CULTURAL CHARACTERISTICS AND ADAPTATION IN LATE NEREDITIC PERIOD: A CASE STUDY FROM THE SAKORAB AREA.

By

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A Thesis submitted for the Degree of M.A. in the Faculty of Arts, University of Khartoum.

Department of Archaeology,

October, 1979.
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Very little work has been done on the type of burial mounds so called "Alea ware" mounds. The work done so far is, to the writer, unsatisfactory. This dissertation is no more than an attempt further to clarify the nature of these burial mounds and the settlement sites associated with them. This attempt involved an archaeological survey accompanied by test-excavations in the Sayrawe area (Khartoum Province) the results of which are embodied in the thesis.
I must express my deep gratitude to Dr. A.M. Ali Haken for his supervision and continuous help and advice during the writing of this thesis. I am grateful to him for allowing me to go through his field diaries and reports of the Gerarah project. I owe a special debt to Pierre Crecker, Dr. John Alexander and Dr. Abbas B. Mohammed for their invaluable discussion and help during the preparation of this work. The considerable help of Dr. Y. Muhittar and Dr. A. Osman remains beyond evaluation.

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INTRODUCTION

The reason for choosing this topic for this thesis is that the present writer took a genuine interest in it when he dealt with the late Meroitic burial mounds in the field training at Sorra area when the writer was an intermediate student of archaeology. As a matter of fact, since that time I found the topic interesting to the extent that it became one of my favourite topics.

For the study of the nature of these burial mounds and the settlement sites associated with them, the present writer conducted an archaeological survey accompanied by test-excavations at Jebel Umm Narrahi area in Khartoum province, despite investigations made north, south and east of it. In its lay-out, this study falls into six chapters. Chapter one is meant to give a general background to the research of the project. A survey of the history of previous research in this type of burial mounds was felt to be necessary and its results were evaluated. Chapter two deals with the geographical setting of the key site of Jebel Umm Narrahi. Chapter three, four and five are accounts of the field survey and test-excavations carried out by the present writer. The analysis of the data and
conclusions of the study. The appendices deal with analysis of some remains recovered from the fieldwork.
CHAPTER ONE.

THE LATE NEROCTIC BURIAL MOUNDS IN CENTRAL SUDAN.

The aim of this introductory chapter is to survey the history of the work done on the sites of burial mounds confined to the area between Tangass in the north and Senar in the south. This is intended to give a general background to the topic of the research and to evaluate the work done on these sites. The chapter will also deal with the validity of the applicability of terms such as "Post-Nerotic", "Tangasi Culture", and "Sub-Nerotic" that have been used when referring to these types of burial mounds. Instead, the writer proposes to use the term Late Nerotic. The reasons will be given in the discussion of this chapter and the subsequent ones.

The Great Necropolis at Merce:

This view east of the city of Merce and is covered by low mounds of sand, gravel, and sometimes rough stones. It was first excavated by Garstang in 1909-10. (1) He

(1) These are the sites that contain the so-called "Elon ware".

(2) Crowfoot, 1924, 27.


divided these tumuli burials into four quite separate cemeteries in a chronological order, thus:

1. The southern necropolis: This contains 100 tombs of which 15 were numbered but only five were described and dated by Garstang to 1000-300 B.C. The tombs seem to have entrances from the east in the Mercatic manner, in stepped or sloping forms. They usually lead to two openings but in the smaller tombs there was only one opening with only one burial chamber. Garstang noticed the complete absence of the inscribed "offering tables" which were used to block the entrances in the other cemeteries. Though the exact position of the deceased was not determined, its appearance was generally contracted with its head to the south. In the northern half of the chamber was placed large globular jars with narrow necks and mat-impressed decoration. Around the southern end there would be vases of rarer quality whether of burnished ware with incised patterns or of red ware painted with white or of a highly burnished red with marks in relief.

(1) Although Garstang did not go beyond preliminary reports the writer is fortunate in having the work of Dr. Hakem who went thoroughly through Garstang's original tomb records at University of Liverpool. Most of the information regarding Merca Necropoleis is derived from his work. See: Hakem, 1912.

(2) Garstang, 1911, 32.

(3) Ibid., 1910, 69.
work is common while glass is rarely found.

2. The middle necropolis: This contains 100 graves of which 79 tombs were investigated and only ten were described. They were dated by the excavator to 300-200 B.C. Like those of the southern necropolis the tombs have entrances from the east with sometimes a flight of steps gained by a pair of parallel passages. They are frequently blocked with re-used Egyptian funerary "offering tables" inscribed in Egyptian cartouche. The position of the deceased seems to have been extended, as would have been suggested furtherly by the large chambers and traces of wooden beds.

Garstang noticed little variation in the contents of the tombs of the southern and middle necropolises. The pottery of the both cemeteries seems to be of the same type: big globular jars with narrow necks and mat-impressed decoration, together with black burnished pottery or incised decoration filled with white pigment. Wooden bed burials, chairs, iron weapons, baskets, and glass objects were found. The local burial customs in both cemeteries are similar and they show no evidence of discontinuity.

(1) Hakem, 1971, 71.
(2) Ibid.
(3) Garstang, 1910, 69.
(4) Ibid., 1911, 35.
in both the objects and burial customs suggests that both
the southern and middle necropolis form one cemetery.
This suggestion is strengthened by the fact that Garstang
himself could not detect any defined landmarks that may
separate the middle necropolis from the southern one. (1)

Later, Weisner in 1923 excavated one tomb outside
the area of the west cemetery, presumed to be similar to
the burial mounds excavated by Garstang. (2) It seems to
belong either to the south or middle necropolis because
it contained pottery similar to their types. Its description
provided is better than that given by Garstang. So
clues about the nature of these cemeteries were obtained.

The grave excavated is a low circular gravel mound
with entrance from the east, having rudimentary steps cut
in gravel and blocked with red bricks. The burial chamber
was low and oval with its greatest dimensions north-south.
No trace of burial was found because the grave had been
plundered. In the debris of the grave there were found
two pairs of bronze tweezers, single barbed iron arrowheads,
iron spear-heads, knife blades, and a number of handmade
bowls and cups, fragments of long necked jars with incised
decoration, two spiral shells and a purplish-grey stone
archer's looie.

(1) Ibid., 29.
(2) Dunham, 1963, 334.
3 - The northern necropolis: This contains graves numbered 500-599. Twelve graves were recorded out of which only five were described. According to Garstang it ended in A.D. 200.\(^{(1)}\) The appearance of the mounds that cover the graves was much as the others. The tomb is usually smaller with a narrow entrance which opens towards the east and has a flight of steps and only one door. Among the stones blocking the entrances only two inscribed re-used "offering tables" were found. The types of the graves appear to be similar to the cave grave of Griffith's classification.\(^{(2)}\) No burial was found intact to show the way the deceased was interred, but the narrowness and the small size of the tomb suggests that contracted position was most likely. Inside the tombs new types of pottery were found. These are fine painted or stamped decorated pottery known as "biscuit ware". This is the ware commonly found in Lower Nubia,\(^{(3)}\) which Mace calls the classic Merotic fine ware and was dated by Kirwan to the first century B.C. and the first two centuries A.D.\(^{(4)}\)

4 - The western necropolis: This contains 100 graves, out of which 13 tombs were investigated but none was described.\(^{(5)}\)

\(^{(1)}\) Hakeem, 1971, 71.
\(^{(2)}\) Griffith, 1926, 57.
\(^{(4)}\) Kirwan, 1939, 41.
\(^{(5)}\) Hakeem, 1971, 71.
According to Garstang this represents the latest cemetery, contemporary with the last occupation of Weroe. The pottery found was almost a red-brick ware which Garstang thought to be of Roman style. (1) Monnerot de Villard thought that this red ware was perhaps the imitation of the Nubian ware known as Terra Sigillata. 

The above description shows that Garstang's publication even as interim report is incomplete and inconclusive. Neither the nature of the burials, their position and contents, nor the chamber types have been reported in detail. As a result his work and scheme of chronology of the great necropolis was exposed to severe criticism and was followed by considerable dispute over the proper chronological order of the different grave groups.

In the following pages a brief summary of the main arguments and conclusions drawn will be given to be followed by evidence from other sites. What we learn from these will end up by the eventual conclusions and hypothesis.

Dentsley and Crawford were the first to throw shadows of doubt on Garstang's chronology of the four cemeteries. They made a study of the modern Nuba pottery of Kordofan and claimed to find equivalents to its dishes (twelffe), large

(1) Garstang, 1911, 32.
ware found in these cemeteries.

"is entirely different from the common Mercitic ware, with its tall wheel-made jars and jugs, its painted or stamped cups and beakers all of which were clearly made under foreign Mediterranean influence". (1)

This clearly reflects their misunderstanding of the Mercitic pottery to the south of Lower Ruba as being mainly of fine painted or stamped ware, the thing which was not proved to be true at the Mercitic sites of Musawwarat es-Sufra, Abu Geili, Jebel Muysa and Bauda cemetery. At all these sites the fine wheel-made pottery was very scanty while the handmade predominates. Even at Meroe, the capital, this fine ware was rare and found only in the uppermost levels. (2)

Bently and Crawfoot maintained that the distribution of the mound graves that contain pottery of the same type as the middle and southern necropoleis corresponds in a general way with the known distribution of Alae ware. (3) They concluded that it is certainly post-Mercitic. In view

(1) Bently and Crawfoot, 1924, 27.
(2) Hakem, 1971, 81.
(3) Bently and Crawfoot, 1924, 27.
Of these two assumptions they named this type of pottery "Ala'a ware" after the name of the Southern kingdom of
Medieval Nubia.\(^1\) As a result they dated the sites that
were accidentally discovered at Abu Hurez, Shendi,
Wad El Hadad, and Makwar at that time to the post-Necritic
because they contain pottery of the same type as that found
at the necropoleis.\(^2\)

However it was Monneret de Villard who made a drastic
revision and criticized the whole scheme of Garstang's
chronological order of the four cemeteries. On the basis
of a study of objects from the cemetery at Nerec preserved
at Oxford, Liverpool, Brussels, he concluded that the
chronology of the necropoleis was exactly the reverse of
what Garstang thought.\(^3\) So the oldest cemetery would be
represented by the tumulus graves of the northern necropoleis.

This is followed by the tombs of the eastern necropoleis, with
the red ware of Roman type. Still later are the two cemeter-
ies of the southern and middle necropoleis which Monneret de
Villard regarded as belonging to an intrusive culture of
the Nuba described by Besan and as such of post-Necritic
date.

\(^1\) Ibid.
\(^2\) Ibid.
\(^3\) Makem, 1971: 72.
It seems that Henty's and Crawfoot's hypothesis of the similarity of the pottery of the burial mounds to the dishes, globular jars and censers of the modern pottery of the Nuba of Kordofan was further extended to include and form a foundation for a hypothetical migration from Kordofan. This migration was assumed to have taken place at the end of Merotic period and before the campaign of Esana to the island of Beren. This theory of migration was first formulated by Shylars[1] who believes that the Nuba of Esana were the second wave (B-Group) of the negroid immigrants from southern Kordofan. So Monneret de Villard and Crawfoot seem to have founded an archaeological evidence for Shylars's migration theory, represented in the so-called "Ion wave" burial mounds. This theory represents a school of diffusionists who ascribed every cultural change to a particular wave of migration. The exact place of the origin of this migration was not yet certainly known. There is no evidence that shows when this migration occurred.

Crawfoot's and Monneret de Villard's dating of southern and middle necropoleis and their identification with the

(1) Williams, 1930, 158-140. Shylars' theory seems to have been based on a statement of Procopius who writing about the middle of the 6th century A.D. related that on the withdrawal of the Roman from Dodekaecheleon the Nombiae were persuaded by Diocletian to occupy the area.
Black Noba of Emana seem to have been accepted by many scholars such as Kirwan, Gadalla, Hinze, Adams and Trigger.

Kirwan thought at first that the western cemetery was the earliest and belonged to the later Merotic period. Later after revising Garstang's original record and object-markings in Liverpool, he suggested that the western cemetery was most probably a continuation of the northern cemetery (500-599), since both were found to have "biscuit ware". He accepted Crowfoot's dating of the southern and middle necropolis to the post-Merotic and suggested that they were contemporary with the X-Group, with tomb types and pottery different from both Merotic and X-Group. He identified them as belonging to the Black Noba of Emana's inscription.

Apart from the necropolis of Merca, a few burial mounds were excavated at Tahara, Tanqasi, Russawarat, Masa, Khartoum, El Gelli, Kadarc and Shahinah. They can be summarized as follows:

(1) Kirwan, 1939, 41 and 1957, 37.
(2) Gadalla, 1963, 203.
(3) Hinze, 1968, 79.
(6) Kirwan, 1939, 45.
(7) Ibid., and 1957, 37, 196, 165.
(8) Hagem's personal communication.
(9) Krzyzaniak, 1972.
At Ubahra, a few miles south of Omdurman, Abdel Rahman Adam and Kenneth Marshall excavated only one burial mound which from its finds they claimed to be contemporary with the graves found at Morco by Garstang in the southern and middle necropoleis.\(^{(1)}\) They found two extended burials orientated in an east-west position, with their heads to the west. No goods were found inside their niche graves. They seem to be later intrusive Christian burials judging from their burial orientation and stratigraphical position in the mound. Below these two burials, a contracted skeleton was found in a circular grave laid on its right side with the head to the south facing north-north east and with pottery types paralleled by those found at Morco in the southern and middle necropoleis. Beads of faience, carnelian and glass were reported. Shinnie maintained that the pottery is not of Nueritic tradition and belongs to the intrusive Black Nuba or Barara inscriptions.\(^{(2)}\)

At Fangasi further north opposite El Kuru an extensive cemetery was reported and planned by Lepalau. Eissner excavated one of the burial mounds, without results and

\(^{(1)}\) Marshall and Abdel Rahman Adam, 1953, 40-46.
\(^{(2)}\) Shinnie, 1955, 46.
concluded that it is datable to the very Late Meriotic
date at its earliest.\(^1\)

Later, Shinnie excavated three burial mounds in the
cemetery and described two of them, one of which was
unfortunately plundered.\(^2\) The latter was made of a
rectangular pit with a ramp at the east sloping down
to the west end.\(^3\) At the bottom three grave pits were
found filled with mudbrick haphazardly. The grave pits
were found to be shafts with the actual grave itself in
a niche similar to the Meriotic niche graves. From the
layout of the graves, the excavator suggested that the
burials were extended.

The other mound (Mound II) appears to have a cave-
grove type with its longer axis east-west. The shaft was
blocked with layers of sandstone and broken mudbricks. The
skeleton found was disturbed but seems to have been buried
in a contracted position to allow room for the group of
pottery which paralleled those from Merros burial mounds and
Usasra. Together with the pottery, beads of
quartz, carnelian, faience, ostrich eggshell and two silver
rings were found.

\(^1\) Reisner, 1918, 67.
\(^2\) Shinnie, 1954, 68.
\(^3\) Ibid.
Shinnie advocated a variation in the social status for the presence of different attitudes of extended and contracted burials depending upon the size of the mounds. He argued that:

"The difference between the two types of burial at Tansa and the close analogy between Tansa mound II and Ushara may be due to a class difference... The extended burial was found in the very much larger mound I and it is reasonable to suppose that it represents the burial of a person of greater importance." (1)

Shinnie's argument does not sound convincing since the grave goods do not support this. It is noteworthy that the big mound of extended burials was found plundered. The excavations carried out by Nakem at Bauda cemetery have shown that the size of the mound is not a good indication of the social status of the deceased. (2)

Following the earlier linguistic arguments suggested by Khylars, Shinnie stated that the pottery found belongs to the Black Noba of Ezana's inscription who came from the general area of Kordofan and occupied the area of Horce. He cited as archaeological evidence for their arrival from Kordofan the many tumuli along the western bank of the Nile.

(1) Ibid., 84.
(2) Nakem's personal communications.
There is no evidence that links this type of burial mounds westward with the area of Korodfan since no investigations have been carried out there. However later surveys have shown that the distribution of these tumulus types is denser in the eastern bank and stretch inland away from the Nile Valley.\(^1\)

Depending upon the external similarity between the mounds at Tamqasi and the X-Group ones further north, and the class of beads which was found to be common to both, Shinnie suggested that the burials of Tamqasi were the precursors of the X-Group. He explained that, after their settling along the stretch of the river from Khartoum to Atbara, the X-Group people pushed across the well known route of Rayuda to the Dongola Reach and that Tamqasi became the centre of a ruling house. He maintained that:

"At some later period they moved down the river and on coming into contact with the richer culture of Lower Nubia and Egypt with all its Mediterranean influences, developed the culture known to us from the excavation at Ballana, Qustul and Farsa".\(^2\)

There is no archaeological evidence that supports the movements suggested by Shinnie. It is noteworthy that the

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\(^1\) Ibid., 1971, 76.
\(^2\) Shinnie, 1954, 85.
mounds of Ushara and mound II at Tanqasi are similar both
to each other and to the tumuli of the southern, and
middle necropolis dug by Garstang. From the pottery
types found in these burial mounds they seem to be
contemporary.

The present writer could find no indications that
show that the burials at Tanqasi were associated with a
central ruling house. The size of the mound, as stated
above is not a good indication of the social status of
the deceased. The comparison between the grave goods of
mound II at Tanqasi with those of Ushara does not even
show that the tumulus of Tanqasi is of a higher status than
that of Ushara, and thus belonging to the ruling house.
Mound I of Tanqasi adds nothing to the picture because it
has been plundered.

Hobagi:

A group of burial mounds were found at Hobagi near
Shendi. (1) They were uninvestigated and thought to be
similar to the tumulus graves that were related to the
Noba of Ezena and the post-Necctic period. Unlike those
of Tanqasi and Ushara, a number of burial mounds at Hobagi
were found surrounded by a low rough masonry enclosure.

The five largest tumuli were found encircled by a low stone enclosure. (1) The finding of these masonry enclosures tempted Chittick to propose that the tumulus graves thus encircled belonged to the chiefs of "meks" of the people to whom the simple unenclosed mound graves belong. It is noteworthy that indications of similar stone enclosures were reported before by Carstang in the middle necropolis. Furthermore, the finding of these stone enclosures in the Late Nerotic cemetery at Banda nullifies Chittick's conjecture that burial mounds of Nubagi belong to the chiefs or "meks".

Maga:

At Maga, two cemeteries were found both of stone covered mound graves. (2) The only one grave so far excavated was attributed to the post-Nerotic period. The skeleton was laid on its right side in a contracted position facing north-east. It was furnished with a shallow bowl and black beads.

Musawwarat as-Sufra:

Hinzo excavated eight graves in the minor cemetery of Musawwarat as-Sufra north of the great enclosure. (3)

(1) Ibid., 73.
(2) Hinzo, 1958, 186.
(3) Ibid., 1967, 297.
by stone blocks taken from the walls of the great enclosure. Though all were plundered the body in each grave was found to lie in a contracted position on the right side, head to the south looking towards the east. The grave goods comprised hand-made globular jars usually with mat-impressed decoration and a cup. Hinsae dated the cemetery to the post-Meroitic (350-600 A.D.) and attributed it to the Nuba of Zumaa. He related the lack of Meroitic graves to the sacred nature of Musawwarat.

Khartoum and Shabinel

At the sites of Khartoum Civil Hospital and Shabinel Arkell found some Late Meroitic burials. At Shabinel largely disturbed by later Muslim graves, so that no detailed information about the substructure and superstructure (if there was any) could be provided. The corpses were found laid in a contracted position on their right sides with the heads to the south facing east. Together with these bodies there were found globular jars, bowls, cups

(1) Ibid.
(2) Arkell, 1949, 119-130.
(3) Ibid., 1953, 98-99.
and several single barbed iron arrowheads and a few of leaf-shaped type, stone archers' looses and different ornamental objects i.e. beads of ostrich egg-shells, glass, quartz, faience and ear-rings of bronze and iron were reported. Depending upon a comparative study of the material remains of the graves with other Late Nubiotic sites, the excavator dated the cemetery to the period 150-250 A.D.\(^{(1)}\) This date contradicts the attribution of these types of burial mounds to the post-Nubiotic.

At Khartoum Hospital Site Arkell found a few Late Nubiotic graves, one including a small wheel-made deep bowl. The burials were also laid in contracted positions but on their right or left sides with the heads to the west. The excavator thought that these were earlier graves of Napatan period. His assumption depended on the stratigraphical position of these graves in relation to the graves which he dated to the period 150 to 250 A.D. He stated that:

"The fact that four out of five of the graves now under consideration were found at a lesser depth than the four graves which we have provisionally dated to within a century or A.D. 150, does suggest that they are somewhat earlier in date."\(^{(2)}\)

\(^{(1)}\) Ibid., 1946, 124.
\(^{(2)}\) Ibid., 125.
To the present writer, the dependence on the stratigraphy in dating these graves is not reasonable. The depth of graves usually varies within one cemetery of a period. The variation in depth is dictated sometimes by the degree of compactness of the soil at different parts of the cemetery. The finding of wheel-made pottery in a few instances with the pottery so called "Alos ware" is not unusual. Heretic wheel-made pottery was found in small quantities with this type of ware at Banda, \(^{(1)}\) Abu Geili, \(^{(2)}\) Sonnar, \(^{(3)}\) Gordon’s Tree, \(^{(4)}\) Abu Karak, \(^{(5)}\) and Shendi, \(^{(6)}\)

The brief description made of the Late Heretic burial mounds shows variability in the burial practices. For example, those at the necropolis of Narsa show variability within the cemetery itself. Some burials had two entrances, while the smaller ones had only one. \(^{(7)}\) Some were found lying in contracted positions while others were extended and some were laid on tombs or beds after the ancient tradition of the C-Group and Kerma. The burial

\(^{(1)}\) Hakem’s Field Diary of 1978.
\(^{(2)}\) Crawford and Addison, 1951, 40.
\(^{(3)}\) Addison, 1950, 15 and 1935, 289.
\(^{(4)}\) Ibid., 1931, 197.
\(^{(5)}\) Bently and Crawford, 1924, 27.
\(^{(6)}\) Ibid. and Addison, 1935, 289.
\(^{(7)}\) Garstang, 1910 and 1911, 149.
position of the Late Meroitic does not seem to be uniform. Extended burials were found at Meroe necropolis, Khartoum and Tanqasi (where one of the graves seem to have been prepared for extended burials), while contracted burials were reported from Tanqasi, Ushara, Meroe necropolis, Suda, Shahinab, Khartoum, Naga, Mawaqrarat and Kedita. This lack of uniformity is common in both Meroitic and the so called Ballana culture.

It is clear that very little work has been so far done on these types of burial mounds. No settlement sites were found associated with these cemeteries. It seems that the lack of scientific studies of these burial mounds and the reliance on the meagre often misinterpreted work that has been done, has led to a lack of a better understanding of the nature of Late Meroitic period in central Sudan and the southern part of the Meroitic kingdom.

For example, the general acceptance of not attributing these burial mounds to the Meroitic period led Adams to think that:

"The graves of the commoners (of the Late Meroitic in the south) must have been humble indeed to escape so successfully the attention of both the tomb robbers and archaeologists".\(^{(1)}\)

\(^{(1)}\) Adams, 1974, 42.
He also noted that:

"... the common burial places of this period (Meroitic) have yet to be discovered". (1)

Lately, Trigger has defined a new culture which he designated "Tanqasi Culture" (2) after the two mounds excavated at Tanqasi. He assumed a cultural uniformity for the burial mounds that cover the area from Senaar to Tanqasi. (3) It seems to be inconclusive and premature to suggest such a cultural uniformity from the excavation of two or three burial mounds. Trigger's assumption seems to be inadequate and this can be demonstrated by the fact that the excavation carried out at Banda (4) and Kassala (5) have shown that many of the tumuli are datable to the Christian, Muslim and pre-Meroitic periods.

Furthermore, Trigger suggested that the Nubian language was in all probability brought to the Khartoum area by the Black Nuba of Nama who, he believes, have introduced the Tanqasi culture. (6) Thus he concluded that:

(1) Ibid., 46.
(3) Ibid.
(5) Oens, F., 197.
(6) Trigger, 1965, 137.
"... the combined evidence of Masana inscription of archaeology, and of linguistics strongly supports a migration in the south which destroyed Meroe, introduced a Nubian language to that part of the Nile Valley and also brought in a new but more primitive culture". (2)

It is clear that the recent scholars have accepted Croyfoot's and Monneret de Villard's scheme of chronology and rejected Garstang's dating. In the following few pages, the present writer will attempt to reassess the work done by Garstang at the Necropoleis of Meroe.

Conclusion:

After detailed discussion and survey of the literature, the writer finds himself inclined to support Garstang's and Haken's (2) attribution of the necropoleis to the Nubitic period for the following considerations:

1. Although the southern, middle and northern cemeteries were badly reported, they tend to show some indications of continuity rather than an abrupt change enforced by new comers (Nobs of Masana) as hypothesized by Croyfoot, Monneret de Villard and other scholars. The elements of continuity can be noted as follows:

1) Ibid.
2) Haken, 397; 71-83.
All three cemeteries comprise umuli of the same type, of sand, gravels and sometimes covered with rough stones. (1) This tumuli tradition is well known from the dawn of Sudanese history during the Nubian groups Kerma, El Kurru and in the Nercotic and X-Group periods.

