Art and Industry
The Achievements of Meroe

The empire of Meroe flourished along the Sudanic Nile valley from approximately 300 B.C. to A.D. 350. Although successors to the Napatan empire, the Meroites seem to have been less influenced by Egypt than the Napataans were. They developed a distinctive civilization which incorporated indigenous religious cults, a system for writing their language, new forms of architecture, and a notable ceramic tradition. They also had a sophisticated iron industry, one of the earliest known in Africa.

Meroe is an ancient name. One of its earliest occurrences is on the stela of the Napatan king Amani-nete-yerike, who ruled in the last third of the 5th century B.C. (Macadam 1949:51). Another reference to Meroe from about the same date comes from Herodotus (History, II, 29), who also states that Meroe was the capital city of the Ethiopians, that is, the Meroites. The pronunciation Merawi is suggested by the pronunciation of the

Figure 1. The lion-headed Nubian god Apedemak (right) in one of his several manifestations. The ample figure of Queen Amanitore and the Crown Prince (at left) accompany the god. During the Merotic period, indigenous gods such as Apedemak joined the official pantheon. From the Apedemak Temple at Naqa, Merotic period, early 1st century A.D.
From C.R. Lepsius, Denkmäler aus Agypten und Aethiopien, Vol. 1 (Berlin, 1913), Pl. 50
The Napatans

During its long history, the Sudanese Nile valley has witnessed the rise and fall of several civilizations. The civilization of Kerma, which flourished between 2400 B.C. and 1400 B.C., was the oldest; it is the oldest known civilization in Africa outside of Egypt. The state of Kerma was brought to an end as a result of the Egyptian conquest of the Sudan at the time of the Egyptian New Kingdom (circa 1570-1069 B.C.). After the withdrawal of the Egyptians about 1100 B.C., a dark age followed in the Sudan. The dark age, a period for which there have been no archaeological finds, was dispelled first in the region of Napata with the discovery of the cemetery of El Kurru. The dating of the beginning of El Kurru has been a subject of controversy among scholars; today, however, most would date the site to the 8th century B.C. date. The tomb at El Kurru antedating Kusha (who ruled circa 760-750 B.C.) reflect a modest indigenous culture representing possibly a principality with limited geographical boundaries.

Beginning with the reign of Kusha, a new culture showing signs of increased Egyptian influence began to evolve in El Kurru. The Egyptianization of the Napatans reached a peak during the time when Napata ruled over Egypt (700-525 B.C.). Of the five Sudanese kings who constituted the Egyptian 25th Dynasty, four were buried at El Kurru; the fifth king, the celebrated Taharqa, was buried in the cemetery at Nuri. (After the closure of El Kurru, the royal burial was transferred to Nuri and continued there until the end of the Napatian kingdom.)

Napata funerary and religious architecture, based on the Egyptian model, redefined the state religion, and the official written language all were derived to a large extent from the Egyptian example (see fig. 3).

The archaeological and documentary evidence from the time of Kusha onwards indicates very clearly that the small Napatian principality centered at El Kurru had been transformed into a full-fledged state by that time. Unfortunately, we know very little about the circumstances which surrounded the rise of the Napatian kingdom.

There are, of course, many theories formulated by various scholars to explain this occurrence (Connah 1975-76). Whatever the circumstances, they enabled the Napatans to establish a state that grew very rapidly. I am inclined to believe that the system of Napatian kingship and ritual was essential in ensuring the integrity and stability of the kingdom. Another factor was probably the economic system, which was based on the control of trade and the monopoly of the region's gold resources. The army must have played an important role in Napatian territorial expansion, as well as in protecting the state from external dangers.

Laying down the foundation of a strong state must be considered the most singular achievement of the Napatans. Another important achievement, however, was Napata's conquest and effective 70-year rule of Egypt, one of the greatest civilizations of the ancient world. A significant aspect of this conquest was that the Napatans entered Egypt as a civilized people. They did not destroy Egypt's monuments or symbols; on the contrary, they adopted many elements of Egyptian civilization. There is a general tendency in the literature today to underestimate this Sudanese achievement. Many scholars cite the state of unity inside Egypt as the main factor behind the Napatian conquest. While it is true that there was political uncertainty in Egypt, the Egyptian kings who stood in the way of Panakh and his forces nevertheless appear to have been very strong. Frankish's victory sheds light on how he encountered strong resistance from two fortified Egyptian towns.

Because the Napatans were strongly Egyptianized, it is difficult to see immediately their contribution to Egyptian civilization. Recent research in the art of the 25th Dynasty shows that the Napatans were able to assimilate the Egyptian art which was in some way in danger of becoming stiff (Wenig 1980:121). Future research in other fields might come up with similar discoveries.

