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THE FOURTH CATARACT AND BEYOND

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Julie R. ANDERSON and Derek A. WELSBY



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RECENT ADVANCES IN OUR UNDERSTANDING OF PREHISTORY IN NORTHERN SUDAN

MATTHIEU HONEGGER

During the last 20 years, the prehistory of the Holocene period (since 10,000 BC) was relatively well known in two regions of Nubia (Figure 1). In Lower Nubia the sequence of Nabta Playa 200km west of the Nile (Wendorf and Schild 2001), complemented by the results of the High Dam campaign of the 1960s (Wendorf 1968) covers all the Holocene from 8800 BC to historical times. In the south, Central Sudan was rich in sites from the Mesolithic and Neolithic periods (from 7000 to 3500 BC), but there was still a chronological gap between the end of the Neolithic and the second millennium BC (see Caneva *et al.* 1994; Haaland and Abdul Magid 1995; Reinold 2007).

Between these two aforementioned regions of the Nile Valley, more than 700km apart, few studies con-

centrated on prehistory until recent times. This area, particularly its chronological and cultural sequence, remains poorly known. For this reason we have tried to build, since 2000, a new chronological framework in the area of Kerma, south of the Third Cataract, to follow the evolution of human societies during the Holocene period.¹ It has brought plenty of new data that modify deeply our perception of prehistory in Northern Sudan (Honegger 2004a; 2004b; 2006a; 2006b; 2007; 2010). Those results and the amazing sites which were discovered are less due to the particularity of the region – rich in remains due to its geographical location - than to the consequence of long term research, better adapted for the advancement of knowledge than rescue excavations. In this paper we want to present the recent advances in our understanding of society from the Mesolithic period to the beginning of the Kerma civilisation.

PREHISTORIC OCCUPATION AT KERMA AND LOCATION OF THE DISCOVERIES

The Kerma region is located in the Northern Dongola reach which is a large alluvial basin entirely surveyed during this last decade on its eastern bank (Reinold 1993; Welsby 2001; Honegger 2010). In the last ten years, survey work and excavations undertaken in the Kerma area have brought to light remains from several periods. One hundred and forty sites have been identified. The research focused in the alluvial plain and at its edge, where the archaeological remains are more exposed to human destruction. In the desert the survey was not systematic but it revealed mainly sites from Middle Palaeolithic and Mesolithic times. A large part of the sites discovered are eroded and partially destroyed by agricultural fields, but others are better

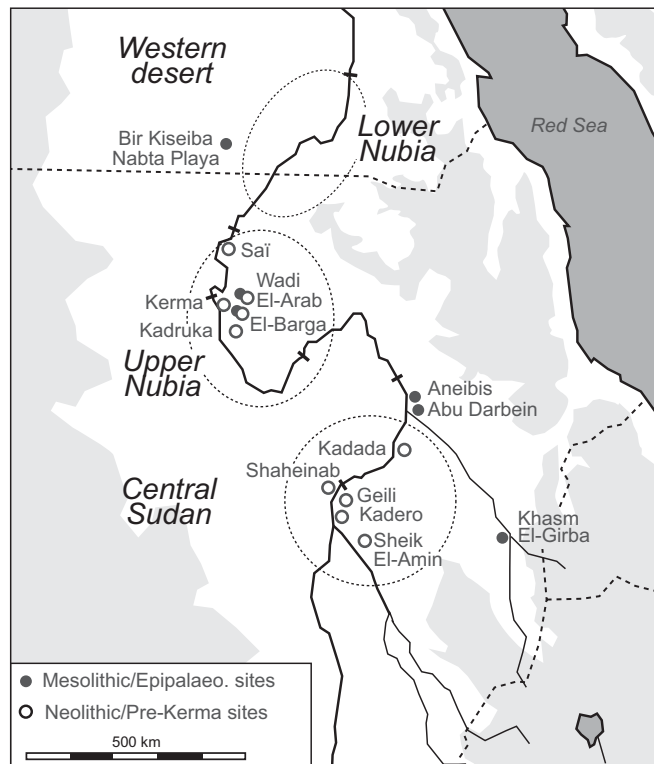


Figure 1. Map of Egypt and Nubia with the location of the main area where a chronological framework was established for Holocene prehistory. Between them is located the area of Kerma from where are coming the new data presented in this paper. Other sites mentioned in the text are indicated.

¹ This research is supported by the Swiss National Science Foundation (SNF 101212/122592), the State Secretariat for Education and Research of the Swiss Confederation, the Foundation Kerma and the University of Neuchâtel (Switzerland). For more information, see <http://www.kerma.ch>.

preserved and are, occasionally, of significant archaeological interest.

The spatial distribution of the sites shows a distinctive split between the occupations located on the alluvial plain and those outside, along the desert edge (Figure 2). The sites of the first half of the Holocene period are located outside the alluvial plain and correspond to an older and more humid climatic phase. Access to the alluvial plain might have been difficult and human groups thus preferred settling on little mounds near its edge, safe from the Nile flood. They also settled around a wide depression, which was filled by an ancient swamp fed by rainwater and Nile floods. The most important sites excavated in this area are el-Barga and Wadi el-Arab. The first has revealed a habitation structure dug into the sandstone bedrock and includes an important archaeological assemblage dated to about

7300 BC. Two cemeteries were found nearby, in use from 7800 to 5500 BC. The second contains stratified layers with settlements and graves dated from 8300 to 6300 BC.

The sites of the second half of the Holocene period correspond to a more arid climate and, logically, they are found within the alluvial plain, nearer to the then-extant Nile channels. These sites belong to different archaeological periods such as Middle Neolithic, Pre-Kerma, Kerma, Napatan, and Meroitic periods as well as later ones. The most important are eroded habitation sites washed by Nile floods. We have also included sites from the region of Kadruka, cemeteries often located in the same zone as settlements, where faunal remains were collected.

