

INVESTIGATIONS IN A PREHISTORIC NECROPOLIS NEAR BAB EDH-DHRA'

by
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The following report arises from a short season of survey and excavation carried out between 1st. November 1977 and 1st. December 1977. This expedition was undertaken in order to determine whether or not there were important antiquities present on a large area of land where it was proposed to construct a township intended to house the employees of the Arab Potash Company plant at the Dead Sea Begun originally as a two week survey it was soon realised that this time would need to be extended, as it was found necessary to examine more closely some of the features of the site. Among these was the necropolis, the details of which are the concern of this report.'

Lying approximately 1 km to the south of the Early Bronze Age site of Bab edh-Dhra', the cemetery area occupies a wide tongue of land which slopes gently to the south-west towards the level of the Dead Sea, between 230 and 280 m below sea-level (See Fig. 1). This area is sharply delineated to the south by a steep wadi and to the north by a shallower erosion bed. To the south-west the land drops sharply towards the level of the rift valley floor. To the east the approach is more gentle.

The ground surface of this area is of desert pavement type, across which are strewn numbers of larger boulders. It would appear

1. The expedition was a joint venture by the Jordanian Department of Antiquities and the American Center of Oriental Research. It was financed by the Arab Potash Company. The expedition staff consisted of David McCreary (director), Linda McCreary, Nazmieh Rida Tawfiq, Sami Rabadi and the

as if there has been considerable erosion of the surface soil by the actions of wind and water. At a depth of some 10 cm. below the surface a tightly compacted type of gravel is encountered. This gravel extends, at least in some places, to a depth of more than 9 m² and in all cases the encountering of this gravel put a halt to excavation.

The site has now been left to the Arab Potash Company and will be completely destroyed in the subsequent building operations. Unfortunate as this is it is the writer's belief that as much as possible was done to record the features of these burials. Because of the limited time available the work proceeded with more speed than would normally have been the case but in some respects the nature of the burials justified this approach.

a. The Cemetery Area (Fig. 1)

Within the area just described 30 separate cairn burials were identified, numbered and surveyed. Across the shallow erosion channel to the north lay another robbed, cairn, while further to the north-east, outside of the surveyed area, lay three more; across the deep wadi to the south was another similar cairn. All of these cairns outside the survey area were of the same type as those which were investigated in more detail. Of the 30 cairns within the survey area a total of 14 were excavated.

writer. An overall report of the survey will be published by David McCreary in *ADAJ*. See his preliminary notice in the American Schools of Oriental Research, *Newsletter* No. 2, October 1978.

2. This information was provided by geologists of the Arab Potash Company.

Very few of those left unexcavated were suitable for further study, either having been disturbed by human or animal action or by severe erosion.

With the exception of those cairns already described as being outside the area to the north and east, and also Cairn #11, all lay to the south of the remains of a long, well constructed wall which traversed the area from west to east. This wall, consisting of only one remaining course and almost completely destroyed in some places, bisected the surveyed area and defined the cemetery area to the south of it. An average of 1 m in thickness, this was traced for more than two kilometers but its exact length is unknown, as its western end disappears where the land drops off towards the Dead Sea and its eastern end is lost where it runs into modern irrigated fields.

This wall was investigated at three places by means of small probes but no insight into its purpose was gained. Whether or not it should be related to the burials is unknown but it is apparently to be dated to roughly the same period, if the evidence of three small sherds, the only dating evidence found, can be accepted. These were crude, hand-made pieces, similar to those found in the vicinity of Circle 1 (see below). One, from a probe near the western end of the wall, was a fragment of flat base which could be of either Chalcolithic or Early Bronze Age type.

Also to the south of the wall were two large stone rings (Circles 1 and 2), which may have served a cult purpose and are described below.

b. The Method of Burial.

The method of burial employed here is

3. Samples of these snails were taken but disappeared in transit.

unusual and, to this author's knowledge, unparalleled. It was basically similar in all of the burials investigated. A ring of large field boulders was formed to make an interior chamber of approximately 1 m in diameter. The boulders used measured approximately 60-70 cm. in diameter. Sometimes the cavity or chamber thus formed was lined with roughly dressed paving stones and in a number of cases a fire was lit on the ground prior to the laying of this pavement. The disarticulated bones of the body (or bodies) were then placed in the chamber and this was then filled with a large number of small to medium stones. The chamber was often covered by a number of large unressed slabs and the whole structure was covered by smaller stones to form a cairn. Sometimes a second course was added to the inner chamber before it was filled and in such cases a secondary wall of smaller stones was constructed around the outside, giving the cairn a stepped appearance.

No soil appears to have been placed in the burial chamber but rather the interstices of the rocks appear to have become filled up over the ages with windblown detritus. Evidence for this comes from one of the most unusual and disconcerting features of the burials the presence in the cairns, between the rocks in the burial cavity and on and around the human remains mixed with the wind blown soil, of countless thousands of shells of various types of land snails.³ In many instances the mass of snail shells exceeded that of the accumulated soil. If soil had been deliberately put into the burial chamber then it would have been all but impossible for the snails to have entered, particularly in such large numbers. The possibility that they were deliberately included in the burial is extremely remote

