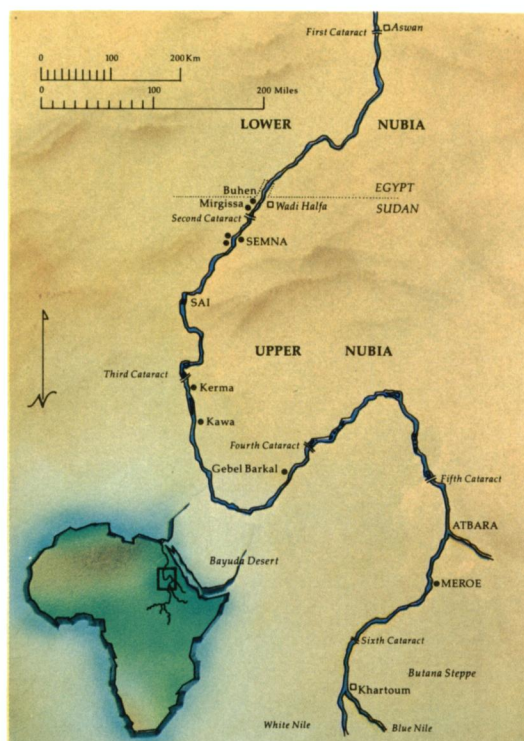


Kerma: An African Kingdom of the 2nd and 3rd Millennium B.C.

by CHARLES BONNET

Kerma—five hundred kilometers north of Khartoum as the crow flies—can claim the distinction of being the oldest indigenous town in the Sudan. The archaeological richness of the site is remarkable, with vestiges belonging to as early as the third millennium B.C. and as late as the fourth century after Christ. But it is the earlier period that makes the ancient city so interesting. For one thing, large-scale construction began very early here; in addition, the size of the eastern cemetery together with the material wealth of some of the burials now leads archaeologists to consider Kerma as the capital of Kush, an African kingdom which the Egyptians had to deal with from as early as the Middle Kingdom.

As early as 1820, Kerma was well known by intrepid European travelers for its two impressive monuments of unfired brick rising out of the desert sand. It was not until 1844, however, when the German Egyptologist K.R. Lepsius visited the site that a detailed description of the ruins was made. At that time, these odd constructions had already been given the name “Defufa,” a Nubian word for a fairly high monument built of unfired brick. But it was the excavations conducted by G.-A. Reisner between 1913 and 1916—sponsored by Harvard University and the Museum of Fine Arts, Boston—that brought renown to this remote region. The American archaeologist believed that the remains belonged to a culture that differed from all those hitherto known, and he named it the Kerma culture. After the discovery of large tumuli which contained numerous Egyptian objects as well as the skeletons of hundreds of human sacrifices, however, he came to the conclusion that these were the burial places of Egyptian governors and that Kerma was in fact only an Egyptian colony. Reisner interpreted the western Deffufa as



a fortress and as a seat of administrative and commercial activities, whereas the eastern Deffufa (or Upper Deffufa), which is located in the cemetery, was identified as a funerary chapel.

Reisner's view of course has been challenged. Kerma is now recognized as having been a distinctly indigenous culture that developed during the third and second millennia B.C. This culture belonged to a broad cultural horizon which spread over central and northern Sudan. Recently, a chronology of the Kerma culture was established by B. Gratien of the University of Lille III (France) based on the study of the Kerma graves of the Island of Saï, a site located about 140 kilometers to the north. Four phases were identified: Early Kerma, which is

contemporary with the end of Egypt's Old Kingdom and the First Intermediate period (2500-2050 B.C.); Middle Kerma, evolving during the Middle Kingdom (2040-1785 B.C.); Classic Kerma, which reached its peak during the Second Intermediate period (1785-1554 B.C.); and Late Kerma, which corresponds to the period when the first pharaohs of Dynasty XVIII took over control of Upper Nubia.

Several factors point to an identification of Kerma as the capital of the Kingdom of Kush, not least among them the size of the extensive urban settlement. Egyptian texts often refer to this kingdom from the time of Dynasty XII (1991-1785 B.C.) onward. It is not yet possible to define precisely the frontiers of this ancient kingdom. The chain of fortresses built by the Egyptians from north of the Wadi Halfa as far as Semna (in the second cataract) provide us with a clue to the northern border, valid at least for the period of the Middle Kingdom (2040-1785 B.C.). It seems obvious that by building those fortresses the Egyptians wanted to secure their southern frontier to facilitate trading activities.