One cannot leave the Napatans without mentioning their role as great builders, both in stone and in mud brick. In this particular field they surpassed their successors, the Merotics. The monuments of the Napatans are spread throughout Egypt and the Sudan and include stone pyramids, many temples and palaces, and a number of other buildings of a public nature.
The Merotics

Of all the civilizations which arose in the Sudan, Meroe is considered to be the most important because of its achievements. These achievements are significant not only in their magnificence, but also in their indigenous and inventive character, despite the veneer of foreign influence. By focusing on the nonroyal elements of the culture, it becomes apparent that the Merotic method of dealing with foreign civilizations was one of special selection. The Merotics borrowed the styles and techniques which best suited them. These borrowings were combined with elements of Merotic culture, resulting in completely different products. The products were "new works of undoubted Merotic character" (Wenig 1976:65).

Preservation of the State

The Merotic kings (Fig. 6) succeeded in maintaining and preserving the state which they inherited from their predecessors, the Napatan. The limited documentary evidence at our disposal shows that the danger of attack from the north continued to threaten the very existence of the Merotic empire. We know that Ptolemy II of Egypt (285-246 B.C.) seized control of one of the two most important gold mines in the Sudan—those of Wadi al Alaqi and Wadi Galabah. To secure these, he must have annihilated the extreme northern parts of the Merotic kingdom, the region known to the Greeks as Dukhaskhemos. That this was done is suggested by the writings of the historian Ios from Thebes (153-154 B.C.). Later, Ptolemy VI (180-145 B.C.) annexed an additional portion from the territory of the Merotic kingdom, fixing the Egyptian southern boundary very close to the second Cataract of the Nile (Tork 1987:155). Although there is no supporting evidence, it seems very likely that the Problematia colonia activities met with strong protest from the Meroites and possibly with military confrontation. On the other hand, the seizure of the gold mines deprived the Merotic kingdom of a very important source of wealth and strength.

In 23 B.C., the Meroites fought a direct war with the Roman rulers of Egypt. Strabo, who recounts the events of this war in very vivid detail, maintains that the Meroites started the aggression by attacking Roman settlements in Upper Egypt (Geography 17.1.53f). The Merotic attack was interpreted, quite rightly, as a protest against the Roman policies of the period that declared Meroe a protectorate of the Roman empire. I believe, following Tork, that the projection of the Merotic ruler was "the first step towards the creation of a Merotic client-kingdom and eventually the annexation of the kingdom" (1987:163).

Strabo maintains that the Meroites were utterly defeated and that their royal city was destroyed and its treasures looted. He also claims that the Romans carried their boundaries deeper into the Sudanese territory, establishing a military station at Qepr Birm. Having failed to stop the Roman intervention by force, the Merotics resorted to diplomacy. A Merotic delegation went to meet Emperor Augustus himself at Samos. After negotiation, the emperor granted the Meroites everything they asked for. Apparently, requests included, besides the remission of the tribute mentioned by Strabo, the cancellation of the idea of a client kingdom.

The Invention of a Writing System

A system for writing the native language of Kush finally appeared in the beginning of the 2nd century B.C. The actual date of this invention could have been slightly earlier (Abdalla 1976:193). The Merotic script consists of 25 signs, 21 of which are alphabetic and 2 of which are biliteral (that is, made up of two consonants). There are two sets of signs; a pictorial, less commonly used set of hieroglyphs, and a much-employed cursive script (see Fig. 9).

Although many of the Merotic symbols were borrowed from the Egyptian demotic and hieroglyphic writing, there are a number of fundamental differences between the two writing systems. For example, the method of writing the graphic signs differed. Merotic letters face toward the end of the line while Egyptian letters face toward the beginning. There was also a large discrepancy in the number of symbols used. The Merotics employed a total of 23 signs while the Egyptians used hundreds of symbols, a great many bilateral and trilateral signs, and a large number of determinatives. In addition, Merotic contained written vowel notations and Egyptian did not (Hinter 1975:30).

Concerning the origins of the Merotic language, most researchers now believe that it belongs to an African language family called Eastern Sudanic. This family also includes the Nubian languages which replaced Merotic in medieval times, as well as the Dinka, Kura, Daga, and Masiu languages.

Researchers in the field of Merotic language are proceeding slowly. Presently, it is only half understood. We can easily read whole sentences of Merotic, but we remain ignorant about most of their meaning due to the difficulty in deciphering the grammar and vocabulary.

