

chevrons profondément incisés (Pl. I/2 et Pl. II/8), des dents de loup légèrement imprimées à la molette (Pl. II/6) ou un réseau de lignes incisées formant des losanges (Pl. II/5).

Au *Kerma moyen*, la poterie se caractérise principalement par son décor formé de triangles que l'on retrouve aussi bien sur des bols rouges en pâte fine, rouges à bord noir, à la surface extérieure lustrée (Pl. IV/5) ou lissée (Pl. III/4) que sur des bols à la pâte plus grossière dont la surface variant du brun au noir est souvent couverte de noir de fumée (Pl. III/2,5,8; Pl. IV/7).

A cette époque, on voit également fréquemment des pots à large panse, dont l'ouverture est plus ou moins évasée, dont la pâte varie en qualité et en couleur. Les surfaces peuvent être rouges, brunes ou noires, quelquefois lissées ou polies. Ces pots sont souvent décorés sur la lèvre de lignes imprimées à la molette et sur l'épaule de motifs géométriques à thème de triangles parfois prolongés par des lignes verticales (Pl. III/1,3,6; Pl. IV/2,3,4,6).

Un petit pot en pâte beige-rosé, très friable, décoré de triangles incisés limités par des bandes de motifs géométriques imprimés au poinçon (Pl. III/7) ainsi que le bord d'un bol portant des bandes de triangles imprimés à la molette et opposés (Pl. IV/8) font également partie du même contexte.

La poterie fine du *Kerma classique* est représentée surtout par des vases rouges à bord noir, dont la pâte est fine, dure, peu poreuse et les deux faces lustrées. Ces poteries sont généralement caractérisées par un bord noir irrégulier, suivi d'une petite ligne rouge et d'une grande bande blanche, obtenue par un procédé encore mal connu.

La forme la plus courante est celle représentée par les vases dits «tulipe». Bien que variable, cette forme présente toujours les mêmes caractères, un fond plat ou convexe, un profil en S se terminant par une lèvre simple dont le bord est parfois souligné d'une ligne horizontale (Pl. V/1,3). Des coupes et des jattes de même qualité ont également été retrouvées (Pl. V/5).

Une poterie plus grossière est constituée par de nombreux bols en pâte souvent mal cuite, chamois, rouge à bord noir ou noire, portant dans la partie supérieure de la panse des décors

incisés ou imprimés à la molette formant des bandes de croisillons ou des lignes superposées (Pl. V/2,4).

Les tessons de grandes jarres à panse sphérique sont caractéristiques de cette époque. Leur ouverture est très large, le bord peut prolonger la paroi ou être muni d'une lèvre évasée, souvent triangulaire. La pâte est dure et grossière, la surface extérieure est souvent rouge ou beige à bord noir, polie, et l'intérieur noir, lissé avec un gros pinceau. La lèvre est généralement décorée de lignes imprimées à la molette, droites, obliques, formant des croisillons ou d'autres motifs géométriques (Pl. V/6). Des formes semblables de plus petites dimensions se rencontrent aussi (Pl. V/7).

Les fragments de grandes quantités de bols en pâte chamois, noircie de fumée, montés dans des paniers dont ils portent les marques sur tout le fond, la panse et quelquefois jusqu'au col ont été retrouvés. Ces bols forment avec le reste de la céramique grossière la majorité de la poterie de type Kerma classique retrouvée pour l'instant sur le site.

Les restes de céramiques tournées d'importation ou de tradition égyptienne sont quant à eux très rares. Les tessons rencontrés le plus fréquemment appartiennent à des vases Qenah, en pâte verdâtre ou jaunâtre, mais l'on trouve également quelques tessons en pâte blanche très fine et en pâte rose ou rouge recouverte d'un enduit blanc.

En conclusion, on constatera que notre matériel se rattache par plusieurs types à la poterie découverte dans les nécropoles des autres sites déjà fouillés. Pourtant, c'est la céramique grossière qui est la plus représentée et la qualité de la céramique fine est souvent inférieure à celle retrouvée dans les tombes. Ces premières notions pourront être complétées au cours des prochaines campagnes par les éléments stratigraphiques qui nous manquent. Signalons encore que les récipients abandonnés dans les fossés marquent l'évolution de la ville et que cette situation nous permettra de relier les connaissances fournies par la poterie aux vestiges architecturaux.

¹ BRIGITTE GRATIEN, *Les cultures Kerma, essai de classification*, Publications de l'Université de Lille III, 1978.

Archeological Expedition at Kerma, Sudan Preliminary Report of the 1977-1978 Season

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After eleven seasons, The Joint Archeological Expedition of The Henry M. Blackmer Foundation and the Center of Oriental Studies of The University of Geneva has terminated its work in the Sudan. A new Swiss Mission has been formed which by taking advantage of the knowledge and experience gained, will continue the work already started at Kerma in the Northern Province of the Sudan¹. Due to the growth of the town of Kerma and consequent new construction, it became urgent to start digging there as certain archeological remains were in danger of disappearing. Thus, at the request of Sayed Nigm Ed Din Mohamed Sherif, Director of the Department of Antiquities of The Sudan, several salvage operations were organized.

Subsequent to these first soundings at one of the most important sites in the country, an archeological team was formed by The University of Geneva and financed by private sources so as to make a systematic and scientific study of the area.² The concession for the excavation was signed in December 1977. As proof of the confidence that the Director of the Department of Antiquities has in our group, he has allowed us to work scientifically over the next few years on two available sites that are in danger of disappearing.

Our archeological excavations started 4 December 1977 and we completed our work on 30 January 1978. Thirty to forty workers directed by two Sudanese "raïs", Gad Abdallah and Saleh Melieh, cleared a part of the ancient city and its cemeteries. Sayed Khidir Adam Eisa, principal Inspector of the Department of Antiquities joined our group and worked on

the survey. The experience already acquired by members of The Mission was a great aid in the organization of its work. Miss B. Privati studied the pottery and other objects as well as drew the maps of the tombs; Mr. A. Hidber worked on the architectural drawings and reconstructions. The photographic survey was done by Mr. J.-B. Sevette who with the help of Miss A. Hürlimann was also in charge of housekeeping.

