K E R M A

2010-2011

SOUDAN

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Université de Neuchâtel
Documents de la mission archéologique suisse au Soudan
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Cover figure : Wadi el'Arab, excavations in 2010. Photo: Philippe Marti.

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Matthieu Honegger and
Charles Bonnet

ARCHAEOLOGICAL EXCAVATIONS AT KERMA (SUDAN)
PRELIMINARY REPORT TO THE 2010-2011 SEASON

The investigations of the Swiss Archaeological Mission started on 1st of December 2010 and ended on 2nd of February 2011. As usual, the mission was organised in two teams.

The team directed by Matthieu Honegger worked in the eastern cemetery of Kerma and in the site of Wadi El-Arab. There was no intervention in the museum this season but the definitive installation of the objects in the showcases with small panels and images is scheduled next winter. The team was composed of the Rais Khidir Magbul who supervised 6 local workers. Two Swiss specialists worked in their respective domains : Marc Bundi (supervision of the construction of the walls protecting the eastern cemetery, delimitation of the limits of the surrounding fields in the presence of the director of the Kerma Museum and the cultivators) and Daniel Conforti (archaeology and drawing). Seven students from Neuchâtel (Laure Prétôt, Leyla Duvannel, Camille Fallet, Julien Spielmann, Bastien Jakob, Philippe Marti, Lucie Honegger) and a curator of the Kerma Museum (Shahinda Omer) participated in the mission. Louis Chaix (zooarchaeology) spent two weeks with us to work on the faunal remains of Wadi El-Arab.

The team led by Charles Bonnet pursued its works at Dukki Gel and conducted restoration projects in the ancient city of Kerma and at Dukki Gel. It was composed of the Rais Gad Abdallah, Saleh Melieh, Abdelrazek Omer Nuri and Idriss Osman Idriss who supervised 60 local workers. Abdelmagid Mahmud, director of the museum participated to the excavation. Five specialists from Switzerland worked in their respective domains: Philippe Ruffieux (ceramology), Inès Matter-Horisberger (archaeology and drawing), Alain Peillex (archaeology and drawing), Patricia Jehger (drawing) and Jean-Michel Yoyotte (photography). Prof. Dominique Valbelle (University of Paris IV, La Sorbonne) worked on the publication of a stela of Aspelta found at Dukki Gel.

The Swiss Mission was supported by Mr. Hassan Hussein, director of the National Corporation of Antiquities and Museums of Sudan (NCAM) and his collaborators, Mrs. Salah Eddin Mohamed Ahmed and Abdelrahman Ali. This project is supported by the Swiss National Fund (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 www.kerma.ch

The investigations during this campaign focused on the following sites :

- Wadi el-Arab where we continued our cleaning in sectors opened last year covering 128 square metres. Two stratigraphic trenches were dug in order to improve our understanding of the strata and to confirm the limits of the numerous habitation structures identified (postholes, huts, pits and fireplace).
- The eastern cemetery with the continuation of the excavation in the Ancient Kerma area. In parallel, a first low wall 1500 metres long was built to protect the western limit of the cemetery which was constantly threatened by the extension of agricultural fields and vehicle traffic.
- Dukki-Gel, where Charles Bonnet continued his work on temples, sanctuaries and fortifications of Nubian or Egyptian traditions (18th dynasty). He also managed the restoration of a part of the site by reconstructing in mud brick the foundations of the main buildings.
- As usual some restoration work was conducted in the ancient town of Kerma where the success of the museum has provoked an increase in the number of visitors to the archaeological sites, and the acceleration in the degradation of the previous restorations.

After the winter campaign in the Sudan, the team works the rest of the year on the results of the excavations and some students have the opportunity to begin their master's thesis or PhD's projects in relation to the archeology of Kerma. If Jérôme Dubosson started some years ago his PhD on pastoralism in north-eastern Africa, this year two new projects were accepted. The first one undertaken by Camille Fallet deals with the biological anthropology of the people buried in the eastern cemetery in order to understand the origin and the development of the Kerma population during a millennium. The second one consists of a reflection on the function and perception of archaeological museums in Sudan. Focusing on the National Museum of Khartum and the Kerma Museum, this work, conducted by Marc Bundi, will explore the Sudanese cultural politics and the role of patrimony in the perception of identity.

Last year we worked on a new surface of 128 square meters which revealed exceptional habitation structures from ca. 7000 BC (Honegger and Bonnet 2010, p. 3-5). At the beginning of this campaign, we noticed for the second time that the site was heavily destroyed, probably by people looking for gold or for statues. About ten holes were dug in the excavated area, the largest attaining two meters of diameter. We decided to continue the excavation in the western half of the surface, which was less affected (sector 610W), and to dig in the other sector a stratigraphic trench in the area of the largest hole.

The successive cleanings of the western surface conducted us to a better delimitation of the best preserved habitation structures which are composed of two large oval huts with foundations dug in the sandy silt (figure 1) and two other completely different with postholes blocked by stones below the surface (figure 2). This last one appears to be more ancient than the dug ones, which are associated with numerous shallow pits (figure 3). As usual the archaeological remains discovered were extremely abundant (flint, pottery sherds, shells, ostrich eggshells and animal bones). The

Figure 1 | Wadi El-Arab. View of the western part of the studied area, which was excavated this year. Two large oval structures dug in the sand correspond to the foundations of huts The other small pits are the results of the destruction of the surface by people searching for gold or statues.

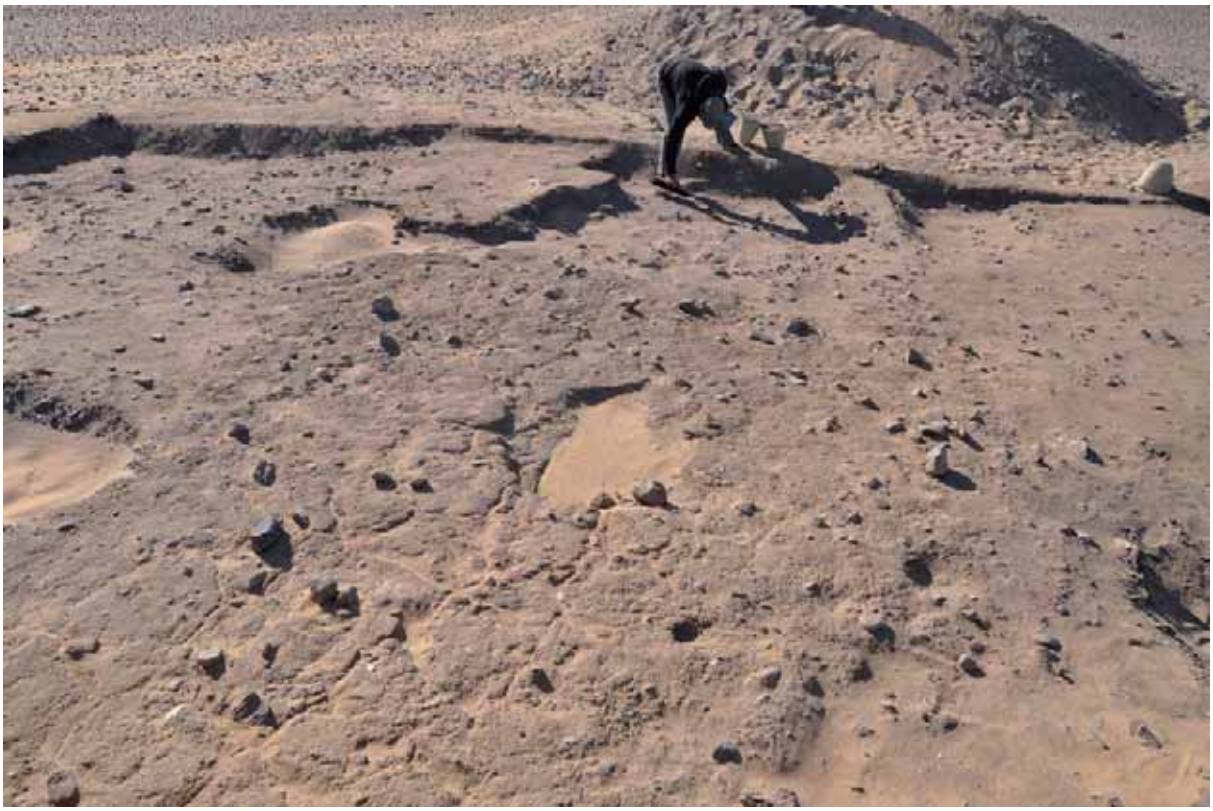


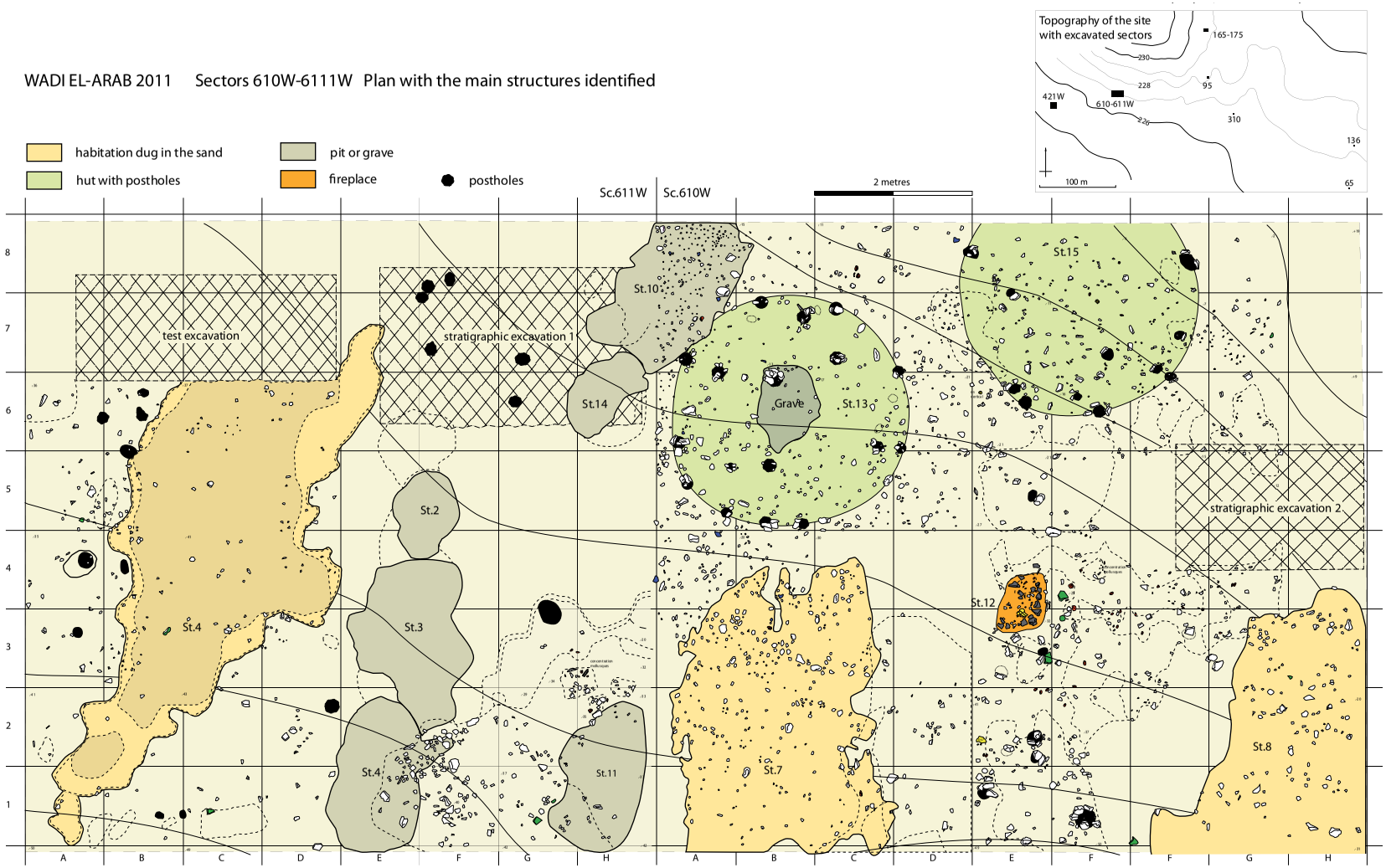
Figure 2 | Wadi El-Arab. View of a hut with postholes blocked by stones.

faunal remains were in a good state of preservation, which is not common in semi-arid conditions. This will give us a good opportunity to work on the hunting practices of this period, and to reconstitute the environment which was much more humid than today, with the presence of animals such as rhinoceroses, hippopotami, giraffes, lions, etc. In this perspective the work of Louis Chaix consisted this year in sorting the bones coming from the excavation and to confirm the presence of domesticated cattle in strata comprised between 7200 and 6500 BC (Honegger and Bonnet 2010).

