

EXCAVATIONS AT DEIR 'ALLA, SEASON 1984

by

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Introduction

The excavations on the main tell of Deir 'Alla (Central Jordan Valley) were carried out from January 29 until May 5 1984, and were a continuation of the small scale activities during the last months of 1982. A relatively long period was devoted to this new season and the team was larger than usual. The excavations were carried out jointly by the Department of Antiquities, Yarmouk University and Leiden University, Holland.

For the aims of the project and for the more recent work done on the site, we refer to the preliminary reports in *ADAJ* XXII (1977/78), pp. 57-80, *ADAJ* XXIII (1979), pp. 41-50, and *ADAJ* XXVII (1983), pp. 577-585.

The aim of this season's fieldwork was to continue the excavations in the area measuring 15 x 30m at the top of the tell, comprising squares B/A, B, C5,6,7,8,9, 10, except for B/C5 (excavated in 1967 and 1976). B/D6 was added this season (see plan drawing, Fig. 1).

The main purpose of digging in this area has been, and still is, to extend the excavations of the settlement of phase M, where plaster inscriptions (Bala'am texts) were found in 1967, in order to gain more information about the character of the settlement. A considerable amount has been accomplished this season. Information about the phasing system may be found in *ADAJ* XXII p. 64. Descriptions of the phases excavated so far may be found in *ADAJ* XXII pp. 71-73, XXIII pp. 42-50, and XXVII pp. 579-585. The section drawing of Fig. 2, along the E-W axis of the excavated area, shows several deposits of the different phases.

Hardly any deposit of phases I-V had been left, and therefore they were not excavated this season. Slightly more deposits of phases V/VI and VI were removed.

Again some more work was done on phases VII and VIII, although most of the digging was done on phase IX.

In the following paragraphs we will add some of the information gained this season to the picture of the phases encountered from top to bottom, from phase I through IX.

Phases I-V

Nothing of the Early Islamic graveyard (phase I) was found this season. Phase II was touched only in the huge pit in square B/A10 (S. part). In this square the bottom of the northern side of the pit was reached at a depth of 3.20m, which is identical with the lower level of the phase IX settlement deposits at this spot. However, the N edge of the pit bottom did not yield any positive information about the use of this rough sided pit. Perhaps it was just made to use the removed soil as fertilizer for the fields in cultivation. The pit was filled in again with a mixture of debris: mudbrick fragments were often found and some specific objects could be isolated (e.g. loomweights), clearly not in their functional context.

No deposits of phases III and IV were excavated, and very little of phase V (ca. 500 B.C.), namely pit B/B9.44, with an isolated loomweight, typical of the phase.

Phase V/VI

This phase covers the accumulating and digging activities after the destruction of the buildings of phase VI, and before the construction of the walls of phase V. The remains of the destroyed buildings of phase VI are rather thin (hardly ever more than 50cms, except in B/C10), which in this case means that quite a bit of erosion had occurred before the site was used again on this spot. This new use is mainly visible as courtyard layers, up to about 50cms thick, in the area excavated (see previous re-