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The archeological site of Kerma is known for two monuments of unfired brick which since 1820 have been remarked on by European travellers.³ However, it was not until the expedition of K. R. Lepsius in 1844 that a first hand description of the ruins was made.⁴ At that time these odd constructions were already called "Deffufa", a Nubian word for a fairly high monument built of unfired brick. But it was the excavations directed by G. A. Reisner from 1913 to 1916 which brought renown to the region of Kerma.⁵ The discovery of large *tumuli* near the eastern "deffufa" in which were found large numbers of objects either imported from Egypt or copied from Egyptian models as well as the skeletons of hundreds of persons sacrificed and interred at the burial of their master caused archeologists to believe that the remains were those of an Egyptian colony whose rulers had through the ages forgotten the funerary customs of the lower valley of The Nile. The western "deffufa", also cleared by Reisner, was considered to be the fortified residence of a

"Governor General" of Upper Nubia and also the seat of Egyptian administrative and commercial activities.

Nowadays it is generally thought that this ancient site was one of the centers of Sudanese culture named after the modern town of Kerma. It was doubtless the capital of the Kingdom of Kush to which Egyptian texts often refer.⁶ Due to its geographical position and antiquity, the Kerma civilization can be considered as a point of contact essential for understanding of the relationship between Egypt and Central Africa. The first results of our work confirm this interpretation. Excavation on the city site gave us a unique chance to study the habitat of these people whose cultural evolution is still almost unknown. The western "deffufa" located in the center of the ancient city, had not in the past been entirely excavated and it was necessary to re-examine it. The masonry as well as the rooms uncovered at the base of this enormous construction told us much about the buildings that preceded the present monument. Some hundred meters away, during salvage work in the court of a modern school being built, we located tombs of the New Kingdom, the period when the Egyptian pharaohs seized control of this territory. It would seem, however, that certain funerary customs, such as burial in a contracted position, were continued. Tombs of an even later period also found here prove that this site was still occupied after the fall of the Kerma civilization.

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The city of Kerma was founded not far from the Nile, slightly up stream from the Third Cataract. It is located at the southern limit of the granite dikes which cut across the bed of the Nile and extend out towards the deserts on the east and west. South of this area the cultivated plain widens out. The Nile flows calmly between the Third and Fourth Cataracts so that along several hundred kilometers the ancient peoples were able to settle without difficulty. Thanks to the richness of the soil and easy fluvial communication, there has been con-

tinuous settlement in this area since prehistoric times. The city of Kerma, situated at its northern extremity, dominates this privileged area.

It is not yet possible to define precisely the frontiers of the ancient Kingdom of Kush.⁷ However, the impressive series of forts built by the Egyptians from north of Wadi-Halfa as far as Semna (Second Cataract) provide us with a clue valid at least for the period of the Middle Kingdom. The Egyptians hoped to restrain the expansionary drive of a people sufficiently organized to frighten them. This enormous military effort was made in order to maintain their southern frontier in the area of the "Batn El-Hagar" (The Belly of Stones). These fortifications lie about 250 kilometers north of Kerma. The region in between seems to have been under the control of the Kings of Kush who during the "Hyksos" period may even have occupied some of the Egyptian forts.

Further south at the neighboring site of Tabo, excavated during the last few years,⁸ tombs were found which contained material belonging to both the old and the classical Kerma periods. The discovery of a large cemetery at Bugdumbush, more than 130 kilometers south of Kerma, must also be mentioned. Here we found a very large tumulus as well as many objects usually associated with graves. Thus, it is evident that the Kingdom occupied a large area and that the city of Kerma was centrally situated at a site strategically well chosen near the end of a navigable part of the Nile where the rapids of the Third Cataract form a natural barrier.

A topographical study of the areas as well as archeological interest in the concession of neighboring areas, has convinced us of the vast extent of the ancient vestiges to be found here.⁹ A barbed wire fence of several hundred meters on each side surrounds the western "deffufa" and what remains of the houses and fortification walls. About 1000 meters to the north some temples were built, probably after the destruction and abandonment of the city. Cemeteries were installed between the remains of the fortifications and the Nile on high ground which runs parallel to

the river extending far to the south. Numerous traces belonging to cemeteries of different periods have been found in the modern town situated here and it is in this threatened zone that we set up salvage operations. Located on the edge of the desert some kilometers to the east, lies the large cemetery of which Reisner excavated the most important *tumuli*. Groups of tombs of several periods of the Kerma civilization are to be found in this 1500 by 800 meter area. Other cemeteries of the same period have been noted on the edge of the cultivated area or in the desert.

The axis of the principal monuments lies more or less north-south, an unusual orientation. During the "Kerma" period the sanctuary was probably situated on the north side (for one large Meroitic temple the direction was reversed). The entrances to the "deffufas" were originally on the south, as was the case with the funerary chapel with apse, discovered in the principal cemetery. A circular stone structure excavated from 1973 to 1975 has the same orientation although a monumental stairway was placed on the north side perhaps leading to a chapel¹⁰.

The City

Although our recent excavations did not permit us to grasp the general layout of the ancient city, they have given us some idea of house plans and have emphasized the importance of the defense system. Practically everywhere serious erosion of the site has caused the disappearance of the walls of the different buildings excavated; it was therefore only at the foundation and the floor level that we were able to work. Very little digging in depth was done so that it was mainly by uncovering of large surfaces that we were able to gather the data for a tentative understanding of the site. The latter work often simply amounted to careful cleaning operations since at many points the brick structures were visible on the surface.