According to a recent study on climatic changes in the Eastern Desert of Egypt (Kuper and Kröpelin 2006),

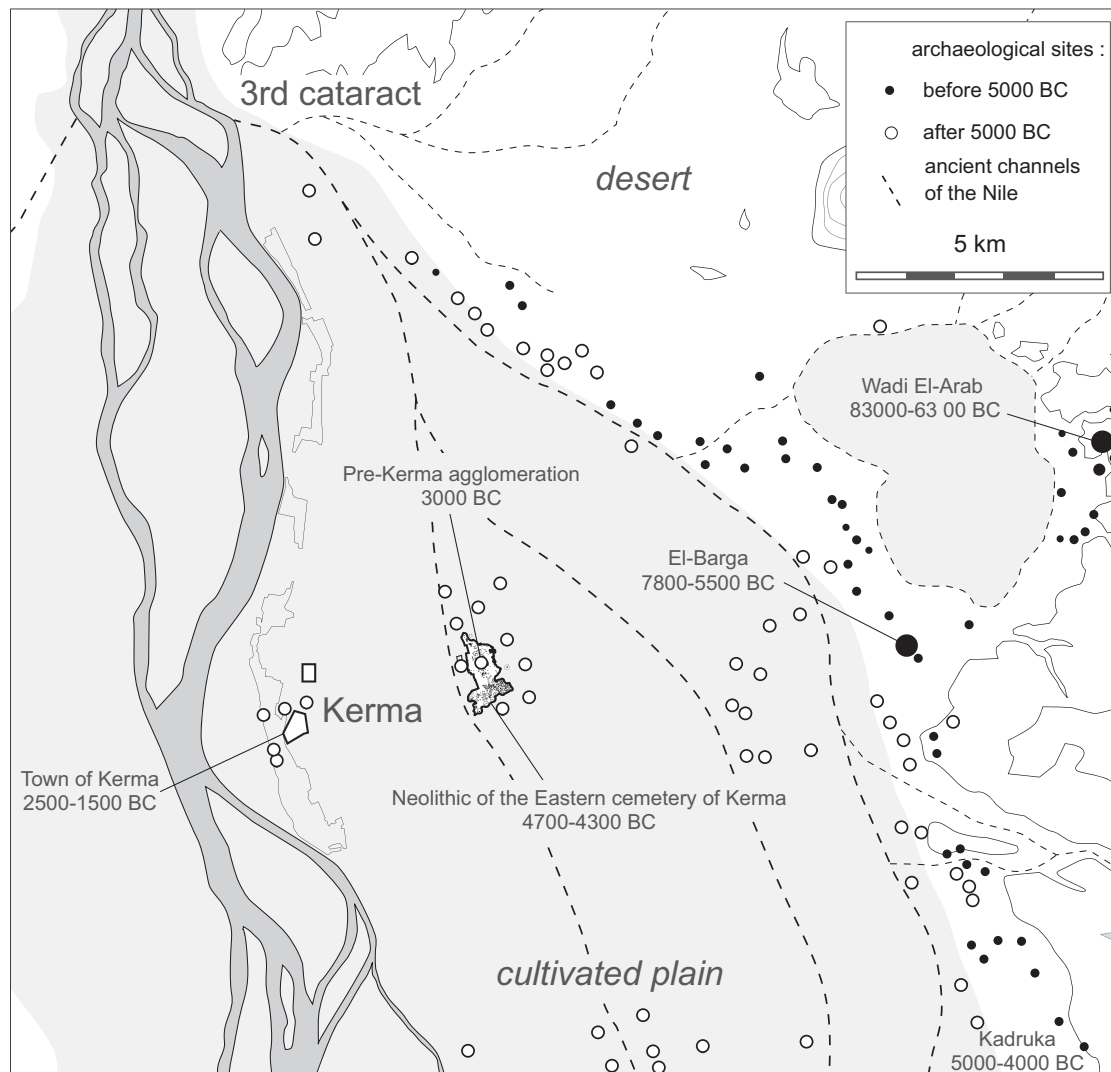


Figure 2. Map of the Kerma area showing the distribution of the sites during the Holocene period. The most important are indicated and were excavated during these last 10 years or are still under excavation today.

there was a change in the location of human settlements and cemeteries during the Holocene. The most important one occurred around 5300 BC and corresponds to the end of occupation in the desert and the beginning of settlement along the Nile. In the Kerma region this change is observed at the same period - between 5500 and 5000 BC – and is signalled by the shifting of sites closer to the river. The main difference with Egypt is that the edge of the alluvial plain at Kerma is occupied during all of the Holocene period, except maybe for its beginning, between 10,000 and 8300 BC. The situation is probably the same further to the south, in the entire Northern Dongola reach and even as far as Khartoum. The model of human occupation is apparently different in Egypt, if the site distribution along the Egyptian Nile is really representative of the past.

CHRONOLOGICAL AND CULTURAL FRAMEWORKS

The traditional chronology of human occupation during the prehistory of the Holocene period in Sudan distinguishes three stages: Mesolithic, Neolithic and A-Group/Pre-Kerma/Late Neolithic. Until recently there was no further precision to allow for the identification of different cultural phases within these general stages. Today this initial perception of recent prehistory can be deeply modified thanks to the results coming from the Kerma region where the chronological and cultural frameworks are known from 8300 BC to historical times with an exceptional continuity. More than 60 C¹⁴ dates were obtained from sites showing original cultural features from Mesolithic times to the *Kerma Ancien* period (Figure 3). They include the results

