

CHALCOLITHIC BURIAL SITES AT MA'ABAROT AND TEL IFSHAR

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Several burials attributed to the Chalcolithic period¹ have been excavated along the Sharon plain (central coastal plain of Israel) since 1934 (Sukenik 1937). Most were located on the easternmost *kurkar* (local sandstone) ridge, next to the alluvial floodplains of Nahal Yarqon (Ory 1946; Perrot 1961; Kaplan 1963; Sussman and Ben-Arieh 1966), Nahal Alexander (Paley and Porath 1979; Porath 1982; Porath, Dar and Applebaum 1985:85–92) and Nahal Hadera (Sukenik 1937). The two burial sites described here at Ma'abarot and Tel Ifshar, respectively south and north of Nahal Alexander, provide additional examples.

THE BURIAL CAVE AT MA'ABAROT²

The cave is located on the northern slope of a *kurkar* hill (map ref. NIG 19020/69665, OIG 14020/19665; Fig. 1; Plan 1), facing the breach of Nahal Alexander through the eastern *kurkar* ridge.

The cave (c. 4 × 8 m; Plan 1; Figs. 2–5) was quarried into a relatively brittle bed of *kurkar* situated between two harder ones, probably as an extension of a natural cavity, and is kidney shaped. An unworked block, protruding from the rear wall to the center of the cave, had been left to support the roof, thus subdividing the cave into eastern and western compartments. The floor was adjusted to the lower, harder bed, descending northward toward the entrance, which was destroyed during modern road development works. The cave's roof collapsed in antiquity, most probably in the Chalcolithic period, covering its contents. Drifted soil accumulated over the collapsed *kurkar*;

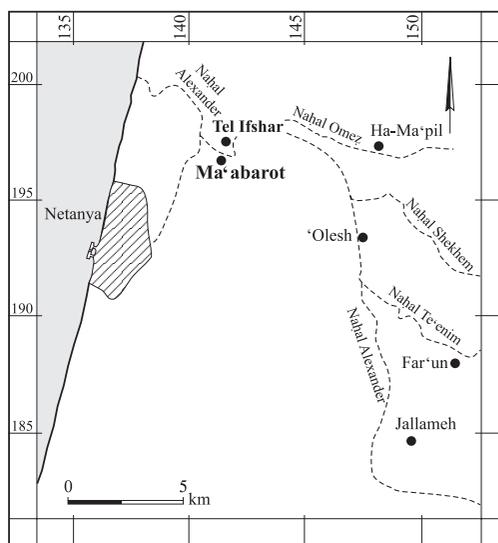
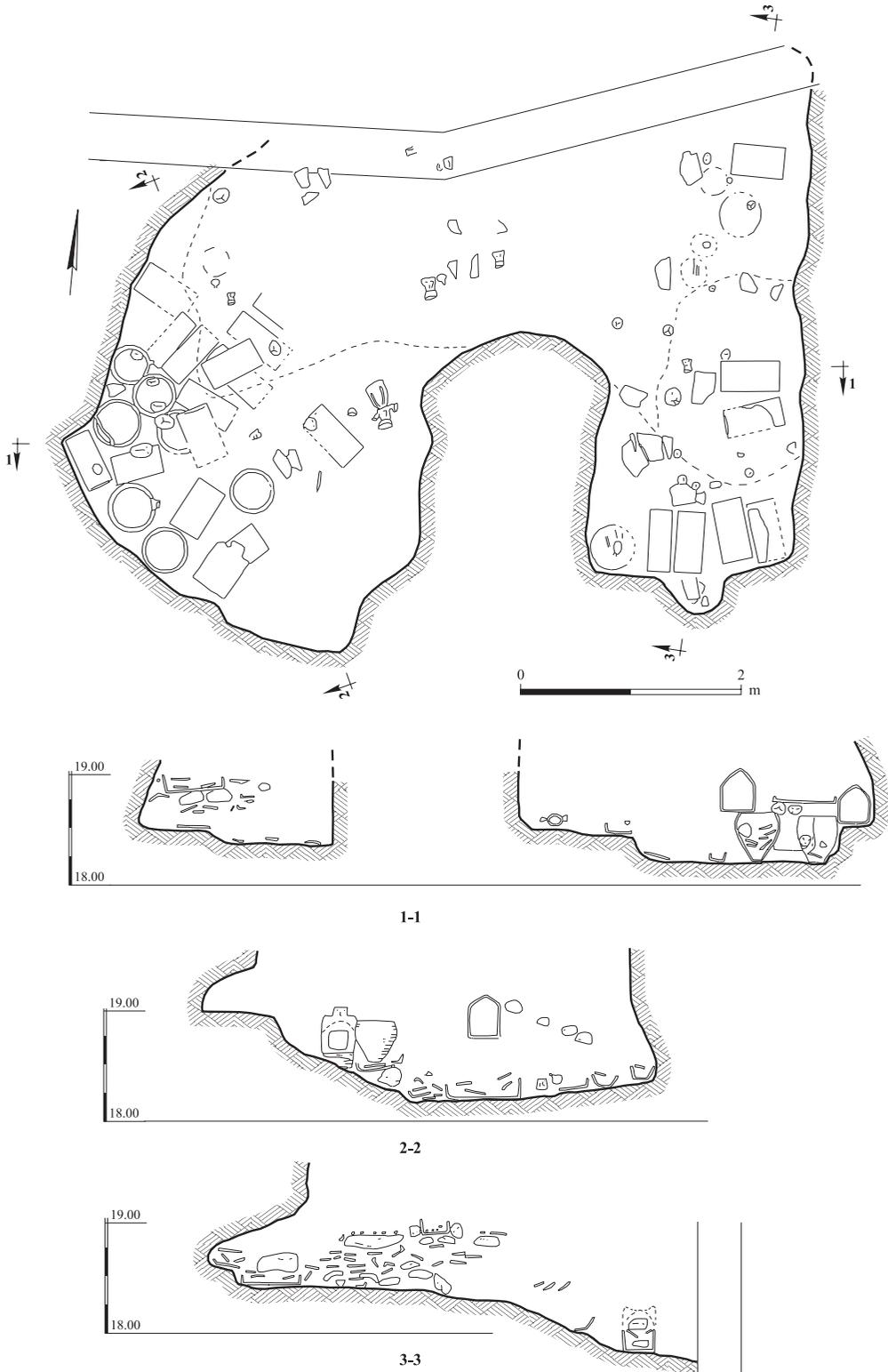


Fig. 1. Location map of Ma'abarot, Tel Ifshar and other Chalcolithic sites in the vicinity.

the cave was undisturbed until the modern excavations (Fig. 4). Two phases of use—both of the Chalcolithic period—were noted in the cave, separated by a 0.1–0.4 m thick layer of blocks and brittle *kurkar*; apparently the roof collapsed partially during the period of use. The location and distribution of the artifacts below and above the collapsed layer in the eastern compartment reflect an attempt to clear the collapse from the northern part, to push the artifacts to its rear section, and to use the rearranged compartment for new burials. The collapse in the western compartment was left untouched, and only a reduced area at its front had been reused for burials over the collapsed material (Fig. 3). A final collapse subsequently took place, protecting the artifacts *in situ*.³



Plan 1. Plan and sections of the Ma'abarot cave and its artifacts.



Fig. 2. Ma'abarot cave, a group of ossuaries on the western side of the western compartment (early phase), looking west.



Fig. 3. Ma'abarot cave, a house-shaped ossuary and two krater ossuaries.