Along the fence around the site, the enlargement of an irrigation canal exposed some

masonry constructed of sandstone slabs laid in mud. After diverting the canal, it was possible to uncover a structure about 27 meters long by 11 meters wide which was identified as a protecting wall, 1.30 meters thick, reinforced by buttresses. By comparison with Egyptian fortification walls, it may be assumed that this wall was defensive in character particularly as it was bordered by a dry ditch permitting an overall view of fering lines. The fortified wall was U shaped with its two ends leaning against a large building of unfired brick. This building has not yet been completely excavated, and is not in a good state of conservation. Objects of the classic Kerma period were found in the rooms of this building and mixed with the rubble that had accumulated in the ditch. The city spread out in this direction for more than 130 meters from the south-east angle of the "deffufa"; unfortunately cultivation of the land to the south makes it impossible to distinguish any further extension of the site in this direction.

Toward the center of the city other fortified walls had been built; stone foundations and large areas of unfired brick witness to the extent of this defensive system. The ditch parallel to the stone wall continues east, then north-east, along a facing of fired bricks. This material is systematically employed for one of the first times in history. A thin coat of these fired bricks was employed to cover unfired brick masonry. In order to attach the facings to the masonry underneath, clamps were placed perpendicular to the exterior wall.

A second string of fortifications was partially uncovered behind the first. At present, it is difficult to understand this part of the city's defense system. Here too there must have been a ditch protecting the base of a surrounding wall subsequently abandoned as the habitable part of the city increased in size. This ditch does not always follow a straight line but it has not yet been possible to identify the remains of a bastion or a gateway¹¹ which may have been part of the original building. A trench made to the east of our excavation uncovered two rows of post-holes dug in the slope of the ditch. This arrangement was no doubt a supplementary part of the defense

system. The objects and pieces of pottery found in this ditch are very different from material found nearby belonging to later fortifications.

The superposition of buildings discovered inside the city proves that the site was occupied during a long period. The walls of the houses were built of unfired brick but tree trunks were also used in the building of the flimsier type of houses. The complicated chronology and the state of conservation of remains of different types, make it difficult to reconstruct a city plan for each period. It will be necessary to study a larger area for better understanding of the stages of the city's development.

One fact must be emphasized: the walls of the few houses already cleared are very thin (about 0.18 meters). To avoid collapse of the partitions the builders installed small buttresses in the interior of the rooms. These reinforcements are usually the thickness of one brick placed parallel to strengthen the wall. They are not regularly placed and although it is certain that the roofs of the rooms were made of wooden beams covered with palm tree fronds, it is difficult to admit that the beams were regularly placed on these pilasters. In one house the walls are supported by buttresses two bricks in length placed perpendicular to the partitions. Doubtless for the same reasons, sinuous walls were constructed to enclose the courtyards of some of the houses. Such a system must have given a better support to the partitions.

This architectural feature is not unknown. In the "open city" of Mirgissa, similar houses of unfired brick have been studied¹² with the same type of buttresses, and with sinuous walls surrounding the houses. The objects found at Mirgissa seem to be Egyptian of the Middle Kingdom, a period when the fort was manned by an Egyptian garrison. Such similarities at Kerma are not unusual as the influence of Egypt there must have been preponderant; we have as proof that the inhabitants of Kush were interested in all the products manufactured by their powerful neighbor.

The houses that have been cleared date from the last centuries that the city was inhabited; we have noticed for this period, two different

types of arrangements. First, one or two rooms off large courts surrounded by walls which follow the traces of older constructions; secondly, buildings of only one room which have a definite type of arrangement that has not yet become clear.

At the present time we think that the houses of the first type were the last to be built. We have found among these houses traces of a small street running north-south and a dead end street going towards the west. The vestiges on each side of these passages belong to constructions that have suffered many alterations but the locations of fireplaces in the courtyard are recognizable as well as storage rooms and a kneading trough.¹³ One long, narrow house (No. 4) that belongs to the first group, has a special lay-out. It is built parallel to the street and its arrangement is comparable to certain houses known in Egypt,¹⁴ where the two front rooms near the entrance were used as reception rooms and also as bedrooms. At the other end of the house a third room was divided between kitchen and storage space and probably as a room reserved for the women. Incidentally, modern houses are often built on a similar plan.

Under the remains of houses 1 to 4, we found the foundations of four houses of the second group, that is, with only one room each. Their plan is identical to that of houses 5, 6, and 7 which were perhaps lived in at the time of the destruction of the city. This time lag is explained by the fact that different styles of architecture were employed simultaneously over a long period; hence, the builders in certain places continued to employ traditional types of construction. Some of the walls of these houses are supported by small pilasters or engaged columns. These habitations are rather large measuring 5 to 9.50 meters in length by 4 to 5 meters in width. As traces of partitions or other interior arrangements no longer exist, it is difficult to specify the functions of these various constructions.

Certain round structures in which there remain traces of the use of water, have still to be studied. They were perhaps some part of craftsmen's workshops or of bathing installations.

North of house no. 3, careful clearing has revealed a row of post-holes. The profiles of tree trunks in the soil are clearly visible indicating that the posts were thick enough to support a roof. The house was probably originally a wooden one, later replaced by a construction of unfired brick. Even today similar wooden constructions are still built in the fields.

Under the floor of this house, the bottom part of an oven was cleared. The hearth was built in a round pit 0.60 meters deep led by a long slightly sloping canal built on its west side. The heat given off must have been intense for the unfired bricks that were used to build the oven have been vitrified on their exposed surfaces. The round low wall of the oven has a buttress on each side of the canal that feeds the oven; perhaps originally there was a small arch supporting the shaft. If so, this would be a very early example of a potters oven built on two levels. Very few ovens of this period have been excavated and it is possible that installations of the same type may also have had other uses.¹⁵ Surface prospection shows that remains of several ovens are conserved in this area; after they have been excavated we will be able to compare them with contemporary or later examples that have been more closely studied.¹⁶

An Attempt at Dating. This preliminary report is not intended to present a new interpretation of the cultures of Kerma but some of our observations confirm the classification put forward by Brigitte Gratién¹⁷ and we feel it necessary to underline this fact. The study of the cemeteries at Sai (about 140 kilometers to the north of Kerma) made it possible to set up a relative chronology of the Kerma civilization divided into four cultural periods. The type of tomb, the tomb furniture and particularly the analysis of the pottery found in the tombs are the most important aids in the dating of each period: Old Kerma (KA), contemporary with the end of the Old Kingdom in Egypt and the First Intermediary Period; Middle Kerma or KB evolved during the Middle Kingdom; Classic Kerma or KC which reached its zenith during the Second Intermediary Period; and Late Kerma or KD which

is contemporary with the period when the first pharaohs of the 18th Dynasty took over control of this area.