The general organisation of the excavated area is coherent even if the recognized structures belong at least to two different occupational phases which are dated between 7200 and 6500 BC (figure 3). The most ancient remains are composed of the two huts (St. 13-15) delimited by postholes and a fireplace with rubefied stones (St. 12). Other postholes and some areas more silty with many artefacts which could belong to the same phase. The more recent remains correspond to pits and three huts with foundations dug in the sand. These huts are more or less aligned and could belong to a well organised settlement. Only one grave is present in this area, located at the centre of a hut. But the previous excavations in sector 611W revealed three other tombs. They should correspond to a cemetery, which is probably dated to the end of the sixth millenium BC. It is difficult to know wether there was a contemporaneous settlement at Wadi El-Arab, since that level is today

Figure 3, page 5 | Wadi El-Arab. General plan with the structures identified. The huts with foundations dug in the sand (St. 4, 7, 8) and the shallow pits (St. 2, 3, 4, 11, 14) are probably contemporaneous. Two huts evidenced by postholes are older (St. 13, 15), as well as the fireplace (St. 12).

WADI EL-ARAB 2011 Sectors 610W-6111W Plan with the main structures identified



probably completely eroded. To know whether there are graves associated with the habitation structures presently excavated, as is the case for the Mesolithic occupation of El-Barga (Honegger 2004: 27-32, 2006), it would be necessary to discover new tombs in deeper layers.

When sector 611W was opened during the 2008-2009 season, a first test excavation was made to obtain an idea of the thickness of the archaeological layers. The presence of large pits dug by looters, led us to dig in trenches in two locations down to the natural deposits (figure 4). The objective was to obtain some stratigraphic cross-sections to study the succession of the archaeological layers characterized by a high density of human structures. In sector 611W we observed in four stratigraphic sections traces of occupation on a thickness reaching 80 cm. The different layers and the limits of the structures were identified with good precision, and the accumulation of faunal remains or shells helped us define the outlines of some structures. As can be seen on the eastern stratigraphy (figure 5), the succession seems to be relatively simple but it

Figure 4 | Wadi El-Arab. The statigraphic excavation in sector 611W gives the opportunity to study the succession of the layers and the limits of the structures.

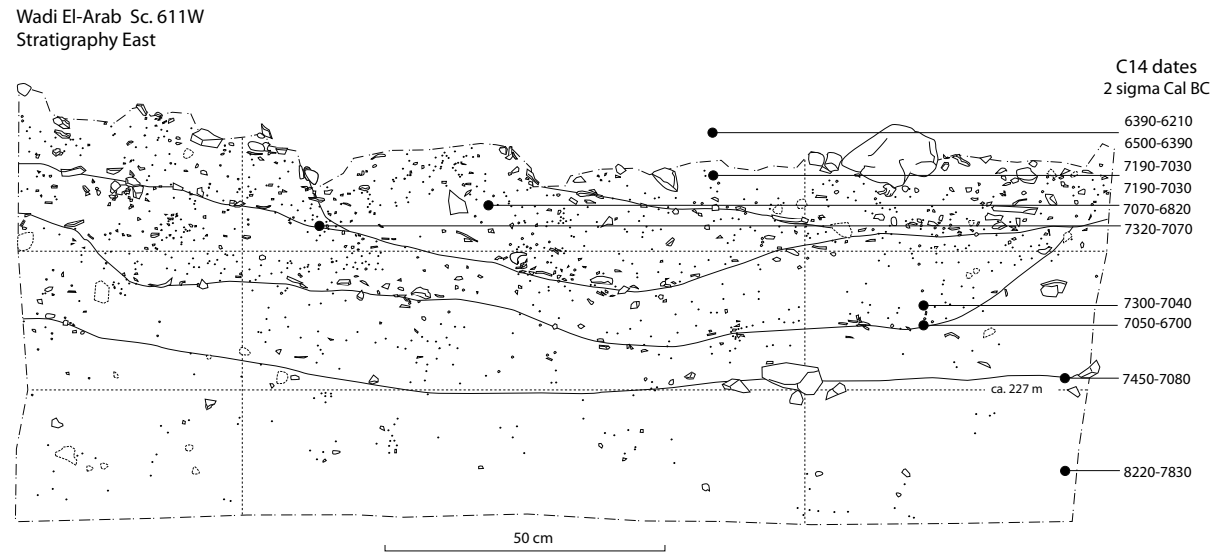


Figure 5 | Wadi El-Arab. Eastern Stratigraphy of the trench dug in sector 611W. The C14 dates are presented in their stratigraphic position. They are made on samples coming from different parts of the excavation and are comprised between 8200 and 6200 BC.

in fact appears that the three top layers consist of large superimposed structures. The observations of the cross-sections in the second trench (sector 610W) confirm the high density of habitation structures. It is therefore evident that the management of the surface excavation of a large area will be a difficult challenge, consisting in the delimitation, correlation and dating of the numerous structures.

Ten C14 dates have been obtained from samples of ostrich eggshell collected in different places on the surface and in the sections. Their result accompanies the drawing of the eastern stratigraphy (figure 5) with the indication of their location in the different layers or structures. The general view of the chronology is relatively coherent with dates comprised between 8200 and 6200 BC. However,

some inversions are noticed with results younger than those expected based on their stratigraphic position. This can be explained by the necessity to correlate separate structures or layers with the objective of showing all the dates on the same stratigraphy. The fact that some of these correlations remain hypothetical until the complete excavation of the entire excavated area could explain the discordance observed between vertical succession and absolute chronology. A comparison with the chronology of the previously excavated area at Wadi El-Arab, undertaken between 2005 and 2007 (sectors 165-175, Honegger 2007) indicates that both of these surfaces, 150 metres apart, were occupied during the same period. The actual excavation revealed a longer period of occupation (2000 years) compared to the previous one, which is known from 23 dates ranging between 8200 and 6600 BC. This is not surprising given that the first excavation (sectors 165-175) was more exposed to erosion. It is possible that the last period of occupation (6500-6000 BC) has completely disappeared in this area, as noted above and that it is evidenced by the surface graves. The discovery on the surface of lithic tools with bifacial retouch confirms the presence of this latest occupational phase (Honegger and Bonnet 2010, p. 6). This kind of lithic technology appears in Southern Egypt ca. 6000 BC, at the same time as the introduction of sheep and goats from the Near-East (Wendorf and Schild 2001). The introduction of this technique in Sudan is probably contemporaneous, and confirms the presence of eroded layers around 6000 BC.

With the presence of well preserved habitation structures and graves, a thick stratigraphic sequence covering a major part of the Early Holocene period and the possibility to follow the first introduction of domesticated cattle in Africa, Wadi El-Arab represents a unique opportunity to study in details this important period in the history of the continent.

We continue this year our program which started two years ago. It consists in systematically excavating the most ancient part of the eastern cemetery in order to understand its spatial organisation (sex, age, rich and poor graves, etc.) and to establish the conditions for the emergence of the Kerma civilisation. It is well known that the beginning of this civilisation is characterised by the co-existence of two pottery traditions: the first typical of Ancient Kerma and the second evocating the C Group style (Privati 1982). We made the same observation in the eastern part of the excavated surface (see figure 9), but in the western part, the pottery was different. The sherds found belong only to the Ancient C Group tradition (phase Ia) without any features of the Ancient Kerma style. Moreover, this pottery is thinner and its decoration more elaborate than that of the eastern part. There is clearly an opposition of styles between the two parts of the excavated area. However it is difficult to find other features in the funerary ritual which can give sense to this observation. In the eastern part, the pits are approximately circular (figure 6), whilst in the western part the funerary pits are more elongated, almost rectangular. To date we do not understand the significance of this difference. Another interesting point

Figure 6 | Eastern cemetery. View of ancient Kerma grave pits (sectors 27/28) excavated during the current season.

is the presence of funerary stelae placed vertically all around the tumuli (figure 7, Honegger and Bonnet 2010, pp. 7-9). This kind of tumulus, typical of C Group, can be found in the eastern part as well as in the western one. It is difficult to contend that they are more numerous in the western part, because in this direction the surface is more eroded and the stelae, as the tumuli, tends to completely disappear. Inside the pits the inhumations are always in the same position, typical of the Kerma civilisation: the body is placed on the right side in a flexed position with the head in the direction of the east (figure 8). In conclusion, other than the opposition of pottery styles, there is still a lack of data to contend that this opposition is due to the presence of two different populations with different traditions. A systematic comparison of bio-anthropological features of the inhumations is in process and will probably gives interesting data about the homogeneity or not of the first people of Kerma (see Fallet in this volume). In this perspective, some analyses on ancient DNA were conducted under the supervision of Dr. Alex de Voogt (American Museum of Natural History) on samples carefully taken from seven graves, but the results are unsatisfactory because the dryness of the climate contributes towards the destruction of the DNA.

Figure 7 | Eastern cemetery. Stealae coming from C Group tumuli discovered at the periphery of plundered graves.

Figure 8 | Eastern cemetery. Vectorial drawing of the inhumated in grave 408. The body was wrapped by a mat and a cattle skin, with its head placed on a plant pillow.

Another important challenge is to date the beginning of the Kerma civilisation. Even if this civilisation is famous and has been studied for over 100 years, its detailed chronology is still imperfectly understood. The first classification of pottery from the cemetery of Saï island made by Brigitte Gratien, gives a general partition in phases with dates based on the Egyptian imports (Gratien 1978). Since this first attempt, a more detailed classification of the pottery was proposed on the basis of the data coming from the eastern cemetery (Privati 1999) and a new evaluation of the Egyptian imports was made (Bourriau 2004). For Ancient Kerma the dates proposed by the imports are not precise enough, and gives only a large chronological interval comprised between the 5th and the 11th dynasty. Over many years Charles Bonnet has C14 dated the graves excavated to improve the absolute chronology of this civilisation. The analyses were based on organic material such as bones or cattle skin accompanying the burial, but this material appears to be difficult to treat by the laboratories and has not given reliable results.

In this context we initiate a programme of C14 dating of the chronology in the eastern cemetery and especially that of Ancient Kerma. If the new dates made on cattle skin today give better results due to a close collaboration with the laboratory responsible of the analysis (Laboratory of Ion Beam Physics, Federal Institute of Technology, Zurich), we have sought other material – particularly ostrich eggshell which has always given good results for other prehistoric sites– with a precise association between the sample and the event we want to date.

