Prehistoric and Historical Burial Sites in Sudan: Theory and Methods of Interpretation

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Abstract

This study aims to present theoretical and methodological models and interpretive data applied to the study of burial sites in Sudan dates to the prehistoric and historical periods (specifically between 13,000 BC and 580 AD). The study indicates the limitations of the archaeological methods and theories used as research foundations for studying these burial sites, despite their fundamental importance in exploring ancient social practices. Moreover, the study discusses the views of some early researchers who relied on the principle of the theory of cultural change, diffusion and migration in interpreting early burial sites in Sudan..

Keywords: ancient burials - prehistory - historical period - Sudan - archaeological theories and methods

المستخلص

تهدف هذه الدراسة إلى تقديم النماذج النظرية والمنهجية والبيانات التفسيرية المطبّقة على دراسة مواقع المدافن في السودان خلال فترات ما قبل التاريخ، والفترة التاريخية (تحديدا ما بين ١٣٠٠٠ قبل الميلاد و٥٨٠ م). تشير الدراسة إلى محدودية المناهج والنظريات الأثرية المستخدمة بوصفها أسسا بحثية لدراسة هذه المدافن، على الرغم من أهميتها الجوهرية في استكشاف الممارسات الاجتماعية القديمة. علاوة على ذلك، تناقش الدراسة وجهات نظر بعض الباحثين الأوائل الذين اعتمدوا على مبدأ نظرية التغير الثقافي، والانتشار والهجرة في تفسير مواقع المدافن المبكرة في السودان.

الكلمات المفتاحية: المدافن القديمة – ما قبل التاريخ – الفترة التاريخية – السودان – نظريات علم الآثار ومناهجه

This paper was presented for the first time in Arabic in 2004 at the Union of Arab Archaeologists conference in Cairo and published in Arabic in 2006 (Sadig and Elhassan. 2006). The study contributed greatly to understanding many of the methodological and theoretical aspects of studying burial sites and the key role it played in the emergence and development of archaeology, especially in Sudan. The study provided a detailed explanation of the methodologies and interpretations that were developed to study burial sites in Sudan in the prehistoric and historical periods, with a special focus on the incorrect analyzes produced by the theory of diffusion at the end of the nineteenth century, which remained circulated in foreign and Arab literature about the origins of the population and their cultural role in the Nile Valley. We believed that publishing a revised and updated version in English would provide greater understanding to a wider range of readers around the world to understand the methodologies and theoretical explanations about prehistoric and ancient burials in Sudan.

In its early days, archeology was based on work on large-scale burials. Working in cemeteries has contributed to understanding cultural development and revealing the nature of many ancient cultures and civilizations. The cemeteries also preserved many more collectibles and archaeological finds than the settlements, which contributed to revealing this picture. Sudan was not an exception to this. Most of the early archaeological work in Sudan focused largely on excavating tombs, especially those surveys and excavations that took place in the northern part of Sudan, which contributed to establishing an approximate chronology of the history and civilization of ancient Sudan and shed light on many of its secrets.

In general, the cemeteries contributed to identifying multiple aspects of Sudan's history, extending from the Upper Paleolithic Age, until the period preceding the introduction of Christianity in Sudan, that is, the period extending from 13.000 BC to 580 AD (Figure 1).

This long period of time witnessed multiple types of burials, including mounds with simple, side or multiple pits, or rooms and *mastabas*, and pyramids. It has often been explained that the group of tombs and their internal and external structures may be evidence of the end of a period and the beginning of a new period in the history of ancient Sudan. For this reason, burials were given special treatment in archaeological research, and are referred to as one of the key features in distinguishing ancient cultures and civilizations. Hence, there are many approaches to studying burials. These approaches to interpretation and analysis were based on many archaeological and anthropological theories with multiple and disparate orientations.

1. Prehistoric Burials:

The oldest burials were uncovered in northern Sudan in Lower Nubia, at the sites of Jabal al-Sahaba (Wendorf, 1968a) and Al-Jazira Debrossa, near Wadi Halfa, and Toshka (Wendorf, 1968b, 869-875), and were attributed to the Qadan culture (according to site

called Abd al-Qadir), and dates to about 13,000 to 8,000 BC.

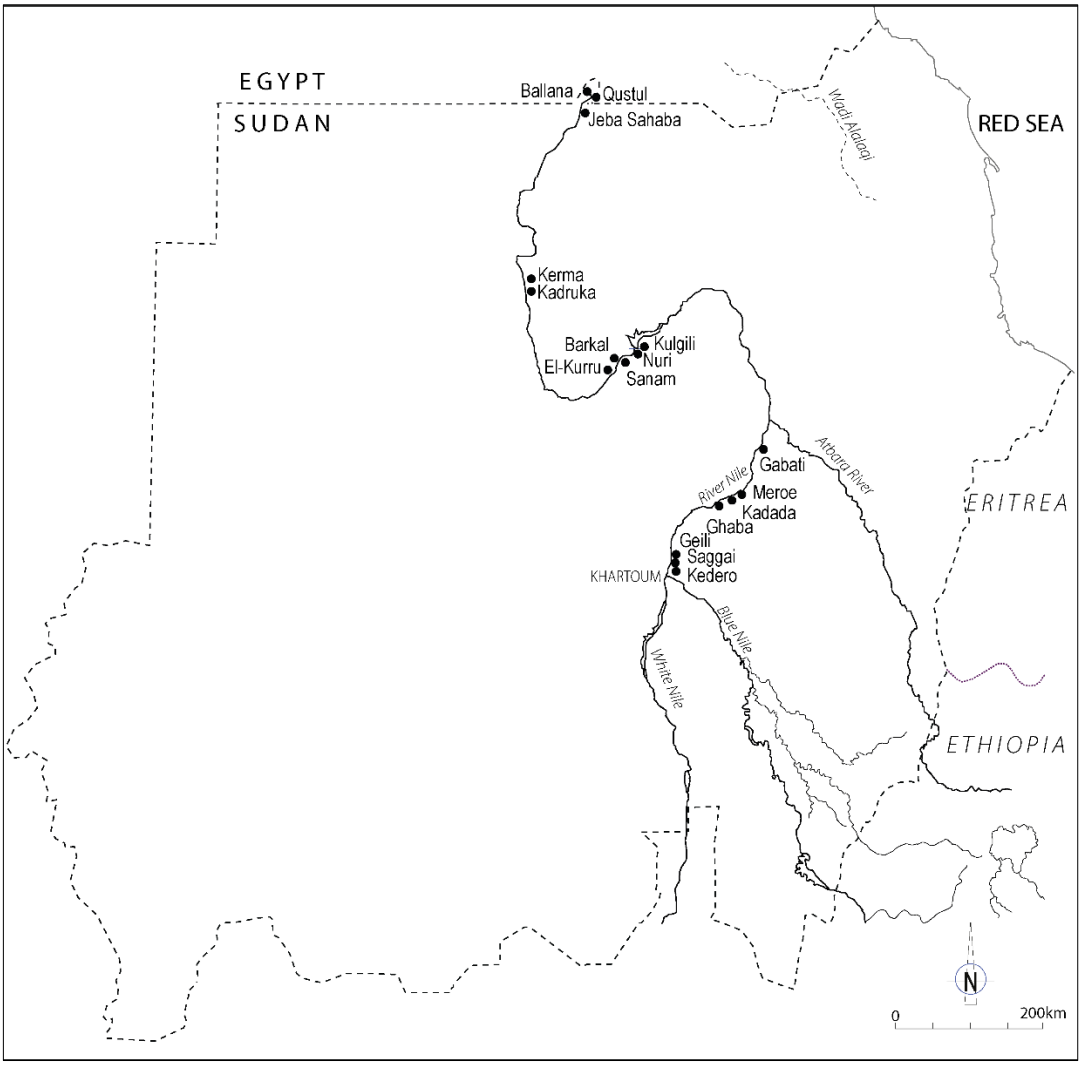


Figure (1): Some of the burial sites mentioned in the text.

The most famous of these burials is the one found near Jabal al-Sahaba, 3 km from Wadi Halfa, known as Site 117 (Figure 1, 2 and 3). This cemetery contains 58 skeletons of both sexes, and evidence indicates that at least 6 individuals buried in that cemetery died as a result of some violence, as 116 stone tools were found near 24 skeletons, 6 of which were inside the bones of those skeletons, which was interpreted as an indication of the outbreak of conflicts and territorial disputes between groups in that period (Wendorf, 1968b).