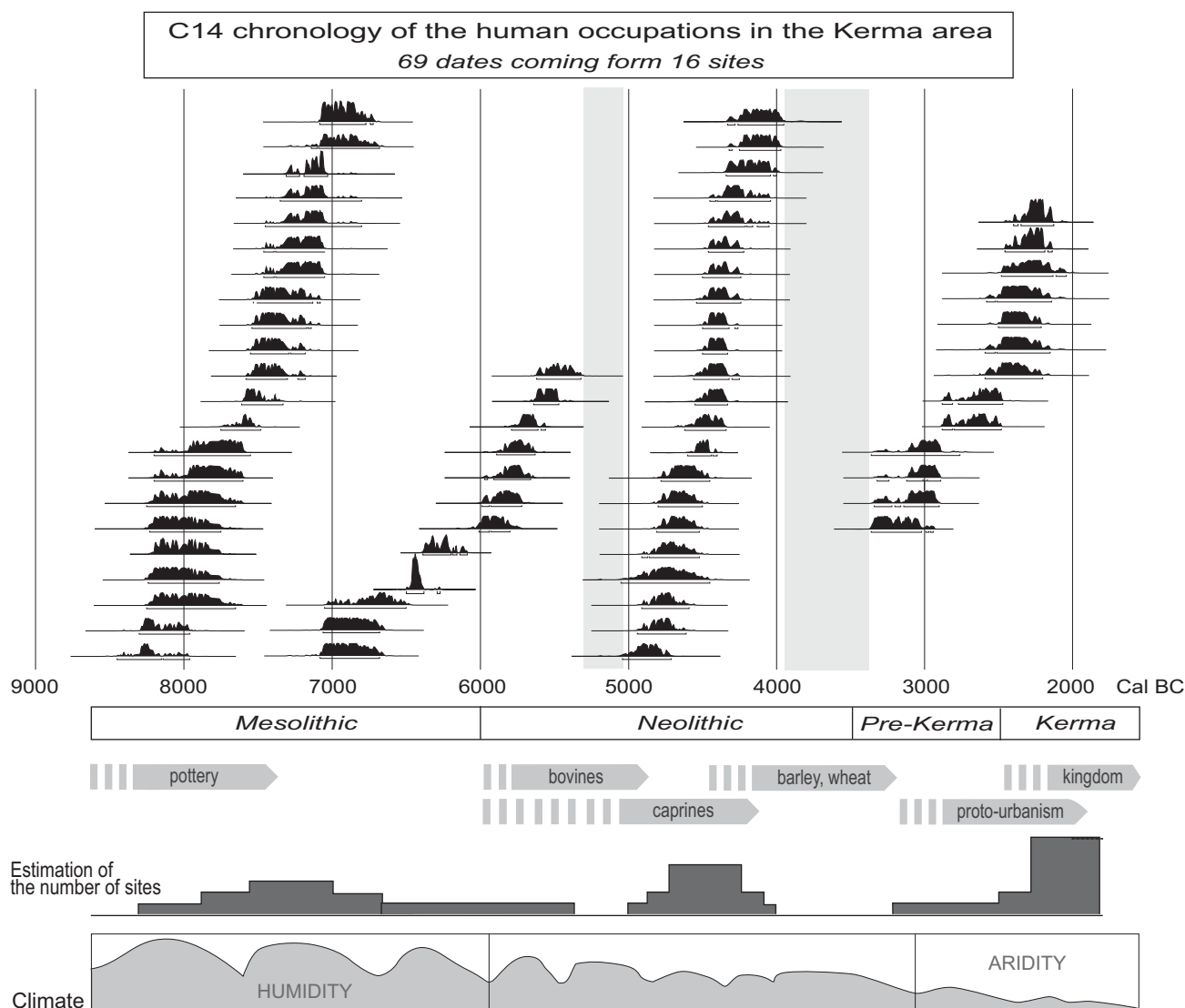


Figure 3. Chronological framework of the Kerma area obtained with 69 C¹⁴ dates made between 8300 BC and 2000 BC. The principle innovations are indicated as well as an estimation of the number of sites for each period and the schematic climatic fluctuation (after Hassan 2002). All the dates are calibrated in years BC (after Reimer *et al.* 2009).

obtained by our colleague Jacques Reinold from the cemeteries of Kadruka. The chronology is interrupted by two gaps and we do not know if the absence of sites during these periods is linked with climatic changes, falling population levels or if it depends on the current state of research.

Tests or long-term excavations of important sites were made in order to understand the major evolutionary stages of Nubian societies: the invention of pottery, shift to a sedentary way of life, transition to stock-breeding and agriculture, urbanisation and state formation. An estimation of the number of sites by period shows a typical situation for the Sudanese Nile valley: a high density of Mesolithic, Middle Neolithic and Kerma sites. The most problematic gap is the one of the 4th millennium and the beginning of the 3rd. It corresponds to Predynastic times in Egypt and it is difficult to understand why sites dated to this period are so rare in Upper Nubia.

The analysis of pottery styles and techniques enables the distinction of many phases and the reconstruction of cultural influences between the different regions (Plate 1). The first pottery found in Kerma – dated to around 8300 BC – consists primarily of sherds decorated by use of the return technique. According to Maria Gatto who has studied this pottery, no parallel is known except in Acacus (Libya), where this decoration is present at a later period. The el-Barga style pottery is characterised by a monotonous decoration composed of alternating pivoting stamps. Similar decorations were found between the Second and Third Cataracts, and in the Nubian Desert. It appears to be a characteristic of a regional cultural group distinct from those of Nabta Playa and Central Sudan. The next phases were only identified in Wadi el-Arab. They developed between 7200 and 6000 BC and can be related to the sequence of Nabta Playa and the el-Jerar phases. (As we shall see, the first introduction of domesticated cattle dates to the end of this period.)

The Middle Neolithic phase is characterised by burnished pottery with a first appearance in the cemetery of el-Barga about 6000-5500 BC. From 5000 BC appears the first evidence of red and black topped ware with the ripple decoration technique (Honegger 2004b). Today, there is no attempt to define more precise phases and regional cultural variations for this relatively well-known period dated to the 5th millennium and characterised by the abundance of cemeteries across Northern Sudan. Nevertheless some characteristics of the pottery decoration can be found on Badarian

pottery as well as Abkan and Central Sudan Neolithic ceramics. This is a period of fully-fledged pastoral societies.

Finally, the Pre-Kerma culture develops after the gap of the 4th millennium. Its pottery shows some similarities with those of the A-Group and the *Kerma Ancien* (Honegger 2004b), but we do not know how this group appeared and to what extent it is related to the previous cultural groups. The Pre-Kerma can now be divided into two phases, the first one is known in the area of the Third Cataract while the second one, called ‘recent Pre-Kerma’, seems to have a larger extent, between the Second and the Fourth Cataract. There is even some similarities with sherds of the sequence at Elephantine.

It is too early to propose a detailed interpretation of the historical meaning expressed by the similarities between the prehistoric cultural sequence of Kerma and the other areas of Nubia. The lack of data is still too important to allow for an understanding of the social significance of the pottery affinities. They express some cultural contacts but it is difficult to define the type of interaction: exchange, migration, conquest or depopulation. For the end of prehistoric times, there is undoubtedly an attraction in the historical scenarios between Nubia and Egypt proposed for the later periods. But there is still a lot of work to be done, and notably a systematic confrontation of different approaches (more detailed pottery studies, global cultural comparisons, biological anthropology, linguistic, etc) before advancing any explanation that would be more valuable than mere speculations. To date we can propose an initial synthesis of the cultural sequences between Upper Egypt and Central Sudan, where the areas of Kerma and Nabta Playa offer the most detailed chronology for this part of the Nile corridor (Figure 4).

FIRST HALF OF THE HOLOCENE: THE SITE OF EL-BARGA AND THE MOST ANCIENT NEOLITHIC CEMETERY IN AFRICA

One of the major discoveries of these last ten years was a Mesolithic and Neolithic site known as el-Barga, which was presented during the last two conferences for Nubian Studies (Honegger 2006a). It consisted of a habitation zone and 144 tombs broadly divided into two sectors, north and south (Figure 5). The northern sector concerns 41 graves of the Mesolithic period dated by two radiocarbon analyses to between 7800

Phases / sites / pottery style

Recent Pre-Kerma 2700-2600 BC
 Boucharia II
 Polished pottery, black top, rippled limited to the rim, geometric incised pattern



Comparisons

Similarities with sites between the Second and the Fourth Cataracts (Saï Island, Soleb, etc.)

