pre-Kerma.

2.3. The Pre-Kerma occupation

The Pre-Kerma settlement revealed an important quantity of archaeological remains. Two radiocarbon dates place it around 3000 BC, which is 500 years anterior to Ancient Kerma (fig. 2).

The pottery discovered in the silos is abundant. Studies are mostly based on sherds, as only three jars were complete. Their shapes include several pots, some bowls and jars. Fabric and firing depend on the type of pottery.

The temper of the jars contains organic matter, but it is mainly made up of badly calibrated quartz grains, with a diameter that can reach 2 mm. The fabric of these large vessels is light brown in colour, with grey or orange areas, attesting to firing in an oxidizing environment. Some exceptional cases of jars coloured black on their rim and their internal surface attest to a partial reduction firing process. In most cases, the surfaces are coarsely smoothed. The jars are more globular in shape, with a rounded, flattened, or slightly pointed base (fig. 3). Decoration is most frequently composed of incised chevrons disposed around the lip. A few cases of incisions made with a pivoting comb are visible on the body.

The fabric of the pots and bowls contains a finer temper, mainly composed of organic matter with some quartz grains. Surfaces are generally carefully polished, and several ceramics are coloured red with a black lip. The other elements are entirely red or light brown in colour, and some vessels are completely black. The red colour is the result of the application of a coloured slip, easily distinguished from the lighter-coloured fabric, which is a light brown or pinkish colour. Pots have a wide opening and sometimes a slight shoulder at the neck (fig. 4). Their base is more or less rounded, and can also be flat or pointed. The bowls display a rounded base. The red, black-rimmed pots and bowls are almost always decorated with fine ripples, restricted to the upper part of the pottery, in the black zone. Some pots are more elaborately decorated, with red stripes or lines on a buff base. These are similar to the egg-shell ceramics from the end of A-Group.² To date, not a single sherd of imported Egyptian pottery has been found.

² See Nordström 1972, 63-64.