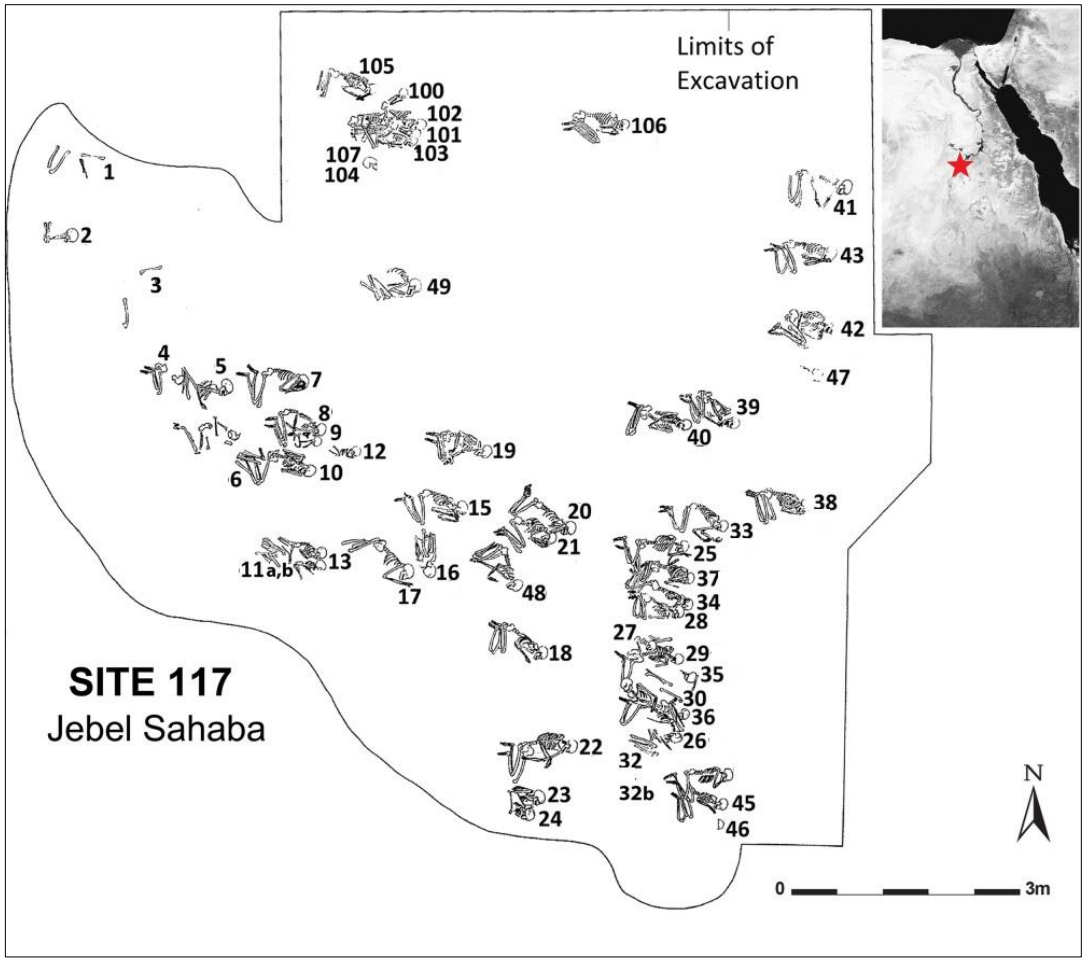


Figure (2): Location of the Jebel Sahaba cemetery, Site 117, and a general plan of the burials, showing the locations and positions of the skeletons (modified from Crevecoeur etal 2021 and Wendorf and Schild, 2004: 9)

These three groups of burials were among the most important discoveries of the prehistoric missions working in the International Campaign to Save the Monuments of Nubia (1959-1966 AD), as they are among the oldest burial evidence ever in the aforementioned region. It also formed a new basis for the history of archaeological research in Lower Nubia, which until the date of this campaign had largely neglected any of the Stone Age periods. Stone Age studies were introduced for the first time into the field work program despite doubts about the difficulty of finding important discoveries. One of the most important missions that conducted prehistoric studies was the Combined Prehistoric Expedition (CPE), which worked in a wide area extending from the Sudanese-Egyptian border in the north, to the south of the Second Cataract, and uncovered the aforementioned burials.

The approach followed by this mission was consistent with the difficulty of the task

entrusted to it, especially since there were many factors that affected the work of this mission and others, the most important of which was the breadth of the region. In addition, there was no other expedition working in Stone Age sites except the Scandinavian Joint Expedition SJE. There are other factors that affected the final results of the joint mission, as most of its members came to Lower Nubia for the first time from multiple countries, diverse backgrounds, and with little experience with the problems of African antiquities. In addition, the region itself was archaeologically unknown in the field of the Stone Ages, and the prevailing belief in the literature was that it had no contributions to that period. Therefore, it was a good opportunity to apply new methods and techniques in research. In most cases, field techniques followed western approaches, which were usually modified year after year.

According to Wendorf (Wendorf: 1968a), the basic unit of research is the collection of common tools from sites, which is called an Assemblage. The various assemblages are grouped into units according to the qualitative and technical similarities between them. He called these units industries, and it is believed that they reflect a degree of cultural homogeneity of a human group.

The Jebel Sahaba cemetery received increasing interest from the mission because it was the first cemetery found in Sudan from the Paleolithic period to contain such a large number of skeletons. Therefore, it was completely excavated, but in a noticeably short time, as allowed by the limited time for rescue work in the area, and because the mission is committed to covering the largest possible area through surveying and excavation. In every case, all the skeletons were carefully studied and their locations in the cemetery, their directions, and their position during burial were determined, and then the sex and age of each skeleton was determined (Wendorf 1968a, Wendorf and Schild, 2004).

Qadan is one of the most important Upper Paleolithic industries in Lower Nubia (13,000 to 9,000-8,000 years ago), which is characterized by microlithic stone techniques and residential camps near the river. Sites were small at first and then became larger in size. Archaeological remains also indicate a greater focus on large animals and fishing. For the first time, grinding tools are found as an indication of the importance of grinding wild grains. Tombs consisting of deep oval pits that were sometimes covered with slabs of stone, the most famous of which were those found near Jebel Sahaba, and in the Toshka area.

This cemetery of Jebel Sahaba was ultimately interpreted as a result of dispute or the outbreak of a conflict for several reasons, based on the adhesion of some stone arrowheads to the skeletons in which it was assumed that some of their owners died as a result of a fight. These results contributed to identifying several ideas related to the size and social structure of the human groups that existed in northern Sudan at that time, and the nature of the relationships between these groups. Perhaps the most interesting in this regard relates to the violence, the results of which were evident in a number of skeletons. But the conclusion reached by the mission was that violence was a very normal occurrence in the region at that time, given that this cemetery was ideal for this incident, and for reasons related to the environmental changes that prevailed at that time (Muhammad-Ali, 2003, 10-14).

Figure (3): Archival photograph illustrating the double grave of individuals JS 20 and JS 21 with pencils indicating the position of associated lithic artefacts. © Wendorf Archive, British Museum.

Despite the comprehensive exploration operations in Lower Nubia at that time, no burials from the Paleolithic period were found, and in fact no burials dating back to that period were discovered in the whole Sudan. This cannot be explained unless it is related to the research processes themselves and their methods for uncovering or exposing burial sites. This complete absence of Paleolithic cemeteries prevailed in every region of northern Sudan, until Neolithic cemeteries were revealed in the Kadruka and other sites near Karma.

On the other hand, archaeological exploration and research in the central Sudan region provided a few cemeteries dating back to the Mesolithic period, or what is known as the Early Khartoum period (about 8000 - 5000 BC), in which burial customs differ greatly from the cemetery of Jebel Sahaba. The most important of these differences is the absence of any super structure for the grave and the absence of grave goods except in a few cases, as in Saggai (Caneva, 1983: 21-24) and the Khartoum Hospital site (Arkell, 1949: 31-35).

Due to the lack of data related to the dead, such as the contents of the grave and burial rituals, the Mesolithic cemeteries did not receive adequate detailed study or a clear approach to obtaining information related to ancient society. The focus was instead on studying the settlements and their contents and studying ancient technologies and their regional parallels. Also, little consideration was given to studying bone evidence except in

specific cases (Arkell, 1949; Caneva, 1983).

In his excavations at the Khartoum hospital site, Arkell found several tombs under or near the dwellings. The tomb is a simple pit in which the dead are placed in a contracted position, with no convincing evidence of any sacrifices or grave goods. Arkell has noticed that the upper incisors have been removed from most of the skulls, which are similar to some of the southern Nile tribes who remove the lower incisors.

South on the White Nile, two tombs dated to the same period as the Khartoum Hospital site were excavated at Shabona (Clark 1989).

More than 100 burials have been recorded at El-Khiday 2 (16-D-4) dating back to the Pre-Mesolithic period (<9500->7000 cal BC). Most of them are simple graves containing elongated structures without any grave goods except for a single ivory bracelet (Salvatori et al. 2011). In northern Sudan, a cemetery dating from 7800–7000 cal BC was found containing fifty burials at el-Barga (Honegger 2006).

In general, there is little funerary goods in most of these excavated tombs. Often there is a suspicion that it is intrusive to the tombs. Grave goods mostly contain Mollusc shells, Nile oysters, bone tools, grindstones, and ostrich eggshell beads. Haaland (1993) pointed out the presence of a gazelle skull near the Damer site tomb on the Atbara River, and Arkell (1949) found a piece of pottery under one of the skulls.

It has been possible to identify more complex burial customs in Neolithic sites (5000 - 3000 BC), as evidenced by excavations at the sites of Kadero and Geili north of Khartoum (Krzyzaniak, 1992; Caneva, 1983) and Al-Ghaba and Kadada near Shendi (Reinold , 1987-1991). Most of these burials are characterized by the presence of superstructure that is often made of a low mound, or a pile of irregular stones, while the dead is buried in a contracted position in a circular or semi-circular pit, and is decorated with many jewelry, bracelets, necklaces, pottery vessels, polished axes, and stone coloring plates, bone and stone tools are placed next to it. Skulls of cattle and the skeletons of dogs and sheep were also found in some graves, the function of which remains unknown and may indicate the importance of these animals to society and funerary rituals. In addition, burials containing two or three individuals were found, which was explained by the practice of the custom of human sacrifices, which spread widely in a later period, especially in the period of the Kerma civilization (2500 - 1500 BC).

On the evidence of the first excavations at Shaheinab, Arkell suggested that Early Neolithic people were not burying their dead. Only since the late 1970s have significant numbers of burials been excavated in the Khartoum region, in the Shendi region, and at Kadruka, el-Barga, R12 and Al Multaga in Dongola region.

Other Neolithic cemeteries together with occupation scatters have been located along the Nile west bank north of Dongola by S.T. Smith (2003, 165). Further south, east of

the Fourth Cataract, a total of 282 Neolithic sites, including graves, have been located on the Nile right bank between Karima and Khor el-Dagwali (Paner and Borcowski 2005, 91), but there has been no systematic excavation, or any detailed publication of the materials collected during the survey operations. Other Neolithic graves are documented in the Umm Melyekta Island. A total of 19 Neolithic graves have been excavated, but data from only one has been published (Fuller 2004). Infant pot burials beneath the floors of domestic houses or within the cemeteries are also found in sites dated to the Late Neolithic, especially at el-Kadada and es-Sour (Sadig 2005).

