Tel Beth Shean During the EB IB Period: Evidence for Social Complexity in the Late 4th Millennium BC

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The Early Bronze I (henceforth EB I) is a formative era in the Southern Levant. Modern research has thrown light on many aspects of this period: its long duration, its spatial and temporal subdivisions, its settlement pattern, its socio-economic characterizations, and the phenomenon of Egyptian colonization in southern Palestine (e.g. Stager 1992, 28–34; Joffe 1993, 39–62; Braun 1996). Among the prominent discoveries related to the later part of EB I (denoted here EB IB) are the monumental temple at Megiddo and the notion that certain sites were fortified. These features may require us to change the way in which we conceive of socio-political developments during the late 4th millennium BC, in particular in northern Palestine.

In the present paper, we present two phases of an unusual EB IB building excavated at Tel Beth Shean. The stratigraphy, architecture and finds from this building raise intriguing questions concerning architectural traditions, function, economy, social complexity and regionalism in material culture. The evidence also bears on matters of chronology, and the way in which we define the transition from EB I to EB II in the region. While a full account will appear in the final excavation report (Mazar (ed.) forthcoming), some of these issues were felt to warrant more immediate consideration.

Keywords: Palestine, Israel, archaeology, Early Bronze Age, Beth Shean

Introduction

The Beth Shean Valley was one of the most densely settled areas in ancient Palestine. The valley is strewn with archaeological sites, among them some 40 tells of various sizes. Zori (1962) and Esse (1991) have provided estimates of the dense EB settlement in the valley (see below, p. 144–50). Though the annual rainfall in this region is less than 300 mm, the valley enjoys fertile soils and plenty of springs located on elevations which enabled irrigation by canals. Both international and local routes, running east–west and north–south, intersect the valley. Tel Beth Shean (Fig. 1), located between the rivers Ḥarod (Wadi Jalud) and Asi was among the most prominent sites in the valley throughout its period of occupation. Yet, despite many years of excavation, it is still not possible to estimate the area under occupation during each period. EB I occupation strata were reached on the summit of the mound but also in a probe in Area L in the middle of the sloping site (Fig. 2). It is thus reasonable to assume that the EB I settlement extended over at least the summit and part of the northern slopes of the site, although the entire site may have been occupied. This would indicate that the settlement covered between 2 and 4 ha. A large EB I site was located at Tel Iztaba, just north of Tel Beth Shean on the opposite side of the deep gorge of Nahal Ḥarod (Wadi Jalud), while 12 km south-east of Tel Beth Shean lay Tel Shalem, a fortified EB IB site covering *c.* 10 ha (Eisenberg 1996).

In 1933, the University Museum expedition of the University of Pennsylvania (henceforth UME), then directed by Gerald FitzGerald, reached Early Bronze Age levels in the south-eastern corner of the mound, an area that was the summit of the natural hill on which the settlement was built (FitzGerald 1934). The expedition uncovered a large area of Levels XII–XIII, representing the EB III and EB IB

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Published by Maney
DOI 10.1179/007589109X12484491671059

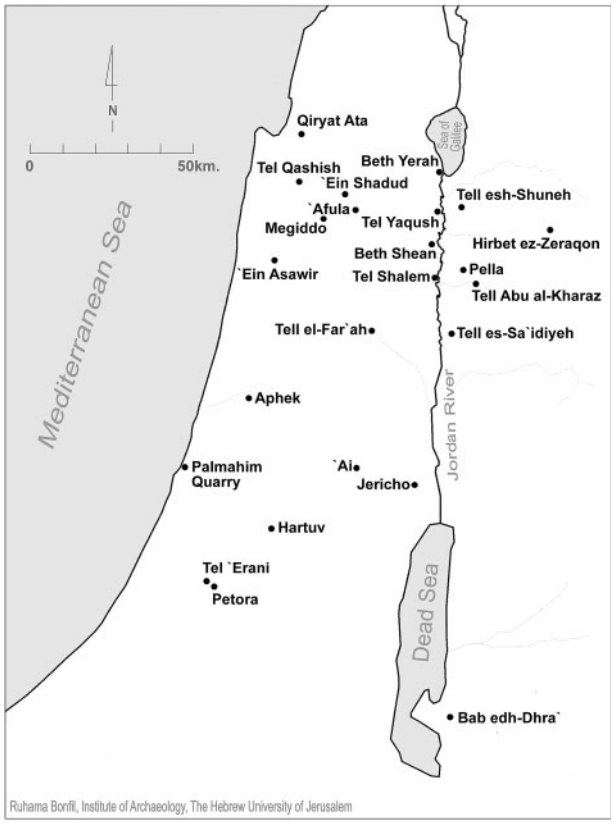

Figure 1 EB I sites mentioned in the text

respectively, and the top of Level XIV, which should be attributed to the EB IB as well. Below this level, the excavation was limited to a deep trench, 20 × 25 m in size, excavated in 1933, in which Levels XV–XVIII were exposed and bedrock reached. Levels XIII–XVIII were published by Braun (2004) where the history of the excavations, references to earlier publications, and analysis of the architecture and finds can be found. Table 1 presents the division of the EB I levels by Braun, the corresponding strata numbers in our excavations and the dates suggested by Braun and by us.