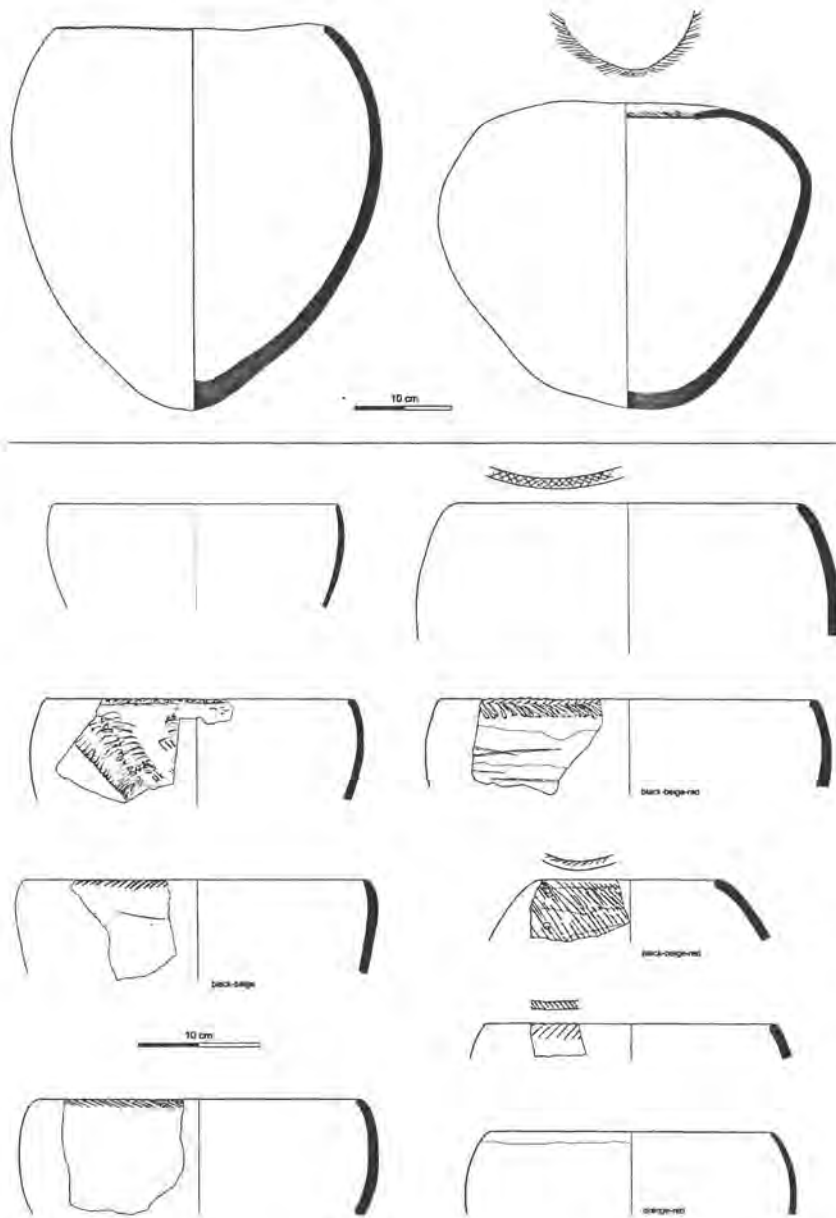


Fig. 3

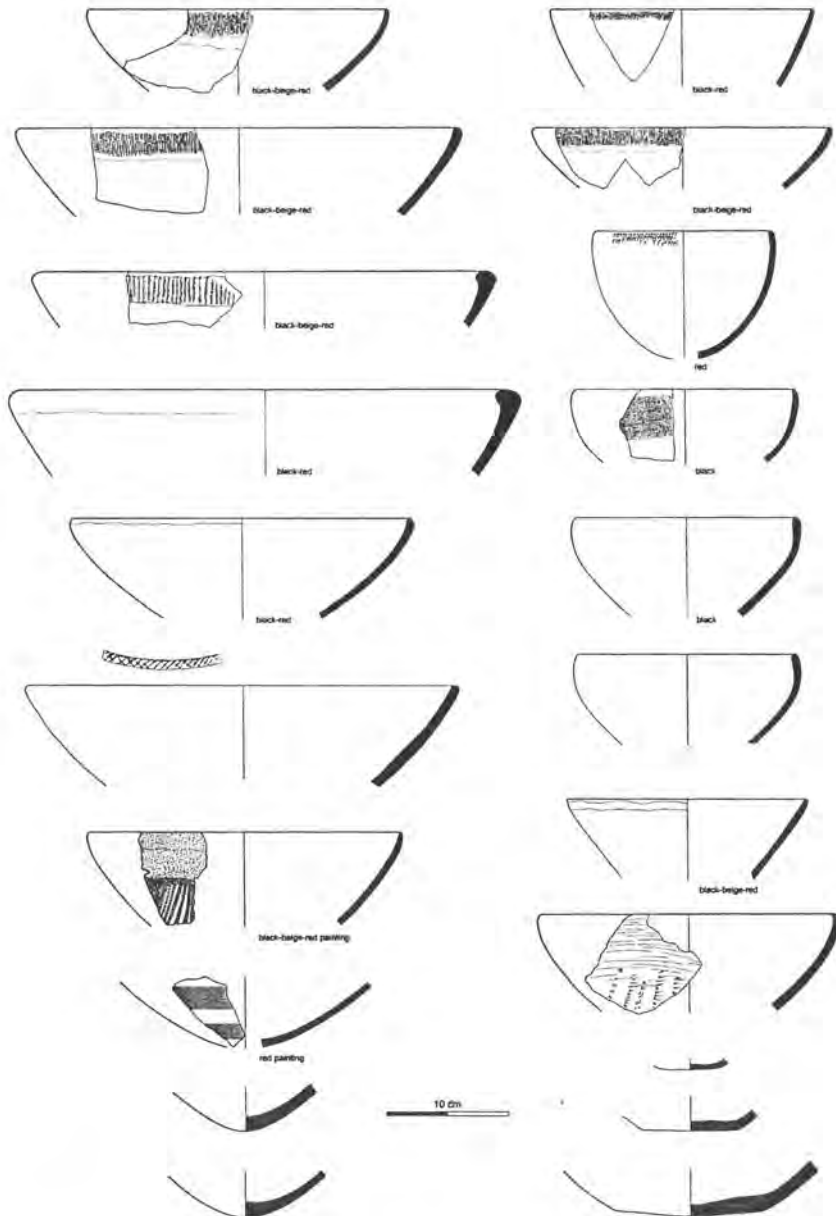


Fig. 4

The red, black-rimmed ceramics from Pre-Kerma display many affinities with those from the civilisation of Kerma. Furthermore, some bowl and pot shapes are very similar to Ancient Kerma forms.³ There is a clear affinity between the two, but several differences exist. The Pre-Kerma pottery is less well-fired and in consequence is lighter, with a lighter-coloured fabric. The pots are often open-shaped; this has no equivalent during the Kerma period. Finally, the rippled decorations and the red painted motifs do not exist on ceramics dated after Pre-Kerma. Rather, these decorations evoke some characteristics of A-Group pottery.