These postholes found at Kerma indicate the former presence of circular huts which were probably each topped with a roof made of palm fronds, straw or reeds.



They also wished to restrain the expansionary drive of a people sufficiently organized to be potentially dangerous—in other words, the people from the Kingdom of Kush. The Egyptian fortifications lie about 270 kilometers north of Kerma; the region in between seems to have been under the control of the rulers of Kush, who by the end of the seventeenth century B.C. even occupied some of the Egyptian strongholds.

Excauation at Kerma was obviously the best way to understand fully the ancient city and its ties to ancient Egypt and central Africa. It became especially critical in 1976 to hasten the fieldwork since some remains were in danger of disappearing due to the growth of the modern town of Kerma. In 1976, however, the Joint Archaeological Expedition of The Henry M. Blackmer Foundation and the Center of Oriental Studies of the University of Geneva terminated its work in the Sudan. In order to continue the work already started at Kerma, a new Swiss Mission was formed in 1977—the Archaeological Expedition of the University of Geneva to the Sudan—partly supported by Harry Blackmer until financial aid was provided by the Swiss National Science Foundation. Both the modern town of Kerma and the extension of agricultural exploitation to all the available land made it urgent to begin a systematic study of the entire site. The constant support of the Antiquities Service of the Sudan, headed by Nigm Ed Din Mohammed Sherif, considerably aided the work.

Although the renewed, ongoing excavations have not yet provided a complete understanding of the general layout of the ancient town, they have enabled us to study unknown types of dwellings which may be related to some of the present constructions in this part of the Sudan. Almost everywhere at Kerma, serious erosion has caused the disappearance of the walls of the buildings, and it is only the foundations and the floor levels that remain. Because of the complexity of the site, where a surface clearance reveals the presence of several stages of construction all very close to the surface, we have begun to clear large areas before undertaking in-depth excavation. Stratigraphic research in certain zones has only just begun. In addition, thick layers of ashes and charcoal bear testimony to violent destructions, and it is evident that during these periods of troubles the city was often modified. Another factor in the story of architecture at Kerma is the climate of the Sudan, which is much harsher than that of Egypt. In summer the temperature can be very high (up to 45°C). The ventilation of the houses is created by openings situated between the top of the walls and the roof. However, in winter all the openings are walled up with mats or small movable fences due to the cold (as low as 0°C) and violent winds.

The houses usually consisted of one or two rooms off large courts surrounded by enclosures. The walls, built of unfired brick, were very thin, measuring only about 18 centimeters in thickness. To avoid the collapse of the walls and partitions, the builders installed fine buttresses, usually the thickness of one brick, in the interiors of the rooms. Numerous



This tomb of the Middle Kerma period contained fragments of the cattle skin that protected the burial (top right and lower left), including the bed on which the deceased rested, a table, a stool, jugs, jars, fragments of clothing, bronze rivets originally belonging to a dagger, as well as a sacrificed lamb and pieces of meat.

postholes and a few hearths indicate the presence of a flimsier type of house. Even today, when a house owner does not have the means to build in mud-brick he is obliged to make do with a shelter made of wooden poles, covered and walled with reeds, straw and palm fronds.

In the western part of the city, we explored a group of buildings of Middle Kerma date, a period that permitted the town to develop under the best conditions. The ruins formed a slight mound and some of the walls were preserved to a height that enabled us to observe many structural features. The houses were well arranged, for example, and their architecture was perfectly adapted to the practical and climatic needs of the Sudan. One house, called House 13, provides a good example of the general layout of these structures. The entrance door from the street was placed near the middle of the eastern wall of the enclosure. This door is conspicuous because of its pilasters whose slight projection shows up in the foundations. Today, entrances to houses are still built in this way; reliefs or painted decorations with geometric patterns are often found on the pilasters and the archway above. It is worth mentioning that abstract geometric motifs were precisely one of the main themes of the Kerma craftspeople—a fact particularly evident in the decorations of the ceramic production of Kerma.

The entrance of House 13 opens into a court surrounded by two rooms with annexes. A row of small slabs used as bases for posts is present along the axis of the northern room. The wooden and palm frond roof was covered by clay plastering, whose

weight, as is often the case in present-day houses, could have been a problem. The bases of the supports partially protected the wood against termites. No central beams supported the roof of the slightly narrower southern room.