Using the typology established by B. Gratién, we were able to compare the material found in the city with pottery belonging to known cemeteries. In this way, the sherds, exactly located and grouped according to the various strata, gave a general idea of the types used during each period of the city's occupation. The groups of material of the Old Kerma period were found closest to the "deffufa", probably the center of the city.¹⁸ We found two storehouses in this part of the city. Most of the sherds found in them are characteristic of Old Kerma (KA). Remains similar to Middle Kerma are more numerous in the city and in the first fortification ditch. Further toward the south where we think we have discovered the last line of fortifications built on the site, the pottery found in the ditches is Classic Kerma or later.¹⁹

These preliminary observations would indicate that as the city developed, it spread over a bigger surface, which seems to be confirmed by the existence of several defense systems becoming larger as the city grew.

The western "deffufa"

So as to study the relative dating of the western "deffufa" and houses 6 and 7, it was necessary to clear the foundations of this largest monument of Kerma. We were able to establish that the houses are of a later period than the solid mass of the foundations of the "deffufa" and that the whole of the "deffufa" was not constructed at one time. Up to a height of 1 to 2.50 meters, the type and size of the unfired bricks, the extent of plaster and the units of the brick work have nothing in common with the masonry of the higher levels of the edifice. It would seem that at the time of its last remodelling, the earlier edifice was razed down to the level of about two meters above which the present large

construction today preserved was added to a height of 20 meters.

The monument had already been excavated by Reisner²⁰ who thought it was the residence of an Egyptian governor. However, as the explanation of the different parts of the structure was by no means exhaustive and as the suppositions concerning the functions of the western "deffufa" were often contradictory, we decided to continue its study. This research will demand several seasons of work, but it is already possible to explain certain facts regarding the relationship between the older parts of the edifice and later additions.

At the level of the foundations, the building is 52.10/52.20 meters long and 26.70/26.90 meters wide. An important addition was planned on the eastern side and was built during the last transformations made to the "deffufa".

Several levels of masonry are evident on the principal south side. At an early date, a narrow building (about 13.50 meters wide) was probably built; the corners of its two lateral walls and of its façade are distinguishable as alignments of bricks and traces of plastering. The remains of what may have been a door are also preserved but in this case the opening was not exactly in the center and must have been very carefully blocked up. The last step in the analysis of this first building is the identification of the monument of a rounded bastion or apse at the other end. On this side we have cleared two walls covered with a facing. The older wall is almost semicircular and its two ends rejoin the interior of the northern mass of masonry. The mud facing which covers it was certainly visible. During a second stage, additions were made around the original building. A slanting wall was built against the earlier apse; this was also covered with a facing which has been preserved under later masonry. The foundations of other buildings of the same period also exist.

Still later changes can be related to the older building. The remains of four side rooms have been located, one against each corner of the monument. We have excavated the two annexes on the west side which were noticeable under the debris of the "deffufa". A part of these earlier annexes seems to have been pre-

served at the time of later reconstruction. The importance of these annexes is emphasized by the care with which their walls were covered. A good quality facing consisting of small ferruginous sandstone slabs was built up against them. This facing was destroyed later when the "deffufa" was again transformed but it seems that the rooms continued to be accessible after the "deffufa" was abandoned, since Meroitic and Christian sherds were found in them at a considerable depth.

A further stage in the transformation of the deffufa is attested by a revetment of unfired brick built around the whole monument. This wall, about 1.5 meters thick, may represent simply a repair of the old walls which had suffered from wind-erosion.

All the remains so far described belong to the period that preceded the construction of massive later building. The technique employed by the new architects is quite different for they used large wooden beams to consolidate the masonry and larger bricks than heretofore. The "deffufa" with its projecting staircase, odd central corridor and small upper terrace has none of the characteristics of a fortress. In addition, if it had been a sort of keep, it is doubtful that it would have been placed in the center of the city. The clearing of certain other parts of the building during the next few seasons will help us in understanding the last stages in the construction of this monument.

Our first observations lead us to question various hypotheses that have been put forward regarding the function of the western "deffufa". The discovery of an older building several times altered proves the desire to maintain a building of great importance on this spot. The existence of the lateral annexes and of a centrally located entrance exclude the idea of considering this building as a fortified edifice. On the other hand, the northern bastion or apse is comparable in plan to that of a funerary chapel, KXI,²¹ which is located in the eastern cemetery near the large tumulus KX. This similarity is not in itself enough to definitively designate the function of our building as religious, but the possibility must be considered.

The Cemeteries

During our salvage operations at Kerma from 1973 to 1975 we discovered several *tumuli* and a very large circular stone structure.²² This structure situated more than a kilometer south of the western "deffufa" is a type of building yet unknown and its discovery raises many questions regarding its function. Its circular form and a study of the material found in it permit us to suggest that the structure may have been some sort of funerary monument. It is indispensable to corroborate this assumption by inspecting the large archaeological area which surrounds these ruins. This study is complicated by the fact that this area is within the modern town of Kerma. The rapid growth of the town and the many modifications made on lots already built upon, has put us before a difficult choice. But by explaining to the owners the importance of our work and with the support of the responsible authorities, it has been possible to undertake excavations. Systematic work was carried out during the last season in the courtyard of a school where two years before we had noticed several tombs that had been opened up incident to the construction of new school buildings.