The broad exposure of Levels XII–XIII by our predecessors enabled us to excavate a substantial area of Level XIV, to the east of FitzGerald's deep trench. We designated this Area M, which was excavated over four seasons between 1993 and 1996 (Fig. 2). Our local Stratum M-1 parallels FitzGerald's EB III Level XII (for this period, see Mazar *et al.* 2000). Our Stratum M-2 corresponds to level XIII which was partly excavated by the University Museum expedition, and our Stratum M-3 corresponds to Level XIV. We did not excavate deeper than this level. Both Strata M-2 and M-3 are attributed to the late EB IB or to a transitional EB IB–EB II phase (see below).

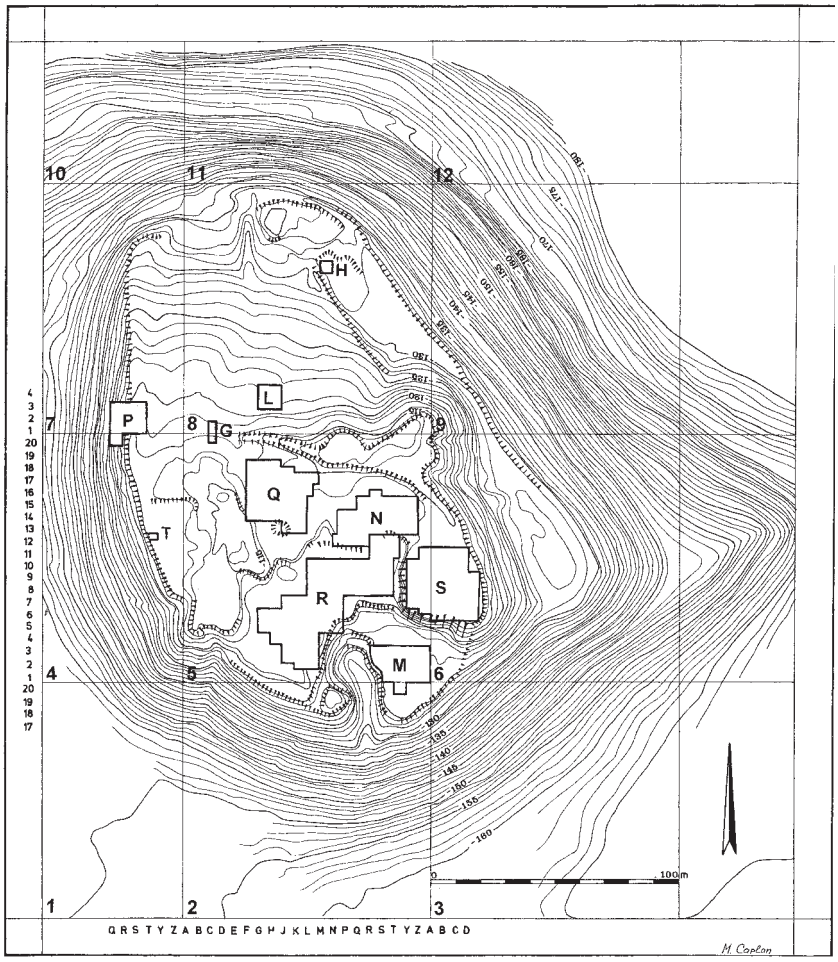

Figure 2 Topographic map of Tel Beth Shean showing Area M; FitzGerald's trench is located west of Area M

