TEST EXCAVATIONS IN THE SOUTHERN RED SEA HILLS (SUDAN) : CULTURAL LINKAGES TO THE NORTH

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Background

An interdisciplinary project, which combines archaeological, historical and vegetation history research, is being carried out in the southern part of the Red Sea Hills in the area defined by co-ordinates 18°00´ to 19°20´ N and 35°10´ to 38°00´ E.

As a consequence of several years of extensive surveys in this desert and semidesert landscape the authors came to realize that its present environmental conditions were a product not only of climatic but also of cultural and historical factors. The main objective of the present research project is, therefore, to recover and synthesize information about the past and present cultural landscape of the southern Red Sea Hills.

The emphases in the present paper are on some of the results of the first archaeological test excavations carried out by the project in 1994 at four sites in the study area specified above. They comprise a small, isolated cave site, the ruins of a settlement and specimens of a grave type of special interest. These sites, *viz.* Kuleeteib, Tabot (Titabee), Mendilo, and Samadi (fig. 1), were expected to cast light on the variation in and distribution of the main types of remains previously identified. Two of the sites are settlements, the others graves.

Results of test-excavations

1. *The cave site of Kuleeteib* : *18°39.10′ N, 37°07.78′ E, alt. 1136 m asl.*

The area of Kuleeteib is situated on the eastern side of the Red Sea/ Nile watershed, 28 km south-southeast of Erkowit and ca. 120 km west of the Red Sea coast (fig. 1). Kuleeteib is a cave site situated in a small plain surrounded on all sides by a chain of steep mountain peaks. The name of the site is derived from the Hadendowa word *Kuleeteib,* which means the round/circular place or spot, according to the local tribesmen who led us to the site. The deposits on the floor of the plain are silt and sand of lacustrine origin surrounded by alluvial debris from surrounding peaks. The site is situated on the eastern side of this plain area. A local, seasonal water course (Arabic *khor*) called Sarobayeit runs westward some 100 m south of the cave site. Another gully of the same *khor* runs from north to south-west some 25 m west of the site. This drainage system indicates that there is a gentle north-south slope on the plain floor. The local drainage is in general opposite to the main drainage pattern caused by the tilted uplift of the mountain chain.

The cave is formed by a huge massive rock (Pl. I,a) possibly fallen from the peak above. This peak appears to be subject to an extensive thermochemical cavity weathering which eventually leads to large blocks falling down onto its pediment. The single massive rock is lying on one of the cavities of this pediment, so it is naturally undercut. This cavity forms a small, hemispherical roof open at both ends. The

entrance, on the east, is wide enough, ca. 1.80 m wide and 0.60 m high, to permit a human being to crawl in; while the other opening, on the west, is small and low, ca. 1.15 m wide and 0.30 m in height, so that only a child might possibly creep in, though with difficulty (Pl. I,b). This massive rock stands on its own but is adjoined by three other smaller rocks that abut it.

For someone entering the highly polished cavity of the cave through the eastern opening, adjoining cavities convey the impression that it consists of three overlapping compartments. One of these is the entrance chamber which has a maximum height of 1.00 m and is 0.80 m in depth. This chamber leads to a second chamber, the main central one, which is ca. 1.60 m high and 1.20 m in breadth. The third compartment is the last chamber when entering from the eastern opening, so it is referred to here as the back chamber. The western small opening is at the back of this chamber. The maximum dimensions of the interior of the cave are 3.90 m in depth from east to west, 2.20 m from north to south and 1.60 m in height.

The most striking feature of the cave is drawings painted on the ceilings of its three overlapping compartments. The painting was done with some kind of blackish dye (Pl. II,a), which may have turned red when exposed to light over time. The drawings are faint on the eastern part of the ceiling which is exposed to indirect sunlight; but those which are away from the sunlight are still intact in color and form, e.g. the paintings in the western part (away from the sunlight) are easily seen and quite distinct.

The predominant painted drawings are those of circles segmented by crossing lines. (Pl. II,a). Depending on one's angle of view, some are oriented like plus signs, while others are oriented like multiplication signs. Some of these circles are small, others large. Small circles fill the empty places between the large ones. An exceptionally large circle was drawn at the center of the ceiling, but what filled it is no longer distinguishable. In one area, the southern part of the cave, the paintings extend from the ceiling down the walls to the cave floor. Crossing lines forming square patterns are also found but further study is needed before it will be possible to decide whether the different signs are separate, overlapping or join to composite figures. A thorough analysis may also reveal whether the rock art is mythical in content or not. It is very clear from these paintings that the dye used for painting was added after the desired shapes had been scratched or cut into the rock. It is uncertain whether the painting was originally black or the color has changed with time. Paintings also are found outside the cave, in deep shadow on basal parts of the rock. Here the color is red on the best protected surfaces and fades away with increasing light. Compared to the cave ceiling the outdoor figures are bleached and only fragments of the same symbols can be traced. One may wonder whether the larger part of the exterior was also originally painted.

Inasmuch as the inhabitants of the area have, since time immemorial, held a mythically expressed belief[1] that absolutely forbids them from entering or even drawing near to the cave, one would suggest that these paintings have not been made in modern times. It is not clear whether these paintings are contemporary with the small amount of the cultural debris inside the cave and/or with that found in front of its western side. Apart from a few rock-shelters on the plateau, one of which is situated about 4 km southeast of the cave site at co-ordinates 18°38.26' N, 37°08.41' E, alt. 1078 m asl, the present writers do not know of any place which has similar drawings. None of the symbols was found to indicate a cultural association or dating for the drawings in the cave.

Out of respect for the sensibilities of the local inhabitants of the area, the cave itself was only probed. Instead, an area immediately outside was opened. However, remains lying on the surface of the floor of the cave were noted. The floor of the cave consists of fine dark silt. To judge by the debris scattered on the floor, it seems likely that the cave had been occupied as a shelter, particularly during rainy and cold weather. No conclusive evidence (e.g. grinders) was visible to indicate that domestic activities such as cooking were carried on inside the cave.

This interpretation is based on the study of the insubstantial remains found on the surface of the floor of the cave as well as what was found in the preliminary probe inside the cave. The finds consist of a few potsherds and a fireplace demarcated by stones and having some charcoal remains found close to the western opening.

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[1] The present inhabitants of the area believe that the cave is inhabited by the devil and that whoever passes close to it or dares go inside it will come out utterly maddened. These mythical beliefs have certainly served to preserve the cave from human disturbance.

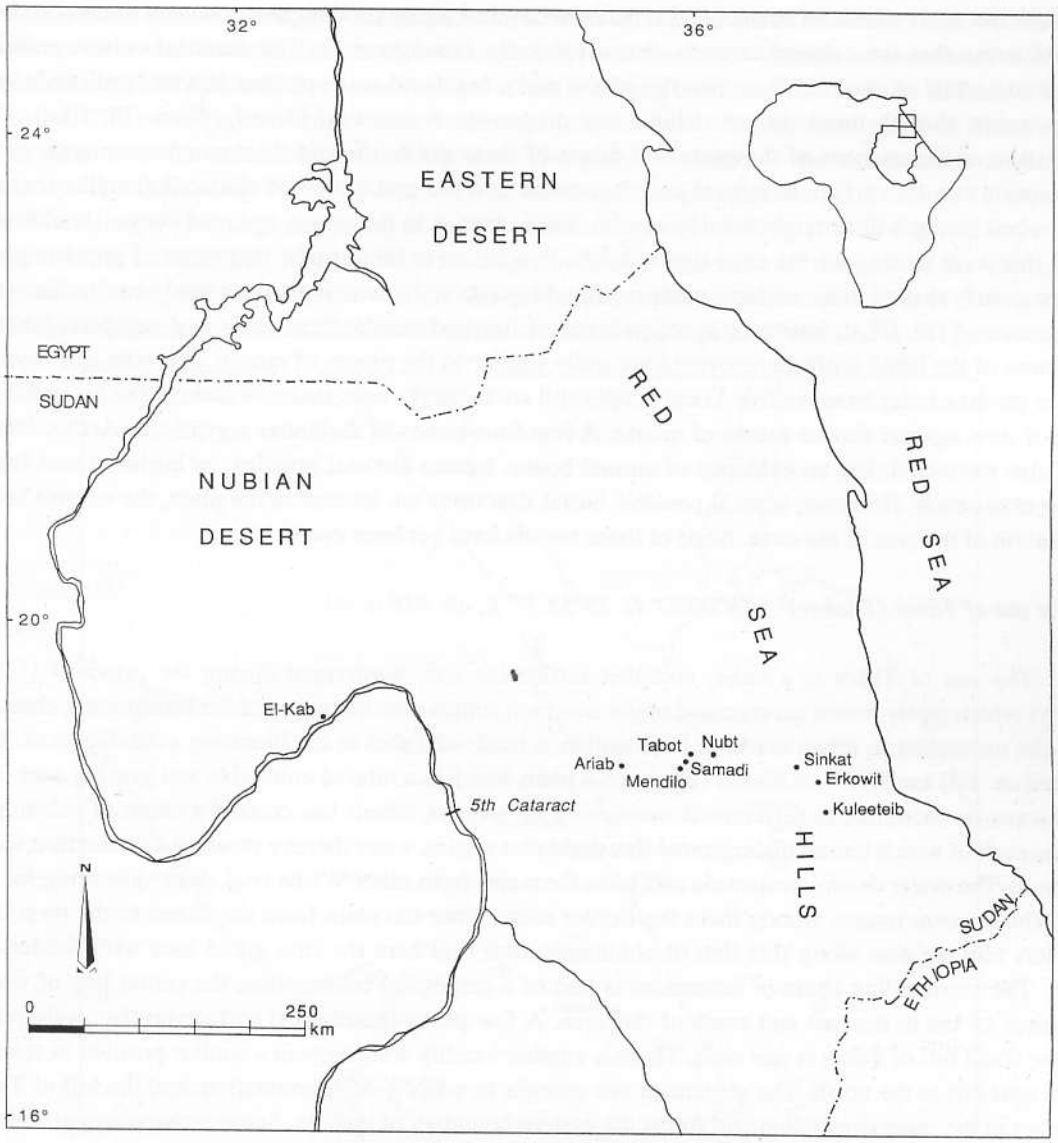

Fig. 1 Places in north and northeast Sudan noted in the text.

Since the total area of the floor of the cave (5-6 m^2) is rather too small to accommodate both a living space and domestic activities, it is likely, as stated above, that such domestic activities as cooking were performed in the area just outside the cave. If no domestic activities were carried out inside, the fireplace found in the back chamber of the cave could have been used to warm the place during the cold winter nights. The present inhabitants of this mountain-chain area (where winter mist condenses) use fire not only for cooking but also to dispel the chill of the night and early mornings. It is most likely that such domestic activities as cooking were performed in the area immediately outside the cave. In fact, immediately in front of and extending a few meters away from the western opening, there is evidence of domestic activity in the form of surface finds of a few mineral tempered, hand-made potsherds, some lithic debris made on quartz, and fragments of grinding stones. This area (immediately west of the cave) is relatively better protected from the predominant strong northerly winds and from direct run-off of rain water coming down from the surrounding hills (Pl. II,b). Therefore, its surface is less washed and its topsoil less eroded than that of the remainder of the plateau, which is badly washed and eroded by rain water and gully-water running down from the surrounding hills towards Khor Saraboyeit. In fact, in many places, the plain is eroded to such an extent that bedrock is exposed.

A total of six square meters was excavated in the area west of the cave (Pl. II,b). Deposits of cultural debris there are generally thin, with a maximum depth of 30 cm and in some places only 10 cm.