The school is located half way between the town and the *tumuli* situated further south. The study of this site is thus the first step in a topographical study which will be worked out during the coming seasons. The support of the teachers has been of great help to us and has given our work an educational slant.

The excavated surface (40 meters by 30 meters) is limited by the size of the courtyard and by the buildings already in existence. The terrain was disturbed and eroded by people constantly passing over it, by recent constructions and by the Nile floods. Thirty years ago this plain was regularly flooded. Thus the superstructures of the tombs have been practically all destroyed. However, traces of decomposed brick indicate that there were constructions above the level of the soil.

Two very different types of burial were practiced in the area. With the first type the dead were buried in a contracted position.

These tombs were found very near the surface and had suffered considerably from progressive erosion of the soil. Certainly when built, the vaults were deep in the ground; at least a meter of earth and sand has eroded above them. The second type of tomb is better known. It is a vault dug two or three meters deep in the alluvial soil. A passageway led down into the chamber and the tomb was no doubt covered by a pyramid built of unfired brick. Near the entrance a small chapel or a simple shelter to protect the table of offerings was often built.

We still do not entirely understand the layout of the oldest cemetery. The shallower tombs have been damaged by secondary burials and many of the bodies have disappeared. The clearing that we plan to do should enlarge the area filled by this type of sepulture. By the study of the plentiful objects found, we can date this cemetery to the New Kingdom.

The tombs which later occupied the same site form perhaps part of a large Meroitic cemetery of which Reisner excavated some fifty tombs located about one kilometer to the north.²³ In the school area, tomb groups characteristic of Meroitic cemeteries have been noted. Probably placed on a slight rise, the tombs are arranged in several rows. Traces of their foundations permit the reconstruction of an alignment of pyramids. The large cemetery of Sedeinga, similarly arranged, is better conserved so that we can study the general topography of this type of cemetery. About 200 pyramids are arranged in seven parallel rows in an area of about 1,400 kilometers in circumference.²⁴ There are many other Meroitic cemeteries of a provincial nature known in the Sudan, but it is very rare that any have been studied in a detailed way and most are found north of the Third Cataract. One must also remember that it is difficult to date these tombs precisely and that burial customs changed often during the ten centuries of the Meroitic Kingdom.

The New Kingdom Cemetery

One must first call attention to the fact that the New Kingdom tombs found at Kerma

have nothing in common with the usual type, contemporary with the Egyptianization of Nubia. During that period, funerary practices in Nubia changed rapidly and became identical to those of the colonists; in general the body lay extended on its back. The tombs found at the school, with the body contracted or bent at the knees, thus differ from the norm. This is proof that local habits resisted the movement towards Egyptianization and remained bound to those of the ancient civilization of Kerma. Some rare examples found in lower Nubia are evidence that there was a parallel survival of funerary practices, in this case within the C group culture. In this neighboring area these practices disappeared during the 18th Dynasty.²⁵ The strong Nubian tradition which the Egyptian conquest had seemed to have destroyed reappeared several centuries later, and one may ask if the study of our cemetery, situated to the south of the 3rd Cataract, will not help us to better understand a break which current archeological data can only partly explain.

We uncovered ten tombs of the same type. They are easily identifiable as the body is always in a contracted position. They are placed in an east-west direction with the head lying toward the west. Tomb 25 is the only exception for here the head points east. The body is placed indifferently on the left or the right side. The remains of a protective structure are apparent in the form of a low lateral wall of unfired brick which originally supported the arch of the vault. As these walls and the remains of the vaults were deformed when they collapsed, it is not possible to reconstruct the exact form of the tomb. The dryness of the climate has caused the clay to harden and excavation of the very friable bones was difficult. Certain black marks cleaned around some of the skeletons would suggest that they had been embedded in a shroud. One could also assume that some of the corpses were enveloped in a bag or that their legs were pulled up and tied to the body. The very contracted position of the body in tombs 25 is probably an example of the latter.

The mediocre state of preservation of the bones which were crushed and pulverized

precluded an anthropological study of the skeletons. All the skeletons were those of adults except one skeleton of a child found in tomb 4.

The objects found in the graves were partly of local manufacture, in the Nubian tradition, and partly imported from Egypt or copied from Egyptian models. Hemispherical bowls made of coarse paste and a carinated vase with a narrow neck (polished red exterior and black interior)²⁶ resemble the pottery of the Kerma civilization. Other ceramic vessels are similar to Egyptian models: such as pilgrim bottles, plates decorated with a red slip, and ovoid jars with two or three handles.²⁷ Objects most probably imported from Egypt include a small alabaster jar,²⁸ two jasper earrings²⁹ and bronze vessels.

It is thanks to these types of objects which are well known in Nubia that we are able to date the cemetery as New Kingdom. Obviously, because of the small number of tombs excavated we cannot state accurately the amount of time the area was occupied nor know the size of the cemetery. However, large quantities of sherds of the same period were found strewn over the surface of the ground surrounding the cemetery.

As W. Y. Adams suggests, prepharaonic traditions are better preserved in Upper Nubia than in the region further to the north.³⁰ This assumption could be corroborated by finds from other sites in the Dongola region, since at Tabo we likewise found a pilgrim bottle in a tomb with a skeleton in a bent position. This grave was anterior to a pyramid which dates from the beginning of the Meroitic period.³¹ At Kerma, only one tomb (No. 23) had objects of a certain luxury including an alabaster vessel, another in bronze, 2 jasper earrings and 2 vases and 2 plates. The other tombs are poor and must be those of local peasants.³² The numerous New Kingdom temples built south of the 3rd Cataract prove that there existed for a certain time a resident aristocracy mostly made up of Egyptians. They surely did not adopt Nubian burial customs as Reisner had suggested for an earlier period.³³ It would seem, therefore, that there were two parallel influences that

were expressed by two types of burial custom. Moreover, during the Meroitic period one notices both types of burial practices in their cemeteries.³⁴

The Meroitic Cemetery

The site of 23 tombs was very deeply excavated. The vaults of several of these tombs were used for two or three burials. It is impossible to know exactly how many corpses were buried in this area as some of the graves have been very disturbed, and like the New Kingdom cemetery, the bodies buried near ground level have disappeared. The excavated area of the present cemetery is organized in three or four parallel rows. The tombs in the most eastern row, which perhaps marked the boundary of the cemetery, are regularly aligned. The irregular distances which separate each tomb stairway is probably due to the different sizes of the edifices built over the tombs. The western rows have been recently disturbed and some tombs close to ground level were destroyed. Toward the west we notice tombs of another type. The general picture of this cemetery has so far been obtained from excavating a very small part of a much bigger whole and we hope further excavations will help to clarify this picture.