In the courtyard, two large buttresses leaning against one of the walls of the northern rooms probably served as a protection for the domestic water supply. A lightweight ceiling supported by the two buttresses would have kept the water cool. Here we discovered the sherds of a very large jar. A hippopotamus tooth found alongside the jar tells an interesting story. Its ivory was most probably used for the manufacture of various artifacts at Kerma. It is likely that a part of the animal was cut up and eaten on the spot since at the same level in the courtyard bone fragments of this animal's front hooves were discovered. A shelter opening onto the courtyard occupied the northwest corner of the dwelling. This was the kitchen area, and here the remains of hearths and half of a fired-clay oven were uncovered.

Numerous artifacts have turned up during the Kerma dig, providing some insight into the lives of the inhabitants of House 13 and the town in general: coarsely made clay figurines, both human and animal, and some personal ornaments were found. Other items included tools, ground red and yellow ochre, and a seal. The systematic collection of bones indicated that the inhabitants ate a large amount of beef and goat meat as well as some fish.

Archaeological work also concentrated on an area situated to the southwest of the Deffufa, where we noticed a large number of postholes distributed around a vast depression of loosely packed earth. On the northern side, the holes are small and it has not yet been possible to interpret them. To the south, the holes are larger and placed so that they form several almost perfect circles on the ground. These holes had been filled with wet mud which, when hardened, held the posts firmly in place. Separated by 20 to 35 centimeters, the posts were used to support a roof of a hut. This system of construction eliminated the necessity for a central beam. The roof was probably finished with a covering of palm fronds, straw or reeds. It is possible that the walls were mud-covered but there is no evidence for this. In plan, the huts had a diameter of 4.3 to 4.7 meters. We have been able to distinguish at least six successive phases of development, and the overlapping of the circles of postholes together with the variable depths of the holes suggests a long period of occupation.

More work will need to be done before the final identification and date of these buildings can be made, but a few observations can be offered. These huts, for instance, are reminiscent of certain habitations of the almost contemporary "C-Group" culture of Lower Nubia, and especially of constructions that are still found today in the center and the south of the Sudan. This quarter could have been inhabited by a poorer population or by natives who came from adjoining areas. The rare identifiable sherds, although coarse, seem to be contemporary with the Middle Kerma period and provide at least a clue about the date of these huts.



One of the best preserved tombs found at Kerma was this burial of a 16-year-old bowman (Tomb No. 57).

Perhaps the most impressive monument at Kerma is the western Deffufa, which rises to a majestic 17.50 meters right in the middle of the ancient city. It can be seen from a great distance and has been noticed by all travelers. Even so, there were still so many questions about it that the Geneva team resumed a detailed architectural analysis of the monument and its surroundings. Was the building a fortress, for example, or a residence for the rulers of Kerma? Or was it possibly a watchtower? The layout of this enormous mass of brickwork is quite unusual, but the rapid clearance carried out by G.-A. Reisner, as well as his explanations of its different parts, was by no means exhaustive.

It is obvious that the whole of the Deffufa was not constructed at one time. The monument as it appears today, with its massive walls covering a surface of 52 by 26 meters, represents the last stage of an edifice that underwent frequent modifications during the centuries of its existence. A careful examination of the masonry and the study of some rooms uncovered at the base of the monument have revealed the existence of an earlier edifice. It consisted of a narrow building about 13.50 meters wide with a rounded bastion to the north, a sort of solid apse. The building probably contained one or two narrow rooms in its central part. Unfortunately, a complete exploration of the earlier building cannot be made without endangering the stability of the whole monument.

This early layout was modified by the addition of very carefully built annexes at the four exterior corners. Further changes were made and these can still be related to the older building, indicating a desire to maintain a monument of great



The town of Kerma was protected by several lines of fortifications, some of them bordered by a dry ditch. The stone foundations of buttresses as well as the rectangular well belong to the southern gate of the Classic period.

importance in the middle of the city. It is noteworthy that a “northern apse,” like the one at the Deffufa, as well as an exceptional wall thickness are also found in the funerary chapel, called K XI, which is situated in the eastern cemetery. Of course, these similarities are not sufficient to assign a religious function to the Deffufa, but further elements point clearly to just such an interpretation.