The Burials

All the burials in the cave were secondary. The skeletal remains were placed in ceramic vessels of the three categories classified by Perrot and Ladiray (1980:28–39; and see below): house-shaped ossuaries, chest-shaped ossuaries and large domestic kraters (either plain or especially modeled)—or collected in ‘bone heaps,’ i.e., an accumulation of human bones, usually the long bones, crowned by a skull. It seems that the ‘bone heaps’ were originally arranged in an organic container, later decomposed, of a function similar to that of the ossuaries, thus providing a fourth category to the above-



Fig. 4. Ma'abarot cave, chest-shaped ossuary (No. 792-424) surrounded by ‘bone heaps’ in the eastern compartment (late phase).



Fig. 5. Ma'abarot cave, chest-shaped ossuary (No. 792-424) surrounded by ‘bone heaps’ in the eastern compartment (late phase), looking east.

mentioned classification. Of the 63 burials identified, 42 were in ceramic ossuaries and 21 in ‘bone heaps’. Each of the ossuaries and the ‘bone heaps’ contained the remains of at least one skeleton, but no more than two. The ‘bone heap’ burial was the prevailing type in the later phase (Figs. 4, 5), while ceramic ossuaries

were the most common in the earlier phase. It seems that the increasing number of 'bone heap' burials reflected a change in the burial tradition. A similar phenomenon, though less pronounced, was also noticed at Azor (Perrot 1961: Pl. II:5).

Based on the postcranial and dental remains of 58 of the individuals that were identified, males predominate (See n. 6 below; and cf. Agelarakis et al. 1998 for full details).

The Finds

The finds consisted of pottery vessels, ceramic ossuaries of various shapes and sizes and a flake from a flint digging tool.

The Pottery Vessels

The general pottery repertoire uncovered in the cave is composed of typical Chalcolithic shapes, although limited in variety and fabric. It consists primarily of V-shaped bowls, fenestrated bowls and bottles. The miniature amphoriskos, the vase and the 'composed fenestrated bowl' are exceptions. It should be mentioned that two very characteristic vessels of the Chalcolithic repertoire—the cornet and the churn—are absent from the Ma'abarot cave.

The V-shaped bowls were made of well-levigated clay, with sandy grits, and were well fired. The other vessels included many grits ranging in size from less than 1 mm to 3 mm; their firing produced a much softer pottery and many were uncovered in a crumbling state.

V-Shaped Bowls (Fig. 6:1–10).— This is the most popular form of vessel uncovered in the cave. More than 25 bowls were found, most of them very small (max. rim diam. 15 cm) and crudely produced (Fig. 6:1–9); only a few are small (rim diam. 15–25 cm) or medium-sized (rim diam. 25–40 cm; Fig. 6:10). The bases are flat, the body is flared and the rim is sharp or rounded. The body inclination varies from straight to slightly concave on one hand and to slightly convex on the other. Several are decorated with a red-painted band on the rim.

Such bowls were found at Chalcolithic sites all over the country (such as Ḥadera—Suknik 1937: Fig. 6:a–c; Bene Beraq—Ory 1946: Fig. 2:3, 4 and Kaplan 1963: Fig. 9:11–13; Meşer—Dothan 1959b:21, Fig. 5:1; Naḥal Qana cave—Gopher and Tsuk 1996: Fig. 4.1; Kissufim Road—Goren and Fabian 2002: Fig. 4.1:1–7; Be'er Sheva'—Dothan 1959a: Figs. 7:1–3, 12:7–22; Perrot 1955: Fig. 16:10; de Contenson 1956: Fig. 6:7, 8; Naḥal Mishmar—Bar-Adon 1980: Nos. 25–38; Faşa'el—Porath 1985: Fig. 3:1–3).

Fenestrated Bowls (Fig. 6:11–13).— Some fragments of fenestrated bowls were uncovered in the cave. This vessel is relatively rare at Ma'abarot, compared to its high frequency at other Chalcolithic burial caves excavated along the coastal plain (Ḥadera—Suknik 1937: Fig. 7; Bene Beraq—Kaplan 1963: Fig. 9:10; Azor—Perrot 1961: Fig. 38; Palmahim—

Fig. 6 ▶

No.	vessel	Reg. No.
1	V-shaped bowl	792-33
2	V-shaped bowl	792-513
3	V-shaped bowl	792-237
4	V-shaped bowl	792-236
5	V-shaped bowl	792-17
6	V-shaped bowl	792-222
7	V-shaped bowl	792-71
8	V-shaped bowl	792-517
9	V-shaped bowl	792-213
10	V-shaped bowl	792-5
11	Fenestrated bowl	792-442
12	Fenestrated bowl	792-33
13	Fenestrated bowl	792-60
14	Composed fenestrated bowl	792-221
15	Bottle	792-514
16	Bottle	792-2
17	Bottle	792-235
18	Bottle	792-235
19	Amphoriskos	792-61
20	Miniature vase	792-267

Gophna and Lifshitz 1980:4); in Upper Galilee (Peqi'in—Gal, Smithline and Shalem 1997: Fig. 6); in the Be'er Sheva' sites (de Contenson 1956: Fig. 10:7, 8); and the Judean Desert ('En Gedi—Ussishkin 1980: Fig. 7:1–9).

Composed Fenestrated Bowl (Fig. 6:14; see also English Cover).— This is a unique vessel composed of three parts: the typical V-shaped bowl topping a high cylindrical base with two rows of openings (three in each row) resembling a double, fenestrated trumpet base, and three very small V-shaped bowls added at the junction

between the two sections of the base. It is the single complete published example to date; fragments of a similar one were uncovered at Azor (Perrot and Ladiray 1980: Fig. 70:14).

Bottles (Fig. 6:15–18).— Although represented at Ma'abarot cave, this type is not very common in the pottery repertoire of Chalcolithic burials. Most of the bottles were crudely manufactured and lack decoration. Bottle 6:15 was decorated with red horizontal bands on the upper neck (the rim proper was not preserved) and on the body. Two similar bottles were unearthed at

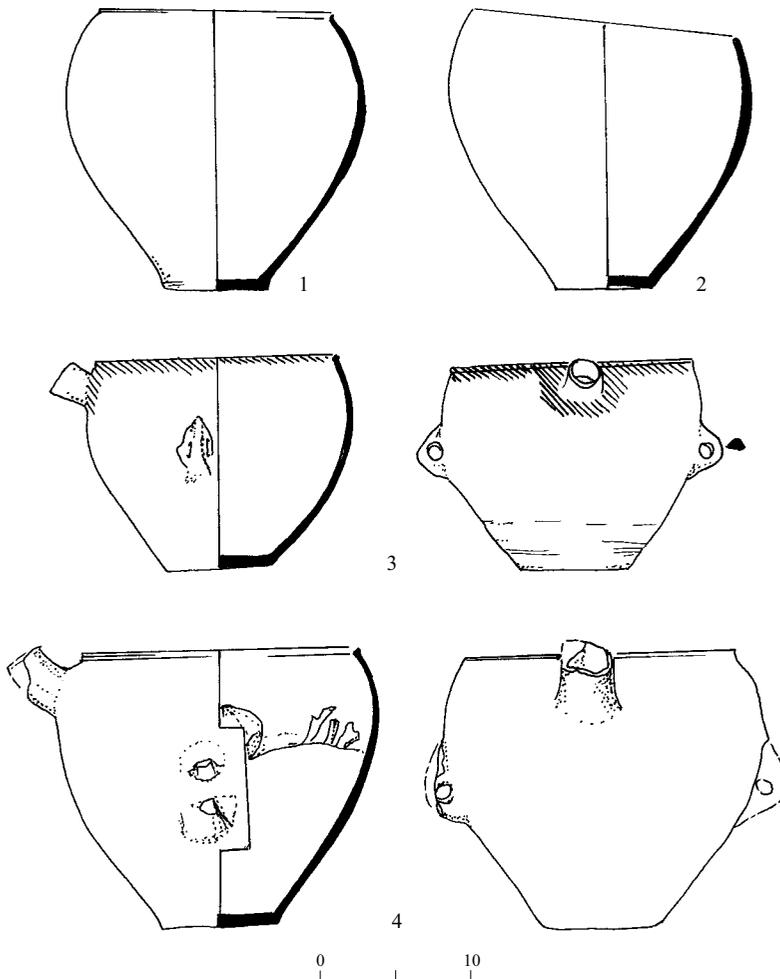


Fig. 7. Large krater-ossuaries: (1) Reg. No. 792-739; (2) Reg. No. 792-251; (3) Reg. No. 792-110; (4) Reg. No. 792-744.