Surface cleaning exposes the entrances to the long narrow passageways descending into the tombs. It is thus possible to locate the small protecting wall which divides the stairway, crudely dug in the alluvial earth, from the burial vault proper. This wall is made of unfired brick laid in mud; sometimes it is coated with a thick facing. The funerary chambers seem always to have been dug in the natural soil and the burial vaults, except for tomb 1, do not have plaster coatings or painted decoration on their walls. The digging of these subterranean chambers must have been dangerous for sand pockets are present between the compact layers of silt. In some places the builders have erected small unfired brick walls to hinder sand from flowing into the vaults.

The distance between the first and second row of tombs, the position of some of the stair-wells into the tombs, the remains of bricks found on the surface all confirm the presence of superstructures over the tombs. By comparison with other provincial cemeteries, one can assume that pyramids were placed over the funerary chambers. Tomb 19 whose north-south orientation is exceptional, indicates the situation of the eastern side of a pyramid (Tomb 27). A hole was dug at the base and under the wall of the pyramid when this monument was somewhat already in ruin. The body of tomb 19 was then pushed sideways into the hole.

In general the tombs are on an east-west axis. The heads of the corpses were placed toward the west, but due to numerous secondary interments there are slight variations in relation to the general axis. We often found traces of wooden coffins. These remains look like a blackish powder which is difficult to distinguish from the silt and sand. Sometimes due to a change in the consistency of the soil, we were able to excavate the walls of the coffins and occasionally to restore their thickness. Remains of a layer of plaster covering the wood was noticeable in several tombs. On one coffin the plaster was decorated with blue, black, red and white geometric designs (tomb 1). The coffins are anthropomorphic or occasionally rectangular. The narrow head end is sometimes rounded and sometimes straight. The absence of any remains of coffins and the position of certain of the skeletons show that some corpses were buried directly in the ground, usually in secondary tombs (tombs 19, 20, 21, 22). The great majority of those buried here are adults although we did find two tombs of adolescents (tombs 17 and 27), both secondary interments. Both the latter wore faience or glass bead necklaces. In tomb 31 the bodies of two infants were placed at the eastern end of the chamber.

Three tombs (tombs 1, 3a, 3b) located at the south-west angle of the school courtyard, are difficult to interpret at the present state of our enquiry. Their type is different from the burials we have already described although contemporary with other parts of the Meroitic

cemetery. Thus, we have found in these tombs decorated jars from the same pottery workshop as those found in other tombs located in the center of the court. Their position in a row with other tombs also fix them as being of the same period.

Tomb 1 has been greatly damaged by recent construction work and only its western side could be saved. When built, there was probably a room whose walls and floor were of plastered wooden planking. The seams between the planking were covered by a thick layer of plaster. Some remains of rose colored bits of plaster indicate that the walls were decorated. There are traces of polychrome decoration on the anthropomorphic coffin. The corpse was laid on its back and covered by a net of colored beads figuring a face surrounded by chevrons and other geometric patterns. At the neck a pierced gold nugget had served as a pendant. In this tomb we found no trace of a stair-well or superstructure over it.

Tombs 3a and 3b are part of the same sepulchre and consist of two connecting vaulted chambers in unfired brick. Many objects were found near the coffins, one of which was anthropomorphic and the other rectangular. A bag containing different objects was placed on the pubis of the corpse in tomb 3a. These objects consisted of toilet articles such as bronze tweezers and a bronze spatula; an iron ring as jewelry; objects of domestic use such as a cleaver, a piece of folded sheet metal as well as a stone polisher. These objects were in a cloth bag and some traces of the cloth were found. Jars and a pitcher, 3 bronze bowls, a pottery sieve and faience bead bracelets completed the offerings accompanying the defunct. As the surface of the ground here is completely eroded, it is not easy to have an idea of what the superstructure looked like. But one can admit that either several types of tombs were built at the same period or that larger pyramids were built here covering well constructed burial vaults. The theory that these monuments were very well supported due to the unstable nature of the ground seems in this case plausible. The same observation has been made elsewhere.³⁵

Six out of twenty three tombs have produced objects of a certain importance. One should not be surprised at the small number of tombs that contain offerings for it has often been pointed out that in the cemeteries where Egyptian funerary customs were employed, the tombs are scantily furnished.³⁶ The Meroitic cemetery north of the school excavated by Reisner produced material of a great variety and practically every tomb had several objects in it. But there the tombs are different from ours in that they have stair-wells descending into the tombs and lateral wall niches in which the bodies were often placed in a north-south direction. The objects found were also different.³⁷ The tombs with sloping entrances whose burial vault is surmounted by a pyramid are of the more classic type. However, the typology of the tombs and of the funerary customs of the Meroitic period are not yet completely known. Although one can perceive outside as well as local influences and although royal pyramids served as models, no general rule has become apparent in the southern area of Nubia.³⁸

Attempt at Dating

The same problems hinder an attempt at dating. Our data is already fairly copious but it touches a very long period and the territory of the Kingdom of Meroë was very large; thus all attempts at dating are very complicated. We must wait until a whole series of objects are studied before we can suggest any precise chronological scale. Tombs of the same type are known to have been built before the 25th Dynasty and were still being built at the end of the Meroitic period. On the basis of our present knowledge it seems plausible to date this cemetery sometime during the first centuries before the Christian era. The painted decoration of the jars, the type of bronze bowls and the beaded net covering one of the corpses all belong to a style antedating the period of the Roman occupation of Egypt.