All have eastern entrances in the Nercotic manner leading via a slope or steps to the grave chambers in the west.

Extended burials found in the middle necropoleis were laid on funerary beds after the ancient tradition known in the Nercotic period from the western royal cemetery (2) El Kurru, (3) and in the early periods in Kerma (4) and C-Group (5) tombs. Furthermore, the contracted burials found in the northern, southern and middle cemeteries show a close association and continuity in the burial practices. This custom

(1) Garstang, 1911, 29.
(2) Khitir, 1975, 13.
(3) Ibid.
(4) Reimann, 1923, 203-204.
were found among the southern tombs. Similarly two were recorded from each of the northern west and western cemeteries. Hakem's analysis\(^1\) has shown that the northern necropolis contains only transitional and late style of Merotic writing while the middle cemetery contains archaic, transitional. This means that the middle necropolis falls before the appearance of the late style. Minty's palaeographic studies of styles of writing date this late style to a period of A.D., 200 and after.\(^2\) As a result the middle cemetery can be dated to before A.D. 200 at the latest.

3. The reconstruction of the evidence for post-Merotic dating was based on typology and not on stratification.\(^3\) Hakem has shown that the typology of the ware is uncertain for the following considerations:\(^4\)

- The pottery so called "Alas Ware" is not uncommon among the Merotic pottery, particularly at the West cemetery.\(^5\) It is

\(^{1}\) Hakem, 1971, 75-76.
\(^{2}\) Ibid., 78.
\(^{3}\) D'Adda, 1949, 40.
\(^{4}\) Hakem, 1971, 71-73.
\(^{5}\) Dunham, 1968.
traceable in the royal cemeteries of Al Kuru, Nuri, Barkal and Begrawiya North cemetery.

(Fig. 1). It was also found in the common cemetery of Sannim(1) and at Meshwara(2) as Sai'a. In Lower Nubia it is traceable in the cemeteries of Karanog, Varas, Buhes, Genai and Shabiul.(3) Woolley and Maclver noted that this type of pottery was usually found in the graves of common folk.(4) It seems to be the major pottery of the common citizens of the Nubian kingdom and its provinces. It tends to show some similarities in decorative motifs with the C-Group and Kerma pottery.

- Kierman's dating for the middle cemetery depends on three amphorae which he regards as being similar to the X-Group type. This type is common in the Nubian royal burials at Begrawiya North cemetery.

- The types of bronzes found by Garstang in the southern necropolis are common in the West cemetery.

(1) Griffith, 1923, 80.
(3) Bates and Dunham, 1927, 113.
(4) Woolley and Maclver, 1910, 52 and 81.
4. The necropoleis of Nercé, Usara, Tangasi tend to show close cultural relation with the Late Nercotic Gashira sites of Jebel Mera and Abu Usili. This close relation suggests that they share common cultural traits and hence belong to a Late southern Nercotic culture of a nature different from that of Lower Nubia.

The above presentation suggests that the so-called "Alta Ware" mounds were of Late Nercotic date and hence Elmas' conclusion that the common citizens of Nercé were humble to escape the attention of tomb robbers and archaeologists, seems to be invalid.

The use of the term post-Nercotic as a reference to these burial mounds is ambiguous and vague. This is due to the fact that these burial mounds show close cultural connection with the Late Nercotic sites as has been presented above. We do not know how far the post-Nercotic is culturally different from the Nercotic and we do not know if there is any landmark for the transition from the Nercotic to the post-Nercotic. It has been generally accepted that the post-Nercotic starts with Elmas' (1) Arbel, 1949, 121 and Addison, 1951, Pl. XXII.

(1) Arbel, 1949, 121 and Addison, 1951, Pl. XXII.
campaign which is generally thought to have brought the Nubian culture to an end. Indeed the end of the Nubian culture is very obscure and we do not know what happened after this campaign. Furthermore, we do not know how far this campaign affected the Nubian culture politically, economically, socially and culturally. It is possible that Ezana's campaign did not put the Nubian culture to an end abruptly. It might have affected the kingdom politically but the culture continued and persisted into the medieval period.

This study has shown that the concept of "Alta Ware" seems to be unfortunate and most misleading and so the present writer suggests that it should be dropped from the vocabulary of the archaeology of this part of the Sudan when referring to the type of pottery or the burial mounds under study. Furthermore, Trigger's designation of these burial mounds as a separate culture distinguishable from the Nubian does not sound reasonable.

Since the interpretation of the present writer stresses continuity rather than change enforced by new arrivals, it suggests the withdrawal of archaeological support for Thiele's hypothesis of migration from Kordofan and the date suggested for its occurrence. (1) This postulation of

(1) Millon, 1930, 136-140.
early association between them was made because of the existence of the Noba in Kusma's inscription and the burial mounds with pottery unlike that of the Meroitic Lower Nubia. This is clearly stated by Shinra: (1)

"What is clear is that Noba were found at Meroe by Ar Elim, and that a new type of pottery appears in the middle of the 4th century at the latest. It seems therefore reasonable to equate the two."

The small work done at Tanjasi and Dahara did not substantiate the existence of the Noba in the archaeological record. Furthermore, the distinctiveness of the Black Noba and the Red Noba is not reflected in the material remains of Dahara and Tanjasi. (2)

So too, the relation between the Noba and the Meroites is problematic. The same Noba seems to appear in a variety of forms in ancient and medieval texts as Nuba, Nokatas, Nokites, Amadja and Nubia. Arkell connected Kusma's Noba with the Nubia first referred to

(1) Shinra, 1955, 46.
(2) Makem, 1971, 80.
Location.

The area under study lies 38 km. north of Khartoum; on the west bank immediately north of the village of El Sheikh El Tayib and south of Khor El Disheinab. (Fig. 2). It is part of Saroneb area; not far from Gerri, capital of Abdallah on the east bank and not very far from Soba, capital of Alaa, further south on the east bank of the Blue Nile.

The jabel Umm Marrahi, after which the area is named is situated immediately at the edge of the flood-plain. At its southern foot there is a small sprawling village; named after the Muslim saint El Sheikh Ahmed El Tayib El Bashir (1740-1824) for whom a local shrine was constructed.

(1) Umm Marrahi is the common name of the jabel. Its name may have association with quarrying of stones. The Arabic word for the grinding stone is raha and the plural is rahi. Since the stones of the jabel were quarried in ancient times for making of grindstones, this may be the reason why the jabel is called Umm Marrahi; that is the place of grinders. A less common name is Umm Marrah; deduced probably from the Arabic word Marrah which means a good place for residence and rest. It is also known in the oral tradition as jabel El Sultan (King) El Mansoor. This Sultan was believed to be of the Late Fung period but no literature supports this claim.
The village was known as a place of learning and important religious centre from the 18th. century onwards. During that period it also became a centre for the production of indigo blue and soap industry. Sufi thoughts were taught there, and it became a major diffusion centre for Sufism. In fact, Mohammad Ahmed El Mahadi, the founder of the Mahdia spent his early days there studying teachings of the Sufism school from El Sheikh Mohammad Sharif Nor El Daim. His father was believed to have been buried in one of the nearby villages.

Being located down stream from the junction of the Blue and White Nile, the area possesses a favourable position where several routes coverage from the south and west towards the Nile Valley before going further north.

Topography of the Area:

The area is formed from different topographical units. The most important of them is the flood plain of the Nile which cuts through the Nubian sandstone to the Basement Complex and in the passage of time has eroded a wide gap in

(1) Abdel Mahmoud Nor El Daim, 1973, 250.
(3) Abdel Mahmoud Nor El Daim, 1973, 250.
the sandstone layer and deposited its load to build up a narrow floodplain in this area. The height of the floodplain is about 360 metres above sea level. It is composed mainly of silts and clays along the banks and extending north to south. During the flood season this area is covered usually by water and this replenishes every year the fertility of its soil which the inhabitants depend on for their cultivation. The width of the floodplain ranges between 200 to 500 metres while it extends to about 2 km, in width further south at Garorab area. In contrast, on the eastern bank the floodplain is far more extensive.

The second topographic feature is Jebel Um Merrah, a small flat-topped hill about 410 metres in height above sea level. It is the first considerable hill on the west bank north of the junction of the two Niles. It is one of series of smaller jebels scattered along the western bank. This includes jebels of Kilewat, Um Marrah, Gisi and Milqil. Series of jebels are a common feature in Central Sudan; sometimes being isolated and some are in groups or chains rising in flat ground like islands.

(1) According to the sea level at Alexandria.
The hill of Um Karrahi and the floodplain are edged by a third topographical region of about 385 metres above sea level. This is the coarse ridge composed mainly of superficial deposit of gravel and coarse red sand lying on rock formation of sandstone. The ridge is dissected by Khors and Wadis (seasonal water courses) i.e. Khor El Sheikh El Taruv, Wadi Abu Laco't, Khor Abu Sinigit, Khor Abu Dalala, Wadi El Nuba and Wadi Saliyata. Such type of ridges were probably formed by older Khors and Wadis which carried their load towards the floodplain, as their speed is reduced they deposit their coarser material at the edge of the floodplain giving rise to these ridges.\(^{(1)}\)

The alluvial deposits of the floodplain and the ridges of gravels, pebbles, and sand, are all dated to the quaternary period. Their depth vary from 12 to 21 metres.

Towards the west, beyond the ridges lies a fourth zone of an extensive sandstone plateau which extends to Jordanian and the Sahara desert. This plateau is covered with a superficial blanket of sand with occasional gravel-rich patches.

Thus most of the area is dominated by unconsolidated quaternary deposits of clay, silt, gravels, quartz pebbles, and sand. They were formed mostly by the weathering of the

\(^{(1)}\) Makem, 1978.
underlying Nubian formation. Physical weathering is particularly active under the prevailing acid condition. The deposition of the weathered material in the area have led to the formation of the present land surface, with its soil, vegetation and potential for primary production.

The Geology of the Area:

Little can be said about the geology of the area because no detailed geological studies have been done. A general outline can be obtained from the work of Whitman and Kheiralla.\(^{(1)}\)

The geological formations represented in the area consist of an upper cover of superficial deposit (which I have dealt with above) over solid rock formations. They seem to be made primarily of sedimentary decomposed Nubian sandstone formation. Three lithological units were recognized within this formation:\(^{(2)}\)

1. The Warkhiet Jebel, mainly of detrital quartz covered by ferricrete sandstone.
2. The pebble conglomerates, cemented elastic rocks of sand and ferrous oxide.
3. Muds tone of clay or silt.

The Nubian sandstone of this particular area is characterized by high silt content, abundance of white specks, pebbly nature, stratified layer and abundant fossils, a "silicified"

\(^{(1)}\) Whitman, 1971, 52-64.
\(^{(2)}\) Ibid., 182.
forest" was found by Whitman near the jebel covering a number of acres.\(^1\) It is visible in the bed of Nhor El Sheikh El Tayib where it is exposed in many places by water erosion.

The formation is poorly cemented and rich in iron because the cement in the Nubian sandstone is commonly iron oxide or iron carbonate. Calcium carbonate or silica cement also occur.\(^2\)

Jebel Umm Harrahi, similar to Marakbyat jebals is made mainly of detrital quartz covered by ferricrete sandstone. It is capped by dark brown to black sandstone. Whitish and grey colour is common in newly exposed areas, effected by physical weathering.

These Nubian sandstone bedrocks are often concealed under the superficial deposits. The thickness of the sandstone bed is variable. It is related to erosion and the configuration of the underlying Basement Complex bed rock surface on which the Nubian sandstone formation rests unconformably.\(^3\) The underlying Basement Complex is believed to be of pre cambrian age, while the Nubian sandstone deposit was assumed to belong to Mesozoic.

\(^1\) Ibid., Ch.
\(^2\) Ibid., 62.
\(^3\) Ibid., 62.
The Nubian sandstone of the area has an aquifer suitable for water supplies. Indeed, the village of El Sheikh El Tayeb and the other villages in this area of Khartoum province depend for their water supplies on wells sunk in the Nubian sandstone. The water table takes its supply of water from the Nile, rainfall, khors, wadies and other water courses. (1)

Climate:

Since our area lies within the dry tropics, it experiences an arid tropical climate characterized by warm dry winters and hot rainy summers. Climatic schemes of classification agree that this area enjoys an arid tropical climate. (2)

Two types of winds seem to prevail in the area: the northernly dry wind between November and April, and the southerly wet wind from May to October. So there is a seasonal reversal. The major difference results from the fluctuation in the advance or retreat of the intertropical convergence zones and affect the time of establishment of one or other of the two patterns. (3) Sand and dust storms frequently occur in April, May, and June.

(1) Ibid., 182.
(2) Obeid and Mahmoud, 1969, 142.
(3) Ibid., 118.
The rainy season is too dry and short. It prevails usually from July to September and has low rainfall ranging between 100 to 200 mm. The rainfall is characterized by variability both spatially and temporally. The spatial variability is due to the cloudburst nature. August seems to be the wettest month of the year.

The hot season is also dry and extends usually from March to October. The mean daily maximum temperature is highest in May; being 41.8 °C.

The winter season from December to February is very dry. The lowest temperature were recorded in January; the mean daily minimum temperature being 15.6 °C.

The general aridity, dry winds, and high temperature cause a high evaporation potential. The mean daily evaporation is highest in April and lowest in August. The relative humidity is low and reflects the general aridity of the climate of the area. The mean relative humidity is lowest in April and highest in August. High temperatures coincide with lower relative humidity in April while in August cooler and more humid conditions reduce evaporation.

Flora:

The area under study belongs to the acacia desert scrub. Two principal vegetational regions can be observed

(1) Oliver, 1965, 141.
(2) Marison and Jackson, 1958.
in the area. The first is the narrow strip floodplain which is covered by cultivation, bordered by acacia shrubs such as acacia nilotica (bunt), seyal (talith) and albida (haraz). Most of these are confined to the river banks and the mouths of the wadis.

The second vegetational region is that of the desert which lies outside the riverian area and is composed of types which are structurally open.\(^{(1)}\) This includes acacia seppa (senna meka), pandium turgidum (tumam), acacia ehrenbergiana (sallum), acacia tortilis (semar) and acacia rubica (la'ot).

A remarkable feature is the rich and varied vegetation at hnor terraces. This may be due to the greater abundance of seasonal water and possibly to better water retention.

In fact, the distribution of the vegetational cover in the area is affected by geographical factors such as soil types, water supply and the biotic factors of human interference, either directly in the form of removal of soil and firewood or indirect in the form of grazing and browsing of animals.\(^{(2)}\)

Parva:

Nearly all the animals in the area are domestic, sheep and goat being dominant. They are kept in small number by

\(^{(2)}\) Ibid., 143.
the local people mainly for milk and meat. Thousands of
sheep and goats are frequently seen in the area but they
belong to the nomads who usually water and graze their
animals from the Nile area during the dry season.

Donkeys and camels, though rare, are used as a
means of transport. Cows are scarce. Oral tradition
states that cattle were kept in large numbers and the horse
was used for transport, over the last 200 years. Cows were
probably used for sagaa before the introduction of pumps.

Many birds are common but no study has been carried
out for the life of birds in the area. Cranes and egrets
are common along the river banks. Kites are numerous and
they usually fly on the remnants of human settlements. (1)

More than forty species of fish are known in the
Nile in the area. The best eating are Basad (fosskala
catfish), Nile perch, Buliti (perch) and Debes (Nile carp); (2)

House flies swarm around the settlement and their
number tends to increase in autumn. Malaria are also
common especially during spring. They concentrate in areas
of vegetation and settlement. Mosquitoes are abundant,
especially after the flood season. The retreat of the
Nile leaves behind pools of water suitable for breeding

of mosquitoes. These insects cause many people in the area to suffer from malaria, trachoma and anaemia.

Economy, Landuse and Settlement:

The major occupation in the area is confined to the river bank. The desert confines all permanent settlement to the areas adjacent to the river and dictated the present-day settlement pattern.

The village of the area under study is a small one, of four hundred people; with limited economic resources. The inhabitants cultivate the narrow strip of the floodplain and parts of the island of Tureifi. Unlike the village of El Sheikh El Tayib, the nearby villages further south and those on the opposite bank have extensive cultivable fertile floodplain. So the neighbours of El Sheikh El Tayib are rich.

The annual Nile flood replenishes the silt of the plain and the island. Agriculture is the main occupation of the inhabitants. It is practiced during the whole year except the flood season when water inundates the cultivable plain and parts of the island. They cultivate onions, tomatoes, potatoes, bananas and other food plants as cash crops. Grass, hay and other fodder crops are cultivated for their animals. Due to the narrowness of the floodplain and the partial uselessness of the island, the inhabitants make
full use from their cultivable land by getting high vertical production. Most of their cash crops are taken to Khartoum to be sold.

The cultivated areas are watered by pumps which have replaced the Sagia and Shaduf only recently. The village takes its main water supply for domestic use from a well dug in the Mubian sandstone. This is due to the fact that the Nile water becomes very low during most of the year and it takes some considerable effort to procure water.

Besides wells, local enquiry showed that hafirs were in use till recently. They only lost their importance after the construction of water tanks of the government in this century. It is noteworthy that there are still traces of hafirs in the vicinity of the Haoua village, such as hafir Wadi El Sag, Hafir Wad El Hamed, and hafir Hamida. These hafirs were usually named after their owners. They are built in a horse-shoe shape with opening towards the direction of the water flowing from tributaries and small wells. They are usually built of stones, gravels, and sand in lower areas. Local tradition claims that the tradition of hafir is older than the 18th. century. This tradition is known in the Nubiotic(1) and probably Christian periods.

(1) Shinnie, 1967, 95 and Haken, 1972, 629-46.
Away from the Nile to the west hafirs are still in use by the pastoralists. During the autumn these hafirs are filled with rain water which will supply them with water for a time.

Along the bank of the Nile north of the village of El Sheikh El Tarib, temporarily settlements of pastoralists may sometimes be found, especially during the month of April, May and June during which no rains fall and hafirs dry up. These conditions force them to come to the Nile to water their herds of sheep and goats. During their stay some work in agriculture as labourers. Indeed some of them have abandoned their pastoral life and settled along the bank forming new villages such as El Hawawir and El Fawala. They built dwellings similar to those of the local inhabitants.

Most of the houses were built of mud and mudbrick, protected on the outside with a mixture of dung and clay. This is possible because of the scarcity of rainfall. Roofs are flat and made of mat and reeds, supported by logs of date palms.

In the villages of the area in general, there is no social stratification in the shaping of the settlement pattern. The streets are not planned and most of the houses are alike.
No fishing is practised by the local inhabitants. I had the chance to talk to the fishermen who camp on Umu Tareif Island. They came from Khartoum and the Gezira regions looking for better areas for fishing. They told me that this is the best and most suitable area for fishing in Khartoum province. It is free of rocks and rapids that tear the nets. Their fishing is well organized, giving five or six turns a day for each boat. Nearly all their product is sent every early morning to Khartoum.

One further source of wealth in the area is the sandstone of the jebel. Lorries usually come early morning, driving to the top of the hill to get boulders of sandstone suitable for building and take them to Khartoum. Sometimes craftsmen come to shape round stone grinders from the rocks and take them to Khartoum to be used in the mills. Local enquiry showed that this is an ancient custom. Modern and ancient evidence of stone quarrying is very clear on the surface of the hill. There is evidence of quarrying by dynamite and chisel. Grindstones and the stones topping the burial mounds close to the jebel may be considered as indications of ancient stone quarrying.

One of the major problems from which the village suffers is depopulation due to migration. Most of the youths of the village have migrated to Khartoum and elsewhere leaving behind unproductive older people and children
who mostly suffer from malaria, anaemia and trachoma.

**Population**

The population of El Sheikh El Tayib village is very small, probably due to its limited economic resources. Its population ranges between 400 and 500 persons. The population density is much higher a few miles further south in Sarasib area where the cultivable floodplain is more extensive, reaching to about two kilometres wide.

The present-day inhabitants are a mixture of several tribes, predominately Gumnoy’a, Ahaiga and Daragla. The Gumnoy’a are part of the Gumnoy’a group who inhabit the area west of the Nile extending from the 6th, eastward to the lowest part of the White Nile.(1) They claim that they are originally Arabs, descended from Jaa’ili origin who claim to be of Abbasid ancestry. They occupy the villages of Mofelah, Haraehe, Islang, El Noha, Sarasib and El Sheikh El Tayib. The place names of Islang and El Noha seem to have meanings in the modern Nubian language. The word Islang means the yoke that was placed on the neck of the cow in the Sarasib and El Noha may mean Nubian. Haycock has suggested that the Nubian names around Khartoum and Sobaloka are evidence of the now extinct Nubian language of the Medieval Kingdom of Meroe.(2)

(2) Haycock, 1972, 18.
As mentioned above, the area of El Sheikh El Tayib was well known as a centre of learning and religion during the 18th. and 19th. centuries. The most important of the sheikhs was Ahmed El Tayib El Bashir, who died in A.D. 1624 at age of 64 and so witnessed the eclipse of the Fung State at the hands of the Egyptians. He studied Islamic religion in Mecca where he met Mohammed Abul Khair El Samman, the founder of the Sammania wasi school. On his return, Sammania sufis learned to spread among his tribe, the Gennaya, and to the other tribes of Hailan and Yagoub in the Gesira plain further south.

Another prominent religious leader was El Sheikh Mohammed Sharif Nor El Daim, the grandson of El Sheikh Ahmed El Tayib. He is the man from whom Muhammad Ahmed El Mahalli learnt his Sammania Sufi teachings.

The present-day inhabitants of the area still venerate these great leaders and their descendants and successors are also honoured. Visitors come to pay homage at the tomb of El Sheikh Ahmed El Tayib as well as to his present successors and descendants. During the course of my work at the site I noted that other visitors from distant regions usually come to climb up to the top of the hill to perform some religious rituals. The jebel seem to have a sacred religious nature.

(1) Hassan, Y.P., 1975, 135.
because they believe that the Sheikh used to spend the night there in loneliness away from the earthly world praying, reciting Quran and meditating.
CHAPTER THREE.


Introduction.

Though the area under study is a part of University of Khartoum's archaeological concession area, most of the work done has been confined to the area between Khor Kedi Saiyouna in the south to Sauda village in the north. In this area there had been only a preliminary archaeological survey which started in May 1973, and ended in July of the same year. (1) Excavations were conducted intermittently between 1973 to 1978, starting at the northernmost site at Sauda and proceeding southwards to Urdi, Kawahla, Isilang, Nofalab and Haramab villages. Most of the work was devoted to the burial mounds which revealed Late Neolithic, Christian and Muslim tombs. Work on prehistoric sites began only in 1976 when it became clear that some of these sites were disturbed by the later burial mounds.

Early investigations were carried out further north at (2) Shabinah, (3) 15 km. from our site and further south at Khartoum and Umara. (4) On the west bank. On the opposite bank of the

(2) Arkell, 1953.
(3) Ibid., 1960.
Recent work has been conducted at El Nadero \(^{(1)}\) and El Geila \(^{(2)}\) where sites of the 6th millennium B.C. were found. Some Late Neolithic tomuli were also found occupying parts of these sites.

Previous work in the area:

As for the extent and nature of the previous work on the site, search was made in national and local journals and in the records and archives of the Sudan Antiquities Service. Earlier work on the site was found to be made by O. G. S. Crawford in 1951-52 during his return from a survey in the Middle Nile Region \(^{(3)}\). He described two stone walled enclosures, a square fort and an irregularly walled enclosure and noted a Neolithic occupation on the southern part of the hill \(^{(4)}\). Though Crawford gave a short description, he did not make a plan of the area.

Y. H. Medani, accompanied by the present writer made a survey of the area and described its archaeological features including the stone enclosures and the burial mounds in 1976 \(^{(5)}\). The work done being far from complete led to the initiation of a further systematic survey accompanied by test-excavations in 1977-78, which is embodied in the present study.

\(^{(1)}\) Krzyzanek, 1973.
\(^{(2)}\) Fahlst, 1974.
\(^{(3)}\) Crawford, a - 1953, 25-26 and b - 1953, 39.
\(^{(4)}\) Ibid.
\(^{(5)}\) Medani, 1977, 75-84.
Aims of the Survey in 1971:

The aims of the archaeological survey were:

i - Understanding of the cultural remains encountered.

ii - To select one area for more detailed research.

iii - To attempt to define further the nature of the burial mounds sites, so called "Aloa Ware" mounds.

iv - To obtain a detailed plan and account of the enclosures, hut foundations and cemeteries including drawings and photographs.

Methods and Techniques:

Before the start of the survey, air photographs of the Swaziland Survey Department at a scale of 1:40000 and enlarged ones at a scale of 1:10000 were obtained. Two maps, sheet 539-I-A and MB-36-B were procured.

The enlarged air photographs obtained proved to be helpful in detection and location of archaeological features in the area. With the aid of a stereoscope the writer could locate these features and check the distance between them. This helped furthermore in the drawing of the general plan of the area (Figs. 5 and 6).
The survey was conducted by the writer and two students from the Department of Archaeology in May 1977 and continued for two weeks. The area of research 2 sq. km was systematically walked by two students and myself, each being 10 metres from the other.