Fig. 8. Large krater-ossuaries during excavation; general view of the western compartment (early phase), looking west.

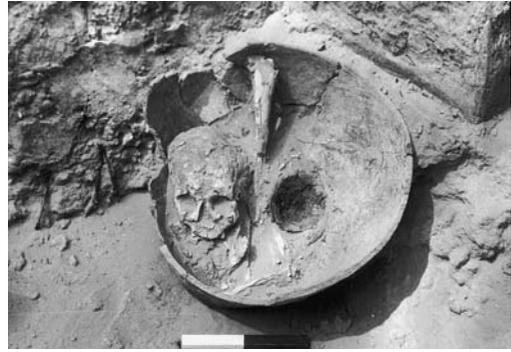


Fig. 9. Close-up of a krater ossuary.

Palmaḥim (Gophna and Lifshitz 1980:4, Fig. 4:9) and Kissufim Road (Goren and Fabian 2002: Fig. 4.4:1, 2).

Miniature Amphoriskos (Fig. 6:19).— With two vertical lug handles and horizontal red-painted bands, it is similar in shape to the full-sized examples (de Contenson 1956: Fig. 4:14).

Miniature Vase (Fig. 6:20).— This vessel has horizontal and vertical lug handles and a squashed shape. Similar vases were unearthed at Ḥadera (Suknik 1937: Fig. 6:d) and Bene Beraq (Kaplan 1963: Fig. 9:9). This vessel resembles in shape the larger Cream Ware vases uncovered at Gezer (Macalister 1912: Pl. CXLI:5), at the Be'er Sheva' sites (de Contenson 1956: Fig. 11:2–10; Dothan 1959a: Fig. 15:9, 15) and in the Naḥal Qana cave (Gopher and Tsuk 1996: Fig. 4.10:1–3).

The Mortuary Vessels

Krater Ossuaries.— Fourteen (33% of the ceramic ossuaries) were large kraters (Figs. 7–10). Two types of large kraters served as ossuaries for burial purpose:⁴ the plain krater (Figs. 7:1, 2; 10:1) and the spouted krater (Figs. 7:3, 4; 10:2). The krater-ossuaries were found in the earlier phase only. Kraters of the same types and dimensions are known from many

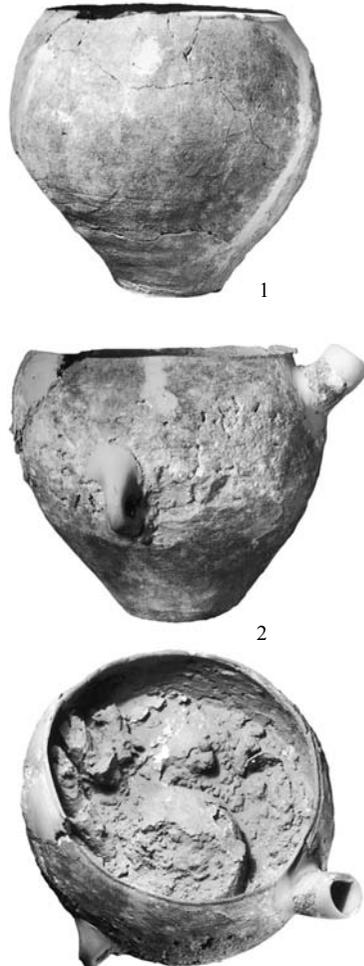


Fig. 10. Large krater-ossuaries: (1) plain; (2) spouted (see Fig. 7:1, 3 respectively).

Chalcolithic domestic sites (i.e., Be'er Sheva'—de Contenson 1956: Fig. 7:4, Dothan 1959a: Figs. 9:3, 4; 10:1) and burial caves along the coastal plain (i.e., Ḥadera—Sukenik 1937: Fig. 8:b; Et-Ṭaiyiba—Yannai and Porath, this volume; Bene Beraq—Ory 1946: Fig. 3, and Kaplan 1963: Fig. 9:1–5; Giv'atayim—Sussman and Ben-Arieh 1966: Pl. 2, Fig 4:1; Azor—Perrot 1961: Figs. 39:10, 11; 40:18, 19; Palmaḥim—Gophna and Lifshitz 1980: Fig. 4:7).

House-Shaped Ossuaries.— Fifteen (36% of ceramic ossuaries) house-shaped ossuaries⁵ were identified (Figs. 11–14). Others were in a very fragmentary state that did not allow their classification as house- or chest-shaped, but it seems that almost all should be attributed to the house-shaped category. The house-shaped ossuaries were very brittle and fragile, due to

the low quality of the clay and the incomplete firing (cf. below). Large portions of them had been destroyed with the cave's roof collapse or disintegrated while unearthed; only one was removed intact (Figs. 11, 12).

The house-shaped ossuaries from Ma'abarot are of the common shape and dimensions of such ossuaries found all over the country, from the Negev in the south (Levy and Alon 1982: Fig. 11) to the Upper Galilee in the north (Gal, Smithline and Shalem 1997:147–148; 1999: Figs. 1–9). All the house-shaped ossuaries from Ma'abarot had a decorated *fronton* (cf. Perrot 1961:12, 13) with a schematic and stylistic face, consisting of two eyes and a projecting nose. The eyes were pressed into the unbaked clay and usually painted as well (Fig. 14:3). The schematic face with a projecting nose and two eyes is a very popular design in Chalcolithic

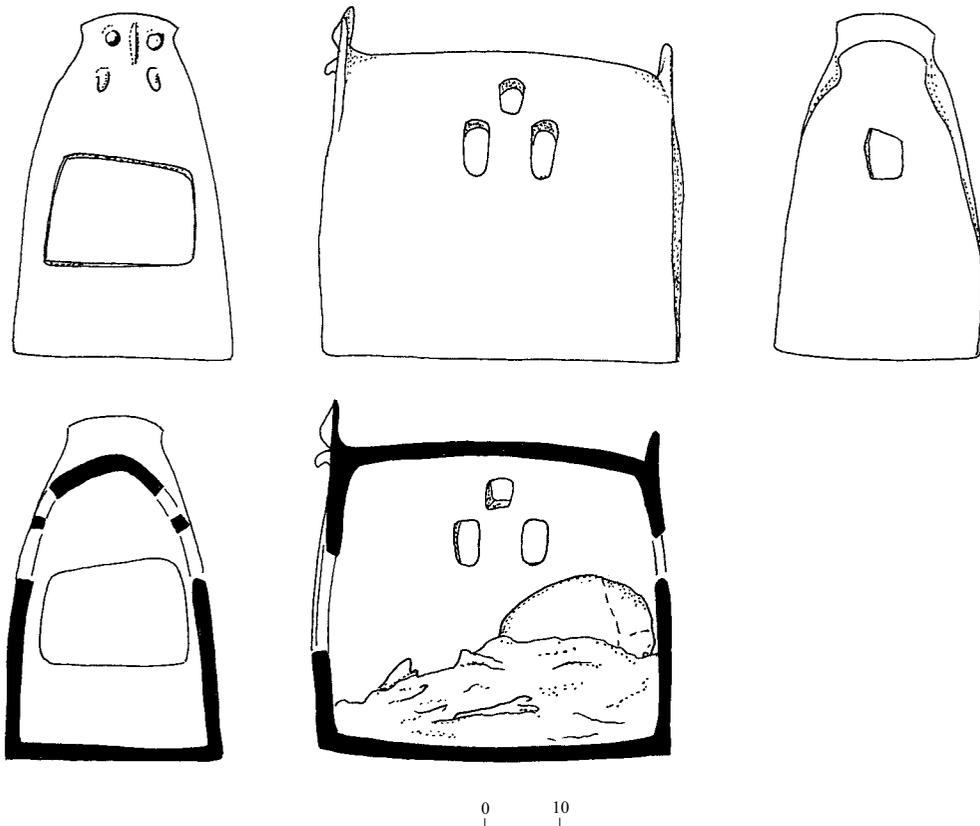


Fig. 11. House-shaped ossuary (Reg. No. 792-284).