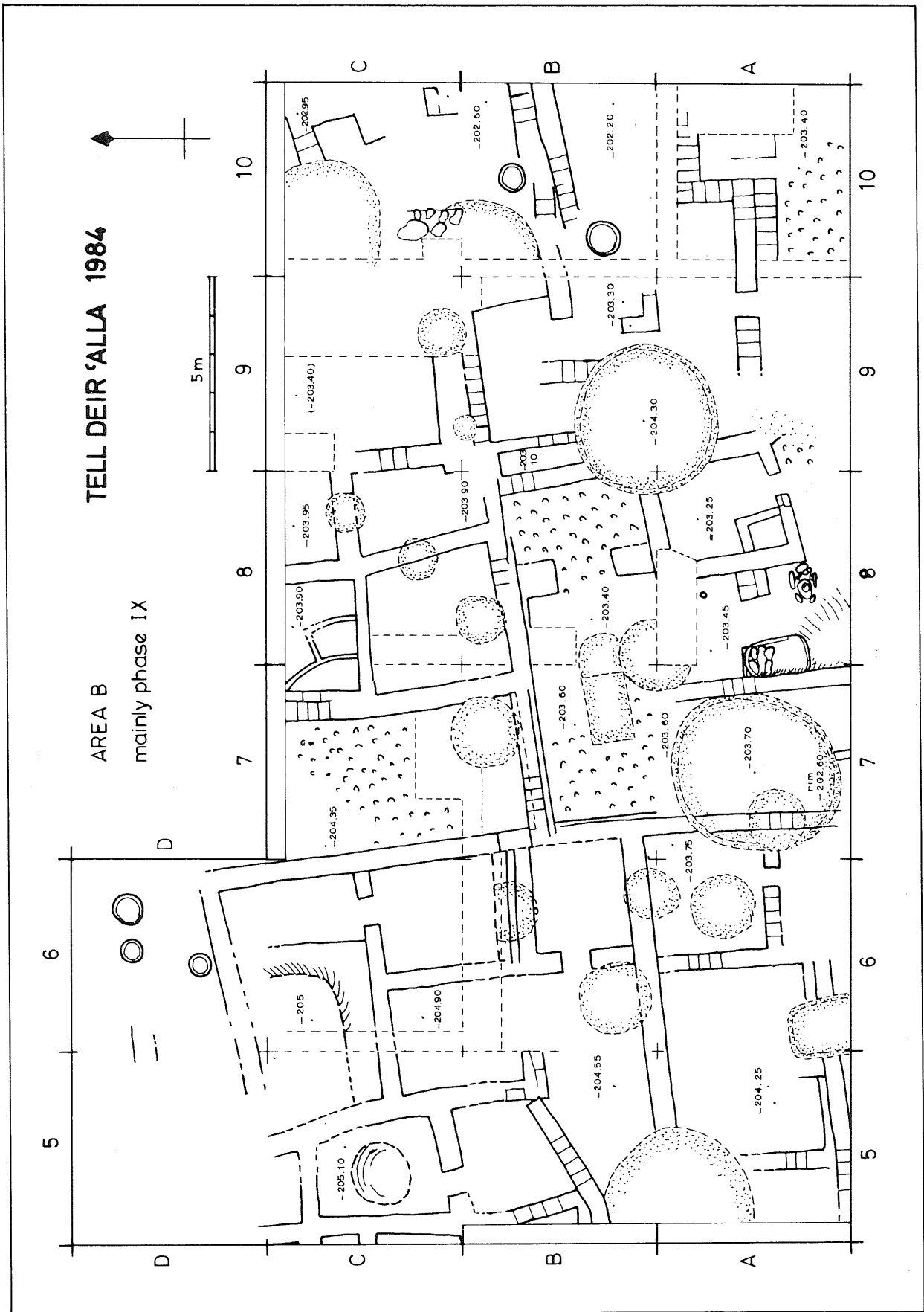


Fig. 1 Plan, mainly Phase IX (M)

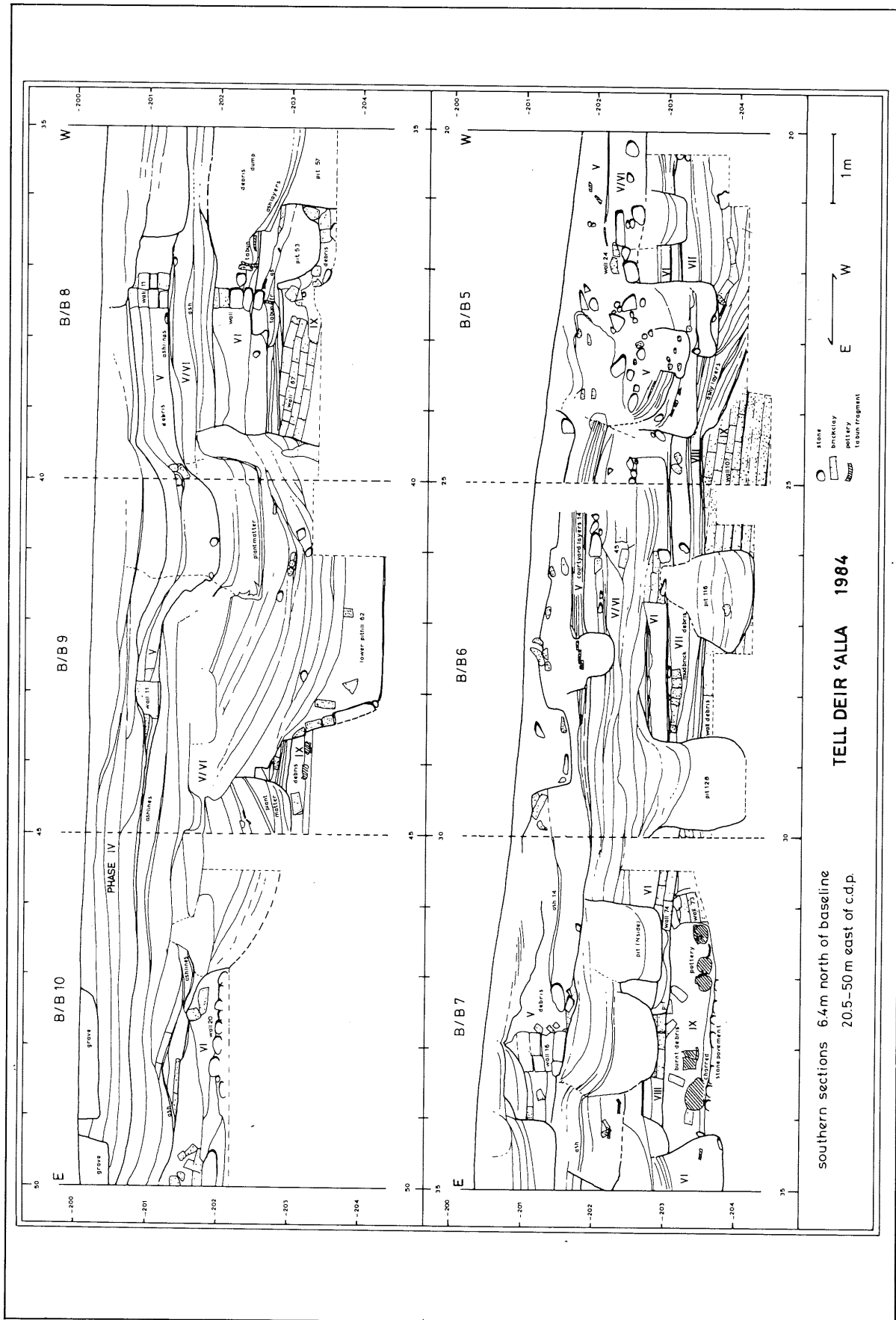


Fig. 2 Section through Phases I-IX

ports). Pits, particularly of the small bell-shaped type, occur especially in the later part of this period (*cf.* the report in *ADAJ* XXVII pp. 579f; these pits are dealt with under phase V).