Although the study of the archaeological remains recovered is not yet complete, one can already state in general terms that the cultural layer is stratigraphically homogeneous. The material culture remains recovered consist of charcoal from two fire places and a few hand-made potsherds with familiar decorative patterns, though these do not exhibit any diagnostic features to identify them (Pl. III,a). The completion of the analysis of the paste and fabric of these potsherds and their comparison with wares exhibiting a similar surface treatment and decoration and the processing of charcoal samples sent for radiocarbon dating will certainly furnish us with better clues as to the origin, age, and cultural tradition to which this ware (and hence the cave site) belongs. In addition to these finds, fragments of grinders and a few irregularly shaped lithic artifacts made mainly on quartz and quartzite and one made on rhyolite were also recovered (Pl. III,a); but there is no evidence of finished standardized tools, e.g. scrapers, lunates, etc. Some of the lithic artifacts recovered are quite similar to the pieces of quartz, quartzite and rhyolite used in the area today to make fire. Local people still strike sparks onto tinder to make a fire by striking a piece of steel against similar pieces of quartz. A few fruit-stones of *Balanites ægyptiaca* (Arabic *lallob*) were also recovered; but no evidence of animal bones, human skeletal remains, or burial(s) was found during excavation. However, several possible burial structures are located in the plain, the nearest being 25 m north of the area of the cave. None of these burials have yet been opened.

2. *The site of Tabot (Titabee)*[1] *: 19°00.83′ N, 35°55.37′ E, alt. 618 m asl.*

The site of Tabot is a large, complex settlement site, discovered during the previous (1992) surveys which partly traced caravan and major transport routes now mainly used for transporting charcoal from the mountains to urban markets. No mention is made of Tabot in the literature available to us. It is situated ca. 100 km WNW of Sinkat (fig. 1) on a plain which is a rainfed cultivable and grazing area. The plain owes its existence to differential weathering of bedrock which has created a chain of subsurface basins, each of which has an underground threshold that retains water thereby creating a subsurface water reservoir. The water drains westwards and joins the water from other Wadis (e.g. *Amur*) heading for the Nile. The caravan routes, among them the Berber route, enter the plain from the desert to the west; and travelers moving east along this line of communication find here the first green area with fodder and water. The surrounding chain of mountains is part of a geological folding line, the center line of which lies some 15 km to the east and south of this area. A few peaks (inselbergs) surface on the sandy plain; and the small hill of Tabot is one such. There is another locality with ruins in a similar position in relation to the next hill to the north. The settlement site extends in a NNW-SSE orientation, and the hill of Tabot stretches in the same orientation and forms the eastern boundary of the site. Some archaeological features (stone constructions) were found on the top of this hill on both on its northern and southern ends. As already stated, Tabot is a complex site with stone structures of different types (Pl. III,b), possibly built during different periods. The stone structures consist of three main types which can be described as follows.

The stone walled structures

Stone walled apartments or rooms and enclosures (Pl. III,b) distributed across the site from north to south in two main clusters : a small cluster with low walls at the southern part of the site and a large cluster with relatively higher walls in the central part of the site. The walls of single rooms, complexes of rectangular and square room-structures and enclosures are all made from carefully selected long stones with flat surfaces. These stones are skillfully laid on top of each other along their flat surfaces, and no mortar or plaster has been detected in the constructions. All the structures have floors covered with sand, which may be a secondary aeolian deposit inasmuch as the stone walls act as wind breaks and aeolian deposits are common on the lee sides of the walls. The present height of the walls of these structures ranges between ca. 0.30 m and 1.50 m, and the width between 0.80 m and 1.00 m. An informant from the area (who was at the time of our conversation about 60 years old) said he recalled that during his

[1] *Tabot* is the Hadendowa name for the hill and the whole grazing and rainfed-cultivable area surrounding it. *Titabee* or *Tutabbo* is a Hadendowa word and denotes a place with stone-walled structures.

childhood these stone-walled apartments and rooms were as high as a roofless room, e.g. 4.00 m high. However, there was no indication of recent destruction; and the desert varnish on the stones was quite similar all over the site, and there was no sign of walls having collapsed on the scale indicated by our informant. The rocks (schist) from which these structures are built are available locally at Tabot and in the mountains to the east and south of the site. The general outline of the site exhibits an extreme regularity. The side facing Tabot hill has a row of buildings that parallels the main axis of Tabot, where smaller and larger buildings are arranged with a small one-room building at each end and three large multiple-room buildings in the middle. The larger buildings here and on the rest of the site are all designed following the same plan; a wall divides the building into two halves and another divides one of them into two smaller chambers. Shelves or niches are found in a regular pattern and style in all rooms.

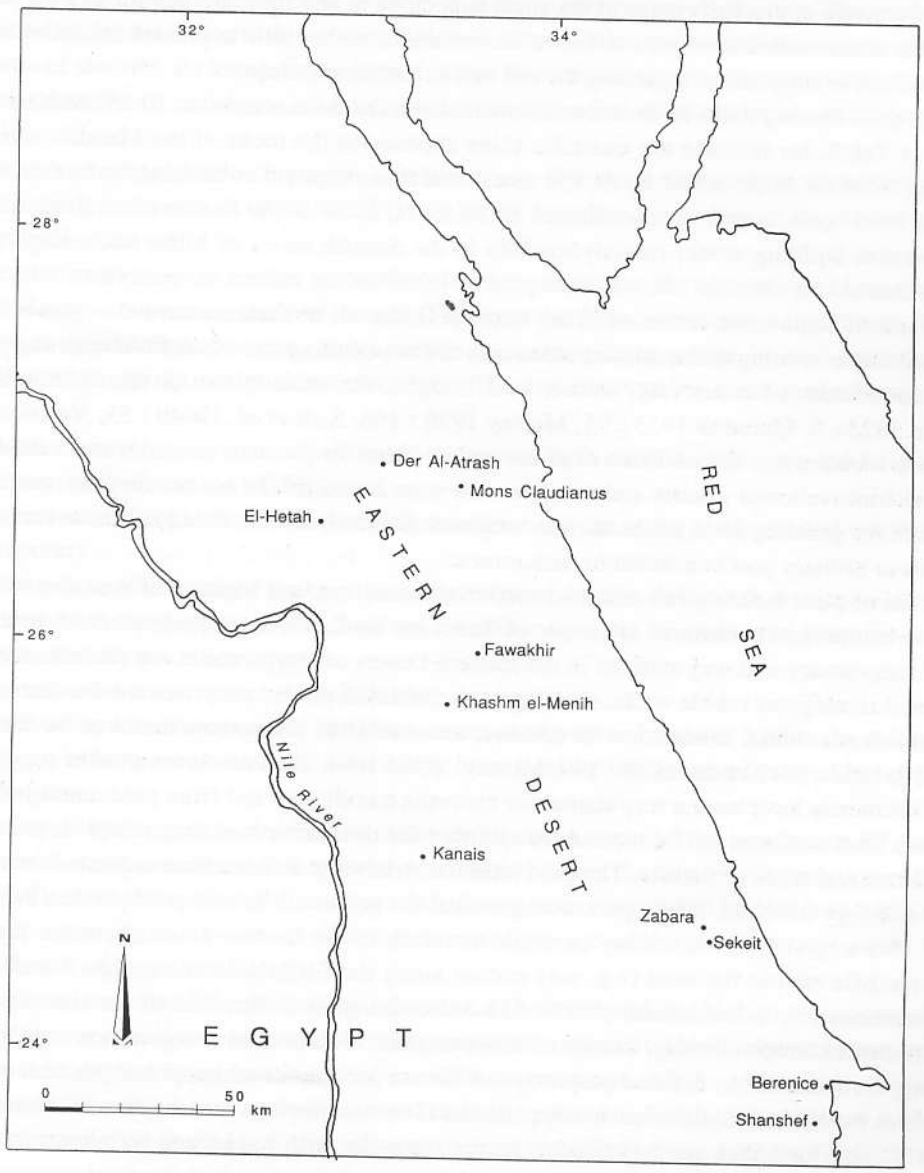

Fig. 2 Places in the Eastern Desert (Egypt) noted in the text.

A detailed study (i.e. test-excavations, analyses of remains recovered, and their interpretation) of the culture history of these stone walled structures has not yet begun. However, our recent survey of the site as well as published ancient sites in the Eastern Desert, both in Egypt and the Sudan (figs. 1 and 2), indicate that the Tabot stone-walled structures are similar to those of, for instance, the sites of Deraheib (Castiglioni & Castiglioni 1994 : 19-22; Sadr *et al.* 1994a : 4), Deir El-Atrash (Murray 1925 : 140, plate XIV no. 3), Fawakhir (*ibid.*, plate XIII no. 2), Khashm el-Menih (*ibid.* : 144), Mons Claudianus (*ibid.* : 148), El-Kanaïs (Meredith 1953 : 99), Sikeit and Zabara (Murray 1926 : 166). Perhaps the only notable

difference reported is that cementing materials and mortar, e.g. mud, were used in building the stone structures at those sites. However, a closer inspection and excavation at Tabot may still reveal such material in protected places. Some of the places referred to were gold mining sites, e.g. Deraheib, which shows signs of having been in use from the Ptolemaic period (and even before) until the Medieval Arab occupation (Sadr *et al.* 1994a : 4), and the site of Fawakhir (Murray 1925 : plate XIII no. 2); and some were emerald mining sites, e.g. the sites of Sikeit and Zabara (Ball 1912 : 2–3; Murray 1926 : 166). Furthermore, some of these sites were important road-stations, e.g. the sites of Khashm el-Menih (Murray 1925 : 140), El-Kanaïs, dated to the Graeco-Roman period (Meredith 1953 : 99), Deir El-Atrash and El-Heitah (Murray 1925 : 140); and some were important quarrying sites, e.g. the site of Mons Claudianus (*ibid.* : 148).

It is premature at this early stage of the study to indulge in any firm interpretation of the nature and function of the stone-walled structures at Tabot. Nevertheless, we are able to present the following observations and tentative suggestions regarding the site and its catchment area :

1. There are gold-bearing rocks in the mountains situated a few kilometers (ca. 10-15) east and south of the site of Tabot, for instance the quartzite veins exposed in the rocks of the Mendilo series at coordinates 18°54.94' N, 35°53.94' E, alt. 671 m asl. and those exposed at the head-water fans at Samadi (El-Nadi 1993 : pers. comm.) at coordinates 18°58.69' N, 35°57.57' E. Furthermore, there are quarries for decorative building stones (mainly marble) in the Samadi series of hills. Accordingly, it is not unlikely that at one time the site was occupied or inhabited by miners or quarrymen who exploited mineral and valuable-stone resources in the vicinity. However, no such substantial evidence of mining and quarrying as rotating mills, rubbing stones, anvils or pounding stones, inclined washing platforms, permanent sources of water (e.g. wells), oval troughs, etc. (Castiglioni & Castiglioni 1994 : 19; Madigan 1922 : 5; Meredith 1953 : 95; Murray 1926 : 166; Sadr *et al.* 1994b : 55; Vercoutter 1959 : 141) were found at the site of Tabot or at the source areas for precious minerals and valuable rocks. Only one concave lower grinder and an upper one were found (Pl. IV,a); but they are very similar to those used for grinding food-grains such as sorghum. Even so, the site could still have had a function as a trade or military post connected to such mines.
2. The details of plan, building raw-material used in construction, and location of the ruins of the stone-walled structures and enclosures at the site of Tabot are similar to and largely conform to the general type of caravansary and way stations in the Eastern Desert of Egypt which are characterized by their substantial rectangular rubble walls, standing in the midst of plains, yet protected. Furthermore, some of the potsherds found, though few in number, are similar to the pottery found at the way stations (Meredith 1952 : 94; Murray 1925 : 140; Murray 1926 : 166). Thus one is tempted to suggest that the site of Tabot may have been a way station for caravans traveling to and from gold mining sites, e.g. in the Ariab area southeast of Tabot, and the quarries for decorative building stones in the mountains situated east and south of the site. The gold mines at Ariab (fig. 1) have been exploited from Dynastic Period in Egypt (El-Nour 1990 : pers. comm.) until the present. It is also possible that the Tabot site served as a way station for trading caravans traveling in the Eastern Desert between Egypt in the north, the Nile area in the west (e.g. way station along the El-Kab-Berenice, figs. 1 and 2, caravan route mentioned by Schweinfurth (1899 : 538-561), and areas further east of the site along the Red Sea Coast and Ethiopia. Finally, the site of Tabot might also have been a way station used by caravans traveling via this area for different purposes at different periods. Its geographical position on the main route from the Nile strengthens such a hypothesis. If our assumption that the site of Tabot was a way station is confirmed, then we may need to survey the areas further west and further north to look for similar sites which could link Tabot with an already located way station along the caravan route to the Nile. Egemi presented (in a doctoral-dissertation) a few sources on some of the ancient caravan routes (Egemi 1994 : 91). The site of Tabot was most likely situated along one of these routes; namely the route of Berber-Musmar-Sinkat-Suakin.