To date we have obtained four reliable C14 dates from graves of the Ancient Kerma area (figure 9). These first results indicate a chronological partition between the western part dated 2600-2400 BC, and the eastern part, two hundred years more recent. This appears to indicate that the first stage in the development of the eastern cemetery began with a tradition of Ancient C Group (phase Ia, Bietak 1968). This

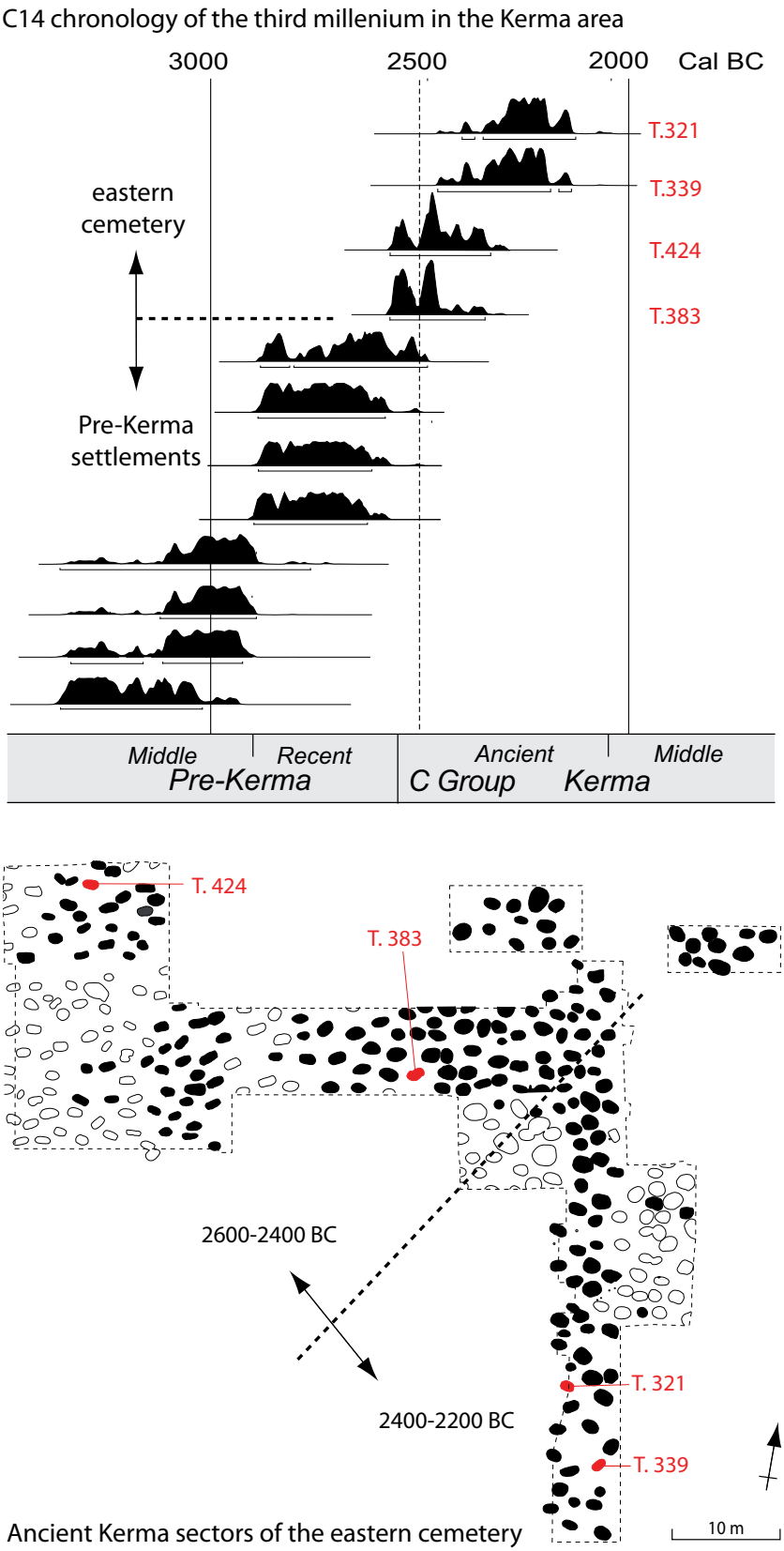


Figure 9 | Eastern cemetery. Top: C14 chronology of the third millennium BC including Pre-Kerma and Kerma periods. The dates, 2 sigma calibrated, show a continuity of occupation between 3200 BC and the beginning of the civilisation of Kerma. The starting point of the eastern cemetery is 2600-2400 BC. Lower: plan of the Ancient Kerma sectors excavated these last years. The four available C14 dates tend to distinguish two areas. The oldest is marked by the presence of pottery of Ancient C Group whereas the second phase is characterised by the traditional Ancient Kerma I.

Figure 10 | Eastern cemetery. Bowl found in the infill of an Ancient Kerma grave. The decoration is original and evokes the influence of C Group, but this pottery style does not belong to the Ancient C Group phase Ia. It is probably a more recent kind of local adaptation.

Figure 11 | Small agate pendent with a representation of a person engraved on its surface.

initial tradition would evolve into less elaborate models in association with the Ancient Kerma tradition (phase I, Privati 1999). This hypothesis, which needs to be confirmed by further analyses, will profoundly alter our understanding of the origin of Kerma and C Group groups, the latter being usually restricted to Lower Nubia. It is not impossible that the origin of the C Group is located somewhere in Upper Nubia and that this group occupied Lower Nubia in a second stage.

During the 2010-2011 campaign we excavated 52 graves, a large number of which had been plundered to varying degrees. Only ten were intact and the tumuli were still in place for five graves. They were marked by pots placed around the periphery of the tumuli on their eastern or northern sides. The graves were relatively poor, except for pottery sherds found in the infill (figure 10). Few objects were discovered with the inhumations: some beads, two small pots and a stone pendent (figure 11). A seal was also placed in a tumulus as well as a horn of a young bovid in the filling of two graves. One of the most interesting graves (figure 8) contained many organic remains, such as a mat disposed on the body, a thin piece of leather covering the head, another one the legs, and a relative large plant pillow placed under the head. This year, we began building a wall on the western side of the cemetery, which is most in danger due to the proximity of cultivated fields and the density of vehicle traffic. A relatively high bank was built along the fields to delimit the extension of the cultivated area and to protect the road from water damage the eastern and northern side of the cemetery. At the same time, Marc Bundi supervised the building of a wall 1500 metres long from the south-west angle of the cemetery towards the north (figure 12 and 13). In the corner, a visitors parking lot was established and a panel set up, explaining that it is forbidden to enter the site with the car.

Figure 12 and 13 | Eastern cemetery. Building of a low wall in galous of the western limit of the cemetery in order to protect it.

Camille Fallet

POPULATION AND FUNERARY TRADITIONS IN THE EASTERN CEMETERY OF KERMA AND IN NUBIA (2500-1500 BC)

Our PhD research concerns the biological characteristics of the individuals buried in the necropolis of Kerma, confronted with the archaeological data. We consider two crucial issues for the knowledge of the kingdom of Kerma:

- first, the origins of the kingdom will be considered by studying the funerary practices in the most ancient area, with an important focus on the biological characteristics. This should bring new data on the populations and cultures at the origin of the kingdom.
- second, we will extend the anthropological investigation to the whole necropolis, taking the funerary practices into account. The skeletons studied, forming a reference collection, will also provide a basis for a methodological reflexion on secondary sex diagnosis.

Material and methods

The material studied comes from the eastern necropolis of Kerma, excavated since 1979 by the Swiss archaeological mission in Sudan. It represents 372 skeletal coming from 318 graves (fig. 14). The most ancient area was currently excavated on an extended surface, in order to understand the detailed chronology of its development. The state of conservation of the Ancient Kerma sample already studied is excellent, the skeletons being often complete.

The archaeological data will be selected on the basis of the documentation produced during the excavation. On the one hand, these data should be a good asset in understanding the origins of Kerma, notably by illustrating the cultural distinctions, and on the other hand, they should enable to shed light on some funerary practices of these remote periods which would be directly linked to biological characteristics.

The anthropological study will be carried out by following a protocol including the following information : inventary, sex determination (Bruzek 2002; Murail *et al.* 2005), estimated age at death (Schmitt 2005; Moorrees *et al.* 1963, bone maturation, etc.), recording of data concerning the physical condition and signs of activity, as well as a morphometric approach (Martin & Saller 1956, 1958; Brauer

Period	Tombs excavated	Individuals preserved
Ancient Kerma (ongoing excavation)	213	220
Ancient and Middle Kerma	15	19
Middle Kerma	93	106
Classic Kerma	17	27
Total	**318**	**372**

Figure 14 | Distribution of the corpus according to the Kerma periods

1988; Howell 1973, 1995). We may also consider the non-metric traits for a limited amount of samples, taking into account the limits imposed by the preservation of the bone and dental material. In order to keep a critical eye on the accuracy of all these methods for our sample, we will also endeavour to develop a method of secondary sex diagnosis. Indeed, the usual methods of sex determination by studying skull features (Ferembach *et al.* 1979) are unable to produce a reliable sex determination when the hip bone is missing. As reference collection, we will therefore consider the individuals whose sex is determined by the morphological and metric study of the hip bones, so as to develop a method of secondary sex diagnosis. This method should first enable to determine with reliability the sex of skeletons for which the data from the hip bones would be insufficient, but we also hope that it will later serve as a reference work for other anthropological studies on the Kerma populations.

Once gathered, the data will be used to ascertain the presence (or absence) of a differential funerary treatment according to biological and cultural criteria.
Then, in order to specify the morphometric diversity of the individuals present in the necropolis and to discuss their biological relationship on a larger scale, we will carry out a comparative study, based on metric and morphological data following the recognized standards. We do not exclude, if necessary and feasible, the study of other collections for comparison.

Key issues

This research is the continuation of previous works carried out by C. Simon from 1979 to 1999 and then by the present author since 2008. Through a biological definition of the population buried in the necropolis of Kerma and by taking into account some funerary practices, we will address two key issues : the period of formation of the kingdom of Kerma and the evolution of the necropolis and its population.

The formation of the kingdom of Kerma : study of the ancient area

The most ancient area of the necropolis, dating back to 2500 BC, corresponds to the period of formation of the kingdom. It has the particularity of grouping burials belonging to two distinct material cultures : Ancient Kerma and old C-Group, a contemporaneous culture whose remains were mainly found between the First and Second Cataracts, and which spans over a period matching the occupation of Upper Nubia by the Kingdom of Kerma. In the Kerma necropolis, they share the same funerary space. We are thus facing a cultural opposition in an ensemble corresponding to the initial phase of occupation of the funerary space. The study of these burials will enable us to address to some extent the formation of the Kingdom of Kerma by considering its population and culture.
We will first have to identify the funerary practices and to assess the evolution

of the funerary space by considering the biological data as a guideline for our research. Then we will try to establish distinguishing features between the burials of the two cultures which are, for now, only identified thanks to their pottery and superstructures, when preserved. Finally, a morphometric approach of the individuals buried should enable us to estimate whether the two culturally different groups also show significant morphological differences allowing to identify two populations.[1] The hypotheses so far put forward to explain the presence of these burials linked to the C-Group assumed two distinct populations (Bonnet 1990: 71), but the possibility of a social distinction will also be considered.

Evolution of the buried population

Even if some features remain the same, the funerary practices of the necropolis of Kerma change over time and in comparison to the former periods, greater distinctions appear between the individuals buried, and groups of burials appear around some important tombs. The morphometric studies carried out by C. Simon (1986b, 1990) show also an evolution : first, a marked diversity during the Ancient Kerma, which progressively decreases to give rise to a more homogeneous population during the Classic Kerma ; second, the morphologic affinities between the Kerma populations and the Egyptian and Nubian populations chosen for comparison differ according to the periods.