Most conspicuous are two large circular pits with a diameter of *ca.* 4-5.5 m (from bottom to top) and a depth still left down to about 2m at places (quite a bit of the fill had already been removed in previous seasons, *cf.* e.g. *ADAJ* XXIII p. 46). They were found mainly in squares B/A7 and B/B9, at a distance of *ca.* 5m from each other. The sides of the pits are reinforced, and constructed with a row of vertically standing large unworked stones at the bottom with smaller stones on top (together *ca.* 70cms high). On top of these stones, mudbricks (*ca.* 30×50×12cms) had been put vertically and horizontally on their sides, and several of them have been found collapsed into the lower part of the fill in the pit. The lowest accumulation on the bottom or floor of the pits consists of a thin layer (*ca.* 1cm in the case of B/B9) of mainly whitish plant remains. On top of this, parts of the collapsed mudbrick lining of the pit were deposited, together with some stones and other debris; silt lines, resulting from standing water are clear as well, mixed with all kinds of wash and dump layers. Among the different layers of debris and wash several objects of different stratigraphical origin have been found, such as fragments of animal figurines and loomweights of different shapes. Close to the bottom a small limestone/marble "pedestal" (reg. no. 2899, B/B9.62, see Pl. XIII, 1) and a smashed decanter were found among other objects. The plant material at the bottom may have been the result of abundant plant growth in a pit which would easily retain some extra water after its original function had ceased to exist, or the result of plant storage. There is no clear positive indication of a function for the pits, nor is it clear whether the area was covered.

It is necessary to mention a few other pits; they were probably not contemporaneous with the large ones. These pits were excavated when removing the remains of

the baulks. Some examples with finds worth mentioning are: B/A6.127 with a golden earring (reg. no. 2790, see Pl. XIII, 2; a type from the Persian period); B/A10.22 with a decorated bone pendant (incomplete, reg. no. 2825); B/B5.100; B/B8.47 with a fragment of an iron sickle blade; and B/C10.42 with a possible piece of a house model (reg. no. 2900, see Pl. XIII, 3). The courtyards yielded several objects as well, for example a black scaraboid seal in B/A7.14 (reg. no. 2889), the half-circular bow of a bronze fibula (reg. no. DA'85-55) from B/C9.38, a wash layer from phase VI. This type of fibula (*cf.* Stronach's typology in *Iraq* XXI, pp. 18ff) is rare at Deir 'Alla, though found earlier in phases VI and V/VI. Mention should be made of the exceptionally long example of the "Irano-Scythian" arrowhead found in B/B5.32 (reg. no. 2803).

Phase VI

Plan drawings of phase VI in *ADAJ*, XXII p.72 and XXIII p.47 show the scanty remains of buildings, which have to be dated to around the end of the 8th century B.C. (see *ADAJ* XXVII p. 581). Although some more walls were discovered later on, the plan still has many lacunae due to the removal of large amounts of burnt debris by later inhabitants when digging their pits, as well as by erosion. This season it became clear that, before the construction of the apparently rather massive buildings had started, quite a bit of levelling had occurred especially in the B/A&B7-10 area. Hardly anything of the supposed deposits of phases VII and VIII were left there, as opposed to the area further to the WNW. Some features found this season may now be mentioned. All the walls of this phase have been constructed with a base of unworked stones. It is remarkable that the NS wall in B/C10 had stones at the W outer face of its base only. The E face had mudbricks instead, based on a layer of reed (see Pl. XIV, 2). The use of reed alone as a foundation for mudbrick walls is quite common at Deir 'Alla: it has been recorded in phases V, VIII and IX as well.

Another feature is the 'tawabeen'.

Several had been placed in a pit or depression in the surface. The outside of the baked clay *tabun* had sometimes been covered with a 2 or 3 cm thick layer of mud — apparently with the intention of keeping the heat in. One example shows the use of these ovens for cooking: a cooking pot had fallen into it (B/B8.51, see Pl. XIV, 1). Some of the objects found are: the lower part of a potter's wheel (reg. no. 2907, from B/A6.160, see Pl. XV, 1) which was not complete when found, but it is possible that the wheel-part had been in use during phase VI. Experiments with this type of wheel — mostly made of basalt, but this one is very hard whitish stone — showed the possibility of throwing pottery on it, and in fact phase VI has pottery made in this way. Other objects include several pestles, generally of basalt, but one of sandstone, as well as loomweights and an iron arrowhead.

Phases VII and VIII

At this stage of study it is useful to distinguish phases VII and VIII again (*cf.* *ADAJ* XXVII p. 583). Phase VIII can be described as consisting of the remains of walls in squares B/C6, 7 and 8, and some scattered remains in B/A5, 6 and B/B6, 7; with some roof and wall debris (unburnt) especially in B/C7; some brick-lined pits (e.g. in B/A5, 6), and some courtyard deposits in e.g. B/C8. Phase VII is represented by courtyard deposits and pits only, but in B/A6, in an area of *ca.* 1.5 × 6m, mudbricks measuring *ca.* 50 × 37 × 15cms have been placed almost vertically on their short edge (deposit no. 116), and filled a surface depression together with dumped mudbrick material. The function of these tightly fitting mudbricks is not certain; their tops are shaved off (presumably by erosion) to form a flat surface on which some ashy courtyard materials had accumulated, and on which a wall of phase VI was constructed later on.

The more than 1m thick walls of VIII with their reed foundation had been sited directly on top of the debris of phase IX, but some levelling of the slightly sloping top of the debris and wash layers of IX had

taken place; quite a bit of IX had been removed in B/C7, 8 (see *ADAJ* XXVII p. 583). The courtyard deposits of VIII further E of these walls are at a level higher by more than 50cms; no buildings have been found further E or SE. During the existence of VIII, a large pit of diameter 4-5m was dug further W (half of it was uncovered in squares B/A & B5). It was partly filled with burnt mudbrick material when still hot; probably there was an oven further to the west. Elsewhere some '*ta-wabeen*' are to be connected with phase VII or possibly VIII, e.g. in squares B/B10 and B/A10.