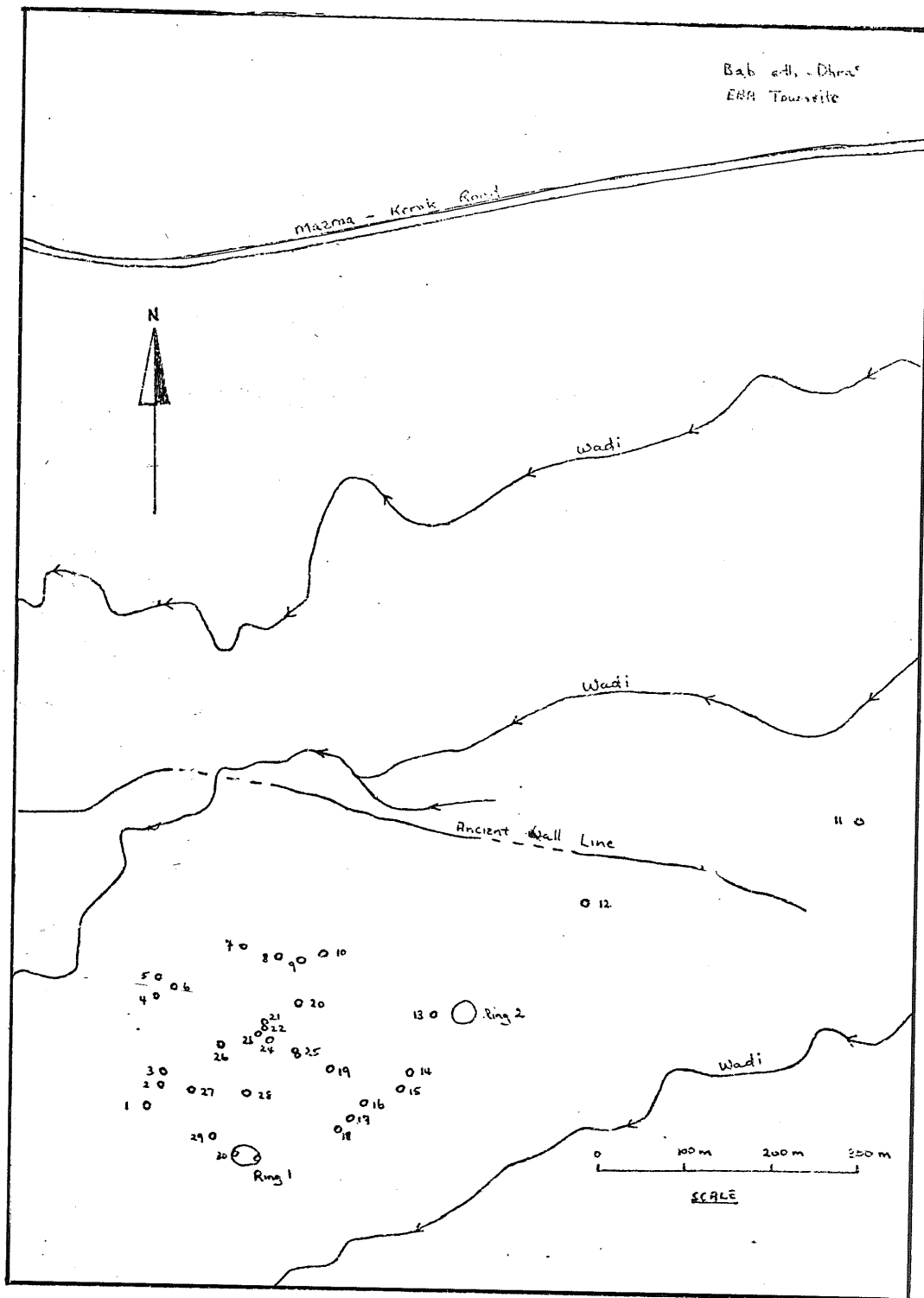


Figure 1. Map showing the location of the necropolis.

owing to the large numbers involved and to their presence not only in the chamber but also among the rocks over and around the cairn. Two other important points are raised by the presence of these snails. Firstly the large numbers of snails found to be actually on and among the bones may indicate that, at the time when the remains were interred, at least some flesh remained on the disarticulated bones to attract the snails and secondly that, at the time, climatic conditions must have been more favourable than at present.

Another significant feature of the burials was the almost complete absence of any grave goods of a non-perishable type. It is possible that textiles and other organic materials may have been buried with the dead but absolutely no trace of these, if such was the case, remain today. In three cases pottery fragments were found with the burials but these did not represent whole vessels or even sizable portions of vessels. In one cairn (# 25B) were found a number of beads.

C. The Excavation of the Cairns.

Cairn #12. (Fig. 2)

This consisted of a ring of two courses of large boulders, the largest being more than 1 m by 70 cm, by 45 cm in depth. The cavity thus formed was of roughly oval shape, approximately 2 m by 1.5 m in diameter. Piled against the outside of this ring were many smaller rocks with no definite arrangement. The entire cairn measured 4.25 m in diameter.

In the centre of the chamber stood a large upright slab of roughly dressed limestone, measuring 70 cm by 80 cm and standing to a height of 1.45 m. The base of this was firmly wedged into a platform of smaller irregularly shaped rocks at the bottom of the cavity. This monolith was the most outstanding feature of this cairn but all

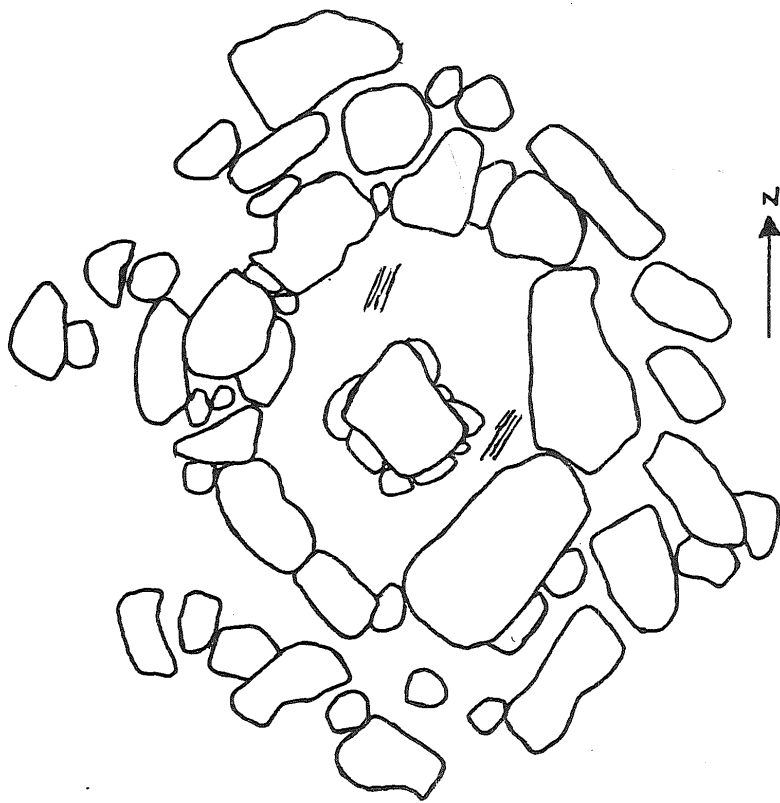
attempts to move it in order to determine whether anything lay beneath it were to no avail because of its size.

There were no covering stones to this cairn and within the ring, around the monolith, the soil level was some 20 cm below the top of the rocks forming the upper course. This gave the impression that the cairn had been disturbed; however the bones of two individuals were found at a depth of only 35 cm below the soil surface within the cavity, beneath a compact full of small rocks, soil and snail shells. These bones belonged to two adult individuals, one placed to the north-east of the monolith and the other to the south-east of it, resting on virgin soil. Neither skeleton was complete, both consisting of a few ribs and a number of the long bones of the arms and legs; also present were a few other badly decomposed and unidentifiable fragments. All of the bones were in such a poor state of preservation as to be unsalvageable.

Cairn #13.

This was the only other cairn which was observed to have had a large monolith standing in its centre. In this instance this had toppled over and the cairn appeared to have been either disturbed or never completed.

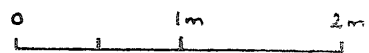
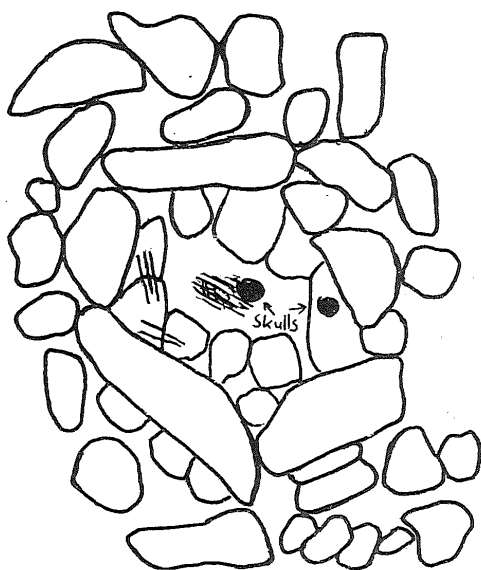
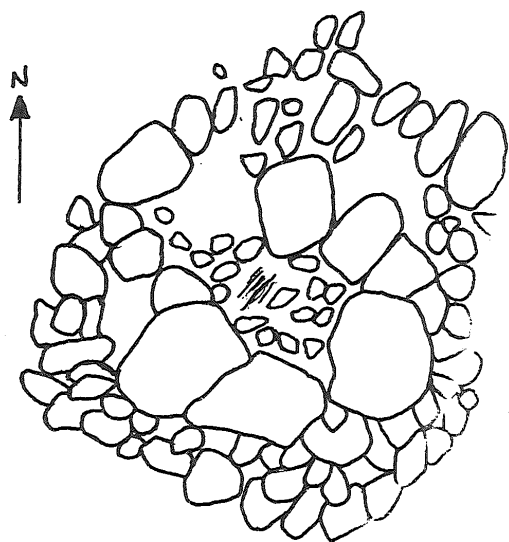
By far the largest cairn in the necropolis, it measured approximately 6 m in diameter. The ring consisted of two courses of large boulders, forming a central cavity some 4 m across. Very few other rocks were found to have been incorporated into the structure or strewn around it, lending strength to the impression that it had never been completed. Another possibility which cannot be discounted is that this structure bore only superficial resemblance to the cairns and instead played some undetermined function for which no evidence was observed.