Middle Pre-Kerma c. 3000 BC
 Eastern cemetery
 Polished pottery, black top, rippled limited to the rim



Similarities with the Pre-Kerma in Arduan island

Neolithic II 5000-4000 BC
 Kadruka / Eastern cemetery
 Burnished pottery, black top, rippled



Similarities with Abkan and central Sudan Neolithic

Neolithic I 6000-5500 BC
 El-Barga II
 First burnished pottery, rocker stamp



No comparison in Nubia

Mesolithic IV 6300-6000 BC
 Wadi el-Arab V
 Rocker stamp, bifacial lithic tools



Similarities with El-Jerar phase

Mesolithic III 7200-6300 BC
 Wadi el-Arab III-IV
 Herring-bone pattern, dotted wavy line



Similarities with el-Nabta phase

Mesolithic II 7800-7200 BC
 El-Barga I / Wadi el-Arab II
 Alternative pivoting stamp



Similarities with other sites between the First and Second Cataract

Mesolithic I c. 8300 BC
 Boucharia I - Wadi el-Arab I
 First pottery, return technique



No comparison in Nubia

Plate 1. Prehistoric cultural phases in the Kerma area defined by the pottery decoration and surface treatment. Each phase is dated by C¹⁴ analysis and the oldest phases were observed in the stratigraphy of Wadi el-Arab. Some preliminary comparisons are proposed with other sites in Nubia (photos by Nicolas Faure).

	Upper Egypte	Nabta Playa	Lower Nubia	Upper Nubia	Central Sudan
2000 BC	Egyptian Kingdom	C Group		Kerma	?
		?		Pre-Kerma Recent and Middle	
3000	Predynastic	Late Neolithic	A Group	?	Late Neolithic
4000	Neolithic		Abka	Neolithic I and II	Neolithic
5000	?	Recent Neolithic	Khartum Variant		
6000	Epi-palaeolithic	Middle Neolithic		Mesolithic III and IV	Khartum Mesolithic
7000		Ancient Neolithic or Mesolithic?	Mesolithic I and II		
8000	?	?		?	?
9000		?			

Figure 4. General chronology of Upper Egypt, Nubia and Central Sudan revised in light of the recent results from the Kerma area.

and 7000 BC. They do not contain any funerary offerings apart from two graves with shells (Honegger 2004a; 2006b).

The southern sector is organised into two main concentrations and revealed 103 Neolithic graves with relatively abundant funerary material such as tools, weapons and ornaments. A grave dated around 5800BC contained a cattle skull (bucranium), deposited on the body of a child. That deposit shows the importance of cattle in funerary practices and in society. This skull belongs to a domesticated bovine and confirms that this cemetery is to date the most ancient Neolithic one in Africa (Chaix and Honegger forth.).

A Mesolithic habitation structure, partly contemporaneous with the graves, is dated between 7500 and 7200 BC (Honegger 2010). It consisted of a sub-circular cavity a little less than 5m in diameter, with a maximum depth of just over 500mm (Figure 6). On the eastern side the walls were almost vertical, while on the west it is an intermediate bench or step interrupting a more gentle slope. To the south the entrance is characterised by an elongated depression and to the north east an oval pit abutted the central depression. In the depression there was much occupation material such as pot-

tery, grinding equipment, flint objects, faunal remains, shells, ostrich eggshell beads and two bone bangles. It is possible that there was a conical roof consisting of a wooden framework resting directly on the edges of the pit as with the huts at Nabta Playa in the western Egyptian desert, which are a little later in date (Wendorf and Schild 2000).

The final publication of this habitation structure is nearly completed and will appear shortly. The study of the faunal remains by Louis Chaix and Veerle Linseele tends to prove that the population was sedentary. Some other structures have been identified: oval pits associated with funerary practices, deep round pits linked with the settlement and some shell concentrations. It is likely that there were other habitation structures, not dug in the ground, accompanying the main hut, but erosion of the surface has probably destroyed their remains such as small post-holes.

FIRST HALF OF THE HOLOCENE: THE SITE OF WADI EL-ARAB AND THE BEGINNING OF CATTLE DOMESTICATION IN AFRICA

Five kilometres north east of el-Barga, the site of Wadi el-Arab includes a stratigraphic sequence of occupations dated between 8300 and 6300 BC. It is one of the very important sites in Africa that help us to understand the transition to a sedentary way of life (just before the beginning of stock breeding). The site covers a significant area measuring more than 4ha. While certain sectors revealed only a single occupation layer a few tens of millimetres thick, others showed a stratigraphic sequence nearly 1m thick with successive and continuous settlement remains (sectors 165-175E and 610-611W, see Figure 7). Many test excavations have been made in order to understand the chronology of the site. After the opening of a first area of 20m² which revealed graves and habitation remains (sectors 165-175E), we understood that it was necessary to open a larger area to identify organised structures. These two last years, we opened an area of 128m² (sectors 610-611W). The first cleanings revealed four graves cut into the surface and an oval structure dug in the ground, similar to the one of el-Barga.

In 2010 and 2011, the extension of the area led to the identification of at least three other habitation structures accompanied by seven pits. While two of them were also dug in the soil and correspond to the first (earliest) phase of occupation, the other is more recent