The Worship of Indigenous Deities

All the gods known from the Napatian period belong to the Egyptian pantheon. The absence of indigenous Napatian gods may be due to deliberate suppression of their worship by the Napatian authorities.

Figure 5. The Merotic alphabet was a brilliant invention independent of the Phoenician-Greek alphabet upon which our western one is based. Merotic texts are not fully understood and await further decipherment.

Adapted from F. J. Griffith, Meroe, The Merotic Inscriptions of Shukul and Nekhen (Philadelphia: The University Museum, 1912), p. 11.

Figure 6. After 275 B.C. the capital of the Nubian state was moved from Napata to Meroe, further south along the Nile. This colossal royal figure is one of a number from the nearby Island of Argo. Probably 3rd century B.C. now in Khartoum.


Figure 7. Hundreds of graffiti were scratched on the soft sandstone walls of the Great Enclosure at Masaueoeret- es-Sufun. Dating from the 3rd century B.C. up to the present time, they provide a rich source of information about the everyday lives of Meroites and their successors. This head must likely date to the Meroitic period.

Dated by Arnold van de Water after Hinter 1974, Fig. 9.
In spite of this, indirect evidence indicates that there were a number of indigenous cults.

Graffiti from a site called by archaeologists 'the Great Enclosure' reveal the existence of an indigenous lion cult in the region of Missawarbat en-Sufra from as early as Napani times. The Great Enclosure is a curious structure composed of unroofed areas, three temples, many corridors, and a number of sloping ramps. The interior surfaces of some of the walls are carved with hundreds of graffiti (Fig. 7) and drawings representing human beings, animals, and zoomorphic creatures (Hinze 1979: figs. 2–44). Many of the graffiti are invocations to a lion god called Apedemak. Since this god is not known from any contemporary civilization, it must be indigenous-Meroitic. Hinze dates the buildings of the Great Enclosure to the Napani period (1797–50). This date may also be given to the appearance of the worship of Apedemak among the ordinary Meroites.

During the Meroitic period, and as early as the 3rd century B.C., Apedemak was raised to the status of an official god. A temple dedicated to his worship was built by a 3rd century Meroitic ruler called Arnekhamani (Hinze 1962: 370–90). Apedemak temples have been discovered in a number of sites in the Buban, such as Naga (Fig. 1), Bussa, and Umm Usala. Apedemak temples have also been found in the city of Meroe.

In representation, the god Apedemak may appear as a man with a lion's head or as a man with three lion heads, a torso and two sets of horns. In a third representation, he appears as a snake with a lion's head, with the snake's torso emerging from a lotus flower.

The iconography of Apedemak indicates that he was primarily a warrior god. In one of his reliefs he is represented holding a bow and arrows in one hand and a cord to which an enemy is tied in the other. The hymn written for Apedemak on the walls of the Misawarbat temple shows that he was also a creator god and a god of sustenance (see Hinze 1962: 51–82).

Another indigenous cult which appeared in the Meroitic period was the worship of the god Sebehswemaker. Like Apedemak, he was given a prominent place in the official religion. Recent excavations in Meroe have uncovered a new temple dedicated to this god, and the head of a statue of Sebehswemaker was found near the temple (Shinnie 1984: 902–05). All representations of him show him in the form of a man.

The walls of the temple of King Arnekhamani at Misawarbat depict a non-Egyptian goddess standing between four Egyptian goddesses. Because of her African appearance, this hitherto unknown goddess could be Meroitic (Shinnie 1967: 13). The existence of comparable indigenous cults in the northern half of the kingdom of Meroe is indicated by other graffiti. These graffiti were found carved either in the walls of the temples or on the rock surfaces in the desert (Millet 1964: 112–35).

All these deities, I believe, were known and worshiped by the ordinary people for a long time before some of them were recognized by the ruling families. This demonstrates how a preoccupation with royal culture to the exclusion of popular culture can distort our understanding of the life of ordinary people.

Iron Working

Several large mounds of iron slag were found on the outskirts of the city of Meroe during the first excavations (1904–1914). These early excavations did not provide any details about the dates or the technology of the industry. Fortunately, such information became available after the resumption of excavations in 1969–1975. Five furnaces have been discovered, together with the remains of three shallow pots. One of these had the tuyere (blow pipe) still connected to it. It is said to be the first archaeological discovery of a blow pipe ever made in Africa (Shinnie and Kenzie 1962: 25).