Above. Figure 2. Cairn #12.

Right. Figure 3. Cairn #15.

Below. Figure 4. Cairn #16.



Within the ring only the eastern half of the fill was excavated, to a depth of 75 cm, without encountering any traces of human activity or of a burial. The monolith had toppled against the wall of the chamber towards the south. No trace of a supporting rock platform was observed in this case. The monolith itself measured 50 cm by 58 cm, by 1.62 m in height.

Cairn # 14.

Constructed of some very large stones this cairn was over 4 m in diameter and stood approximately 1 m above the present-day ground level. However, it was to prove disappointing as no recognizable human remains were found within it.

The ring of this cairn consisted of a single course of large boulders surmounting which was a type of cantilevered roof. A second ring, with a smaller internal radius, was placed on top of the lower one and then the entire structure was "roofed" with more large boulders, while many smaller stones covered the entire structure. At the north-eastern end one of the covering slabs had fallen into the chamber before the accumulation of soil built up, as it was largely buried by the accumulated detritus. Around the outside of this main ring was constructed a second, lower ring of smaller stones, giving the whole a stepped appearance.

The inner chamber was approximately 2 m by 2.5 m in diameter and was filled by the usual fill of rocks, snail shells and wind-blown detritus. The complete absence of any human remains can be due to only two factors: that the remains were originally present but had deteriorated to a point where they were no longer recognizable in the soil or that no burial ever took place within this cairn. The latter explanation is unlikely as the structure gave the appearance of having been

carefully completed. Also this was not the only cairn to be excavated completely without any discernable human remains being found, while in many of the cases where remains were found they were in such a bad state of preservation that they were often unrecoverable and even unrecognizable. This fact is probably to be attributed to the shallowness of the burials (often only 35 cm below the soil level), to the postulated extreme age of the burials and to the nature of the soil.

Cairn # 15. (Fig. 3)

A smaller cairn than the previous ones, being only 2.75 m across, was broken down on its north side but well preserved to the south and west. It consisted of an inner ring of two courses, the upper ring having a smaller internal radius, being placed slightly further towards the centre. This upper course was clearly added after the cavity was filled with stones following the burial, as its stones were supported by the stone fill. As in the case of Cairn # 14 the whole structure was then roofed with a number of flat boulders. To the south and west a second, lower wall was constructed against the outer face of the main ring. This secondary wall was two courses wide and two high.

Within the cairn beneath the capping stones and the upper course of the ring was a cavity measuring 1.20 by 50 cm. This was filled with the usual small stones, shells and soil to a depth of 40 cm. The bottom of the cavity was roughly lined with paving stones and on these, in the centre of the cairn, was a bundle of human bones. As far as they could be identified they were the long bones of the arms and legs of one individual, with a few other miscellaneous bones, including a few ribs. These were clearly disarticulated and in a very poor, friable condition. In amongst the bones were many snail shells. Owing to the

condition of the remains it was not possible with the means at our disposal to remove them for further study.

Cairn #16. (Fig. 4 and Pl. XXXII,1)

This cairn was well preserved with a well defined ring of two courses. The rocks used in the construction of this were larger than usual, a number of those in the inner ring measuring approximately 1.50 m. by 40 cm. in depth. The overall width of the cairn was approximately 4.25 m. while that of the inner chamber was 2 m. by 1.50 m.

In the centre of the ring was the usual fill of rocks, shells and soil to a depth of some 40 cm. before a regular, well-laid rock pavement was reached; this consisted of partially dressed and flattened stones. On this pavement were found a bundle of disarticulated bones, probably those of an adolescent. They did not appear to be a complete skeleton and the bones were so friable that it was impossible to determine which bones were present, apart from the obvious long bones of the side of the chamber to the south-west. To the south-east, by itself, was found what remained of a crushed skull.

This chamber was cleared to reveal the paving stones, which were then removed to reveal, instead of the expected virgin gravel, a stonelined chamber filled with loose, powdery soil and the ubiquitous snail shells. When this was cleared it was found to contain what seemed to be a complete, although disarticulated skeleton of an adult, the knee joints of which appeared to have been deliberately broken. These bones, although very fragile, were the best preserved of any found and some were able to be removed almost intact.

The skeleton had been arranged with all of the long bones laid side by side, pointing north-west to south-east, with the other bones piled

indiscriminately amongst them. The skull was placed on the top of this bone bundle standing upright with the lower jaw still in place. Unfortunately this skull was completely filled with soil and snail shells, which caused it to collapse outwards as it was cleared. Time and resources did not allow the proper treatment needed to preserve this skull as it was not cleared until the last day of excavation.

These lower chamber resembled a cist tomb over which the cairn was then erected. The walls of this chamber were lined by six flat slabs standing on edge to form a lozenge shaped cist. The bottom of the cist was paved by small stones or cobbles and the paved floor of the upper chamber formed the ceiling. The overall dimensions of the cist were 1.30 m. by 75 cm., with a depth of 30 cm. the cist had clearly been dug into the ground, whereas all of the other cairns investigated were entirely above the original ground level.

The total depth of the two chambers, from the top of the inner ring stones to the virgin soil beneath the cist, was 1.05 m. The soil level in the upper chamber was 20 cm. below the level of the top of the ring.

Cairn #17. (Fig. 5 and Pl. XXXII,2)

This consisted of an irregular ring of large boulders, resting on virgin soil, forming a cavity some 1m. by 1.50 m. in diameter. The rocks of this ring were set on edge and measured some 70 cm. on their vertical face, of which some 30 cm. stood above the level of the interior fill prior to excavation. This inner ring was supported around the outside by a large number of smaller rocks arranged irregularly while a number of large, flat undressed boulders covered the chamber.

Upon excavation of the central cavity it was found to contain the remains of more than one adult individual. These were disar-

articulated and not all of the bones were present. Resting on an irregular pavement they were placed around the outside of the cavity against the stone ring and were found at a depth of between 35 cm. and 45 cm. below the soil level. One skull could be recognized and this had been crushed by a rock which lay on top of it. There was no way of determining whether this was a deliberate action or whether the rock was positioned by chance, the weight of the fill eventually causing the skull to collapse. Both the skull and the other bones present were extremely friable and could not be recovered intact. Located with the skull was an amorphous group of bones, the recognisable ones being a number of vertebrae, a scapula, a number of ribs and arm bones. At various spots around the cavity were located a number of legs bones, obviously of more than one individual.

Cairn #18.

The bad state of preservation of this cairn makes its original state rather difficult to assess. Only the inner ring of large stones could be defined, a scattering of smaller stones round about being the only remaining traces of the rest of the structure; the original diameter seems to have been about 4.50 m.

The inner ring of this cairn was preserved to two courses and made of smaller than usual rocks. The cavity thus formed was 65 cm. by 1 m. in diameter; this was filled to a depth of 35 cm. with the usual fill.