In sum, the ceramic displays a certain amount of continuity between Pre-Kerma and Kerma, even though some archaic elements are still present during Pre-Kerma. This is in accordance with the radiocarbon dates, which situate Pre-Kerma five centuries before Ancient Kerma.

2.4. The Kerma necropolis

The Pre-Kerma site was used as a necropolis from Ancient Kerma onwards. For the moment, the location of the Pre-Kerma cemetery, which must have existed in parallel with the Pre-Kerma settlement, is unknown. The first Ancient Kerma tombs developed in the northern part of the necropolis and progressively spread in a southerly direction. Only during Middle Kerma were the tombs dug directly above the old settlement. In the area of the Pre-Kerma settlement, two radiocarbon dates from a Middle Kerma grave and a hearth place them between 2000 and 1800 B.C. (fig. 2).

3. The settlement

The Pre-Kerma settlement is complex, and revealed many coherently organised structures.

3.1. The pits

The pits, which number 261, remain the structures most easily identifiable (fig. 5). Taking into account the fact that a large number of them were completely destroyed by the Middle Kerma tombs, they must actually have numbered about 500 units for the excavated surface. Their diameters vary between 70 and 120 cm, corresponding to depths of between 30 and 60 cm. The deepest are almost a metre. In the southern part of the excavation, where the layers are eroded, they vary between 10 and 30 cm. They are flat-bottomed, and their walls are vertical or slope inwards; the inner surfaces sometimes are clearly reddened. Only two pits contained whole jars still in situ. One held a jar turned upside down, whereas the other revealed two jars standing upright, side by side. The opening of one of these vessels was stopped up with potsherds. The other cavities contained mainly fragmented remains; potsherds, chipped stones, grindstones, as well as a few anthropomorphic or zoomorphic figurines. Faunal remains are rare. They give the impression of having been emptied before abandonment, as they are filled with earth from the destruction of the surrounding settlement layers.

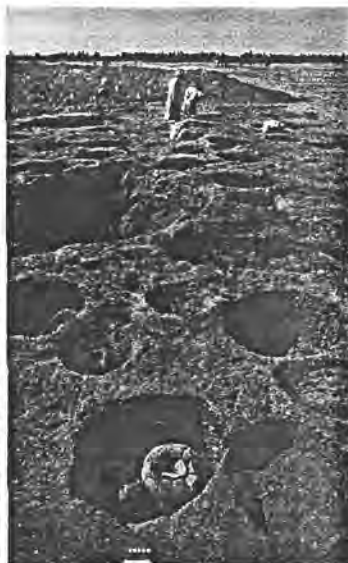


Fig. 5

³ See the paper by B. Privati, this volume.

Their function must have been for the storage of solid or liquid foodstuffs. Other settlements in the Nile valley also have storage pits. At Khor Daoud, for example, the 578 pits discovered frequently contained jars turned upside-down (Piotrovsky 1967). In the Neolithic and Predynastic of Egypt, vast settlements such as Merimde, El Omari and Maadi had jars buried in cavities and pits containing cereals (Vandier 1952). In the Pre-Kerma settlement, these two storage methods must have coexisted. But it is also possible that the majority of the pits only contained jars, as is the case at Khor Daoud.

3.2. Structures described by postholes

The postholes are numerous and are mainly concentrated at the periphery of the pit area. Their diameters vary between 10 and 25 cm, but they generally cluster between 12 and 15 cm. It is harder to estimate their depth, as they are difficult to excavate, but some postholes could be excavated up to a depth of 40 cm.