During the Classic Kerma period, the older masonry was razed down to about 2.50 meters above ground level and a new architectural concept seems to have prevailed. From this level on, the type and the size of the bricks are different and large wooden beams were used to consolidate the masonry. The Deffufa came to a violent end by fire and only the imprints of the wooden beams are now visible. This enormous brickwork mass was constructed with a small chamber and a narrow corridor in its center. To reach these rooms, a wide stairway was built on the western side. The projecting door of large proportions was backed against the lateral wall; it was located between the main part of the edifice and a sort of elevated pylon. The stairway, covered by a light ceiling supported by rounded beams, cuts deeply into these two brickwork masses.

The room located on the axis of the Deffufa seems to have had two functions: one was perhaps of a ceremonial nature in association with the adjacent central corridor and a large circular stone; the other function was as a passageway leading to the

top of the monument. The large circular stone, although it had been moved, appears to be very near its original position. It cannot be the base of a column, as assumed by Reisner, since the roofing over this area was very light. Also, a column placed here at the end of the stairs would have served no purpose. In addition, there are still green tracings on the stone due to vitrification; this practice, common in Kerma, gave certain objects the appearance of faience. The technique demanded great skill and would seem more appropriate for a support of an exceptional object or even for an altar.

The entrance to the central corridor from the central room is indicated by a recess in the brickwork. The peculiar dimensions of this corridor (seven meters long by 0.50 meters wide) would hardly permit frequent comings and goings of a large number of people. Its height of 3.50 meters is well proven by the remains of an unusual ceiling: in contrast to the stairway, the masonry at the top of the corridor’s walls carries the imprints of joined beams. Placed perpendicular to the passage, the beams are very close to each other and supported the ceiling of unfired bricks measuring up to four meters thick. An overhanging part of the masonry is still preserved on the north side.

On the whole, these observations point to the importance of the central corridor which must have been directly related to the function of the Deffufa itself. A careful analysis of the masonry has shown that an older corridor existed at the same place, slightly longer and terminating under the end of the staircase. This passage is the center of the monument. The care with which it was roofed, and its orientation to the north where the apse of the primitive building was originally located, seem to correspond to specific requirements of a religious nature. The corridor, also present in another chapel, Chapel K XI, and in the eastern Deffufa (K II), could then represent a sort of sanctuary where sacred objects were placed.

Using the new archaeological evidence at our disposal, we made a scale model of the Deffufa to study its reconstruction. Little by little, the general outline of the building began to emerge, with battered walls and a front higher than the rest. Although its side entrance and the absence of rooms in the interior make it different from other known unfired brick construction, the structure is reminiscent of an Egyptian temple. Naturally, it would be exaggerating to envisage at Kerma an exact copy of an Egyptian monument, but Egyptian influence is undeniable. How was this foreign mode of construction introduced and adapted to the necessities of the Kerma region? Contemporary Egyptian examples are, unfortunately, rather rare and new discoveries will be necessary to follow the evolution of this type of brick architecture.

So far, the existence of a primitive building, the dominance of the central corridor and the large circular altar-like stone lend credence to the idea that the western Deffufa served a religious purpose. It has become clear that from very early times the Deffufa was surrounded by a complex of buildings—some to the west and other brick additions leaning against the eastern side of the Deffufa—

some of which were used for religious purposes. To the west, for instance, two square buildings were uncovered which do not display the same kind of plan common for houses excavated elsewhere in the city. Their thick walls, their foundations resting on a bed of sand, the large dimensions of their single rooms opening to the north, and the bases of a row of axial columns and other structural details all attribute to them a religious function. Identical features are found in the funerary chapels excavated by Reisner in the eastern necropolis. This hypothesis is reinforced by the presence of red ochre decoration applied to the floors and by the discovery of small rounded bases modeled in clay, no doubt designed as supports for food offerings placed in ceramic vessels.

In the eastern additions to the Deffufa, another chapel has been entirely excavated. It consisted of a rectangular room also opening to the north. The ceiling was originally supported by a row of six wooden columns whose stone bases have remained *in situ*. The floor, laid on two layers of mudbrick, was made of clay painted with several coatings of red ochre. This decoration is also present on the base of the walls. Subsequently, the roof was modified when it became necessary to hold up the timber framework with 16 posts. The bottom ends of the trunks are still preserved in holes which traverse the earlier floor. The fire that destroyed the Deffufa did not spare this room nor the adjoining installations. Below this architectural complex,

The western Deffufa made of unfired brick is one of the most impressive monuments of ancient Kerma. Recent investigations have proven it to be a religious construction.

which belongs to the last stages of Kerma's development, another group of buildings was uncovered. The removal of the chapel floor has revealed the lower part of the walls and occupation level of an earlier room. A red ochre wash, still brightly colored, covers the walls and the floor. Curiously, the floor level does not show signs of being used and, in certain places, one has the impression that the plastering has just been laid.