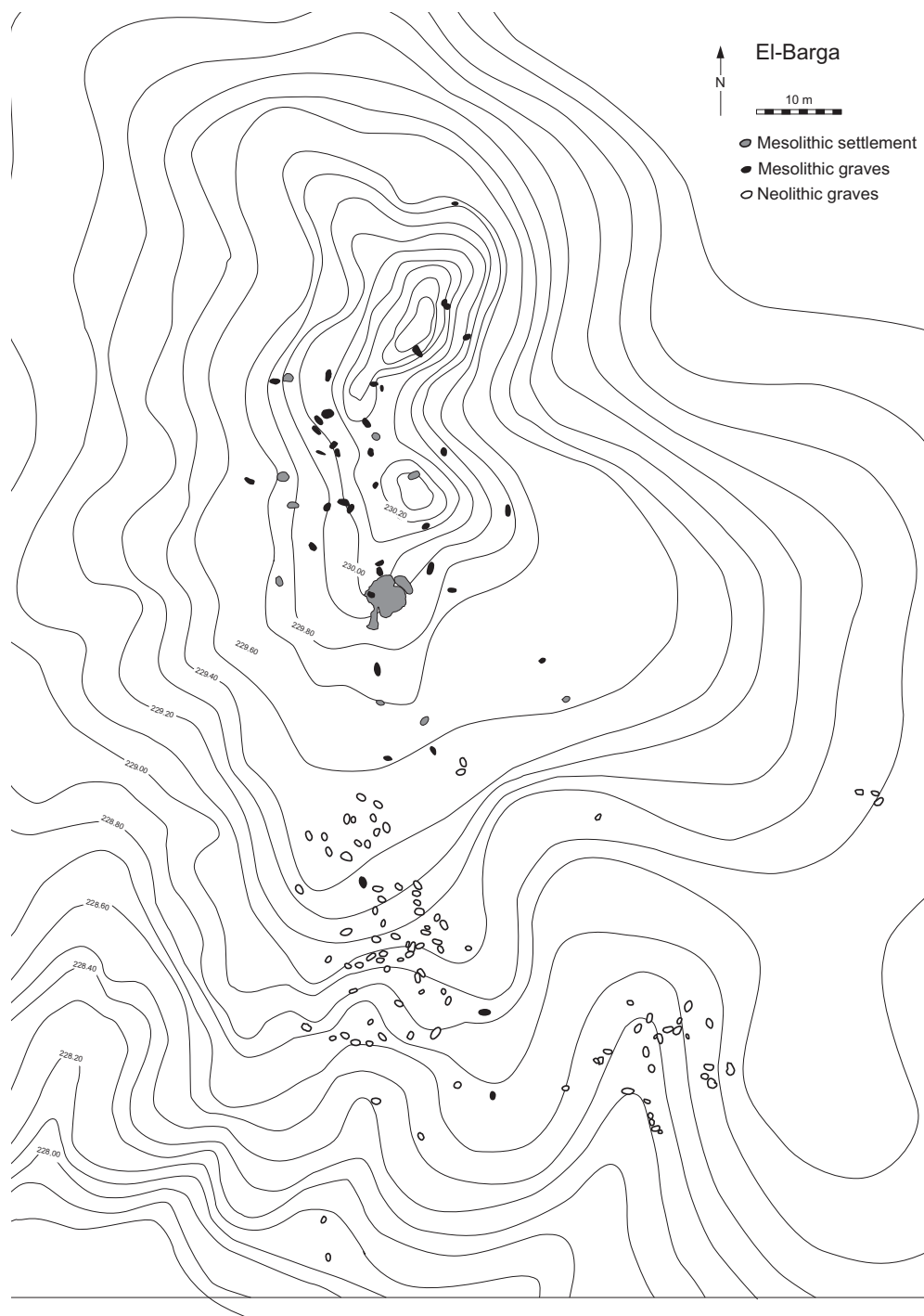


Figure 5. Plan of the el-Barga excavation with Mesolithic habitation structures, and the Mesolithic and Neolithic cemeteries.

and corresponds to another kind of architecture (Plate 2). It was delimited by stones used to hold posts belonging to the superstructure of the shelter. Six central concentrations of stones correspond to the bases of posts supporting the roof of the habitation. It is possible that two other similar structures were present next to the previously mentioned one, but the excavation, still in progress, has yet to confirm it.

The view of the entire surface gives a general idea of the organisation (Plate 3). The first phase revealed three habitation structures dug in the sand which seem to be on the same alignment (habitations 1 to 3). They were associated with pits. For the second phase, we have identified a hut with posts held by stones (habitation 4) and maybe two others. These structures are dated between 7200 and 6300 BC.

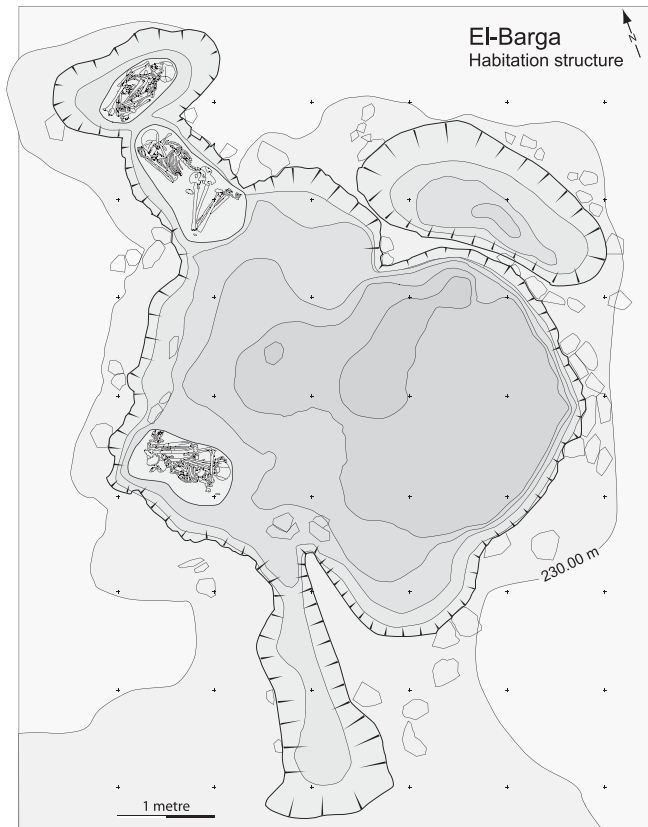


Figure 6. Plan of the Mesolithic habitation structure of el-Barga with three graves which are broadly of the same period. In the north a grave is clearly cutting the structure and it was dug after the habitation period. In contrast, the southern grave could have been dug in the floor of the hut at the time it was occupied. The contour interval is 100mm.



Plate 2. View of a hut in Wadi el-Arab limited by stones used to hold posts belonging to the superstructure. The diameter of the structure is about 4m.

Until recently, we were convinced that a few domesticated ox bones were present within the stratified levels dated from 7200 to 6300 BC (Chaix and Honegger forth.). This discovery should have confirmed the findings at Nabta Playa and Bir Kiseiba in Southern Egypt (Wendorf and Schild 2001) and reinforced the idea of the local domestication of the African ox from aurochs living in the Nile Valley. Nevertheless, recent re-examination of the supposed old ox bones made by Veerle Linsele does not confirm the first determinations. She concludes that there was no wild or domesticated ox at Wadi el-Arab before 6000 BC. Actually, the supposed

Plate 3. General view of the new sectors excavated at Wadi el-Arab with three oval structures dug into the ground (habitations 1 to 3) and a structure delimited by stones (habitation 4), perhaps accompanied by two others.