No traces whatsoever of any human remains could be found here. What remains there were may have completely decomposed or the cairn may never have been used.

The bottom of this was lined with irregular, flat paving stones. After removal of these stones it became apparent that some attempt had been made to dig a shallow, saucer-shaped depression in the ground before

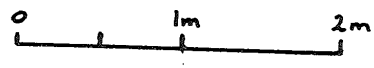
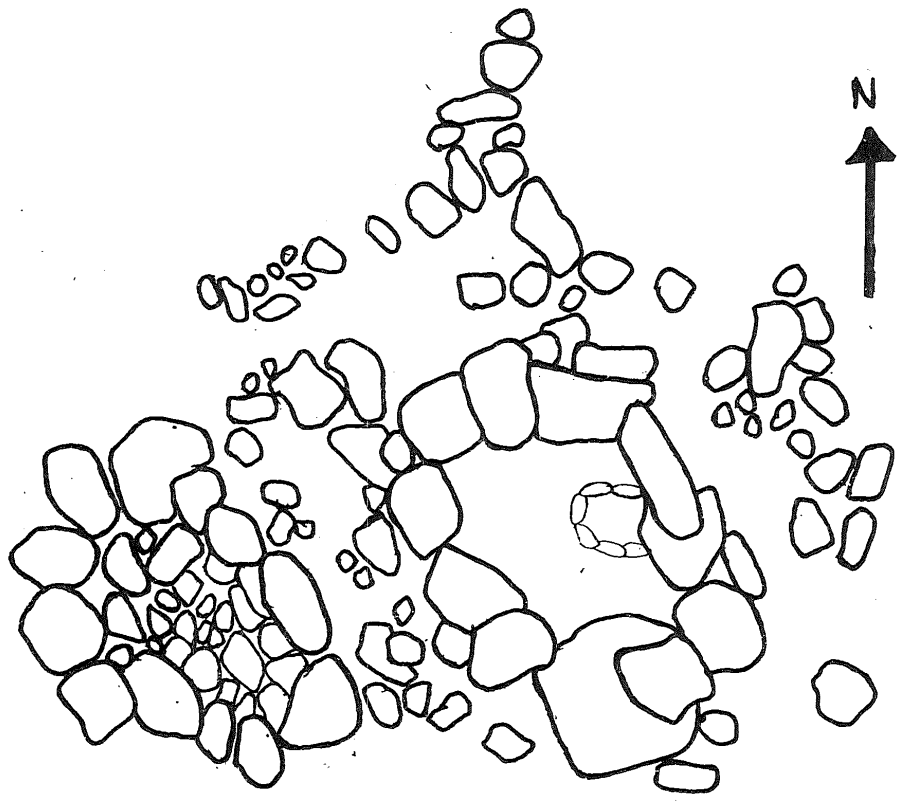
the pavement was laid. This depression varied from 5 cm. to 10 cm. in depth.

Cairn #20.

This was a roughly oval shaped cairn, well preserved and standing approximately 90 cm. above the surrounding ground level; it measured 3 m. by 2.5 m. in diameter. An animal burrow on the west side penetrated a short distance under the capping stones and may have partially disturbed the remains. The boulders serving to cover the cairn seem to have been partially removed, as only two stones remained in place. To the immediate south-east of the structure were a number of large, relatively flat slabs which could have originally served as capping stones. It was rather difficult to determine whether or not the burial itself had been disturbed.

The interior of the cairn was filled, for the upper 10 cm. with a very dense mass of snail shells and some loose soil, below this was a stone fill, the central part of which had been located so as to support a central stone in an upright position. This standing stone was quite small - 25 cm. by 25 cm. by 30 cm. in depth - but had clearly been deliberately positioned.

The stone fill, through which soil and snail shells had percolated, was a jumble of medium sized rocks about 25 cm. in depth. Below these rocks, at a total depth of some 35 cm. below the surface soil, was encountered a 5 cm. thick layer of dark, harder soil. This contained only a few shells, which were probably intrusive from the stone layer above, and in it were found a few traces of bone, mostly to the south and south-east side of the chamber against the inner face of the stone ring. These bone fragments were extremely friable and were unrecoverable. Only four bones could be distinguished, three of which appeared to be fragments of the long bones of



Top. Figure 5. Cairn #17. Bottom. Figure 6. Cairn #25.

the arms or legs; the fourth fragment could not be identified. Despite the bad state of preservation it would seem that this too was a disarticulated and probably incomplete burial. Directly below this darker soil was virgin gravel.

Cairn #25. (Fig. 6)

This was a double cairn consisting two separate chambers juxtaposed and incorporated into one large, figure-eight shaped cairn, 5.75 m. in length and 2.5 m. wide at the narrowest point in the centre. The western, smaller cairn is designated #25/A and the larger, eastern one #25/B.

#25/A. This cairn consisted of an outer lower course of boulders and an inner ring of two courses; some of the upper course had to be removed to prevent its collapse into the chamber as it had been stepped slightly into the centre overhanging the burial cavity. The dimensions of this chamber were 1 m. by 75 cm.

This was filled, for the first 15 cm., by a hard layer of yellow soil and snail shells. Below this was a fill of tightly packed small rocks, surrounded by looser yellow soil and enormous numbers of snail shells. In this case the bulk of the snail shells far exceeded that of the soil.

At a depth of 45 cm. the soil changed to a darker grey-brown colour. Within this soil a still darker pocket towards the northern end of the chamber contained a few badly decomposed bones of a child or young adolescent. The only identifiable pieces were an upper arm bone and a few ribs. The pocket of darker soil was approximately 10 cm. in depth. Immediately below this soil lay a well-laid stone pavement, covering the entire

bottom of the chamber, the stones of which had been partially dressed to make them flat. To the south this pavement lay directly on virgin gravel but at the northern end; immediately below the skeletal remains, was an irregular pocket of ash, with some tiny pieces of charcoal, some 8-10 cm. deep. There was no trace of burning on any of the stones or on the bones. (Pl. XXXIII, 1)

#25/B. This cairn, the larger of the two, proved to be something of an enigma. The structure consisted of a two course ring of large boulders, incorporating a very large field stone into its south side, and an irregular outer ring supported this; to the north of the cairn a rough alignment of stones seemed to form a crude wall.

The fill in the chamber of this cairn, which reached a total depth of 92 cm., more than twice the usual depth of fill, was most intriguing and its significance is not at all evident. It consisted of several clearly defined layers, the first being loose soil and shells. Below this was harder soil within which were found three rocks, one long and two smaller ones, arranged in a cruciform pattern some 40 cm below the soil surface in the chamber. The significance of these stones is unclear, unless we are to relate them to the practice of including monoliths or standing stones in the cairns. However, in this case the stones were in a horizontal position. (See Pl. XXXIII, 2)

Below this was darker soil in which were found one tiny sherd of indeterminate type and a number of beads of dentalium shell cut into pieces, similar to those found in the Prepottery Neolithic B stratum at Nahal Oren.⁴

4. T. Noy, A. J. Legge and E. S. Higgs, "Recent Excavations at Nahal Oren, Israel", in *Proceedings of the Prehistoric Society*, Vol 39, December 1973, p. 75 - 99. See Fig. 7.

A total of 13 of these beads were recovered but at least another 20 were lost because they tended to disintegrate very readily.

Under this soil was a roughly semi-circular stone ring of small stones placed directly on the virgin gravel. The diameter of this was 60 cm. The interior of it was filled with very powdery dark soil, mixed with pieces of yellow clay. Much fine charcoal and ash was in the soil and the underlying gravel showed signs of scorching.