During the last season of excavation, the remains of a bronze workshop were brought to light near the western Deffufa. The foundry occupied a square surface about ten meters on each side. One kiln was particularly well preserved. The rectangular fire chamber consisted of eight parallel channels in which the hearths were situated. The thickness of the walls and of the bricks found in the debris seems to indicate that the heating chamber was vaulted.

All of these architectural features—the eastern chapel, the two square buildings to the west, the bronze workshop, and the western Deffufa itself—were once enclosed by a wide *temenos*, or wall. In some cases, this wall consisted of the exterior walls of actual buildings, but in other areas, such as to the east, a standing wall segment more than 3.60 meters thick has been uncovered. This large wall successfully isolated the Deffufa and its related structures from the city, clearly to form a sacred precinct devoted to the worship of several divinities. The incessant modification of all the buildings in this area tends to confirm this assumption.

Not surprisingly, the principal entry to this religious center lay on the south side. It was imperative to have a convenient entrance to both the





Deffufa and the western annexes. A room of very large dimensions (24 by ten meters) provided this access; it belongs to the Classic Kerma period, but other foundations of similar importance indicate that several installations preceded the final stage. Its height must have been considerable in view of the heavy rectangular supports that interrupt the open area of its floor. This monumental entrance hall is very different from the other buildings investigated at Kerma. It more closely resembles the massive architecture of the Egyptian fortresses of Batn el-Hagar (the “Belly of Rocks” near the second cataract), known to the inhabitants of the Kingdom of Kush since they occupied part of that territory during the Second Intermediate period.

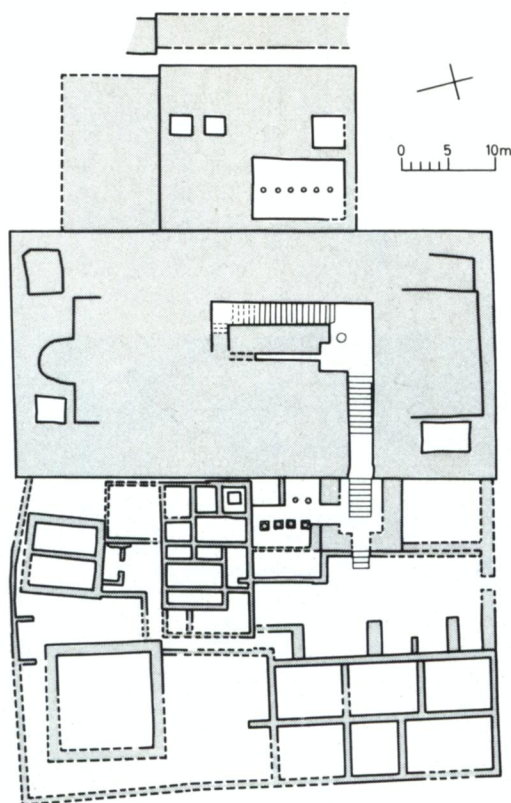
The eastern necropolis of Kerma, several thousand tombs strong and spreading out over more than one-and-a-half kilometers, naturally was pillaged in antiquity. Even so, this cemetery is rich territory for information on the development of the dif-



(Left) The religious center of Kerma underwent numerous modifications as indicated by the superposition of chapels and annexes around the western Deffufa. Under the pavement of a chapel, archaeologists revealed a floor covered with a red ochre wash of an earlier building. (Above) The superstructure of a tumulus dating to the Early Kerma period in the eastern cemetery. In the foreground lies an upturned bowl still in situ, its top embedded in the layer of mud which covered the tomb. (Below) Ceramic vessels such as this incised bowl were discovered in Middle Kerma tombs. Height, 18 centimeters.

ferent periods of Kerma’s history. With time, it expanded from north to south, the more ancient burials lying to the north. Within each major group — Early Kerma, Middle Kerma and Classic Kerma — the sequences are evidently much more complicated. For instance, the organization of the burials seems to reflect a desire to group the tombs around a central point, probably the tumulus of a person of high rank. Many superstructures are leveled and the small slabs of hard stone that covered them are scattered over the ground. Depressions in the ground still show where plunderers have dug.