There are two methods for dating the evidence of iron working: dating the furnaces and dating the slag remains. At Meroe, furnace bottoms coming from Level 4 gave carbon 14 dates of 280 ± 120 B.C. Iron slag found at Level 16 has been dated to the 6th century B.C. Iron carbon 14 dates (MB 7: 514 ± 73 B.C.). This is the oldest date for evidence of iron working obtained in sub-Saharan Africa. The second oldest date comes from Nigeria, where carbon 14 tests from the site of Tarata yielded dates from the 5th and 3rd centuries B.C. (Phillipson 1965: 105).

Since the Meroitic dates are later than those of iron-working in North Africa and Egypt, it has been assumed that knowledge of iron working came to Meroe from the south, more specifically from Egypt. The Meroitic view, however, suggests that the Meroitic iron industry was an indigenous invention based upon an earlier copper-smelting industry.

The technology employed by the Meroites was probably similar to that employed by Africans today (Fig. 8). The iron ore placed in the pit of the furnace is fired by charcoal to the required temperature (1100° centigrade). The bellows are placed on a raised platform, 80 centimeters high, which is built around the circumference of the furnace. The method of operation for the excavated furnaces is difficult to determine. Six holes found in the exterior wall of one of the furnaces suggest that six hallow pots were used. It may be, however, that only three men, each operating two bellows. After separating the usable metal from the waste product (the slag), the metal is brought to the desired shape by repeated heating and hammering. Since there is no evidence to indicate that the Meroitic iron industry included casting, commenting on the standard of iron...
industry in Merowe, Shinnie and Kenuse write, "it indicates a relative sophistication on the part of the Meroites in their technology to a standard as yet unmatched by any known contemporary African society." (1982:17).

The impact of the local production of iron on the Meroitic kingdom must have been great. Despite the relative scarcity of iron artifacts from Meroitic sites, it is quite evident from the nature of the tools discovered that iron played a very important role in the life of the people. It was used in building, agriculture, and making weapons and spearheads. (Fig. 9). Many scholars now believe that the Meroites might have exported iron to their neighbors. Hinte believes that Meroe exported iron to Egypt (1978:83). Chtitek thinks that Meroitic iron might have found its way south to Axum in Ethiopia. If this can be proven, iron would have contributed greatly to the wealth of the Meroitic kingdom (Millet and Kelley 1982:45-47). The knowledge of iron technology may have spread from Meroe to other parts of Africa as well, possibly by means of trade caravans or slave-hunting expeditions. As Shinnie observed, Merowe remains the most obvious place from which iron technology could have reached central and east Africa in the first centuries A.D. (1997:468).

Meroitic Decorated Pottery

The profusion of pottery forms and the frequent discovery of pottery kilns leave little doubt that the production of pottery in Merowe was a flourishing industry. Many different wares were produced, both fine and domestic (Figs. 10-14). It is not my intention, however, to give a comprehensive account of Meroitic pottery. Rather, I would like to draw attention to a specific collection of pottery classified by Adams (1984:131) as Meroitic classic ware. I chose to highlight this group because it represents the best of the Meroitic pottery production, both with regard to fabric and decoration.

Figure 10. Nubian potters adopted wheel-made pottery when Nubia was a New Kingdom colony of Egypt. By Meroitic times, wheel-made pottery took a great variety of shapes and sizes, with both representational and geometric decoration. Here a single large serpent, spitting out anaba signs (symbols of life),ircles around the shoulder of what was probably a wine storage jar. On the body, free spotted giraffes alternate with lotus flowers.

UM no. ES185, H. 34, DIA. 24 cm.

Figure 11. Handmade pottery in simple shapes and incised or impressed geometric designs existed side by side with the more finely shaped and painted Meroitic classic ware (see Figs. 10, 12-14). Made by women, domestic pottery like this fine-shaped vessel persisted for thousands of years, reaching back to Nubian times. Karrum, 2nd to 3rd century A.D.

UM no. ES4011, H. 14 cm, DIA. 15 cm.

Figure 12. Some Meroitic potters were highly skilled, with distinct styles that make their work immediately recognizable. This eggshell thin pot, with its carefully painted, stylized decoration of human-faced crocuses and spiky flowers, is an example of the "Agrarian School." Karrum, 1st to 2nd century B.C.

UM no. ES001, H. 14 cm, DIA. 15 cm.

Figure 13. Among the many designs on Meroitic pots, we know that some (such as the "head and crocuses") refer to royalty or a particular deity. Others, such as this monochrome face with painted eyes, remain a mystery to us. 2nd-3rd century A.D.

UM no. KAKA 24, H. 6 cm.

Figure 14. A crocodile in red and black against a light-colored background on a ceramic box lid. One end of the lid is turned up to form a triangular handle painted with the eyes and nose of a stylized human face. Karrum, A.D. 1-50.