As a continuation of these investigations, we would like to address the question of the population of the necropolis of Kerma through a systematic morphometric approach. A critical review of these studies will be undertaken, yet these first observations raise the question of the composition and evolution of the population buried in the necropolis. We propose to undertake a new research, enabling to identify the morphological features of the population buried in the necropolis of Kerma. By comparing our results with contemporaneous populations, we will aim at inserting our sample in a regional context and at establishing the composition of the population buried ; the idea of a mixed population, or at least the gathering of different groups, has already been proposed (Bonnet 1990).

Prospects

This research will enhance our knowledge of the population buried in the eastern necropolis of Kerma and of its evolution during nearly a millenium, by comparing the funerary practices.

1. Since recent DNA tests could not give access to genetic data, this question can only be answered with the help of osteology, along with the archaeological data.

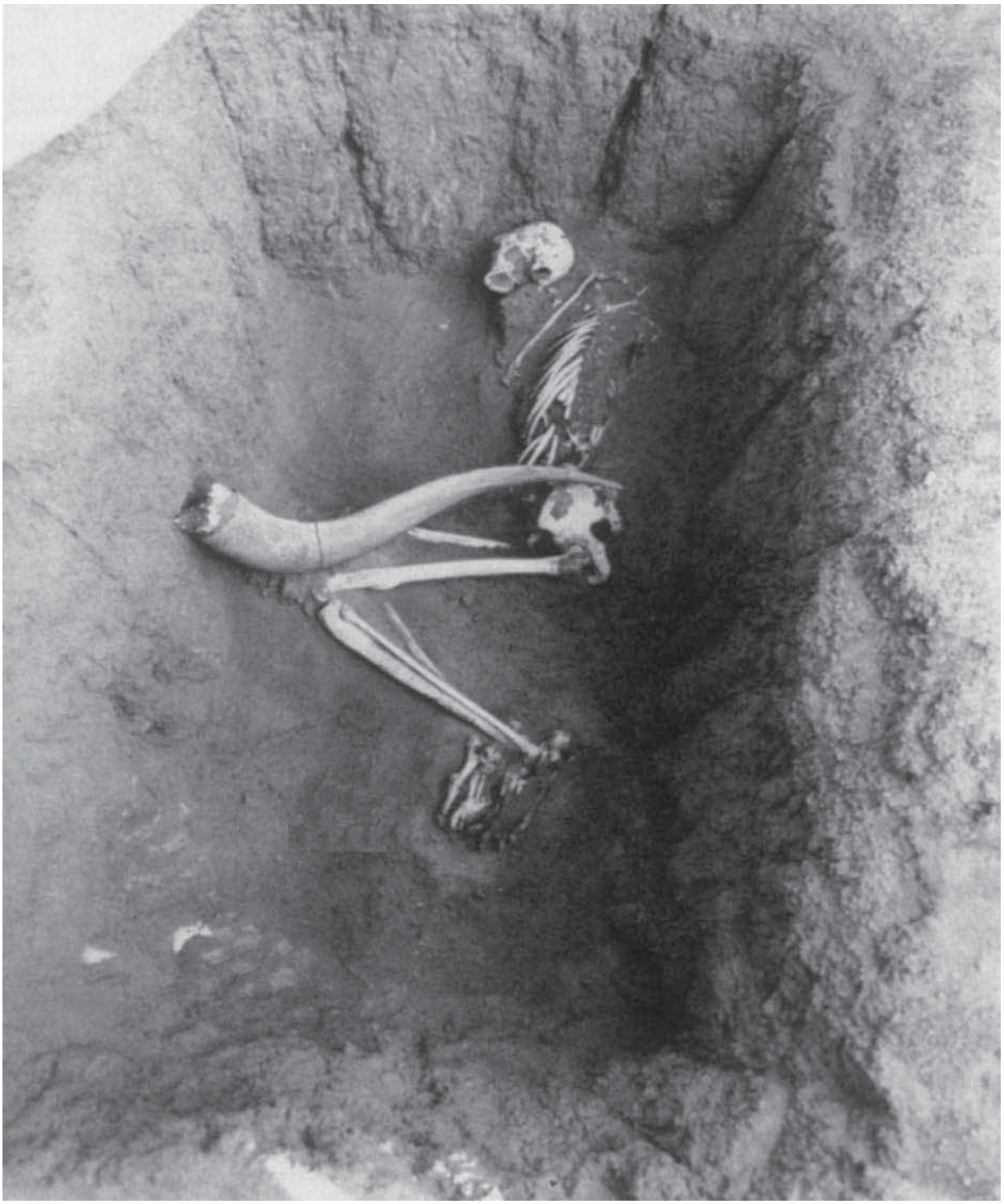


Figure 15 | In the Ancient Kerma, the horn deposit in pits is the main deposit showing the presence of livestock close to the deceased.

Jérôme Dubosson

CATTLE SACRIFICE IN THE FUNERARY RITUALS OF THE KINGDOM OF KERMA : THE CONTRIBUTION OF ETHNOARCHAEOLOGY

On the right side of the Nile, about 20 km south of the Third Cataract, the remains of the Kerma culture reveal the existence of a kingdom which dominated Upper Nubia between 2500 and 1500 BC (Bonnet 1990; Kendall 1997; Honegger 2004). Its origins must probably be searched in chiefdoms which settled between the Second and Fourth Cataracts during the third millennium. Indeed, the large amount of domestic animal bones uncovered in the capital of the kingdom suggests that its economy was greatly dependent on breeding, combined with agriculture and some hunting and fishing (Chaix & Grant 1992). The Nubian climate was then sufficiently humid to enable a large-scale breeding of small and big livestock in grassy and bushy savannahs (Chaix & Grant 1992: 402). Egyptian documents confirm the important presence of cattle in this period, notably the Palermo Stone, which records a military campaign of Snefru. This first king of the 4th dynasty tried to "raze the land of the Nubians", where he took 7,000 captives and 200,000 livestock heads (Roccati 1982: 39). Although these figures are certainly exaggerated, they represent a good evidence of the presence of prosperous pastoral populations whose "wealth on the hoof" was coveted by their Egyptian neighbours.

For the inhabitants of Upper Nubia, livestock was not only considered as a material capital or a prevailing means of subsistence (Bonnet 2000; Chaix 1986, 1988): besides trading exchanges with their C-Group and Egyptian neighbours, the management of livestock, as a form of accumulated wealth, seems to have also contributed to the blooming of the Kerma civilization and to the organization of its population into a hierarchy. Indeed, the essential part played by livestock in the funerary rituals suggests the existence of a strong pastoral way of thinking which certainly influenced the social and political organization of the kingdom.

In the eastern necropolis, the presence of livestock is shown in different ways. Firstly by the cattle hides placed in the pits from the Ancient Kerma (2500-2050 BC) onward, on which the deceased are laid. Sometimes a second hide is placed on the corpse, covering it completely (Chaix 1986). Secondly by the funerary equipment which is scanty at the time but usually includes a bovine or caprine horn. In most cases, it is a horn-core placed next to the deceased, but sometimes the horn-sheath is still present. The deposit of horns inside the mainly individual and small-sized burials is then the main deposit representing livestock (fig. 15). However, toward the end of this period, the ritual practices change and the surface deposit of livestock appears as bucrania placed along the southern side of tumuli. The deposit of these frontal bones, still deposited in small amounts (8.5 on average) in comparison to the following periods, is still rare and concerns mainly the adult males. If the study of the funerary treatment during the Ancient Kerma suggests a slightly hierarchized pastoral society, the killing of cattle and its exhibition at the

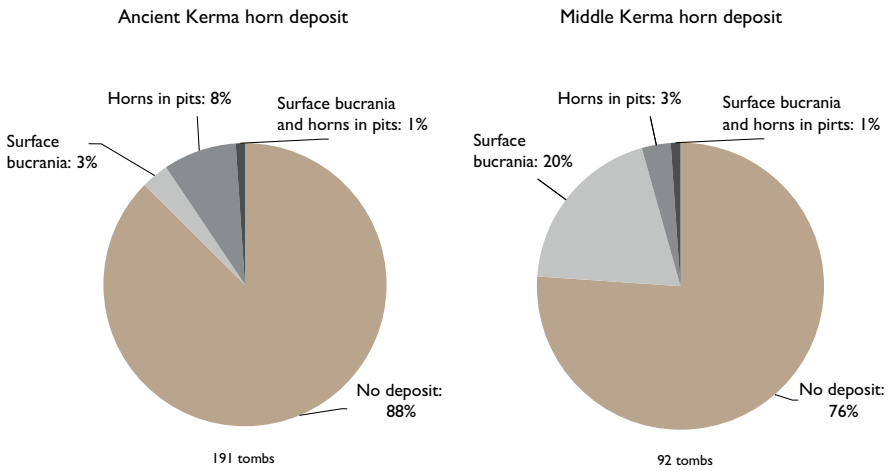


Figure 16 | The Ancient Kerma horn deposits in pits are replaced in the Middle Kerma by spectacular deposits of bucrania arranged along the tumulus. (Data from L. Chaix, C. Bonnet, M. Honegger, excavations from 1981 to 2009).

time of funeral testify to an emerging social differentiation. Other evidences, such as the growing size of the pits, the richness of burial goods and the human sacrifice, also attest this trend. The new deposit practice will then intensify, resulting in a visible and lasting disparity in the landscape.

From the end of the Ancient Kerma onward, tombs become larger, the funerary equipment is richer (pottery, pieces of meat, jewellery, personal objects, artefacts of metal), the slaughtering of cattle is performed on a larger scale and the deposits become spectacular. During the Middle Kerma, the bucrania placed on the surface in a crescent shape become the norm for the horn deposits (fig. 16). Their number varies and seems related to the dimensions of the tomb (fig. 17) (Chaix, Dubosson and Honegger, in press). If a little more than a half of the individuals have a deposit with less than ten bucrania, a few individuals only are surrounded by several hundreds, or even thousands of bucrania forming a "symbolic herd", with the bulls and oxen at the fore, followed by cows and calves (Chaix 1988: 82), escorting them in the afterlife (Chaix 1989: 46). These individuals are certainly the rulers, high dignitaries and other exceptional figures of the kingdom.

Ethnographic parallels can shed some light on the sometimes massive slaughtering of cattle in Kerma. The view of a symbolic herd escorting the deceased in the afterlife can be improved thanks to accounts on the social contexts in which such slaughterings usually occur. We will now refer to data collected both in the literature (Jensen 1959; Lydall & Strecker 1979) and during our fieldworks made in 2005, 2009 and 2011 among the Hamar of southwestern Ethiopia. These data bear witness to a very close and strong relationship between man and animal staying together even in death. Cattle play a great role in the life of Hamar people (Dubosson in press a) but also at the time of their death. Among the Hamar, cattle sacrifice is linked with identity, wealth and status of the deceased. The ethnoarchaeological research we have recently conducted in this ethnic group of the South Omo Zone has provided new insights about the role of cattle in funerary rituals. The interesting similarities that exist with the kingdom of Kerma allow us to widen the interpretative

Figure 17 | The Middle Kerma tomb KN 24 yields 241 bucrania arranged along the southern side of the tumulus, and oriented towards the burial pit. (Documents of the Swiss Archaeological Mission in Sudan).

horizon in archaeology and to suggest new ideas concerning the provenance of the bucrania and the meaning of their deposit.