Today, Kerma’s necropolis is still impressive, a fact heightened by the somber mass of a funerary chapel on its grounds—the eastern Deffufa—whose elevation is preserved at one end of the cemetery near a tumulus of about 90 meters in diameter. Another chapel, K XI, has survived to a height of two meters. It is also located in the southern part



Plan of the constructions situated under and around the western Deffufa.

of the cemetery where the tombs of the Classic Kerma period are situated, and it belongs to the last phases of development before the funerary area was abandoned. These large tombs presumably formed the “royal cemetery” of Kush and included both human and animal sacrifices. Usually the number of sacrificed retainers did not exceed one or two, but we know of several cases where 200 to 400 followers have been buried alive to serve their master in the hereafter. We restricted our research to the northern part of the cemetery, since this region is the most threatened by the proximity of the cultivated plain.

Even within this limited excavation area, however, it is possible to distinguish different types of burials and to observe numerous changes in the funerary customs of ancient Kerma. The tumuli of the earlier graves, for example, were strengthened as well as decorated by the use of small slabs of black basalt and ferruginous sandstone, both of which can be found on the neighboring djebels. The decoration was completed with white quartz pebbles from the surrounding desert. The body and the grave goods were protected only by ox hides. The deceased lay on the right side with the legs bent, and the usual orientation was east-west with the head to the east. Burial pits are oval, extremely narrow or circular.

One of the most remarkable features of the Early Kerma burials is the presence of ceramics placed on the surface. Vessels found *in situ* are always turned upside down on the ground, their tops embedded in the layer of mud which covered the tomb. They are generally found in an orderly arrangement to the east of the superstructures and

were accompanied by fragments of cattle skulls. Clearly a ceremony took place around the tumulus after it had been closed, perhaps a funerary meal shared with the deceased.

Some tombs have been uncovered almost intact. In one—tomb No. 57—the body of a 16-year-old bowman was discovered in remarkably well-preserved condition. The bowman had black hair arranged in small long curls thickly covering the skull. His physiognomy is strikingly reminiscent of the representations of Nubians in Egyptian iconography. Traces of two bows were visible in front of his body. The tomb no doubt had been plundered with the aim of obtaining the arrowheads, since only the broken ends of five reed arrows fletched with small bird feathers were found. A badly damaged leather quiver was held to the side of the body by a cross belt. On the forehead of the young archer were the traces of a headband and a pendant was suspended by a string from his neck.

The body of the archer was wrapped in a fabric shroud and the only piece of clothing was a leather loincloth decorated with a row of faience beads. Two pairs of sandals were placed in the tomb and an upturned bowl lay behind the body. Traces of a rectangular wooden or fiber structure, still surviving in places, probably represent the remnants of a framework on which the deceased was placed. The bottom of the tomb was covered with matting; stretched over the matting, an ox hide served as a couch, on which were placed the framework and a pillow. The body was covered by a second, very large and very carefully treated ox hide—one border of this, about three millimeters wide, was left covered with hair forming an interesting type of decoration.

A few tombs of the Middle Kerma period have also been excavated. In these, the deceased rested on the beds which had been theirs during their lifetime. We identified traces of repair which prove that some of these furnishings had been in use for a long time. Each bed was always turned in an east-west direction and made of a wooden frame resting on four square supports. The frame was strung with rawhide thongs in lattice-form and covered with animal skins. Traces of a footboard were common. In these Middle Kerma tombs, ceramic containers were placed on the north side of the grave as well as at the two ends of the bed, especially near the head. Animal sacrifices, mostly sheep, were very frequent. It seems that the animals were put alive into a leather or fabric sack and then placed south and west of the funerary bed.

The civilization of Kerma was almost entirely to disappear after the “colonization” of Nubia by the Egyptian pharaohs of Dynasty XVIII. During these troubled times, Kerma’s rulers moved their burials closer to town and the Nile. One of the last traces of the Kerma culture appears in this area, which today lies in the modern town of Kerma. There, a curious stone structure arranged in a funnel shape has been found. Although the water level has prevented a complete excavation, it almost certainly represents the final resting place of one of the last rulers of Kush. □