Tomb 10

So as to have detailed information about the Meroitic cemetery discovered at Kerma, we

have chosen one tomb that seems to represent fairly well the type of burial customs practiced there.

Tomb 10 was built on the same location as a much older tomb (tomb 11). Thus when the Meroitic tomb was dug, the remains of the skeleton already in the tomb were disturbed. Two jars and fragments of two bowls were still lying near where they were originally put, beside the corpse, but in a damaged condition due to alterations done in the tomb. The jars have been restored and found to belong to the New Kingdom, which means that this tomb is part of the oldest in the cemeteries.

In preparing the funerary chamber, the Meroites built a steeply sloping descent 0.85 meters wide and 2.50 meters long on the eastern side of the tomb. Three crudely made steps cut into the silt facilitated the descent into the tomb and aided the builders to clear out the rubble from the pit. At a depth of 1.5 meters to 2.0 meters a narrow burial vault 0.50 meters by 2 meters was horizontally dug. It was here that the first corpse was placed in the usual east-west direction with the head toward the west. The body was in an anthropomorphic coffin covered with a layer of plaster. After burial a small wall was built to close the vault. Of this wall only two foundation bricks remain near the eastern end of the coffin. It is probable that after the filling up of the pit, work was begun on the construction of the superstructure.

A second burial (tomb 10b) was made at a later time. So as not to disturb the first burial, a lateral niche south of the entrance wall was dug, care being taken that the end of the new vault did not touch the older chamber. Both ends of this second coffin are narrow and straight walled. Traces of plaster permitted us to establish the form of the coffin and the thickness of the wooden planks (1.5 cm.). The wall protecting the first tomb was torn down at this time and a new one was built 1 meter to the east. One course of bricks belonging to this period remains under the modifications made at a later date.

A third tomb (10c) was added to in this monument. We know the position of the two earlier coffins because the third vault was dug

at an angle above the second coffin. Perhaps the builders were looking for firm ground but still under the supposed pyramid. This corpse was likewise placed in an anthropomorphic coffin, this time including offerings. Four decorated jars were arranged on the north side where a sufficient area had been cleared of the rubble. One of these jars is covered by a tin-plated bronze bowl while another bowl was found above in the filling. The latter has a handle that is attached to the jar by a carved piece of metal, whose ends represent two flowers. The third vault was closed by a small wall which was still in place when we opened the tomb.

Conclusions

The variety and abundance of the archeological remains of the ancient site of Kerma make it an important area for the study of the civilizations of the Sudan. The last year of excavations was very successful and it is certain that future excavations will produce results that can change our ideas about certain civilizations that presently seem secondary. It is important to study this site because for several thousand years this city dominated a vast territory which served as a connecting link and where trade flourished between Central Africa and the Mediterranean world. Thus, we must during the next few years, find more evidence that will better support the tentative ideas outlined in this preliminary report which has been written to give a rapid idea of what has been found and to encourage discussion which may help to correct and improve the hypothesis here presented.

¹ Professor Charles Maystre was the chief of Mission and had the general responsibility of directing this work. Some preliminary reports have been published: CH. BONNET, *Nouveaux travaux archéologiques à Kerma* (1973-1975, in *Actes du Congrès d'études nubiennes, Chantilly*, 1975, Le Caire, 1978, and *Remarques sur la ville de Kerma*, in *Mélanges Serge Saumeron*, Le Caire, 1978.

² We wish particularly to thank Mr. H. Blackmer, The Société académique de Genève as well as The Fondation du Centenaire de la Banque Populaire Suisse. La Commission des fouilles du Soudan de l'Université de Genève has also given support and aid.

³ G. WADDINGTON and B. HANDBURY, *Journal of a Visit to some Parts of Aethiopia*, London, 1822, pp. 42-43; LINANT

DE BELLEFONDS, *Journal d'un voyage à Méroé, dans les années 1821 et 1822*, Khartoum, 1958; F. CAILLAUD, *Voyage à Méroé*, Paris, 1826, vol. I, pp. 396-398; G.-A. HOSKINS, *Travels in Ethiopia*, London 1835, pp. 215-216.

⁴ K.-R. LEPSIUS, *Denkmäler aus Aegypten und Aethiopien, Ergänzungsband V*, bearbeitet von W. Wreszinski, Leipzig, 1913, pp. 245-247.

⁵ G. A. REISNER, *Excavations at Kerma*, parts I-III and IV-V, Harvard African Studies, Vol. V and VI, Cambridge (Mass.), 1923; *Excavations at Kerma (Dongola Province)*, in *Zeitschrift für Ägyptische Sprache und Altertumskunde*, LIII, 1915, I, pp. 34-39, II, pp. 40-49.

⁶ B. GRATIEN, *Essai de classification des cultures Kerma*, in *Manuscrit d'une Thèse de III^e cycle*, Université de Lille, 1974, pp. 250-252.

⁷ F. HINTZE, *Das Kerma Problem*, in *Zeitschrift für Ägyptische Sprache und Altertumskunde*, 91, 1964, pp. 79-86.

G. POSENER, *Pour la localisation du Pays de Koush au Moyen-Empire*, in *Kush*, Vol. VI, 1958, pp. 39-68.

J. VERCOUTTER, *Mirgissa I*, Paris, 1970, p. 161 and following.

⁸ H. JACQUET, CH. BONNET et J. JACQUET, *Nubis and the Temple of Tabo on Argo Island*, in *The Journal of Egyptian Archaeology (JEA)*, Vol. 55, 1969, pp. 103-111 et CH. MAYSTRE, *Excavations at Tabo, Argo Island, 1965-1968, Preliminary Report*, in *Kush*, Vol. XV, 1967-1968, pp. 193-199.