In order to plan the archaeological features in the area accurately, a 10metres grid was set up all over the site. Selected areas such as the burial mounds were contoured as a preparation for excavation. (Fig. 5) This was achieved with the help of surveyors from the Survey Department.

The results of the survey:

The following archaeological features were discovered:

Cemetery

Immediately west of Maa Marratii hill a high gravel ridge devoid of vegetation proved to be covered by a cemetery of 106 burial mounds. This ridge is approximately 5 metres higher than the floodplain and its height decreases gradually towards the west. The distribution of the mounds shows a clear concentration in the east, probably because it is the highest part of the ridge. The mounds tend to decrease westwards with the decrease of elevation. From the general concentration of the mounds eastwards and from the remarkable height of the eastern part of the cemetery the writer is inclined to assume that the cemetery probably
started from the east and then extended westwards.

The cemetery occupies a triangular area of 350 metres north-south and 515 metres east-west. This shape is clearly visible in the enlarged air photographs. The tumuli were distributed irregularly at a distance of 5 to 10 metres apart.

Nearly all the mounds are circular in shape but differ in height and diameter. Most of them have a diameter ranging from 5 to 15 metres; those exceeding 15 metres are very few i.e. J.M.104 and J.M.105. (Fig. 5). The general height of the mounds ranges between 0.5 and 2 metres according to the surrounding surface. This does not reflect their original height which should be considerably higher. Physical weathering certainly played a considerable role in changing the present day height and size of these tumuli.

From their outside appearance the mounds seem to be made mainly of gravel, quartz pebbles, sand and fragments of Nubian sandstone having much the same appearance as the land round about. They seem to be made of three types according to their outside structural appearance:

1. A type wholly covered by irregularly scattered blocks and fragments of Nubian sandstone. They are very low and contiguous. The stones scattered on their surface are very loose suggesting that these tumuli were probably exposed to disturbance and robbery.
2 - A type having a stone enclosure or a low ring of stone wall around each tumulus. Sometimes such type of tumulus seem to disappear from view due to the covering of large sections of them by the soil of the mound. Their exact number could not be ascertained from the outside appearance. Examples of such type of tumulus in J.M.16 and J.M.35. The diameter of the stone enclosure is usually the same as that of the mound. The function of these stone enclosures is not yet certainly known but one could assume that they were probably made to preserve and to mark the location of the tomb.

Burial mounds with similar enclosures were recorded before by Chittick as occurring at Robagi, near Shendi.\(^1\) Garstang seems to have found rings of stones in the tomb of the middle neolithic but whether they were similar in nature to those of our area or not, the writer finds it difficult to say due to the lack of further information in the interim report.\(^2\) Further examples are to be found among the royal tombs at W1 Kuru,\(^3\) Barkal, Nuri\(^4\) and Begrawiya North.\(^5\) South,\(^6\) and East.\(^7\) Though the

\(^1\) Chittick, 1957, 73.
\(^2\) Garstang, 1910, 69 and 1911, 29.
\(^3\) Dunham, 1960, 21, 23, 25, 35, 45, 46, 47, etc.
\(^4\) Ibid., 1957, 1-5, 22. For Barkal see 1957, 22, 133.
\(^5\) Ibid., 57, 106, 143, 186, 198, etc.
\(^6\) Ibid., 32.
\(^7\) Ibid., 1953, 71, 76, 82, 84, 89, 99, etc.
enclosures in these royal burials are more regular and rectangular, the idea of stone enclosure is still present. Such idea of enclosures seems to have been of longer and deeply rooted nature; it goes back to Kerma (1) and appeared later in the Nectanebo (2) and so called X-Group periods (3) It is even prevalent among the Naga of the Red Sea Hills (4) in the present day.

3 - A type made wholly of gravel, sand, quartz pebbles and stone rubble. It is possible that some of them have stone enclosures below the soil of the mounds. Hence they will not be visible. This is based on the writer's personal observations at oasis cemetery. Sometimes, small boulders of Nubian sandstone are partially visible above the ground and they seem to be parts of the stone superstructures of the graves. The boulders of Nubian sandstone were probably intentionally laid on the top of the mounds possibly to protect them from erosion and plundering. Indeed, some of these stones seem to have appeared as a result of physical weathering and so they were not originally placed on the surface of the mounds.

(1) Almagro and Others, 1965, 79.
(2) Ibid.
(4) Hakim's personal communication.
Other burials:

There are 40 scattered and isolated tumuli dispersed over the surface of the hill and to the north and south of its foot, (Fig. 6). They were made of gravel and predominantly of stones of the same type as that on which they stand, and similar in their outside appearance to the stone mounds found in the north eastern part of the cemetery. Generally, their diameter ranges between 5 and 10 metres. These burials and those of the cemetery were not reported before by Crawford.

Find of the land surface:

1 - Late Nectolithic: On the surface of the area of the burial mounds many sherds were found, possibly of Late Nectolithic type. The potsherds found include some decorated with a red slip, polishing, burnishing, mat and finger tip impression and incision of various geometrical pattern either filled with white or red pigment or left empty. Such types of sherds were found and reported before at FauSa cemetery, dated to the Late Nectolithic period. (1)

2 - Prehistoric: Material remains of lithic artifacts and potsherds similar to those found at Kharbou Civil Hospital (2) were found on the surface, especially on the eastern part of the cemetery.

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(1) Nahem's field diary, 1971.

(2) Askel, 1969.
Factors of destruction:

Today there are certain destructive factors working against preservation of the cemetery, among which is erosion. The mounds are exposed to water erosion during the rainy season and wind erosion throughout the year. There are traces of small water gullies running through the middle of the cemetery down to Khur El Sheikh El Tayeb further south.

Car tracks play a considerable role in disturbing and changing the surface of the site. They pass by the southern and eastern part of the cemetery causing destruction to some of the mounds. Indeed a track nowadays cuts through the mounds at the head of the triangle to the west and this has caused great destruction to their shape and outside structure.

Another hazard is the quarrying of gravels and sand for building. The mounds so harmed are still visible, and some acacia shrubs have grown in the disturbed parts. Some tumuli seem to have been subjected to robbery, especially those in the north eastern part of the cemetery where the stones are haphazardly scattered; this might have happened in antiquity.
II. Enclosures:

The aerial survey and the enlarged air photographs revealed two walled enclosures side by side, occupying the flat summit of the hill. The northernmost one seems to be a fortress from its defensive nature and purely military aspects which will be described below.

A. The Hill-Fortress:

Although Crawford reported that the external plan of the fortress was a square whose sides measure 270 feet, the air photograph and measurements made in the field showed it to be rectangular with right angles. Its northern and southern sides proved to be of equal length measuring 69.3 metres each. The eastern wall was 65.3 metres in length while the western measures 67.5 metres. The latter two sides are parallel.

The girdle wall: The remnants of the standing wall show that the fortress is made of four thick defensive walls. These walls are of variable thickness: the southern wall is 4.7 metres thick, the eastern 3.6 metres, the northern 3.4 metres and the western 2.9 metres. The original height of the walls is nowhere preserved but can be estimated. (See p. 99). The present day height of the standing walls ranges between one to two metres according to the interior surface.

(1) See also Nekani, 1977, 79.
The girdle wall of the fortress shows further defensive nature. A closer inspection showed that it is made of a parapet wall and a parapet platform (Fig. 11). This parapet platform is 1 to 1.5 metres thick sufficient to accommodate one standing soldier. Standing on the platform he could direct his fire at different angles on the assailants. So the height of the parapet wall is not expected to exceed the height of his shoulder and the overall height of the wall with its parapet must have been about 3.5 metres.

Most of the fallen stones laid on the outside, the thing which might indicate a possibility of peaceful abandonment and natural decay to the fortress. Some parts of the standing wall revealed that there was on both the inside and outside a layer of larger stones more carefully arranged in rows (pl. 20). The core of the wall was less regularly laid than the faces. It was built of Rubian sandstone of the same type of the rock underneath. Gravels, mud and sand were used as mortar.

The bastions: A further observed defensive structures were the bastions which were so mined that Crawford could not detect their exact shape. The survey conducted by the writer showed that these bastions were square in shape, of 5.3 metres on each side, projecting at right angles at each corner. At irregular intervals there are further three protruding square bastions in the western, northern and southern walls. (Fig. 6).
The closeness of the bastions to each other would minimize this inconvenience and would enable a close watch to be kept outside and the middle bastions would increase further the effect of the shooting range. The top of the bastions was nowhere preserved, but on the basis of the study of ancient forts and similar ones in the Third Cataract Region and the remarkable concentration of the fallen stones at the area of the bastions one could assume that the bastions were raised to a higher level than the girdle wall in the form of towers.

The gate: The eastern wall has no middle bastion but a thick L-shape fortified gate. This entrance seems to be the most vulnerable part of this military structure and correspondingly the most heavily defended. Its L-shape wall is 4.7 metres thick. This thickness allows more manpower to be deployed on it. Its shape is deceptive and can not be seen away from the hill. Its changed directions confuses the enemy in the choice of which way to go. Thus it slows down any charge of the enemy. The entrance is very narrow; 2.8 metres wide. The narrowness was presumably intended to give the defenders a better command of the approach. It allows only a few soldiers to penetrate at one time.

Two other openings are visible today in the southern and northern walls but the traces of the structure of the disturbed walls are still visible at the foundation indicating
clearly that they were breaches of a later date and possibly evidence of post-occupational reutilization of the fort.

**Outer walls:** At the north western and south western bastions there are further extended stone walls at each bastion. They are lesser in height than the bastions, appearing to be mainly of piled dry masonry. They seem to be spur walls, possibly of a later addition since their building technique was proved to be different from that of the main walls of the fort. (See Chapter V111), (P1. 21 and 22).

**Location and Strategy:** The characteristic features of military architecture, particularly that of taking full advantage of the natural configurations of the ground are evident. It seems to have been built by professional military engineers. It is strategically built on the flat summit of the high bedrock knoll. It is fortified naturally on the east, south and north east sides by steep rocky environment and by the Nile on the east as a natural barrier. So the entrance is strategically located in the most naturally fortified part, with an open area in the front. Erection of entrances in the most fortified part protected by water front and steepness is a common feature in Hubia. (1)

On its rocky ground the structure of the fortress is adapted to the contour lines of the terrain in a most successful way. Its location on a high hill gives it a commanding view of a wide area, westwards to the plain and the desert and eastwards to the eastern bank and beyond and the Nile route for several kilometres north and south. It is obvious that it dominates the Nile traffic along the western bank. A few kilometres north, navigation is very awkward because of the Sahaloka rapids (i.e. the 6th, Cataract).

The fortress seems to have no ditch. In Nubia when the fortress is located on bedrock knoll with steep cliff overlooking the river, no ditch is used. (1) The flat area around the hill might have been intended as a natural substitute for a ditch and thereby exposing the enemy. No secure access to the Nile could be detected by the surveyor due to the fact that the greater parts of the eastern area were destroyed by explosives for quarrying.

The outside eastern wall: To the west, the height of the hill is very gradual; so it seems to be the least naturally fortified part. It is possible that it is for this reason that a further defensive masonry wall was erected surrounding

(1) Ibid.
the western part of the fort and extended to join the stone
enclosure near its south western corner. (Fig. 6). This
wall is 2 metres thick and very low not exceeding 75cm. in
height from the inside and 1.5 metres from the outside. It
is built of dry masonry wall arranged on both outside and
inside faces with a core of less organized stones, of lesser
size. It could be adequate to resist a cavalry charge and
might well have served this purpose because of the difference
in height on both sides. It could also prevent a retreat
from the open space between it and the wall of the fortress.
The thickness of the wall would have served to expose any
attackers to target. This is because, the thicker the wall,
the longer it will take to cross it and therefore the longer
the people will be exposed to shooting.

Interior of the fortress: The soil inside the fortress
is Nile alluvial (terrace deposit) overlaid with a thin sheet
of gravel and sand presumably resulting from the weathering
of the Nubian sandstone of the hill. Submerging veins of
rock outcrops are clearly visible on the surface of the
fortress; particularly the centre.

Numerous shards of different types were found scattered
on the surface including potsherds decorated with red slip,
polishing, burnishing, finger tip impression, etc-impression
and inclusion of various geometrical pattern either filled with white or red pigment or left empty. Their types are identical to those found on the surface of the cemetery. This indicates a possible connection between the cemetery and the fortress, that they were possibly remains after one local group of people.

**Dwellings**

There are signs of dwellings inside the fortress. They can be grouped into the following:

1. Remains of two stone huts, one in the south eastern and the other in the south western corner. They are too decayed with fallen stones both inside and outside the structure. They are rectangular in shape, measuring 8 by 6 metres each with entrances on the eastern sides. (Fig. 6). The sherds on the surface inside these structures were the same as that of the fortress and the cemetery and this makes it plausible to suggest that the huts were possibly roughly contemporary with the fortress and the cemetery.

2. There are five stone structures located in the western part of the fortress; four of them are circular, three with their entrances facing west. The fifth one is rectangular. (Fig. 6). It consists of three rectangular rooms attached to each other. Some of these structures are too small to be interpreted as huts. The circular ones were having a diameter of 1.5 metres each. Their walls are not
fallen, but of finely arranged stones possibly built for other specific purposes. (1) All these structures are probably of later date. They are made of stones possibly quarried from the middle bastion of the western wall in which the depression (evidence of quarrying) is still visible. Oral tradition speaks about these structures as being erected by El Sheikh Ahmed El Tayib and El Mahadi for recitation of Quran and meditation in their seclusion.

General discussion:

At this particular stage of the survey, the dating of the fortress is still uncertain. Depending upon the surface potsherds described above, it is possible that it dated to the Late Nubitic period. (2) If so, it would be the southernmost Nubitic fortress ever reported. There are no reports of such type of fortress from Lower Nubia. (3) In its style of building, shape and position it bears obvious resemblances to that of Jebel Figham, (4) nearby opposite Berber, and to the fortresses of the Third Cataract at Markel and Shofian. (5) They show local variations which suggest a long tradition of building and craftsmanship. Unfortunately the dating of these fortresses and enclosures is still uncertain.

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(1) Medani, 1977, 80.
(2) See also Crawford, 1953, 26 and Medani, 1977, 89.
(5) Osman, 1976, 137.
surface sherds Crawford suggested a Merotic date for the fortress of Jebel Makharu. If this date is correct the hill-fortress of Jebel umm Marrahi and that of Jebel Makharu would be of same period and perhaps even the work of same architects. Thus it would appear that they form a part of the series of Merotic forts along the Nile. Those of Behaian and Mankol were dated to the classic Christian period on the basis of surface sherds.\(^1\)

The hill-fortress was in use for military purposes even during the later periods of Mahadia and the Anglo Egyptian occupation. It was used as a look-out post by the Mahadists to watch the advance of the Anglo-Egyptian army, who in 28th. of August 1898, occupied the hill and spent the night there.\(^2\) The Anglo-Egyptian army was able to watch the movements of Khalifa's army by the use of a telescope, before its march to Omdurman. During the Second World War 1937-45 the strategic location of the hill was utilized for emplacement of anti-aircraft guns\(^3\) in the western part of the hill.

B - The stone enclosure

The fort does not cover the whole level area on the top of the flat summit and immediately south of it there is

\(^1\) 1918.
\(^3\) Crawford, a-1953, 26 and b-1953, 39.
a large roughly rectangular stone structure described by Crawford as a stone enclosure. The air photographs show clearly that the stone enclosure is an irregular oval structure. The area it covers is approximately 100 by 150 metres. So it seems to be more extensive than any of the forts or castles described by Crawford in his explorations of the Middle Nile Region.

The walls: The walls of the enclosure have all disintegrated into a heap of fallen stones. They are even more decayed than those of the fortress, a fact which misled Crawford to date its foundation to the Neolithic Occupation. At first sight the walls seem to be made of tumbled piles of stones but closer inspection reveals that some parts of the wall are intact enough to reflect their original thickness and the outside and inside faces. The southern, eastern, and western walls are massive: 1 to 3 metres thick and 0.5 to 1 metre high. The northern wall seems to be built on stone foundation. It is 3.6 metres thick, with a thinner wall on the top, some 1.3 metres thick. (Fig. 14). It is difficult to say whether this is applied in the other walls due to their ruined condition. The outside and inside faces of the walls

(1) Ibid.
(2) Ibid.
are made of Nubian sandstone carefully laid in rows with less regular and smaller stones in the centre. They seem to be dry stone walls (unmortared). The eastern wall of the enclosure is made of piled stones of larger size and they seem originally to have been piled stones with no regular arrangement; so its building technique seems to differ from the other walls.

**Entrance:** In the north-eastern part of the enclosure there is what seems to be an entrance of 3 to 4 metres wide since no trace of wall foundation is visible on the surface. It seems to have been located in the most defended part; fortified from the east and south by steepness and water, and from the north and west by the fortress, (Fig. 4). So there would be an approaching road between the entrance of the stone enclosure and that of the fortress.

The possible access to the fort and the stone enclosure would be from the north-western side, (Fig. 6). The outside western wall that surrounds the stone enclosure and the fortress shows no evidence of entrance and the only possible access would be from the north-west where there is no evidence of wall, at this part of the access the approaching road is narrow and passes by the northern wall and its bastions. This would give added protection to the defenders and exposure to the assailants.
Interior of the stone enclosure: The soil of the interior is similar to that of the fortress and is made of a thin sheet of gravels and sand covering an alluvial deposit. The southern part of the surface of the enclosure is irregularly covered by many pieces of sandstone. On the other hand, the northern part is flat on which the main evidence of occupation is concentrated. The sherds scattered on the surface are of the same type as those found in the fortress and the cemetery.

Dwellings: Four stone structures presumably of huts, similar to those of the fortress were found. Three of them are of circular shape, 6 to 8 metres in diameter, (Fig. 30), with entrances on the east side. The fourth one seems to be rectangular in shape but no entrance could be identified due to its ruined conditions. It is the largest one, being of 8 x 9 metres in size. A further stone hut was found close to the northern wall; located in the area between the stone enclosure and the fortress. (Fig. 6).

Burial mounds: Five burial mounds were found inside the stone enclosure, concentrated in its centre and the southern part. They are very low, 50cm. in height and very small, 6 to 10 metres in diameter. They are made of stones and gravels resembling very much in their appearance
to the other stone burial mounds dispersed over the surface of the hill. (Fig. 6).

Conclusion:

Depending upon the type of sherds found and their being similar to those found in the stone huts of the fortress, it is possible that the stone enclosures and the huts were of Late Meroitic date, roughly contemporary with the occupation of the fortress and the cemetery. The stone enclosure might have served as a settlement area or a temporary camp for the guards and soldiers of the fortress.

Factors of destruction:

The survey showed that there are certain factors responsible for the disturbance that affected the fortress and the stone enclosure. The use of the hill in the later periods for military purposes has rendered the southern part of the outside western wall of the stone enclosure a serious harm. This disturbance took place when the British army used the western part of the hill for anti-aircraft guns during the 1939-45 war. The emplacement dug on the western part of the hill and the paths cleared have done serious harm to these walls. Spent ammunition of the army is still scattered on the surface of the site.

Another hazard was done earlier by the Anglo-Egyptian army in 1898 when a post was demoted in the
centre of the middle bastion of the southern wall. An informant, Sheikh Abdel Rahim Mohamed Sharif, who is more than 100 years old, told me that the Anglo Egyptian Army used a telescope on the cemented post to watch Khalifa's Abdullahi's army before they won at Omdurman. (1)

Furthermore, quarrying of stones is the major constant threat to the site. Throughout its later historical period the stones of the hill were quarried for building material and grindstones. Greater parts of the hill were quarried by explosives which exposed the site to damage. Still the processes of stone quarrying is going on but more frequently with animals. A further disturbance is done almost everyday by the local people who usually bring stones from the top of the hill for their burials in the modern cemetery. The site is in danger because the stone structures usually attract people to quarry them. (2) All these reflect how quickly the site is changing.

III - The Neolithic settlement:

There is a Neolithic settlement and occupation deposit on the flat summit of the hill. Neolithic material remains seem to cover the whole flat area except that of the fortress.

(2) Alexander, 1976, 204.
It is concentrated on the southern and northern parts inside the stone enclosure and extends even behind its southern wall. Generally speaking, the material remains include lithic material and potsherds similar to those previously reported by Arkell during his excavations of the site of Khartoum Civil Hospital. (1)

During the course of the survey it has been observed that the walls of the stone enclosure were laid directly on the Neolithic levels. Neolithic artifacts including numerous quartz flakes, backed blades, burins, denticulates and borers together with grindstones, hammerstones and stone rings has been encountered. Most of the small tools are made of quartz whereas the larger ones are made of Rubian sandstone, petrified wood and ryholite. Shards with wavy line and dotted wavy line were notable among the other types.

In his description of the Neolithic site Crawford maintained that:

(1) There are also many small round platforms, about 3 feet or little more in diameter where the bigger stones have been removed and a sort of rough floor of small pebbles formed. It is difficult not to regard this as a defended Neolithic habitation site; it is certainly a habitation site of the period.

(1) Arkell, 1949.
indicated by the pottery and it is the first site that holds out any promise of finding structural remains of this period. (1)

The survey conducted by the present writer did not reveal any such kind of small round platforms that could be dated to the Neolithic period. Crawford's dating of the stone enclosure to the Neolithic occupation has no solid foundation. If his dating depends upon the decay of the wall, this will be unreliable since the site was affected by disturbance during the different periods of its history. If he based his dating upon the Neolithic material remains found inside the stone enclosure, it could be a late structure since potsherds of Late Neolithic are also numerous. All evidence seems to support the contemporaneity of the enclosure with the fortress. The stone enclosure is built in a technique of dry masonry similar to the spur walls stretched to the south west and north eastern bastions of the fortress. Furthermore, Neolithic remains were found immediately behind the southern and northern walls of the stone enclosure suggesting that it was not made for the defence of the Neolithic occupation. For all these reasons the writer is unable to support Crawford in his dating of the stone enclosure to the Neolithic occupation.

(1) Crawford, m.1953, 27.
IV.-SETTLEMENT NEAR THE ISABELI (Fig. 6)

Down below the hill to the north and south west of its foot there are further signs of settlement of stone structures presumably huts. They are similar in type and style to those found in the south western and south eastern part of the fortress and to those of the stone enclosure. They are divided into the following groups:

A.-The northern group: This is a group of five stone huts located immediately north of the hill and about 500 metres from the river bank. They occupy an alluvial deposit which is laid on an ancient eroded Nubian sandstone bedrock. They are in ruin with fallen stones both outside and inside the structures. All are circular in shape with 6 to 8 metres in diameter, except No. 2 which is rectangular measuring 6 x 5.2 metres in dimension. Most of these structures have entrances on the eastern side, measuring 1 to 1.5 metres each. The interior surface of these stone huts is made of gravels and quartz pebbles mixed with Nile alluvial sand. It is covered with scattered potsherds decorated by polishing, burnishing, red slip, mat-impression and finger tip impression. Sometimes the black polished or red slipped potsherds were decorated with impressed or incised designs showing frequently traces of white or red filling. So the surface sherds are of the same type as those reported from the fortress, stone enclosure and cemetery, and thus all seem to belong to the same cultural horizon.
B - The south western group: This is made of four stone huts located on a gravel deposit mixed with sand and alluvium. The walls are in ruin with fallen stones on both inside and outside the structures. They are circular in shape, with a diameter of 5 to 7.2 metres. Only one stone hut was found to have an entrance on the eastern side (Fig.6) while in the others no traces of entrances could be detected. The soil of the surfaces inside is made mainly of wind blown sand and alluvial soil mixed with gravels and quartz pebbles. The surface sherds found inside on the surface of these structures are of the same type as those found on the surface of the fortress, stone enclosure, the cemetery and the northern group of stone hut foundations.

These stone hut remains are erected on a Neolithic site. On the interior surface of these structures and the area around them numerous scattered potsherds and lithic material remains similar to those found on the hill and to those reported by Arkell at Thirtum Civil Hospital, were encountered.

Conclusion:

The survey conducted in 1977 have resulted in the discovery of a cemetery, a hill-fortress, a stone enclosure and settlement sites near the Jebel. They are of a related character since they share a same kind of surface sherds. The
The pottery found on the surface being identical to that of Banda cemetery, suggests a Late Meroitic date for these structures. The type of the fortress and the enclosure did not help much in the dating because no similar type of structures were investigated before.
The greater part of the tombs within the 30 metres were wholly excavated. Each excavated unit was given a numerical figure. During the excavations the present writer supervised, recorded, drew the sections, photographed and catalogued the artefacts. Each specimen of an object was allotted a serial number in the field.

Out of a total number of 155 graves that have been registered at the burial site, 18 were selected for investigations. Excavations have shown that the burial site seems to form a unit. There is little variation in the type of grave goods though the superstructures and substructures showed certain complexity and variations.