Several types of construction have been recognised from postholes. The most numerous correspond to circular structures with diameters varying between 1.10 and 7.40 m (fig. 6). To date, 49 of these structures have been identified.⁴ Classifying them according to their dimensions allows them to be separated into three distinct groups which probably correspond to functional differences. The most common type are huts with an average diameter of 4.20 m, which were probably houses. As is frequently the case today among many ethnic groups of eastern Africa, the wooden huts have a superstructure of posts that serve both as a framework for the walls and as support for the conical roof resting above (Denyer 1978). The walls are formed from branches woven between the posts, sometimes coated with mud. Wattle remains were discovered in some of the pit fills and confirm the use of a building technique in which the wood framework is covered with earth. Some of the Kerma huts are of a larger diameter, exceeding 7 metres. These may be buildings with a special function: meeting places, houses for important people, workshops or even stables, as used today by the Nuer of southern Sudan. Within the settlement are also about ten smaller circular structures. By analogy with ethnographic examples, it is tempting to see these as raised granaries.

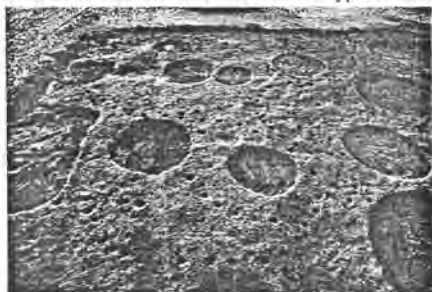


Fig. 6

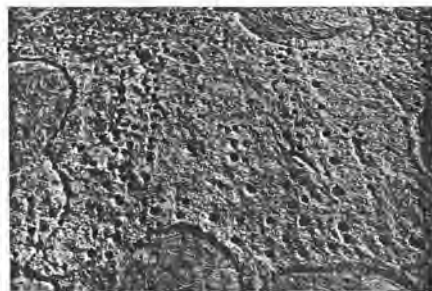


Fig. 7

Two rectangular buildings were also constructed from wooden posts.⁵ The first was on an east-west axis and was approximately 4 m by 6 m. It had been reconstructed three times (fig. 7). The three successive buildings all followed the same elongated plan. It was not easy to determine the position of the entrances to these wooden buildings; the postholes did not always provide sufficient information and the tombs of middle Kerma had frequently destroyed part of the remains. However, in the case of the building that had been reconstructed several times, it seems

⁴ In the south part, where the original ground level is not preserved, it is possible that some huts belong to the Neolithic layers.

⁵ Two other rectangular buildings were identified at first, but a new analysis of their postholes showed that some of them belonged to a Middle Kerma occupation and not to Pre-Kerma.

clear that the entrance was on the eastern side. This rectangular construction doubtless had a specific function that distinguished it from the huts which had a domestic use. The importance attached to this type of building is demonstrated in the trouble taken to reconstruct it several times on exactly the same site. The second rectangular building is obviously different from the other. It is located on the outskirts of the site, isolated from the other buildings. Oriented north-south, it measures 3 m by 5 m. Its postholes are much wider than usual, as their diameters reached 25 cm. Furthermore, their spacing reached 1.5 m, whereas the other rectangular building have posts separated by 40 to 50 cm. Its peripheral location and its special mode of construction probably mean that this building had a specific use.

Circular and rectangular huts are known from several Predynastic sites. Both architectural types are found at Maadi and Hierakonpolis, although it is not known if they coexisted within the same settlement. A reconstruction has been suggested for a rectangular house at locus 29 in Hierakonpolis (Hoffman 1982, 137-138). Inspired by the model of a house found at El Amrah, it is shown as a completely flat building with structure made of wood, covered in clay.

Some regular alignments of posts could correspond to fences, or, more probably, to walls built with a post framework covered with wattle, in the same manner as the hut walls (fig. 8). There are sometimes double, triple, or even quadruple parallel rows, forming relatively thick and imposing walls. In the pit area, an alignment of stakes encircles a series of storage structures; this is probably some kind of protective enclosure. The other alignments are mainly found at the periphery of the huts, describing complex, defensive structures. Access to the settlement was possible at the north-east of the excavated area, where the walls are reinforced and organised in oval-shaped structures. It seems that one entrance was situated between two walls made of several rows of posts; it leads to the isolated rectangular building. Another possible entrance is through a large oval bastion, similar in shape to a livestock enclosure.

In some places, the post alignments follow artificial earth mounds, which must represent either the remains of ruined walls, or important-sized constructions. This phenomenon is particularly clear in the western area, currently being excavated, where the earth mounds are of very large dimensions.