The rectangular platforms

These are rectangular earthen platforms framed with long flat stones stuck lengthwise into the ground (Pl. III,b). There are five distinct structures of this type as well as a sixth which is partly exposed and partly buried under the foundations of a stone-walled ruin.

Two of the distinct platforms are laid one after the other in a north-south direction at the eastern side of the site parallel to the axis of Tabot hill. Each of these is 8.0x15.0x0.15 m. A third platform, similar to these in size and plan, is situated at the middle of the western side of the site and is separated from the previous ones by a complex of stone-walled rooms and apartments; but this one is orientated east-west. Further north of this platform, there is another one, similar in plan and orientation but smaller, ca. 6.0x13.0x0.15 m; and the fifth one is situated at the southern part of the site. The sixth platform is partly buried under the western side of a complex of stone-walled rooms and apartments situated in the central area of the site. Its being partly buried under these stone walled structures indicates that it pre-dates them. However, it remains to be determined whether the five other platforms are contemporary with it or not.

Hand and wheel-made fragments of pottery are found on the surface of these platforms. A complete lower grinder and an upper one (Pl. IV,a) were found on the surface of the southern platform at the eastern side of the site.

Test excavations were carried out at two platforms situated at the eastern side of the site and at the one situated at the mid-western side of the site. These are the three best preserved platforms. Thus, it was reasonable to expect that the stratigraphy and/or the culture-layer would be undisturbed; hence test excavations were carried out at these platforms. The test-excavations were made for the following reasons :

1. To obtain archaeological data which might cast some light on : (i) the nature and function of these platforms; (ii) their cultural affiliations.
2. To obtain material for radiocarbon dating to determine the age of the platforms and whether they were contemporary.
3. To obtain data which might make it possible to compare the dates and material culture remains excavated from the platforms with those which will eventually be excavated from the stone walled structures and the pre-Islamic burials.

The test excavations revealed the following :

1. The cultural layer is homogeneous and there are no stratigraphic breaks or hiatuses in it. This indicates that these platform-structures have most likely been used by one group of people during a particular period of time.
2. The cultural layer varies in depth from between 30 cm in some of the trenches to 50 cm in others. However, it is not possible at this stage of our study to assess the rate of accumulation of the cultural deposit. The samples collected for radiocarbon dating from the top and bottom levels of the trenches may help assessing the questions of the duration of the use of the platforms and hence the rate of accumulation of the cultural debris.
3. Although the analysis of the archaeological material (both cultural and biological) recovered is not yet finished, we were still able to record the following observations : (i) No complete pottery or potsherds that could be reconstructed into complete vessels were recovered. All the collection excavated consists of potsherds of different sizes, thickness and surface treatments. Some of them are of a wheel-made, highly polished, thin-walled buff slipped ware (not yet classified). Some of these (Pl. IV,b) are similar to the potsherds found at the site of Berenice (Castiglioni & Castiglioni 1994 : 22). A small, highly polished, buff-slipped potsherd with dotted wavy line decoration and a few black-slipped ribbed potsherds (Pl. V,a) were also found. The black-slipped, ribbed sherds are probably from an amphora of a type known from Roman Egypt (Török 1995 : pers. comm.). Ware similar to that of the ribbed sherds was also found at Shenshef in the Eastern Desert in Egypt (fig. 2) and dated to the Roman Period (Murray 1926 : 166) and in tombs of a ring-type at El-Kab (fig. 1) also thought to have the characteristics of the Roman Period (Schweinfurth 1899 : 536-561). The evidence of black-slipped ribbed ware at the site of Tabot indicates contacts, e.g. through trade, between this part of the western Red Sea Hills and Egypt. Other sherds are hand-made (Pl. V,a), grey or light brown, plain or

decorated (mainly incised), mostly thick-walled sherds with a mineral temper of, e.g., quartz grains and mica. Hand-made incised ware similar to that recovered from the site of Tabot has been found elsewhere and ascribed to the immediately pre-Islamic Beja (Sadr *et al.* 1994a : 6). Mineralogical analysis of this ware will certainly help in assessing the origins of the inclusions in it, and then we may also be able to suggest the connections of this site with the outside world. (ii) A few large and small fragments of upper and lower grinders were found (Pl. V,b), but there is no evidence of other lithic or metal artifacts. The size, type and number of the grinders found do not indicate whether they were used in any (e.g. crushing, grinding, milling, etc.) activity related to extraction of gold from gold-bearing rocks. In fact, most of the fragments found resemble the type of grinders used for grinding grain-foods, e.g. sorghum, in the same area today. (iii) Teeth and bone remains of cattle and sheep/goat (Pl. VI,a) were found in some of the excavated trenches. Though the study of the faunal remains has not been finished, a preliminary study of the evidence of cattle bones suggests they may be significant for such issues as the origins of the cattle, the economy of the inhabitants of the area, the climate, etc. (iv) A few fragments of shells (some big enough for identification) were recovered from the soil-platform structures (Pl. VI,b). Some of these shells are identified as sea shells (Bakri 1994 : pers. comm.), the nearest source for which is the Red Sea some 140 km east of the site (fig. 1). (v) Lenses of goat and/or sheep feces were found in a well preserved, desiccated state. Similar layers were found in midden deposits at way stations of the Graeco-Roman Period during the survey carried out by two members of the project in the Eastern Desert of Egypt. The palynological analysis of this material is expected to give valuable data on vegetation history. The sample from Tabot will be compared with recent goat feces collected close to the Tabot site and with the feces from one Graeco-Roman station in Egypt.

The mixed burial ground

A mixed burial ground is situated in the southern and eastern parts of the site. It consists of Muslim-graves and tumuli of pre-Islamic date. All have stone superstructures. The question of the contemporaneity of these different burials with other structures at the site will be addressed after carrying out excavations in those areas.

The large size and complexity of the Tabot site (e.g. buildings, soil-platforms, burial ground) suggest it was a settlement. Furthermore, one may tentatively suggest that the Islamic and pre-Islamic burials at the southern and eastern parts of the site indicate that it was occupied at least for a period of time that overlapped between two cultural phases, namely pre-Islamic and early Islamic. Hence each of the different burial types could be contemporary with either of these cultural phases. However, it is too early to draw any conclusions as to the origins of the populations that inhabited the site during these periods.

It also appears that the site has been used either as a center for mining expeditions or as a way station for trading caravans at least since the Greek and/or Roman Periods. In this connection, its location clearly suggests its significance both as a junction and transit station on the way to areas further south (where the Ariab gold-mines are), further east (towards the Red Sea and Ethiopia), further west (towards the Nile) and further north (towards Egypt). The following season(s) of excavations at the site may, we hope, produce data which will enable us to test this hypothesis.

Test excavations at Mendilo and Samadi-Area 1

Both Mendilo and Samadi are long, meandering, seasonal streams (Arabic *wadi*) whose courses run in an east-west direction amongst north-south orientated spurs of the Red Sea Hills some 100 km west of Sinkat (fig. 1). The upper courses of the Mendilo and the Samadi streams are structurally controlled by the mountains. Both wadis have tributaries with sub-dendritic patterns at the high contours of the mountains (El-Nadi 1984 : 3-4). These sub-dendritic patterns join their courses to form big gullies at the lower contours of the mountains. The latter drain into the wider streams (*wadis*) of Mendilo and Samadi which run in a westerly direction towards the plains and sand plateau situated at the western side of the mountain chain. Eventually their waters drain into a larger watercourse called Akumpt. At present run-off

water is seen only after incidents of the rare torrential rainfall characteristic of the desert and semi-desert climate of this region (*ibid.* : 4). The drainage pattern is typical of the mountain khors. Eventually their waters both join Akumpt on the way to the Nile basin.

Unfortunately, the geology of the part of the Red Sea Hills where Mendilo and Samadi are situated is poorly known at best. However, the available geological information shows that "the Red Sea Hills region is formed entirely of crystalline basement rocks and that 60-70% of the surface area is covered by syn- to late-tectonic batholithic granitoids" (*ibid.*). Metamorphic sequences do occur as part of the post-tectonic intrusions; and metavolcanic sequences in such areas as Mendilo and Samadi tend to form moderate topography, i.e. less than 1000 meters in elevation (El-Nadi 1993 : pers. comm.).

The results of the archaeological surveys we carried out attested to the presence of different types of ancient stone structures situated mainly along the low-lying hills and plateaus overlooking the courses of Mendilo and Samadi. With the exception of one locality, mentioned above, where stone-walled ruins similar to those found at Tabot occur, all the stone structures recorded from these areas are apparently different types of graves (to judge by their superstructures).

Four graves (two at Mendilo and two at Samadi) were excavated; all were circular stone platforms of different types.

1. *Excavations at Mendilo*[1]

Two graves were excavated at Mendilo (abbreviated M-B1 and M-B2)

M-B1 : 18°56.30' N, 35°53.03' E, alt. 537 m asl.

On the basis of the shape of its superstructure, M-B1(Mendilo-Burial 1) is classified as being of the type of circular stone platform with a depression-like conical hole in its center. The height of the platform is ca. 0.50 m, and its diameter ca. 6.40 m. It has a perfectly circular outer wall, 0.40 m thick, built up of long, flat stones carefully laid on top of each other without the use of any mortar. The walls of the conical hole are made of long, large stone slabs with flat surfaces. The area between this conical hole and the outline wall is filled with stones of different sizes and shapes (fig. 3). A few potsherds were found on the upper surface of this platform.

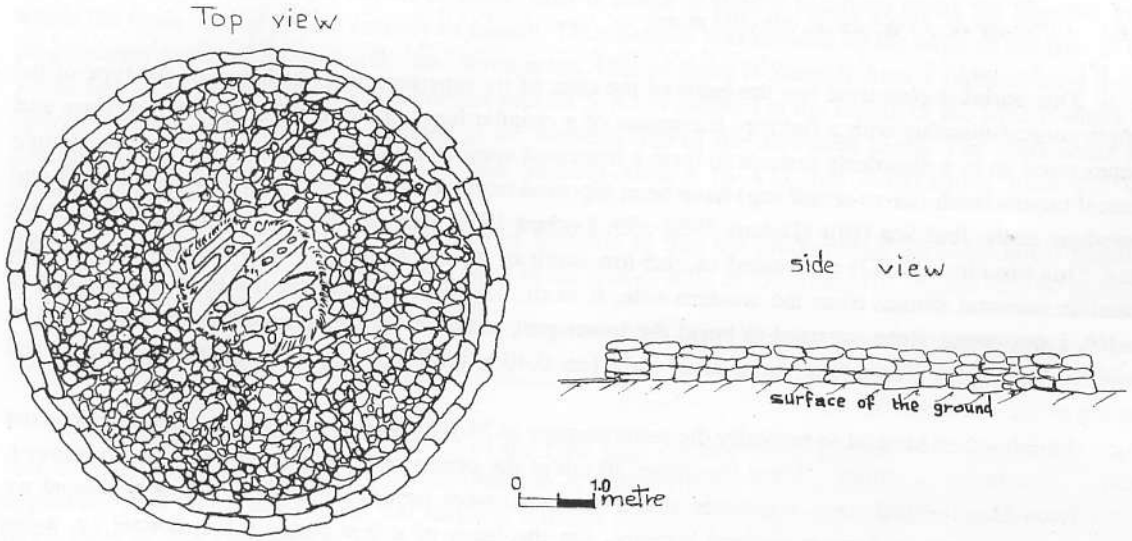

Fig. 3 Mendilo, tumulus (A) M-B1. Top and side views of superstructure.