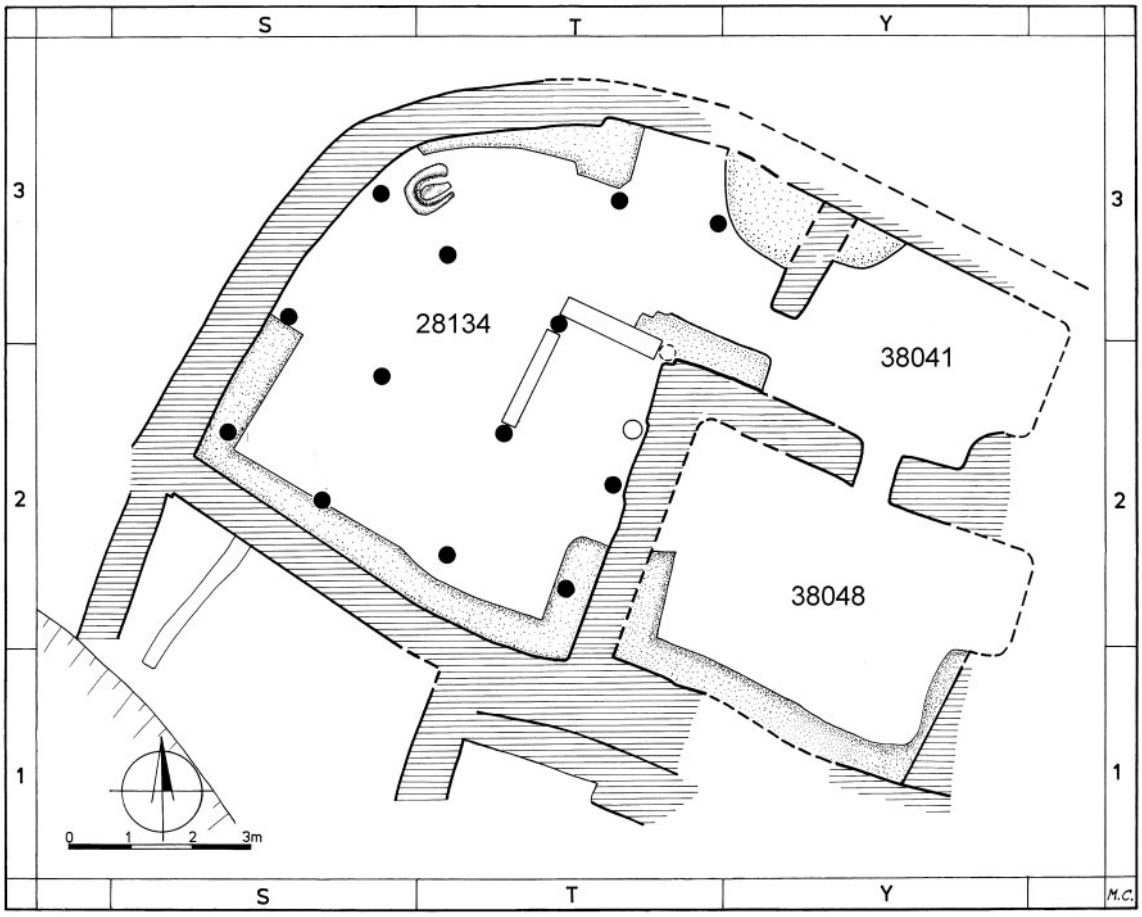

Figure 3 Schematic plan of EB IB Building MA at Tel Beth Shean, Stratum M-3

No definite EB II material was recovered from the site.

Building MA in Strata M-3 and M-2

The EB IB remains in Area M could be divided into two strata, the earlier denoted M-3 (parallel to UME Level XIV) and the later, denoted Stratum M-2 (parallel to UME Level XIII) (Table 1). The main discovery was a large building destroyed by a substantial fire at the end of Stratum M-3 (henceforth Building MA) and modified in Stratum M-2 (Figs 3–4). While we exposed this building over 140 sq m, it may originally have been larger, as its eastern and south-eastern extents appear to continue beyond the excavated area, up to the present edge of the tell. If the hypothesis of Arubas (2006, 48–58) concerning the original size of the mound is correct, then the edge of the tell in the Bronze Age might have been located around 15 m to the south, and perhaps a similar distance to the east of the extant remains. This would leave sufficient space for further parts of the building or for additional constructions closer to the original edge of the mound.

Table 1 Comparative stratigraphy and absolute dates of Area M

UME Expedition strata	Braun's terminology	Dates according to Braun 2004, 62	HU Excavations	Terminology used in this paper	Dates suggested in this paper*
XII	–	–	M-1	EB III	
			occupation gap	EB II	
XIII	'Late EB I'	3200–3000	M-2	EB IB	end of 31st century and beginning of 30th century BC
XIV			M-3	EB IB	33rd?–31st centuries BC
XV	'Developed EB I'	3300–3200	–	EB IA	
XVI	'Early EB I'	3400–3300	–		
XVII south		3500–3400	–		

• Based on radiometric data, see below p. 146–47.