The Neolithic cemeteries provide us with a remarkable record displaying many similarities and testifying to a common link between the cultures along the Nile. There are, however, variations that may be interpreted as different modes of evolution or different regional adaptations. These cemeteries display many points in common, especially in material culture. The similarities and differences seem to translate to homogenous populations and indicate a fast evolution of the social order of the human groups.

What also distinguishes the Neolithic burials is that they have received special attention from archaeologists, as they are the basic complement to understanding Neolithic society and its customs, especially since they are an essential source for this type of study. Because of this interest, there have been many approaches used in studying graves and their contents. These approaches can be summarized in the following examples:

1.1. Kadero Cemetery:

In his excavations in the Kadero 1 cemetery north of Khartoum, Krzyzaniak (Krzyzaniak, 1992: 267-273) focused mainly on funerary furniture or grave contents (Figure 1, 4). He specifically aimed to identify social variation among Neolithic populations and the emergence of complex societies in the region. The early Kadero burials were divided on this basis into four categories according to the richness of the funerary furniture. Attention was also given to the spatial distribution of these graves in the cemetery. The application of this approach, however, depended largely on the breadth of the cemetery and the number of graves that could be studied. In other words, it is not feasible to apply it to a smaller number of cemeteries that do not allow clear boundaries for the differences in burial forms and rituals, depending on the funerary furniture.

After continuous studies in the cemetery that continued for more than 30 years, it was possible to identify the social composition of the Neolithic inhabitants of the region, as reflected in the Kadero cemetery, as consisting of four social classes, headed by the group whose graves were the richest graves with funerary furniture, and which called (the elite) (Krzyzaniak: 1992: 270).

The descriptions of these classes are:

- Class I is composed of 38 burials (69%). These graves contain no furnishing. They contain only skeletal remains of both sexes and children of different ages.
- Class II is composed of 4 burials (7.2%). They contain a single pottery vessel in each grave with skeletal remains of both sexes and children of different ages.
- Class III numbers five graves (9.2%) and they contain one to three pottery vessels and/or utility ware, necklace of carnelian beads and other small personal adornments including small lumps of malachite/amazonite. They also contain skeletal remains of children.
- Class IV comprises eight graves (14.5%) which are demonstrably the richest in this cemetery. Their furnishing comprises fine pottery vessels, as well as beakers, personal adornments, and weapons. These graves contain skeletal remains of six adult males, two females and one child (Krzyzaniak. 1992: 270)

Krzyżaniak argues that the concentrated burials as found in the graves of Class IV and most of the graves of Class III represent "the graves of the individuals belonging to the elite of this Neolithic group" (Krzyżaniak. 1992: 270). The graves of Class I and Class II, on the other hand, seem to "belong to the individuals belonging to the lower part of the social pyramid of this group" (Krzyżaniak. 1992: 270).

At Kadero I cemetery, where the quality and quantity of grave goods has been used as an indication of social status, it may be that social status also played an important part in determining the location of the graves and their orientations. The graves of Class IV ("upper class") occurred in a clear concentration and are located away from the graves of Classes I and II ("lower classes"), with most of the graves of Class I close to those of Class II.

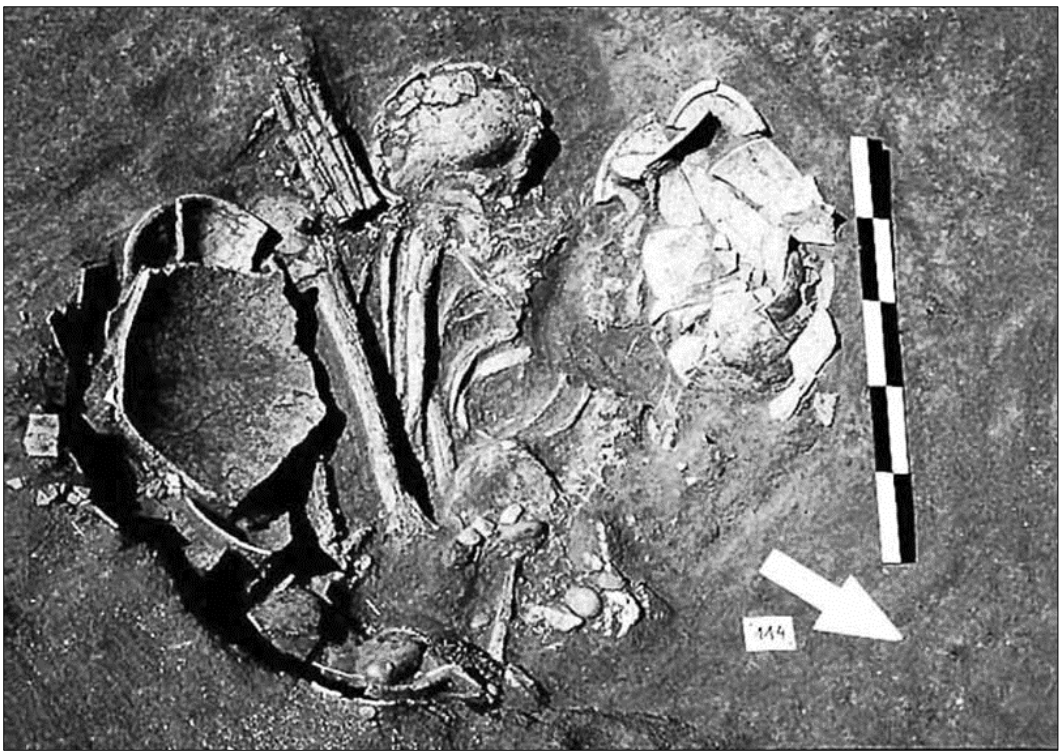
The factors that govern the distribution of grave goods are not yet clear, but it is quite possible that social status played a key role in the distribution of grave goods in the cemetery of Kadero I. For example, mace heads, fine pottery vessels, personal adornments made of ivory and semiprecious stones were not in widespread use but seem to have been confined to the richest tombs.

This means that Krzyzaniak based his theoretical approach on two principles: the quality and the quantity of funerary furniture, in order to analyze the social position of this group, which may also indicate that the social position plays an important part in determining the location and directions of the grave. The factors governing the distribution of funerary furniture are not clear. However, we may assume that social status must have played a key role in this distribution, especially since most of the luxury items such as mace-heads, special pottery vessels, and personal adornments made of ivory or semi-precious stones were found in specific graves.

Krzyżaniak has used this finding to suggest that the presence of a mace- head in a male's grave, when it is associated with other types of outstanding grave goods, is a symbol of power (Krzyżaniak. 1978: 169). While this kind of artifact was used as an indication of a chiefdom (Krzyżaniak. 1992: 271), the emergence of human sacrifices, the increasing

complexity of the graves and their grouping in clusters in el Kadada and el Ghaba are all factors which point to "a non-egalitarian society" or units reflecting corresponding social (family or ethnic) associations (Geus. 1991: 57-73; Reinold. 1987: 17-67).

It is possible that the variations in the Kadero I cemetery are due to factors suggested by Krzyżaniak. If confirmed, this would suggest that the emergence of a food-producing economy led to a new type of social organization.



(Figure (4): Rich Neolithic grave at Kadero (source: Krzyzaniak 1978.)

2.1. el Ghaba and el Kadada cemeteries:

A slightly different approach has been taken at the cemeteries of el Ghaba and el Kadada (Reinold. 1987: 17-67; 1991) (Figure 1, 5). More emphasis has been given to the social aspects in the analysis of the two cemeteries. Preliminary study of the graves was undertaken with the objective of analyzing cultural aspects. Subsequently, a series of attributes were analyzed and used to reconstruct a model of burial customs which reflects a degree of social complexity. The analysis was based mainly on the organization of the graves within the cemetery. Groups with either stratigraphic or topographic relationships were recognized. These groups were considered to be units reflecting corresponding social (family or ethnic) associations. The presence of peculiar vessel types and animal and possibly human sacrifices were also regarded as essential elements.

At el Ghaba the deceased wears the ornaments used for adornment during his life and to which he probably attributed prophylactic powers. Different objects surround the dead, referring to their lifetime activities or social ranks. The whole cemetery seems to have developed along strictly chronotopographical lines, a likely indication of an egalitarian society structure (Geus. 1991: 58). The same was observed in the cemetery of el Kadada, where the female pottery figurines were perhaps one of the most important innovations.

One of the most important observations at el Kadada cemetery concerns the superimposed inhumations of two and three individuals. A comparative analysis of these burials indicates the presence of human sacrifice in those tombs containing three bodies. If confirmed, as Geus said, "this would be the first occurrence of a custom destined to become widespread in later times, particularly in Kerma" (Geus. 1991: 58). Geus argued that the presence of human sacrifices, the increasing complexity of the graves and their grouping in clusters are all factors that point to "a non-egalitarian society in which the elements of social differentiation were beginning to exist" (Geus. 1991: 58).

Figure (5): Tomb of an elite individual with human sacrifice of a youth at el Kadada (source: Wildung (ed) 1997.)

3.1. Kadruka and Geili cemeteries:

A different approach was adopted in the excavation of the Kadruka cemetery (Reinold, 1991: 2) near the Kerma and in the site of Geili (Caneva, 1988, 1994) north of

Khartoum. In these two sites, although two different missions excavated them, there was a clear reliance on the anthropological approach.