[1] *Mendilo* is a Hadendowa word compounded of *men* and *di* which mean 'the fruit of' and *lo* which means the place with water (a Hadendowa informant from the Okwampt area, 1995 : pers. comm.).

The structure is situated on a rock *hamada* (fragmented bedrock deposit) foot-hill overlooking the Mendilo stream from the eastern side. This area is situated at the beginning of the mountain chain that bounds this (lower) part of the Mendilo stream. Circular stone platform-graves similar to M-B1 are frequent within the research area and also occur in other localities to the northeast (of this area) in the Red Sea Hills (Clark 1938 : 28; Crowfoot 1922 : 84; Madigan 1922 : 81; Owen 1937 : 185). They have even been discovered as far north as latitude 25° N in Egypt.

The excavation consisted mainly of removing large and small boulders. Digging spoons were used to scrape the soil embedded among the boulders. Human skeletal remains were exposed at a depth of 0.60 m from the upper surface of the superstructure. Two stones of fruits of *Balanites aegyptiaca* (Arabic *lallob*) were also found (Pl. VI,c). Owing to their thick testum, these fruit stones are resistant to decay. The skeletal remains were found in a circular, stone-walled burial chamber which was ca. 0.60 m in diameter. They are badly fragmented and most of the small and soft parts of the skeleton were brittle or had crumbled to dust. However, one may assume with some reservation that the deceased was lying north-south with the head to the south and legs to the north. But we could not be certain whether this reconstructed orientation is correct or in which direction the head was facing when the deceased was buried. We reconstructed the orientation of the deceased on the basis of the place and position where we found fragments of the skull, some parts of the humerus, fragments of ribs and some parts of the femurs. The position of the burial chamber in this grave is like that found in similar graves with similar burial chambers excavated at a few archaeological sites in the Egyptian Eastern Desert (Sadr *et al.* 1994a : 4) and the Nubian Desert (Schweinfurth 1899 : 536-561); that is to say, the funerary structure consists only of a superstructure within which the burial chamber is built (Pl. VII,a). This type of funerary monument is indeed different from the types of burials we have excavated along the Central Nile Basin where the superstructure and substructure (in which the burial pit is dug into the sub-soil) are quite distinct and separable from each other.

Unfortunately, the fragmented bone material found was low in collagen and no radiocarbon datable charcoal material was found in this grave. However, on the basis of comparison with similar circular stone platform-structures excavated at other sites in the Egyptian Eastern Desert, in the Nubian Desert, and along the Nile north of the 5th Cataract, M-B1 can probably be dated either to the 7th-8th century AD (Sadr *et al.* 1994a : 5; Sadr *et al.* 1994b : 64) or to the 3rd or 4th century AD as stated by Schweinfurth (1899 : 536-561).

M-B2 : 18°56.09′ N, 35°53.29′ E, alt. 593 m asl.

This burial is classified (on the basis of the plan of its superstructure) as being of the type of the simple conical tumulus with a flat top. It consists of a circular heap of stone slabs of different sizes and shapes piled up in a disorderly fashion to form a truncated conical structure (Pl. VII,b and fig. 4). Simple conical tumuli (with flat or coned top) have been reported from other localities in the Nubian Desert and elsewhere in the Red Sea Hills (Delany 1952 : 59; Leclant 1970 : Fig. 48 tab XLVI; Madigan 1922 : 80; etc.). This tumulus (M-B2) is situated ca. 1.5 km south of M-B1 at the foot of a hill overlooking the Mendilo seasonal stream from the western side. It is ca. 3.5 m in diameter at the base and 0.60 m in height. Large stone slabs are used to build the lower part of the structure and smaller ones are used to build the upper part. Three long, large stone slabs (ca. 0.40 to 0.60 m long) were apparently used to seal the top of the structure (fig. 4).

M-B2 was excavated in basically the same manner as M-B1 was (i.e. excavation operations consist mainly of removal of stones). When the upper 30 cm at the center of the superstructure were removed, two brownish-grey hand-made potsherds (one a rimsherd) were found. Some 7 cm below this level we uncovered fragmentary human skeletal remains. On the basis of a few partly intact bones, i.e. a big fragment of the skull, some few ribs, some parts of the bones of the forearms, a big fragment of the sacrum, and a shaft of femur, we were able to suggest that the deceased was buried in a flexed posture, lying in a north-south orientation with the legs towards the north and the head to the south facing east (Pl. VIII,a). Although no distinct boundaries of the burial chamber were distinguished, it was still clear that the deceased had been buried within the superstructure of the grave (Pl. VIII,a). That is to say, like that of M-B1 (Pl. VII,a), the burial chamber is integrated into the superstructure. As in M-B1, bone

material was brittle and without sufficient collagen for dating; and no charcoal that could be used for radiocarbon dating was found. The orientation and position of the deceased is quite comparable to the late Meroitic burial tradition in Central Sudan dated ca. 3rd–4th centuries AD. However, no grave goods such as pottery vessels or articles for personal decoration (beads), were found in this grave.

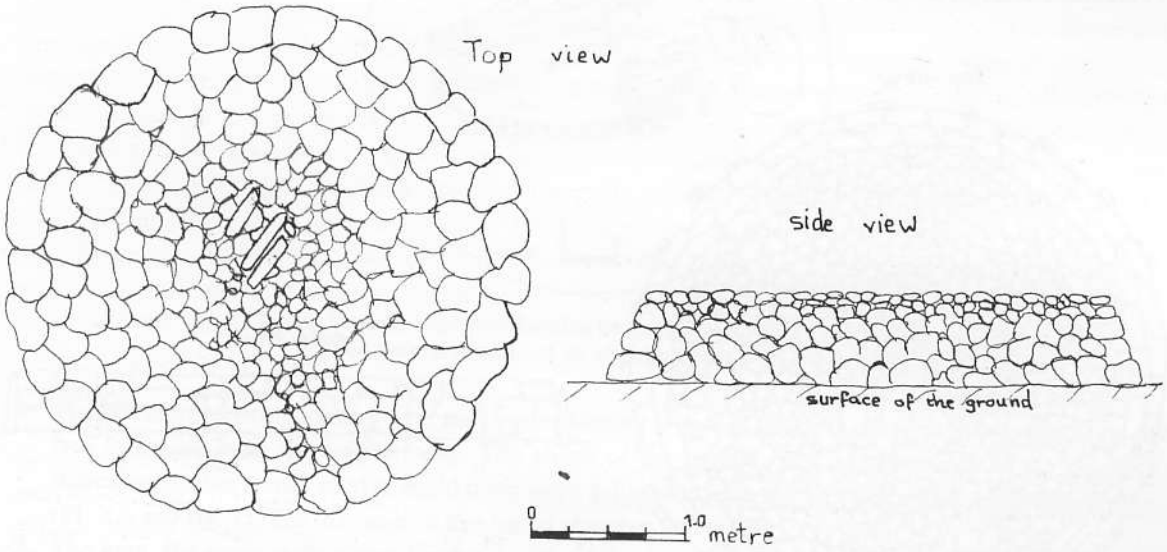

Fig. 4 Mendilo, tumulus (A) M-B2. Top and side views of superstructure.

2. *Excavations at Samadi-Area 1*

Unlike the Mendilo seasonal stream and the area around it, the Samadi stream is characterized by a larger course and a more complicated seasonal stream-system. Samadi also has a longer passage through different and alternating plain and mountainous landscapes. Along this passage, at the foot of hills and on the low-lying flat-topped hills and plateaus, there is a greater variety of archaeological features, e.g. ancient ruins, rock drawings, tumuli of stone, than is found at similar locations along the Mendilo khor where the finds consist almost entirely of tumuli. Thus Samadi was divided on the basis of the type of the predominant archaeological feature into three areas. One of these is Samadi-Area 1 (Abbreviated S-A1) where test-excavations were carried out last season. S-A1 is situated at the mouth of the stream where its course ebbs out onto the plains situated at the western side of the mountain chain. The other areas are designated as Samadi-Area 2 (S-A2) and Samadi-Area 3 (S-A3), but excavations have not yet commenced in these areas.

Samadi-Area 1 is similar to the area of Mendilo in that the predominant archaeological features there are tumuli of the circular types, all found at the foot of hills or low-lying flat topped hills or plateaus overlooking the course of the Samadi stream.

S-A1-B1 : 18°58.07′ N, 35°54.36′ E, alt. 625 m asl.

This tumulus is classified as being of the type with circular stone platform and stone flags. Like that of M-B1, the outer wall of this tumulus too is built of three carefully laid layers of (selected or deliberately cut) long stones with flat surfaces without using any mortar (Pl. VIII,b and fig. 5). Furthermore, there is also a depression-like conical hole ca. 2.5 m in diameter at the center of the platform. This conical hole is made of long stones with flat surfaces, each of which is ca. 0.80 m long and 0.30 m wide. The space between the outer wall and this conical hole is also similar to that in M-B1 in that it is filled up with stone slabs of different sizes and shapes (fig. 5). S-A1-B1 is ca. 7.00 m in diameter and 0.80 m in height (fig. 5). Plain and decorated hand-made potsherds were found (Pl. IX,a) on the surface of the platform, and some were found immediately around the tumulus. The major difference and characteristic

feature (as compared with M-B1) is the long, stone flags (a few centimeters shorter than the height of the structure) which are set up round the outer wall (fig. 5). Circular stone platform tumuli with stone flags round their circumference have been reported from the site of Nubt (fig. 1) situated northeast of Samadi (Owen 1937 : 185), from elsewhere in the Red Sea Hills, and from areas further west along the Nile (Vercoutter 1959 : Plate XXVIII facing page 136).

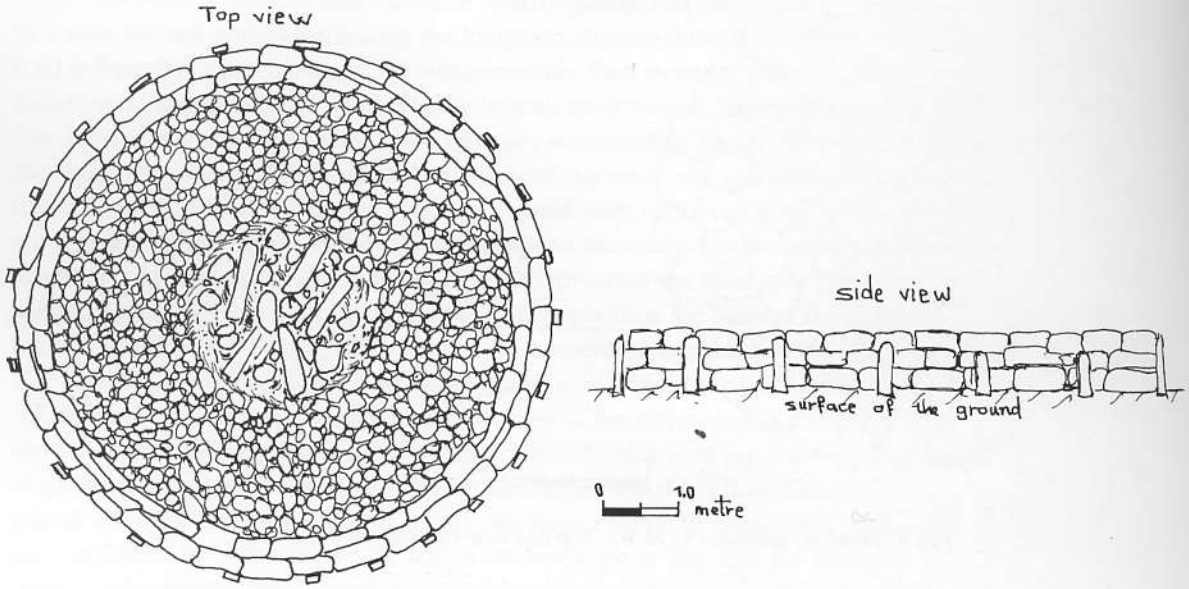

Fig. 5 Samadi, tumulus S-A1-B1. Top and side views of superstructure.