3.3. *The hearths and ovens*

In addition to pits and postholes, the excavation uncovered a number of hearths and ovens. They were sometimes badly eroded, and all that survives is a reddened circle indicating an area where there had been a fire. Other hearths were better preserved because they were partly buried in the earth. Sometimes they were found with postholes in a more elaborate arrangement that must have been an oven. These traces of fire are not only associated with the Pre-Kerma occupation; some are within the Neolithic levels of occupation.



Fig. 8

3.4. The organisation of the settlement

The collection of structures excavated was organised in a coherent manner (fig. 9). The storage pits are mainly concentrated in the northwest zone, in contrast to the huts which are mainly found in the south and east. The majority of the palisades are found in the hut area or in the storage zone, but most of them are built to the northeast, on the outskirts of the buildings and pits. They describe a complex defensive system, with one or maybe two entrances. The contrast between the storage and habitation zones is interesting. It could be similar to the organisation of some African villages in which all the granaries are in the centre for protection. However, it could be that the management of stocks of foods was more complex, if the presence of small circular granaries is confirmed. The latter are associated with houses and are interpreted as individual storage facilities for each house, contrasting with collective storage possibly destined for another purpose.

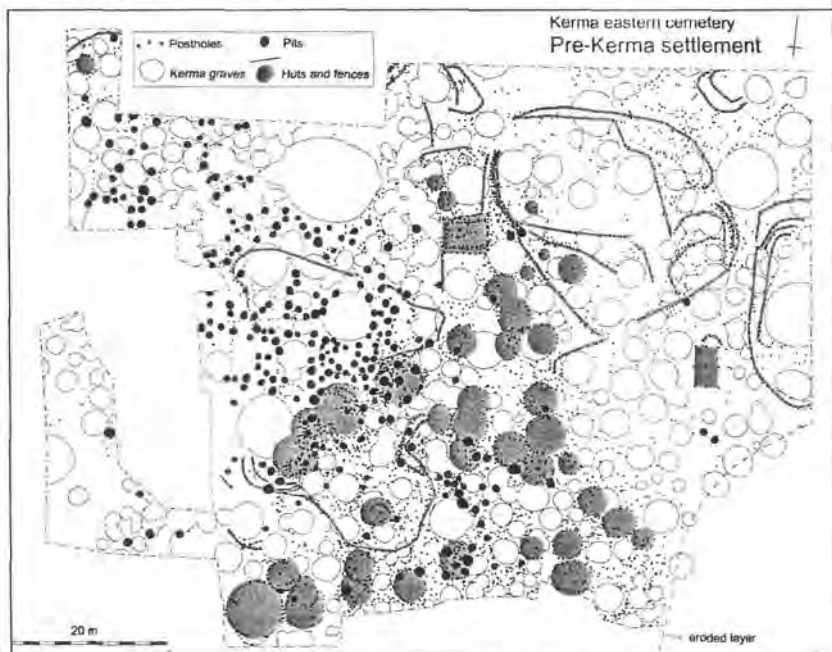


Fig. 9

The huts, the rectangular buildings and palisades show frequent re-cuttings that indicate a succession of rebuilding on the same site. Thus huts form groups of three or four superimposed structures; the palisades could be of two to four rows; and one rectangular building had been rebuilt three times. These indicate a period of occupation during which permanence in the location of buildings can be clearly seen. However, the settlement did not have a rigid plan, and the numerous superimpositions between pits and houses shows that there was also a certain dynamic in the development of the settlement.

The palisades were not all built at the same time, as evidenced by the re-cuttings. The double or triple post alignments, however, are too regular and parallel to have been built successively. They were erected at the same time and form thick walls.

The evidence of the reconstructions and the presence of many storage facilities in the heart of the settlement emphasises the permanence of the occupation. The population that lived here was probably sedentary, and it is likely that they had a mixed economy. Agriculture is suggested by the importance of storage areas, while stock raising seems to play an important role in this period in Nubia.

4. Precursory elements of the Kerma civilisation

The Pre-Kerma settlement is a complex agglomeration, only a small part of which is known. Investigations indicate that it occupied at least two hectares; its surface may have been even greater (fig. 10). Local topography shows a good relationship between terrain morphology and some structural elements. In two places, the most elevated zones, according to the contour lines, correspond to the limits of oval structures defined by posthole alignments. If these topographical indicators do mark the total extension of the settlement, then it must have occupied about 5 or 6 hectares.