Fig. 12. House-shaped ossuary (Reg. No. 792-284; see Fig. 11).

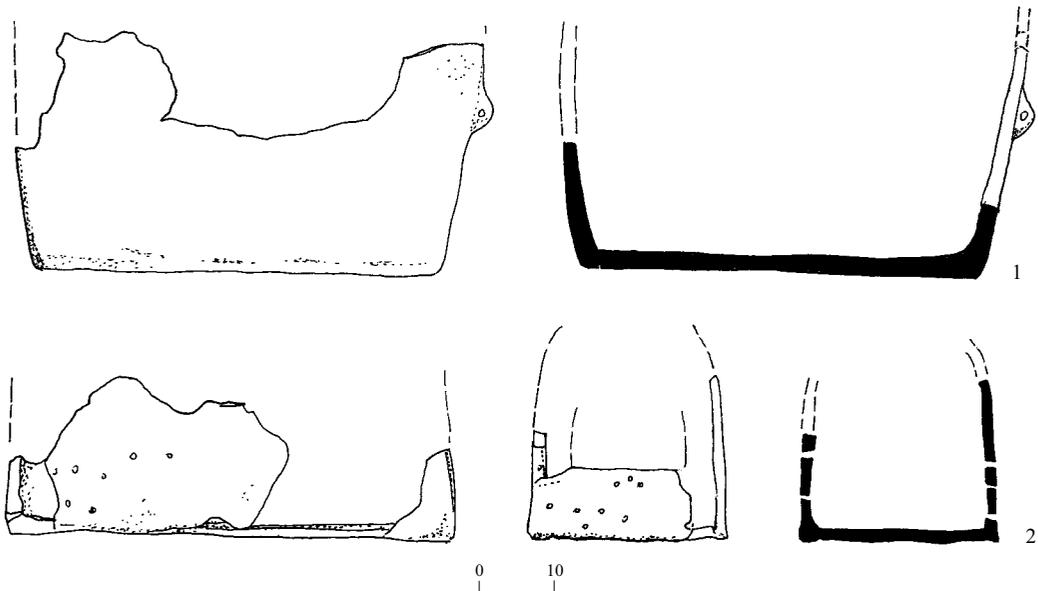


Fig. 13. House-shaped ossuaries: (1) Reg. No. 792-539; (2) Reg. No. 792-538.

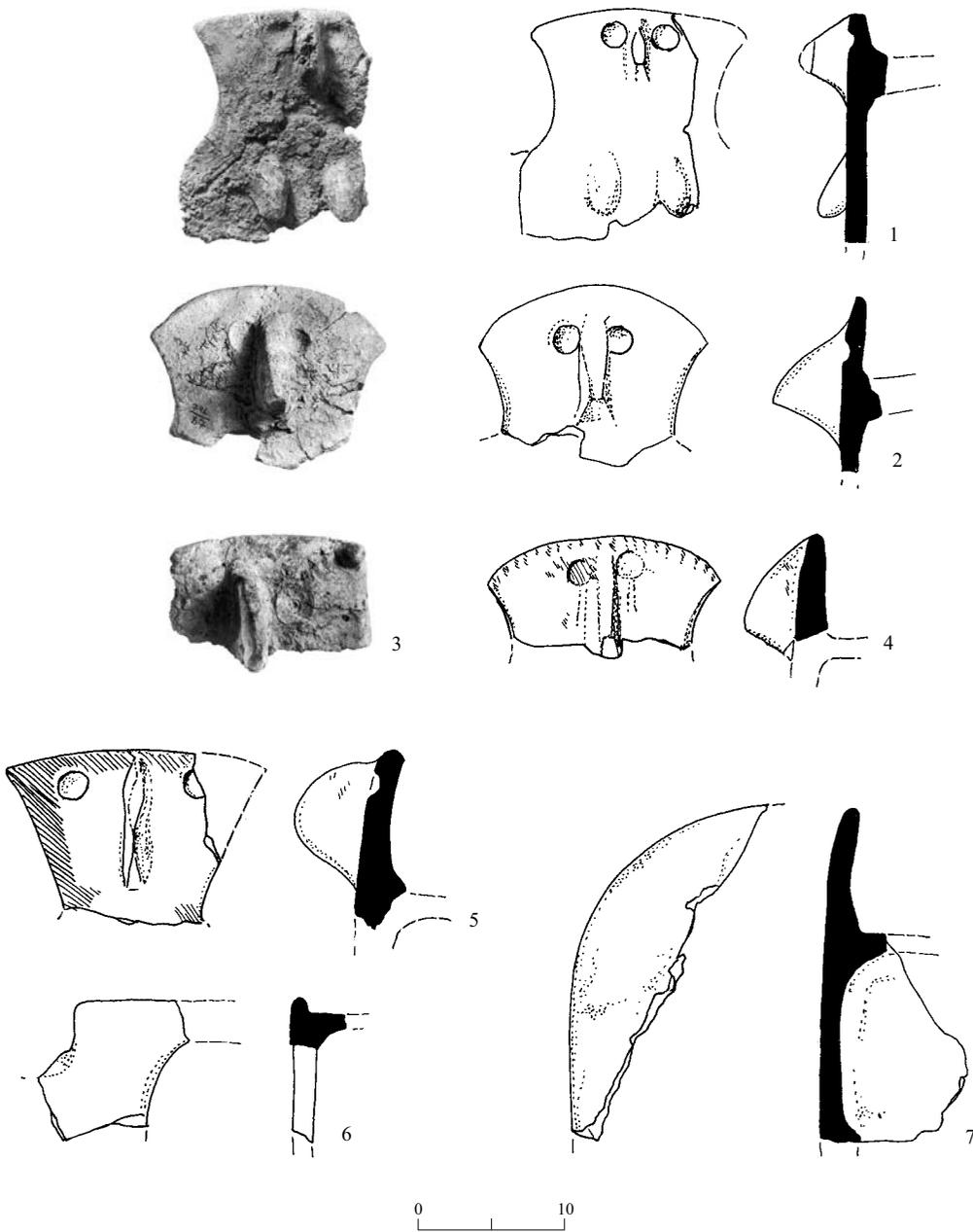


Fig. 14. *Fronton* fragments of house-shaped ossuaries: (1) Reg. No. 792-464; (2) Reg. No. 792-471; (3) Reg. No. 792-242; (4) Reg. No. 792-474; (5) Reg. No. 792-461; (6) Reg. No. 792-64; (7) Reg. No. 792-19.

art. It was found on many objects other than ossuaries, made from a variety of materials, such as metal (Bar-Adon 1980: Items 8, 21), ivory (Perrot 1959; Gal, Smithline and Shalem 1997:152, Fig. 9), basalt (Epstein 1975; Levy and Alon 1985) and pottery (Alon 1976; Gal,

Smithline and Shalem 1997:153, Fig. 11; 1999: Fig. 12).