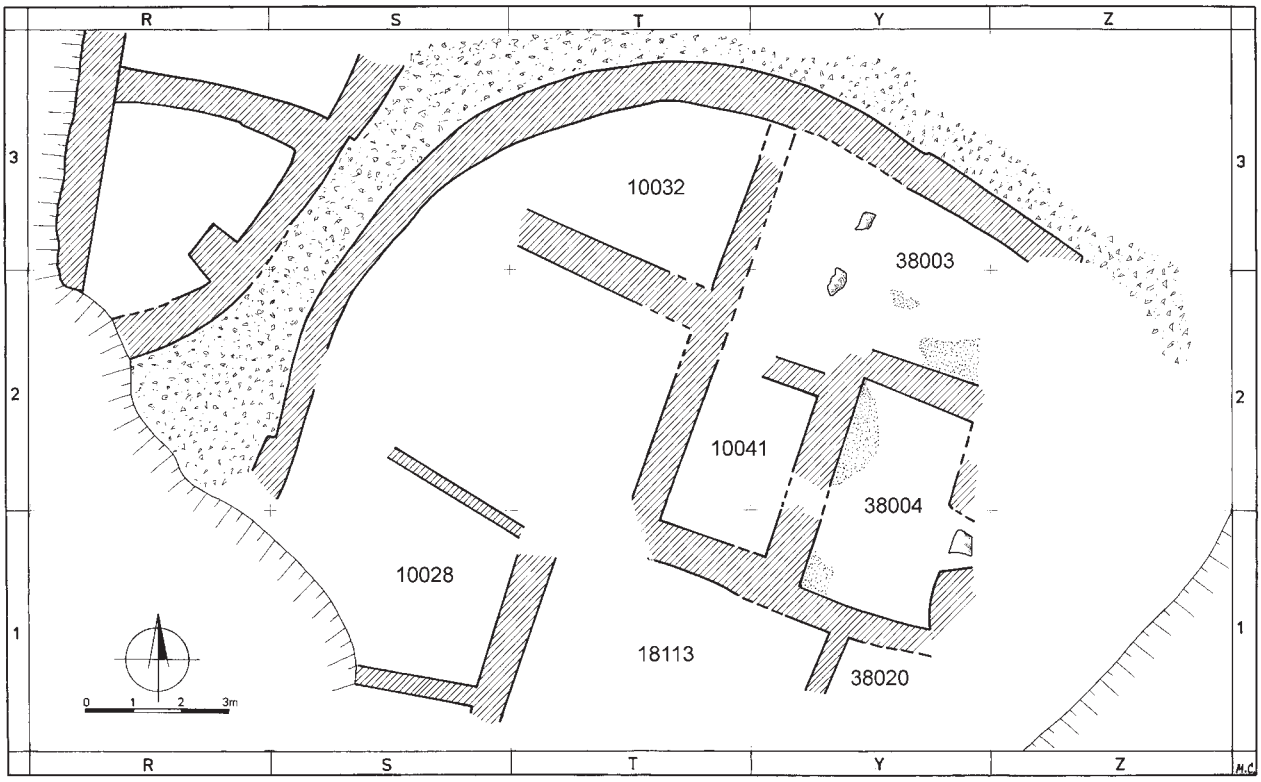

Figure 4 Schematic plan of EB IB structural remains at Tel Beth Shean, Stratum M-2

Building MA in Stratum M-3

The building (Figs 3, 5) was constructed of mudbrick walls without stone foundations, except in two cases. The excavated parts include two rooms on the eastern side and a large hall on the western side. Fragmentary remains of two additional rooms were excavated to the south of the building, although their attribution to the building remains uncertain. The north-western outer wall of the building is curved, with a street running along its west and north sides. Part of another block of buildings from the same period was excavated by FitzGerald west of the street, indicating the existence of densely built blocks of structures surrounded by streets.

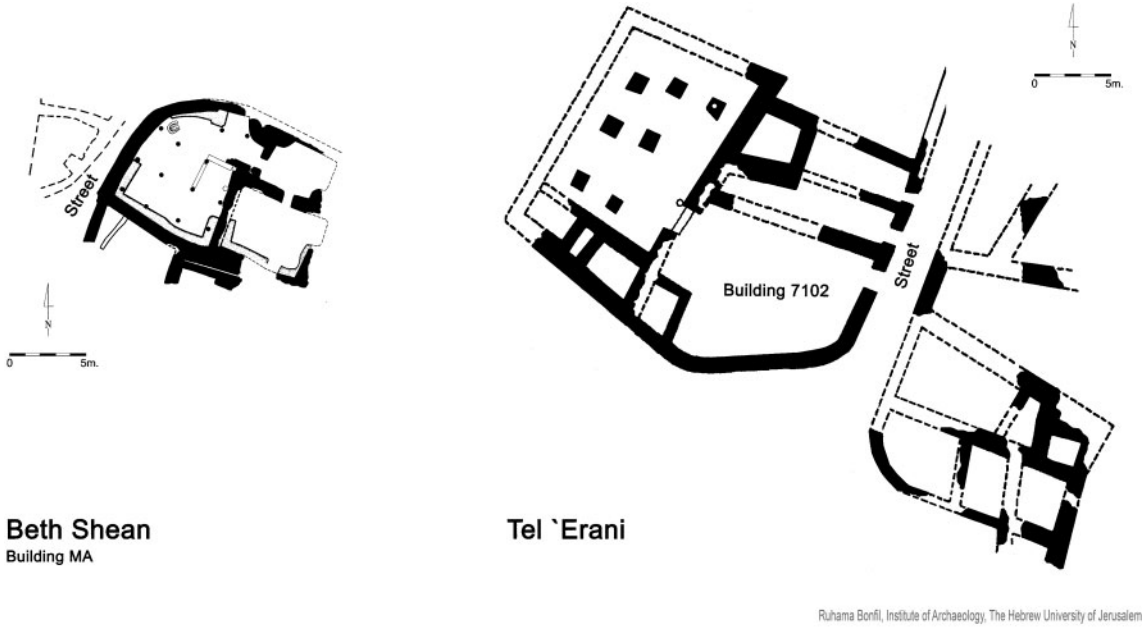

Figure 5 Schematic plan of EB IB Building MA at Tel Beth Shean, Stratum M-3, and a parallel from Tel Erani

Figure 6 General view of Building MA of Stratum M-3 at Tel Beth Shean, looking south. Note FitzGerald's trench in the upper right corner of the photograph

The main entrance to the building was not found, but its location could only have been on the eastern side, perhaps opening into the north-eastern room or into a room to its east that was not excavated. From the north-eastern room (38041), entrances led to the south-eastern room (38048) and to the main hall (10018). Both of the eastern rooms had plastered walls and beaten earth floors. The northern room 38041 (inner dimensions 3·20 m × 3·55 m, *c.* 10 sq m) had mudbrick platforms with rounded corners in its north-western and south-eastern corners (for a similar platform built of stones in an EB II house at Tel Qashish see Ben Tor and Bonfil [2003, 81, plan 9]). The function of these platforms is unknown: they could have served as a raised dais upon which to place jars containing water or food. Near the north-western platform, burnt beams and two complete holemouth jars were found, one full of carbonized lentils. Three small basalt and limestone ring weights were also found in this room.