The Hamar of south-western Ethiopia belong to political groups described as egalitarian or acephalous. They have a patrilineal descent and form twenty-four clans divided into two moieties. Their way of living is based on breeding of livestock and agriculture, as well as beekeeping, hunting and gathering. Their population amounts to about 46,000 people living in small communities scattered from the east in the Woito river of the Rift Valley to the plains of the lower Omo Valley in the west. The northern and north-western borders of their territory reach those of the Banna and Bashada groups, with whom they share the same language and many institutions and rituals. These three groups thus form a larger cultural entity. However, each of their territories remains under the control of independent and distinguished figures called *bitta*. Among the Hamar, two *bitta* share the country between them, one of the *gatta* clan, the other of the *worla* clan. The term *bitta* could be translated as 'ritual leader', but it literally means 'the first'. The *bitta* is considered as the first to settle in a region, the first in authority, as well as in the transcendental and ritual power. In the myth of origin of the Hamar, which reminds that of the birth of a kingdom, every newcomer submits to the *bitta* in exchange for protection, a place to settle and subsistence. The *bitta* is responsible for the well-being, protection, fertility and prosperity of the country with its men and animals. His office lies at the apex of

the society and is highly valued in theory. He is considered as an extraordinary man supposed to exert a great power over nature through his rituals. In practice, his influence has lessened today due to the dramatic historical events the Hamar had to cope with (epizootic, slavery and war during the Ethiopian conquest and the Italian occupation) and which have affected the socio-political organization of their society. However, his role in the regeneration of Hamar life is still significant. This becomes obvious at the time of his death, which is followed by a series of complex rituals. We will now give a partial description of the funerary rituals related to the *bitta* of the *worla* clan.

On the death of the *bitta*, a hut is built close to his house by the *donza* (married men) of his village. His corpse is placed in the loft, in a squatting position, shrouded in the hide of a bovine sacrificed for the occasion (Lydall & Strecker 1979: 35). People from the entire land come to mourn the death of their leader. They stay with his family for a few days, receiving food and beverages. This mourning period can last for four or five months, during which up to more than ten bovines can be sacrificed. Then, a funerary procession brings the desiccated corpse of the *bitta* from his house to a vast and dense forest, where his ancestors rest. There, a new hut is built by the *donza* of his moiety ; during the three or four days of work necessary for its construction, the family of the *bitta* offers beverages (coffee, beer)

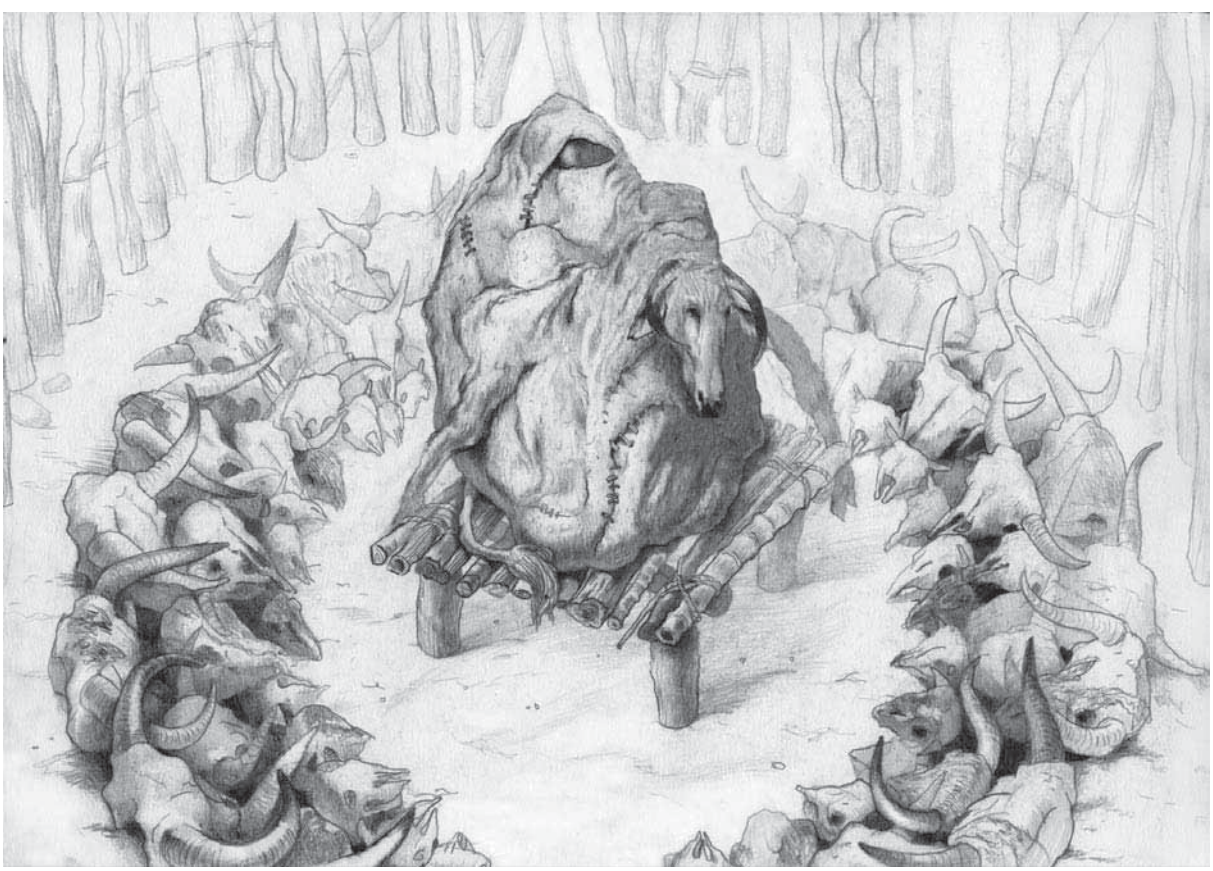


Figure 18 | Reconstruction of the burial of the Hamar 'ritual leader' (bitta). Shrouded in the hide of a bovine sacrificed for the funeral, he rests in the center of a circle of bucrania.

and food (sorghum, meat) to these men. Then, they place the *bitta* on a platform inside, in a squatting position and still shrouded in a leather hide. According to Jensen (1959: 317), the *bitta* rests in the middle of a circle of bucrania arranged on the ground. The large skulls with impressive horns form the outer circle, followed by the middle-sized ones, and finally the small ones on the inner side (fig. 18). This German anthropologist, the only investigator who could gather the accounts of persons who took an active part in such a funeral in 1930, remains unfortunately quite silent about the origin and the number of these bucrania.

More investigations would bring a better understanding of this deposit, but the access to the *bitta*'s grave is still forbidden for us, in reason of its sacred character. For the moment, we can only collect oral accosocioiunts that suggest that the bucrania are those of cattle belonging to the *bitta* sacrificed during the building of the hut or perhaps during the mourning period. Once the last resting place of the *bitta* is finished, the *donza* make offerings to him outside, in front of the entrance, exhorting him to keep guarding the country. Then, they return home, leaving him alone in this forest representing the necropolis of the Hamar ritual leaders. Little by little, men from all regions of the country will come back to the house of the *bitta* to greet his heir and his family. On this occasion, they will offer several goods (honey, milk, livestock, coffee, etc.) so that this heir would bless them and grant them good fortune.

In this Hamar example, funerary rituals first appear under the form of expenditure by the family of the deceased, who, according to our informants, must welcome and feed the many mourners coming to bid their leader farewell and taking part in the erection of his last abode. The extent of this expenditure is related to his identity, his status and his economic and sociopolitical power. This relation is not proper to the Hamar case. Our bibliographic research on funerary rituals in Eastern Africa, notably in the interlacustrine kingdoms, has also underlined the role of cattle during the funerals and the importance of their sacrifice in accordance to the identity of the deceased (Dubosson in press b).

The differences between the ethnographic and archaeological cases exist and should also be taken into account in order to prevent simple analogies. For now, the focus on the similarities has suggested that it is within this frame that the change in ritual practice at Kerma, i.e. the slaughtering of dozens, hundreds, or even thousands of bovines and the surface deposit of their bucrania, can be understood. This new practice clearly shows that the society was more and more organized into a hierarchy toward the end of the third millennium BC. It shows that some individuals or clans were trying to surpass others by ostentatiously and durably showing off their wealth, deeds or social status (Meillassoux 1968). Indeed, only a few individuals possessing a surplus of livestock or an extended network of alliances can afford such slaughterings, which probably necessitate the participation of different people responsible for gathering the animals, cutting up the meat and arranging the skulls

around the tombs. The management of livestock, for economic or ritual goals, certainly played an important part in the emergence of a social complexity and in the maintaining of the political power and of the sacred or royal authority in Kerma.

The funerary rituals must then also be perceived as an investment. Indeed, many ethnographic data suggest that funerals are the occasion of enhancing or maintaining the prestige of a family (Hayden 2009; Potier 1968: 855), and that ostentation is a way of claiming, reinforcing or perpetuating the social structures in force (Poirier 1968a: 887). These are crucial opportunities to establish positive relationships between mourners and participants, some of them getting social, economical and/or political advantages. The slaughtering of cattle could thus have many other functions than the creation of a symbolic herd escorting the dead in the afterlife. It could aim at ensuring a protection against invisible forces, an integration within the community of ancestors, a redistribution of wealth, a regulation of products, a justification of power, a social authentication, or an updating of alliances (Poirier 1968b). This practice would then pertain neither to a collective economical irrationality, nor to the megalomania of one individual. Quite on the contrary, it is a customary phenomenon pertaining to the sacrificial economy (Poirier 1968a) and bearing social and individual messages, the ostentatious nature of which is meant to warrant its efficiency and remembrance. The sociopolitical and ideological context of its appearance in Kerma, as well as the senders and recipients of these messages, remains to be clarified. This complex question will be developed in the frame of our future researches.

The remains discovered during this season enhance our knowledge of the architectural programs carried out at Dukki Gel under the reigns of Egyptian pharaohs, from Thutmose I to Hatshepsut. The monumental aspect of the mud brick structures is impressive, as are the dimensions of the fortifications built by the Nubians. The modifications applied to these defensive lines, which were regularly reinforced, bear witness to the eventful moments of the early Egyptian conquest, which took place at the time of the peak of the Kerma cultures, so that the Egyptian invaders probably didn't have any problem finding the manpower necessary for the foundation of a city embodying their breakthrough abroad. When Nubians briefly retake power after several uprising attempts, the same manpower is certainly appointed to the defence of the indigenous agglomeration and of its religious area.