Two of the *frontons* were decorated with a pair of semiconical knobs below the schematic head (Fig. 14:1). The semiconical knobs depict breasts, a stylistic and schematic representation

of a human female⁶ rather than a schematic animal as suggested by Perrot (1961:13–14, Fig. 26:3). The finds from the rich Chalcolithic burial cave excavated at Peqi'in in 1995 (Gal, Smithline and Shalem 1997), with the sculptured and painted human face and body on pottery (including ossuaries decorated by applied and painted breasts; cf. Gal, Smithline and Shalem 1999:12*–13*, Figs. 7, 8, 10) resolved the issue.

Only one of the house-shaped ossuaries at Ma'abarot had lug handles alongside the larger opening (Fig. 13:1), arranged to hold a lid. Such lid holders are found in several Chalcolithic burials (cf. Sukenik 1937: Fig. 5; Perrot 1961: Figs. 9, 21:2, 3, 22:2, 4). All the bottoms were flat; none of the ossuaries had a raised bottom (for raised ossuaries see Sukenik 1937: Figs. 5, 9:d; Perrot 1961: Figs. 25:1, 2, 4; 26:2; Kaplan 1963: Figs. 4:1–4, 5; Gal, Smithline and Shalem 1997:148; 1999: Figs. 1, 8; Yannai and Porath, this volume).

Kurkar slabs were found under several house-shaped ossuaries, mainly those of the earlier phase located at the cave's perimeter. Similar arrangements of ossuaries placed on *kurkar* slabs were noticed at Bene Beraq (Kaplan 1963:301). It seems that the ossuaries were placed over the stone slabs for stability and to allow the shifting/removal of the fragile ossuary in the cave. The house-shaped ossuaries were uncovered in both phases of the Ma'abarot cave, but their number is relatively higher in the earlier phase.

Chest-Shaped Ossuaries (Figs. 15–18).— The three chest-shaped ossuaries⁷ found in the cave were in a better state of preservation than the house-shaped ones, probably due to a better firing (see below). They all were decorated with a *fronton*: one had a schematic face (Figs. 15; 16:1, 2) similar to the house-shaped ossuaries described above, and two (Figs. 17:1, 2; 18:1) had a small schematic *fronton* without any

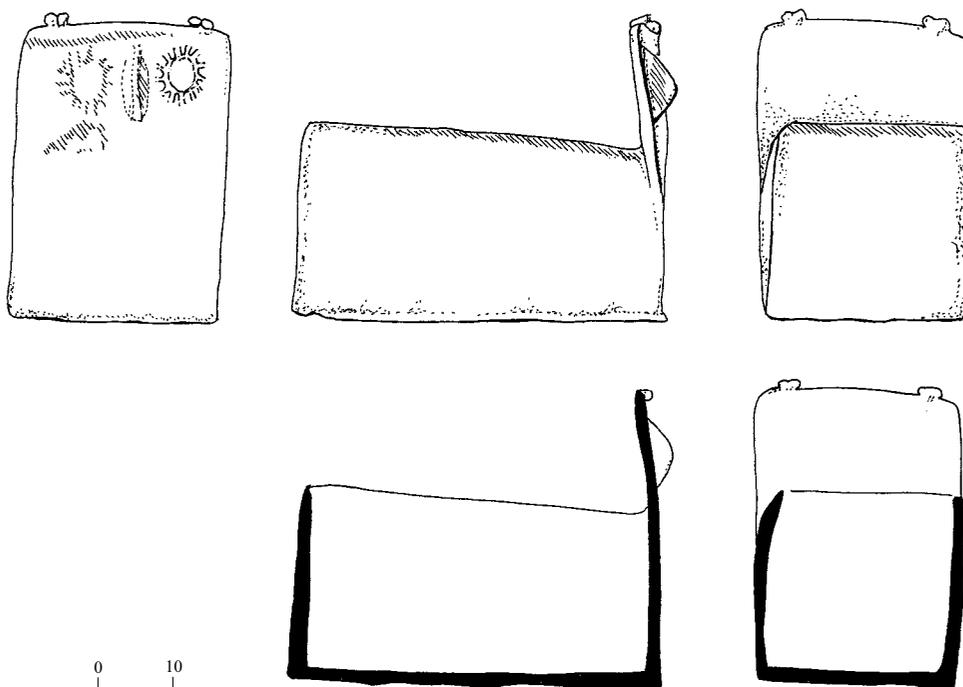


Fig. 15. Chest-shaped ossuary (Reg. No. 792-424).

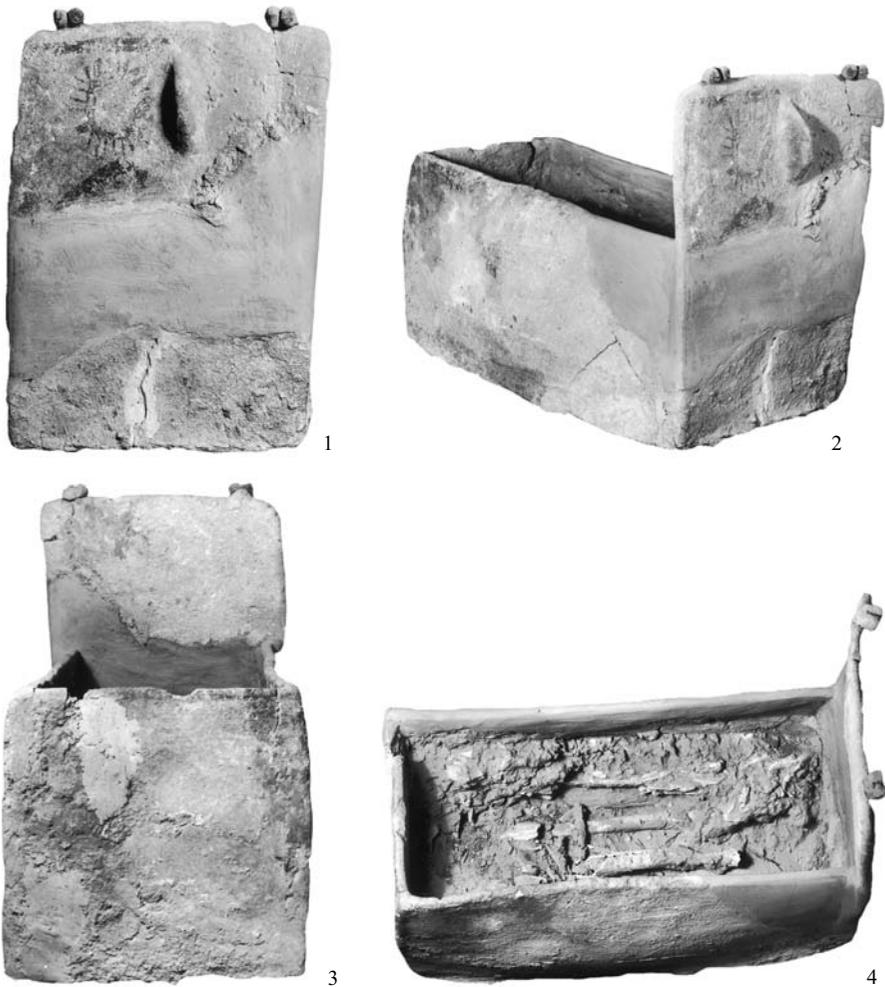


Fig. 16. Chest-shaped ossuary (Reg. No.792-424; see Fig. 15).