S-A1-B1 was excavated in the same manner as described above (i.e. basically removal of stone slabs). The fact that the burial chambers in M-B1 and M-B2 are integrated into their superstructures gave rise to the question of how they were built. Hence, special attention was paid to studying the architecture of the superstructure while excavating this tumulus. Therefore the excavations proceeded from the center of the platform where the conical hole is and extended outwards towards the circumference of the platform, removing the stones and soil layer by layer. When the removal of the top layer (which was ca. 25 cm thick) of stones slabs and rubble (including the long stones of the conical hole) was completed, we found a circular enclosure-wall or fence-like circular stone structure at the center of the platform. This circular enclosure was backed up on its exterior by a broad layer of stone slabs of irregular sizes and shapes. This layer extended from the enclosure to the outer wall of the platform. The diameter of the circular enclosure at this stage of the excavation, i.e. 25 cm below the upper surface of the platform, was 0.50 m. Excavation continued within this circular enclosure to a depth of ca. 10 cm, where fragmented human skeletal remains were found as well as stones of the fruit of *Balanites aegyptiaca* (Pl. IX,b), two upper grinders (one of them with traces of burning), and a small half-broken rubbing-stone (Pl. IX,c). The skeletal remains were so fragmentary that if not carefully handled, they tended to crumble to dust. However, it was possible to see from the orientation of these bone remains that the deceased was buried in a tightly flexed position with the head to the south, facing the east, and legs at the southern part of the enclosure (fig. 6). The large size of the fragments of the shaft of the femur and the fragments of the skull suggest that the skeletal remains belong to an adult, but it was not possible to determine the sex since all sex-indicator bones such as sacrum and pelvis were badly fragmented. The grinders and the rubbing-stone were found behind the skull on the western side of the burial. No charcoal was found but, as some of the bones of the human skeletal remains were charred, it was considered worth using these for radiocarbon dating. After carefully removing the skeletal remains, the interior of the circular enclosure was thoroughly cleared down to the bedrock supporting the tumulus, i.e. 7 cm below the level of the human skeletal remains. Then it was closely studied in connection with the rest of the superstructure. Accordingly, the following observations and inferences are made :

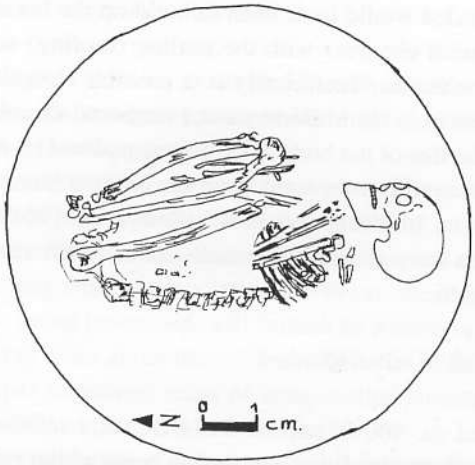

Fig. 6 Samadi. Top view showing (reconstruction of) the orientation of skeletal remains of an adult buried in S-A1-B1.

1. The circular interior enclosure, i.e. the burial chamber which is ca. 0.90 m in height, was built up of two layers of long large flat stones. The shape of the smooth flat interior walls of the chamber indicates that the stones used to build them were deliberately cut or carefully selected for this purpose (Pl. X,a and fig. 7). The diameter of this burial chamber is 0.60 m.
2. The long, flat stone slabs which form the walls of the depression-like conical hole at the center of the platform seemed to have actually been used to seal the top of the burial chamber. These sealing-stones appear to have collapsed subsequently and thus to have formed the depression-like conical hole.
3. The surface of the ground on which these tumuli were built is rock *hamada*. Thus digging burial pits would have been quite a difficult task. Therefore, a burial chamber was built within the superstructure to replace a burial pit (Pl. X,a). That is to say, all parts of the (standard) funerary structure (super- and sub-structures) are built on the surfaces of rocky plateaus and feet of hills.

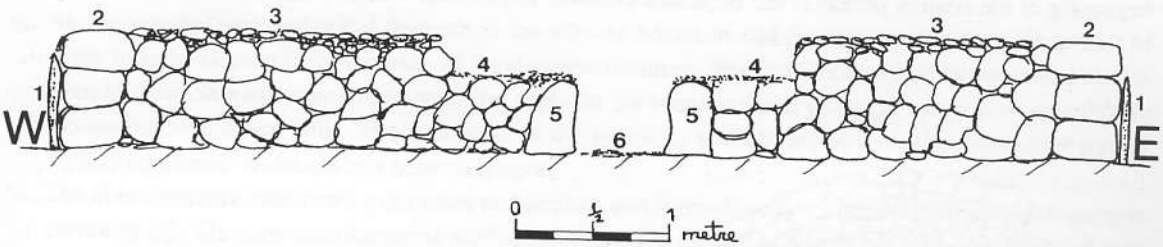

Fig. 7 An east-west section of S-A1-B1 :
1. stone-flags; 2. outer wall of the superstructure; 3. middle layer (small stones at the top and larger ones underneath); 4. soft-light brown soil covering the stones in this area and also the burial-chamber; 5. elongated flat stones making the walls of the burial-chamber; 6. burial-chamber.

4. Architecturally speaking, the superstructure with its burial chamber (Pl. X,a) was most likely built up in one of two ways : either the burial chamber at the center and the outer wall of the superstructure with its flag stones were first built to the desired height, and then the space between these was filled with rubble and stones (of different sizes and shapes) in order to consolidate the structure of the burial chamber and the outer wall; or the burial chamber and the superstructure incorporating it were built in stages. At each stage, a layer was laid down beginning from the burial chamber and extending out towards the circumference until the required height was reached. The flag stones around the outer wall of the platform were most likely set up after laying down the first (bottom) layer of the funerary structure. At all events, both these suggestions for how this funerary structure was built up imply hard labor and, most importantly, considerable time spent on the task. The warm desert climate of the area in which our tombs are found would not encourage leaving corpses exposed for as long a time as that required for building this type of funerary structure. Taking these factors into consideration, the most

practical way to have proceeded would have been to build up the burial chamber first, then place the deceased in it, cover the burial chamber with the sealing (roofing)-stones, and finally build up the remainder of the funerary structure. Technically it is possible that the tumuli were already built in advance, as might be inferred from the uniform size of the burial chambers, which do not seem to take into special consideration the size of the body to be accommodated (S-A1-B2).

5. Tumuli similar to S-A1-B1 have been reported from the Nubian Desert and have been interpreted as being Beja graves dating to the 7th-8th centuries AD (Sadr *et al.* 1994b : 64). The distribution of these tumuli suggests that the Beja have retained a nomadic mode of life (*ibid.* : 67) and possessed a larger territory than they presently do.

S-A1-B2 : 18°58.12' N, 35°54.55' E, alt. 630 m asl.

This tumulus is situated ca. 400 m east of S-A1-B1 on a relatively flat tip of a low-lying hill overlooking the Samadi seasonal stream. It is classified as being of the type with circular stone platform. It is different from S-A1-B1 in that it has no stone flags around its circumference. Furthermore, it differs both from M-B1 and S-A1-B1 in that it has no depression-like conical hole at the center of the platform but instead has five long stones laid parallel to each other on their flat sides (Pl. X,b and fig. 8). A few potsherds were found scattered on the top of the platform and in its immediate vicinity. As the process of excavation of this tumulus progressed, these long stones with flat surfaces were removed. Underneath them the upper part of a circular burial chamber was exposed. These findings confirm our hypothesis that the long stones with two flat sides which made the walls of the depression-like conical hole in M-B1 and S-A1-B1 were originally used to roof or seal the burial chamber but that they later collapsed forming these depression-like conical holes. The burial chamber is built in the same manner as those in M-B1 and S-A1-B1 and has a diameter of 0.60 m. Digging further into the burial chamber to a depth of ca. 0.40 m below the surface of the platform exposed skeletal remains, most likely those of a child, laid in a flexed position with its head to south and its legs to the north. No radiocarbon-datable material was found in the funerary structure; but, on the basis of relative dating, this tumulus, like S-A1-B1, is a Beja grave and most likely dates back to the 7th-8th centuries AD. Culturally speaking, this period falls before the beginning of the Islamic period in the Beja area (Vantini 1981 : 99).

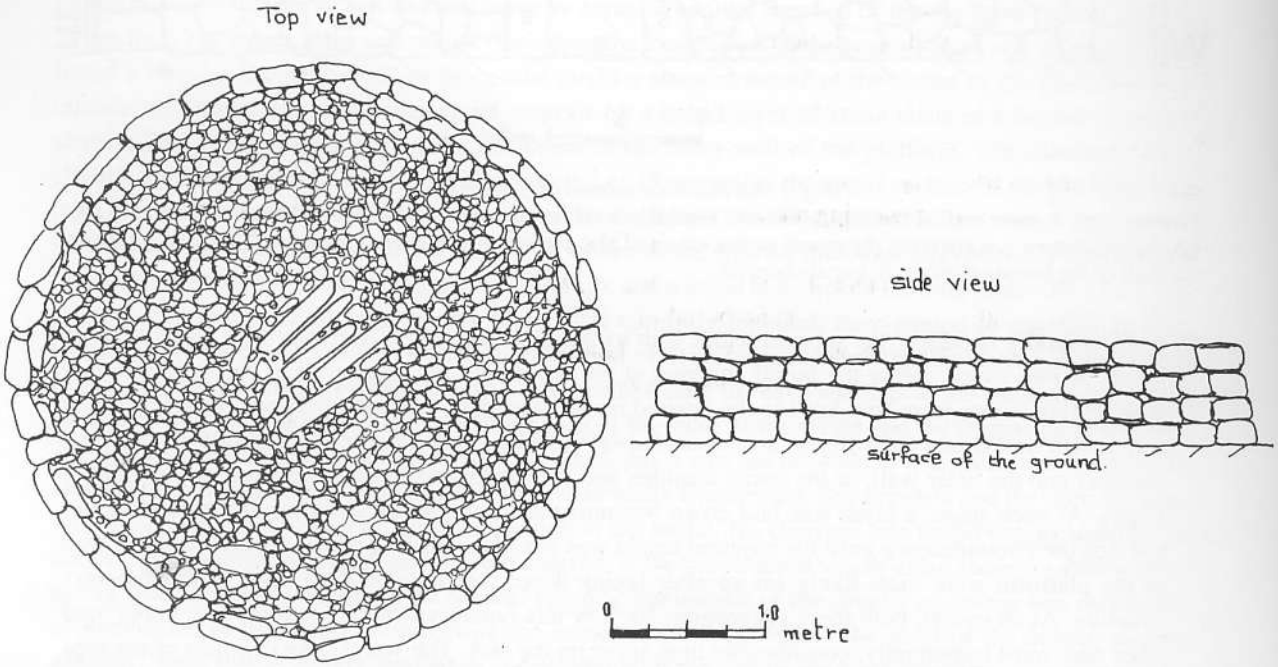

Fig. 8 Samadi, tumulus S-A1-B2. Top and side views of superstructure.