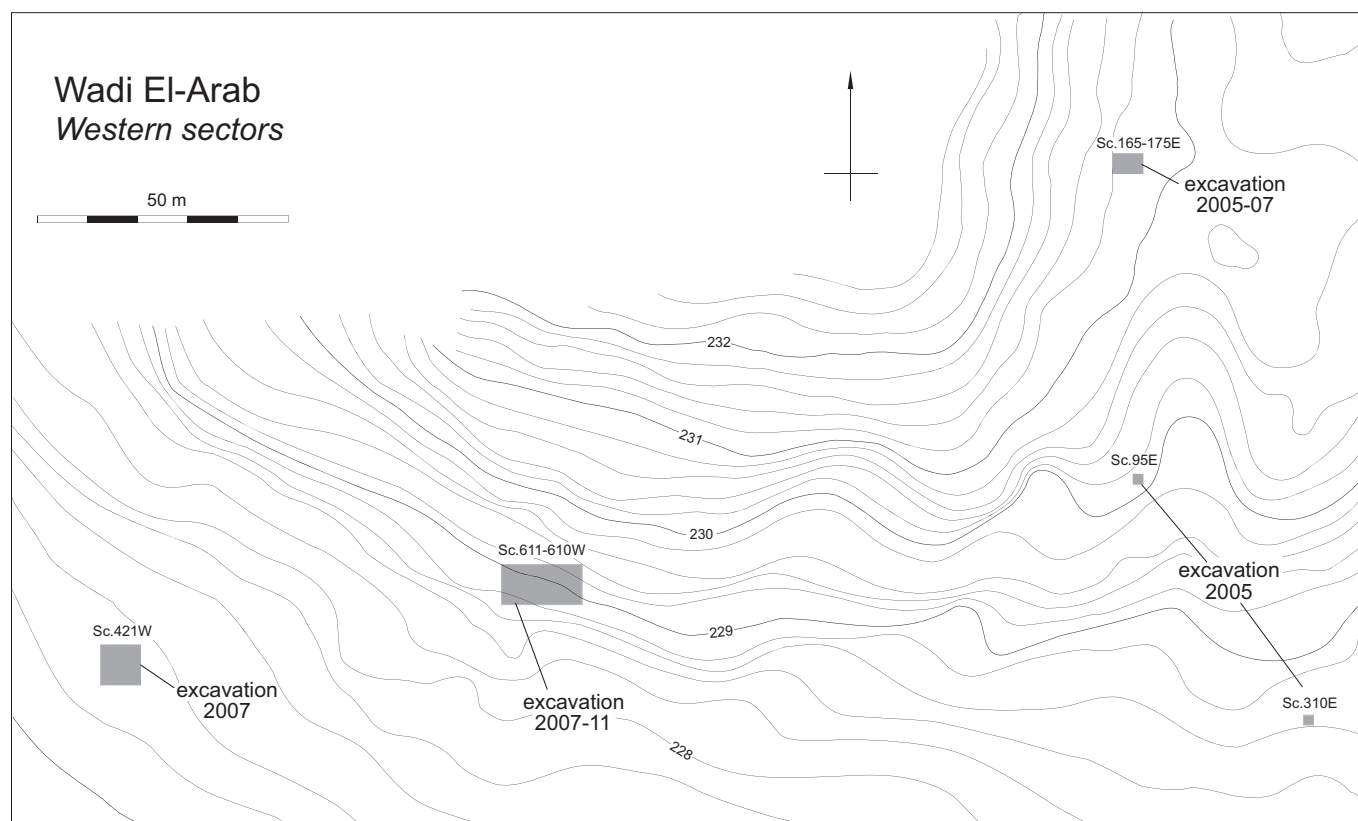


Figure 7. Plan of the Mesolithic and Early Neolithic occupations of Wadi el-Arab with the location of the sectors excavated.

cattle bones belonged to other large mammals. It means that the first evidence of cattle in the area of Kerma is the skull deposited on a grave at el-Barga dated around 5800 BC.

The absence of domesticated ox before 6000 BC does not confirm the discoveries of Nabta Playa and Bir Kiseiba which postulates a local process of cattle domestication since the 9th millennium. On the contrary, it reinforces the idea of the introduction of all the Neolithic components (at least: domesticated animals and agriculture) from the Near East at the end of the 7th millennium. Moreover, the pottery style of this period shows similarities with the Nabta Playa and el-Jerrar phases of southern Egypt. To date, it seems that the first cattle were introduced into the Kerma area from Southern Egypt.²

² At this period the economy is very similar to the Mesolithic one, mainly based on hunting and fishing, with the presence of a few cattle bones. This phase could be called 'Proto-pastoral phase' (Ancient Neolithic in Nabta Playa and Kerma) in opposition to the previous 'Pre-pastoral phase' – or Mesolithic one – and the following 'Pastoral phase' – or full Neolithic one (Middle Neolithic). In the Kerma area this "Proto-pastoral phase" begins around 7200 BC at Wadi el-Arab and ends in the 6th millennium. The situation is different in Central Sudan where the 'Proto-pastoral phase' is not yet represented and where we

SECOND HALF OF THE HOLOCENE: THE NEOLITHIC SOCIETIES AND THE PHENOMENA OF LARGE CEMETERIES

During the Neolithic, means of subsistence change significantly with the introduction of an economy largely based on cattle and caprines and at the same time, the first dogs appear in cemeteries. This 'Pastoral phase' begins around 6000 BC in Southern Egypt, between 6000 and 5000 BC in the Kerma area, and around 5000 BC in Central Sudan (Figure 8). We see a quick spread of this new economy in a period mirroring the main climatic changes. As mentioned before by Fekri Hassan (2002) this coincidence could mean that the drier climatic conditions favoured the adoption of the pastoral way of life.

In the Kerma area this pastoral phase is known from eroded habitation sites washed by Nile floods. With the sites from the region of Kadruka, i.e. cemeteries often located in the same zone as settlements, one can observe that in all these settlements cattle are clearly dominant, followed by caprines, where sheep and goats are attested (Chaix and Honegger forth.). Wild animals

see a quick transition from a Mesolithic way of life to full pastoral societies (Figure 8).

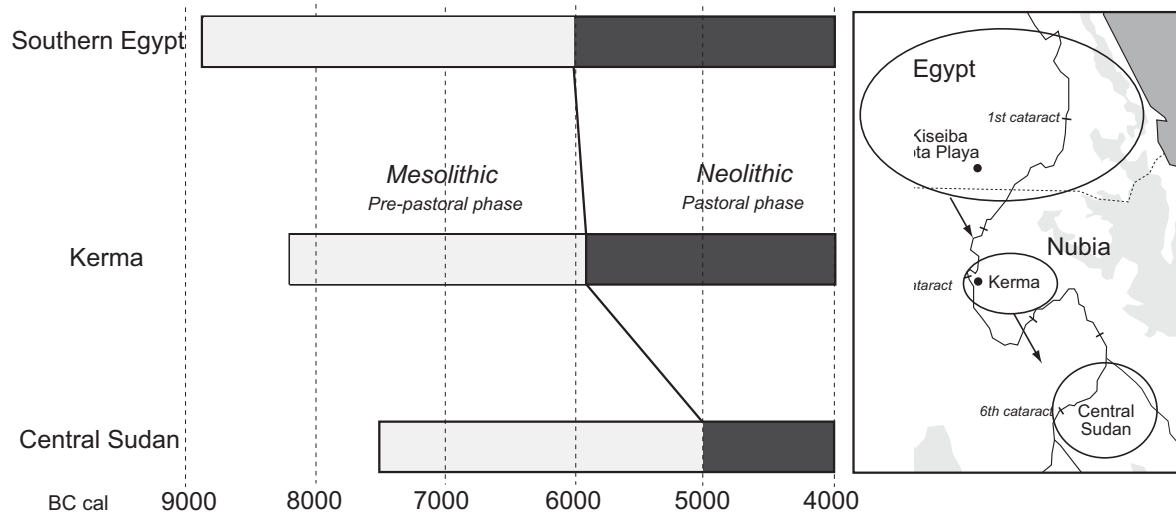


Figure 8. Spread of the pastoral economy from the north (Nabta Playa) to the south (Central Sudan) between 8800 BC and 5000 BC.