Outside this ring to the west and south was a 22 cm deep pocket of ash, charcoal and burnt soil and rocks, filling a basin-like depression that had been scooped out of the gravel. No objects of any kind were associated with this burnt soil.

How then are we to interpret the evidence of cairn 25/B? Was it perhaps a cairn prepared for the remains of an individual who was never buried there, as the complete absence of human remains and the relatively small number of snail shells would tend to indicate?

However the absence of traces of human remains is to be noted in other cairns also. In this connection the presence of the beads and of the single sherd is puzzling. The evidence of burning can be paralleled in the adjacent cairn # 25/A, in cairn # 30 and in the burials found in Ring 1, G/6.3 (See below). Whatever the purpose of this burning, it is clear that it took place before the construction of the cairn.

Cairn 27. (Fig. 7). This cairn, with a diameter of approximately 3 m and standing 1 m above the surrounding ground level, consisted of a ring of two courses of boulders, the upper course being stepped slightly inwards and overhanging the interior chamber. On its eastern side a huge field boulder was incorporated into the structure.

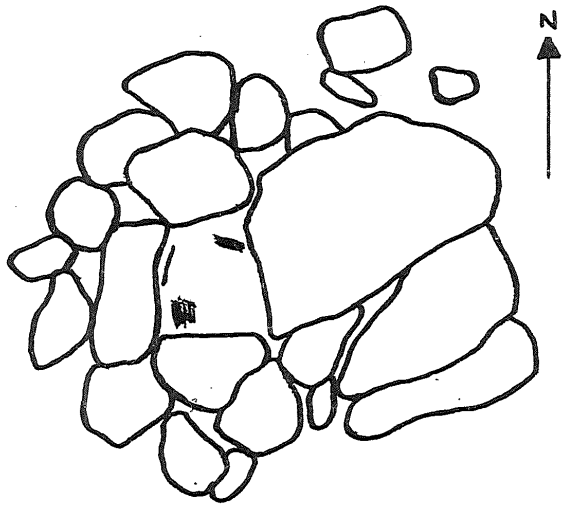
The cairn may have originally been covered over with capping stones which have since fallen off or been removed as a number of large flat stones lay about near the structure.

The interior was filled with the usual large number of small to medium rocks, snail shells and soil. At a depth of 40 cm, located immediately upon the virgin gravel were a few extremely friable bones. These appeared to be the long bones of the arm or leg and a few hand or foot bones. They had been placed against the walls of the chamber to the north and west.

Cairn 1. (Fig. 8). Located a little to the southwest of the previous cairn this was taller than usual, standing more than 1 m above the surrounding surface. It consisted of a ring of a single course of large stones set on end to form a chamber 80 cm in diameter; the depth of the fill inside this was about 80 cm, with the upper 20 cm of the interior free of fill. Around the outside of this ring was piled a rough ring of supporting stones forming a cairn with an overall diameter of about 3 m.

Within the ring was a 45 cm deep fill of the expected stones, shells and soil. Below this, in the southwest part of the chamber, was a pocket of darker soil in which were a few badly decomposed and clearly disarticulated human bones; these consisted of long bones, ribs, and a few other unidentifiable bones of a child. Mingled with the bones were a number of sherds which appeared to belong to the same vessel, or one very similar, as a number of sherds which were found on the surface immediately outside the cairn.

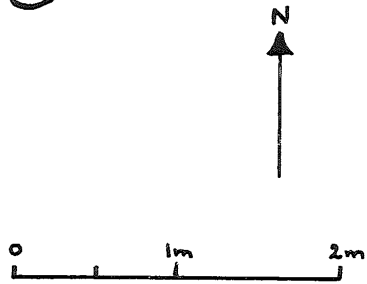
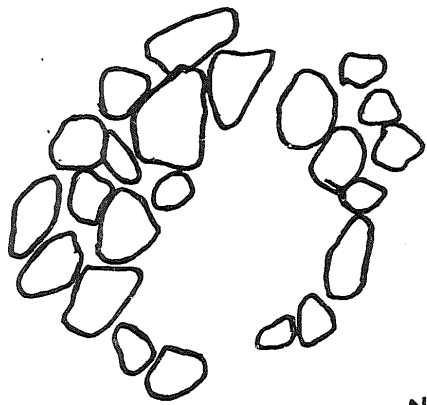
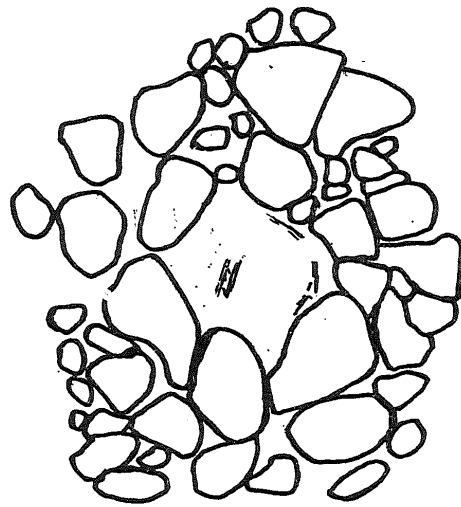
These human remains, and the sherds, were found to be resting on a rough stone pavement. When this was removed, at a depth of 55 cm below the surface level of the fill, were found fragments of another skeleton; this was almost



Above. Figure 7. Cairn #27.

Right. Figure 8. Cairn #1.

Below. Figure 9. Cairn #9.



totally decomposed but some fragments could be recognised as being the remains of long bones. These were spread across the chamber from the east side to the southwest but with no sign of any deliberate arrangement; they rested on the virgin gravel. This cairn would appear to constitute a less elaborate example of the two level burial which has already been described in Cairn # 16.

The occurrence in this cairn of potsherds, representing only a part of the rim and wall of a pithos-like vessel, and of closely related sherds immediately outside it, raises some important problems. The first possibility is that the sherds were a part of the one vessel which was perhaps broken inside the burial chamber during the interment and was largely removed, with only a few pieces escaping attention. It was perhaps the practice that nothing should be buried with dead (but see below, the excavation of G/6.3B). This would explain the presence of sherds of what may have been the same vessel both inside and outside the cairn. On the other hand the sherds may have come from a broken vessel which already lay on the ground in the vicinity when the cairn was constructed, some of them accidentally finding their way into the chamber when the burial was made. If this was the case then the sherds provide a *terminus post quem* for the burial.

Cairn #9. (Fig 9). The excavation of this cairn proved to be a disappointment, despite its impressive appearance. Consisting of a two course inner ring of large boulders, the upper being slightly cantilevered, and surrounded on the outside by numerous smaller stones, the diameter of this cairn was approximately 3.50 m and it stood some 80 cm above the surrounding ground level. However, instead of the usual fill the chamber was found to be

filled by six large boulders, around which were a few smaller stones, snail shells and soil. The density of snail shells was much lower than usual and virgin gravel was encountered without any trace of human remains being encountered at all. It would seem that this cairn was never used for a burial.

Alongside this cairn to the west was the remains of a cairn which had been thoroughly robbed of its larger stones, perhaps for the construction of cairn # 9.

Between the two cairns was what appeared to have been a subsidiary burial. This consisted of two parallel lines of stones standing upright. The area between these was filled with rocks, soil and an enormous quantity of shells. These covered a stone pavement and the entire feature had been erected in a shallow depression in the ground. No bones were found at all here.

The Stone Rings

Located within the cemetery area were two rather curious circular stone structures. These consisted of a roughly circular ring of stones some 25 m in diameter, intersected by two parallel lines of small stones and with a number of stone tumuli along the perimeter of the ring.