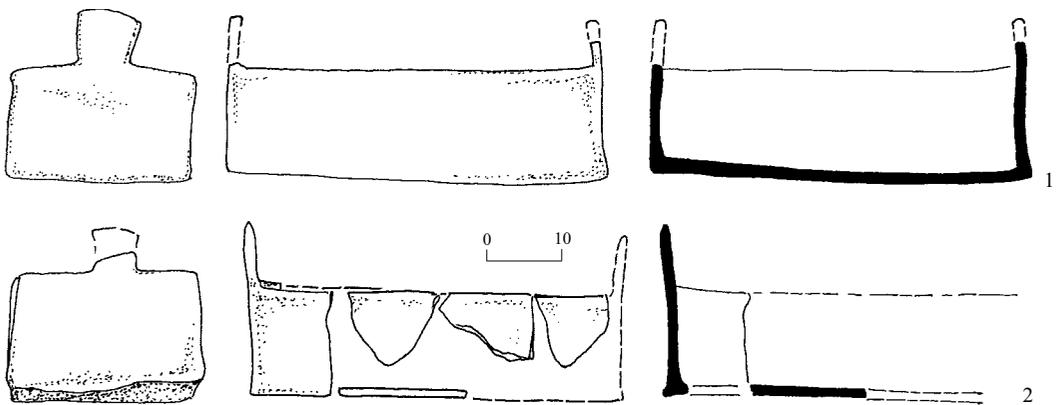


Fig. 17. Chest-shaped ossuaries: (1) Reg. No. 792-87; (2) Reg. No. 792-93.

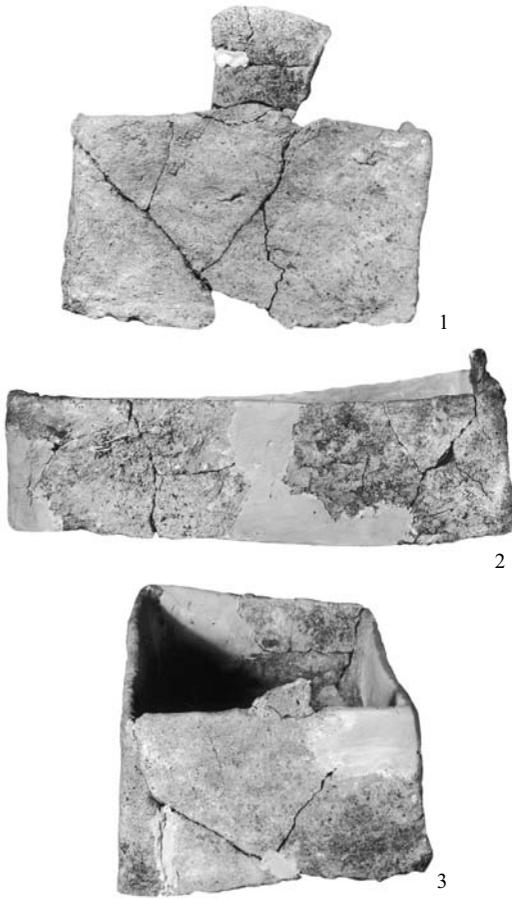


Fig. 18. Chest-shaped ossuaries: (1, 2) Reg. No. 792-87; (3) Reg. No. 792-93 (see Fig. 17:1, 2 respectively).

decoration. The eyes of the schematic head (Fig. 15) are painted only. It had two double cylindrical knobs on top of the *fronton*, a very popular design on the Chalcolithic ossuaries (Perrot 1961: Figs. 24:5, 6; 25:2; 29:7, 9 and others; Kaplan 1963: Figs. 4:5–7; 7:6, 7; Gophna and Lifshitz 1980: Fig. 3:3; Gal, Smithline and Shalem 1997: Fig. 3) and on the metal items from the Cave of the Treasure (Bar-Adon 1980). The chest-shaped ossuaries with a *fronton* from Ma‘abarot are the first published of this category, and represent a new variety of the Chalcolithic ossuary repertoire. The repaired ossuary (Figs. 15, 16) was uncovered in the later phase in the eastern compartment,

surrounded by several ‘bone-heap’ burials (see Figs. 4, 5). The other two were found on the cave floor and belong to the earlier phase. Some ossuaries of a hybrid category, between chest- and house-shaped, composed of a chest with a *fronton* and a top lid-shaped like a roof, were uncovered near Shekhem,⁸ and at Peqi‘in (Gal, Smithline and Shalem 1997:148–149, Figs. 3, 4; 1999: Figs. 6–8).

BURIALS EAST OF TEL IFSHAR

Two burial places were discovered in August 1991 on the eastern slope of Tel Ifshar (Tel Hefer; map ref. NIG 1916/6977, OIG 1416/1977; see Fig. 1),⁹ both damaged by the 1.5 m wide trench dug during infrastructure work. It was impossible to trace their full contour. They had been cut c. 1 m deep into the *kurkar* bedrock, and covered later by half a meter of soil. The burials, semicircular in shape, with a diameter of c. 1.5 m, were probably enlarged natural depressions. The two locations lie about 2 m apart from one another and contained secondary burials in ossuaries.

The Finds

The number and repertoire of objects uncovered in the salvage excavation were very limited, as only a small portion of the original burials survived east of the trench. The artifacts found were in a fragmentary and brittle state, as they had been removed from their original setting by intruders in antiquity or by the modern trenching.

A chest-shaped ossuary (Figs. 19:1; 20) was excavated in the southern burial place. One of its narrow sides is flatter than the other, possibly the ‘front’, and its corners are rounded, unlike the rectangular corners of those at Ma‘abarot. It resembles the pottery burial tubs from Kissufim Road (see especially Goren and Fabian 2002: Fig. 4.6), although it has neither decoration nor perforated lug handles.

A red net pattern, painted in 2 cm wide stripes over a white wash, decorates the exterior of the ossuary. Fragments of a house-shaped ossuary, as well as a few small sherds of a fenestrated

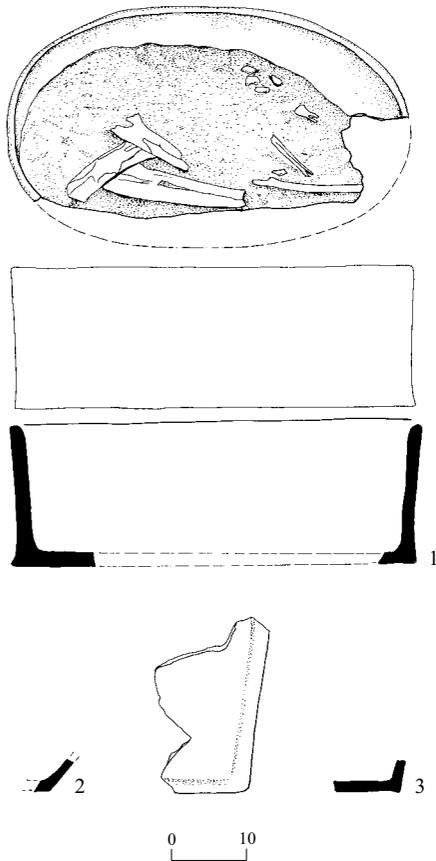


Fig. 19. Finds from Tel Ifshar: (1) Reg. No. 1823-4; (2) Reg. No. 1823-2; (3) Reg. No. 1823-3.

bowl and a V-shaped bowl, were discovered nearby.

Two brittle house-shaped ossuaries (Fig. 19:2, 3), partially disintegrated during the excavation, were found in the northern burial. Only the width of the better preserved one could be measured (27 cm wide, c. 1.5 cm thick). Small fragments of a krater were also located next to the ossuaries in the northern burial.