UM no. KAKA 130, H. 3.5 cm, W. 3.5 cm, T. 3.5 cm.
Innovations and Adaptations in Architecture

The variety, endurance, and survival of many of the Merotic buildings testify to the existence of skilled masons and creative architects among the Merotic people. The Merotics knew and employed well over ten building types. Some were funerary pyramids (Fig. 15a), mastabas, chapels. Some, such as temples, were religious. Other types included palaces, public buildings, fortifications, castles, baths (of Roman type), kiosks, taverns, winery presses, and ordinary homes (see Adams 1984). The building material most often employed was brick, both burnt and unburnt. Stone was employed mainly for monumental buildings.

Some of the Merotic building types were of foreign origin. However, it is important to stress once more what I mentioned earlier when Merotic people borrowed from foreign civilizations, the method of selection and the reworking of the selected elements in a Merotic mold resulted in a new product completely different from the source of the inspiration. Take the idea of the pyramid, for example. Renner's study of the Merotic pyramids and his classification of them into nine groups according to architectural variations (1923:48-53) prove the degree of diversity even within the Merotic's own production. The last pyramids in the cemetery of Behapi, in particular, demonstrate the ability of the Merotics to adapt this architectural type to their economic resources and indigenous technology.

Although the Egyptian type of temple did not die out, the appearance and spread of the simpler single- or double-chambered temples points to a certain degree of emancipation from the influence of Egyptian architectural design. Over 38 of these new Merotic temples have been recorded. Since many of them were found to be associated with the worship of the lion-god Apedemak, it has become a tradition to call them 'Lion-temples.' Although they became more popular in the Merotic period, there is good evidence to suggest that they were known since early Napatan times (Allan Hallam 1988:103). The reason for their revival in the Merotic period could have been practical; they are easy to construct and inexpensive to finance. A better explanation is that they were originally associated with the worship of indigenous deities which was revived in the Merotic period.

Some of the Merotic building types have no parallel in known contemporary civilizations. One of these is the so-called Great Enclosure in Musawwarat es-Sufra. Another is the castle of Kanang in Lower Nubia (identical as a palace by some scholars). Adams describes it as a unique example of Merotic architectural design (1984:284). The castle is a square mud-brick structure (Fig. 16) composed of many small square interconnected chambers. All of the rooms have barrel vault roofs and symmetrically placed windows. Before it was inundated, the castle stood up to the height of two stories, but it has been suggested that there was a third floor.

The employment of sculptured elephants as column bases in temples (see Shimut 1957:p. 209) is another example of Merotic innovation in architecture.

The Development of Agriculture

The cultivation of cereals in the alluvial plains on the two banks of the Nile began in the Sudan at the beginning...
of the 3rd millennium B.C. By the time of the Meriotic kingdom, there was a wide variety of agricultural produce. At the same time there was a great improvement in agricultural methods and techniques.

The comparatively high population during the Meriotic period and the consequent surplus must have been accomplished by an increase in the amount of food produced. Since there is no evidence that the Meriotics brought in Egyptian peasant farmers, the agricultural revolution of the 1 and 2 centuries A.D. must have been the achievement of the Meriotic people themselves. We believe that agriculture was the main activity of a considerable portion of the population. This is indicated by the distribution of sites along the lines of the alluvial plains and in the mouths of the wadis. Also, the increase in the number of urban centers must have been supported by intensified agricultural production in the rural areas. Hunter might be correct in believing that the man-made reservoirs, several of which have been discovered in Merroe and the Butana, were used to reserve water for drinking and irrigation purposes (1876-86). Be that as it may, conditions for agriculture in the Meriotic steppeland were certainly favorable. First, the plains are wide; second, this region receives summer rains which allow for cereal cultivation; third, it is assumed that new irrigation systems. Consequently, the decrease among them, placed a role in improving agricultural techniques.

In the northern provinces (Lower Nubia), where the plains are generally very narrow and rain is nonexistent, agriculture was revolutionized in the 1st century B.C. by the introduction of the irrigation techniques (see O'Connor, Fig. 1). This device helped to irrigate lands which lay far away from the reach of the annual Nile flood, thus resulting in a substantial increase in the area suitable for cultivation.

The Meriotic state flourished for more than 600 years. Yet the cultural achievements of the Meriotics are far more important than their political achievements. Merroe, for example, is likely to have spread iron working through other parts of Africa. It was also the most powerful state of the earliest sub-Saharan African kingdoms and, because of its political and ideologic beliefs, played a crucial role in the development of the arts—especially in sculpture, religion, technology, and the arts—standing on its own.