The cemetery:

Each tomb was found to have a mound of mixed material with the main burial at its centre. In the intact tumuli the tipping lines of the mound were clearer. Its outer face is usually made of fine gravels probably resulting from the process of tipping onto the centre of the mound, which allows the gravels to roll down. Thus the building up of the mound seem to have followed a regular organised process. (1) Its size suggests that great manpower was recruited for the building of the mound. This reflects a group sense of responsibility to

(1) Hakem's unpublished diary of Buda cemetery.
build these mounds. (1)

The majority of the graves were found to have stone super-structures of circular shape of average diameter 1.5 to 3 metres and average height of 0.5 to 1 metre, built inside the body of the tumulus. They were made of radish sandstone boulders collected locally and care-fully laid enclosed in the middle of the mound to cover the opening of the grave shafts. These stone slabs were thin, unshaped with roughly broken edges and varied from 30 to 50 cm in greatest dimension. These super-structures had possibly a double use, to protect the bodies lying in the graves from human robbery and to keep away wild beasts. and to provide a recognizable memorial and cult centre.

Circular demarcation walls of stones were frequently found surrounding the whole tumulus. They usually have founda-tion trenches with a layer of sand on the bottom. (Fig. 7). Sometimes the tumulus is demarcated by a ring of single stone or stone layer. More often colour-ous horse-shoe structures with eastern entrances were found built from the same soil obtained from the bottoms of the pits. The horse-shoe shape with an eastern entrance towards the east may be explained in terms of ceremonial practices where the mourners would go in and cut the burial pit in the process.

(1) Ibid.
of digging and hence it acts as a gate to facilitate this movement.

The great majority of the graves are circular or oval with the principal orientation along a north-south axis. They were dug sometimes into the Nile silt deposit or more frequently through a relatively hard layer of compact soil of decomposed Nubian sandstone. Indeed the bottom parts of some of the graves were cut into the Nubian sandstone rock.

The size of the grave shafts vary considerably. They are generally between 1 to 1.5 metres in diameter in adult burials while not exceeding 0.6m, in children’s graves. The child burials have generally shallow shafts less than 0.6m, deep while the adults have shafts ranging between 0.6m to 1.5 metres in depth. Adult graves generally have a step or a raised ledge on the eastern part of the shaft leading to a widened oval or circular burial chamber towards the west. These widened burial chambers have north-south axis of orientation. In a few cases sloping entrances or ramps were reported leading to a cave-like chamber. (Fig. 9).

Although the graves differed in size and design the general scheme of handling the deceased was the same. The tombs seem to follow rigid and strict rules of burial indicating strong burial conventions. (1) Nearly all the

(1) Ibid,
skeletons were found in a poor state of preservation. They were laid out at various stages of contraction on their right side, head to the south facing east. Sometimes the skeletons were so tightly contracted as to suggest that the corpses must have been bound with rope or leather string. All were found in the western part of the graves.

There is as yet no evidence of multiple burials.

Globular jars, bowls and cups were sometimes found east of the deceased while the other objects are usually placed around the burial. All the pottery found inside the graves is hand-made, bearing close similarity to the potsherds found inside the superstructure of the tumuli. The majority of the pottery is black and/or brown polished and some is red slipped. Different types of decorative techniques were recognized. These include polishing, burnishing, red slippering and impression and inclusion of various geometrical patterns, either filled with white or red pigment or left empty.

Most of the objects found are personal adornments or utility wares such as iron arrowheads, stone archers' looses, storage jars, bowls, cups and pottery dishes for meals. The latter revealed remains of food stuffs (Appendix No. 4). The adornments include objects of jewellery such as iron rings, bronze rings, bronze bangles, and beads of ostrich egg-shell, blue or green faience and stone.
some graves displayed remains of cloth stained with a green dye which could be identified as a wrapping for the dead. The finds in general tend to show homogeneity and it seems that the cemetery was in use during a comparatively short time.

After the interment, it seems that the graves were roofed with wooden beams. Traces of wooden roofs were found in almost all the excavated mounds, set on the grave shaft or found after decay and collapse inside the grave pit. Robbery and the collapse of the roofs of the graves as a result of decay and pressure of the mound can be considered as a main cause of the disturbance and fragmentation of the skeletons and grave goods. The fact that the bones of the skeletons were fragmented and sometimes scattered indicate that the re-use of the grave, robbery or the collapse of the wooden roof of the tomb might have happened long after the interment, when the tissues of the bodies had decayed.

However, some potsherds which formed complete pots after reconstruction, were found placed in the super-structures of the mounds. The present writer came to the conclusion that it is possibly one of the funerary ritual acts of these people to place pottery in the superstructure of the tumuli. When these objects were recorded for the
first time in the superstructures of graves J, M, 8 and J, M, 9, the writer thought that they were just brought in with the soil of the mound and so unattributable to the burials, or that they were things that had been lost by the workmen or the part who raised the tumuli. But the frequent recurrence of these finds showed that they might have been deliberately buried after the burials had taken place. This possibility is strengthened by the fact that the pottery types were found to be of the same type as those found inside the burial pits.

Burial description:

The graves so far dug can be divided arbitrary according to their types into:

1. Type A. This type forms the majority. It is characterized by a circular stone superstructure built inside the body of the tumulus, covering an oval or circular opening with the horizontal base oriented north-south. On the east a step leads down to an elongated oval opening with a north-south axis. This leads to a cist grave like grave without any blocking. Such type of graves were found often to have a ring of stone wall or of single stones around or underneath the tumulus. Sometimes, a horseshoe calcareous structure with an eastern entrance was found
underneath the stone superstructure. (Fig. 7). This type of grave includes the following:-

**Burial J.M. 8.**

**Location:** This grave is located at the eastern-most part of the cemetery close to the roadway.

**Superstructure:** The tomb has a low mound of gravels and stones underneath which a stone superstructure, of 2.5 metres in diameter and 55cm. high, was found. This stone superstructure covers the grave pit and is surrounded from outside by a semi circular stone wall which was possibly a complete circular demarcation wall disturbed by the nearby road. This ring of stone wall was built of sandstones mortared with gravels and sand and has a layer of mud on the bottom. It is 35cm. high and 90cm. thick.

A few potsherds were found, decorated with polishes and red slippings. Some were decorated with impressed design bearing traces of white or red fillings. Underneath the stone superstructure a crude and badly fired bowl (pl. A) was found laid on the surface of the grave pit.

**Burial chamber:** The grave is a shallow circular pit, 1.5 metres in diameter and 1.2 metres deep dug in the natural soil of gravels, quartz pebbles and sand. There was a ledge of 60cm. maximum width and 24cm. high on the eastern side. The grave pit was filled with stones, gravels, quartz pebbles.
of the same material removed when the pit was first dug and
which was later thrown back in the pit after the body had been
positioned.

Interment: The grave showed evidence of re-use since
two skeletons were found one above the other with a stone
platform parallel with the ledge, separating between them.
The earlier skeleton underneath (J.M.8-1) was found laid in
a contracted position on its right side, head to the south
facing east but had been disturbed by later re-use of the
grave and then left in confusion. The associated objects
found consisted of 52 ostrich egg shell disc beads. They
were found at the neck forming a necklace. A number of 13
green felsite beads were found around the skeletal remains
of the pelvis.

The later skeleton (J.M.8-2) was buried 70cm. deep
from the surface. It was laid on its right side, in a
contracted position head to the south facing east. The
knees were found tightly bent and levelled in an east-west
axis. The skeleton was possibly of a male. In its left
wrist a number of 46 ostrich egg shell disc beads were found.
Furthermore a number of 1365 ostrich egg-shell disc beads

(1) Brothwell, D.R., 1972. All mixing of skeletons in the
cemetery were done depending upon the information
provided by Brothwell.
were found at the neck forming a necklace.

**Burial J.M. 9:**

**Location:** This grave is located on the eastern part of the cemetery adjacent to burial J.M. 8 and very close to the roadway. (Fig. 5).

**Superstructure:** The tomb is made of a mound of gravels, quartz pebbles and frequent pieces of worn sandstone. Underneath this tumulus a stone superstructure of 1.05 metres high and 3.3 metres in diameter was found, located at the centre of the mound covering the burial pit. Surrounding the stone superstructure and the tumulus was a ring of stone wall, 1.1 metres in diameter, 60cm. high and about 60cm. thick (Fig. 7). Similar to that of J.M. 8, the ring stone wall is built of sandstones, tarred with gravels and sand and has a layer of mud on the bottom.

A number of potsherds were found in this superstructure. They were mainly of black polished potsherds and red-slipped ones oftenly decorated with a network pattern in impressed dotted lines showing traces of white filling. A few wheel-made sherds were found from which a complete black burnished shallow dish could be reconstructed. (Fig. 21).

**Burial Chamber:** It is a deep circular grave of 1.5 metre in diameter dug to a depth of 1.4 metres with a step of 25cm. width on the east side. This step possibly
FIG. 7-TYPE A

BURIAL MOUND OF J.M.9

EXTENDED MUSEUM BURIAL
RING OF STONE WALL
Burial J.M. 16: (Pl. 5).

Location: This tomb is situated close to grave J.M. 13 on the eastern side of the cemetery. (Fig. 5).

Superstructure: The superstructure is similar to that of J.M. 8 and J.M. 9. It has a low mound of gravels, quartz pebbles, and fragments of Nubian sandstone, overlying a stone superstructure which is located at the centre of the mound. A ring of single stones was found surrounding both the tumulus and the stone superstructure. Several potsherds of mat-impressed, black polished and red-slipped ware were found inside the superstructure.

Burial chamber: It is a shallow circular pit of 100cm. in diameter and 95cm. deep. It has a ledge of 40cm. wide on the eastern side and the grave was widened at the bottom to allow more room for the deceased. The fill of the grave pit was made of a homogenous mixture of pediment materials, containing more frequent pieces of worn sandstone pebbles and lacked any evident lines of stratification. This material was probably removed when the pit was first dug and which was thrown back later.

Interment: The burial seem to have been disturbed possibly by robbery, because the skeletal remains and finds were found in confusion. 27cm. deep below the present surface large pieces of potsherds were found together with skeletal
remains in the fill of stones that cover the opening of the grave. The fill also contained a number of ostrich eggshell disc beads. Though the remaining parts of the skeleton found were in disorder, the position of the remaining lower limbs suggests that the deceased was laid on its right side head to the south facing east. The knees were tightly bent. A number of ostrich eggshell disc beads and 5 green faience beads of cylindrical shape were found at the pelvis.

Burial J.M. 26; (vol. 6)

Location: This tomb is located on the southern part of the cemetery close to grave J.M. 35, (Fig. 5).

Superstructure: It is similar to the other graves described above. It has a mound of earth and gravel and quartz pebbles, underneath which there is a circular stone superstructure. A ring of stone wall surrounds both the mound and its stone superstructure. It seems that some of the stones of the superstructure were removed when a later Muslim burial was intruded into the mound.

From the superstructure of this mound came the greatest number of sherds ever reported in the cemetery, (Table 2). They reached 166 in number and were made of several different types including the black and red-slipped polished and burnished sherds decorated sometimes with impressions showing traces of red or white filling. Other sherds were found decorated with mat-impression or finger tip impressions.
Burial chamber: The grave is oval in shape 110 x 115 cm., and dug to a depth of 157 cm. through soil of gravel, quartz pebbles, red/olive soil and sand. It has a step of 50 cm. side on the eastern side of the grave. The bottom of the grave is slightly widened at the bottom. Its fill was made of gravel, quartz pebbles and stones of the same type of soil dug from the grave. Traces of wood roofing were found underneath and in the fill indicating the collapse of the wooden roof which led to the fragmentation of the skeleton and the objects.

Interment: Judging from the anatomical features of the skeleton it was possible that it belonged to a male. The deceased was found laid on its right side, tightly contracted, head to the south facing east.

From the objects found in the grave it seems to be the richest tomb excavated in the cemetery till now. Together with the deceased two big globular jars decorated with red slip and a black polished bowl were found east of the grave. About 86 single-barbed iron arrowheads were recorded near the knees and the head. The skull was adorned with two iron circlets. These circlets and the remarkable richness of the grave suggest that this grave seems to belong to an important person possibly a chief or a leader. Attached to these circlets were short iron chains and three small bronze bells.
Further two bronze bells and rings were found near the feet while another two bronze bells were found placed at the neck. Two iron finger rings were found close to the left hand and three other bronze finger rings near the right hand. A stone archer's arrow was found on the right thumb. Different types of beads, made of quartz, carnelian, and dolomite, were found. A pendant of agate was found at the neck.

Burial J.M. 35: (Pl. 8).

Location: This grave is located on the southern part of the cemetery. (Fig. 5).

Superstructure: It is similar to the previous one described above. The tumulus and the stone structure underneath were surrounded from outside by a ring of a stone wall. The southern part of the mound was disturbed during the intrusion of a Muslim grave for which the stone superstructure was partly removed.

A number of shards were found in the superstructure and they were of the same type as those found in the mounds of the other graves.

Burial chamber: The grave is oval in shape, 117 x 90cm, and 60cm deep. It has a ledge of 10cm wide on the eastern side. The bottom of the grave was slightly widened to the west. It was filled with stones and gravel. Traces of wood roofing were also found.
Interrment: The sex of the deceased was possibly female. The corpse was found laid on its right side in a contracted position head to the south facing east. At the neck a necklace of 140 ostrich egg-shell disc beads were recorded. East of the skeleton and on the step a small red slipped globular jar was found. The skeleton and the pot were found in a poor state of preservation; all resulted probably from the collapse of the grave under the pressure of the mound and decay of the wooden roof. The intrusion of the Muslim burial in the mound is also a possible reason for this disturbance.

Burial J.W. 54:

Location: This tomb is located on the northern part of the cemetery. It is very close to grave J.W. 50.

Superstructure: It is similar to the other ones previously described above. Unlike the other tumuli it has no ring of stone wall. There is a notable depression at the centre of the stone superstructure from which the stones were removed; and this is indicative of a grave robbery. The depression was found filled with black alluvial soil containing ostrich egg-shell disc beads and faience beads with fragments of human bones in disorder. Also a number of 5 sherds were found decorated with red slip and polishing.
Burial chamber: The grave is oval in shape, 130 x 120cm, and 115cm deep dug through a black clay. (1) It has a sloping ledge of 40cm wide on the east side. At the bottom the grave was widened at the western side. It was found filled with black alluvial soil, gravels, quartz pebbles and a few sandstones. Traces of wood roofing were also reported.

Interment: The skeleton and the objects were found in disorder because the grave was robbed. Only the lower limbs were found in situ and their position suggest that the deceased was laid on his right side in a contracted position to face east. Judging from the skull and the remaining lower limbs it seems that the skeleton was that of a male. The original position of the objects in the grave were not known since the grave was robbed and disturbed. The objects included 6 corroded single-barbed iron arrowheads, 183 ostrich egg-shell disc beads, 3 cylindrical green stone and a stone archer's loom. A considerable amount of wood pieces were found in the grave. Some seemed to be undisturbed and for this reason were collected for CLS dating but unfortunately they proved to be contaminated. (Appendix No. 1).

Burial J.M. 52: (v1. 5).

Location: This burial is located near the centre of the cemetery close to grave J.M. 18.

(1) There is a change of soil here from gravelly to black clay. This may be explained by the fact that the western area of the cemetery is made of clay but the eastern part is gravelly due to its proximity to the jebel.
Superstructure: It is made of a mound and stone superstructure underneath, similar to the previously reported graves. A clear depression was found at the centre of the stone superstructure. It possibly resulted from the breaking into the tomb. Some of the stones were perhaps removed in this process.

A ring of stone wall was found surrounding both the tumulus and the stone superstructure. Below the stone superstructure a structure of a horse-shoe shape was found surrounding the opening of the grave. It is made of white calcareous soil dug from the bottom of the grave. It has an eastern entrance possibly to facilitate the approach to the burial during the process of laying out the deceased.

A number of 16 potshards were found in the superstructures. Their types include the black polished and red slipped shards decorated with impressed designs filled with white or red filling. Others were decorated with mat-depression or finger-tipping.

Burial chamber: The grave is oval in shape, 120 by 100cm, and dug in the alluvial black soil to a depth of 115cm. It has a ledge of 40cm, wide, on the east side of the grave. It was filled with the same material of soil dug from the grave pit. A considerable amount of wood pieces were found in and below the fill, which is a possible evidence of wood roofing and its collapse.
Intercment: The excavation of the mound showed traces of robbing from the very beginning. Scattered human bones, potshards of a globular jar, faience and ostrich egg-shell disc beads were found in the debris of the superstructure. The cranium was found fragmented and broken into two halves, one half in the northern part of the grave and the other in the southern part. Judging from the position of the upper and lower limbs it seems that the deceased was laid on its right side in a contracted position head to the south facing east. At the region of the neck a number of 42 ostrich egg-shell disc beads and four cylindrical green faience beads were found. A further number of 54 ostrich egg-shell disc beads were found around the pelvis. 80 pottery was found inside the grave.

2. Type B. The mounds of this type of graves are made mainly of gravel and earth without any stone enclosure or stone superstructure. Sometimes they have horseshoe structures with eastern entrances made of soil obtained from inside the grave pits. The grave has usually a circular or oval opening oriented north-south. At the bottom it widens out in particular to the west with a slight ledge at the base on the east side. The finds in this type of graves are not notably different from the general finds of type A. The type includes the following graves...
Burial J.M. 18.

Location: This grave is situated close to the central part of the cemetery close to grave J.M. 52 (Fig. 8).

Superstructure: The burial has a mound superstructure made of gravels, quartz pebbles and sand. No stone superstructure underneath the mound was recorded. A horseshoe with an eastern entrance was found surrounding the burial pit. It was built of white calcareous soil obtained from the bottom of the grave. (Fig. 8). No potsherds were recorded from the superstructure.

Burial chamber: The grave has a circular pit of 115cm, deep and 80cm, in diameter dug in the deposit of alluvium. It has a step on the eastern side 40cm, wide and the bottom of the grave was further enlarged to the west. Large pieces of wood were found extending along the opening of the grave shaft, an evidence which suggests the use of wood for roofing the grave. A sample was taken from these pieces for O18 dating. It gave a result of 1200-70 yrs. B.P. (1) The burial chamber was found filled with stones and alluvial soil mixed with weathered material of Nubian Sandstone.

Interment: The deceased was found laid on his right side in a contracted position head to the south facing east.

(1) Appendix No. 1, 2 and 3. The sample has been processed by Laboratory of Harmell.
FIG 8

TYPE B

A HOE-SKOE
STRUCTURE OF
CALCAREOUS
SOIL.

MOUND OF
GRAVELS,
QUARTZ,
PEBBLES
AND SAND.

ALUVIAL
DEPOSIT.

CURIAL OF J.M.18.
alluvial soil. It has a ledge of 30cm. wide and the bottom was widened to the west. The burial chamber was found filled with stones and alluvial soil mixed with gravels and weathered material of Nubian sandstone.

Interment: The excavations showed that the skeleton and the associated finds were disturbed possibly during the intrusion of the Later Muslim burials or the collapse of the grave. The cranium was found fragmented and scattered but the lower parts suggest that the deceased was laid on his right side in a contracted position, head to the south facing east. A black polished potsherd was found near the skull. A number of 47 ostrich egg-shell disc beads were found at the neck. At the knees a number of 5 curved iron arrowheads and a stone archer's lozenge of diorite were found.

Burial J.M. 66 (II, 1c).

Location: This grave is located near the centre of the cemetery close to mound J.M. 70 (Fig. 5).

Superstructure: It is made of a very low mound of 30cm. high according to the surrounding surface. It is built of gravels, quartz pebbles and sand. It has neither a stone superstructure nor a horse-shoe structure around the pit. No potsherds were found in the superstructure of the mound.
Burial chamber: It is made of oval grave of 160 by 136cm, in dimension and very shallow of 40cm, deep dug in the deposit of gravels and quartz pebbles. It has a ledge on the east side of 75cm wide. The soil that fill the grave chamber was of compact mass of gravels and quartz pebbles. On the top of the grave shaft a few pieces of carbonized wood were collected, presumably parts of wood roofing.

Internment: The deceased was found buried in a contracted position on his right side head to the south facing east. The skeleton was found fragmented in the compact solid mass of gravels and quartz pebbles. The compactness can be related to the water since the grave is shallow. East of the skeleton and on the ledge a big globular jar with mat-impressed decoration and a flat shallow black polished bowl were found (Pl. F.), (Pl. ™). At the neck 55 ostrich egg shell disc beads, two glass beads and 7 green cylindrical flintence beads were found. At the pelvis a bundle of 136 ostrich egg-shell disc beads was recorded.

Burial X.Y. 70:

Location: It is located among the western groups of the mound of the cemetery. (Fig. 5).

Superstructure: The grave has a tumulus of gravels, quartz pebbles and sand, and has no stone superstructure.
A stone-glass structure was found surrounding the burial pit and has an eastern entrance. It is built of yellow-brown gravel, dug from the bottom of the grave. No sherds were found in the superstructure.

Burial chamber. The grave is made of an oval pit 113 by 120 cm, in dimension and 110 cm, deep dug in the weathered material of Hurjan Sandstone deposit. It has a ledge on the east side of 110 cm, side. The bottom of the grave was slightly wider to the west to allow a more space for the body. The fill of the pit was of the same type of material due from the grave.

Interment. The skeleton was possibly of a male. It was laid on its right side in a contracted position with the head to the south facing east. It was furnished with two pots placed in the north east of the grave. The northeastern of the pot was a big globular jar with a short neck, black polished and decorated with impressed dotted lines of schematic huts showing traces of white filling. (Pl. G.1). The southern one was a deep, black, polished bowl decorated with impressed dots forming rhomboidal design filled with red pigment. (Pl. G.2). A number of (9) green cylindrical faience beads were found around the left wrist. It has a necklace of 63 ostrich egg-shell disc beads. At the knees 6 corroded single barbed iron arrowheads were found. An iron finger ring was found at the feet. A stone
archae's loose of diorite was found in situ on the thumb of the right hand.

3. Type C. In this type of grave the mound of earth and gravels covers a low stone superstructure of circular shape. The shape of the opening of the grave is sub-rectangular with a north-south axis. It usually has an elongated sloping entrance in the east. (Fig. 9). A horse-shoe structure is built around the opening of the grave. (Fig. 9). Its entrance coincides with the sloping entrance of the grave which leads down to a deep cave chamber without any blocking. The finds recorded are of the same type as those of the grave type A and B. This type of grave include the following:

**Burial J.M. 24.**

**Location:** This grave is located at the southern part of the cemetery close to grave J.M. 35 and the roadway that goes through the western part of the cemetery.

**Superstructure:** It is made of a low mound of decomposed Dukhan sandstone deposit of gravels, quartz pebbles and sand. Underneath this tumulus there is a stone superstructure located at the centre of the mound. This stone structure is very low 20 to 25cm high. (Fig. 9). A number of three potsherds were found in the mound and they were of black polished type. A
horse-shoe structure was found surrounding the burial pit. Its entrance coincides with the eastern entrance of the grave shaft. It is built of red olive and yellow soil dug from the bottom of the grave.

Burial chamber: The opening of the grave is subrectangular in outline, 150 x 60cm. in dimension, and 100cm. deep dug in the deposit of Nubian sandstone. The grave has an elongated eastern entrance and a ramp sloping gradually towards the bottom where the pit is widened to the west. At the end of the ramp there is a step or a ledge leading to the burial. Weathered Nubian sandstone material of gravel, quartz pebbles and sand were found filling the grave pit. Pieces of carbonized wood, presumably of decayed roof were found among this debris.

Interment: The corpse was found laid on the western part of the grave on his right side in a contracted position with the head to the south facing east. The skeleton was found in a poor state of preservation and its sex therefore could not be identified. A number of ostrich egg-shell disc beads were found at the neck and 72 ones at the pelvis. A big polished black potsherd was found close to the hands. It shows traces of long use and wear. Iron objects of unidentified shapes were found near to the knees.
Fig. 9-2

STONE SUPERSTRUCTURE

MOUND OF GRAVELS, PEBBLES, AND SAND

ARMS INDEXED

DECOMPOSED N.S.S. DEPOSIT.

BURIAL J.M. 24

BEADS OF OSTRICH EGG-SHELL

BEADS OF OSTRICH EGG-SHELL
Burial J.M. 72:

**Location:** This grave is located among the western group of burial mounds, close to the grave of J.M. 70. (Fig. 5).

**Superstructure:** It is made of a low mound built of gravels, quartz pebbles and a few Nubian sandstones. Underneath this mound a low stone superstructure of circular shape was recorded. No ring of stone wall was reported. Below the stone superstructure a horseshoe circle was found surrounding the burial pit. It has an entrance coinciding with the eastern entrance of the grave. It is built of yellow soil and gravels obtained from the bottom of the grave shaft. Two sherds were found in the mound. They were decorated with red slip and polished.

**Burial chamber:** The shape of the opening of the grave is sub-rectangular with rounded corners, 110 by 80cm. in dimension. The grave has an elongated sloping entrance and a ramp from the eastern side ending with a step. It widens at the bottom towards the east giving a cave-shape. Weathered material of Nubian sandstone of gravels, quartz pebbles and sand were found filling the grave pit. Pieces of carbonized wood possibly of fallen roof were found at the top of the grave shaft and in the fill of the pit of the grave.
Internal. The collapse of the wooden roof of the grave as a result of decay and soil pressure of the mound may be considered as a main cause of the disturbance and fragmentation of the skeleton and objects of the grave. The skull was fragmented placed in the northern part of the grave at the foot of corpse. The location of the skull is unusual and indicates displacement and disturbance. From the lay-out of the bones of the lower limbs it seems that the deceased was laid on his right side in a contracted position with the head to the south facing east. The objects associated with the body include a black burnished bowl (r1, h) located close to the knees, and a necklace of 58 ostrich egg shell disc beads, 12 green faience beads and two glass beads. A further number of 17 ostrich egg shell disc beads were found at the pelvis.