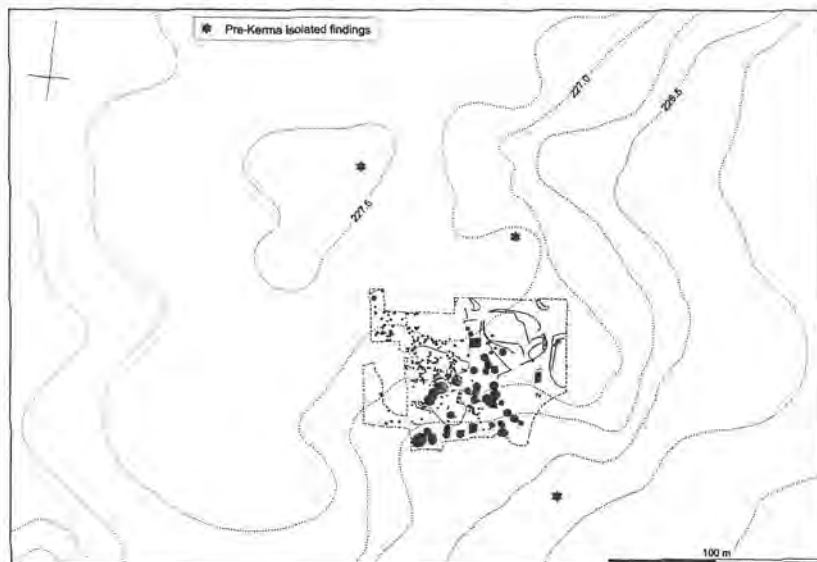


Fig. 10

The different structures studied imply a certain amount of specialisation of the dwelling areas. The storage pits are concentrated in one zone and may have been destined for a specific use. The huts are of different dimensions, implying their different functions: granaries, dwelling areas, stables, or houses of important people. The rectangular buildings were also built for specific uses. One seems more important, as it was rebuilt three times exactly on the same spot. The other one is isolated outside the periphery of the other buildings; it is probably linked to a system allowing access to the settlement. The posthole alignments also describe complex defensive structures.⁶ Often of two or three rows, the walls are laid out in more or less oval shapes, evoking the large bastions discovered in the periphery of the ancient city of Kerma (Bonnet 1993, 1997). These structures are probably part of a system that allowed entry into the

⁶ We cannot exclude that it may also, at the same time, correspond to a livestock enclosure.

Pre-Kerma settlement. As yet, it is too early to affirm that the settlement was entirely surrounded by fortifications. Possibly, these were concentrated only near the settlement entrances, with other defensive systems operating elsewhere, such as trenches, or simply the Nile itself.

Settlements covering several hectares, fortifications, and specialisation of the dwelling areas are characteristics generally cited to demonstrate the existence of the first cities. As yet, it is still difficult to know whether the Pre-Kerma settlement is a true city, as it would be necessary to extend the excavated surface in order to decide. However, its organisation shows that the settlement may already have been part of the social and economic process which led to the kingdom of Kerma.

The city of Kerma and the Pre-Kerma agglomeration display some analogies. Some structures found at Kerma are similar to Pre-Kerma constructions. An area of huts, very similar to those presented here, developed near the Deffufa. One of the important town buildings was also a very large hut. The city entrances were bound by large bastions, disposed in a similar manner to the fortified structures discovered on the Pre-Kerma site. A zone of storage jars, eventually for containing beer, was set out near the secondary town, which is linked to the religious world. Is it possible that the Pre-Kerma area of pits delineates a similar structure? However, one important difference between the two agglomerations must be mentioned. At Kerma, most buildings are rectangular in shape and are built with raw bricks. On the Pre-Kerma site, rectangular buildings are not as frequent, and use of bricks has not been demonstrated. All constructions are of mud disposed on a wooden framework.

Finally, Pre-Kerma, as it is described here, corresponds not only to a defined culture, but also to a social concept linked to the formation of the kingdom of Kerma. The geographical extension of Pre-Kerma is not yet known, but settlements of this culture have been discovered in other places south of the Third Cataract (Reinold 1993). Pre-Kerma begins before 3000 B.C. and it continues to develop until the Ancient Kerma period. Today, only a moment of this evolution has been dated. In future research, it will be our aim to complete the chronological framework by working on the Pre-Kerma agglomeration and by archaeological surveys.

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