Concluding summary

Analysis of the archaeological remains excavated from four archaeological sites in the southern Red Sea Hills is well in progress. The foregoing account highlighted some of the results obtained so far. These can be summarized in the following points :

1. Two of the four localities test-excavated are settlement sites. These are : (i) A small cave-site with ceiling paintings. Some of these paintings are circles segmented by crossing lines with dots frequently placed in each segment. Neither the drawings nor the archaeological remains excavated from the site so far reveal or even indicate any cultural association. However, we hope that the radiocarbon samples from the site, which are now being processed, will furnish us a basis on which to estimate its age and that we will then be able to say more about the cultural affiliation of this site. (ii) The complex site of Tabot (Titabee) which consists of ancient ruins of stone walled structures, mixed burial ground (i.e. pre-Islamic and Islamic burials) and platform-like soil works.
2. Although the samples sent for radiocarbon dating have not yet been processed, we already have some indications that the site of Tabot was occupied over a period of time that at least overlapped between the pre-Islamic and Islamic periods. This is based on the following observations and inferences : (i) The grave yard at the south of the east part of the site consists of both pre-Islamic and Islamic-orientated burials. (ii) The pottery excavated from the rectangular soil platforms consists of different types of ware which are most likely associated with different times and cultural periods. For instance, the hand-made, incised ware recovered from this site is similar to the ware that has been attributed to the immediately pre-Islamic Beja (Sadr *et al.* 1994a : 6). In addition, the black slipped ribbed sherds excavated from these platforms can be attributed to vessels that are similar to the Egyptian amphorae dated to the Roman period (Török 1995 : pers. comm.). Finally, as mentioned earlier, the stone walled ruins at the site of Tabot are similar to those found at sites further north in the Egyptian Eastern Desert and dated to the Graeco-Roman period.
3. The situation of the site of Tabot (in a level but protected area), its geographical location, the evidence of sea-shells, the black slipped, ribbed ware, the wheel made ware and the highly polished ware recovered from the platform structures, all suggest that this site may have functioned as a way station for caravan routes that led further east, south, west and north.
4. As regards the archaeological features at the sites of Mendilo and Samadi-area 1, they all consist of stone tumuli, as seen from the plan of their superstructures. The four funerary structures excavated at Mendilo and Samadi-area 1 represent four types of the circular stone platform tumulus recorded from the southern Red Sea Hills. The questions of the typology and chronology of these and other tumuli will be addressed in details in a separate paper.
5. The four funerary structures excavated at Mendilo and Samadi-area 1 have the following features in common : (i) They are circular stone platforms situated at the top of low-lying hills, at the foot of hills and plateaus overlooking the wadis of Mendilo and Samadi (Pl. X,c), and they all are built of stones without the use of any cementing material. (ii) A south-north orientation and the flexed position of the deceased (fig. 6) is indicated in at least three of these burials where the position could be identified. (iii) The four funerary structures have circular burial chambers built within the mass of the superstructures (5-B). In other words, there is no burial-pit dug into the ground under any of the four tumuli, presumably because they are built in rocky areas. The circular burial chambers have a standard 60 cm diameter irrespective of the size of the corpse. (iv) All four structures were deliberately built to serve as proper funerary structures with burial chambers, superstructures, and orientation of the deceased. Structures similar to these have previously (according to Clark 1938 : 28) been interpreted as being graves of Troglodytes which were not built but rather formed by tossing stones onto the dead until the body was covered.
6. No pottery vessels were found in any of the four graves excavated at Mendilo and Samadi-Area 1. However, the potsherds found on top of the circular platform tumuli and scattered in their immediate surroundings were most likely remains of pottery vessels left as offerings outside these funerary structures. This assumption is based on ceramic vessels which were also found outside tumuli at the site of Deraheib and were interpreted as being grave-offerings (Sadr *et al.* 1994a : 5).

7. The presence of stones of fruits of *Balanites aegyptiaca* in the burial chamber of M-B1 and S-A1-B1 suggests, if they prove to be contemporary with the burial, that this species of plant (its fruits or both) may have some symbolic value or meaning. The present Hadendowa in the area of the site do in fact hold some beliefs about *Balanites aegyptiaca*, for example, they do not build their huts where the plant grows or even make use of the shade of the naturally growing ones. However, the *Balanites* seeds we found may have been secondarily deposited. That is to say it cannot be excluded that burrowing mammals such as mice and rats may have carried the stones into the mound.
8. The size of the funerary structure and grave-offerings (i.e. pottery, tree fruits, etc.), reflect neither the social status of the dead nor their ages or sexes.
9. Circular stone platform tumuli similar to the ones excavated at Mendilo and Samadi-Area 1 have been excavated at archaeological sites in the Egyptian Eastern Desert and the Nubian Desert. They have been dated to the 7th-8th centuries AD and have been interpreted as being Beja graves (*ibid.*). However, no evidence of settlement sites has been found in the vicinities of Mendilo and Samadi-Area 1; and this may indicate that the population was highly mobile or nomadic.

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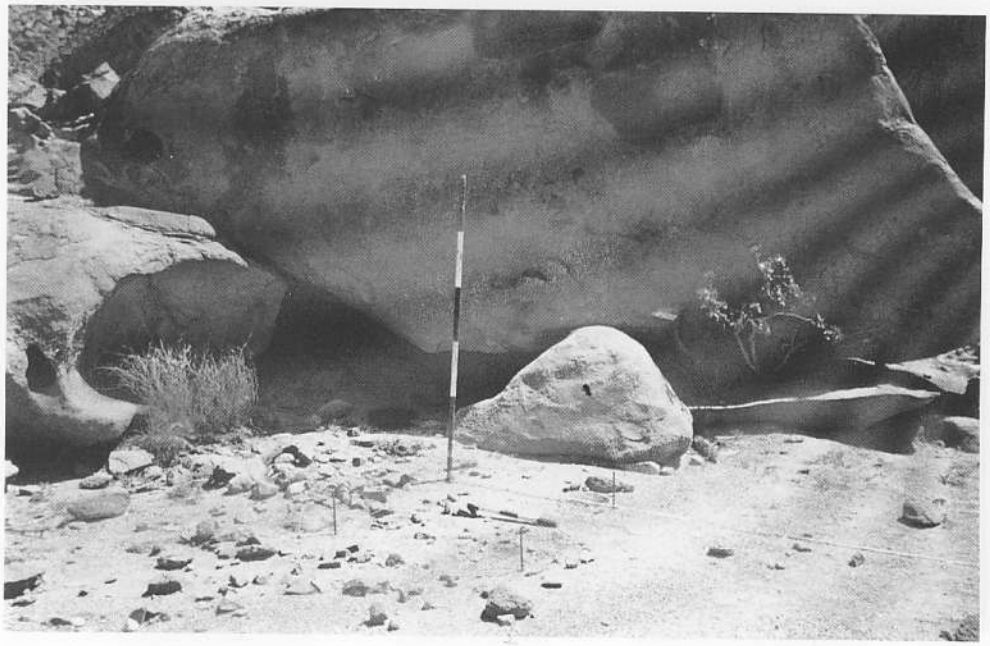

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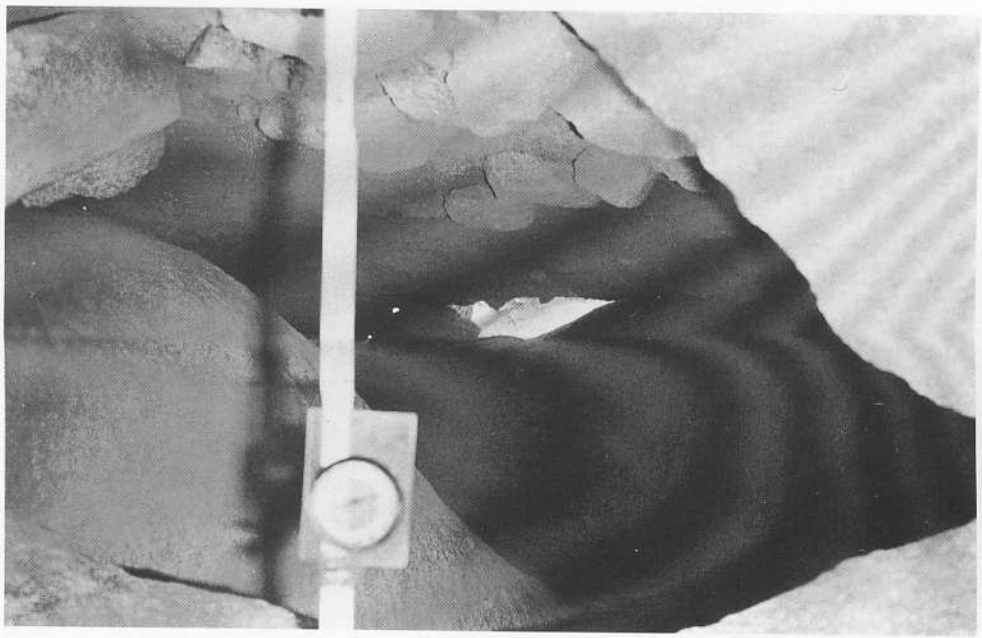
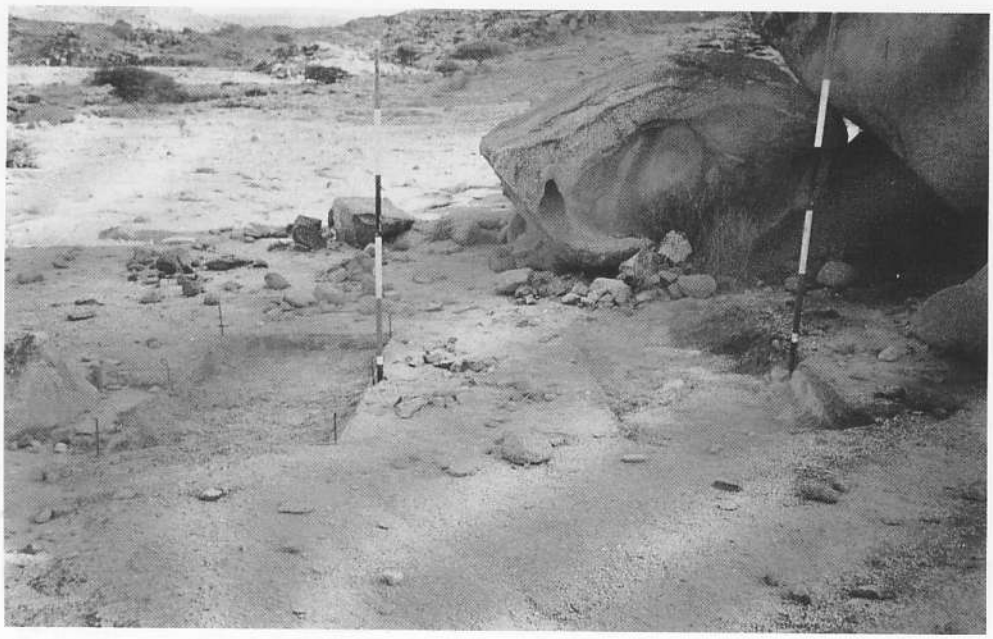


b

a. Kuleeteib cave site. View of the west side of the cave and the area in front of it.
b. Eastern opening (at the front of photo) and western opening (at the back) of the Kuleeteib cave.