The better preserved of the two was in the south-west of the surveyed area and was labelled G/6, following the system devised for area designation during the surface survey. Here it is referred to as *Ring 1*. Burials found within this ring contained the remains of at least five individuals.

Near cairns 12 and 13, in the eastern part of the necropolis, lay Ring 11. This had been severely denuded by erosion, and possible other factors, and was difficult to define. Sufficient remained of this to determine its close similarity to Ring 1.

Ring 1. (Fig.10). This was located on sloping

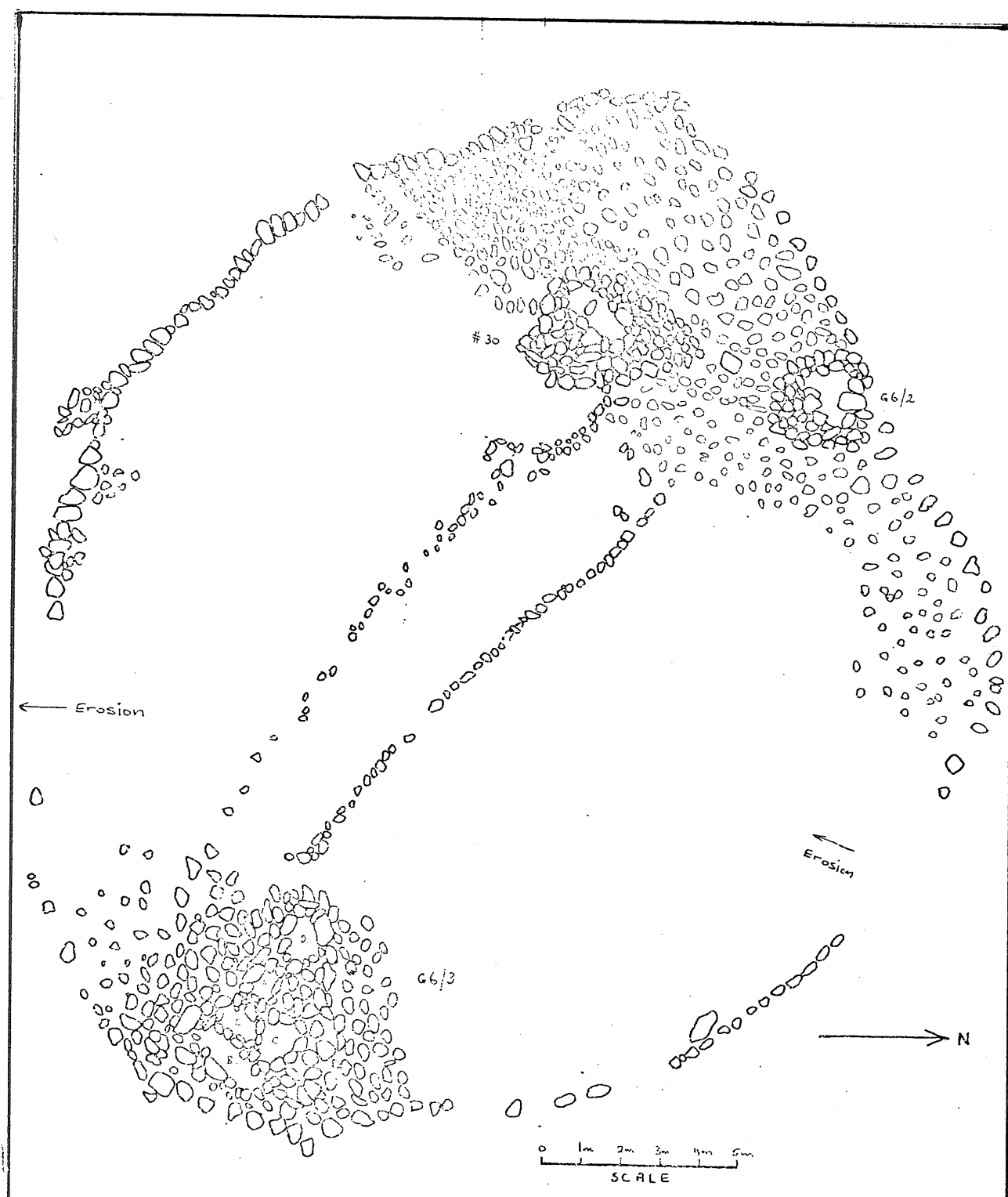


Figure 10. Plan of Ring 1 and Cairn #30.

Fig. 10

ground at the south-western extremity of the necropolis. Although its shape was not exactly circular its diameter was 24.5 m on both the north-south and the east-west axes. The western part was better preserved than the eastern one as the east side had been heavily eroded by wash from the north-east, which ran through the ring and cut the outer wall again to the south.

To the west the ring wall was clearly defined and consisted of a single course of rocks, averaging some 25 by 30 cm, set on edge to form a low fence. To the south-west was a gap in this fence some 1.10 m wide, which may have been some kind of entrance into the ring. To the north-west, within the ring were two cairn-like stone piles surrounded by a rough stone pavement. One of these was numbered Cairn 30 and was excavated as probe G/6.1, while the other was excavated as probe G/6.2.

To the east the ring wall was ill-defined but the line could be determined by the concentration of stones which appeared to mark the old line of the wall. Here the wall may have been partially constructed from a large number of small stones forming a rough fence up to 1 m in width. To the south-east lay a large tumulus which was labelled G/6.3. Two parallel lines of stones of head-size, some 2.50 m apart, connected this tumulus with the stone pavement surrounding Cairn 30 and G/6.2.

In the north-west part of the ring an L-shaped probe trench was opened in an attempt to discover any surfaces which might have survived in relationship to the ring wall, the cross walls, cairn 30 and the stone pavement, to determine whether the cairn could be considered to be contemporary with the rings as a whole, to investigate the cairn itself and to seek evidence as to the nature

of the ring. However, nothing which could be called a surface was discovered and all of the features investigated were found to be resting immediately upon virgin soil. It can only be assumed, from the intergral part which it formed of the rings, that cairn #30 was to be considered as contemporary to it but stratigraphic evidence for this is totally lacking. A few fragments of sherd and flint were found on the surface of this probe.

The cairn proved to be the most interesting feature of this probe. It consisted of the usual inner ring of large stones, forming an ovoid chamber 70 cm in width and 1.80 m in length. A second, outer ring, at a slightly lower level, gave the whole a stepped appearance, while many loose stones with no fixed arrangement were piled around it. The surrounding stone pavement ran right up to the cairn structure. Within the chamber a large upright slab was found to divide it into two sections. This slab measured 15 by 50 cm and stood approximately 40 cm in height. Although much smaller than the monoliths in cairns 12 and 13 its position and alignment suggest some similarity of function.

In the western part of the chamber, at a depth of only 30 cm below the usual fill were found fragmentary remains of an adult. Of these the only recognisable elements were some extremely friable, incomplete ribs, long bones and a tooth. It was not possible to remove any of these intact.

The bones were found to be resting on a stone pavement made from small, irregular-shaped stones, below which was a deposit of dark, ashy soil with a few fragments of charcoal. This lay on the virgin gravel.

In the eastern part of the chamber, at a depth of between 30 and 40 cm, was a disarticulated bone pile consisting of the

bones of an adult and a young child. The bones of the adult were surprisingly well preserved but the bones of the child were in an extreme state of decomposition. The only remains of the child which could be recognised were some skull fragments, against the south-east wall of the chamber, and a few ribs and long bones, mixed with the bones of the adult in the bone pile.