NEARBY BURIAL SITES AND SETTLEMENTS

No remains of any Chalcolithic settlement have yet been uncovered near the burial sites discussed above.¹⁰ Archaeological surveys in the lower basin of Nahal Alexander revealed the remains of two Chalcolithic sites located



Fig. 20. Chest-shaped ossuary from Tel Ifshar (Reg. No. 1823-4; see Fig. 19:1).

in its alluvial plain, west of the Samaria Hills. They are respectively located about 7 km northeast and southeast of the burials excavated at Ma'abarot and Tel Ifshar.

Ha-Ma'pil (fish ponds; map ref. NIG 1981/6973, OIG 1481/1973; cf. Porath, Dar and Applebaum 1985:177-179).—The site (see Fig. 1) is situated on Nahal Omez, a northeastern tributary of Nahal Alexander, on alluvial soil with a high underground water table and small springs. It was a swampy area before modern drainage, called *Bassat el-Hanazir* (Arabic, 'wild boar swamp'). The ancient remains were buried under a 0.7 m layer of alluvial sediments, and first recorded in 1973, after preparing the area for modern fish ponds.

Olesh (map ref. NIG 1973/6935; OIG 1473/1935, cf. Porath, Dar and Appelbaum 1985:236-237, 244).—The site (see Fig. 1) is located on both sides of Nahal Alexander, on alluvial soil and near several small springs. The ancient remains were buried under a 0.5 m layer of alluvial sediments and were first mentioned in the early 1960s, after Nahal Alexander was drained.

The two sites are located in similar environmental conditions. One should not rule out the existence of additional small Chalcolithic settlements closer to the Ma'abarot and Tel Ifshar burials, however, still buried under the alluvium of the Nahal Alexander floodplain. It seems that these burial sites served the communities who

lived in the lower basin of Naḥal Alexander¹¹ and not wandering pastoralists.

SOME REMARKS ON THE PRODUCTION OF
CHALCOLITHIC CERAMIC OSSUARIES¹²

The typology, art and architectural connections of the ossuaries excavated up to 1979 were studied and discussed by J. Perrot and D. Ladiray (1980). Additional information concerning pottery-ossuary manufacture has since been gained from subsequent excavations of Chalcolithic burials, e.g., Shekhem (Clamer 1977), Palmaḥim (Gophna and Lifshitz 1980), in the Negev (Levy and Alon 1982), Peqi‘in cave (Gal, Smithline and Shalem 1997, 1999) and Eṭ-Ṭaiyiba (Yannai and Porath, this volume), as well as the two sites under discussion here.

The three categories of ossuaries uncovered at Ma‘abarot and Tel Ifshar were all handmade. The production marks on the ossuaries were usually smoothed by the potter during the production process, wherever his fingers could reach. Thus no production marks are visible on the external and internal faces of the ‘open’ categories (i.e., the large kraters and the chest-shaped ossuaries). The inner faces of the house-shaped ossuaries sometimes bear marks that were not eradicated, as it was difficult to reach the hidden portions of the closed shape. These marks may help us understand how such unusual pottery vessels were constructed.

Mat Imprints.— Several ossuary bases bear mat imprints on their exterior.¹³ These have been found on ossuaries from many burials, e.g., Ma‘abarot (Fig. 21:1), Eṭ-Ṭaiyiba (Yannai and Porath, this volume), Bene Beraq (Ory 1946: Pl. XVII), Azor (Perrot 1961: Fig. 22:5) and Peqi‘in (Gal, Smithline and Shalem 1999: Fig. 1). The impressions indicate that the ossuary’s base was placed on a mat on which the ossuary was built. After the ossuary dried it was shifted from the production area to the firing place. It seems that the ossuaries that did not bear a mat imprint on their external bottom

were also produced on a flat working area of an alternate material (such as a stone slab, animal hide, woven cloth or wooden plank), but the marks were later smoothed away.

Coil Construction.— Evidence of coil construction was observed on the inner face of some fragments uncovered at Ma‘abarot (Fig. 21:2) on all of the upper part of the narrow sides of house-shaped ossuaries below the roof. Similar coil marks were also evident on house-shaped ossuaries from Eṭ-Ṭaiyiba (Yannai and Porath, this volume).

Coil construction has been used for the production of large vessels throughout all ages and civilizations and has been thoroughly discussed (Shepard 1968:57–59; Amiran 1969: Pls. 5, 6; Johnston 1974:92–95; Rye 1981:67–69). The marks of the coils were usually smoothed, both inside and outside, while the side walls were formed. Only the segments hidden from the craftsman’s eyes and the reach of his fingers were not treated thoroughly. It is uncertain whether each wall of the house-shaped and chest-shaped ossuaries was produced as one slab on some flat working area (as the bottom) and later joined together, or by coils rising up from the bottom, as the production marks were smoothed and eradicated when the clay was leather hard and the inner face still accessible. As coil marks were not observed on roof fragments it indicates that the roofs were also composed of one or a few leather-hard slabs. The ossuary was assembled after each of its components was in the leather-hard stage, to prevent buckling and collapse. It seems that the potter built the four walls to the same height and left open the gabled section of the narrow walls, in order to reach the inner segments of the roof with his hand and to hold the heavy roof while placing it on the box. The triangular or semicircular unfinished sections below the roof on the narrow sides were later sealed either with slabs or coils. It was difficult to reach the inner face of that filled section, therefore the production marks were left there, indicating the method of the ossuary production.

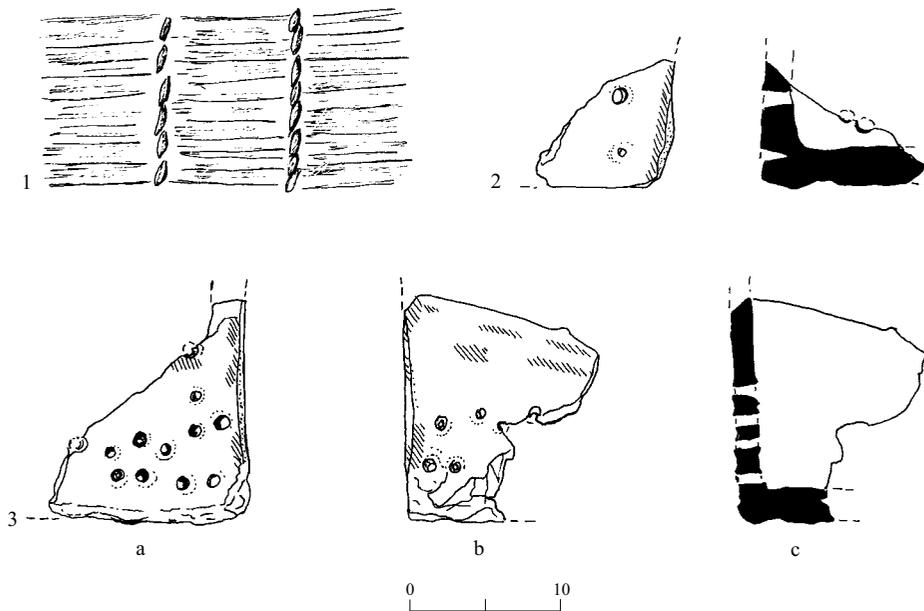


Fig. 21. Manufacturing traces: (1) mat impression on ossuary bottom (Reg. No. 792-84); (2) coil construction (external and internal faces of the narrow side above opening of Reg. No. 792-456); (3) holes (3a—Reg. No. 792-545; 3b—Reg. No. 792-302; 3c—internal face of a wall fragment of a house-shaped ossuary).