The courtyard and wash layers of VII are on a rather well levelled surface. It is often difficult to distinguish between VIII and VII courtyard deposits. Therefore it is also sometimes difficult to attribute the pits found to one of them. This means some uncertainty concerning the phase attribution of objects found in the courtyard and wash deposits and pits. Some of these finds are: several objects made of iron, such as leaf-shaped arrowheads (e.g. from B/A9.34, a VIII courtyard deposit; also a similar arrowhead in bronze was found in B/B5.112), a small axe (B.A5.207, reg. no. 2830), a chisel (B/C7.40, reg. no. 2815), a knife (in VII courtyard deposits), and the bow of a fibula (in B/A8.56) — the second iron fibula found so far at Deir 'Alla. Also worth mentioning is a black burnished 'dipper juglet' from the brick-lined pit B/A6.133 (reg. no. 2877), and some sherds with a sign incised before firing the pot (one of the two is reg. no. 2792, from B/A7.40; see Pl. XV, 2), found on the surface of VIII. Quite a number of animal bones were lying there too, including the lower jaws of cows. Interesting also is a fragment of a limestone 'cosmetic palette' of a type more often encountered in Palestine/Transjordan (reg. no. 2801, from B/B7.63; see Pl. XV, 3); an almost identical type was found at Tawilan, (reg. no. 488; see fig. 4 in H.O. Thompson, 'Iron Age Cosmetic Palettes', *ADAJ* XVI, 1971, pp. 61-70).

Phase IX

The excavation of phase IX (= Iron

Age phase M of the definitive Deir 'Alla publications) started in the 1960s, especially in 1967. That season an area of about 400 m² of this phase was uncovered to the SE of the step trench excavated by Franken on the N slope of the tell some years earlier (*cf.* the elevation map of the site in *ADAJ XXII*, 1977-78, p. 58). A small part of these excavations (square EE300) has been published in J. Hoftijzer and G. van der Kooij, *Aramaic Texts from Deir 'Alla*, Leiden 1976, in connection with the plaster inscriptions. Some further digging in EE300 (now labelled B/C5) was done in 1976, supplying a clearer picture of the immediate stratigraphic context of this plaster (see *ADAJ XXII* pp. 60-71). In the programme for extending the excavations of this phase further to the SE (at the E top of the tell), small parts were excavated in 1979 (*ADAJ XXIII* pp. 48-50) and 1982 (*ADAJ XXVII* pp. 583f). In 1984 the excavations of phase IX took place on a larger scale, adding another 450 m² to the area excavated. More than 20 'rooms' were discovered and added to those found in 1967 (see plan Fig. 1; Pl. XII shows a vertical photograph of a large part of the area, made near the end of the season by the Yarmouk University photographer Henry Cowherd with his camera attached to the top of a high pole). Some rooms, especially in the E part of the area, have not yet been excavated down to their floors. Less of the accumulated deposits of IX were left than had been expected. Digging activities during later periods (e.g. phase V/VI) had removed some of the IX deposits and levelling for phase VIII, and probably phase VI had also destroyed remains of IX which was built in a slightly terraced way (see the levels of floors indicated in plan Fig. 1). Sometimes nothing or only a few decimeters were left of the walls and debris, but often about half a meter and in the NW part walls more than one meter high were found.

Some aspects of the remains are briefly discussed below.

Architecture

Fig. 1 is a preliminary plan of the ar-

chitectural remains found this season, including those remains partly unearthed in previous seasons. The 1967 excavations lay further to the W/NW; only the remains in square B/C5 excavated at that time are included in this drawing. Pl. XII also shows about half of the digging area. Some of the wall fragments drawn in the E part of the area cannot yet be definitely attributed to phase IX — they may belong to X.

The mudbricks of the walls had been placed directly on the surface; no stone foundation was made, but a layer of reed was used instead (a reed foundation was also used for walls of phases VIII and V and partly VI). The mudbricks used mostly measured 47 x 11 x 35cms, but several walls were made of a slightly larger type; other slight differences do occur as well. Almost all the walls were only as thick as the length of a brick, some even as thin as a brick's width. The material used for most of the bricks came from the banded clay beds of the low natural hills nearby, but often different clay/mud was used for bricks employed in one wall (e.g. the EW wall B/B6.127 had three layers of grey and three of ochre coloured bricks; *cf.* also *ADAJ XXII* p. 65). Stones and bricks were only used for square platform-like structures made at some walls, facing each other (e.g. in squares B/A & B8). The function of these structures is not known but in one case a basin-like construction was made on top of the structure (see below). Most of the rooms/spaces enclosed by walls measure *ca.* 3 x 3.5m, but some are up to 10m in length. Half of them had a solid roof (roof debris found on the floor), but at least two of the other spaces had been covered by reed matting (in squares B/C6 and B/C7). The connections between the walls dividing spaces are not always clear, because doorways have not always been recognisably preserved, perhaps because of the low level of the wall stumps left. In any case courtyards or alleys between the "house complexes" form a small part of the plan (in squares B/D6 and possibly B/C7) in the area excavated. Several rooms, roofed and unroofed, have floors paved with unworked small boulders

(ca. 25cms diameter), with whitish clay plaster filling the holes in between. The small space, originally covered with reed matting, which gave access to the plastered wall with the Bala'am inscriptions (squares B/C5 & 6, cf. *ADAJ* XXII pp. 65f and *ADAJ* XXIII pp. 48f), had a 'bench' on the S and E sides, and maybe on the N side as well, with a shallow depression sloping towards the plastered wall in between; (see Pl. XVI, 2 which shows the remains of the mat as fallen on this 'floor'). At five other spots the same type of ca. 7mm thick lime plaster has been found, embedded in wall debris, nowhere still attached to a wall fragment (the rooms are in squares B/A5, B/A8 - each side of the NS wall -, B/C6 and B/C7, also covered with reed). In each case the amount of plaster exposed covers a surface of about 1/2 m², but in several rooms much of the original plaster may have been burnt. None of the plaster fragments had any writing or drawing visible on the surface. If this was the original case it also has to be concluded that the smooth plaster, including that with the inscriptions, had not been applied with the specific purpose of being inscribed. Several of the rooms have very thin (ca. 15cms) clay plastered brick walls, dividing the room into different compartments (very clear in B/C8), apparently for storage purposes.