New analyses, based on both physical anthropology and bone chemistry, were possible for the cemetery of Geili. Besides sophisticated pottery, including pots with rippled, burnished surfaces and rarely with impressed patterns, the graves contain necklaces, stone palettes for cosmetics, disk mace heads, clay figurines and other objects such as axes or querns (Caneva. 1991: 13). Caneva observes some similarities between the Late Neolithic grave goods and those of el Kadada. She assumed that the Geili group was contemporary and "probably had trade links with that of Kadada, but it belonged to a local population which consistently maintained regional relations in its funerary practices" (Caneva. 1996: 320).

Systematic surveys and excavations along Kerma basin and Wadi el-Khowi, in the Northern Dongola reach, provide us with detailed information about Neolithic burial customs. The number of sites in this region suggests quite intensive occupation throughout the area (Welsby. 2000: 135). Cemeteries currently appear as isolated mounds, in a landscape which is today flat. Seventeen cemeteries have been located; of these only five were evaluated, three were excavated entirely and three are in the process of excavation. Since they cover the 4th to the 5th millennium in date, they inform us about the evolution of the funeral customs and the modifications of the social relations in these first communities to practice agriculture and cattle breeding.

One of the most important cemeteries in the area was discovered at Kadruka, in the Kerma Basin. This consists of medium-sized Neolithic cemeteries, including wealthy graves that have been tentatively interpreted as those of local chieftains (O'Connor. 1993: 13).

The most impressive example comes from cemetery KDK 1 (Figure 1, 6) where, according to its discoverer, grave 131, located at the top of the burial mound, displays the wealthiest grave furniture ever found in Nubia and Central Sudan in a Neolithic context. The other pits have been arranged around it, expanding out to form concentric circles using the first burial as a focus. Reinold did not use this discovery to infer a related territory that would have been controlled by the owner of the grave, but he concluded that such a finding implied expanding societies, in other words, societies with growing territories, which are a prelude to the emergence of kingdoms (Reinold. 1991: 28). The majority of pits are located on the high part of the kom, between contour lines 230.70 m and 231.10 m. The remainder, nearly a quarter of the total, is situated on the lower part at around 230.20 m. Initial observation indicates distribution ordered by gender. The higher are generally male burials, while the lower are female burials (Reinold. 2000).

It is clear that in the Kadruka cemetery, greater attention was paid to analyzing the positions of the funerary furniture in the tombs and the orientation of the body (Reinold, 2000). As for the Geili cemetery, the small number of Neolithic burials prevented any study of this latter type, and instead the cemetery was studied with the help of physical

anthropology and bone chemistry (Caneva, 1988). The recent trend has contributed to identifying changes in the nutritional basis of diverse groups in the same cemetery, and then proposing a model for their specific economic activities and settlement patterns (Caneva, 1994, 82).

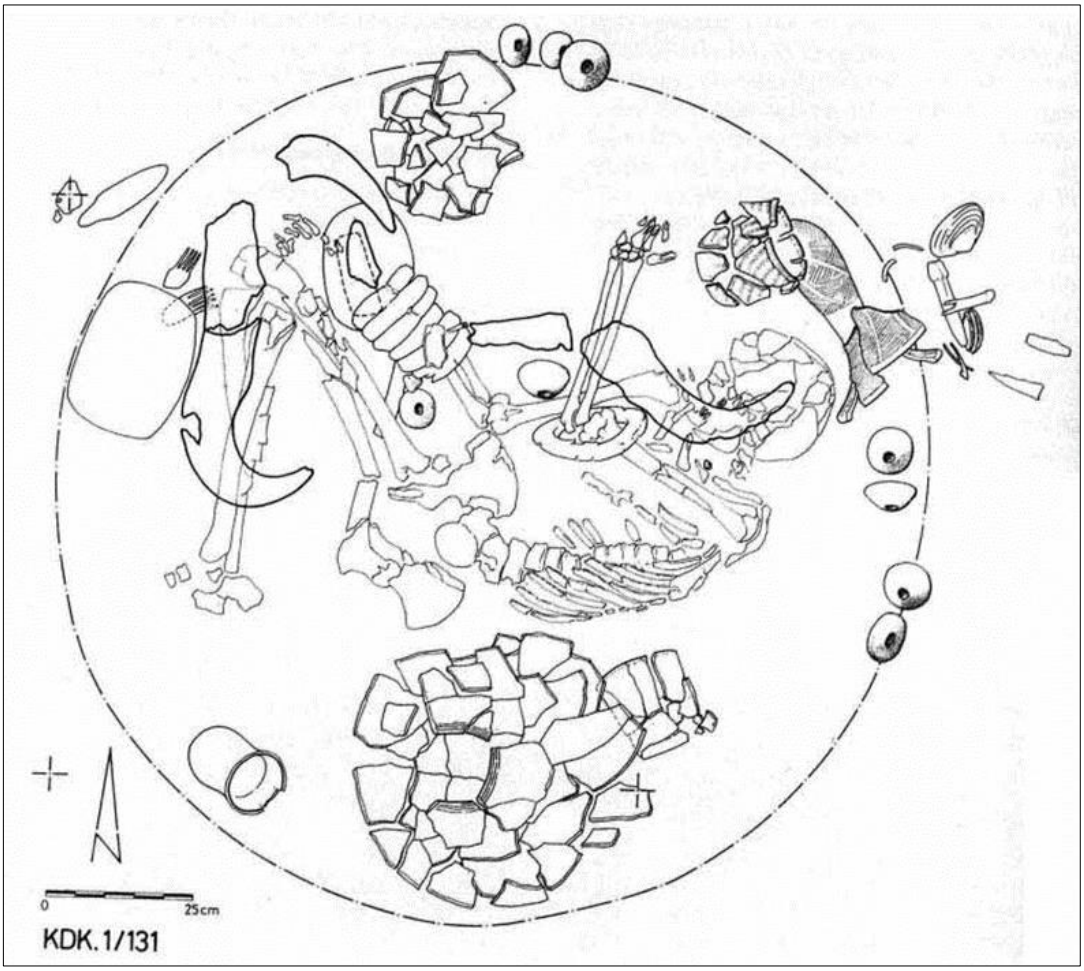


Figure (6): Cemetery no 1 in Kadruka, chieftain's' tomb (source: Wildung (ed) 1997.)

Another cemetery, R12, may give a reasonable picture of a Neolithic Nubian society and may contribute to unraveling problems about the cultural and chronological sequence of the Neolithic in Nubia (Salvatori and Usai. 2008). This cemetery, according to C14 determinations, was used for about 600 years, with the excavation revealing different grave layers, in spite of strong erosion which especially affected the northern and southern periphery in particular. This long use was responsible for graves frequently cutting into each other and for other disturbances. Apart from the risk of mixing of material, careful stratigraphic control often confirmed a chronological order among the different inhumations.

Although a significantly different interest in funerary data has developed in the archaeological world, which focuses on the information a cemetery can offer on both the ideology and the social context of the associated population, the Central Sudan case is slightly different. The Central Sudan examples focus either upon the interpretation of grave goods or upon the distribution of the graves as evidence of the social organization. A combination of the two approaches could be seen in the case of el Ghaba and el Kadada.

The major feature of the burial sites is the occurrence of a few graves with rich offerings, which could reflect some kind of social status. Variations among the grave goods and their social indications were not confined to one cemetery. The Neolithic graves at Kadero I, for example, showed considerable variations in their grave goods; while at el Kadada the animal sacrifices, human figurines and artifacts may indicate ritual and/or social aspects. Human sacrifices, if confirmed, may also indicate the social status of the deceased.

In summary, the following conclusions may be drawn from the Neolithic sites (Sadig, 2004: 61-62, 2010: 215-220):

1. The quality of the grave goods indicates the social status of the deceased. In other words, variability in burial practices reflects variability in social status.
2. It is clear that a process of social differentiation had occurred in the Khartoum area during the preceding extended period of settled life and that the differentiation had been consolidated by the established structure of a pastoral society. Through time, obvious signs of developing and more sophisticated social relations can be observed, as in the differentiation amongst the graves.
3. The cause of death might have played a key role in mortuary treatment (animal sacrifices at the site of el Ghaba).
4. The spatial patterning of graves within cemeteries forms an important dimension of mortuary practices (for example the distribution of graves at Kadero I cemetery).
5. The relationship between sex and age and the quality and the quantity of the grave goods is not yet clear. Moreover, we do not know the relationships between the differently sized graves and the varying quality and quantity of grave goods. This may be due to the dereliction of the researchers rather than the lack of data.
6. The occurrence of child burials inside the settlement may indicate that young children were not considered to be full members of the social group. In consequence, they were buried outside the cemetery (Reinold. 2000: 65). Some graves were furnished with rich goods, such as fine vessels, bucrania and polished axes. These rich grave goods reflect the status of their families in the social group (Reinold. 2000: 73). Yet, the complete absence of such graves in the other sites may be due to:
7. Poor preservation conditions and the poor condition of the bones; natural conditions might have destroyed the children's cemeteries.
8. A large number of children may have been buried elsewhere, not in the same cemeteries as the adults.

9. It might be due to the limited extent of the excavations. Many graves in the burial sites have not yet been excavated, and these might contain more children's graves.
10. In the Kadruka cemetery, greater attention was paid to analyzing the positions of the funerary furniture in the tombs and the orientation of the body.