⁹ CH. BONNET, *Remarques sur la ville...*

¹⁰ CH. BONNET, *Nouveaux travaux archéologiques...*

¹¹ For the relation of these building to a gate see J. VERCOUTTER, *Excavations at Mirgissa - II (October 1963 - March 1964)*, in *Kush*, Vol. XIII, 1965, pp. 62-63, fig. 1-2.

¹² J. VERCOUTTER, *Excavations at Mirgissa - I (October - December 1962)*, in *Kush*, Vol. XII, 1964, pp. 57-58, pl. XVII and XIX; *Excavations at Mirgissa - II (October 1963 - March 1964)*, in *Kush*, Vol. XIII, 1965, pp. 67-68.

¹³ B. BRUYERE, *Rapport sur les fouilles de Deir El-Médineh (1934-1935)*, in *Fouilles de l'Institut français d'archéologie orientale du Caire*, Vol. XVI, 1939, pp. 75-77.

¹⁴ J. VANDIER, *Manuel d'archéologie égyptienne: les grandes époques, l'architecture religieuse et civile*, vol. II, Paris, 1955, pp. 984 and following. See particularly the detailed plan of the area enclosed by the walls of Tutmosis Ist at Deir El-Médineh:

C. BONNET et D. VALBELLE, *Le Village de Deir El-Médineh, Etude archéologique (suite)* in *Bulletin de l'Institut français d'archéologie orientale*, vol. LXXVI, 1976, Fig. 11.

¹⁵ W. B. EMERY, *Egyptian Exploration Society, Preliminary Report on the Excavations at Bubn, 1962*, in *Kush*, Vol. XI, 1963, pp. 117-118, pl. XXIV.

¹⁶ J. VERCOUTTER, *Excavations at Mirgissa - III*, in *Kush*, Vol. XV, 1967-1968, p. 276 et W. Y. ADAMS, *Pottery Kiln Excavations*, in *Kush*, Vol. X, 1962, pp. 62-75.

¹⁷ B. GRATIEN, *op. cit.*; *Les nécropoles Kerma dans l'île de Sai*, in *Cahier de recherches de l'Institut de papyrologie et d'égyptologie de Lille (C.R.I.P.E.L.)*, 1, 1973, pp. 143-184; *Les nécropoles Kerma de l'île de Sai, II*, in *C.R.I.P.E.L.*, 2, 1974, pp. 51-74;

Les nécropoles Kerma de l'île de Sai, III, in *C.R.I.P.E.L.*, 3, 1975, pp. 43-66.

¹⁸ Reisner had already found objects from this period near the Deffufa: G. A. REISNER, *Excavations et Kerma...* I, p. 33, Fig. 10-11.

¹⁹ We do not intend to discuss here the dating of the various Nubian cultures. Our stratified material is still very scant and it is not yet possible to define more precisely the periods of these occupation. We accept B. Gratién's classification which has served as a basis for our work; later, the study of the work of future seasons will doubtless help us clarify these problems. See particularly the presentation of this problem for Lower Nubia.

B. C. TRIGGER, *History and Settlement in Lower Nubia*, in *Yale University publications in Anthropology*, No. 69, New Haven, 1965.

²⁰ G. A. REISNER, *Excavations at Kerma...* I, pp. 21-40.

²¹ G. A. REISNER, *Excavations at Kerma...* III, pp. 255-271.

²² Excavations of the H. M. Blackmer Foundation and the Centre d'études orientales de l'Université de Genève. See CH. BONNET, *Nouveaux travaux archéologiques à Kerma...*

²³ G. A. REISNER, *Excavations at Kerma...*, pp. 41-57. The type of tombs studied by Reisner are not similar to those we have studied in the school area. One must then assume that the site was continuously occupied during the long Meroitic period.

²⁴ M. SCHIFF - GIORGINI, *Première campagne de fouilles à Sadeinga (1963-1964)* in *Kush*, vol. XIII, 1965, pp. 127-128.

²⁵ T. SAVE - SODERBERGII, *Preliminary Report of the Scandinavian joint Expedition*, in *Kush*, Vol. XII, 1964, pp. 29-37.

²⁶ G. A. REISNER, *Excavations at Kerma...*, V, pp. 395-397.

²⁷ For recent discoveries of the same type, see M. SCHIFF - GIORGINI, *Soleb II, Les nécropoles*, Florence, 1971, pl. XIV, XV, XVI.

A. MINAULT - FL. THILL, *La tombe 14 de la nécropole du Nouvel Empire à Sai*, in *C.R.I.P.E.L.*, 3, 1975, p. 74, pl. I.

²⁸ M. SCHIFF - GIORGINI, *Soleb II...*, pl. XIII, 7.

²⁹ M. SCHIFF - GIORGINI, *Soleb II...*, pl. X, types 7 + 8.

³⁰ W. Y. ADAMS, *Nubia, Corridor to Africa*, London, 1977, p. 239.

³¹ Excavation of the H. M. Blackmer Foundation and the Centre d'études orientales de l'Université de Genève, Campagne 1972-1973, tombe 557.

³² See the theories of W. Y. Adams and B. Trigger: B. TRIGGER, *Nubia under the Pharaohs*, London, 1976, p. 134.

³³ G. A. REISNER, *Excavations at Kerma...* III, pp. 61 and following.

³⁴ P. L. SHINNIE, *Meroe, a Civilization of the Sudan*, London, 1967, pp. 146 and following.

³⁵ W. Y. ADAMS, *Nubia...*, p. 375.

³⁶ P. L. SHINNIE, *op. cit.*, p. 148.

³⁷ G. A. REISNER, *Excavations at Kerma...*, I, pp. 41 and following.

³⁸ W. Y. ADAMS, *Nubia...*, pp. 375-376.