4. Type D: The graves of this type are very simple. They are made of stones, gravels, quartz pebbles and alluvial soil and sand, covering an oval opening of a shallow simple shaft cut down to an average depth not less than 30cm. and has a north-south orientation. Artefacts found inside those graves were of the same type as those of the other graves dug in the cemetery. The burials of this type were found north of the hill. Their location close to the present day floodplain area suggests no change in the Nile flood level
from that of the present day by the time these burial mounds were erected. They include:

Burial M.K. 22:

Location: This tomb is located immediately north of the hill where the area is covered by the Nile terrace deposit. (Fig. 5).

Superstructure: The mound is made mainly of stones overlying gravels and quartz pebbles. So it is of the same type as those found in the north east of the cemetery. The excavations showed that there is a remarkable concentration of stones at the centre covering the burial pit. No stone depression wall or a horse-shoe structure were found. Fragments of a complete pot base of 90 sherds were found at a depth of 10cm. below the surface stones of the mound. This feature was suggested by the writer as a possible indication of a ritual burial of pottery offerings. This proposal is furtherly strengthened by the fact that no change in the soil test might indicate later intrusion was detected. Furthermore, the type of pottery found in the superstructure of the mound seem to be of the same type as those found in the other burial pits.

Burial chamber: The opening of the grave is oval in outline, almost flat at the bottom and has a dimension of 170 by 135cm, in a north-south orientation. It was filled
FIG 10 -
TYPE D.

MOUND OF STONES, GRAVELS AND PEBBLES.

ALLOVIAL DEPOSIT.

BURIAL J.M. 22
with alluvial soil and gravels. It is very shallow cut down to a depth of 35 to 50 cm, in the black alluvial soil. Traces of carbonised wood, charcoal and ash, possible evidence of wood roofing, were found at the top of the grave shaft and in the filling material of the pit.

**Interment:** The skeleton was found in the compact mud deposit and laid in a contracted position on its right side, head to the south facing east. It was found in a poor state of preservation, the determination of its sex was found to be difficult. A number of ostrich egg-shell discs were found around the pelvis and a further number of at the neck. A green glazed inscribed scarab was found near the heels of the deceased. (Fig. 10).

**Burial J.M. 22:**

**Location:** This grave is located north of tomb J.M. 20 close to the escarpment near the north side of the hill. It is erected on an alluvial deposit not far from the Nile bank. (Fig. 5).

**Superstructure:** The plan of the superstructure is similar to that of J.M. 22. It is made of weathered stones and sandstone material below which exists the Nile silt deposit. The stones are remarkably concentrated at the centre of the mound. No ring of stone wall or a horse-shoe
structure was found underneath the mound. A number of potshards decorated with mat-impression were found at a depth of 20cm, below the surface of the centre of the mound. This feature is similar to those previously reported from the other graves such as J.W. 22 and J.W. 8.

Burial chamber: The burial pit is oval in outline, 100 by 80cm. in dimension and has a north-south axis. It is located at the centre of the mound covered by weathered sandstones and gravels. It is shallow cut down to a depth of 45cm. in the alluvial deposit. The bottom of the pit is almost flat and has no step or a raised ledge on the eastern part of the grave.

Interment: The skeleton was found poorly preserved. The clearance of such brittle skeleton in a compact alluvial soil is indeed a hard task. Its sex therefore could not be identified. The corpse was found laid in a north-south axis on its right side in a contracted position with the head to the south facing east. A number of (2) ostrich egg-shell disc beads and 31 green faience cylindrical beads were found at the neck. After the removal of the skeleton it was found laid on a stone platform of Nubian sandstone.
Robbed graves:

Some graves of J.M. 13, J.M. 21 and J.M. 11 were not included in these above described grave types because they were found robbed and disturbed to the extent that the excavator was not certain about their types. Other graves of J.M. 44 and J.M. 52 were robbed from the centre of the tumuli. Clear visible depressions in the centre of the stone superstructures were reported. (Pl. 9). Furthermore, scattered fragments of human bones and other artifacts were found in the fill of these disturbed tumuli. The discovery of burial J.M. 13 and J.M. 11 as being robbed graves confirms the observation made during the archaeological survey that all the low stone mounds in north eastern part of the cemetery are plundered graves.

Child burials:

As the present writer was testing the natural surface around the tumulus of J.M. 9 two child burials were found and they were referred to as burial J.M. 9-2 and J.M. 9-3. They can be described briefly as follows:-

Burial J.M. 9-2:

Location: This tomb is located immediately behind the ring of stone wall of J.M. 9 on the western side. (Fig. 7).
Superstructure: The grave had a low mound of 10 to 20cm, high and a low stone superstructure located at the centre of the mound covering the burial pit. No stone ring wall or a horse-shoe structure was found underneath the superstructure.

Burial Chamber: The grave was made of a shallow pit dug in the decomposed Nubian sandstone deposit of gravels, quartz pebbles and sand. A stone platform of sandstone was found below the deceased. No evidence of wood roofing was detected. The pit was flat at the bottom, and filled with decomposed Nubian sandstone material.

Interment: The child was found buried in a tightly contracted position on his right side with the head to the south facing east. A necklace of tiny ostrich egg shell disc beads was found associated with the body.

Burial T.M. 9-7:

Location: This grave is situated immediately behind the southern wall of the ring stone structure.

Burial Chamber: No superstructure was found. The grave is oval in outline, 70 x 90cm, in dimension and 65cm deep. The fill of the pit was made of small stones, gravels and quartz pebbles. No further complex structures such as steps or ramps were recorded. No child burials were simple
graves notably different in superstructure and substructure from those of the adults.

**Inheritance:** Unlike the other burials this grave had its opening dug in a north-east to south-west axis. The body was interred like the adults in a contracted position on its right side with the head to the south-west facing south-east. A necklace of 25 small ostrich egg-shell disc beads was found associated with the corpse. The skeletal remains found were in a poor state of preservation.

However, these child burials were clearly associated with the adults of the burial mound. This conclusion was based on the finding of stone superstructure, contracted burials, and ostrich egg-shell disc beads inside the child graves. Furthermore, these child burials seem to persist in being buried outside the ring of stone walls. The thing that might indicate the existence of some kind of relationship between the adults and these child burials. Comparing child graves with those of the adults one can assume that the people of the burial mounds might have practised age discrimination in their burial rites. Children and infants were possibly regarded as immature members in the society since no tombs were raised for them and no objects apart from the beads of ostrich egg-shell were placed in their graves.
<table>
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<th>Condition</th>
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<td>?</td>
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<tr>
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<tr>
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<td></td>
<td></td>
<td>Child</td>
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<tr>
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<td>contracted, laid on its right side, head to south west.</td>
<td>Child</td>
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<tr>
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<td>?</td>
</tr>
<tr>
<td>J. M. 16</td>
<td></td>
<td>contracted, laid on its right side in a north-south.</td>
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<td>Wooden Entrance</td>
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<tr>
<td>J.M. 72</td>
<td>-</td>
<td>X-3</td>
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+ = Presence,  
- = Absence.
It is notable that these two child burials were buried in the west and south close to the main burial of J.M. 9. This pattern of burying children around the primary burial was recognized before at the Late Meroitic cemetery of Manda(1) and the western royal cemetery at Meroe.(2) There were many evidence of children being buried with their parents in Late Meroitic tombs in Lower Nubia.(3) It seems possible that children and infants of Jebel Ham Warrah cemetery were buried close to related adult individuals and hence they might represent family groups.

Excavation material and Mambur burials (p. 14)

The excavations have shown that burial mounds contain sometimes late burials usually buried on the top or inside the stone superstructures of the primary burials.

(1) At grave B, 57 where child burials were arranged in a horse-shoe pattern to the north, west and south of the tomb. See Hakem’s unpublished field diary of 1977.

(2) At the western cemetery (tomb No. 280, 278, 274, 273, and 272) which belong to children are arranged in horse-shoe shape to the north, south and west of grave 279. Similar tombs of 280, 282, 291, 385 and 400 were arranged in the same pattern close to tomb M.390. See Abdel Karim, 1976, 72.

(3) Ibid.
They post-date the building of the qurba. Out of 16 burial mounds excavated 5 were found to contain late intrusive burials. They were found in the tumuli of J.M. 9, J.M. 35, J.M. 26, J.M. 44 and J.M. 50. The corpses were found laid extended in a north-south orientation, head to the south facing east and wrapped in cloth or a mat. No objects were found in their graves. Judging from their burial position it seems that they are Muslim burials. These Muslim graves are earlier than those of the present day cemetery which dates to the 18th century (Late Pung period). So it can be postulated that the Muslim graves found in the burial mounds may be of early Muslim period, earlier than the 18th century.

Furthermore, lithic material of different types and sherds similar to those reported by Arkell at the site of Khartoum Civil Hospital (1) were found in great quantity in the fill of the tumuli pointing to the presence of an earlier Neolithic settlement in the area. However, this material and Muslim burials will not be considered here in detail since their study is outside the scope of this dissertation.

(1) Arkell, 1949.
Conclusion:

The excavations of the cemetery at Jebel Um Karabib revealed four arbitrary types of graves, the characteristic of each was described above. The graves form one unit and hence belong to one cultural tradition. The cemetery represents a considerable lapse of time. There is not either in the grave types nor in their contents any sign of such development or change as might be expected in a long period. No temporal periods could be distinguished within the cemetery because it was a small one, and there were few pottery types and the graves dug were raw in number. So all the graves are datable to one period having the same kind of cultural assemblage and following strict burial traditions.
CHAPTER FIVE.
THE EXCAVATIONS AT ABU SALABIC 1977–78
II. THE SETTLEMENT SITES.

This chapter deals with excavations in the settlement area which includes the fortress, the stone enclosure, and the house huts registered north and south at the foot of the Jebel. Since it is not possible with the present resources available to excavate the whole area, however desirable it is, the work has been concentrated in a few selected areas. Three trial excavations have been carried out in the house huts, two in the stone enclosure, three in the fortress, and a further one to test the outside western wall that surrounds the fortress from the west and extends to join the stone enclosure. (Fig. 5).

In the description of the excavated levels, the writer used arbitrary divisions for the following considerations:

1. To avoid the difficulty of using natural stratigraphy.
2. The deposit of the archaeological material was not very thick.
3. The area excavated is very small to give a clearer picture of the complexity of the natural stratigraphy.
The numbering of the levels in each excavated unit starts from the top downward. (1) Each test pit was designated by a numerical figure. The characteristics of the archaeological material found and the results of the work can be briefly described as the following:

1 - The excavations:
This includes two main archaeological features which are: the fortress and the stone enclosure.

1. The fortress:
The test excavation inside and outside the fortress aimed to get an idea about the characteristics of the archaeological material deposited and the date of the fortress and to identify furthermore its architectural characteristics. (2) The excavated units in the fortress included F.1, F.2 and F.3.

This comprised the digging of a test-trench of 15 metres east-west and 2.75 metres north-south. It was carried out in the north eastern corner including the clearance of the whole bastion (Fig.6).

Surface: The primary material of the surface is made of fallen stones and waste debris of the wall such as gravel.

(1) Every 10cm were taken to represent a level.
(2) The alphabet F refers to the fortress, and the numerical figure to facilitate the reference to the excavated area.
Table No. 4.

Finds from the Fortresses (F.1).

<table>
<thead>
<tr>
<th>Finds</th>
<th>0-9.9cm</th>
<th>10-20cm</th>
<th>20-30cm</th>
<th>30-40cm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potsherds</td>
<td>155</td>
<td>60</td>
<td>74</td>
<td>118</td>
<td>449</td>
</tr>
<tr>
<td>Beads</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stone arrow's looses</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hones</td>
<td>-</td>
<td>25</td>
<td>23</td>
<td>35</td>
<td>93</td>
</tr>
<tr>
<td>Ostrich egg shell</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>9</td>
<td>14</td>
</tr>
</tbody>
</table>
and a few broken mud brick fragments. A few potsherds were found on the surface inside the fortress, and they were of the same type as those reported from the cemetery. (Table No.4).

Level 1-8 (85-80 cm):

Excavations have shown that these levels are made of fallen stones and rubble of the wall. For this reason these top levels were grouped together. A few broken mud bricks were also reported. They were found distributed haphazardly with no regular arrangement, at the bottom level close to the main wall. The fallen stones show concentration at the top levels. Only one mud brick was found in a complete form among this debris, and it measured 26 x 20 x 7 cm, in dimensions. Its type as will appear later is the same as that used for the construction of the wall. So it is highly likely that these levels represent the fallen remains of the wall. (Fig. 11).

Level 9 (80-0 cm):

This level shows a slight textural change. Its soil is more sandy being gravelly with many quartz pebbles. A number of artifacts and bone fragments were reported. The artifacts were mainly potsherds of black polished or red slipped type decorated with mat-impression, finger tip impressions or rhomboidal impressed designs showing traces of red or white filling or left empty. (Table No.4). So the surface treatment
and decoration pattern is of the same as those known from the burial site. The sherds found are scaled objects since they were found below the fallen debris of the wall. Hence, they can be dated at least to the period before the decay of the wall of the fortress.

**Level 10 (90-120 cm):**

No visual or textural change was recorded. From this level come an increased number of potsherds, bones and ostrich egg-shell fragments. (Table No.4). A few ostrich egg-shell disc beads were also reported. The sherds found, comprise mainly coarse and thick potsherds showing the same kind of surface treatment and pattern of decoration as those reported from level 9. A few wheel-made potsherds decorated with black, red and yellow paints were found. (Table No.4).

**Level 11 (120-130 cm):**

This level is a continuation of level 10 both in soil and finds. There is a notable increase in the number of sherds, ostrich egg-shell and bone fragments. (Table No.4). A few beads of cylindrical green faience and ostrich egg-shell were reported. A broken stone archer's lance of the same type as those of the cemetery was also found. (Table No.4). The new feature that appeared in this level is the discovery of a big cooking pot with impressed decoration.
(Pl. I). It is blackened with soot and so was the soil that surrounded it. The remaining part of the body of the pot continued to the other levels below.

Level 12 (110-120 cm.)

This shows no visible textural change from level 9, 10 and 11, but the sherds and bone fragments were scarce. (Table No. 4). As in level 11, the soil around the pot is blackened. Charcoal and pieces of carbonized wood were recorded as being found around the cooking pot. This pot seems to have been found in situ. The few fragments of bones found were blackened by the trace of firing. No beads or fragments of ostrich egg-shell were recorded in this level.

Level 13 (120-130 cm.)

This level is characterized by a high concentration of quartz pebbles and sand. Again the area around the pot was blackened with carbon, and pieces of carbonized wood, charcoal, and ash were recognized. All evidence point to a domestic activity being carried out at this part of the fortress. It is plausible to suggest that here we have possible evidence of a cooking place.

This level lies directly on the rocky surface of the hill which is irregular, reflecting the natural configuration of the hill. The interior surface of the fortress was
found to be 50-75cm higher than the exterior. So it means that the girdle wall was built on the highest contour level of the hill.

All the evidence suggests a peaceful abandonment of the fortress. No destruction layer has been found as yet. Most of the stones of the wall were found to have fallen on the outside. The occupation debris found was so little and contained large objects such as the big cooking pot. No change in the occupation debris that might indicate arrival of new occupants was found.

The Wall.

The excavation and clearance have shown that the wall of the fortress is built mainly of stones and mud bricks. Cravals and mud were used as mortar. The technique of encasement was started in its building. The outer and inner faces of the wall were made of regularly well arranged blocks of stones of large size with smaller and less arranged ones encased in the centre forming a rubble. (Fig. 11).

The mud bricks were found usually on the top of underneath the stones. This is a common technique of building in Nubia. (2) The excavator noted that mud brick courses tend to concentrate on the upper parts of the inner face of the wall. The bonding was the normal one

(2) Himley’s personal communication during his visit to the site while the present writer was excavating.
with headers and stretchers in alternating courses. The size of mud bricks was the same as that found in fallen debris, (20 x 20 x 7 cm).

It seems that the wall of the fortress had gradually disintegrated. Judging from the remnants of the standing walls and the extent and amount of the fallen debris of the wall, a height ranging between 2.5 and 3 metres on the inside, was thought to be plausible. The height of the parapet platform from the subsoil (original ground level) of occupation was found to be 1.25 metres. This height would enable the defenders to climb the platform easily. The excavator estimated the height of the parapet wall to be not more than 1.3 metres and this would be convenient to enable the defenders to shoot at different angles while they were standing.

The wall of the fortress appears to have no foundation trench because it is built on the solid rock of the hill, (Fig. 11). For this reason it was thickened and reinforced at the base from outside by mud and brick and gravel structure, (Fig. 11). This would deter any mining operation and would provide a more stable foundation.
The corners of the walls and those in the middle were thickened to form projecting walls or bastions. A plausible reason for thickening the corners may be because they are usually the weakest part. An enemy could attack the corners in comparative safety opposed by an inevitably smaller number of defenders than could be amassed at any other point. The great amount of fallen stones recorded as fallen from the bastion, together with the remaining standing wall show that a height of 3 to 4 metres on the inside seems reasonable. So bastions possibly served as towers as well.

Through excavation it was found that the north eastern bastion is square in shape, 5.3 metres in length and built in the same technique of the wall with much stone rubble and gravel encased in the centre. It is possible that the other bastions might be of the same size and shape. The bastion was found to be rather small and could have held 2 to 4 soldiers with enough rooms for them to move.

2.2:

This test pit is located 8 metres north of the main gate of the fortress. (Fig. 6). The area cleared is on the outside part of the eastern wall, and it measured 2 x 6.75 metres. The bastion was found protruding from the outer face of the wall, possibly to afford a control of this face.
reason for digging this trench is supplement to the work done at P.1. Indeed the excavation confirmed the results of the work carried out at P.1. The use of mud, mud bricks and gravel structure to reinforce and thicken the base of the wall, was also recorded. Hence it seems reasonable to assume that the whole girlile wall of the fortress was possibly thickened at the base by such a structure to stabilize its foundation.

Furthermore, the work showed that the greater part of the fallen waste from the wall is on the outside. This fallen debris was found to include fragments of mud bricks. Unlike P.1 no artifacts were found underneath this fallen material.

F.3:

A test-trench of 1 x 4 metres was laid in east-west orientation across the wall which was attached to the south western bastion of the fortress. The aim of excavation was to test the nature of this curved wall and to check whether it has anything to do with the structure of the fortress. Excavations have shown that it possibly served as a spur wall. It was built of loosely laid stones without any kind of mortar. There is no special arrangement of the stones in the outer and inner faces of the wall. Thus its building technique is different from that of the walls of the fortress. This difference may have a chronological significance in that the spur
wall was possibly built after the construction of
the walls of the fortress.

The present height of this wall is 40cm. Judging
from the amount of fallen stones and its present day
height, it does not seem to reach the height of the
wall of the fortress. So it is originally a low wall
of an estimated height of one metre, and 1.4 metres
thick.

These spur walls were strategically located on the
western part of the fort to strengthen the western front
which seems to be the least naturally fortified part.
(Fig. 6). They were possibly designed to help the defen-
ses to get a wider arc of fire to make the front looks
larger. Hence, it is in part a psychological deception.
No artifacts were recorded in this trench.

Trench A:

A test-trench of 1 x 6 metres extending east-west
was dug across the wall that surrounds the fortress from
the west and extends to join the western wall of the stone
enclosure. (Fig. 6). This work aimed to obtain a clearer
picture of the nature and function of this stone structure.
Some objects were recorded and all came from the eastern part
of the trench.
Surface:

The surface is covered with decomposed Nubian sandstone soil of gravels, quartz pebbles and sand. Many fallen sandstones were found dispersed on the surface. No artifacts were reported.

Level 1 and 2 (0-20 cm):

These levels are made of waste and fallen material of stones, gravels and quartz pebbles. So they are not different in texture from that of the surface. A few sherds of wavy line decoration and lithic material were found in this debris. Judging from their types they are datable to the prehistoric period, possibly of Early Naftomy (1). These artifacts were possibly used as filling material or rubble for the wall. The seasonal rainfall might be another possible reason for the presence of some of this material here.

Level 3 (20-30 cm):

The soil of this level is softer and mixed with white ash. A number of sherds and fragments of ostrich egg-shell and bones were found. (Table 5). Among the potsherds a black polished one seems to be a part of incense burner. The sherds are of the same type as those reported before in P.1 and the cemetery.

(1) Arkell, 1949.
<table>
<thead>
<tr>
<th>Finds</th>
<th>Surface</th>
<th>0-20cm</th>
<th>20-30cm</th>
<th>30-50cm</th>
<th>50-100cm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sherds</td>
<td>-</td>
<td>36</td>
<td>64</td>
<td>18</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>Bones</td>
<td>-</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Shells</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
Level 1 (30-40cm): 
This level shows no visual textural change from the above level. As well, there is no change in the artifact type but there is a notable increase in the frequency of potsherds. (Table 5).

Level 5 (40-50cm): 
The level reflects continuity of the same soil and same artifact types, and finds. The material recorded composed of potsherds and bone fragments. The sherds show a decrease in number. (Table 5). Judging from their scarcity one can suggest that this level marks the original ground level of this part of the site.

The work has shown that the wall was built of piled stones gathered from the surface of the hill. It was piled like a dry wall so that there was on both the inside and the outside a casing of larger and more carefully arranged stones. Inside this casing there were small enclosed stones. No mortar was used. But it was found that the wall had a mud and gravel layer laid in the foundation trench which is 10-15cm deep. Judging from the standing remnant of the wall and the amount of fallen debris, a height of one metre on the inside was suggested.
FIG. 12 ACROSS-SECTION OF TRENCH A(B-A)

WALL

KEY

1. GRAVELS, QUARTZ PEBBLES SAND AND FALLEN STONE.
2. OCCUPATION DEBRIS OF SOFT SOIL MIXED WITH WHITE ASH AND CONTAINING OBJECTS AND BONES.
3. MUD AND GRAVEL.
4. RED OLIVE SOIL, QUARTZ PEBBLES AND SAND.
Furthermore, excavations have shown that there is a difference in height between exterior and interior surfaces. The interior was found to be 55 cm higher than the exterior. (Fig. 12) a fact that leads any possible foreign invader to think that the wall is higher than in fact it is. This differentiation in height was helpful for the function of the wall which the writer has mentioned in Chapter Three. (p. 63).

II. The Stone enclosure:

Excavations in this part of the site included the digging of an L-shape trench extending inside and outside the stone hut foundation that was referred to as H 7. (12) (Fig. 6). A second trench was dug extending north-south across the wall of the stone enclosure and was referred to as trench B.

H 7 (Fig. 13) (p. 22)

This shows the remains of a rectangular stone hut foundation of 9 x 8 metres in size and 15 cm high. It is located inside the stone enclosure, in its north eastern part. (Fig. 6). The primary purpose for this excavation was to identify the nature of this structure, and the archaeological material associated with it. The trench dug was of an L shape, 6 x 1 metres in east-west and 5.3 x 1 metres

(1) The alphabet H refer to a hut.
north-south. Using the arbitrary division of looms, for each level, 10 levels were recorded, and 3 of them were found reflecting the occupation levels and floor of the hut.

Surface:

This is covered with wind blown sand, quartz pebbles and fallen stones presumably belonging to the wall of the hut. A few potsherds were recorded and they were of the same type as those found in the cemetery, the fortress and trench A. (Table No. 6). Two sherds of this small collection seem to be wheel-made with red black and yellow paint. They seem to be similar to known fine wheelmade Mercitic pottery of Lower Nubia. The rarity of these types of sherds at the site suggests importation.

Level 1 (C1-C0):

Like that of the surface it is made of wind blown sand, gravels, quartz pebbles and a few fallen stones. Artifacts found included handmade and wheelmade sherds similar to those reported on the surface. Two circular black polished sherds were found, each having a circular perforation at the centre. They were possibly used as spindle whorls. (Fig. 27). Other finds include a fragment of a stone archer's loom, a few ostrich egg-shells disc beads, green cylindrical faience beads, stone beads and a few fragments of bones, (Table No. 6).
Level 2 (10-20cm):

No visual textural change was recognized. There was no visible change in the composition of the soil and no features were observed. The potsherd types are almost the same as that of level 1. The frequency of potsherds is of remarkable increase. The majority are of coarse domestic type while a few seem to be wheel made. A few reconstructed sherds showed a thin coarse small bowl. (Pl. 5). A few circular perforated sherds, presumably used as spindle whorls, were also recognized. (Table No. 6). A fragment of a stone archer’s looza was found together with beads of white quartz and ostrich eggshell. Further finds included a number of bone fragments.

Level 3 (20-100cm):

This level reflects the same type of soil and sort of finds as those recorded above. The sherds found, though of the same type are in decrease in this level. A big broken stone grinder of Nebien sandstone was found showing traces of wear and long use. The beads found were of ostrich eggshell; one was of broken blue glass and there were four perforated ostrich shells used possibly for ornaments. A few bone fragments were also recorded. (Table No. 6).
Table No. 6.