Pl. II

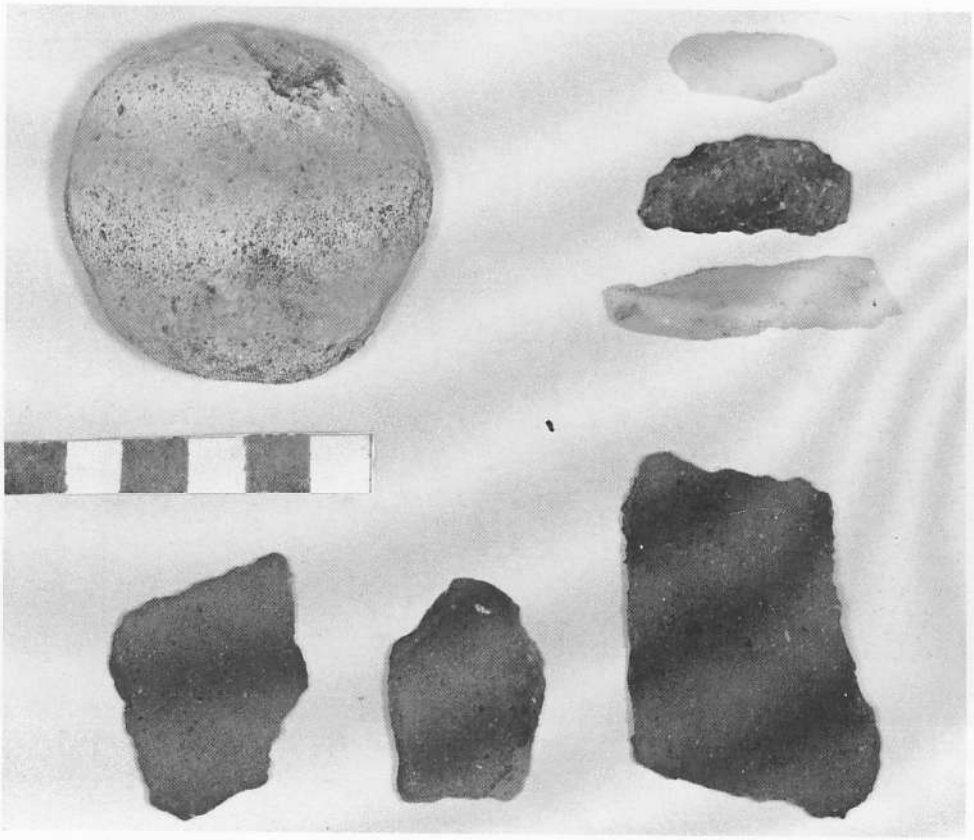
a



b

a. Ceiling of the cave with rock paintings. b. Test excavations at the area west of the cave.

Pl. III



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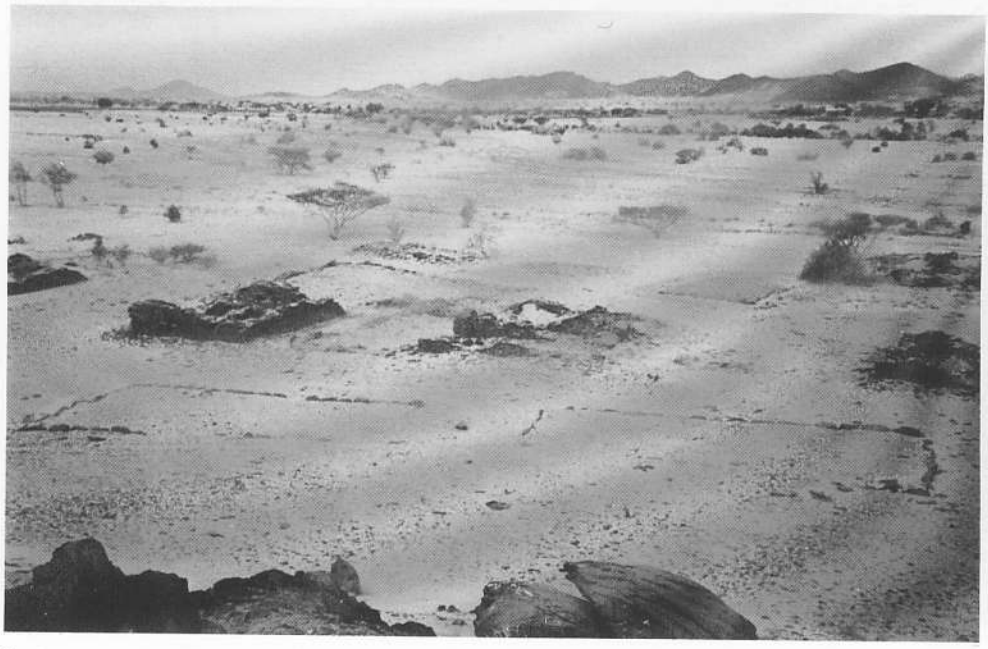
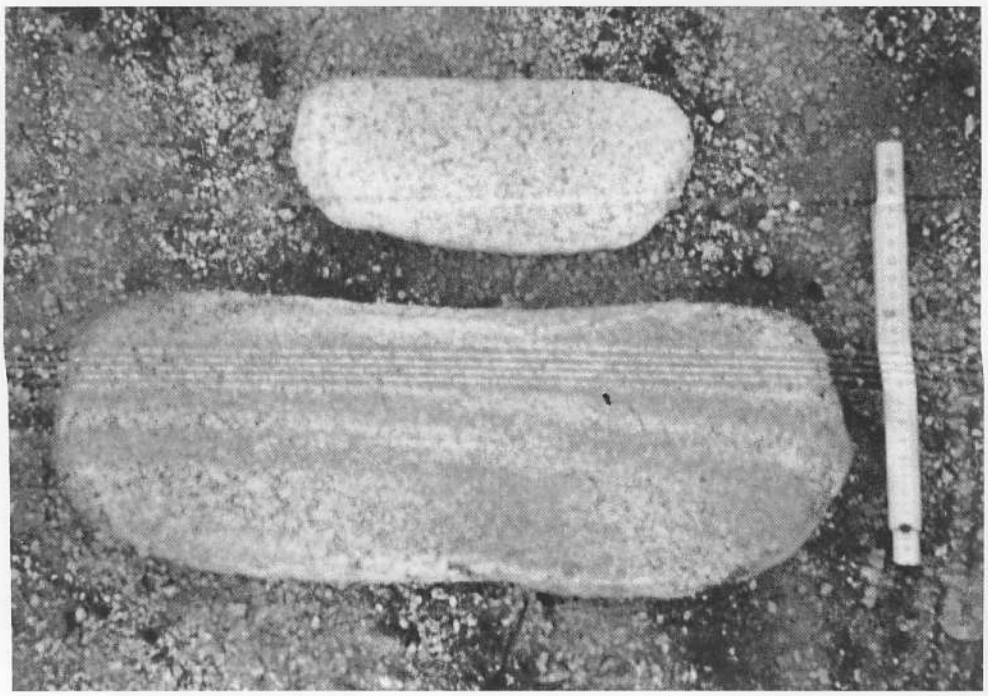


b

a. Lithic artefacts (top) and potsherds (bottom) excavated from the area west of the cave.
b. The site of Tabot : a general view.

Pl. IV



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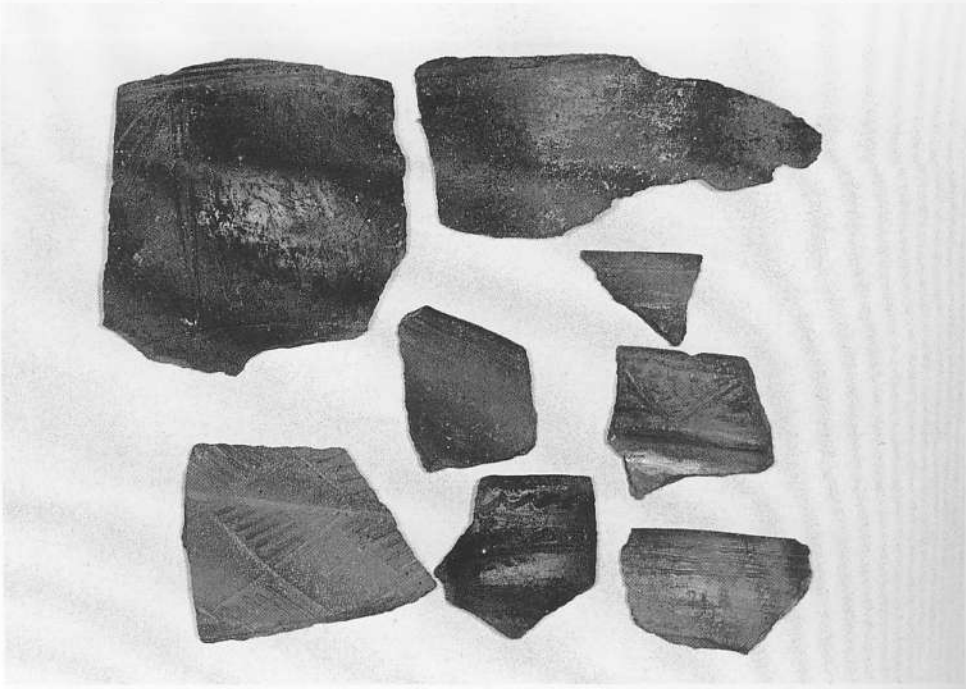
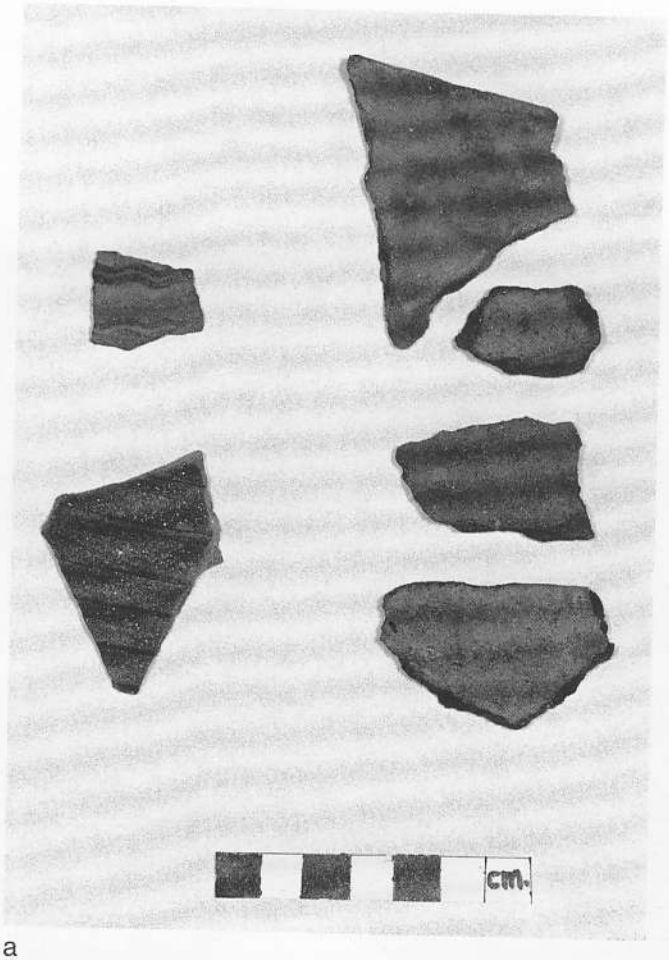


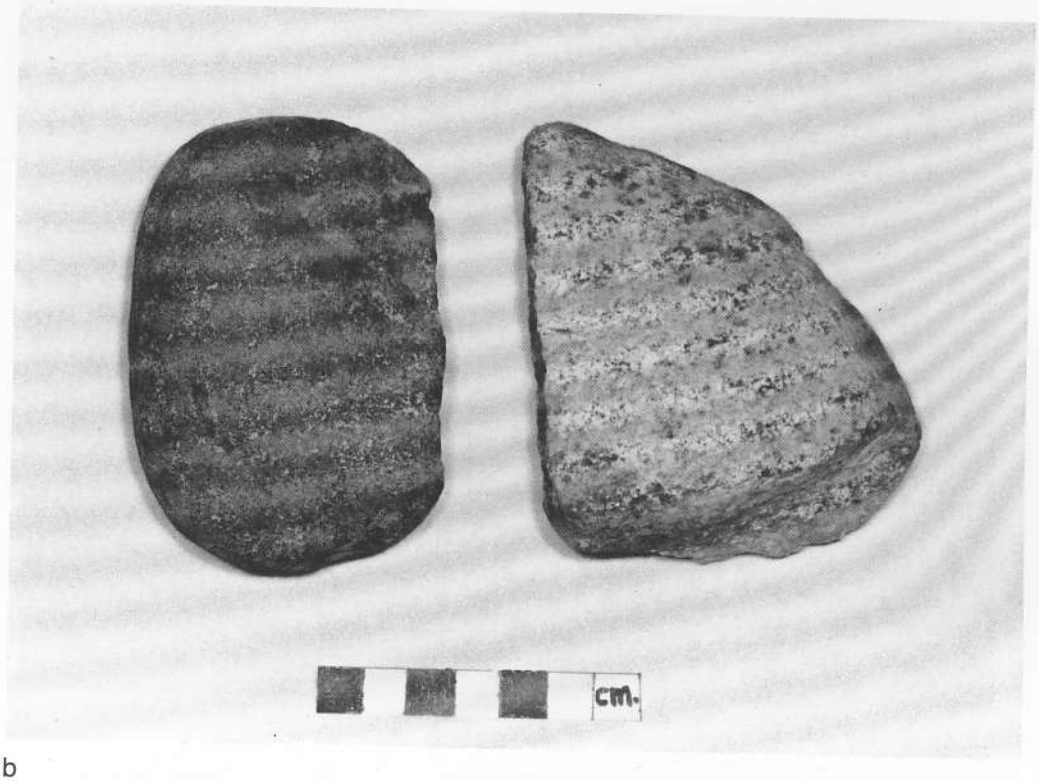
b

a. Grinding stones found on the surface at Tabot site. b. Wheel-made, polished potsherds from Tabot.