The southern room was much larger than the northern one (inner dimensions of 3·5 × 5·30 m, *c.* 18·5 sq m) and had benches along the walls on its southern side. While relatively little pottery was recovered from this room, other finds included a four-legged basalt bowl, a fragment of a copper axe and a large pithos sherd marked with an incised pentagram (Fig. 12:5).

The main hall (10018; inner dimensions of 6·5 × 8 m, 52 sq m) was accessed from the north-eastern room through a narrow opening. The beaten earth floor was covered by brown mud plaster, and the same plaster covered the brick walls. Benches made of compacted earth were built along the southern wall and the southern part of the western wall. In the north-eastern corner was a mudbrick platform with rounded corners similar to those in the north-eastern room, but much larger. A unique feature of the hall is the presence of 14 pillar bases made of flat unworked stones arranged systematically in four rows: three rows of four and one of two. The distances between the centres of the pillar bases vary from 1·8–2·2 m between the rows aligned east–west, and 2·0–2·3 m between rows aligned north–south. In some cases, a posthole (average diameter of 0·3 m) was preserved in the plaster floor or bench above the stone pillar base, indicating that the stone bases were laid first with the wooden pillar above them, and the plastered floor and benches were constructed afterwards. The outer pillar bases were close to the external walls of the hall. This odd phenomenon is known at other Early Bronze Age buildings, for example, the EB I Stratum XIX temple at Megiddo (Finkelstein and Ussishkin 2000a, 36, fig. 3.10), in the EB II Acropolis building at 'Ai (Marquet-Krause 1949, pl. XCII), in a rectangular EB II dwelling at Qiryat Ata (Golani 2003, plans 2·14 and 2·17), and in Stratum XIII of Fitzgerald's excavation at Beth-Shean (Braun 2004, figs 2.36–2·37).