2. Protohistoric Burials:

Credit for uncovering the burials of the first periods of Sudanese history, which will be called here the protohistory (about 3800-1000 BC), goes to the American Egyptologist George Andrew Reisner, who, during his work in Lower and Upper Nubia in the first decade of the twentieth century, was able to formulate a historical sequence of Sudanese cultures and civilizations is still largely acceptable. Reisner, like other early Egyptologists, was one of those who relied heavily on the principle of cultural diffusion, which is the school that believes that cultural change occurs through three main processes: diffusion, migration, or invasion. Based on this principle, and by relying on the burials and analyzing them, Reisner interpreted Sudanese cultures as a product of the spread of Egyptian civilization. In other words, he viewed cultural change as a product of the migration of groups arriving to the region. He also viewed these cultures, which he called the "Nubian Groups" (A, B, C, etc.), as separate social groups, and not a series of developed cultural communication of the human groups themselves. Moreover, Reisner suggested, based on what he believed to be racial differences in the skeletons in the burials, the appearance of two racial groups in the lower Nubia, represented by the names of A-Group, which he attributed to a society that lived in North Africa, which was of the white Caucasian race, and the African "Negro" race group which is mostly what he called B-Group and some skeletons found in the graves of what he called C-Group (Reisner, 1910).

Reisner was one of the Egyptologists who believed that the burial ground was a key and an archaeological tool to the ethnic interpretation of the cultures, and he dealt with it on this principle, without looking at it as a unit like any archaeological site that might reflect patterns of the lives of the ancients, their culture, and their relationships. Therefore, Reisner mixed the practical and theoretical approaches to reach his results. He was the first to lay the foundations for organized field work methods in recording, drawing, and surveying sites, which became the basis for subsequent field work in Lower Nubia and other regions in Sudan (Nordstrom: 1972).

Some researchers later worked (especially during the second and third rescue campaigns for Lower Nubia), through archaeological works and multiple research projects, to modify some of Reisner's assumptions, especially regarding the origin of these cultures (for example, see: Nordstrom: 1972). This was a result of radical changes in archaeological theories, and archaeologists' increasing doubts about racial theory (Adams, 1977). For example, the evidence provided by the second campaign and the third campaign of Nubia showed that society and culture during the period of these cultures were imprinted with purely local features. It also became clear that there was no difference between A-Group and B-Group (Smith, 1966), with a cultural relationship between A-Group and C-Group. In this

context, one of the researchers of ancient Sudanese civilizations, the American William Adams, in his book (Nubia Corridor to Africa), avoided the customary implications of the term "group" and used instead a broader cultural term, which is "horizon," putting the two groups (A) and (B) in one term, which is the A-Horizon (Adams, 1977). Trigger (1965) instead used the term Nubian Phase, to divide these cultures into stages, each with its own characteristics (Trigger, 1965: 17-18).

In fact, the term "group" carries a clear racial connotation. This was clearly demonstrated in Reisner's division of cultures and their origins, according to their cultural impact, development, or decline. This has resulted largely from the findings of anatomist Elliot Smith regarding the racial origins of the skeletons, which were made at the sites themselves rather than in specialist laboratories. In addition, subsequent works worked to strengthen and develop the historical sequence established by Reisner. It has been proven that the cultural similarities between populations far outweigh the differences between them. It has become possible to view it as the result of a continuous process of development. The motivation for the continuity of local culture is internal, and the change in cultural patterns is not due to population migration from outside.

Reisner's interpretation of the burials in Lower Nubia did not differ from his interpretation of the Kerma civilization in Upper Nubia (2500-1500 BC), the main site of which he worked when he returned to Sudan in the years 1913-1916, as director of the mission of Harvard University and the Boston Museum (Reisner, 1923). His research approach was characterized by the same approach as the first, that is, relying on large-scale excavations and focusing on burials to interpret culture. Nor did his original view of local cultures differ. The site of Karma was explained as representing an Egyptian commercial colony under the supervision of the Middle Kingdom, and that the purpose of its establishment was for the rulers of the Middle Kingdom to obtain the products of the regions located south of Kerma (ibid) (Figure 7, 8, 9).

As for the burials, Reisner divided them into four types: the major tombs, which number only eight, the smaller tombs, the middle tombs, and the independent tombs, based on the shape of the outer structure of the tomb and its contents. He also aimed to know the developments that took place in the ancient cemetery. Reisner assumed that the Egyptian occupation had an impact on the population of the region. At the beginning of his work in the southern sector of the cemetery, in which excavation was carried out in a regular manner, he called it the Egyptian Cemetery, while he called the tombs located to the north the Nubian Cemeteries, and perhaps he meant the popular cemeteries because they were characterized by extreme lack of furniture, according to his description.

A long period passed after Reisner, in which no attempt was made to conduct excavations at Kerma until the beginning of the seventies of the 20th century, when the Swiss mission (University of Geneva mission, led by the Swiss archaeologist Charles Bonnet) undertook the task of re-studying the site (Bonnet and Hakim, 1997). The goal of the Geneva mission has been since the beginning is to identify the elements that led to the emergence of

the Kingdom of Kerma in about 2500 BC, and the impact of the Egyptian model on the local Sudanese environment (Ibid, 95).

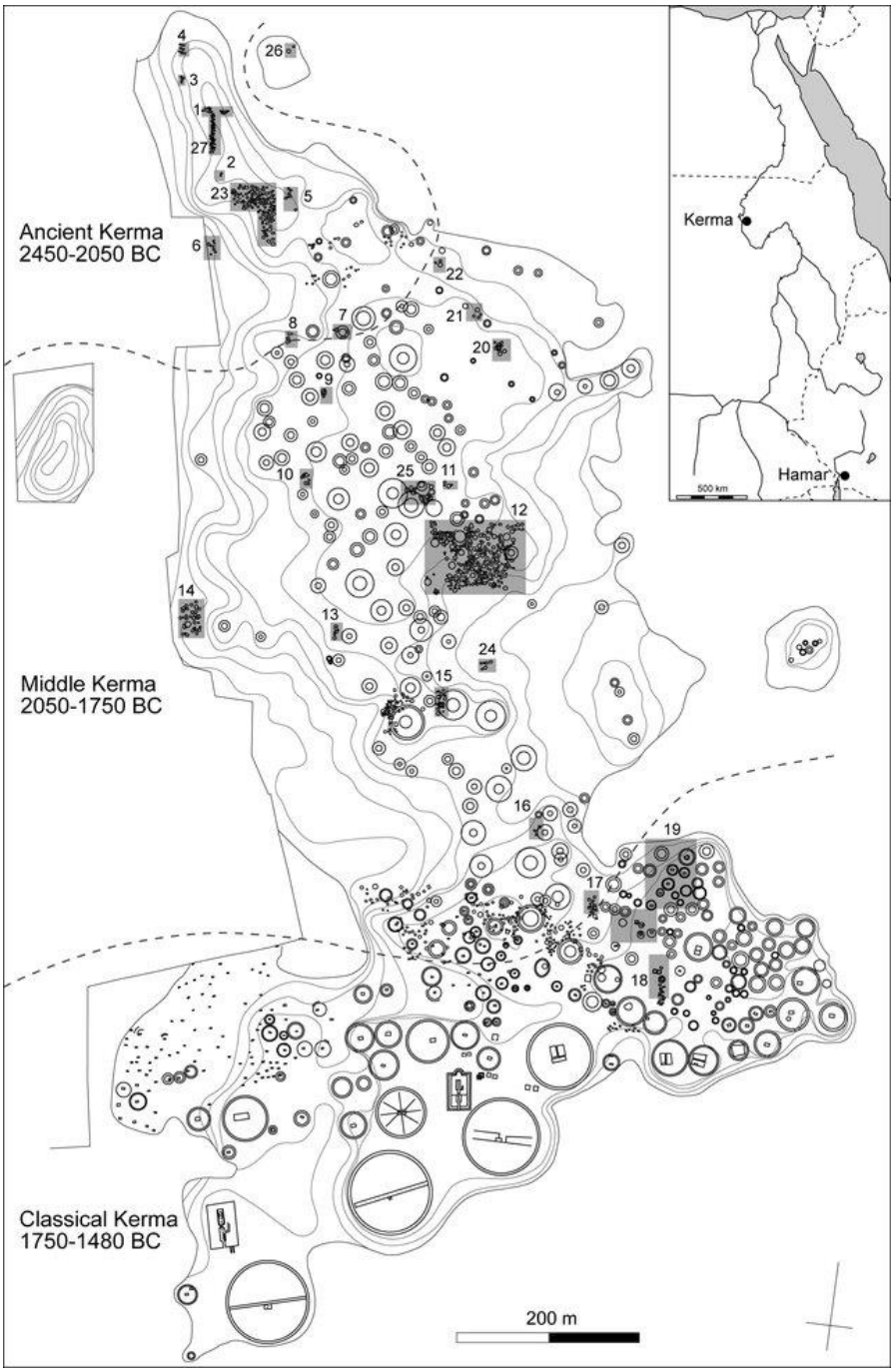


Figure (7): Plan of the Eastern Cemetery at Kerma (Chaix, J. etal, 2012)

Among the most important methods that were used in studying the burials in Kerma are applications of Paleoanthropology through the demographic study includes several variables, including gender, age, death rate, or life expectancy. The mission also paid attention to ancient pathology by relying on monitoring hard tissues, such as bones, teeth, and soft tissues, and using modern techniques, such as microscopic and radiological analysis for diagnosis. Special attention was also paid to studying the condition of the bones. (Taphonomy) to complete the study of bone diseases, which provides valuable information about the environment and the general condition of the bones, especially since it is essential in the study of funeral rituals, in which physical anthropology plays a key role. Many samples were taken to perform various advanced laboratory analyses such as biochemistry, biophysics, amino acids, and other primary elements, then the remains of fats and steroid hormones. Numerous analyzes were also conducted of the contents of the intestines and stomach to determine the type of food, study melanin, which is the coloring substance of the skin, hair, and bones, and trace genetic components (Ibid, 95-96).