are very rare and hunting activities do not represent a substantial part of the economy. Fish remains are generally not preserved, except for some large vertebrae. At the same time, many graves in the cemeteries at Kadruka contain cattle skulls placed next to the body.

In the Eastern Cemetery, where more than 40,000 graves were dug during the Kerma period, many traces of ancient occupation are present, eroded and in some cases destroyed by the numerous graves. Two of them have been excavated, one of the Neolithic and the other of the Pre-Kerma period. The Neolithic one is composed of a few huts represented by post-holes, small fences used as wind protection, fireplaces often located south of these wind breaks, and enclosures probably used for cattle or caprines (Honegger 2006a). We expressed the idea that this settlement was a dry season camp, to facilitate the exploitation of pasture close to the Nile, like the modern examples in Southern Sudan. But the question of the degree of mobility of the Neolithic pastoral communities along the Nile valley is still open and it is possible that they lived in sedentary villages, with only a segment of the society moving to find new pasture. The numerous cemeteries of this period seem to confirm it.

SECOND HALF OF THE HOLOCENE: THE PRE-KERMA AND THE EMERGENCE OF COMPLEX SOCIETIES

For more than ten years the main prehistoric excavation at Kerma concentrated on an area of 2ha containing eroded remains of a Pre-Kerma settlement dated to

3000 BC. This fully sedentary settlement was based on an agro-pastoral economy as in the Kerma period. The general organisation of this agglomeration is fascinating. It is characterised by the presence of a concentration of storage pits, many huts, two rectangular buildings and three cattle enclosures (Figure 9, Honegger 2004b; 2007). But the most spectacular remains are the 8m thick fortifications, with six parallel rows of fences (Plate 4). Two entrances were identified and the fortification was traced over a distance of 200m. This impressive construction made of wood and earth must have attained a considerable height, as suggested on the small-scale model now displayed at the museum of Kerma (Plate 5). This agglomeration – probably not an isolated example – means that around 3000 BC, the history of the region was probably richer and more eventful than is suggested by the traditional point of



Plate 4. View of the fortifications of the Pre-Kerma agglomeration composed of six rows of parallel fences represented by post-holes.

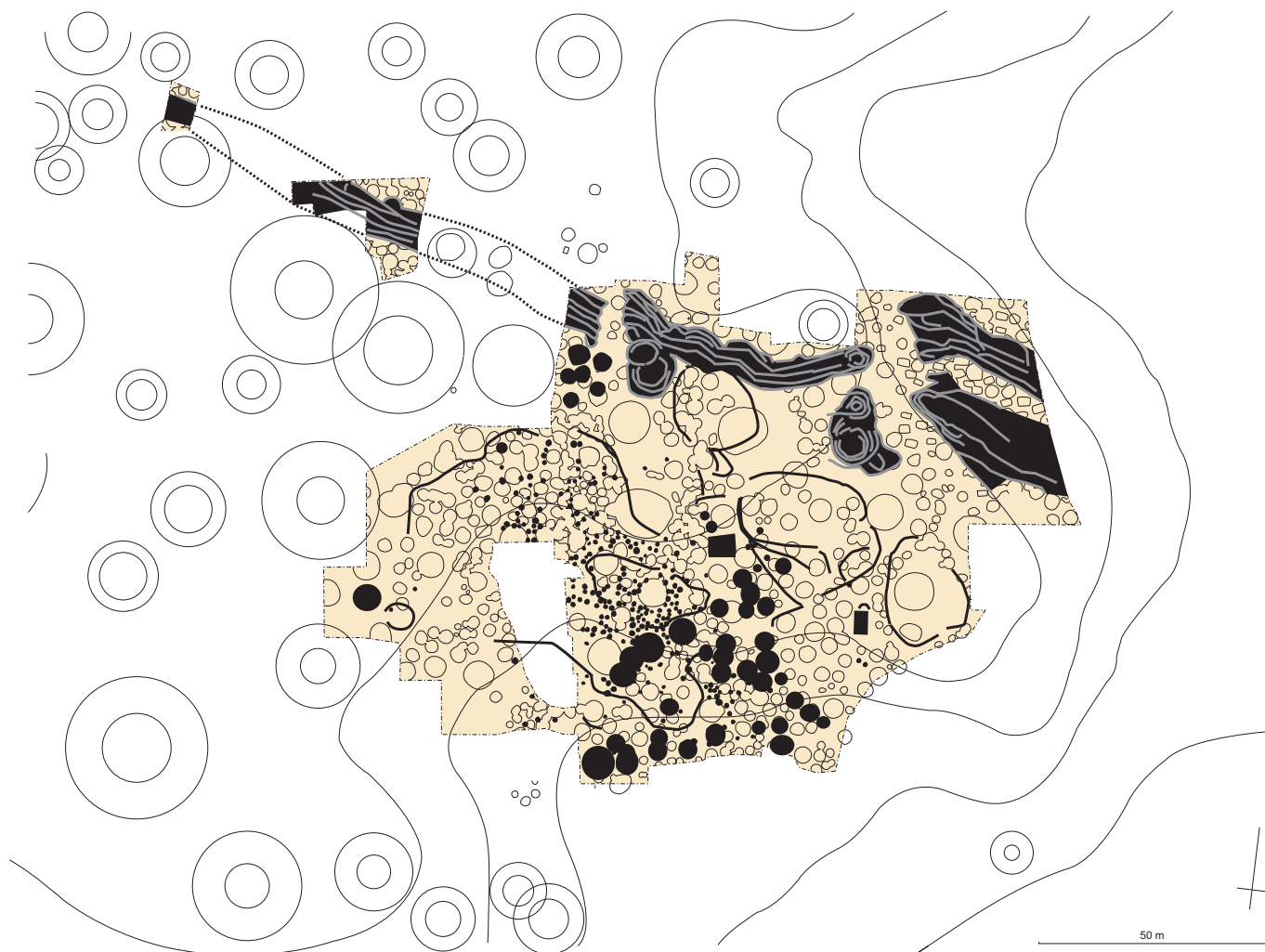


Figure 9. General plan of the Pre-Kerma agglomeration about 3000 BC, located in the centre of the Eastern Cemetery. The circles indicate the presence of Kerma graves, the black lines and surfaces correspond to the Pre-Kerma storage pits, huts, rectangular buildings and fences forming cattle enclosures or fortifications.