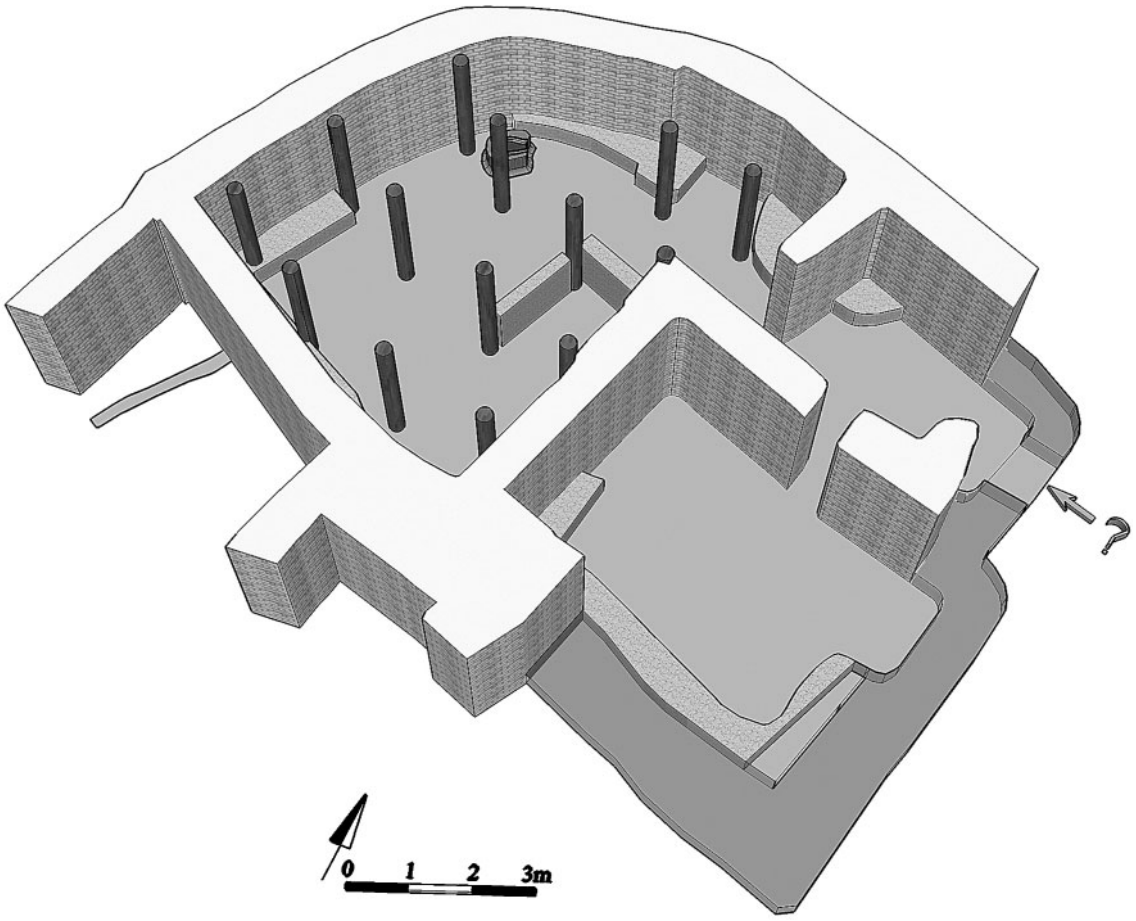

Figure 7 Isometric reconstruction of the main hall of Building MA in Stratum M-3 (computer drawing by D. Solar)

An unusual grinding installation was located in the northern part of the hall, constructed on a raised oval platform. An elongated 'loaf-shaped' basalt quern and an upper grinding stone were found on this platform. This type of grinding installation so far is unique for the period in that it required a standing, slightly bent posture for grinding. Two narrow mudbrick partition walls (0·22 m and 0·35 m wide) were built between three of the inner pillar bases, creating an enclosed area within the main hall, in which were located at least one complete pithos, possibly several other pithoi, and holemouth jars. These contained burnt grain and lentils. It may be suggested that the wooden pillars supported a second storey, since a 1·2 m thick layer of destruction debris covered the floor of the hall, while the comparable layer in the eastern rooms was much thinner.

The building was destroyed by a heavy conflagration. In the main hall, a burnt destruction layer over 1 m in thickness contained structural elements, such as fallen mudbricks, including complete examples bearing finger-marks, lumps of burnt plaster with reed impressions that had fallen from the ceiling and burnt beams. This destruction layer contained a large number of potsherds. These are estimated to have originated from a minimal number of 125 vessels, including 22 large pithoi and 53 holemouth jars as well as various other vessels (Table 2 and Fig. 8). Several near-complete vessels were found *in situ* between the partition walls at the centre of the main hall, but the majority, including the pithoi and holemouth jars, was dispersed throughout the thick destruction layer. It is assumed here that many of the vessels had fallen from an upper storey, breaking into small pieces that were scattered throughout the fallen debris, and which made their restoration virtually impossible. Carbonized seeds of grain and lentils were found within the destruction debris. These products may have been stored in the pithoi and holemouth jars, although they could also have been stored in perishable containers.

Architectural parallels

Our building is unique in its plan and constructional details. Large pillared halls have not been identified among EB I secular buildings, except perhaps in the

case of Building 7102 at Tel Erani, placed by Kempinski and Gilead in their Stratum C (see the reconstructed schematic plan in Kempinski and Gilead 1991, 169, also Fig. 5 here). The latter scholars dated the building to EB IB, contemporary with the Egyptian First Dynasty presence at Tel Erani (3200–3100 BC, ibid., 186–89). However, Yekutieli (2002) has attributed Stratum C to a local pre-Egyptian phase at the site, which he considers an early phase of EB IB ('EB IB1'), and dates to 3350–3200 BC. If Yekutieli is correct, Building 7102 at Tel Erani might have been slightly earlier than that at Beth Shean discussed here. The former (Fig. 5) is composed of a large courtyard with curving walls on one side, several side rooms, and a large hall with seven almost square pillar bases (8·75 × 13·1 m, *c.* 115 sq m). This building at Erani indicates a high degree of planning and argues for the existence of public architecture, perhaps in the service of some form of centralized administration.

Structures with rounded walls facing streets and piazzas are well known in EB I architecture. In addition to the above, examples include: the corner of the adjacent Building 232 (Kempinski and Gilead 1991, 168–69; figs 3–4, and Fig. 5 in the present paper); a partially excavated building at the Palmaḥim Quarry (Braun 1991); a rounded structure at the large EB I site of Ḥorbat Petora east of Tel Erani (Baumgarten and Gorzalczany 2005, fig. 1); the rounded Wall 400 at Qiryat Ata of late EB I or EB II date (Golani 2003, 48–53, figs 2.14–2·15). While curvilinear architecture is a well-known tradition in the southern Levant during EB I, such rounded walls should not be confused with either the oval houses characteristic of EB IA (Braun 1989), or with rounded corners which are seen on some houses mainly during EB IB (Golani 1999; Zuckerman 2003a). An example of the latter was found in Level XIV at Beth Shean (Braun 2004, fig. 2.30, Walls 1429 and 1432). It is located due west of, and is most probably contemporary with, our Building MA.

Building MA in Stratum M-2

Following its heavy destruction by fire, the structure was rebuilt in Stratum M-2. This later phase had been partly excavated by the UME and we found its poorly preserved remains just below topsoil as left in 1933. We were able to determine the plan (Fig. 4), but the minimal height of the preserved brick walls made the identification of entrances difficult. The outer walls of the Stratum M-2 building and its main north-south internal wall were constructed on the wall-stumps of the Stratum M-3 structure, but the other inner walls were new and denote a change in plan. The western part, where the pillared hall of the previous building had stood, was divided into two smaller spaces by an east–west wall. The eastern part of the building now included a large space on the north, which revealed two stone pillar bases, and two smaller rooms to its south. There was no preserved evidence for a doorway connecting the western and eastern areas, and it is possible that the former was now divided into two independent units.