The walls of the rooms were not very solidly constructed. Right angles between connected walls were not employed very often. On the other hand, the finishing off of several of the walls and floors has been done with special care. Several of the walls show repair or even rebuilding, and roof collapse during the use of the rooms, giving a new, higher floor, has been noticed at places as well.

The final destruction of the complete building complex occurred suddenly, and was, according to data found in 1967 (long EW cracks stopping at the lower edge of the debris of phase IX), caused by earthquakes. In most places fire had broken out as well, causing severe burning of the roofs and wall faces, as well as of the contents of the rooms concerned.

The Installations

The 'tawabeen' in B/D6 are to be connected with phase IX, but most of their stratigraphical context had already been excavated in 1967. The size of two of these ovens is exceptionally small (the diameters at their base are ca. 40, 50, as opposed to 75cms for the third one).

Most conspicuous are two installations uncovered in the W room in square B/A8. One is a kind of basin constructed against the W wall, partly on the floor and partly on one of the low platforms mentioned above. It had been made *in situ* from the broken body section of a large jar, the rather low sides being constructed of straw-mixed 'clay' (now fired, size about 90 x 130cms; see Pl. XVII, 2). A small juglet (reg. no. 2867) was found at its base, but this does not explain its function; some store jars were found standing by the basin, and many loomweights and a lot of carbonised plant material (including wheat) were found in a slight depression in the floor to the S of it. At the opposite wall the other installation was set partly in the floor: a large stone, with a hole for grinding in its rather flat top surface (see Pl. XVII, 1). To the E some more stones had been laid to extend the flat surface, which was surrounded by a row of small flat vertically standing stones, so as to separate it from the surroundings (this complex measures ca. 95 x 70cms). A jug, a store jar and two craters were standing very close to it. The burnt wheat found nearby suggests a mortar for pounding wheat, but any other kind of material could have been ground in this installation.

A large amount of charred wood was found on the plastered stone floor of E room in square B/B8 (for part of it see Pl. XVI, 2). The amount represents more wood than could come from a roof, and suggests some kind of furniture or installation there. Although some joints of beams now visible are certainly original, it is not yet certain what the original constructions looked like. The wood remains are being analysed, and two of the groups of beams have been preserved by glueing the soil with the charcoal on cloth.

The Objects

A large number of moveable artefacts have been found, especially pottery and loomweights, as well as stone objects, and small artefacts of metal and bone. Some of these objects are mentioned below, without discussing their relations inside rooms for this report.

Complete *pottery*, though often broken by the destruction of the buildings, was found in almost all of the rooms. High concentrations are found in the S room of square B/B5, the SE room of B/C6, the NW room in B/C8, the NE room in B/A6, the S part of the room in B/B8 and the W and S parts of the rooms in B/A8; smaller groups were found elsewhere. A small selection of pottery shapes is shown in Figs. 3 & 4. None of the different collections of pottery mentioned had one type of pot only (e.g. store jars). All of the larger groups had (storage) jars, as well as jugs; several had one or two cooking pots (B/C6, B/C7, B/B5, B/A6). Others had numbers of craters (B/A6 and B/B7 — see Pl. XVIII, 1 in particular). Bowls occurred in the B/A8 and B/C8 groups (in B/A6 and B/B7 the "strainer" type on three legs). Plates were also rare (B/C6, B/B8, with little other pottery, and B/A8) and only one lamp was found (B/C8). Many of the type shapes of the pottery can be found W of the Jordan as well, dating from the Iron Age II (especially B) period.

Loomweights have been found in five large groups (about 30 weights each, sometimes more) and several smaller ones. The large groups were found in rooms in B/C6 (SE), B/C8 (NW), B/A6 (NE), B/A8 (SW corner and SE part), often among pottery and carbonised plant material. Most of these weights had been fired during the destruction, but some are still unfired. The groups show quite a variation in shape. For example, the group from B/C8 (already illustrated in *ADAJ* XXVII, Pl. CXXXII, 2) has seven types, six of which are circular with a hole perpendicular to the circle, and one is conical in shape, with a somewhat rounded base and a horizontal hole (this type occurs once or twice in the larger groups). It is interesting to note that more

or less the same set of shape types has been recorded from Tell Qasile (see B. Maisler, *IEJ* I, 1950, Pl. 39B). This season again several of the loomweights (mainly those from B/C6 and B/C8) were found with pieces of string/thread still in the holes. This material has to be further analysed, but their existence makes it most probable that the weights will indeed have to be connected with weaving or making mats.