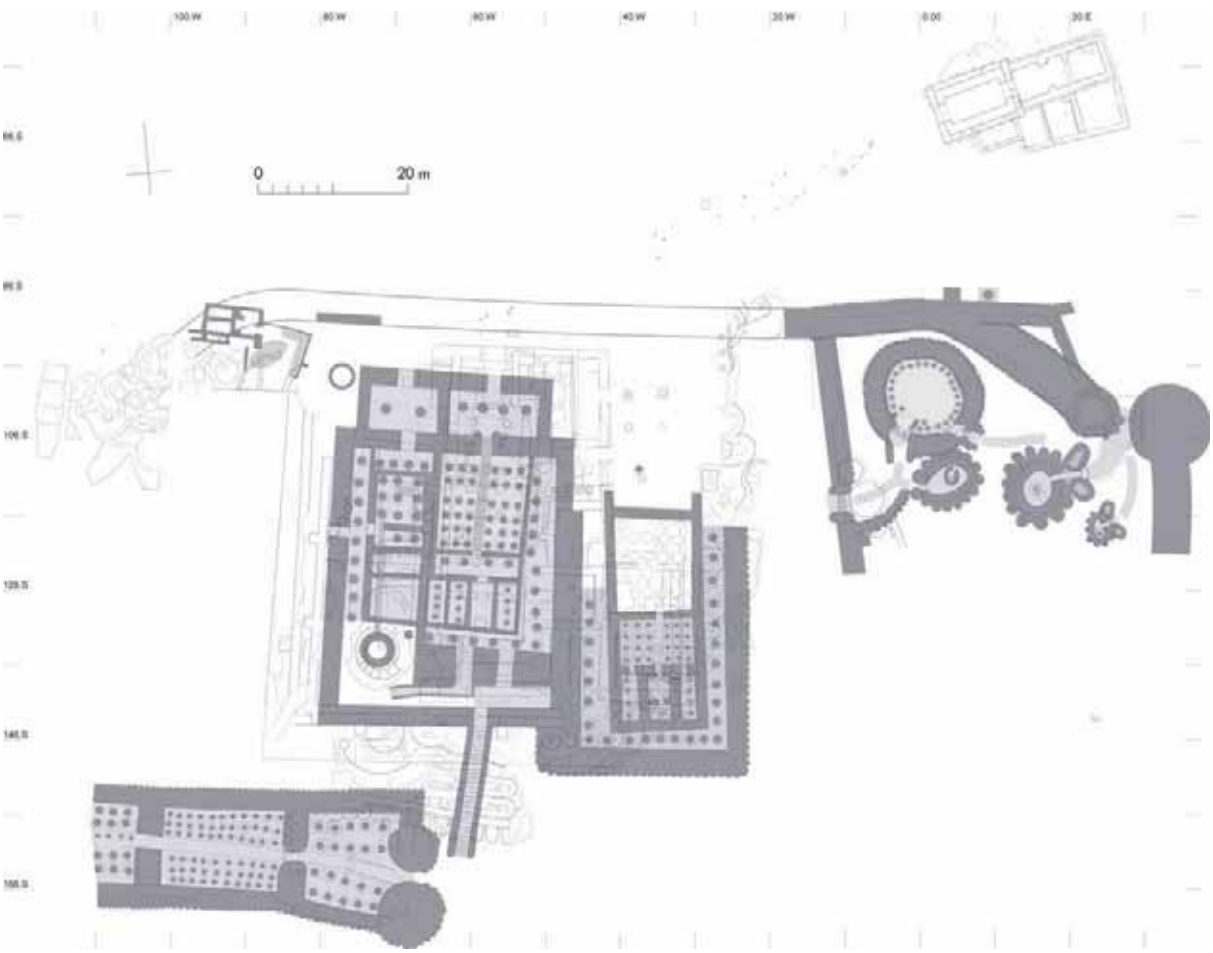


Figure 19 | Plan of the Nubian quarter and the Egyptian official complex of Tuthmose I[st].

The Egyptian town

The Egyptian town founded by Thutmose I comprises at least three temples protected by a precinct and a large building outside of it to the south-west. A long staircase would link it to the central temple. There were certainly other subsidiary constructions. The plan of these temples, characterized by the presence of a peripteral portico, suggests that these features, reminiscent of some monuments of Hatshepsut, already existed during the reign of her father Thutmose I (fig. 19 and 20).

The western temple

Under the brick pavement of the western temple dated to the reign of Hatshepsut were found the traces of a former state, represented by nine mud brick column bases belonging to a hypostyle hall, and by a wall running alongside the peripteral portico cleared during our last season. A column belonging to the pronaos was also spotted. The subterranean passage leading to the neighbouring well was already in use during this first state, as it would open onto the hypostyle hall, and a door in the side wall enabled to reach the peripteral portico.

Figure 20 | General view of the remains of the eastern temple

The eastern temple

Since we had already identified the Meroitic, Napatan, Ramesside and Amarnian phases, we didn't expect to discover an earlier state in the area of the sanctuary, since the latter had been partially invaded by a Nubian defensive line, as we found out last year. This season, we were very surprised to notice traces of orthogonal structures in places which had been cleared by the eolian erosion. These traces can be seen about 20 cm under the Nubian fortifications. We concentrated our work on this level, which could be related to the works commissioned by Thutmose I. The structures uncovered represent the southern half of the plan of a first temple built in mud brick, consisting in a tripartite sanctuary preceded by a hypostyle hall and surrounded by a peripteral portico. Ahead of the hall were found layers of sandstone fragments and negative imprints of columns, indicating that other elements dating back to the reigns of Thutmose I, Thutmose II or Hatshepsut are yet to be discovered.

The entrance axis towards the sanctuary was underlined by a brick-paved avenue showing a slight angle. The hypostyle hall comprised six rows of four columns, the foundations of which, made of mud brick, reach deep into the ground. Their proximity implies a much smaller diameter in the upper parts. Many post holes seen in the soil heaps of this level pertain to strengthening works carried out during the building process. The regular series of very small holes, with a diameter of 1.5 cm, which underline the perimeter of the concentric circles forming the foundations, may have been used as construction markers. They are found in very large amounts.

The central aisle would lead to a vestibule used as antechamber ; a thick wall would separate it from the holy of holies, which measures 2.75 m by less than 2 m. Wall benches were found on three sides. On the main axis, four steps would reach a quadrangular base with rounded angles, which was covered by a thick coating of silt, as were the lateral sides of the stairs. On this slightly decentred base was built a circular foundation, with a diameter of 90 cm. Made of several concentric mud rings, it was probably meant to support the base of an altar or a naos. In front of the entrance door, to the west, is found another mud foundation, with a diameter of 30 cm, which is probably related to the presence of a vessel.

All these developments were also found on the floor, as if drawn by double rows of very small circular holes, probably reeds driven in the ground. In the eastern half of the sanctuary, a deep drainage channel could be followed up to the peripteral portico, which enabled the evacuation of the water used for libations. Restoration works are suggested by post holes on both sides of this channel and in the walls separating the sanctuary and the antechamber (fig. 21).

Each of the two lateral annexes is equipped with a row of four columns erected rather close to the exterior wall, so as to allow an 80 cm wide passage in the space left. Behind the tripartite sanctuary were found the peripteral portico and the wide

Figure 21 | The sanctuary of the eastern temple.

precinct of the temple. This wall was strengthened by small rounded buttresses placed side by side, all of them in the same dimensions. To the south-western corner, the junction with the complex formed by the two neighbouring temples is completed with the same buttresses.

To the north of the sanctuary and of the hypostyle hall were also discovered the foundations of column bases pertaining to a hypostyle hall posterior to the remains of Thutmose I and Hatshepsut. The dimensions of these foundations are impressive: they consist in a circle of mud brick with a diameter of 1.9 m, inside which the bricks are aligned in rows. The inner rectangle probably matches the shape of the bases, which may have been of stone. There was no central aisle and the five rows of five columns would occupy the entire space.

The fortifications of the Egyptian town

In order to prepare the restoration works and the enhancement of the remains of the southern part of the Egyptian town, the excavations were continued on both sides of the staircase connecting the southern door with the central temple (fig. 22). The detailed plan of four bastions could be mapped, as the remains were in a good state of preservation. It is clear that these elements, which may have been erected at the end of the reign of Thutmose I, were enlarged and transformed several times.

Semi-circular facings, consolidated by rather large posts, strenghtened the external walls. Their plan crosses narrow and transverse older bastions which protected the bottom part of the bastions. A thick wall equipped with narrow bastions pertains to one of the last modifications made, probably under the reign of Hatshepsut. We could note that this fortified line would continue for about 50 m before it would turn at a right angle towards the north.

The south-western structure

In front of the southern gate of the Egyptian town is a large building oriented east-west, which was reached through a narrow entrance flanked by two huge towers. The first room, with a trapezoidal plan, comprises four impressive colonnades ; the central passage shows a staircase meant to compensate for a steep slope of the ground. This room would open onto a hypostyle hall with 63 columns, which was entirely cleared during this season. It is followed by a second hypostyle hall, the columns of which were probably also impressive, as their identified foundations have a diameter of more than 2 m. The partly preserved southern lateral wall is 1.85 m thick and is also reinforced by a series of elongated buttresses with rounded ends.

Figure 22 | Southern part of the fortifications after restorations.

This huge building seems to have gone through a violent destruction, as suggested by a huge sapping pit dug under the lateral wall, traces of reddening and a layer of ashes and charcoal covering the remains of the hypostyle hall. The dimensions of this construction, as well as its location, closely connected with the central temple by a long staircase, suggest that it was related to the works carried out under the reign of Thutmose I. The style of the buttresses, identical with the one observed in the eastern temple, also supports this idea. As to the purposes of the edifice, it was probably a building depending directly on the sovereign and perhaps related to the government.

A ceremonial palace ?

In 2002, we had cleared to the north-east a palace associated to the Egyptian temples by an avenue paved with sandstone slabs, probably built under the reign of Thutmose III. The excavations carried out to the north of the Nubian religious complex enabled us to identify a column base made of mud brick, with a diameter of 1.80 m, built next to a thick wall (1.75 m) reinforced by a series of elongated buttresses with rounded end, of the same type as those flanking the constructions attributed to Thutmose I. Also surprising was the presence of a structure older than the palace of Thutmose III, which was probably destroyed by the Nubians during a rebellion or a return to power, and then rebuilt by a successor, some 10 or 20 m away.

The Nubian religious complex

During these last years, we could establish that the two oval temples were surrounded by fences which were progressively reinforced or doubled, thus enlarging the protected area accordingly. The discovery of large bastions of a military type, which were apparently leant against an older wall marking the northern limit of the Nubian complex, confirms that the relations between Nubians and Egyptians slowly deteriorated, which led to the proliferation of defensive devices on both sides (fig. 23).

A Nubian ceremonial palace ? The clearing of a new circular monument, with a diameter of about 15 m, was undertaken to the north of the oval eastern temple. Its mud brick wall, 2.20 m thick, is flanked on both sides by small buttresses made of galus, with vertical posts reinforcing the structure. Against the inner wall, there was still a crown of columns, each with a diameter of 0.75 m, which supported a probably cone-shaped wooden roofing (fig. 24).

Two doors, marked by towers, would open to the south : the larger one, to the south-west, would lead to the western oval temple, whereas the second one, less than 1 m large and placed to the south-east, would lead to the area of the main gate of the Nubian complex and of the eastern oval temple. Three door pivot holes have also been noticed in the earthen floor. On the same spot, but in a level corresponding to the Napatan period, we had found a deposit of earthen jar stoppers, some of them

Figure 23 | Detailed plan of the Nubian complex.

bearing seal imprints, in a wooden structure. It would therefore not be impossible that this circular edifice played a similar role, i.e. a ceremonial palace connected with the temple (fig. 25).

The main gate to the north-east

The main gate of the Nubian complex, investigated this season, is made of two huge circular structures, with a diameter of nearly 6 m. These two « towers » mark the limit of the precinct of the Nubian agglomeration. In each of these structures, circles of galus were noticed, which would surround the square beams meant to reinforce the structure. The opening proper consists in two small towers with a diameter of 1.40 m, used as door uprights and perhaps topped by an arch. We also identified a doorstep and two door pivot holes in the earthen floor. A staircase with slightly convex steps would lead to a pathway lined with a double fence marked by a large number of negative postholes. This path would lead to the entrance of the eastern oval temple.

Figure 24 | Detailed plan of the ceremonial palace.