The street to the west and north of the building continued in use, and its surface had been raised, indicating continuity in the plan of this part of the settlement. Part of an adjacent building with outer rounded wall (in Squares R-S-1-2) recalls the main building. The floors of this phase were preserved only in patches, as most of the floor surfaces had been destroyed either in antiquity or by the earlier excavations. Finds from the main building consist mainly of potsherds from earth layers that are associated with the building. However, in contrast to the earlier phase, no sealed loci were identified. Unusual finds included parts of four elaborate ceramic chalices from the eastern wing of the main building (Fig. 11:2–5) and a cache of flint blades (see below).

Comments on the pottery assemblage of Strata M-3–M-2

The excavation of Building MA of Stratum M-3 and its rebuilding in Stratum M-2 yielded more than two thousand diagnostic sherds and several restorable vessels from reliable loci. Analysis of this material has allowed us to propose significant chronological and regional observations, which will be presented in detail by Y. Rotem (in Mazar (ed.) forthcoming).

Since clear typological distinctions could not be established between the M-3 and M-2 assemblages, we propose to summarize the characteristics of both assemblages together. Chronologically, both could be dated to the last phase of the EB IB period or, as discussed below, to a transitional phase between EB I and EB II. The quantified ceramic data from all the reliable loci from Building MA during both Strata M-3 and M-2, and a calculation of the minimal number of vessels in each class, are presented in Table 2.

Typology

The following is a short summary of the main typological features of our assemblage.

Bowls (Figs 8:1–11; 9:1–9). Most prominent are rather crude, deep bowls with simple rims and rounded walls. Variations of these deep bowls have

Table 2 Distribution of classes by stratum

	St. M-3			St. M-2			Total		
Class	**N**	**MNI**	**%**	**N**	**MNI**	**%**	**N**	**MNI**	**%**
Bowls	170	22	16%	154	20	28%	324	42	20%
Krater-Bowls	42	5	4%	28	4	5%	70	9	4%
Holemouth Jars	490	67	46%	231	32	43%	721	99	45%
Jugs	31	4	3%	23	1	4%	54	6	3%
Juglets	19	4	2%	8	1	1%	27	4	2%
Amphoriskoi	7	1	1%	0	0	0%	7	1	0%
Amphora-Jars	4	0·5	0%	3	0	1%	7	0·5	0%
Teapots	5	0	1%	0	0	0%	5	0	0%
Jars	41	5	4%	20	2	4%	61	7	4%
Storage Jars	121	17·5	11%	43	5	8%	164	22·5	10%
Pithoi	135	25	13%	21	3	4%	156	28	0%
Chalices	3	0%	13	2	2%	16	2	1%	
Total	1068	151	100%	544	70	100%	1612	221	99%

** N = count of sherds from reliable loci; MNI = minimal number of individual vessels calculated on the basis of rim counts. Percentages refer to N and are rounded-off.*

straight walls and flattened or gutter-rims, as well as rounded shapes with external conoid projections. The latter appear to be locally made and do not seem to belong to the late Grey Burnished Ware tradition. Shallow bowls have a variety of rims: simple, inverted, ledge, or bevelled. Platter-like carinated bowls, few of which are made of the metallic ware that will become typical of the northern EB II assemblages, are probably the prototype of the common EB II platter. Small carinated and rounded bowls usually bear soot marks on their rim and probably functioned as lamps. Almost 80% of the bowls are red-slipped, while only 28% have hand burnish that is random, horizontal, continuous, net pattern or radial.

Kraters (Figs 8:12; 9:10). Most of the kraters are actually open holemouth jars with an in-turned, rounded or sharpened rim, often with a spout or wavy ledge handles. Other types of kraters have straight walls with either an everted or a thickened rim with incised decoration. Over 85% of the kraters are red-slipped inside and outside.

Holemouth jars (Figs 8:13; 9:11–12). A range of holemouth jar forms comprises 45% of the assemblage in both M-3 and M-2. The most prominent type in Stratum M-3 is made of coarse clay and has a thickened rim (Fig. 8:13); it is usually red-slipped and sometimes has small knobs below the rim. Less common holemouth jar types have a variety of rims (simple, in-turned, ridged or squared) and are more likely to bear incised or plastic rope decoration (not illustrated). In Stratum M-2, there is a clear decrease in the dominance of thickened rim holemouth jars, alongside an increase in a simpler and more delicate-rimmed version.

Holemouth jars could be used for both cooking and storage. However, the jars from M-3 revealed no evidence for blackening through use on hearths, nor is there evidence for cooking installations (fireplaces, *tabuns*, etc.) within Building MA. On the other hand some vessels contained carbonized grain and lentils, while the large number of such vessels (MNI = 67 in M-3) strongly suggests that, in this particular context, the jars were mainly used for food storage. The capacity of the single complete jar from Stratum M-3 was calculated to be 30·3 litres. (We thank A. Karasik for the calculating of capacities of the vessels. E. Steinbach calculated the capacities of the same vessels using a different method, achieving results that are lower by only 2·0–2·9%.) The calculated minimum holemouth jars for the building in Stratum M-3 was 67 (see Tables 2 and 4), giving a storage capacity of some 2000 litres. For incised marks on the jars, see below.