The openings in the sides were cut before firing with a sharp tool. The inner rim is thicker on many of these apertures, reflecting the cutting process.

Plastic and Painted Decoration.— The eye impressions and scratches were executed after the wall or *fronton* had dried slightly and hardened; all the protruding elements (such as noses, lid holders, knobs on the upper edge of the *fronton*, or breasts) were added then as well. Several ossuaries and pottery vessels were painted red with ochre.

Holes.— Some fragments of house-shaped ossuaries at Ma'abarot had several holes pierced into the raw clay from the inside at the lower part of the vertical walls and at the perimeter of the bottom (Figs. 13:2; 21:3). Several holes in the walls and all the holes in the bases were not pierced through the full thickness of the clay; they therefore could not have served to drain the ossuary. These indentations were round and pointed, indicating that they were made by a

cylindrical implement, apparently a sharpened wooden branch.

The holes were noticed at Ma'abarot for the first time; their purpose is uncertain. They probably anchored wooden branches that served some function in the construction of the house-shaped ossuaries, perhaps some kind of a wooden scaffold arranged to support the heavy roof of the house-shaped ossuaries and to prevent collapse or deformation during the drying process.

Firing.— The ossuaries were fired after the construction was completed and the decorations were applied. The firing of the house-shaped ossuaries uncovered at Ma'abarot was not equal throughout the vessel. Some areas of the walls and roof were well fired while other parts on the same ossuary were more fragile and brittle despite their similar thickness. As all the elements of each ossuary were made of the same clay it means that the harder sections of the ossuary were better exposed to the heat in

the firing process. The invention of the pottery kiln enabled higher temperature and equal conditions for longer time throughout the firing process. The unequal hardness of the ossuary sections may imply that the firing was uneven, executed either in a very primitive kiln or in an open fire.¹⁴ The most fragile part of the ossuary was the bottom, indicating that the ossuaries were placed directly on the floor of the firing installation, and not elevated on some kind of support to allow better heating and ventilation.

SUMMARY

The Chalcolithic burial sites uncovered at Ma'abarot and Tel Ifshar share the common tradition of secondary burials in ossuaries, present in many sites throughout the region in this period. The two sites served the local communities

living along the lower basin of Nahal Alexander. The poor repertoire of artifacts uncovered at the burials and the simple ossuaries—in contrast to the much richer assemblages found, e.g., at Peqi'in, Azor and Kissufim—reflect relatively poorer communities. Nevertheless, the general repertoire of the Chalcolithic culture was enriched by the finds from Ma'abarot: the chest-shaped ossuaries with a decorated *fronton*, the female schematic design on the house-shaped ossuaries, and the composed fenestrated bowl. The bone-heap secondary burial—probably in an organic container—was widely noticed at Ma'abarot and deserves recognition as a fourth independent category of ossuaries.

The undisturbed burial cave at Ma'abarot enabled the seriation of some burial methods and provided additional evidence concerning the manufacture of ossuaries.

NOTES

¹ The term 'Chalcolithic' as used here relates to the Ghassul-Be'er Sheva' culture of the fourth millennium BCE.

² The cave was accidentally discovered during a road development project in October 1978. The archaeological excavation that followed was carried out intermittently until September 1979 by the Israel Department of Antiquities and Museums (now the Israel Antiquities Authority) under the direction of Yosef Porath (Permit No. A-792), with the collaboration of the State University of New York at Buffalo under the direction of Prof. Donald S. Scott and Prof. Samuel M. Paley. The finds from the cave were restored in the Israel Museum laboratories, and drawn and photographed in the laboratories of the Israel Antiquities Authority (Michal Ben-Gal, Tsila Sagiv, Clara Amit). The field photographs were taken by the author. The maps were drawn by Gila Cook and Rivka Mosaiev, after field drawings by the author. Ziv Atar arranged the find plates. Iris Kritzman helped produce the final manuscript.

³ Most of the Chalcolithic burial caves excavated in the Sharon were somehow disturbed by either ancient or modern intruders before a scientific excavation

was carried out (such as Azor—Perrot 1961; Bene Beraq—Ory 1946 and Kaplan 1963; Et-Ṭaiyiba—Yannai and Porath, this volume; Ḥadera—Suknik 1937).

⁴ The krater-ossuaries belong to the wider group of domestic large containers used for burial purposes, either in their original shape or specially modeled (Perrot and Ladiray 1980:36–37, Class III).

⁵ The terminology of 'house-shaped' and 'chest-shaped' ossuaries was adapted from Suknik 1937 and Perrot 1961. These ossuaries are included under Class II of Perrot and Ladiray 1980:28–35. Suknik and Perrot related the gable-roofed and vault-roofed ossuaries to the domestic architecture of the Chalcolithic period in Israel. This theory was not accepted by the entire academic community (cf. e.g., Martin 1965). Later studies disproved any relationship between Chalcolithic domestic architecture and the ossuaries (for details cf. Porath 1992).

⁶ The idea that these knobs represented a schematic female was first expressed by the author at the Ninth Archaeological Conference in Israel (Porath 1982). The skeletal remains found in the complete ossuary

(Fig. 11) were undisturbed; as it was decided not to study them, it is unclear whether they belonged to a male or a female.

⁷ Cf. n. 5 above. The chest-shaped ossuaries are included under Class I of Perrot and Ladiray 1980:28.

⁸ The results of the excavations directed by Clamer near Shekhem have not yet appeared in a final report. The Chalcolithic remains were mentioned in the preliminary report (Clamer 1977) and the author was allowed to examine the ossuary. I thank the excavator for the permission to note an unpublished find.

⁹ The burials were identified on the eastern side of a north-south trench dug for a new pipeline, and were excavated by the author (Permit No. A-1823). The finds were restored, drawn, and photographed in the Israel Antiquities Authority laboratories by Erella Tzarfaty, Ziv Atar and Tsila Sagiv. Iris Kritzman helped produce the final manuscript.

¹⁰ Very few Chalcolithic sherds were found on the bedrock at Tel Ifshar, under the EB I and MB II remains, however, lacking any sign of architecture. Hence they seem to relate to the burials rather than to a settlement.

¹¹ Two Chalcolithic settlements were surveyed on the chalk hills of the western edge of Samaria, above the

Nahal Alexander valley, north and south of Et-Ṭaiyiba: Kh. Far'un (see Fig. 1; Porath, n.d.) and Kh. Jallameh (see Fig. 1; Porath 1978). The two sites are located in an environment similar to that of other Chalcolithic sites, i.e., Meşer (Dothan 1959b). It seems that the people of the communities north and south of Et-Ṭaiyiba were buried in caves cut into the more stable chalk (such as the one uncovered at Et-Ṭaiyiba, cf. Yannai and Porath, this volume), rather than the brittle *kurkar*.

¹² The pottery ossuaries comprise the majority of Chalcolithic secondary burials. Also found were several bone heaps, i.e., the organic containers mentioned above, and a few stone ossuaries (cf. Bene Beraq—Ory 1946: Fig. 5; Azor—Perrot 1961: Fig. 42:16; Giv'atayim—Sussman and Ben-Arieh 1966: Fig. 5; Ben Shemen—Perrot 1967).

¹³ Many common pottery vessels bearing mat imprints on their bottoms, the evidence for production on a mat, were excavated at Ghassul (Mallon, Koeppl and Neuville 1934: Pl. 39; Koeppl 1940: Pls. 83, 84) and other sites mentioned above. The mat impression was also preserved on the bottom of the krater-ossuary from Ma'abarot.

¹⁴ The earliest pottery kiln in the country was uncovered at Early Bronze Tell el-Fara' (North) (de Vaux 1955:558–563).

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