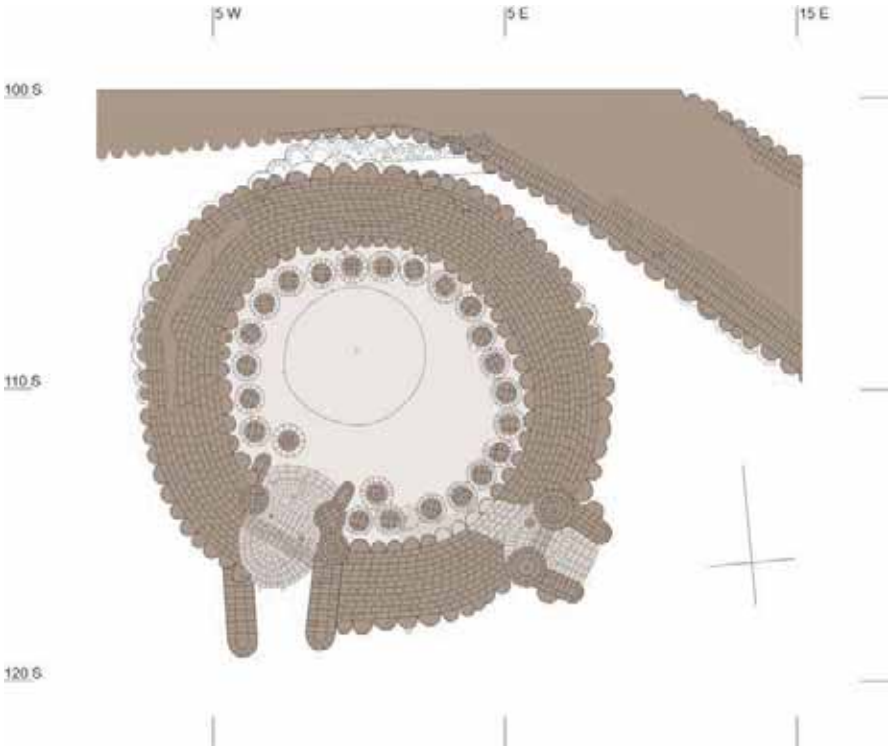


Figure 25 | General view of the ceremonial palace connected with the temples.

The ceramic material gathered during the 2010-2011 campaign at the site of Dukki Gel comprises approximately 4,500 sherds from the three main excavation areas.

To the south-west of the Egyptian temples, the clearing of a large building oriented east-west, which was started during the previous campaign, only yielded about 10 % of the material, mainly sherds from the earthworks of the 25th dynasty and the Napatan period. The structures cleared, which can be dated by the relative chronology to the early pharaonic occupation, only gave a few belly fragments probably belonging to New Kingdom jars. A bronze bowl, apparently silver-plated on its inner face, was laid upside down on the floor of the hypostyle hall cleared (fig. 27.17). A large amount of the sherds comes from the Nubian religious complex, to the east of the site. Most of the pottery comes from two main locations: the fortifications with semi-circular bastions of the western part of the complex and the gate uncovered in the recently cleared precinct to the north-east of the eastern Nubian temple. Finally, a few fragments come from the circular structure cleared this year (fig. 28).

Figure 26 | Common Nubian ware from the local temples.

The very homogeneous material is made of jars, often covered with a red slip (fig. 27.1 and 27.8), sometimes decorated with vertical lines obtained through burnishing (fig. 27.2 and 27.3), beer jars, conical bread moulds, rough-shaped plates reused as censers (fig. 27.13), bowls or plates with various shapes, but often covered with a pink or red slip, with a horizontal or slanting burnishing inside (fig. 27.11 and 27.12). A first assessment of this thrown ware (except for the bread moulds) indicates that it is made of a NILE B1 and NILE B2 fabric. Along with it is also found a common Nubian ware which was not thrown (fig. 27.7 and fig. 26).

Two similar ensembles were found during the preceding campaigns, to the west and east of the complex (Ruffieux 2010 : 27). In spite of the peculiarities of this pottery, comparisons with Egyptian ensembles of the early 18th dynasty are possible, especially for the processing of surfaces (see notably Seiler 1999 : 208, fig. 46.2 ; Bourriau *et al*. 2005 : 104-105, fig. 3). On the first discovery of this kind of material, its presence seemed restricted to the perimeter of the Nubian religious complex, the pottery found in the Egyptian temples being apparently more in accordance with the common typology of the 18th dynasty. But some bowl and jar fragments decorated with a red burnished slip were found among the many sherds from the area of the eastern Egyptian temple, clearly connecting the two types of pottery.

Indeed, the rest of the material studied this year comes from the eastern Egyptian temple. In the northern quarter of this excavation area, where part of the hypostyle hall of the temple built by Thutmose III was cleared, the rather heterogeneous religious material shows the different phases of occupation during the 18th dynasty, from the Amarna period back to the reigns of Hatshepsut and Thutmose III. In the inferior stratum of this area, the material of which seems contemporaneous or anterior to Thutmose III, one can note the presence of a rim of an amphora, probably of Canaanite origin.

In the other three southern quarters, one could reach more ancient levels, as the hypostyle hall and the sanctuary cleared apparently date back to the beginning of the pharaonic occupation of the site. The religious aspect of the ensemble is in accordance with the function of the place : plates and bowls with red rim or with red slip and black rim (fig. 27.9) – a type of decoration which appears in Upper Egypt in the Second Intermediate Period, see Bourriau 1992: 136 – beer jars (fig. 27.16), « flower pots » beakers, censers (fig. 27.15), jars (fig. 27.18 and 27.5) and conical bread moulds. A plate entirely covered with a red slip showed an unusual pattern of rather broad black stripes arranged in a star shape on the inner face (fig. 27.10). Two fragments were even discovered in the naos of this ancient temple : the rim of a small globular jar decorated with an exterior red slip (fig. 27.4) and the bottom of a pot, probably a beer jar, the bottom of which was not perforated (fig. 27.19). Again, most of the vessels are made of an alluvial silt of the types NILE B1, NILE B2 and more rarely NILE C.

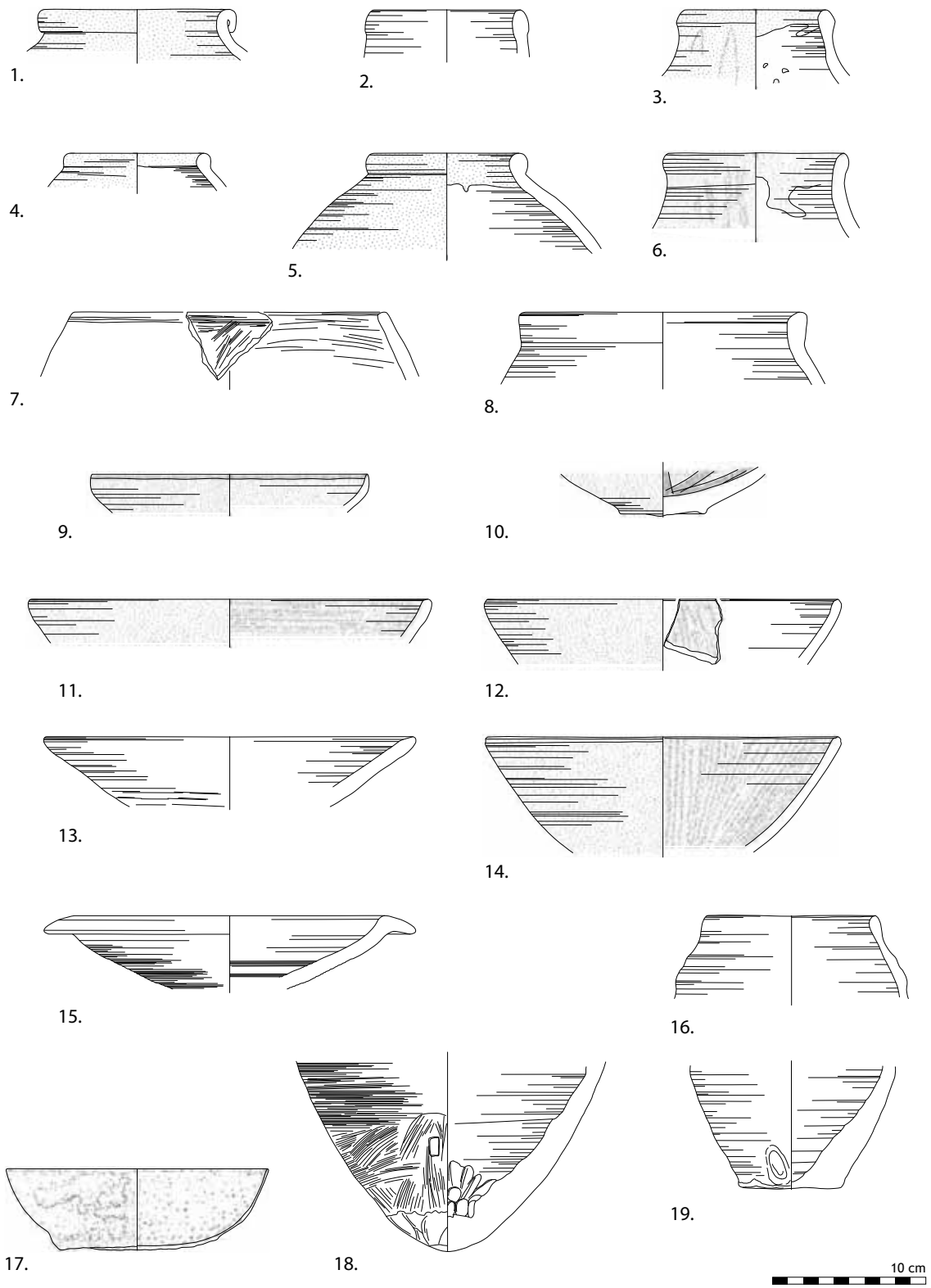


Figure 27 | Pottery found at Dukki Gel.

An important proportion of Classic Kerma ware (up to more than 15 % in some groups) also gives an idea of the age of these ensembles (fig. 29). Moreover, some shapes are well attested in the Nubian town of Kerma (see Privati 2004, fig. 143.10) as well as in the western necropolis (royal burial, see Privati 2000, fig. 134.6 and fig. 135.5). From the levels of Hatshepsut and Thutmose III onward, the Nubian pottery is only scarce, and disappears completely during the second half of the 18th dynasty. As mentioned earlier, one will also note the presence of sherds of ware with red slip and burnishing (fig. 27.6 and 27.14), which was so far restricted to the sector of the Nubian complex.

The main part of the Egyptian pottery found this year is thus distributed among two ensembles : the first, with a peculiar character, apparently pertains to a local trend and is mainly attested in the Nubian complex; the second, more in accordance with the typology already known, comes from the pharaonic complex. Both of them are found with Nubian pottery – of a common type in the local sanctuaries and of a finer Classic Kerma type in the Egyptian temples – and belong to the same period. They bear witness to the complex relations of the Egyptians with the inhabitants of Kerma at the beginning of the pharaonic colonisation under the reigns of Thutmose I and above all Thutmose II.