Finds from the Hut Remains (H.Y).

<table>
<thead>
<tr>
<th>Finds</th>
<th>Surface</th>
<th>0-10cm</th>
<th>10-20cm</th>
<th>20-30cm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Echahrels</td>
<td>13</td>
<td>21</td>
<td>79</td>
<td>56</td>
<td>169</td>
</tr>
<tr>
<td>Regia</td>
<td>-</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>Stone archer's</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>1000cm.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle whorl</td>
<td>-</td>
<td>2</td>
<td>3</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Stone grinder</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bones</td>
<td>-</td>
<td>6</td>
<td>15</td>
<td>7</td>
<td>26</td>
</tr>
</tbody>
</table>
Excavations have demonstrated that this hut was built of a stone wall 1.25 metres thick mortared with gravel and mud. Mud bricks were found laid in the foundation trench and they were of the same type as those of the wall of the fortress, being 28 x 20 x 7cm, in dimensions. The hut was found to have an entrance of 1.2 metres opening to the west.

Level 4 to 10 (5c-100cm):

The remaining 7 levels predate the occupation of the hut and its material remains show close similarity to those reported at the Neolithic site of Khartoum Civil Hospital. The dig through these earlier levels was necessitated by the goal to reach the sterile layer and bedrock of the site. It also aimed to determine the stratigraphic sequence of the site; a consideration which might assist any future research that might be carried out in the area. The excavation was done with the help of Dr. Hakeem. This prehistoric material of lithics, sherds, and bones were treated as well as those of late historical occupation. The material and its records are deposited with the other records of the whole concession under the care of the Director. The results of their study is hoped to be published in a separate paper. (2)

(1) Arkell, 1949.
(2) It is noteworthy that the prehistoric occupation of the site is now under investigation by Anwar Abdal Magid and Huda Mahir under the supervision of Dr. A.S. Mohammed.
Fig. 13.

Across section of H2 (A-B)
Trench B.1 (P1. 26)

This trench is located immediately north of B.7. (Fig. 6). It is 1 by 3 metres in dimension extending north and south across the northern wall of the stone enclosure. Its excavation aimed to examine the outline of the nature of the wall of the enclosure, its occupation and date. Several levels of occupation were found and they seem to date mainly to two occupation units: historical and prehistoric, with what appears to be a stratigraphic break between the two. (Fig. 14). The stratigraphic sequence of the historical occupation deposit is 60cm thick. The whole sequence can be described as follows:

**Surface:**

This was made mainly of decomposed Nubian sandstone soil of gravel, quartz pebbles and sand. It was covered with fallen stones, presumably from the wall. Finds recorded included a few sherds only. (Table No. 7).

**Level 1 (0-10cm):**

This shows no textural change from that of the surface. Numerous fallen stones were recorded. The few sherds found reflect the general type of those reported before in the cemetery, the fortresses and the stone enclosure. No other finds were recorded apart from the sherds. (Table No. 7).

- 130 -
Level 2 (10-20 cm.):
The type of sherds recorded were the same as that of level 1, but they were greater in number. Finds included a few fragments of ostrich egg-shell and several of bones, possibly of animals. (Table No. 7).

Level 1 (20-30 cm.):
This shows no visible change in soil or type of finds. Artifacts found included potsherds and a few ostrich egg-shell disc beads. A few fragments of bones were reported. (Table No. 7).

Level 4 (30-40 cm.):
This level reflects the same sort of soil and finds as those reported in the top levels. There is a slight decrease in the number of potsherds and bone fragments. (Table No. 7).

Level 5 (40-50 cm.):
Finds reported include potsherds and a few fragments of bones. A few beads of ostrich egg-shell were also recorded. This level seems to mark the general ground level of the site for the late historical occupation since there is a marked decrease in the occurrence of potsherds which almost disappeared at the base of this level.
### Table No. 7

**Finds from Trench B.**

<table>
<thead>
<tr>
<th>Finds</th>
<th>Surface</th>
<th>0-1cm</th>
<th>10-20cm</th>
<th>20-30cm</th>
<th>30-40cm</th>
<th>40-50cm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potsherds</td>
<td>6</td>
<td>29</td>
<td>127</td>
<td>94</td>
<td>42</td>
<td>21</td>
<td>319</td>
</tr>
<tr>
<td>Bones</td>
<td>-</td>
<td>-</td>
<td>14</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Shells</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>


Level 6 (50-60cm.)

This level seems to show a difference in composition and texture from those recorded above. The soil is sandy with more quartz pebbles mixed with small stones of Nubian sandstone. Only a few potsherds were found but their type was similar to those reported at Khartoum Civil Hospital site. So this level seems to act as a natural stratigraphic break between the two occupational periods: late historical and prehistoric. (Fig. 1b).

Level 2-ll (60-110cm.)

These levels show a textural change from those recorded above. (Fig. 4). They are formed of alluvial deposit mixed with small stones and contain prehistoric occupational debris. The sherds, bone objects and lithic material recorded are similar to those reported at the site of Khartoum Civil Hospital. Since the study of this material is outside the scope of this dissertation, it is not included in this thesis.

Excavation has shown that the wall of the stone enclosure overlies the Neolithic occupation debris mentioned above, thus suggesting a post-Neolithic date for the occupation of the stone enclosure and the construction of the wall. Since the occupation debris that post-date the
FIG. 14.
ACROSS-SECTION AT TRENCH B.

W A L L

50, 100, 150 m, etc.

Gravels, Quartz Pebbles, Fallen Stones with Alluvial Soil Containing Sherds and Bones.

Alluvial Soil and Small Stones Containing Prehistoric Occupations or Debris.

Coarse Gravels, Quartz Pebbles and Stones.

Red Olive Soil and Quartz Pebbles.

Sand and Stones.
Neolithic material remains of Late Neolithic (See Chapter Four) it seems plausible to suggest that the stone enclosure belongs to the same period.

The bottom of the wall was built as a ledge possibly to provide a more stable foundation. The whole wall was 3.75 metres thick at the bottom, and 90cm. high while the ledge was 1.6 metres thick at the bottom and only 15cm. high. Judging from the amount of fallen stones and the remaining standing wall a height of 1.5 to 2 metres was estimated to be reasonable (Fig. 14).

The whole wall was built of piled stones gathered from the surface of the hill, without mortar. It was built of loosely set stones skillfully laid so that gravity holds them together. The wall was constructed of two faces of larger roughly hewn stones with a rubble of smaller stones and gravels in the middle (Fig. 14). The stones at the base of the wall were found to be notably larger. This was possibly done deliberately to provide a stable foundation for the wall.

II - Settlement Near the Jebel:

This is made of two groups of stone structures presumably foundations of house huts. The first group are made of four hut remains situated south-west of the stone
enclosures at the foot of the hill; the second are five
in number and located immediately north of the hill.
(Fig. 6). The outer shape and size of these structures
are almost the same. With the available resources only
2 were investigated.

L. 6:
This is a house hut remains of stones located south
of the hill close to the dispersed stone mounds (Fig. 6).
It is circular in shape and 7.2 metres in diameter on the
inside. A test-trench of 0.15 x 1 metres was dug in east-
west orientation across the stone structure. The following
levels were recorded using the same arbitrary division of
10cm. for each level.

Surface:
This surface is covered with a thin sheet of wind
blown sand, and alluvial soil mixed with quartz pebbles
and gravels. Small stone boulders were also recorded as
fallen material on the surface, probably from the wall.
No surface objects were recorded as having been collected
from the surface.
Level 1 (0-10cm):

This level is formed of the fallen debris of the wall of gravel, stones and mud. These were found both inside and outside the hut structure but the fallen material inside was considerable suggesting that the greater part of the wall had fallen towards the inside. No finds of artefacts were recorded. Judging from the amount of fallen debris and the present day height of the standing wall a height of 1.75 to 2.25 metres is plausible. This height suggests that the hut was possibly made of flimsy material, of grass, twigs and wood and branches of trees and had stone foundations and a short wall of stones of the height mentioned above. Other possible suggestion is that the hut had a stone wall and a conical flimsy roof of grass, twigs and branches of trees similar to the present day few huts scattered in the area of Samorah. The latter suggestion seems to be more reasonable.

Level 2 (10-20cm):

This level is made of soft gravel mixed with alluvial sand. An ashy and charcoal deposit was found close to the wall (Fig. 15). Artifacts found included only a few sherds which were of the same type as those recorded before in the stone enclosure, the fortress and the cemetery. A few fragments of bones were also recorded (Table No. 8).
Level 3 (20-30cm.):

No soil change was observed. The potsherds found were more in number and they reflect the same type as those recorded before in level 1. Other finds included a few fragments of bones and ostrich egg-shell. (Table No. 8).

Level 4 (30-40cm.):

The soil in this level was sandy, with coarse gravels and quartz pebbles. The few sherds recorded were of the same type as those noted in the above levels. So there is a remarkable decrease of artifacts, in this level. (Table No. 8). Indeed no artifacts were recorded at the bottom of the level. This level seems to represent a natural stratigraphic break between the late historical occupation levels contemporary with the hut, and the prehistoric occupation levels underneath. (Fig. 15).

The hut was found to be built of stones with calcareous soil used as a mortar. The wall was 85cm. thick and had a foundation trench extending to the prehistoric occupation levels below. (Fig. 15). The stones found in the trench foundation were considerably larger. No traces of an entrance could be identified.
# Table No. 3

Finds from the Huta Domains of N. G.

<table>
<thead>
<tr>
<th>Finds</th>
<th>Surface</th>
<th>0-10cm</th>
<th>10-20cm</th>
<th>20-30cm</th>
<th>30-40cm</th>
<th>40-50cm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shards</td>
<td>-</td>
<td>17</td>
<td>93</td>
<td>86</td>
<td>-</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Bones</td>
<td>-</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>-</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Ostrich egg shell</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

...
Levels 5-11 (40-130 cm): 
These levels are formed of a Nile terrace deposit mixed with small stones. (Fig. 15). The occupation was mainly prehistoric and the finds show a close resemblance to those reported at the site of Khartoum Civil Hospital(1). The study of this prehistoric occupation is beyond the scope of this dissertation.

H. 2:
This is a remains of a house near located north of the jebel on a decomposed Nubian sandstone surface close to the floodplain area (Fig. 4) of approximately 300 metres westward from the Nile. The dimensions of the floor is approximately 6 by 9.2 metres. So it is rectangular in shape, a test trench of 1 by 7.7 metres was dug in an east-west orientation. The following levels were recorded:

- Surface:
This was covered with wind blown sand, gravel and fallen stones, possibly from the wall of the hut. Artifactual finds included only a few sherds of the same type as those recorded before in the stone enclosure, the fortress, 8, 6 and the cemetery. (Table No. 9).

(1)
Level 1 (0-10cm):

This showed no visible textural change from that of the surface. It was composed of fallen debris from the wall, of stones, gravels and mud. Considering the amount of this debris in addition to the present day height of the remaining standing wall, 1.5 to 2 metres was thought to be plausible for the original height of the wall. Artefacts found included only a few potsherds of the same type as those recorded on the surface. (Table No. 9).

Level 2 (10-20cm):

This level showed a slight textural change from level 1 by being mainly made of alluvial sand mixed with decomposed Rubian sandstone soil. It was soft and loose. Numerous sherds were found and they were of the same type as those reported above. A few fragments of bones possibly of animal and ostrich egg-shell pieces were recorded. Only one bead of ostrich egg-shell was reported. Carbonised grass remains were found close to the western wall suggesting the type of material used for roofing. Since this debris of the roof of was found below the waste/the wall, one can postulate that the roof decayed before the collapse of the wall.

Level 3 (20-30cm):

The type of finds and soil showed no change in this level. Many finds were recorded including potsherds and
<table>
<thead>
<tr>
<th>Material</th>
<th>1</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
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<tbody>
<tr>
<td>gherds</td>
<td>7</td>
<td>5</td>
<td>195</td>
<td>162</td>
<td>416</td>
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<td>deads</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>bones</td>
<td>-</td>
<td>-</td>
<td>7</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>ostrich egg shell</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
FIG. 16.
ACROSS SECTION AT H.2.

WIND BLOWN SAND, GRAVELS, QUARTZ PEBBLES AND STONES.

FALLEN DEBRIS OF THE ROOF (GRASS).

ALLUVIAL DEPOSIT CONTAINING SHERDS, BONES, ASH AND CHARCOAL.

RED OLIVE SOIL, GRAVELS, SAND AND STONES.
a few beads of ostrich egg-shell and green faience. A few fragments of bones and ostrich egg-shell were also found. This debris seems to reflect the general floor level of the hut.

These occupational levels were found to lie over the compact deposit of decomposed Nubian sandstone, of red olive soil, quartz pebbles and stones. A post-hole was found dug in this deposit with the wooden remains \( \cdots \) in situ. It was located at the centre of the hut presumably to support the roof. The hut was found to have an entrance of 1 metre wide located in the middle of the eastern wall. (Fig. 15).

Furthermore, it was found that the hut was built with the same technique as that of H.6 and H.7. It was made of stones mortared with mud and gravels. Its wall was 65cm. thick and had a shallow foundation trench dug in the compact Nubian sandstone. A thin sheet of mud and gravels was found laid as mortar at the bottom of the foundation trench. (Fig. 15).

Discussion:

L. Lounès

Except for the metal objects, the finds from the house remains, stone enclosure, the fortress and the cemetery are of a related character. It can be postulated that the graves, the hut remains, the fortress and the
stone enclosures are remains of the same local group of people. Hence the settlement sites and the enclosures would be the first settlement sites that could be related to these Late Neolithic burial mounds. No house sites or monuments that could be associated with these types of burial mounds has ever been reported before and this led some scholars to assume that the people of these burial mounds were partly or wholly nomadic. (1)

The excavations of these sites suggest that these communities used to settle at least partially close to the Nile where permanent water and fertile lands were accessible. The location of the huts remains near the jebel close to the present day floodplain suggests that the Nile level at the time of raising these burial mounds was at least not higher than that of the present day.

The general absence of settlement sites that could be related to the type of these burial mounds may be due to a number of factors, river erosion was possibly the most important factor in the destruction of these habitation sites. The high occasional floods which happened from time to time were probably effective in destroying the dwelling sites near the floodplain. Their location being close to the Nile, makes them more likely to be destroyed than cemeteries.

The building and agricultural activities of later populations seem to have affected the preservation of these sites. Ploughing or cultivable lands close to the Nile might have led to the destruction of many of these sites. The settlement of later populations is confined by the harsh environment of the desert far from the Nile. Their settlement seems to be largely built over these habitation sites. So the present-day occupation along the Nile seems to be an important factor impeding the recovery of these sites.

Conclusion:

The material remains from the cemetery, the stone enclosures, the fortress and the settlement sites are of one cultural assemblage, possibly belonging to a local group of people. The thinness of the occupation levels in these sites make it unlikely that they were occupied for a long period. The study of their cultural material remains showed no significant change in the material from the top to the bottom of the occupation.
CHAPTER III.

ANALYSIS OF THE DATA AND INTERPRETATION.

This chapter is devoted to the analysis of the material culture collected during the excavations of the cemetery, the stone enclosure, the fortress and the settlement sites near the hill. The course of analysis and studies of this particular data is dictated by the available comparative material. In the present case, the available data which would lend itself to the type of studies under consideration is from cemeteries.

Most of our information and the majority of cultural material belonging to the Neolithic period comes from the various cemeteries excavated a few decades ago. As a result, the writer feels obliged to begin his analysis with the cemetery to establish a chronological connection and framework for further analysis. Beginning with the cemetery was necessitated by the fact that no habitation sites associated with the type of our burial mounds have been excavated and so the nature of the settlement of these people and their full cultural manifestations are not known as yet.

On the other hand, whether in the fortress or the village site, no sequence that may allow the building up of chronological framework is as yet possible. Consequently, the cemetery
is chosen as the starting point because of its thickness and the presence of archaeological data which can be compared to the available data from other known sites.

The cemetery:

The grave types of A and B found at the cemetery are similar in their types and burial traditions to those previously reported by Arkell at the Late Merotic site of Wadi el-Nasr, (1) Shinnie at Teneisii (2) (Mound II) and Medael Rahman Adam and Medael al-Mahdi at Beha. (3) Burial types similar to type C were reported before by Carstens at the necropolis of Marta. (4) Type D has graves parallel to those reported before by Arkell at Qashim. (5)

Furthermore, there are new mortuary traditions reported for the first time in such type of burial mounds. This include the horse-shoe structures with eastern entrances, and rings of stone wall or single stones, (6) for their detailed description see Chester Vivan.

The burial mounds showed some burial traditions known from the dawn of Egyptian history to the period of the 30

(1) Arkell, 1953. This includes burial J.78, N.31, N.77.
(2) Shinnie, 1954, 68-69.
(5) Arkell, 1953. This includes burial N.59 and N.44.
(6) Similar demarcation stone walls have been reported before by Chittick (1957) at Knaqit but unfortunately the temple surrounded by these stone structures were not investigated.
called X-Group. For example the tumulus tradition is well known during the X-Group, (1) O-Group, (2) Kema, (3) Nercotic (4) and X-Group periods. (5) The mode of contracted burial that was strictly followed at the cemetery is also well known from the final Palaeolithic (6) to the X-Group period. (7)

The types of burial chambers at the cemetery show a close association with the Nercotic burial traditions. Some of the graves seem to be of cave-grave type, (i.e. J.M. 25, J.M. 24 and J.M. 72), a type which was common during the Nercotic period. (8) Some had eastern entrances (i.e. J.M. 24 and J.M. 72) or ramps in the well known Nercotic manner, approaching towards the burial place. The suggestion of attributing the cemetery of Jebel Hammarahi to the Late Nercotic period is further supported by the type of material remains found in the graves. (See the analysis in the following pages).

(2) Baray and Kirwan, 1933.
(3) Reimner, 1923.
(4) Recent excavations at Kusada confirmed the practice of burial moundbuilding during the Nercotic period. See Almagro, 1965, 79.
(8) Griffith, 1924, 143.
The settlement sites:

The settlement sites related to the cemetery are made of huts possibly of straw with foundations of stones, stone enclosure and a fortress. The latter two are unique in the Late Meroitic military architecture, (1) but the type of huts of straw were generally known in the Meroitic period. Bannas’ inscription shows that villages of huts of straw were common during the Meroitic period, (2) This is further supported by the iconographical evidence. The bronze bowl from Karanog shows a scene of a village made of small huts of straw. (3) Schematic designs of huts of straw were also found drawn on some Meroitic black polished jars found at the Late Meroitic cemetery of Kuartum, (4) Banda cemetery (B.53) (5) and even at Jebel Um Marrahi cemetery in grave J.M.74, (Pl. 9.1). The archaeological remains found at the Meroitic sites of Jebel Moya, Abu Geili, Um Sunt, Kamili and Hassa Neina show remains of floors of huts with pavements of stones. (6) The shape of these huts may be compared with the round and rectangular straw huts in use in Central and Southern Sudan.

(1) Similar fortresses and enclosures have been reported but unfortunately uninvestigated. (See Chapter Three).
(2) Kirwan, 1960, 166.
(3) Woolley and Nadaire, 1910, 59-60.
(4) Ansell, 1949, Pl. 166 No.8.
(5) Bannas’ field diary of 1977.
(6) Ibid., 1971, 6-8.
Analysis of material remains from the graves:

1. The pottery:

Methodology of study and analysis:

The pottery represents the most important and largest group of artifacts found in the cemetery. Its study was carried out with two limitations:

1. Limitations imposed by the goals of the research.
2. Limitations imposed by the small size of the sample. The writer could not use Mace’s classification since it applies the identification of the paste and method of manufacture before dealing with other attributes. It is noteworthy that Mace’s classification is based mainly on samples of pottery obtained from Lower Nubia.

In the study of the groups of pottery collected, the writer needs a number of attributes in his study and classification. These can be summarized as follows:

1. Form: This comprises the vessel size and form. (1)

These forms, as Mace noted, are determined partly by functional necessity and partly by stylistic preference.

(1) Mace, 1964, 139.
2. Wall thickness: This was included to supplement the analysis and inference. In the case of complete vessels extreme measurements were obtained. For the sherds a simple division of the thickness was used for classification, thin wall are 5mm, and less, medium walls 5-10mm, and thick walls 10mm and above.

3. Temper: This is the material added to the clay. Since no laboratory analysis were able to be carried out, a general idea was obtained depending on the naked eye and a handful.

4. Rim: This refers to the upper edge of the vessel. The analysis was done by studying both the rim and the lip (terminal end of the rim). The study included the type of rim shape and their decoration. The types of rim shapes refer to the rim profile and the transition between the rim and the uppermost part of the vessel. (1) Decoration study will include rim top decoration and the bands or borders beneath the rim both interior and exterior.

5. Base shapes: According to Nordstrom this refers to the specific outlines of the external contour of the lowermost part of the vessel.

(1) Nordstrom and Others, 1978, 73.
rical designs. Depending upon the surface texture and thickness the pottery was divided arbitrarily into coarse, semi-coarse and fine ware.

7. Colour: This was treated as an independent variable, though it is not a very reliable indicator since it was not fully controllable by the potter.

The classification:

The total collection of the pottery is made of 16 complete pots and 41 potsherds. So only a few complete pots were found and this was due to the small sample of graves dug. Only three of the complete vessels were found in the superstructure of the burial mounds, (Pl. A) while the others were found inside the graves. The great majority of the sherds were reported from the superstructure of the mounds. Out of the total, 97 of pottery collected only 3 sherds and a black dish were wheel-made, showing clear rotation marks of the wheel. (Table 10).

1. Form: This includes only the study of complete vessels. According to the form the pottery can be classified into:
<table>
<thead>
<tr>
<th>No. of grave</th>
<th>Wheel-made</th>
<th>Hand-Made</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>J.W. 1</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>J.W. 8</td>
<td>-</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>J.W. 9</td>
<td>2</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>J.W. 11</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>J.W. 13</td>
<td>1</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>J.W. 16</td>
<td>-</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>J.W. 18</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>J.W. 22</td>
<td>-</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>J.W. 24</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>J.W. 26</td>
<td>-</td>
<td>146</td>
<td>146</td>
</tr>
<tr>
<td>J.W. 29</td>
<td>-</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>J.W. 35</td>
<td>-</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>J.W. 54</td>
<td>-</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>J.W. 56</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>J.W. 59</td>
<td>-</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>J.W. 66</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>J.W. 70</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>J.W. 72</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Total | 3 | 146 | All
1. Six globular jars with narrow necks. (See Fig. 17).
2. One large globular jar with a short neck and a wide mouth. (Pl. B-1). (Fig. 18).
4. Seven bowls, clearly representing eating vessels. All are deep bowls, two having parallel sides, one of irregular form (Fig. 19) while the others have flat sides. One bowl has rivet holes showing where cracks were repaired with possibly a string or leather. All show traces of long use and wear.
5. One small deep beaker. (Pl. B-1). (Fig. 20).
6. One small flat dish. (Fig. 21).

2. Wall thickness: For the complete vessels wall thickness is clearly indicated in the pots drawn (Fig. 17, 18, 19, 20 and 21). Generally most of the vessels display a relatively uniform thickness of medium size ranging between 5 to 10mm. Sometimes, the wall thickness increases towards the base and clearly decreases towards the rim ending in a relatively thin and pointed rim profile. Most of hand-made sherds have a thickness 10mm. (Table No. 16). The wheel-made sherds are 5mm. and less in thickness. Some of the sherds have traces of rivet holes, showing marks of crack repairs.
3. Temper: Judging by the use of a small lens the hand-made sherds and vessels seem to have a temper of coarse sand and brown alluvial mud with organic matter, possibly grass and dung. The wheel-made sherds and vessels seem to have a temper of finer material; of light coloured and semi-tempered clay.

4. Rims: The sherds collected contained 39 rimsherds of various shapes including rounded, flat, pointed rims. The rounded form is the most frequent. (Table No. 13). Two rimsherds have round knobs at the edges of the rim. They possibly served as handles or for decorative purposes.

Most of the rimsherds were plain. (Table No. 12) a few were decorated with impressed dots, finger-tip impressions and ticks of short straight lines possibly produced by a thin hard knife-like tool. The impressed dots were usually regularly spaced impressed in a line around the rim. The rims decorated with finger tips were fewer in number. (Table No. 12). The decoration was possibly accomplished by pressing the underside tip of the finger into the vessel while the clay was still soft; producing a circular depression. No rim bands were decorated among the collection of the sherds.
Table No. 11.

Pottery from the cemetery.