The bones of the adult had been piled together in the centre of the chamber (Pl. XXXIV) and, although mostly disarticulated a number of bones still appeared to be in articulation, namely the hip points and some of the rib-cage. The skull of the adult had been crushed by a rock. It lay to the west of the bone pile, against the upright slab.

The bone pile had been placed on an irregular stone pavement below which the soil showed traces of burning.

Probe G/6.2 involved the clearance of a second, smaller cairn some 5 m to the north-east of cairn 30 and surrounded by the same stone pavement. This cairn stood only 40 cm above the level of the pavement and when cleared was found to contain no human remains, although a few unidentifiable fragments of pottery were discovered.

Probe G/6.3 consisted of five probes (labelled A - E) made into separate chambers which were defined upon clearance of a jumble of surface rocks from the top of the stone tumulus which lay in the south-east part of the ring. This tumulus measured 7 m from north to south and 6.50 m from east to west and stood between 50 and 80 cm above the general ground level. The central part was more clearly defined and higher than the edges.

The fill within the five chambers which were cleared was distinguished from that found in the cairns by the total lack of snail shells, except on the surface. The usual head-sized and smaller rocks were found but these were surrounded by a fine loose soil.

In G/6.3A,C and D no human remains were found but at a depth of between 30 - 35 cm a layer of ashy soil was encountered. This was between 8 - 10 cm in depth and overlaid a layer of fine cream coloured clay some 8 cm thick. This clay formed the "floor" in all of the chambers investigated. In G/6.3E this clay lined a pit some 15 cm in depth and 20 cm in diameter which was filled with ashy material.

In G/6.3E the disarticulated bones of at least one adult were found at a depth of 30 cm. These included ribs, long bones and a lower jaw. These lay on a stone pavement which had been placed directly on the layer of clay.

G/6.3B was a chamber 2 m long and 60 cm wide, in the centre of which, at a depth of only 25 cm, were found the disarticulated bones of another adult. These were very fragmentary and the whole skeleton was not represented, perhaps because of disintegration or possibly because the entire skeleton was not originally interred. Ashy soil surrounded the bones but they showed no sign of having been burnt.

The chamber of B was entirely paved by irregular stones which overlay a 10 cm thick layer of ashy soil mixed with tiny fragments of charcoal. The stones themselves bore no traces of having been burnt. In this ashy soil was found a considerable quantity of sherds, some of which showed unmistakable traces of burning. At least three separate vessels were represented.

Beneath this material was found the cream coloured clay layer. This was traced outwards from the tumulus and was found to thin out and disappear just outside the perimeter of the ring. This clay showed signs of scorching in a number of places and appears to have been deliberately laid and restricted to the area immediately underlying the tumulus.

Ring 2. This was in a very bad state of preservation so that its original line could not be traced exactly; however it was possible to make out the general position of the ring wall from the concentration of stones which seemed to mark its perimeter. The wall was apparently constructed from a large number of small stones which were piled together to form a "fence" some 1 m wide, enclosing a roughly circular area between 25.5 and 26.5 m in diameter. Remnants of two roughly parallel stone lines of a single course could be traced running north-west to south-east and 4 to 5 m apart. These were cut by considerable erosion and could not be connected to any feature of the ring at either end.

On the perimeter of the ring to the north and the south-east remains of two tumuli could be made out. Both were so badly denuded as to be barely distinguishable from the surrounding jumble of rocks. No remains were found in either of them when they were investigated but slight traces of ashy soil could be detected.

A number of badly eroded sherds and a few flint fragments were picked up on the surface of the ground within the ring.

Concerning these rings some further observations can now be made. It is likely that the ring walls were once better defined than they now are. In places where they seemed to have been constructed of a mass of small stones these were probably piled up to

form a definite wall, albeit probably little more than 50 cm in height. It is also possible that some sort of superstructure had been supported by them, possibly of mud or of brushwood, although no traces of such a feature were found. It is also worthy of note that the ground surface within the rings was relatively free of stones and was probably originally completely cleared, thus leaving the interior parallel stone lines clearly delineated.

It is suggested here that the rings were the centres of a burial ritual which took place in this necropolis, not merely in relation to the burials actually located within the ring but also to those surrounding cairns in the vicinity. The close similarity between features found in the cairns to those found in the burials in the ring indicates both a cultural and temporal relationship between them.

The pottery. (Fig. 11).

No complete vessels were found and the majority of sherds were small body sherds. All were hand made and very coarse, with much grit tempering.

N. 1 : A rim sherd of a pithos-type vessel. Ware pinkish-buff with numerous grey grits and pottery fragments. Evenly fired. Hand made. 7 - 11 mm in thickness. Rim is flat and below it is a series of deep finger impressions running around the vessel. Below those is a raised applied clay band which does not appear to have been continuous right around the vessel.

No. 2 : Similar to be the previous, except with rim missing. This is almost certainly from the same vessel.

Nos. 1 and 2 both came from the surface near cairn 1. Inside this cairn were found further pieces of identical ware which seem

to belong to either the same vessel or one very similar to it.

No. 3 : A body sherd with a handle stump preserved and an applied band of finger-moulded clay. Ware is coarse, with grey grits and evenly fired. Colour is purple-grey. This was from the surface of Ring 1.

Within probe G6/3B were found a number of sherds, apparently belonging to at least three vessels. One was a holemouth jar of Neolithic or Chalcolithic type. This was hand made, of coarse brown-yellow clay with many grey grits. The vessel showed signs of burning both inside and out. Other sherds, of an unidentified type of vessel, were yellowish-buff with grey grits. The third vessel, possibly a small jar, was orange-brown colour with large grey grits and some white. The outer surface of the vessel had been covered with a matt brown-red slip surface or paint which did not cover the surface evenly. In colour and texture this slip is reminiscent of that found on vessels of pottery Neolithic B provenance from Jericho. However, insufficient material is available for a proper comparison.

The impression given by this pottery is that it should probably be assigned to the early part of Chalcolithic period, or pre-Ghassulian. It would also appear possible to assign it to Neolithic on the grounds moulding could be Neolithic. A few pieces with similar applied moulding to sherds 1 and 2 come from the Neolithic site of Ghrubba ⁵

However the finger impressed band of sherd 3 recall Ghassulian techniques

and closely resemble similar moulding from el-Adeimeh near Tuleilat Ghassul⁶. The pithos form and the holemouth jar appear more at home in the Chalcolithic but would not be entirely foreign to the Neolithic period.

With the exception of the pithos-like vessel all appear to have been poorly made and none were fired above 500°C, as evidenced by tests carried out by the Department of Physical Chemistry at Melbourne University.

These tests also provided mineralogical analysis for two sherds as following :

Sample 1 (from Cairn 1, the pithos-type vessel) -

Clay minerals (including shale fragments) 70%;

Plagioclase feldspars (from Gabbroic rock) 25%;

Pyroxenes 2 - 3%; Quartz 1 - 2%;

Magnetite 1%.

Sample 2 (from G6/3B) -

Clay minerals 77%; Calcite 20%;

Quartz 2 - 3%.

Other objects.

The beads from Cairn 25 B have already been noted. ⁷ These were of dentalium shells cut into sections and averaging only 3 - 5 mm in diameter. These were of a greenish-white colour and very fragile. They must have been imported to the Bab edh - Dhra' region from the Mediterranean coast.

Also found, on the surface of Rings 1 and 2, were a number of very crudely worked flint flakes with few distinguishing features, which cannot be assigned definitely to a specific period but may be Chalcolithic.