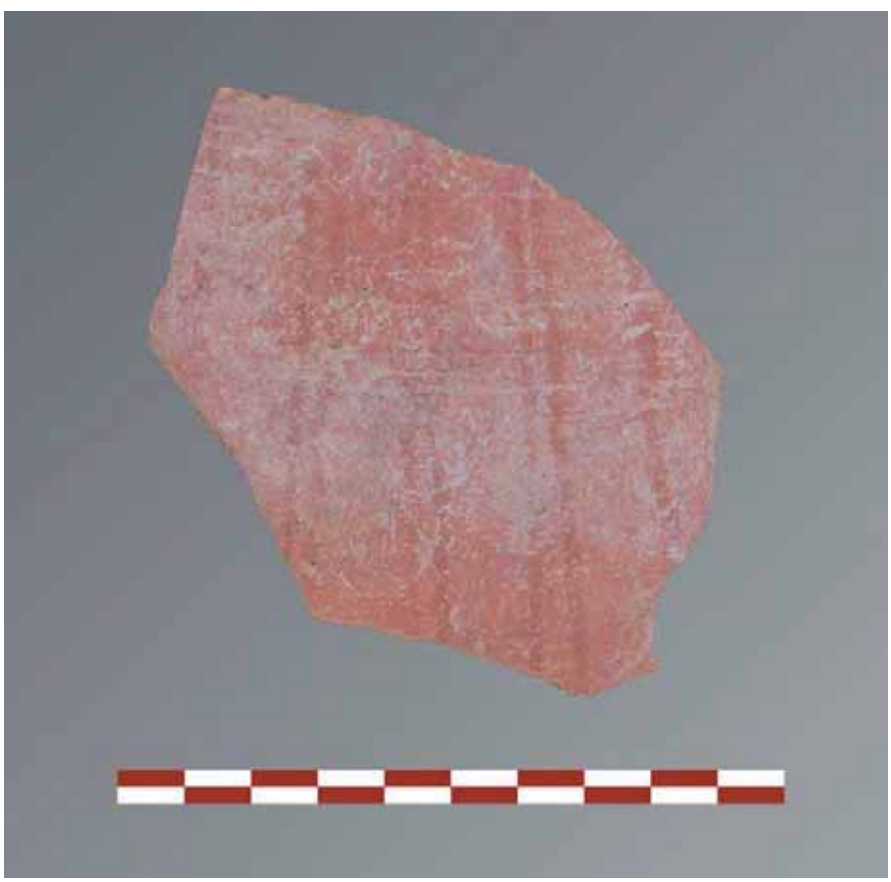


Figure 28 | Fragment of a red slipped and vertically burnished jar from the circular Nubian structure.

Figure 29 | Classic Kerma and common Nubian ware from the eastern Egyptian temple.


20cm

Previously limited to the study of a few inscriptions discovered by the Swiss Archaeological Mission during excavations at Kerma proper, the role of hieroglyphic epigraphy grew in importance in the winter of 1997-98 with the opening of a new excavation site by Charles Bonnet at Dukki Gel.

An inscription, carved on a cup dated to the end of the 25th dynasty or the beginning of the Napatan period, was discovered in 1979 during salvage excavations at a tomb located in a schoolyard in the modern town of Kerma (Bonnet & Valbelle 1980). As the first object collected in Kerma featuring the name "Pnubs" within the title of a priest of the local Amun god, the cup was considered a promising clue in the location of this toponym. A few years later, a mirror bearing the titles and the name of a late Old Kingdom Egyptian princess was brought to light in the grave of an elderly man dated to the Kerma Ancien; and a roughly cut stela in the name of two expedition leaders - unquestionable evidence of the travels of these two Egyptians to Kerma - was discovered in the foundations of a Kerma Moyen chapel, north-east of the western deffufa (Valbelle 1990; 1992). The paucity of inscribed monuments, amongst which must be included those imported from Egypt that were discovered by G. Reisner, demonstrates indisputably that writing was not employed in the kingdom of Kerma.

Of these, the statues of kings and private individuals of the Middle Kingdom and the Second Intermediate Period were the subject of a study and an international workshop. The Museum of Fine Arts in Boston, which counts in its collection a huge amount of fragments of these statues excavated by Reisner, actively participated in this research (Valbelle 2002; 2011; Bonnet & Valbelle 2010). Immediately upon starting the excavations at Dukki Gel we were faced with a completely different situation.

In addition to the discovery of sixty-four new fragments of Egyptian statues predating the New Kingdom and belonging to the above-mentioned corpus, the archaeological campaigns have brought to light some fifteen fragments of New Kingdom statues, seven monumental statues of the 25th and Napatan dynasties, numerous stelae and the remains of reliefs of all the temples in the town founded by Thutmosis I at the beginning of the 18th dynasty less than one kilometre north of the town of Kerma, and reconstructed until the Meroitic Period (Valbelle 1999; 2001; 2003a; 2005; 2007a; 2009).

The seven monumental statues deposited in the cachette situated between the central temple and the eastern temple were the subject of a paper presented at the Académie des Inscriptions et Belles-Lettres (Bonnet & Valbelle 2003) and a monograph (Bonnet & Valbelle 2005). Beyond the artistic interest of these statues,

Figure 30 | Reconstructed stela from Dukki Gel, dated to Year 3 of Aspelta's reign.

the inscriptions on the back pillars and the bases reveal the name of the local god and, at the same time, the name of the town: Amun of Pnubs. During this same 2003 campaign, the discovery of two other monuments of the first half of the 18th dynasty also bearing the name of Amun of Pnubs allowed the definitive attribution of the name of Pnubs (the "jujube tree") to the site of Dukki Gel, and to resume the study of this toponym (Valbelle 2003b) as well as that of the local cult of the ram, the sacred animal of this god (Valbelle & Bonnet 2003).

The recording and documentation of the blocks and their decorated fragments – numbering 1,144 so far – progressed simultaneously with the excavation of the temples built and rebuilt during more than a millennium at Dukki Gel. The epigraphic remains were the subject of several papers presented at the Académie des Inscriptions et Belles-Lettres (Bonnet *et al.* 2000) and at various conferences (Bonnet & Valbelle 2000; Valbelle 2006a; 2008; in press a). Fragments bearing remains of royal cartouches provided precious chronological markers for tightening the stratigraphy of the site.

Although no stone reliefs could be directly linked to the construction level contemporaneous with the founding of the city, it could be dated to the reign of Thutmosis I[2] based on its relation with the subsequent levels where fragments of the cartouches of Thutmosis II and Hatshepsut were identified. These discoveries, associated with the clearing of the temple remains of the early 18th dynasty at Dukki Gel, greatly contribute to the history of Upper Nubia (Valbelle 2006b; 2007b; in press b). Among the blocks that reveal the architectural contribution of the majority of the rulers of this dynasty, let us note the presence of the southernmost decorated talatats of Nubia. The study of these documents is currently in progress, in collaboration with J.-M. Yoyotte.

More recently, our efforts concentrated on the comparative study of two stelae dated to Year 3 of Aspelta's reign: one from Sanam and in the collection of the Musée du Louvre, and the other broken in several pieces and recovered during several campaigns at Dukki Gel (fig. 30). Both stelae, erected within a month of each other, commemorate the visit at the two temples of a delegation of dignitaries composed primarily of the same individuals. The orthographic differences noted between the inscriptions of the two stelae are rather revealing, both of the two scribes' work (one undoubtedly Egyptian working at Sanam, the other Kushite at Dukki Gel) and the writing of Napatan anthroponyms and toponyms in Egyptian hieroglyphs (Valbelle in press c).

2. The two cartouches of Thutmosis I found in other levels were most likely associated with representations of this king in the later temples of Hatshepsut and Thutmosis III.

Marc Bundi

MUSEUMS, MEMORY AND MEANING: POLITICS OF IDENTITY AND REPRESENTATION IN THE CONTEXT OF SUDANESE ARCHAEOLOGICAL MUSEUMS

The present article is based on an ongoing PhD project that aims to study the politics of identity and representation in the context of two archaeological museums in Sudan – the first in Khartoum (Sudan National Museum) and the second in a small town situated 600 km north of the capital (Kerma Museum). The approach of the project is anthropological in the sense that it departs from an understanding of the museum as a 'culturally' shaped institution, i.e. an institution shaped by discourse and ideology.

The foundation of the first museum in Sudan in 1904 dates to the British colonial period. Since the early years of its existence, the museum displayed items related to Sudanese material culture. The ethnographic objects procured through colonial conquest originated mainly from the peripheral and remote areas of the country, whereas for reasons related to the history of discovery and colonization, the archaeological finds originated mostly from excavations and surveys in the Nile Valley. While the ethnographic objects were regarded as 'cultural indices' testifying to the living traditions of indigenous peoples, the archaeological artefacts were important regalia for the secular colonial state. In this way Anthony Arkell, the first Commissioner for Archaeology and Anthropology for the Sudan, argued "the importance of archaeology for creating a national history to which the Sudanese people could relate" (Trigger 1994: 334).

The incipient dichotomization and hierarchization in the interpretation of cultural heritage in favour of archaeological artefacts and monuments from the Nile Valley increased in the aftermath of independence and was linked to the discoveries made in the context of the great Nubian campaign. While the archaeological finds were transferred to the newly constructed building of the Sudan National Museum on Nile Avenue, attempts to relocate and enlarge the Ethnographic Museum failed. Inaugurated in 1956 as branch of the Sudan National Museum, it was reorganized and reopened under the direction of the German ethnologist Lothar Stein in 1972 at its original location in a former officer's club (Stein 2010: 300). In 2002, the Ethnographic Museum was administratively separated from the Sudan National Museum and renamed Sudan Civilization Institute. While the National Corporation for Antiquities and Museums (NCAM) is a well-established institution with several dozens of employees and an appropriate budget, the Sudan Civilization Institute is rather marginalized and neglected. In this sense, the dichotomization between 'tribal societies' and 'high civilizations' is closely mirrored in the politics of museum display and representation.

Figure 31 | Local visitors to the Kerma Museum

However, the dichotomizing and hierarchizing view on the Sudanese past is increasingly challenged both by scholars and representatives of civil society. For instance, critical voices call attention to the paradox that although Nubia is portrayed in museum contexts as the cradle of Sudanese civilization, the Nubian language and cultural heritage are verging on extinction. They further call for a fair and equal representation of all people and societies in order to come up with ICOM's (International Council of Museums) definition of a museum as a "permanent institution in the service of society and its development" (point 3 of the statutes of the International Council of Museums).

In a comparative perspective between the Sudan National Museum (seen as the repository of national history) and the Kerma Museum (which aims at tracing the history of the area and Upper Nubia, fig. 31), the proposed study will explore the moments and strategies of how hegemonic forms of representation are perpetuated and/or challenged within museum practice and discourse. It is against the background of these considerations that the following working hypotheses prove to be fruitful:

The traditional understanding of museums as promoters of national unity is inextricably linked to hegemonic ideologies of representation. These prevailing ideologies of colonial institutions and policies persisted after independency and are only gradually challenged by scholars and activists from civil society. The following quotation by Edward Said best illustrates the role of intellectuals in this process: "The intellectual's role is first to present alternative narratives and other perspectives on history than those provided by the combatants on behalf of official memory and national identity – who tend to work in terms of falsified unities, the manipulation of demonized or distorted representations of undesirable and/or excluded populations, (...)" (Said 2001: 34). This understanding of the intellectual's role is akin to Antonio Gramsci's concept of the 'organic intellectual' (Gramsci 1971: 6 *sqq*.) as the one who negotiates the contrast between thought and action.

The conception of the museum as an institution that shapes and manipulates cultural heritage in order to reify constructions of national culture and identity is giving way to an understanding of the museum as a 'contact zone' or a 'civic laboratory'. On the one hand, this hypothesis draws from James Clifford's view on museums as being involved in "an ongoing historical, political, moral relationship - a power-charged set of exchanges, of push and pull" (Clifford 1997: 192, his emphasis). The museum as a 'contact zone' (in opposition to the model of the museum as a frontier) is a space of ongoing exchange, negotiation and communication between museum authorities and community groups in which both sides need to make adjustments. On the other hand, the hypothesis builds on insights from Tony Bennett's conception of museums as civic and reformatory apparatuses (Bennett 2005: 539). The value of this conception, according Bennett, "depends on the light that such an analogy is able to shed on the modus operandi of museums as technologies that, by connecting

specific forms of expertise to programmes of social management, operate in registers that are simultaneously epistemological and civic" (Bennett 2005: 522).

A critical evaluation of the above-stated hypotheses will strengthen the connection between theory and practice in the context of museum ethics and might have a direct implication on the daily practice of museum work and heritage management by enhancing the capacity for self-reflexivity of the various actors involved in the domain of heritage-making and heritage management in Sudan.

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