Different sorts of objects made of *stone* have been found on the floors and in the debris of this phase. Examples are grinding stones, found in a position that indicates their use during phase IX. The few lower grinding stones found were made of sandstone or basalt, and almost all the upper ones were made of sandstone. They were found in different rooms: several in B/C6 (different spots), B/C7 (N part), B/B5 (SE part), and B/A8 in different places. Also quite a number of pestles (see Pl. XIX, 2) were uncovered, mainly made of basalt, but some are hardly worked pebbles. Some of the pestles were found on floors in B/A8 (NE room) and B/B5 (SE room). Several pebbles have been found with a high polish on several sides, and sometimes with other types of wearing. Their precise use is uncertain, but they too were found on the floors of the rooms in e.g. B/A8 and B/B5. Several other types of objects made of stone have been found, e.g. alabaster spindle-whorls in the E room in B/B5. There were some rather small fragments of basalt bowls (mortars) as well, which were most probably no longer in use at the end of phase IX. However, one basalt bowl on three interconnected high feet was incomplete, but still in use: the object was found in a working area of the W room in B/A8, and extra traces of wearing are visible at the centre of what was left of the bowl's bottom. The shape of the bowl (Pl. XIX, 1) is close to that of the type illustrated by Buchholz in Fig. 20d in his "Steinerne Dreifussschalen des ägäischen Kulturkreises und ihre Beziehungen zum Osten" in *Jahrbuch des Deutschen Archäologische Instituts* 78, 1963, pp. 1-77.

Almost all the *metal* objects found are

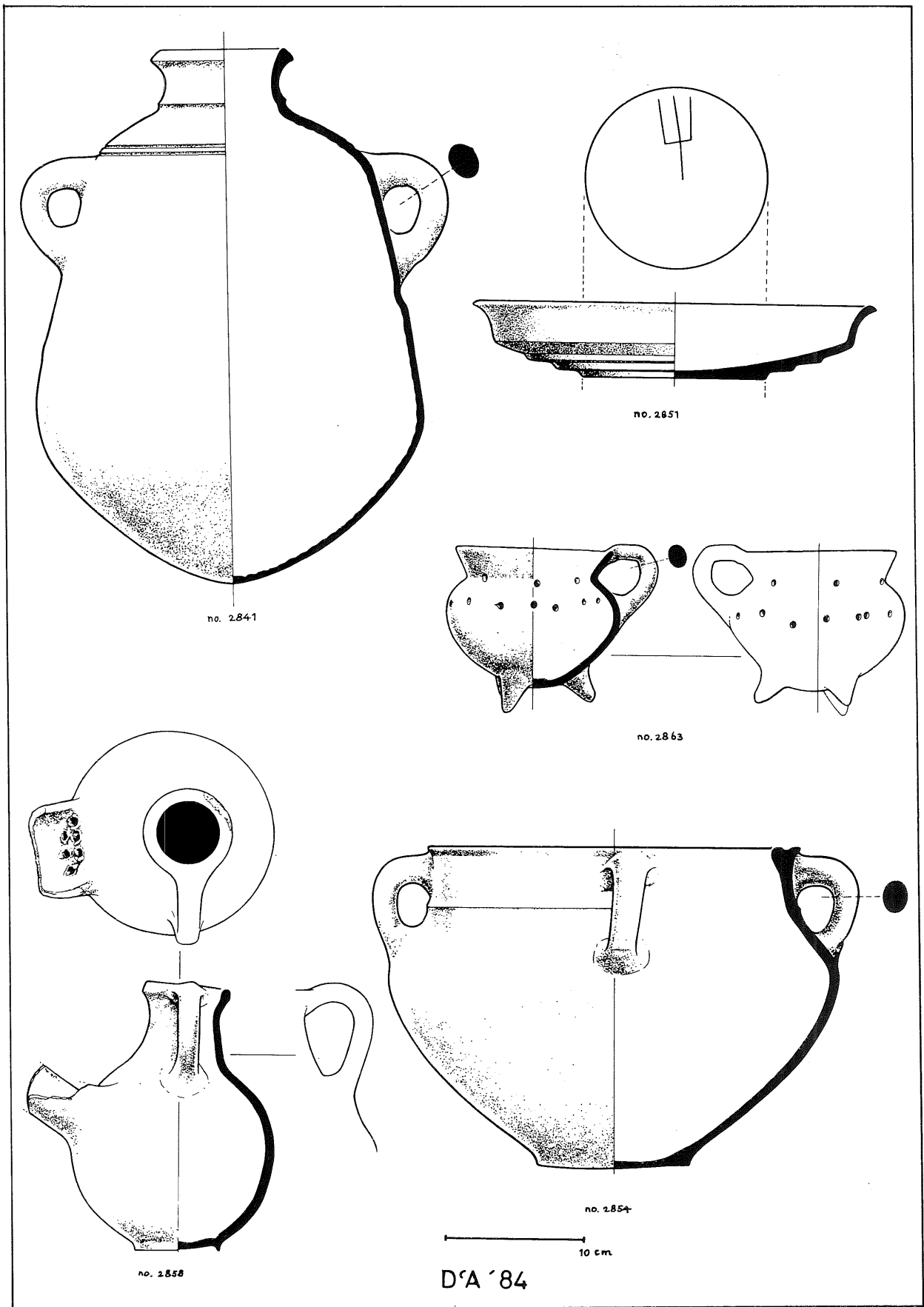


Fig. 3 Pottery from Phase IX (a) (drawings Hugo de Reede)