<table>
<thead>
<tr>
<th>No. of grave</th>
<th>Side sherds</th>
<th>Rim sherds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. M. 1</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>J. M. 8</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>J. M. 9</td>
<td>73</td>
<td>11</td>
<td>34</td>
</tr>
<tr>
<td>J. M. 11</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>J. M. 13</td>
<td>16</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>J. M. 16</td>
<td>20</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>J. M. 18</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>J. M. 22</td>
<td>88</td>
<td>52</td>
<td>90</td>
</tr>
<tr>
<td>J. M. 24</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>J. M. 26</td>
<td>137</td>
<td>9</td>
<td>146</td>
</tr>
<tr>
<td>J. M. 29</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>J. M. 30</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>J. M. 41</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>J. M. 56</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>J. M. 52</td>
<td>14</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>J. M. 66</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>J. M. 70</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>J. M. 72</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total**: 372 side sherds, 39 rim sherds, 411 total sherds.
### Table No. 11

<table>
<thead>
<tr>
<th>Run shapes (cemetery)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
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<tr>
<td>Wounded</td>
<td>16</td>
<td>5</td>
<td>3</td>
<td>13</td>
<td>39</td>
</tr>
</tbody>
</table>
As for the vessels, the majority were found to have plain rims. Only two jars were found having rim top decoration of different patterns. The first one was decorated with a group of ticks or relatively short lines placed at regular intervals around the rim. (Fig. 17-D). These were possibly made in the leather-hard clay surface with a pointed instrument. The second (Fig. 18) was decorated by impressed dots, similarly placed at regular intervals to cover the whole rim top of the pot. This was possibly made by a curved sharp edge of a shell or fish bone pressed on the clay surface.

Only one jar was decorated on the rim band on the exterior. The pattern was made of impressed dots filled with white pigment. The design was repeated four times and placed at regular intervals. (Fig. 17-C).

Two bowls were found to have different patterns of rim tops. (Fig. 19-A and Fig. 19-B). The first was decorated with two rows of impressed dots, every pair of which were close to each other forming an oblique line (Fig. 19-A). The second was decorated with oblique short lines placed at regular intervals from each other. A further bowl was decorated with a rim band from inside in a form of a zigzag like design made of impressed dots. (Fig. 19-D).
5. Base shapes: This attribute was used to refer only to the complete vessels since it was difficult to identify the base from a shard. Nearly all the jars and bowls have rounded bases. The beaker (Fig. 20) and the black wheelmade dish have flat bases.

6. Surface treatment and decoration: In most cases the outer surfaces have been polished or burnished. Polishing was possibly done with a cloth or other soft material to produce a gloss over the vessel. Unlike burnishing this technique does not compact the vessel or leave striation marks. (1) Burnishing was possibly done by rubbing the vessel with a small pebble before firing. This process compacts both the slip and the paste. Some sherds and vessels have no decoration apart from polishing or burnishing (i.e., Fig. 19-C, Pl. H). Almost all the globular jars were red slipped particularly the upper parts of their bodies. The lower parts were often left unslipt, but sometimes decorated at the bottom with finger tip impressions (Fig. 17). On these red slipped and polished surfaces different complex designs of impressed or incised decoration were made. The decoration on the pottery shows an individual

(1) Adams, 1964, 155.
artistic freedom and a personal touch. The pottery shows a social convention as to the choice of the pattern. The description of the vessels found can be presented as follows:

A globular jar from grave J.M.9 (Fig. 17-D) had its red slipped surface decorated with a complex design incorporating rhomboidal-shaped motifs (Pl. 8-3). The shape was outlined and hatched with regularly arranged impressed dots. The impression shows traces of having been filled with a white pigment. This was a twice repeated pattern, regularly spaced from each other. The second globular jar (Pl. 8-2) (Fig. 17-A) from the same grave (J.M.9) was decorated on the red slipped surface by impressed geometrical designs of rhomboidal shapes outlined and hatched with impressed dots in parallel lines regularly spaced and showing traces of white filling.

The two globular jars found in grave J.M.26 show the same kind of style of decoration. The first one (Fig. 17-C) is decorated with three impressed designs, each of which is made of three parallel lines made of impressed dotted lines showing traces of white filling. The designs

(1) The material used for white or red filling has not yet been analyzed. Red ochre and white chalk are abundant in the Nubian habitation area. As one can suggest, these may be the material used in the process of filling and outlining of the potteries.
were separated from each other at regular intervals. The second pot jar (Fig. 17-B) has four designs each of which is made of impressed triangles in an "open-ended dog-tooth" pattern, surrounded by an impressed rectangular border.

Unlike the other vessels, the globular jar (Pl. 7) (Fig. 17-3) from grave J.N. 35 is red slipped over its whole surface, well polished and has no further relief decoration. A globular jar (Pl. 8) (Fig. 17-A) from grave J.N. 66, similar to the others is red slipped and well polished on its upper parts. The lower part was decorated with a net impression. It seems that a special mat or a rug was used on which the pot was to be made.

A black polished jar (Pl. 6-1) from grave J.N. 70 had a rather more complicated impressed pattern made of a combination of curved dotted lines and then filled with impressed dots. One of these impressed designs shows a scene of schematic huts repeated twice in their pattern at regular intervals. The impressed dots in the pattern show traces of white filling (Fig. 18).

The bowls seem to have the same style of decoration. For example, the bowl from grave J.N. 70 (Pl. 6-3) was decorated with three bands of diamond-shaped motifs on the upper parts on the outside of the bowl. The diamond shapes
1. Rim top decoration of potsherds from the settlement sites

2. Rim top decoration of potsherds from the cemetery
RIM BANDS AND BORDERS OF POTTERY FROM THE SETTLEMENT SITES

a. 

b. 

c. 

d. 

e. 

f. 

FIG. 23
FIG. 24 - H
DEcoration of potsherds from burial mounds

- Impressed pattern
  a
  b
  c
  d
  e
  f

- Incised pattern
  a
  b

Impressed and incised pattern
  a
  b
3 - DECORATION OF POTSHERDS FROM THE SETTLEMENT SITES

4 - DECORATION OF WHEEL-MADE POTSHERDS
1. Marks and Drawings of Potsherds from the Cemetery

2. Marks and Drawings of Potsherds from the Settlement Sites
FIG. 26

1. SHAPES OF RIMSHARDS OF POTSHARDS FROM THE SETTLEMENT SITES

2. SHAPES OF RIMSHARDS OF POTSHARDS FROM THE CEMETERY

SCALE 1:1
Fig. 27

1. Iron objects from the cemetery

2. Bronze objects from the cemetery
OBJECTS FROM THE SETTLEMENT SITES

1. SPINDLE WHORLS 1:1

2. STONE ARCHER'S LOSES 1:1
were outlined and hatched with dotted lines. (Fig. 19-B) showing traces of red filling. The other remaining bowls were decorated with black polished surfaces, sometimes having decorated rim bands or rings as have been described above.

The small beaker from grave J.W.9 was red slipped well polished on the outside and black polished on the inside. (Pl. 8-2). It was decorated with incised opposed triangles, placed head to head with the bases at the top and bottom of the pot. These triangles were filled with parallel incised lines. (Fig. 20).

Most of the sherds were plain (Table No.14) with polished or burnished surfaces; some show traces of red slipping. A few were found showing decorative motives of the same type as that of the vessels. They were decorated with impressed or incised designs of different geometrical shapes filled with white or red pigment or left empty. The designs were sometimes outlined and hatched with impressed dots in parallel lines. Some sherds were found decorated with finger type or nail impressions. The latter was the more common. (Table No.14). The few wheel-made sherds (Table No.10) were burnished; decorated either with red slip or dark red paint in bands, together with contrasting white painted stripes.
Table No. 11.

Surface treatment and decoration of pottery from the cemetery.

<table>
<thead>
<tr>
<th>Decorated sherds</th>
<th>Plain sherds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>399</td>
<td>481</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sherds decorated</th>
<th>Sherds decorated with dots</th>
<th>Sherds decorated with mat</th>
<th>Sherds decorated with tip impressions</th>
<th>Sherds decorated with incision</th>
<th>Other items</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>15</td>
<td>43</td>
<td>2</td>
<td>1</td>
<td>82</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exterior polished</th>
<th>Exterior slipped (polished)</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>196</td>
<td>71</td>
<td>160</td>
<td>271</td>
</tr>
</tbody>
</table>
7. Colour: Most of the pots and many of the vesels have black polished surfaces ranging in intensity from brownish to deep black. This colour probably resulted from smudging, a process accomplished by smothering the fire with dung or other organic material that will smoulder and deposit sooty smoke on the pots during firing. All the black to brown sherds and pots have their black colour penetrating below the surface and all have black fracture indicating that the colour was produced by smudging. Many of these objects seem to have been exposed to a fairly low temperature. Lustrous polished surfaces result usually from smudged vessels burnt at low temperature. Localised smudging is frequent and most of the vessels exhibit traces of carbon.

Most of the remaining pots and sherds were red slipped and well polished. Their surface coatings have a variety of shades which are likely to be a result of minor variations in the slip mixture, firing temperature and the interaction of the body of the vessel and the slip. No chemical analysis have yet been carried out to identify the composition of the slip but it is possible that it was produced by mixing iron oxide with clay solution and then applied to the vessel before

(1) Robertson, 1975, 44.
Table No. 15.
COLOUR OF POTTERY FROM THE CEMETERY.

<table>
<thead>
<tr>
<th>Red</th>
<th>Black/Brown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>99</td>
<td>312</td>
<td>411</td>
</tr>
</tbody>
</table>

Table No. 16.
THICKNESS (CEMETERY).

<table>
<thead>
<tr>
<th>2.5cm</th>
<th>6-10cm</th>
<th>10cm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>74</td>
<td>306</td>
<td>411</td>
</tr>
</tbody>
</table>

Table No. 17.
TEXTURE (CEMETERY).

<table>
<thead>
<tr>
<th>Coarse Shards</th>
<th>Semi-coarse</th>
<th>Fine Shards</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>141</td>
<td>267</td>
<td>3</td>
<td>411</td>
</tr>
</tbody>
</table>
firing when the clay was leather hard. (1) Red ochre is available in this Nubian sandstone area and so it provided the raw material for pottery decoration.

Unlike the domestic ware (hand-made) the fine wheel-made sherds had a yellow/red light colour with slipped red or white bands.

Discussion:

The pottery that was found in the cemetery corresponds well with some of those reported from several Nubiotic sites. In lower Nubia it was reported at Karanog, Faras and Behar. (2) The finding of the wheel-made pottery associated with hand-made sherds suggests that the people of Jebel Uma Marrahi were acquainted with the use of wheel-made pottery but on a small scale. The type of wheel-made sherds seems to correspond with the Nubiotic wheel-made pottery known as fine 'egg-shell' ware, (3) generally found in quantity at many Nubiotic sites in lower Nubia. (4) Scores of wheel-made sherds at Nubiotic sites seems to be a general characteristic of the sites south of lower Nubia. (4)

(1) Hodges, 1976, 33.
(2) Arkell, 1949, 121.
(4) Ibid., 1977, 428.
Pottery with decorative patterns similar to those reported at the cemetery is known from Jebel Moya, Abu Qeili, Khartoum, Shahinab, Mafaswarat ab Sufra, Tanqani, Ushara, Abu Haraz and other Gezira sites. At these sites numerous black and red slipped sherds with impressed or incised decoration were found filled sometimes with white or red pigment. The potsherds decorated with wet impression, common at our site, were also reported from these sites. Similar to that of Jebel Um Narram wet impression was confined to large globular jars at Jebel Moya and Abu Qeili.

The close similarity of the pottery of this type as burial mounds to that of Jebel Moya and other Gezira sites was noted by Trigger who argued that:

"It could seem that Alca ware and some of the indigenous Gezira ware are genetically related. Both may have their origin in the C-Group horizon. The pottery of Jebel Moya seems even more closely related to this horizon."

The hand-made pottery of the cemetery is almost the same as that found by Arkell at the Gezira sites at Khartoum and Shahinab. The globular black polished

(1) At Senner and Wad El Hadad.
(2) Addison, 1951, P.I, 9, III, 1, 6, 13.
(5) Ibid., 1953, 92-95.
jar reported by Arckell in plate 106 from grave M.15 at Khartoum is almost identical in decoration and shape to that of J.Y. 70. Both were decorated with impressed designs of schematic b tua with traces of pigment filing.

The type of our pottery can also be traced in the Mercotic royal cemeteries of El Kurru, Nuri, Barkal, Marine and in the cemeteries of the common people at Sennar. (2)

Hakam suggested that this type of pottery represents the type of the common folk and for this reason they were rarely found in the royal cemeteries. (2)

It has been suggested that this type of pottery proves that the population of Nubia remained substantially unchanged. It seems to be more common in the south, a paradox which is still unexplained. It reflects a spatial variation in the material culture during the Late Mercotic period. So it might be suggested that the Mercotic pottery was a composite of different cultural traditions possibly belonging to different ethnic groups, sharing in a common culture at different levels. So our pottery may represent a part of this complex.

(1) See Chapter One, p. 26,
(2) Hakam, 1971, 79.
Conclusions:

From the study of the type of pottery, graves and the other finds which will be dealt with later, the cemetery of Jebel Umm Narrahi can be dated to the Late Narcoitic period. Such a dating, however, raises the problem that no study and analysis has been made for Narcoitic pottery apart from Lower Nubia, that might solve the problem of chronology. The study of pottery that may provide a good relative chronology to enable pottery from other sites to be filled into the sequence, is lacking.

Since the ceramic of Jebel Umm Narrahi cemetery is culturally related to that of Jebel Houra and Abu Qasili, it seems likely that at least part of the occupation of the cemetery might have been contemporaneous with these and other Late Narcoitic sites. The globular jar from grave Z.W. 70 and that found by archeologists at Khartoum are so much alike that it is possible to argue that they were made by the same potter and hence contemporary. The material remains of Jebel Umm Narrahi and those sites suggest that they were a regional variant of the Narcoitic culture and this shows how complex the latter one was.

II. Objects of Personal Adornment.

Beads:

Numerous beads of various shapes and materials were
found in the graves of the cemetery associated with males, females and children. They were usually found around the neck, waist or wrist. The beads collected have been grouped according to their material into stone, glass and shell.

A. Shell: These are made of ostrich egg-shell and they are of a flat disc or ring shape with a thickness of about 1 to 2mm. They are the most common type of bead found in the graves, and well known in the Neolithic period. The group of shell beads can be divided into two groups according to their size:

A.1. Disc shaped of 6 to 8mm in diameter. They were usually found in adult graves. This is the most common type found. (Pl. S-2).

A.2. Disc shaped of 3 to 5mm in diameter, with a small perforation in the centre. This type was encountered only in child burials. (Pl. S-1).

B. Stone: This group is made of different semi-precious stones such as carnelian, rock crystal, white quartz, opaque quartz and other variants of the quartz family. It can be divided into:

(1) Minnie, 1967, 166.

(2) A distinctive feature of these stone beads is that each possesses a groove at one end cut radially to the central perforation. It is therefore reasonable to suppose it relates to the technique of manufacture of the beads rather than a generalised wear feature.
B.1 - Ring shaped transparent quartz of 5 to 6mm, in diameter, (Pl. 1, b).
B.2 - Ring shaped milky quartz of 5 to 7mm, in diameter, (Pl. 1, a).
B.3 - Oval shaped opaque droplet quartz of 6 to 8mm, in diameter.
B.4 - Ring shaped carnelian beads of 6 to 8mm, in diameter, (T-1).
B.5 - Barrel shaped carnelian beads of 6mm, in diameter and 13mm, in length, (T-1).
B.6 - Carnelian pendant of 1.9cm, long, in diameter, (T-1).

Most of these stone beads were found in grave J.M. 26. A few came from grave J.M. 9.

C. Maltese: The colour of this group of beads varies between green and greenish blue. A few were of a pale white colour. They were commonly found in the graves (Table No. 2) second in frequency to the ostrich egg-shell disc beads, according to the size they can be divided into:

C.1 - Tubular shape of 9 to 11mm, long and 4 to 5mm, in diameter, (T-2);
C.2 - Tubular shape of 4 to 6mm, long and 4 to 5mm, in diameter, (T-3).
D. Glass: This group includes glass beads of various colours and sizes, (Pl. II). They were mainly found in grave J.M. 50 and J.M. 72. According to their size they can be divided into:

D.1. Ring shaped glass beads, either red or green, with diameter ranging between 3 to 5mm. (Pl. II).
D.2. Ring shaped glass beads of 10 to 12mm. in diameter, (Pl. II).

Amulets: (Pl. I).

Two blue glassed serpentine amulets were found. The first (Pl. x-v) (Pl. I) that came from grave J.M. 22 was a scarab amulet with the flat base inscribed in Egyptian hieroglyphs which could be read as N. Kopy which means 'He gives life'.

Such scarabs inscribed in Egyptian hieroglyphs were common in the Neo-Assyrian period. They were found in the royal graves of Sargon, Northern, Western and Southern cemeteries of Nineveh.

The second one was found in grave J.M. 72. It is a Narthex head; a well known Egyptian gooses and the

(1) The reading was achieved with the great help of Piers Crookston, a lecturer in Egyptology in the Department of Archaeology, University of Khartoum.
(2) Dunham, 1957, Pl. LXV, 4.9.
(3) Ibid., 1963.
mother of one of the forms of Horus, distinct from the Isis tradition. It is specially venerated as the Mother Goddess and has long hair, appearing to be a female. Such Horatian simulacra appear to be engaged in forming the body of the deceased person for future life. They were commonly found in the royal graves of early Nekroitic at El Kuru (1) and Bagawiyen West (2).

**Bronze and iron ornamental objects:**

This included all the metal objects found e.g. earrings, finger rings and bells, of bronze or iron. Most of these objects were badly corroded and some had become mere fragments. Most of them came from grave J, K, 26 which is the richest grave in the cemetery. According to their type and size they can be classified into:

1. Bronze rings of 2 to 2.5cm. in diameter, (M, Q).
2. Iron rings of 2.7 to 2.5cm. in diameter, (M, P).
3. Iron rings of 2 to 2.4cm. in diameter, (M, P).
4. Bronze bells of 2 to 2.5cm. in diameter and 1 to 1.5cm. in length. They usually have iron clappers, (M, Q).

(1) In El Kuru they were found in graves 53, 26, 205.
(2) In Bagawiyen West they were found in grave 509 and 508.
Conclusions:

The jewellery found in the cemetery corresponds well with that found in several Merotic sites. The material remains in general are of the same type as that recorded from the Merotic site at Khartoum. (1) The ring and barrel-shaped beads of carnelian found correspond to those previously reported at many Merotic sites. (2) The droplet beads of opaque quartz are of the general type that characterized the Late Merotic period.

The bronze bells and bronze and iron rings (Fig. 10) that were found in the cemetery were of the same type as those reported from Merotic sites. (3) Bronze bells were recorded from royal cemeteries of Sagraiya West, (4) Sagraiya North (5) and from other Merotic sites such as Am Bybila. (6)

III. Iron arrowsheads: (Pl. 17) (Fig. 27)

70 iron arrowsheads were found inside the graves where they were usually placed near the skulls or the knees of the deceased. All those found in a good state of preservation were of single tanged type. The greater number of iron arrowsheads came from grave J.M. 26 and most of them were

(1) Ankel, 1948, 119-130
(2) Slimie, 1957, 125.
(3) Ibid.
(4) In grave 20, 177, 127, 130, 144, 165, 135 and 152.
(5) Dunham, 1957, Pl. LV.
(6) Addison, 1951, 129.
baldly corroded and were found in such a fragile condition to the extent that sometimes it was not possible to be certain of their shape.

These arrowheads correspond well with the well known single tanged Mortic type found in the royal cemeteries of Necho in Begravita West, Barkali, and the Mortic site of Faras, Karanog, Gemni, and Khartoum. Such arrowheads seem to predominate in the Late Mortic graves. (1)

IV. Stone archers' locass (Pl. N)(Fig. 27).

Five stone archers' locass were found, one in each of grave J.M. 70, J.M. 86, J.M. 411 and J.M. 50. The fifth one was found in the robbed grave J.M. 11. Those found in situ were found on the thumb of the right hand with the wider side of the ring resting on the base of the thumb. They have a wide perforation and are well polished. Most of them were made of diorite, the nearest possible source of which is the Basement complex of Gebalta Gorge. (Appendix No.5). Besides the function of protecting the thumb while stretching the bow string, it seems that they were also used for ornamental purposes. (2) The latter suggestion is based on the fact that they were usually made of polished attractive speckled stones.

(1) Ghinnis, 1957, 162.
(2) Kronenberg, 1962, 336.
Conclusions:

The thumb rings found in the graves are paralleled by those known from a number of Meriotic sites. They have been found in graves of both royal and common people. They have also been reported from a number of graves of the so called Ballana culture. The contexts of the finds of pottery, arrowheads, stone archers' looms and jewellery suggest a Late Meriotic date ranging broadly between A.D. 100 to the introduction of Christianity to the area, being partially contemporaneous with the Ballana culture (X-group).

V. Organic material:

From the graves of the cemetery numerous samples with inclusions of organic remains were taken. A few samples of the soil content of the pottery vessels were also collected. Unfortunately these samples have not yet been analysed in detail. One of the analyses was made for a material obtained from a globular pot and it was found to contain food remains. (Appendix No.4). The analysis did not support the traditional view of referring to the globular jar as a beer pot. So the idea that these jars were beer pots will have to be reconsidered.

(1) Shinnie, 1967, 170.
(2) Emery, 1958.
(3) Shinnie, 1953, 44.
A sample of textile in a fragile condition was found in grave J, M, 9 showing traces of a green dye. The sample has not yet been analysed. 

Data stones were recovered from the child burial of J, M, 9-2. Similar data stones were also reported from a child burial at Bandia cemetery in grave B, 57.  

Remains of wood were found on the upper parts of the grave shafts and a few were found inside suggesting the use of wood for roofing the grave pits. Such wooden roofs were also noticed before by Arkell at Shahrain where he excavated a Nectanebo cemetery having the same type of graves and almost the same kind of material culture. (1) Two radiocarbon samples of these wood pieces were taken from grave J, M, 18 and J, M, 44. They were sent for C14 analysis but unfortunately the latter one was found to be abortive. (Appendix No. 1). The sample of grave J, M, 18 gave a date of 1200±50 years B.C. (Appendix No. 2 and 3). It is possible that it is contaminated. It is noteworthy that most of the graves reported so far seem to have been disturbed.

The date (Appendix No. 2 and 3) shows a discrepancy with the data suggested by the finds of Nectanebo material remains of bronze bells, bronze and iron rings, the mother of pearl, iron rings.

(1) Haken’s field diary of 1977.
(2) Arkell, 1949, 121 (at the footnotes).
arrowheads, stone archers' loops, the scorrah and the pottery. It stands further against the inscription of John of Ephesus which shows that the royal family at Alos was converted to Christianity in 585. (1) Since the date is isolated and the only radiocarbon date for such type of burial mounds, further C-14 datings are of extreme necessity.

Conclusion:

The study and analysis of the grave types, burial tradition and the material remains suggest that Jebel Umm Warrahi cemetery has close cultural affinities with the Late Nubiotic culture. The study of the material of the cemetery shows a closer cultural association with the Late Nubiotic provincial sites of Jebel Moya and Abu Melli; and this suggests that they all possibly belong to a single culture area.

Analysis and study of material remains from the settlement sites:

This includes the study of the material remains found inside the trenches (P, 1, P, 3 and trench A), the stone enclosure (H, 7, trench B) and the huts (H, 2 and H, 6). They were grouped as one unit because they have the same material.

(1) Minniss, 1961, 11.
culture. Furthermore, the pottery type of these settlement sites, bead work and the stone arrows' looms were of the same type as that of the cemetery, and this suggests that they were remains of the same local group of people. The material remains found in the settlement sites included potsherds, beads, stone arrows' looms, a broken grindstone, bones and some other organic material.

I - The pottery:

The number of potsherds recorded is 1065. They included various types. Only two complete vessels were found: a big globular cooking pot (from F.1) and a small bowl (from M.7). So unlike the cemetery, the complete vessels found were very few. The greatest part of the sherd was hand-made. Out of a total of 1065 sherds found, 1617 were hand-made and only 157 were wheel-made. (Table No. 13). The pottery found was of the same type as that found in the cemetery. Both have pottery with similar decoration. For the study and analysis of the pottery, the same attributes used before were applied.

I. Form: This involves the study of the two complete vessels since the remaining collection were sherds. The

(1) The rarity of finding complete vessels in the settlement may be related to the possibility that they were discarded after use while those of the cemetery were intentionally chosen and well kept inside the graves.
<table>
<thead>
<tr>
<th>Side sherds</th>
<th>Rim sherds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1553</td>
<td>110</td>
<td>1663</td>
</tr>
</tbody>
</table>
Fig. 28
Bowl from H.7 (Settlement Sites)
1:3

Fig. 29
Cooking Pot from the Fortress
1:3
pot vessels were found to be hand-made and included:—

A. A black/brown globular cooking pot found at W.1 (Pl. J) (Fig. 29).

B. A small crude bowl obtained from W.7 (Pl. J) (Fig. 28).

2. Wall thickness: Like that of the cemetery most of the sherds were found to have wall thicknesses ranging between 6 to 10 mm. (Table No. 23). Those having less than 6 mm. were wheel-made sherds. The baks’ sherds are usually thick having more than 10 mm. Like those of the cemetery many of the sherds were found having rivet holes showing signs of repair.

3. Temer: The hand-made sherds seem to have temer of the same material of the pottery of the cemetery. The temer or most of the sherds seems to have been coarse sand and alluvial mud with organic matter possibly grass and/or dung. The wheel-made sherds seem to have temer of finer material.