Plate 5. Small-scale reconstruction of the Pre-Kerma agglomeration exhibited in the new museum of Kerma. The fortifications are indicated in white.

view which focuses on Egypt and neglects a Nubia considered as a stagnant entity.

The Pre-Kerma period is still poorly known. Many searchers are interested in this period, crucial in Nubia because it precedes and explains the formation of the first Kingdom of Kerma. But little research has been undertaken between the Second Cataract and the Northern Dongola reach, which is probably the crucial area for discoveries of new evidence for this period. Even if these remains are always deeply eroded, it is not impossible to find them.

In the quest to better understand the link between the Pre-Kerma and Kerma periods, a new program of excavation is being undertaken in the most ancient part of the Eastern Cemetery of Kerma. It revealed – as Charles Bonnet showed many years ago – evidence of C-Group and *Kerma Ancien* funerary traditions. The pottery style also belongs to both traditions. Moreover, an area deeply plundered was discovered, containing only ancient C-Group pottery. It belongs to the earliest

phase of this culture and does not present any features of *Kerma Ancien*. Radiocarbon analysis, bioanthropological studies of the skeletal remains, tests on ancient DNA contained in the human bones and typological analysis of pottery are now underway to understand the relation of this C-Group area of the Eastern Cemetery with the *Kerma Ancien*. In the future, these results combined with the studies and hypotheses of Claude Rilly about the roots of the Meroitic language, will maybe change the traditional diffusionist view inherited from George Reisner, claiming that changes and innovations always came from Egypt.

BIBLIOGRAPHY

- Caneva, I., E. A. A. Garcea, A. Gautier and W. Van Neer 1993. 'Pre-Pastoral Cultures Along the Central Sudanese Nile', *Quaternaria Nova* III, 177-252.
- Chaix, L. and M. Honegger forthcoming. *New Data on the Animal Exploitation from the Mesolithic to the Neolithic periods in Northern Sudan*. Climate and Ancient Societies, University of Copenhagen (October 2009).
- Haaland, R. and A. Abdul Magid (eds) 1995. *Aqualithic Sites Along the Rivers Nile and Atbara, Sudan*. Bergen.
- Hassan, F. H. 2002. *Droughts, Food & Culture: Ecological Change & Food Security in Africa's Later Prehistory*. New York.
- Honegger, M. 2003. 'Exploitation du territoire et habitat dans les sociétés pastorales du Soudan : l'exemple de Kerma entre les 5^e et 3^e millénaire av. J.-C.', in M. Besse, L.-I. Stahl-Gretsch and P. Curdy (eds), *Constellation: hommage à Alain Gallay*. Cahiers d'archéologie romande 95. Lausanne, 341-352.
- Honegger, M. 2004a. 'Settlement and Cemeteries of the Mesolithic and Early Neolithic at El-Barga (Kerma region)', *Sudan & Nubia* 8, 27-32.
- Honegger, M. 2004b. 'The Pre-Kerma: A Cultural Group from Upper Nubia Prior to the Kerma Civilisation', *Sudan & Nubia* 8, 38-46.
- Honegger, M. 2006a. 'Habitats préhistoriques en Nubie entre le 8^e et le 3^e millénaire av. J.-C. : l'exemple de la région de Kerma (main paper)', in I. Caneva and A. Roccati (eds), *Tenth International Conference of the Society for Nubian Studies*. Rome, 9th -14th September 2002. Roma, 3-13.
- Honegger, M. 2006b. 'El-Barga : un site clé pour la compréhension du Mésolithique et du début du Néolithique en Nubie', *Revue de paléobiologie, vol. spécial 10 Hommage à Louis Chaix*, 95-104.
- Honegger, M. 2007. 'Le Pré-Kerma de Haute Nubie', *ArchéoNil* 16, 77-84.
- Honegger, M. 2010. 'La Nubie et le Soudan : un bilan des 20 dernières années de recherche sur la Pré- et Protohistoire', *ArchéoNil* 20, 76-86.
- Kuper, R. and S. Kröpelin 2006. 'Climate-Controlled Holocene Occupation in the Sahara: Motor of Africa's Evolution', *Science* 313, 803-807.
- Reimer, P. J., M. G. L. Baillie, E. Bard, A. Bayliss, J. W. Beck, P. G. Blackwell, C. Bronk Ramsey, C. E. Buck, G. S. Burr, R. L. Edwards, M. Friedrich, P. M. Grootes, T. P. Guilderson, I. Hajdas, T. J. Heaton, A. G. Hogg, K. A. Hughen, K. F. Kaiser, B. Kromer, F. G. McCormac, S. W. Manning, R. W. Reimer, D. A. Richards, J. R. Southon, S. Talamo, C. S. M. Turney, J. van der Plicht and C. E. Weyhenmeyer 2009. 'IntCal09 and Marine09 radiocarbon age calibration curves, 0-50,000 years cal BP', *Radiocarbon* 51, 4, 1111-1150.
- Reinold, J. 1993. 'S.F.D.A.S. Rapport préliminaire de la campagne 1991-1992 dans la province du nord', *Kush* 16, 142-168.
- Reinold, J. 2000. *Archéologie au Soudan. Les civilisations de Nubie*. Paris.
- Reinold, J. 2007. *La nécropole néolithique d'El-Kadada au Soudan central. Vol. 1: Les cimetières A et B du kôm principal*. Paris.
- Salvatori, S. and D. Usai 2008. *A Neolithic Cemetery in the Northern Dongola Reach: Excavations at Site R12*. Sudan Archaeological Research Society Publication no. 16. London.
- Welsby, D. A. 2001. *Life on the Desert Edge: Seven Thousand Years of Settlement in the Northern Dongola Reach, Sudan*. Sudan Archaeological Research Society Publication no. 7. London.
- Wendorf, F. and R. Schild 2001. *Holocene Settlement of the Egyptian Sahara. Vol. 1: The Archaeology of Nabta Playa*. New York.
- Wendorf, F. (ed.) 1968. *The Prehistory of Nubia*. 3 vols. Dallas.