5. J. Mellaart, " The Neolithic Site of Ghrubba", *ADAJ III*, 1956, p. 24 - 33. See sherds 21, 25, 31 and 60.

6. M. Stekelis, *Les Monuments Mégalithiques de*

Palestine, (Archives de l'Institut de Paléontologie Humaine Memoire 15, Paris 1935), Figs. 18 and 19 and Pls. IV and V.

7. See Note 4, above.

Discussion.

At first impression these finds from Bab edh-Dhra' do not parallel finds at any other site but closer examination does reveal similarities to other finds which can be definitely dated to the Chalcolithic period.

Probably to be related to the stone rings is a similar structure near the Chalcolithic necropolis of el-Adeimeh, near Tuleilat Ghassul.⁸ This consists of a roughly circular construction approximately 30 m in diameter. The wall consisted of small stones piled up to 35 cm in height and 1 m in width. In the southeast part of the wall was a possible entrance of about 1 m in width. Around the outside of the ring were a number of roughly triangular projections. Elliott considers that this ring "could well represent the solar disc in architectural form".⁹ Elliott recognises seventeen of those projections but only fourteen could be recognised by this writer. The rings at Bab edh-Dhra' do not have these projection and Elliott's interpretation must remain doubtful. Little trace of any interior walls can be made out in the el-Adeimeh ring. In the opinion of Stekelis this ring may have been a "lieu sacré", possibly used for rites of the dead before burial in the nearby necropolis.

Also of great interest is a roughly ovoid construction at Nahal Mishmar, to the west of the Dead Sea.¹⁰ This consists of a single row of stones forming a rough ring 37 m by 27 m in diameter, with entrances to the west and east. In the southern part an east-west line

of stones cuts off an area of 10 m by 20 m, inside of which is a rectangular structure. A number of short walls and stone rings occur elsewhere inside the ring, while there are three small semi-circular stone walls attached to the outside of the ring, paralleling that outside of Ring 1 to the southwest. This Nahal Mishmar structure is interpreted by the excavator,¹¹ and by Elliott¹², as a sanctuary or cult installation. It should be noted that a number of burials of Chalcolithic date were found near this feature in the adjacent caves and it is possible that it was used in some form of interment ritual.

Parallels to the burials in G6/3 come from the el-Adeimeh necropolis, Tumuli I and II, which are two similar tumuli, of similar dimensions and apparently similar construction. As in G6/3 a number of separate burials of cist type were found in these tumuli, together with hearths or evidence of fires.¹³

Parallels to Cairn 30, which may be interpreted as two cists within a round in el-Adeimeh Tumuli III, IV, VI, and VII - X. Below tumuli III, VII, IX and X were found hearths. The cists within these tumuli were all constructed above ground level and clearly are similar in concept to the cairn burials at Bab edh-Dhra', the inner rings of which form what could be described as megalithic cist chambers. Two cairn type burials of apparently similar nature were found near the el-Adeimeh necropolis.¹⁴ The cist-like "subsidiary burial" found near cairn 9; and similar ones observed near other

8. Stekelis, *op.cit.*, p. 67 - 68.

9. C. Elliott, "The Religious Beliefs of the Ghassulians c. 4000 - 3100 B.C.", *Palastine Exploration Quarterly*, January - June 1977, P. 3 - 25. See P. 19.

10. P. Bar - Adon, *The Cave of the Treasure, The*

finds from the caves in Nahal Mishmar, (Jerusalem, 1971, in Hebrew).

11. *Ibid*, P. 12 - 13.

12. Elliott, *op.cit.*, p. 17.

13. Stekelis, *op.cit.*, p. 40 - 46.

14. *Ibid*, p. 66 - 67.

cairns are probably to be seen as similar to the large number of cists found at the el-Adeimeh necropolis.

The evidence of burning found beneath the burials in G6/3B and E and cairns 25A and 30 may be paralleled by the large number of hearths found at el-Adeimeh, although more definite parallels to the latter site are provided by cairn 25B, which appears to have covered a definite hearth, and by the finds in G6/3A, C and D.

Another feature of the el-Adeimeh tumulis is that generally pottery was not found with the burials but that large number of sherds were found in the fill over and around the cists.¹⁵ In the opinion of Steklis this represented a burial practice in which grave offerings were considered necessary only rarely but rather feasts were held at the funeral, following which the vessels were ritually smashed.¹⁶ At Bab edh-Dhra' large numbers of sherds were not found but the evidence does suggest a similar practice here. Cairn # 1 and G6\3B provide the best comparisons.

At el-Adeimeh a pavement was found only under cist no. 110 while at Bab edh-Dhra this feature was found in Cairn 1, 15, 16, 17, 18, 25A, 30 and the burials of G6/3.

The human skeletal remains from el-Adeimeh, like those from Bab edh-Dhra', were badly preserved and largely fragmentary. Stekelis does not consider the possibility that the burials were disarticulated or incomplete

at the time of interment but claims to have found evidence for burials in a crouched position.¹⁷ He would ascribe the incompleteness of the burials to the nature of the soil but it is interesting to note, nevertheless, the fact that it was the long bones of the arm and leg together with skull fragments, which were found most usually and that in some cases no recognisable human remains were found at all. Elliott considers the el-Adeimeh burials to be secondary in nature.

As noted, all of the burials found at Bab edh-Dhra appear to have been secondary. At Safadi, in the early phase of occupation, which is perhaps close to our finds chronologically, bone bundles with the skull placed on top were found.¹⁸ This compares closely to the lower burial in cairn 16. The placing of standing stones near ossuaries is attested from three sites, Givatayim¹⁹ Benei Beraq²⁰ and Ben Shemen.²¹ In the opinion of Elliott this practice "may indicate the burial of a chief or cult leader, for whom the god's protection in this symbolic form was accorded".²² Despite the obvious differences between these ossuary burials and the cairn burials the practice of placing standing stones in the cairn at Bab edh-Dhra' may represent a similar practice. These stones were found in cairns # 12,13,20 and 30. In the opinion of Stekelis the tumulis burials at el-Adeimeh represent the interment of family heads or of group chiefs, while the many cists represent less exalted persons.²³ From the number of cairns

15. *Ibid*, p. 45.

16. *Ibid*.

17. *Ibid*, p. 65 - 66.

18. Elliott, *op.cit.*, p. 22.

19. V. Sussman and S. Ben-Arieh, "Ancient Burials in Givatayim", *Atiqot* 3, 1966, p. 27 - 39 (in Hebrew).

20. J. Kaplan, "Excavations at Benei Beraq 1951", *Israel Exploration Journal*, 13, 1963, p. 300 - 312. See p. 302.

21. J. Perrot, "Les Ossuaires de Ben Shemen" *Eretz - Israel* VIII, 1967, p. 46 - 49.

22. Elliott, *op.cit.*, p. 23.

23. Stekelis, *op.cit.*, p. 45.

at Bab edh-Dhra and the megalithic nature of them one is tempted to assume a similar interpretation here. However, we have no definite evidence that the cairns do represent the burials only of leaders and one is forced to admit total ignorance in this respect. Also, so little is known of the Chalcolithic material remains in this region that it would be rash to speculate too far at this stage.

What does seem clear is that this excavation has produced evidence for the occupation of the area to the southeast of the Dead Sea in a period considerable before the well known Early Bronze Age culture in this region, probably early in the Chalcolithic period and provides more light on the growing body of evidence for this period in the Palestine area as a whole.

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