Pl. V



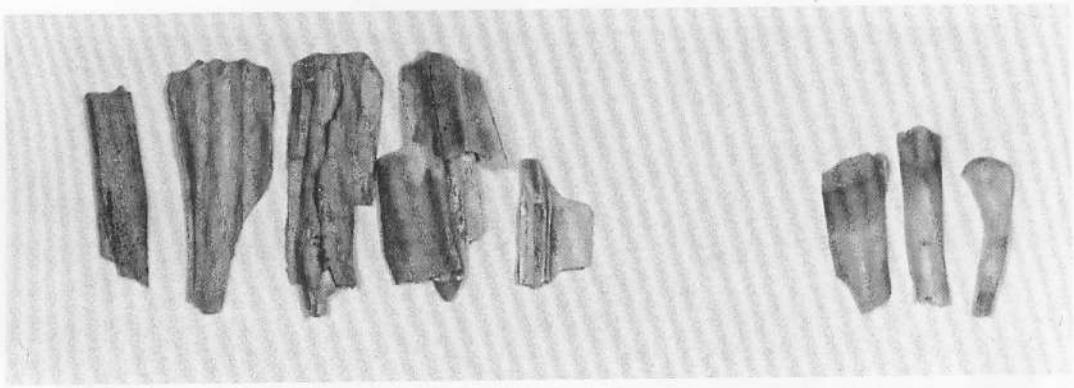
a



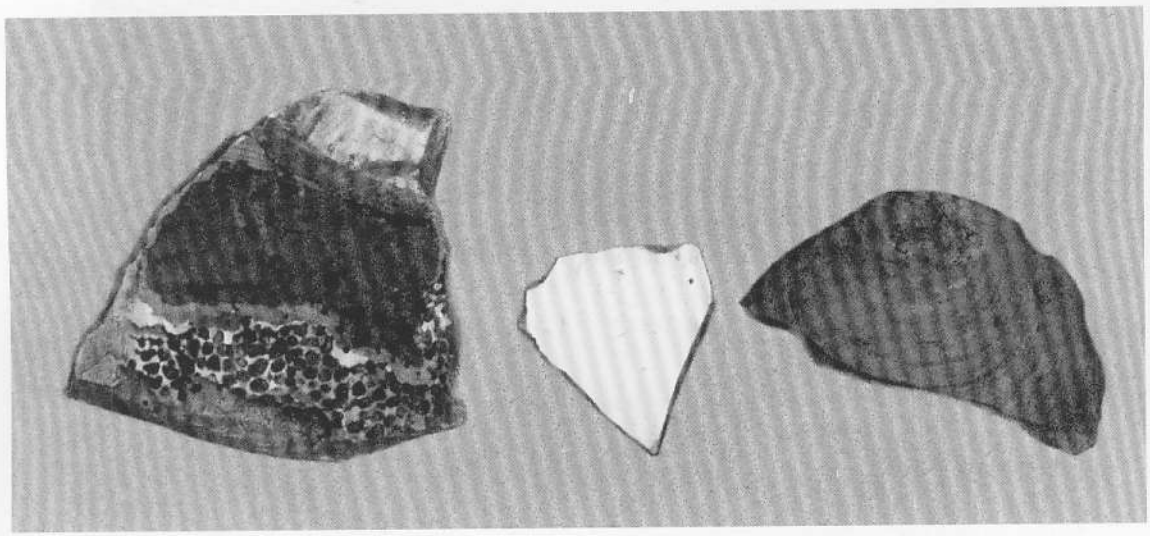
b

a. Top left : polished sherds with dotted wavy lines; bottom left : black ribbed potsherds; right side of photo : hand-made potsherds. b. Grinding stones excavated from Tabot.

Pl. VI



a



b

c

a. Cattle and goat/sheep teeth excavated from Tabot. b. Sea shells excavated from Tabot.
c. Stones of fruits of *Balanites ægyptiaca* from M-B1.

Pl. VII

a

b

a. M-B1 : burial chamber built within the superstructrure. b. M-B2 : The superstructure.

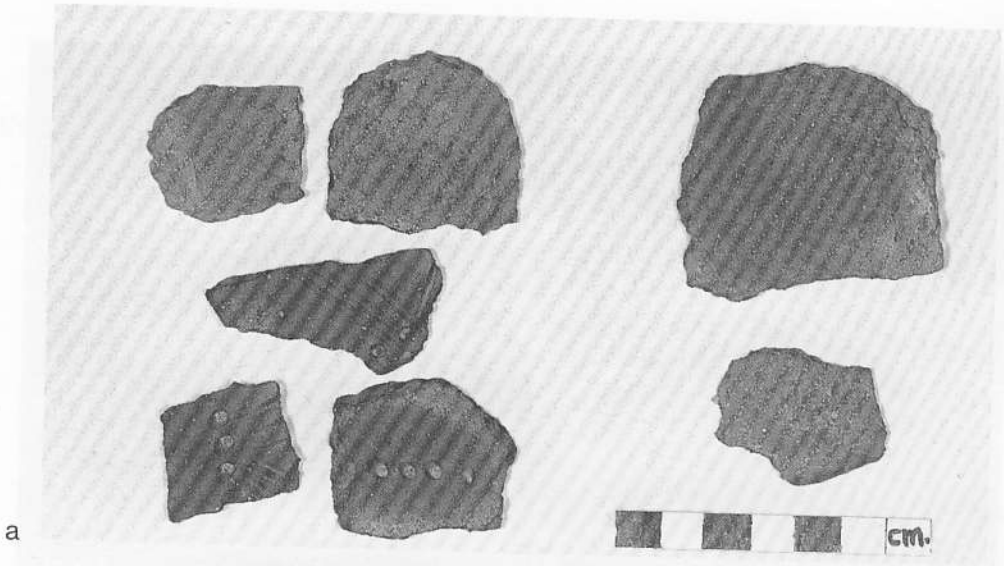
Pl. VIII

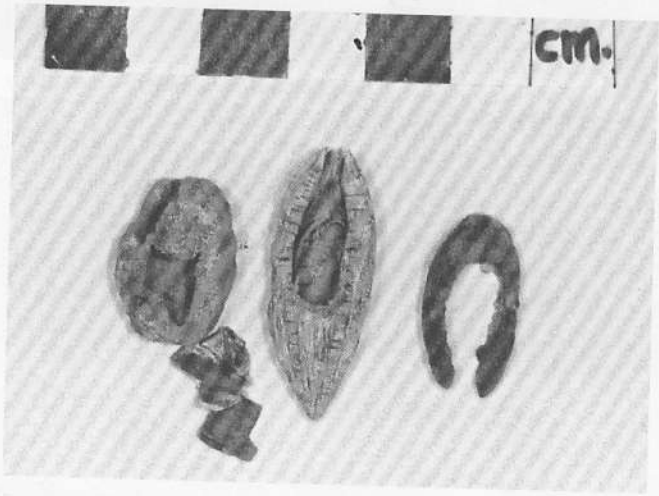
a

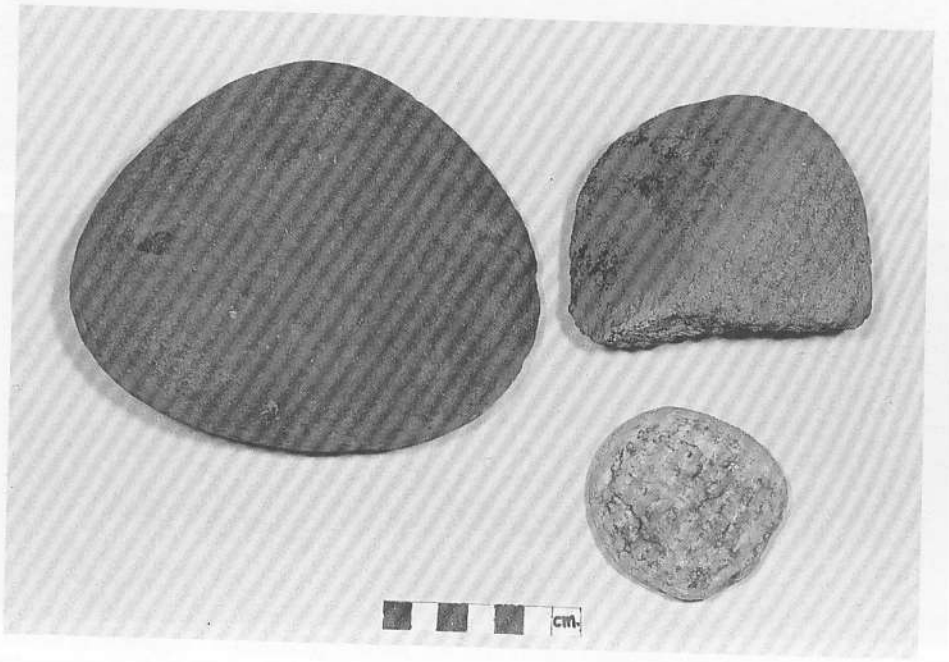
b

a. M-B2 : Human skeletal remains buried in a burial chamber which is built within the superstructure of the grave. b. S-A1-B1 : the superstructure.

Pl. IX







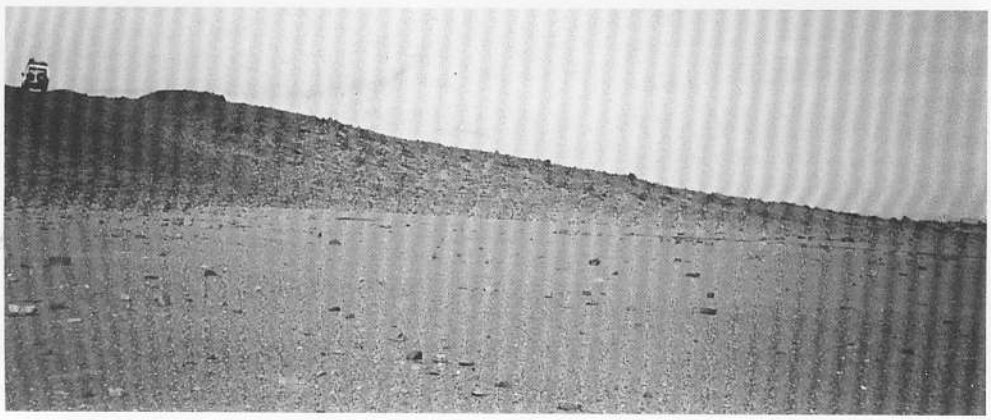
a. Surface finds : plain and decorated potsherds at S-A1-B1.
b. Stones of fruits of *Balanites ægyptiaca* from S-A1-B1. c. Grinders and a rubber stone from S-A1-B1.

Pl. X

a

b

c



a. S-A1-B1 : Funerary structure built on the surface of the ground.
b. S-A1-B2 : Top view of superstructure. c. Example of tumuli built on top of low-lying hills and plateaus.