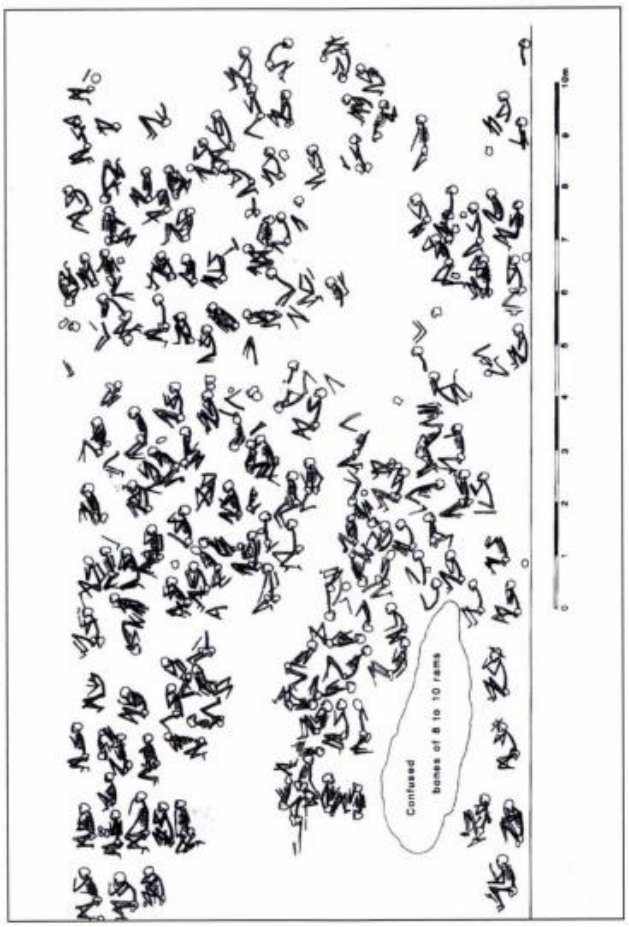


Figure (8): General layout of Cemetery (X) in the Eastern Kerma Cemetery, showing a group of human sacrifices (Reisner, 1923: part III. XXIV)

The studies also included morphological analysis of skeletons, which is the study of the external shape and the composition of its parts. It was also possible to study the development of the cemetery and its funerary customs by analyzing the successive distribution in the funerary environment (ibid: 165).

Anyone who looks at the evidence provided by the Geneva Mission about the Kerma civilization notices that this may have emerged mainly from the approach followed by Charles Bonnet from the beginning, which was a product of the scientific and theoretical development that archeology has witnessed since the beginning of the sixties. Bonnet did not rush to conclude. Rather, he worked to use archaeological techniques and follow his modern methods in excavations and gave equal weight to burial sites and settlement sites. Thus, he was able to identify a large number of archaeological sites surrounding the Karma site. In addition, archaeologists, including Bonnet, began to gradually get rid of the influence of Egyptology, which proved after many years that it was not the appropriate method for studying Sudanese archaeology except with regard to texts or Egyptian antiquities remaining in some parts of northern Sudan. Also, looking at such local civilizations from the point of view of Egyptology greatly hindered reaching the truth.

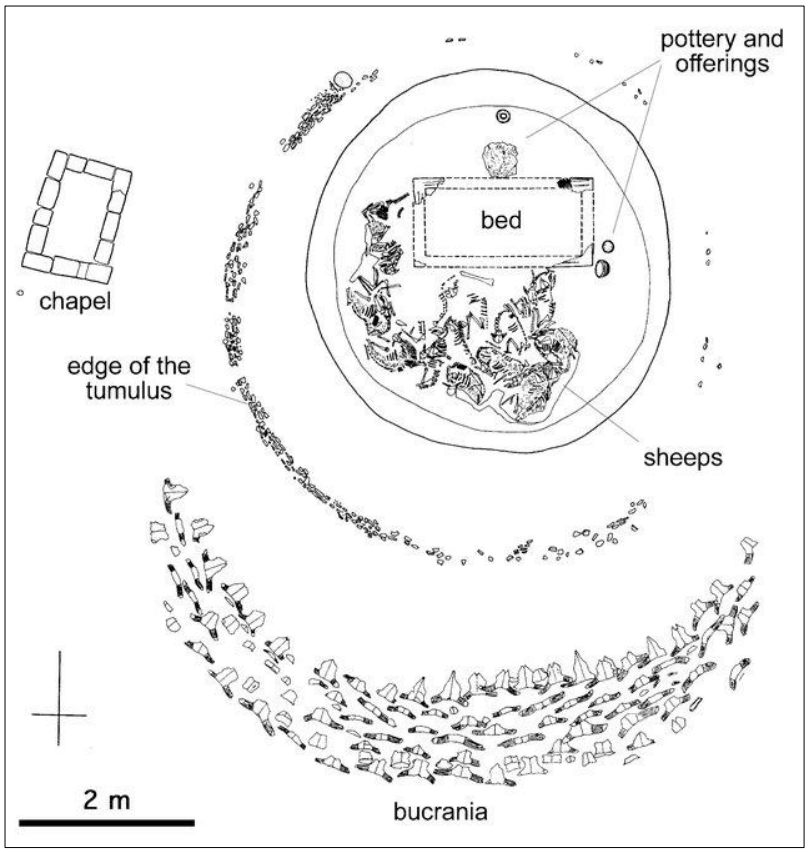


Figure (9): Middle Kerma burial. (From Edwards, 2004: Source: after Bonnet 1986, Fig.17)

3. Historical Burials:

Reisner's work is a separate chapter in the history of archaeological research for the historical period in Sudan. It is considered a pioneering work in the field of studying the Kushite civilization (Napata and Meroe) (9th century BC - 4th century AD).

After excavating the sites of royal burials in Al-Kurru, Nuri, Barkal, and Al-Bajrawiya, Reisner believed that he built the history of the Kushite kingdom based on archaeological evidence. In general, he believes that he succeeded in revealing the historical continuity of the kingdom from the ancestral period until its fall (Reisner, 1919).

Reisner's approach in studying most of the Kushite burials in the sites of Al-Kurru (Figure 10), Nuri (Figure 11), Jebel Barkal, and Meroe was based primarily on the principle of distribution and topographical sequence of the burials. Reisner was mainly interested in the site and the organization and history of the royal tombs. Therefore, he neglected some key features such as social, economic, military and administrative systems. Reisner, too, believed that he was able to determine an approximate history for the royal family of Kush and based his work on some key criteria. For example, he tried to calculate the arrangement of the pyramids and link them to the names of those believed to be Kushite kings. He also gave each king an approximate date. Ultimately, Reisner concluded that the oldest pyramids occupied the best places, and therefore the worst place in the necropolis belonged to the last king in the series. Then, by examining the construction of each pyramid and according to the changes in construction style, Reisner divided the pyramids into groups. He assumed that within them were kings who ruled in succession.

By studying the contents of the graves and comparing them, he concluded that the pyramid and its contents represent the work of one generation of craftsmen, and therefore the craftsmen partly built the tomb of the next king themselves. But at the same time some of these older craftsmen were being replaced by others. Some funerary materials remained unchanged in successive graves, while others differed. Therefore, each successive pyramid contained some material of the same type as the previous grave. Based on the contents of the pyramids, Reisner built his theory that the most powerful and wealthy kings had the best pyramids. On the other hand, after Reisner arranged the pyramids in a successive series and attributed each pyramid to a king, he worked to give them approximate dates for their rule. He based this approximate date by calculating the average rule, which means that each generation of the kings of Kush ruled for 17 years. He tried to be more precise by giving more than 17 years of rule to the kings who were better equipped for their pyramids and less than 17 years to those who were buried in poor, or incompletely built, pyramids (Ibid: 59f).

It is clear that Reisner's approach to arranging kings and their chronology was built entirely on a hypothetical basis. Therefore, this scheme faced many difficulties even in his own assumptions. For example, Reisner faced difficulty in placing the two groups of Barkal pyramids. To date the tombs, he used data from the Jebel Barkal inscriptions, along with other texts discovered in Egypt, and he relied to the following methods:

1. Compare the shapes of the pyramids and their construction methods.
2. He subjected the funerary statues (Shawabti), alabaster vessels, obelisks, and other objects found in or near the pyramids to a classification approach.
3. The classification approach was used to study sacrificial items, including pottery and all possible tablets, whether with or without inscriptions, weapons, and others.
4. Compare the positions of the pyramids (Reisner: 1917).

In the end, Reisner proposed the existence of two independent kingdoms in Napata, an idea that faced criticism from many scholars.

In addition, some researchers did not accept Reisner's scheme in its entirety, including Adams, who doubted the idea of the continuation of the Napata royal family (Adams: 1965). Adams says there are only five pyramids at most. The pyramids of Nuri, Barkal and Meroe can be dated based on direct evidence. Almost half cannot be attributed to a specific king, and the idea that it represents a continuous royal succession seems very weak. Adams is accused of refusing to accept all the written material that was used by Reisner.

It is also clear that Reisner viewed burials as purely chronological determinants. Despite the effort that Reisner made in excavating these cemeteries, he remained dependent in his interpretation of the cemeteries on his theoretical approach through which he established the arrangement of the cultures that he studied during the first campaign. He left behind all the compelling evidence that this civilization differed from its counterparts in the north, whether in some burial patterns, archaeological materials, or the names of its founders, in order to rely on unconvincing evidence and attribute its origins to the Libyans (Reisner, 2019, 28-248). Reisner's belief that those buried in Al-Kurru were foreign rulers is no longer accepted, and it is now more accepted that those buried are members of a local family. Timothy Kendall, who conducted a detailed study of the finds in the same cemetery, argues that Reisner's opinion about the Libyan origin of the Kushite ruling family in Al-Kurru is illogical (Kendall, 1999: 6).