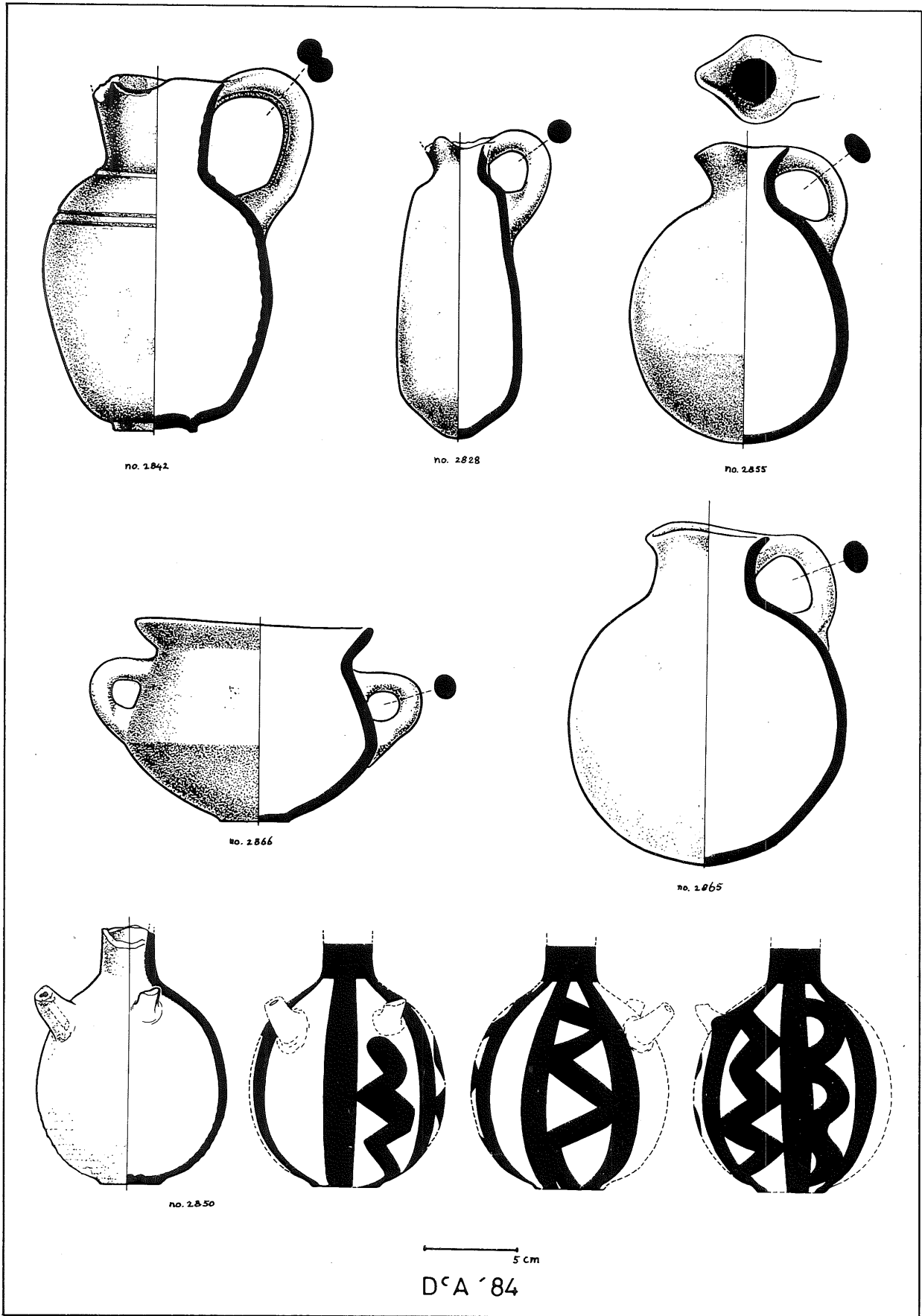


Fig. 4 Pottery from Phase IX (b) (drawings Hugo de Reede)

made of iron. They include seven leaf-shaped arrowheads, four of which were found in the W and NE rooms in B/A8. Several objects of *bone* are preserved rather well. This season again some examples of the flat oblong pointed and polished bone tool were found (see Pl. XIX, 3), some are fragmentary, but the others were apparently ready for use. Of the objects rarely found earlier are small tubes made of bone; three single tubes were found (Pl. XX, 1 shows one of them), plus one double tube (perhaps made of ivory), with incised decoration and filled with black material. This double tube, stored in a jug found in the S end of the room in B/B7 (see Pl. XX, 2), is clearly a *kohl* tube like those found elsewhere in Palestine, (though rarely, see examples in E. Stern, *Material Culture of the Land of the Bible in the Persian Period 538-332 BC*, 1982, p. 269 note 18). *Kohl* tubes are quite common in Egypt throughout a long period (communication G. van den Boorn, Leiden). Also the discovery of small bone or ivory panels (Pl. XX, 3) found on the stone-paved floor in B/B7 is quite exceptional. The surface of the panels was decorated densely with small drilled holes, each surrounded by two small concentric circles.

Two other artefacts, of Egyptian origin, are: a small game piece, perhaps made of *faience*, but painted white (reg. no. 2794), and a *faience* wadjet eye (reg. no. 2890). Both were found in mixed debris, so perhaps have to be taken as isolated objects not specifically connected with the culture of phase IX.

Apart from the artefacts a large amount of *biological remains* have been found. This includes small animal bones, e.g. from the floor of the room in B/C7, and a burnt but complete large antler of the Mesopotamian Fallow Deer, placed against the W wall of the NE room in B/A8 (Pl. XXI, 1). In 1979 and 1982 two other antlers of the same type were found in the SE room in B/C6 and the E room in B/B6. The use of the antlers in this context is still obscure, and the study of the animal bones has not yet proceeded far enough to know if more remains of this animal have been

found.

Large quantities of carbonised plant material have been found on room floors, inside jars and jugs and in debris and wash layers. The botanists Mr. R. Neef and Professor W. van Zeist were able to give some preliminary results of their studies. A large variety of seeds was found, for example those of flax (apparently for the production of linseed oil), barley, wheat, lentils, bitter vetch and olives. Grapes were found together with cummin in a jug with a sieved mouth in the S B/B7 room. (For previous results of the study of botanical material, see W. van Zeist and J.A.H. Heeres, *Paleobotanical studies of Deir 'Allā, Jordan*, in *Paléorient* 1, 1973, pp. 21-37).