4. Rims: The rim sherds collected were found to be of various shapes, the most common of which were the rounded forms (Table No. 23). Other form of evanted, flat and pointed rims were recorded. Some rimsherds and the globular cooking pot were found to have round knobs at the edges of the rim. Similar to those of the cemetery these knobs
<table>
<thead>
<tr>
<th>Rim Decoration of Pottery from the Settlement Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plain Rimsherds</strong></td>
</tr>
<tr>
<td>76</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rimsherds Decorated:</th>
<th><strong>Total</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>with short hairs:</td>
<td>17</td>
</tr>
<tr>
<td>ated with finger:</td>
<td>72</td>
</tr>
<tr>
<td>ated with spots:</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rimsherds Decorated:</th>
<th><strong>Total</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ated from inside:</td>
<td>8</td>
</tr>
<tr>
<td>ated from outside:</td>
<td>23</td>
</tr>
<tr>
<td>ated from both sides:</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>34</td>
</tr>
</tbody>
</table>

Table No. 20.
Rim Shapes.

<table>
<thead>
<tr>
<th>Founded</th>
<th>Flat</th>
<th>Pointed</th>
<th>Serrated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>27</td>
<td>22</td>
<td>14</td>
<td>110</td>
</tr>
</tbody>
</table>
possibly served as handles or for decorative purposes.

The majority of the rim sherds were plain (Table No. 19),
whose decorated were found to have rim top decoration of
impressed dots or finger tip impressions. A few were found
with decorated rim bands.

5. Base shapes: The only two complete vessels so far
reported have rounded bases (Fig. 28 and 29).

5. Surface treatment and decoration: Unlike those of
the cemetery most of the sherds have coarse surfaces (Table
No. 20). The coarse brown is common and has a great variability
in coarseness and form and is often rough in finish. Many of
Doka (1) sherds were reported and they had their top surfaces
smoothed and polished while the lower surfaces rough and
unpolished. These sherds seem to be associated only with
the settlement because they were not found in the cemetery.
Similar Doka sherds were found numerously at Manas (2). Doka
made of pottery are still in use today and they have the
same characteristics of smooth and polished surfaces on the
top and coarse and unpolished surfaces at the lower face.

The pottery decoration and type show the close associat-
ion of the settlement sites with the cemetery and other late
Nordite sites of Khartoum, Shalaib, Mahara, Tangasi, Semhar.

(1) Doka is an Arabic word for the pot used for cooking bread
of duma or sorghum.
(2) Shire, 1979.
Abu Mena and the Ouzirs sites of Jebel Moya, Abu Gendi, and other Meroitic cemeteries. Black polished sherds of the same type as those of the cemeteries were found decorated with polishing after being blank smoothed. Some were decorated with both red slipping and polishing. These black polished or red slipped potsherds were sometimes decorated with different incised or impressed geometrical patterns; a few were decorated with rhomboidal designs identical to those found in the graves. The impressed designs were usually outlined and hatched with impressed dots in parallel lines. Some of these decoration motifs show traces of having been white or red filled. Some sherds showed drawings and marks of schematic designs of trees and other incised shapes. (Fig. 25). Further decoration included designs of finger-tip and mat impression. (Fig. 24). It is noteworthy that the finger-tip impressions found at the base of the globular pot are almost identical to those found in the graves.

The few wheel-made sherds found seem to correspond to the Meroitic 'egg-shell' ware of Adams' family "μύ." (1) All the wheel-made sherds had polished or burnished surfaces. Some were decorated with painted lines or bands of red and

<table>
<thead>
<tr>
<th>Shards decor.</th>
<th>Sanded with dots</th>
<th>Sanded with impressed dots</th>
<th>Fingertip impression</th>
<th>Incision</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>103</td>
<td>194</td>
<td>6</td>
<td>403</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Burnished or Brown</th>
<th>Polished (Polished)</th>
<th>Polished</th>
<th>Others</th>
<th>Unidentified</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>519</td>
<td>126</td>
<td>974</td>
<td>1 bh.</td>
<td>1663</td>
<td></td>
</tr>
</tbody>
</table>
### Table No. 22

**Colour of Pottery found in the settlement sites.**

<table>
<thead>
<tr>
<th></th>
<th>Red</th>
<th>Black/brown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>91</td>
<td>1572</td>
<td>1663</td>
</tr>
</tbody>
</table>

---

### Table No. 23

**Thickness (Settlement sites).**

<table>
<thead>
<tr>
<th></th>
<th>2.5 cm</th>
<th>5-10 cm</th>
<th>10 cm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>9</td>
<td>431</td>
<td>1223</td>
<td>1663</td>
</tr>
</tbody>
</table>

---

### Table No. 24

**Texture (Settlement sites).**

<table>
<thead>
<tr>
<th></th>
<th>Coarse sherds</th>
<th>Semi-coarse</th>
<th>Fine sherds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>885</td>
<td>765</td>
<td>13</td>
<td>1663</td>
</tr>
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white. Two sherds were found decorated with stamped designs. (Fig. 24).

7. Colour: Most of the sherds range from brown to deep black in colour. The black colour possibly resulted from the process of smelting. Some sherds show traces of localized smudging. Traces of red slipping could be recognized on some sherds on the external surfaces. The hand-made sherds have a black/brown fracture while the wheel-made tend to have a fracture ranging from white to yellow or orange.

II - Objects of personal adornment:

beads:

There were a few beads of different shapes and materials found associated with the fortreses (a, 1) and the huts (H.2, H.6 and H.7). They are of the same type as those of the cemetery, made from ostrich egg-shell, stone, faience, and glass. Furthermore, a group of six cowrie shells with perforation at the base were found. According to the type of beads they can be grouped into the following:--

A. Shell: 42 beads were found made of ostrich egg-shell and their shapes are therefore confined to flat disc or rings of 1.2mm thick and 6.8mm in diameter, with relatively small central holes. A few beads were made from cowrie shells and
their presence suggests importation since their existence is always associated with the marine. The presence of these marine shells has an interesting bearing on the external contacts of the Late Meroitic. Some of these shells may have been imported directly from the shores of the Red Sea.

B. Faience: A number of glazed faience beads were found. They were identical to those found in the graves. Their colour varies between grey and greenish blue. According to their shape and size they can be divided into:

B.1. Tubular faience beads of various sizes ranging between 3 to 10mm.
B.2. Tubular faience beads with grooves, (1) of 5 to 10mm in length.

C. Stone: A few of mudstones were recorded. All were of tubular shape; 7 to 13mm long and 7 to 9mm in diameter. (Pl. B).

D. Glass: Only one broken glass bead of blue-green colour was found.

(1) Such grooved beads were found in quantity in Late Meroitic graves at Benda cemetery.
III. Stone archers' looses:

Four fragments of stone archers' looses were found, all were broken. Like those found in the graves they were made of diorite with a polished surface on the outside. (Pl. M.).

IV. Organic material:

A few samples were taken for analysis of organic material, of bones, shell, charcoal and carbonised grass but unfortunately they have not yet been analysed in detail.

V. Other possible crafts:

A broken stone anvil was found at the hut of H.7 inside the stone enclosure. (Pl. P.). This together with the Doka sherds suggests that some domestic activities such as grinding of cereals was carried out inside the stone enclosure and that agriculture was possibly an important economic activity. The finding of date stone in the child burial of J.M. 9-2 suggests that date was possibly important diet. Furthermore, a few polished sherds with circular shape and perforation at the centre were found and they possibly served as spindle whorls. The finding of cloth remains (possibly of cotton) at the cemetery and the spindle whorls at the settlement sites suggests that cloth was possibly spun and locally woven and that the plant was also grown. The location of the
settlement sites close to the Nile, and the resources available in the area today and the fact that the environment has not changed greatly since the time-span dealt with here, suggest the population that agriculture was the most important economic activity.

Basketry was possibly known as indicated by the nitrate impression on some of the surfaces of globular jars. It is noteworthy that Sarstang found some basket remains associated with the same kind of pottery and grave types as that of Jebel Umm Marrahi cemetery.

Conclusions

The finds in the settlement sites being of similar type to those of the cemetery suggest a Late Narcolitic date for the fortress, stone enclosure, and the settlement sites near the jebel. The thinness of the occupation refuse in these sites makes it unlikely that they were occupied for a long period.

Excavations have shown that the fortress had not been significantly disturbed since its abandonment and that there was no important post-Narcolitic occupation of the site although

(1) See the evidence presented by the location of huts, burial mounds close to the river bank.

(2) Sarstang, 1916, and 1911.
it served as a religious area for El sheikh Ahmed El Faviib and as a look-out post by the Mahdists and the Anglo-Egyptian army at the beginning of this century.

Though a small part of the fortress was tested, its exact purpose is not yet clear. Its very existence and the reason behind its building is still the most puzzling problem. It seems that this hill-fortress was built to control and safeguard the Nila route. However, with the sparse information available no definite conclusion can be drawn.
The fieldwork conducted at Jebel Um Narmahi led to the discovery of a cemetery, a bill-fortress, a stone enclosure and hut foundations. The study has shown that they were of a related character, possibly being remains of the same group of people. The chronological data and the comparative study is in favour of a Late Narmitic date ranging between the second century AD and the local acceptance of Christianity. So it seems that a new temporal as well as cultural definition is needed for the Late Narmitic culture in Central Sudan and the southern provincial sites.

The burial tradition and the finds were found to be of the same cultural tradition as the Late Narmitic sites of Central Sudan and the Kassala area. So on this basis Jebel Um Narmahi may be defined as a regional variant of the Late Narmitic culture and this shows how complex the latter one is. This definition, difficult as it may be, may enable us to understand the role played by Khartoum Province and the other provincial areas of Central Sudan as well as the Kassala in the shaping of the Late Narmitic culture. The close cultural affinities of Jebel Um Narmahi with these areas would enable us to view them as part of a
larger facet of Nuerotic culture which extended from Lower Rubis to Seman and Jebel Mora or further south. Furthermore, the close cultural affinities of Jebel Um Marrashi and these sites in the pottery decoration, grave types, their layout and distribution, makes the present writer postulate that the population of Late Nuerotic sites in these areas formed one ethnic group. This needs further verification. The more we find (in future research) of non-functional and other traits (i.e. information about place names, physical anthropology, linguistics, etc.) peculiar to the area in question, the more possibilities exist for verification. (1)

The cultural characteristics of the Late Nuerotic site of Jebel Um Marrashi and the other provincial sites of Central Sudan and the era seen to support the hypothesis of cultural contrast between the northern Nuerotic provinces and those of the south. (2) The pottery types, burial traditions and grave types seem to differ from that of Late Nuerotic of Lower Rubis. The superstructure and the pottery are quite different. The tombs of Lower Rubis have mudbrick superstructure or small brick pyramids or

(1) Kleppa, R.S., 1977, 45,
platforms at the surface for the upper-class graves.\(^1\) Most of the tombs are oriented east-west. Be statues were found only in Nectotic Lower Nubia. In Central Sudan the pyramidal tombs are confined to the royal cemeteries.\(^2\) Moreover, there is also an absence or rarity of "offering tables" even among the royal pyramids of Negawiy. Unlike those of Lower Nubia the Late Nectotic graves in Central Sudan have mound superstructures of different shapes and complexities.\(^{\text{See Chapter One}}\). Contracted burials seem to be more common. The pottery is mainly hand-made and the Nectotic fine wheel-made ware is scarce; a feature which was recognized before even at important Nectotic centres such as Serçe the capital at Musawwarat es Sufrā.\(^3\) Other variations were stated by Adams in religion, policy, economy and language.\(^4\) The lack of cultural uniformity in these aspects was a possible indication of an ethnic division between the Late Nectotic of Lower Nubia and those to the south (in Central Sudan and the Gezira). So the Late Nectotic culture seems to have contained more than one ethnic group, each participating at different levels within the pool, the

\(^1\) Ibid., 1977, 375.
\(^2\) Haked, 1971, 79.
\(^3\) Haked, 1971, 81 and Adams, 1976, 39.
\(^4\) Adams, 1974, 41.
complexity of the culture. The exploration of the variability in the spatial distribution of the Late Nubian material remains is an important problem. (1) Adams related these cultural variations generally to geography, environment and history, (2) but this would remain oversimplified without further studies in the Late Nubian sites south of Lower Nubia, where extensive research in the settlement pattern is providing a significant approach to the study of cultural ecology during this period.

Furthermore, this study seems to throw new lights on the so-called Ballana culture, (3) The possibility that the Late Nubian sites of Central Sudan and the Sennar were partly contemporary with the Ballana culture, suggests that the so-called Ballana culture, according to the present work is possibly a Lower Nubian feature. It seems that the Late Nubian culture persisted in Central Sudan and the Sennar to a later date while that of Lower Nubia.

(1) It has been noted that in the highly specialized artifacts whose function has been narrow enough and needs sophisticated technique in production and use the variation becomes negligible or totally absent but when the artifacts have a wider range and hence specific such as pottery one finds remarkable variability that would lend itself easily for group, regional, ethnic or chronological variations.

(2) Adams 1976, 39.
(3) The Ballana culture (X-group) refers to the period in Lower Nubia of two or three centuries before the introduction of Christianity. The sites of this culture have been found from Shellel in the north to Nasahi in the south. The northern limit is not yet clearly defined.
goes way to the Ballana culture and both possibly developed directly or indirectly into that of the Christian period.

The comparison between the Ballana and the Late Meroitic burial mounds in central Sudan shows both similarities and dissimilarities. They differ mainly in the pottery and in substructure. They show similarities in the material remains of beads, bronze and iron objects and stone architectural lozenges. Both have tumulus and contracted burials with southern orientation. These latter two characteristics were taken by some scholars such as Adams (1) and Trigger (2) as among the main features that distinguish the Ballana culture from the Late Meroitic. They were also regarded as evidence of an abrupt change and as new elements imposed by migrating groups. (3) Now these two features being known in the Late Meroitic sites further south, suggests that the so-called Ballana culture is more Meroitic in spirit than was thought before, despite of the Roman Byzantine influence. This confirms further Junkers and others' (4) suggestion of the cultural continuities.

(1) Adams, 1939, 162-165.
(2) Trigger, 1969, 110.
(3) Adams, 1960, 169.
between the Mercitic and the Ballena culture. It seems that both the so-called Ballena culture and the partly contemporary Late Mercitic culture further south represent a single culture. Although some of the features of the culture are uniform throughout, there are others which displayed marked variability from site to site, making it difficult to speak of a culture per se.
A letter from Harwell Laboratory showing that the sample of Zn, Cu, Ag, and Au, was sent for U-Th dating in October.

Carbon - U/Th ratio
Measurement Laboratory
Rdg. 0C, D, ASLE Harwell, Oxfordshire,
Oxford, OX2 8DD
Tel. Chilton 1141 (STD 034) Ext. 2516
Telegrams: Atten, Chilton.
Telex 63192.

21st, February 1970.

I enclose the official measurement certificate for your sample ZM 18 as promised. A sample information form is also attached for you to complete and return if you would like us to include this result in one of our forthcoming newsletters in the journal 'Arch. Carbon.'

A bill for £125.00, which includes the cost of work done by us in JM 64 as instructed by you (1 x 240, charcoal, 4 x 35 for work done on the absorptive sample ZM 64 - U/Th 2718) will be forwarded to you by our accounts department in due course.

Thank you for submitting these samples, I am sorry we were unable to provide a result for JM 64 but hope we can nevertheless look forward to hearing from you again sometime in the future.

Yours sincerely,

(signed)
A.J. Walker.
APPENDIX 2.

RADIOCARBON DATING CERTIFICATE.

Sample sent for analysis by:
Dr. A. M. Ali Hakim,
Dept. of Archaeology,
University of Khartoum,
Sudan.

Results:

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<td>Mar-2713</td>
<td>7, 8</td>
<td>Charcoal</td>
<td>25.1</td>
<td>1800-270</td>
<td>ac750-770</td>
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Comments:

From buried pit part of roofing of burial mound.
Jebel Iyn Harraki, Sudan, Lat.15°38' 30", Long 32° 30'.
Burial was intact, no disturbance.

This certificate that the sample given above has been analysed for RADIODCRBON at this laboratory. The results, expressed as DELTA13, AGE BP and BP-1950, are given in accordance with the method outlined in the accompanying Notes Sheet, No.1/75, to which due reference should be made.

(Signed)
R. L. Castle
(NET. 10/78)

CARDEN 14 C NUCLEAR MEASUREMENTS LABORATORY,
NUCLEAR PHYSICS DIVISION.
BUILDING 1A, 16,
AERE,
CHURCH
OXON
OX 11 CRJ.
APPENDIX 3.

Samples information for radiocarbon publication (Oman).

Harwell results:

- Code number: Mar-2713
- Conventional radiocarbon age (I) Years BP: 1200, 270
  (II) BE: 1950 ad 750.
- Stable isotope ratio Delt13C = 25.1 ± 10
APPENDIX L:

Notes on foul remains from a globular jar from S. 24.

Sample:

grey, light weight, 
sponge appearance, 
irregularly layered strata, 
soil sample: 'cakes' and powder of an organic nature.

The whole surface and inbetween the 'cakes' there are many scattered areas where parts/bits of insect shells were found. The surface was also full of masses of yellowish green fungal spores of Aspergillus. This means that the sample was exposed at one stage to dampness and it contains organic substances used by the fungus as a substrata.

In my opinion the sample is mostly like an organic mass of possibly food origin. Since no husks, grains, etc., were found, it is unlikely to be of a grain origin. Parts of charred pieces of wood were also found. The rare occurrence of these does not justify its description as part of the sample but a foreign additive. The site of charred wood were of a woody dicots plants in a region of fibres and secondary wood.

Thank you.

(signed)

HURLAY SHERB, M.A.
PROF. PROF. OF BOTANY,
UNIVERSITY OF HARROW.
APPENDIX 5:

Note on analysis of stone anchor's looses and
heads carried out by B. C. Almand and Nancy Ehrldt Omer

Rocks:

J. M. 50: Medium - grained, isotropic - textured igneous
rock composed of two feldspars (one grey and
tabular, forming occasional phenocysts, the
other pink), black hornblende and a little
quartz. Name: quartz microdiorite.

J. M. 11: Medium - grained rock composed of grey, glassy
quartz at pinkish white feldspar. There is
very little mafic material in the rock. The
grain size varies patchily, and there is some
crude banding. Name: quartz-calciclastic gneiss.

J. M. 14: Blood-red ochreous yellow mottled rock. Might
be a high iron oxide content but relatively
hard, so perhaps sillimanite. Name: Alunited
mottled clay?

J. M. 20: Coarse-grained. The main constituent are white
feldspar and a dark-green to black
hornblendes. The rock shows banding. Name: Biotitic gneiss.

J. M. 26: Coarse-grained, mesocratic, isotropic - textured
igneous rocks. Contains about 60% white feldspar
and 40% dark green hornblendes. Name: Biotite
Migmatite (from area J. M. 26) White and orange - coloured
quartz (stained by iron oxides), some red (banded) agate.

Provenance: I suspect the biotitic rocks could be matched
in many places in the basement of Northern Sudan.

(signed)

Professor B. C. Almand,
Professor Nancy Ehrldt Omer,
Dept. of Geology, University of Khartoum.
Notes on prehistoric material remains and a burial from Tell Ham, Marjebi.

The survey and test-excavations carried out at Tell Ham, Marjebi showed a prehistoric occupation in the area which is concentrated on the southern part of the summit of the hill and immediately south of its foot. Unfortunately the prehistoric material remains of this occupation have not yet been analyzed but at this stage the following observations can be noted:

1. The prehistoric material remains:

The material culture of the prehistoric occupation shows similarities to that reported by Inkell at Harra'oun Civil Hospital. Lithic tools of quartz, pebbles, schist, and sandstone were found. Most of the tools were made of quartz while those of schist are few and considerably bigger. Scraper, blades, blades, are common types of tools. A number of quartz pebbles and schist flakes and cores were recorded. There is a notable absence of stone gouges, other stone tools included sandstone grinders, rubbing, hammers and rings.

Numerous sherds of different types of decoration were recorded. Wavy-line and dotted wavy-line decorations seem to be the most common; a few red-brown sherd was found decorated with black-topped rings.

Faunal remains of bones of animals and shells are numerous and this show the importance of the site for future environmental studies. Fish bones and husks are remarkably abundant.

2. The Burial: (Fig. 15)

Underneath the prehistoric occupation remains found in the trench of T. 6 a contracted burial was found with its head to the west slightly bent to look downward. The skeleton is located 130cm. deep from the present sea surface. It is laid in a shallow circular shaft, 50cm. deep, filled with alluvial sand and gravel.

Close to the head of the deceased at the northern part of the shaft a complete grey black bowl decorated with incised parallel lines was found. A sharp pointed bone tool, possibly a spearhead was found close to the knees
Of the skeleton, around the neck a necklace of carnelian beads was recorded. A few carnelian beads were also found on the wrist of the left hand. The deceased was found wearing three amulets of ivory, one on the left humerus, the other on the right one and the third on the radius and ulna of the right hand. The skeleton was found in a well state of preservation. The bones were semi-fossilized. Judging from the bones of the upper and lower limbs and the pelvic, it seems to be of a male.

The finding of the prehistoric material remains and the burial shows that Jebel Tom Harrab site has a long complicated history of Occupation.
ABBREVIATIONS USED IN THE BIBLIOGRAPHY.

J. E. A.  Journal of Egyptian Archaeology.
L. A. A.  Liverpool Annals of Archaeology and Anthropology.
S. F. R.  Sudan Notes and Records.


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Plate 1. - A general view of some of the burial mounds from the cemetery.

Plate 2. - A mound of stones on the hill of Uma Narrahi.
Plate 5. - Grave 3.A.16 with the enclosure of a ring of stones.

Plate 6. - Grave 3.A.26 showing the interior part of the grave and a contracted burial with iron circles at the skull. A broken globular pot is also visible near the skull.
Plate 7. - Grave J.M. 26 and its broken pot.

Plate 8. - Grave J.M. 35.
Plate 9. - Grave J.M. 52 during excavation showing the stone ring wall and the stone superstructure.

Plate 10. - Grave J.M. 56.
Plate 11. — Grave J.M. 70.

Plate 12. — The burial of J.M. 70.
Plate is. - Grave J.K. 72.

Plate 15. - The north eastern portion of the fortress after clearance. (F.1)

(Note: Though the photograph is not ideal it is necessary to represent as an evidence.)

Plate 16. - Part of the excavated test-trench of F.1. See the stratigraphy.
Plate 17. - The test-breach of E.2 after clearance.

Plate 18. - The main entrance of the fortress from outside.
Plate 19. - The main entrance of the fortress from inside.

Plate 20. - The parapet platform and the parapet wall of the eastern wall of the fortress.
Plate 21 and 22. - The spur wall attached to the northwestern bastion of the fortress.
Plate 23. - Mud brick used in the building of the fortress 3rd & 4th.

Plate 24. - The northern wall of the stone enclosure - A view from outside.
Plate 25. - The southern wall of the stone enclosure, (from outside).

Plate 26. - Test-trench B during excavation.
Plate 27 and 28. - The small top wall of the northern wall of the stone enclosure.
Plate 29. — Part of K.7 during excavation, see the stratigraphy and the rock surface of the hill underneath.

Plate 30. — But remains inside the stone enclosure.
Plate A. - A coarse hand-made bowl from burial J.M.8.

Plate B.1 - Large globular jar of red slipped ware with impressed decorations filled with white pigment, from burial J.M.9.
Plate B.2 - A beaker of red slipped ware with incised decoration, from grave J.M.9.

Plate B.3 - A red slipped globular jar with impressed decoration showing traces of white filling, from grave J.M.9.
Plate C. - A black polished bowl with a rim decorated with impressed dots, from grave J.M. 26.
Plate D - A red slipped medium sized globular jar, from burial J.M.35.

Plate E - A black polished bowl, from burial J.M.66.
Plate F. - A matt-impressed globular jar from grave J.M. 66.

Plate G.1 - A large black polished globular jar with a short neck decorated with schematic designs of bulls showing traces of white filling, from grave J.M. 70.
Plate G.2 - Black polished bowl with impressed designs filled with red pigments, from burial J.M.70.

Plate H. - Grey black bowl from burial J.M.72.
Plate K. - A glazed green faience amulet of hathor head from grave J.M. 13 and a faience scarab found in grave J.M. 22.

Plate L. - The inscribed face of the scarab, from grave J.M. 22.
Plate X. - Complete stone arrowheads found in graves and broken ones from the settlement sites.

Plate XI. - The type of iron arrowheads found in some burials.
Plate C. — Remains of iron circlet found in burial J.W. 06.

Plate D. — Iron objects (possibly bells) and iron ear-rings from the graves.
Plate Q. - Bronze bells and rings from some of the burials.

Plate R. - Jadeite beads found in the grave (2) and the settlement sites (2).
Plate 8. - Beads of ostrich egg shell of small (1) and big size (2) obtained from the burials.

Plate 7. - Beads of green and blue faience beads (2 and 3). No.1 shows a necklace of carnelian beads and a pendant of agate from burial J.M.26.
Plate V. - Beads of cowrie shells (A, 7), glass, transparent quartz and milk quartz from the graves.

Plate V. - A part of a quern found in house hut E 7.