Griffith used another different approach to study Kushite cemeteries, in his excavations in the cemetery of Sanam Abu Dom (1922-1923 AD), which is located on the western bank of the Nile opposite Jebel Barkal. Griffith tried hard to divide the burials into types according to their internal structure. Griffith also strengthened his findings by studying funerary furniture, which proved, despite the dominance of Egyptian elements, the survival of non-Egyptian elements for a long period until the end of the Napata period (Griffith, 1923). The Sanam cemetery is unmistakable evidence of the difficulty of arriving at conclusions regarding the chronological sequence of cemeteries based on the form of the burials alone. Rather, everything related to them must be studied as stand-alone archaeological units. This is an exactly accurate matter, especially since Griffith was dealing with tombs that did not have specific features with regard to the superstructure, which Reisner relied mainly on to prove the chronological development of burials in Al-Kurru and other distinct Kushite burials that he studied. The latter, of course, can also be taken as

evidence that the external appearance of the tomb, in the Kushite Kingdom at least, and the type of funerary furniture have a great relationship with the buried person himself. Therefore, it can be assumed that what is most noticeable in the Meroitic burials is what we can call the principle of social differentiation in burials and the emergence of basic privileges related to differentiation according to age, gender, and lineage within society, and differences related to the rank of the buried himself, especially with regard to power and status. Anyone who looks at the history of burials dated to the Meroitic period notices the clear difference in burial patterns and the complete reliance in many cases on funerary furniture to prove the burial's proportion to a specific period of time. Excavations of the Meroitic cemetery in Gabati, 10 km from Meroe (Edwards, et al. 1995), where the Kushite burial system prevails with a north-south direction, indicated that there is a need to re-evaluate the forms of Meroitic burial, and clarify the difference between it and other forms are followed, especially in the north. This diversity in burial methods is evident in the use of different types of tomb shapes, the limited use of mastabas and pyramids for the Meroitic elite, and the common use of tumuli burials or leaving graves unmarked, especially in the main regions of the kingdom (Edwards, 1989: 41-139; Geus, 1990). Excavations in the margins of the Kushite state in the south, especially at Jebel Moya (Brass, 2018), also demonstrated important developments in burial systems, some of which were not known in many contemporary Kushite sites in the north. At 10ha in size and having yielded more than 3100 human burials, Jebel Moya provides scope for exploring the interactions between local pastoral and external traditions on the southern boundary of the contemporaneous Meroitic state, outside of direct Meroitic political control (Brass 2018).

Reisner used the same methods in studies that dealt with the burials of the period that followed the Kushite civilization, which is known conventionally to researchers as the post-Meroitic period or the X-Group period, according to Reisner's first classification. Reisner learned about this civilization through a group of burials uncovered during the first Nubia rescue campaign. Reisner considered it a new racial group, and Elliott Smith classified it among the Black groups. Its main royal burials were uncovered at the sites of Qustul and Ballana. During the Nubian second rescue campaign, the need arose to re-evaluate the antiquities of this civilization, especially since it contains many elements that were previously prevalent in the Kushite civilization (Figure 12).

The archaeological remains of this civilization were the subject of opinions and discussions that have not ended until today, most of which focused on its origin and ethnic identity without considering its cultural identity. This may be the result of the fact that most of the early researchers and some modern scholars did not view this civilization from the reality of the material evidence available to them, which is the burials, but rather founded their theories by relying on often contradictory classical sources (Emery, 1938, Adams, 1977, Shinnie, 1954, Trigger, 1965). Some other researchers looked at the burials of this period as definite evidence of cultural communication between Meroitic and beyond, and therefore their practical and theoretical approaches came from the reality of the approach followed in studying Meroitic tombs, which we referred to previously (the shape of the internal and external tombs and the funerary furniture) (Lenoble and Sharif, 1992).

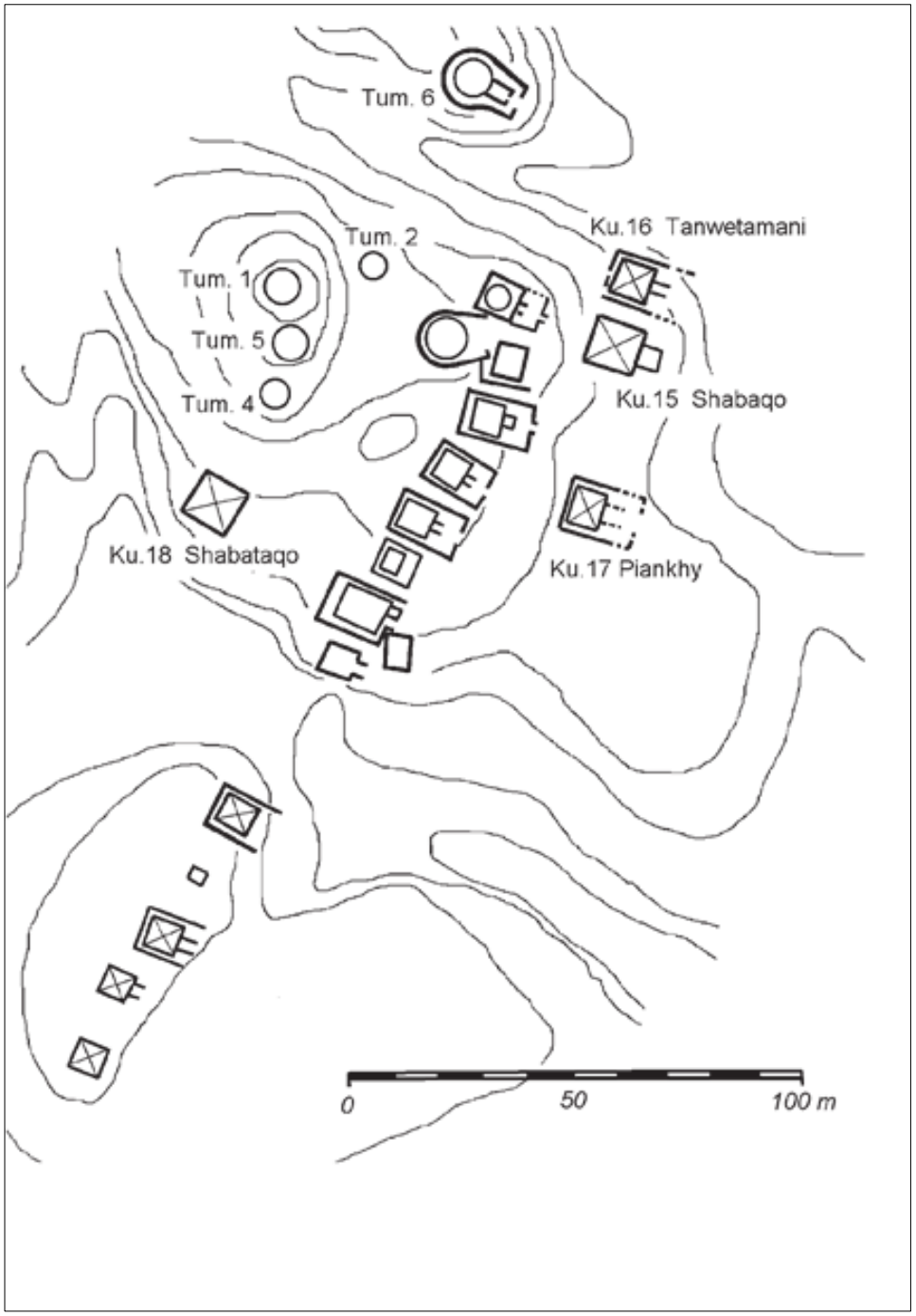


Figure (10): Napatan cemetery at el-Kurru: (From Edwards, 2004: Source: based on Dunham 1950: map II)