Conclusions concerning Phase IX

Quite a lot of information about the culture of phase IX (M) has been found. A careful study of the remains has to follow. At this early stage of investigation it is difficult to get a clear picture, yet the following may be tentatively said.

The group of rooms/houses do not show a purely domestic function. The deducible number of weaving installations makes this improbable, as does the number and variety of pots in so many of the rooms. A combination of trade and living quarters is conceivable. No clear indication of a sanctuary or religious connotation is found, although the religious plaster texts found in 1967 may suggest this (no further inscriptions have been found this season), and although the "bench" room with this inscription at one end, could be interpreted as such. On the other hand, it is still possible that the quarters excavated so far belonged to a central sanctuary complex, with the deduced trading activities being part of it. However, it is also possible that the quarters belonged to a village or small town community (city walls have not been found, but it is sure that the edges of the settlement have been eroded away).

The people living and working in the rooms had rather poorly built, though well finished, brick houses. On the other hand, their pottery and other objects show some

very special items. As far as cultural relations are concerned, it is clear that many of the artefacts are rather widely spread, though sometimes rare, in the S Levant during parts of Iron Age II.

A date for the destruction of phase IX is indicated by C¹⁴ analyses of carbonised seed and leaf material from the burnt debris: sample GrN 5633 gave 2690 +/- 60 BP and GrN 8119 gave 2590 +/- 70 BP, both when calibrated indicate a date of 770-880 B.C. This information has been published before, but it should be added here that this rough date has been statistically corroborated by C¹⁴ datings of older (phase L) and later (phase VI) deposits. Additional C¹⁴ tests will be made.

Concluding Remarks.

1. Some interesting objects found during surface cleaning and on the top of the tell, should be mentioned here:
 - an incomplete painted figurine carrying an unidentified object in front of her breasts (reg. no. 2791, from B/C10, post phase VII; see Pl. XXI, 2);
 - two Egyptian scarab seals, one painted dark red in the lower relief surfaces, bearing the name of Thotmes III (reg. no. 2810), and the other with a green colour in the lower surfaces and lines (reg. no. 2894). Pl. XXI,3 shows both of them.
2. The excavation of phase IX in the area under exploration is not yet finished, especially in the E part. This work has to be done next season, which is planned to be during the first three months of 1987. Apart from that, it is necessary in order to understand the architecture of IX, to somewhat extend the digging area. In addition, to get more information about phases VIII, VI and V, it seems that the best results should be obtained by continuing the dig towards the N slope (in this way the unexcavated parts would be less vulnerable to eroding forces as well), and further W of B/A & B5. It also seems worthwhile to continue ex-

cavating the trial trench in area D, to the S of the highest excavations (see *ADAJ* XXII p. 72, excavated in 1978, and meant for the exploration of phase M).

3. All the biological material isolated has been shipped to the Biological-Archaeological Institute of the University of Groningen. Previously found biological samples are being studied there as well. The flora remains are being studied by Prof. van Zeist and Mr. Neef; the fauna remains by Dr. Clason and Mr. Buitenhuis. The metal artefacts and metal samples found are, as before, to be analysed and conserved by Mr. Mosk, Mr. Mol and Mr. Stambolov of the Central Laboratory for Objects of Science and Art in Amsterdam. The very fragile *kohl* tube will be conserved there too.
4. The registered objects from the Deir 'Alla excavations, stored in the Archaeological Museum in Amman (not those exhibited there or in es-Salt), were transported to the Deir 'Alla Station for Archaeological Studies (*cf. ADAJ* XXVII p. 577). From these objects a small exhibition on the history and excavations of Deir 'Alla has been provisionally set up. Eventually this will become a site exhibition including archaeological as well as geographical and biological information in order to bring the archaeological results to the attention not only of colleagues but also of students and other interested visitors.

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The team consisted of Jordanian and Dutch members, connected with the Department of Antiquities, Yarmouk University and Leiden University respectively. The directors were Dr. Moawiyah M. Ibrahim and Dr. Gerrit van der Kooij. Field supervisors were: Dr. Guido van den Boorn (*LU*, sq. B/B5), Miss Margaretha Folmer (*LU*, sq. B/A6), Mr. Fuad Moh. Ilhorani (*DAJ*, assistant, sq. B/C10), Mr. Emsatif Suleiman Emsatif (*DAJ*, sqs B/A7 & B/B7), Mr. Moḥammed Jamra (*DAJ/YU*, sqs B/B9 & 10), Dr. Zeidan Kafafi (*YU*, sqs B/C8, 9 & 10), Mr. Nabil el-Qadi (*YU*, B/A8 & B/B8), Mr. Ali Nazmi Saidi (*DAJ*, B/A9 & 10), Dr. Margreet L. Steiner (*LU*, B/C6, 7 & B/D6), Miss Monique Vilders (*LU*, sqs B/A5 & B/B6). Three other members were part-time field assistants: Mr. Moḥammed 'Abdel-Raḥman Othman, Fuad 'Abdel-Raḥim 'Awad and 'Abdel-Karim Ghassab (all *DAJ*). Other staff members of the team were Mrs. M. Louise Dumas for housekeeping and the administration of finds, Mr. Hubert de Haas (photography), Mr. Hugo de Reede (draughtsman) — all from Holland —, and Mr. Fayez Ṭarawneh (*YU*) for surveying and restoration. The botanists Mr. Reinder

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