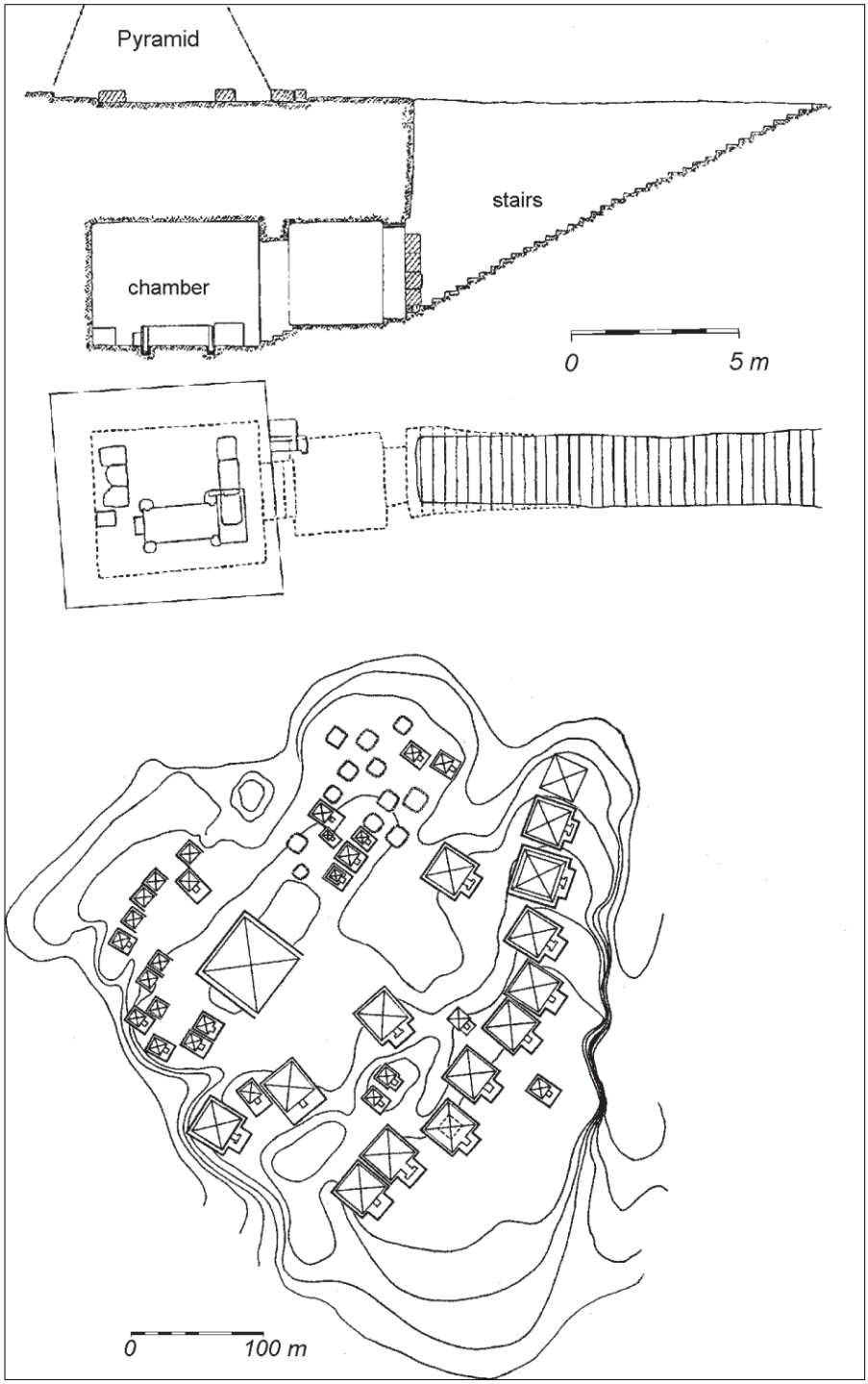


Figure (11): The Napatan Royal Cemetery at Nuri and queen's pyramid at el-Kurru. (From Edwards, 2004: Source: after Dunham 1950: fig.11a)

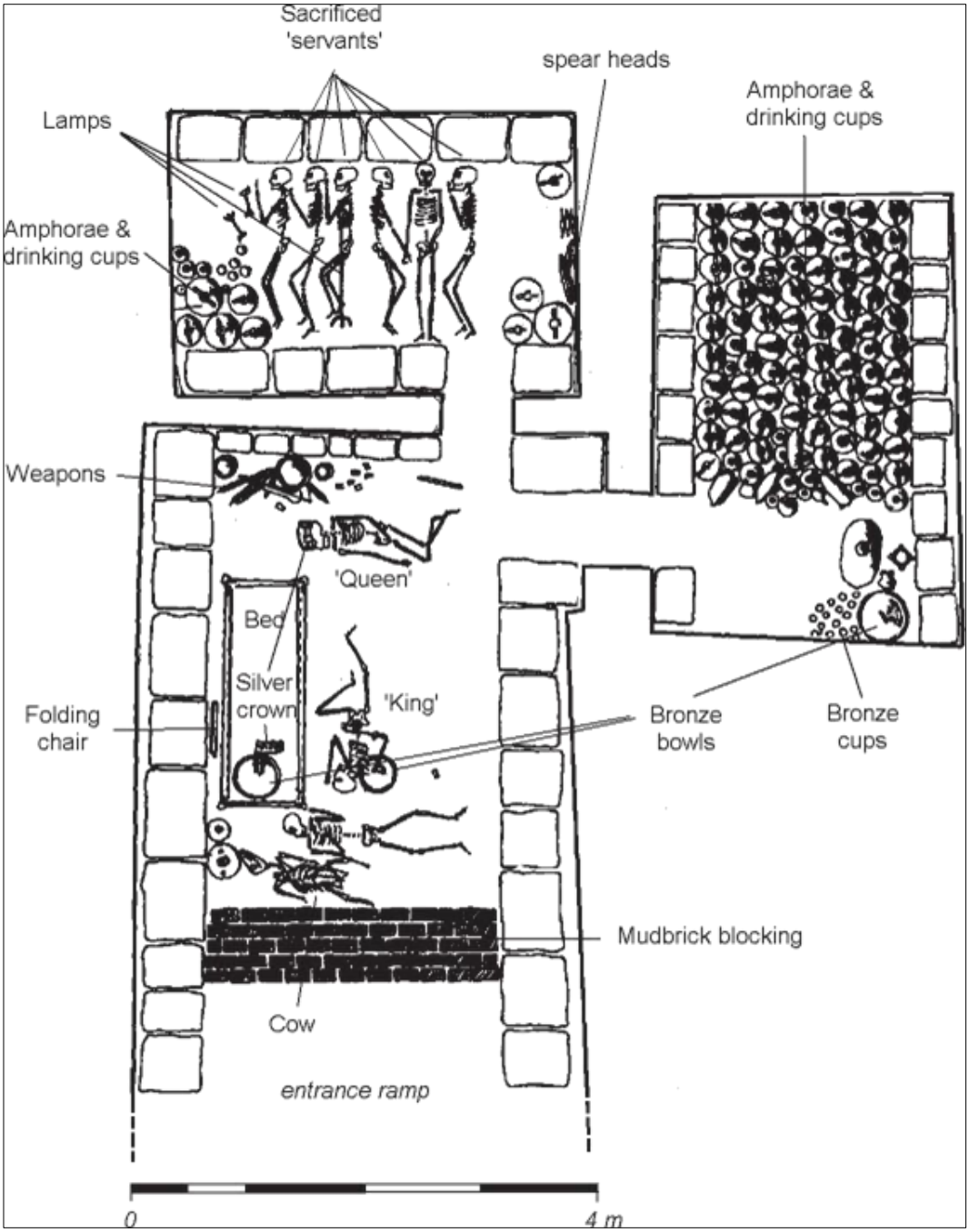


Figure (12): Burial chambers of a royal Nobadian tomb (B.95) of the late 5th century at Ballana. (From Edwards, 2004: Source: based on Emery 1938: Fig. 68)

We believe that the approach followed by one of the researchers of this paper (Alhassan, 2000) in studying funerary rituals in the Haraz cemetery (Fourth Cataract) has proven its usefulness in such studies. The researcher chose variables that he believed shed more light on the reality of the cemetery and provide us with more information, including:

a. The spatial and temporal contexts of the cemetery are the subject of the study, by placing the cemetery within its cultural context whenever possible, which makes it much easier to understand its data.
b. The cultural unity of the cemetery as it represents an interconnected number of units (cemeteries) linked by topographical (spatial) and temporal factors and not individual units.
c. Studying the tomb on the basis that it is an interconnected component in terms of architecture, finds, and skeleton.

In variable (c), the researcher agreed with what Reisner had previously stated, but he linked this variable to the other variables (a) and (c) to produce a better understanding that each of these variables affects one another. If the tomb pit is narrow, for example, circular, or otherwise, this will inevitably affect the position of the dead and the position of the funeral furniture as well.

As for the theoretical approach, it was based on the locations of the graves in the cemetery, and on conducting a comprehensive census of them in order to arrive at hypotheses dealing with population movements in the post-Meroitic period.

Such an approach is considered a comprehensive approach, which deals with the grave as a tool for general interpretation and not for interpreting a specific aspect of culture, which ultimately aims at the history of the culture in question and the interpretation of the phenomenon of Sudanese civilization.

4. Conclusion:

Anyone who looks at the examples of methods and theories of studying burials in the prehistoric and ancient historical periods in Sudan will notice that they can be divided into two main parts:

The first section: The school of cultural diffusion (Diffusionism), which prevailed in the first quarter of the twentieth century, and most of its supporters (especially the pioneers such as Elliott Smith and those who followed in their footsteps such as George Andrew Reisner) were Egyptologists who studied the burials by adopting three main paths for cultural change: migration, diffusion, and invasion.

The second section: The school of the processual archaeology (New Archeology), which prevailed at the beginning of the sixties of the twentieth century, and which believes that the primary task of the archaeologist is to interpret the data instead of being interested

in describing it, in order to reconstruct past life, the history of culture, and the study of human behavior. This was one of the trends that led to the development of modern archeology advocated by Lewis Binford and others (Binford, 1962), and it followed at least three paths in interpreting culture:

The first path: It is the path of the anthropological concept, which has clear features in the works of William Adams and Bruce Trigger. Although it differs from the processual archaeology thoughts, it adopted its approach and worked to support their hypotheses with the results of their work in Sudan.

The second path: This is the path in which burials in particular are taken as evidence of human behavior and human culture as a whole. Meaning that the burial ground is an archaeological unit and evidence of human behavior, and it should not be studied in isolation from the other units surrounding it, and it should be treated as the second home of the ancient people, which may contain evidence that may not normally be obtainable among what they left behind in the remnants of their first life (all that they left with the exception of cemeteries). Such a path is noticeably clear in studies of the prehistoric period, given that burials were the primary means of talking about any topic related to society, its internal divisions, and its understanding of the afterlife.

The third path: This is the path that uses archeology in general to research cultural identity, communication, the origin of the civilization in question, pluralism, and interpretation of civilization. The people of this path took cemeteries as evidence of the authenticity of culture, a means of interpreting human behavior, and a solution for researching the components and drivers of behavior. In this regard, they are like those who follow the second path, except that they see that the local culture followed a continuous, sequential path in its development, meaning that it moves through history according to a series of sequential episodes extending until the present time.

In this paper, we attempted to conduct a review based on the archaeological data related to the burials, and the archaeological theories and methods used in interpreting some of these burials in prehistoric and ancient Sudan. It is clear that most of the approaches used consider cemeteries to be sites that constitute self-contained units containing rich and coherent data characteristic of their era. The burials have been used by many researchers as a basis for interpreting the entire Sudanese civilization concerned in this paper.

It is clear that some of these approaches and theories were based primarily on methodological and theoretical data that prevailed in the early twentieth century. However, most of these approaches and theories followed moderate theoretical foundations developed by archeology in the subsequent decades of the twentieth century. It ultimately led to confidence in the interpretations of archaeologists who used the evidence carried by the burials to establish a chronological, cultural, social and economic framework for the culture.

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