Jugs and juglets (Figs 8:14–15; 9:13–14). Jugs and juglets are not common in our assemblages. They include oval or globular jugs with a flat base and narrow neck (Figs 8:14; 9:14), elongated jugs with a narrow base (Fig. 9:13), and small cups and juglets with a high loop handle (Fig. 8:15). Sixty-nine per cent of the jugs and juglets are red-slipped and 33% are also burnished.

Amphoriskoi (Figs 8:16–17; 9:15). Amphoriskoi are barely represented in the pottery assemblage. They are small closed vessels with a narrow neck and two pierced handles. They are usually red-slipped; in one case, the body of the vessel bore a painted net pattern.

Small jars (Fig. 8:18, 20–21; 9:16). Small jars are not common in this assemblage. They are either small

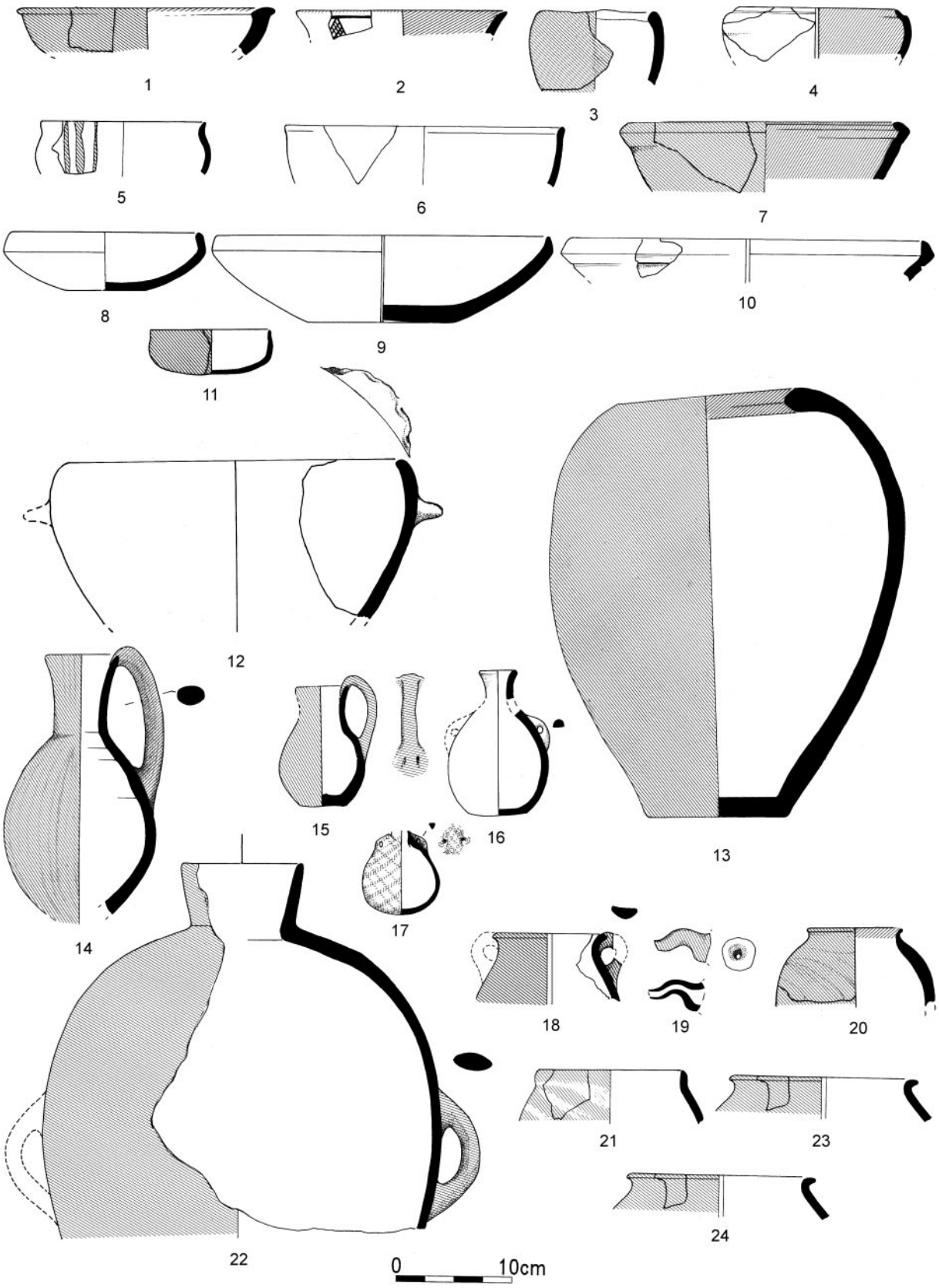

Figure 8 Pottery types from Building MA in Stratum M-3

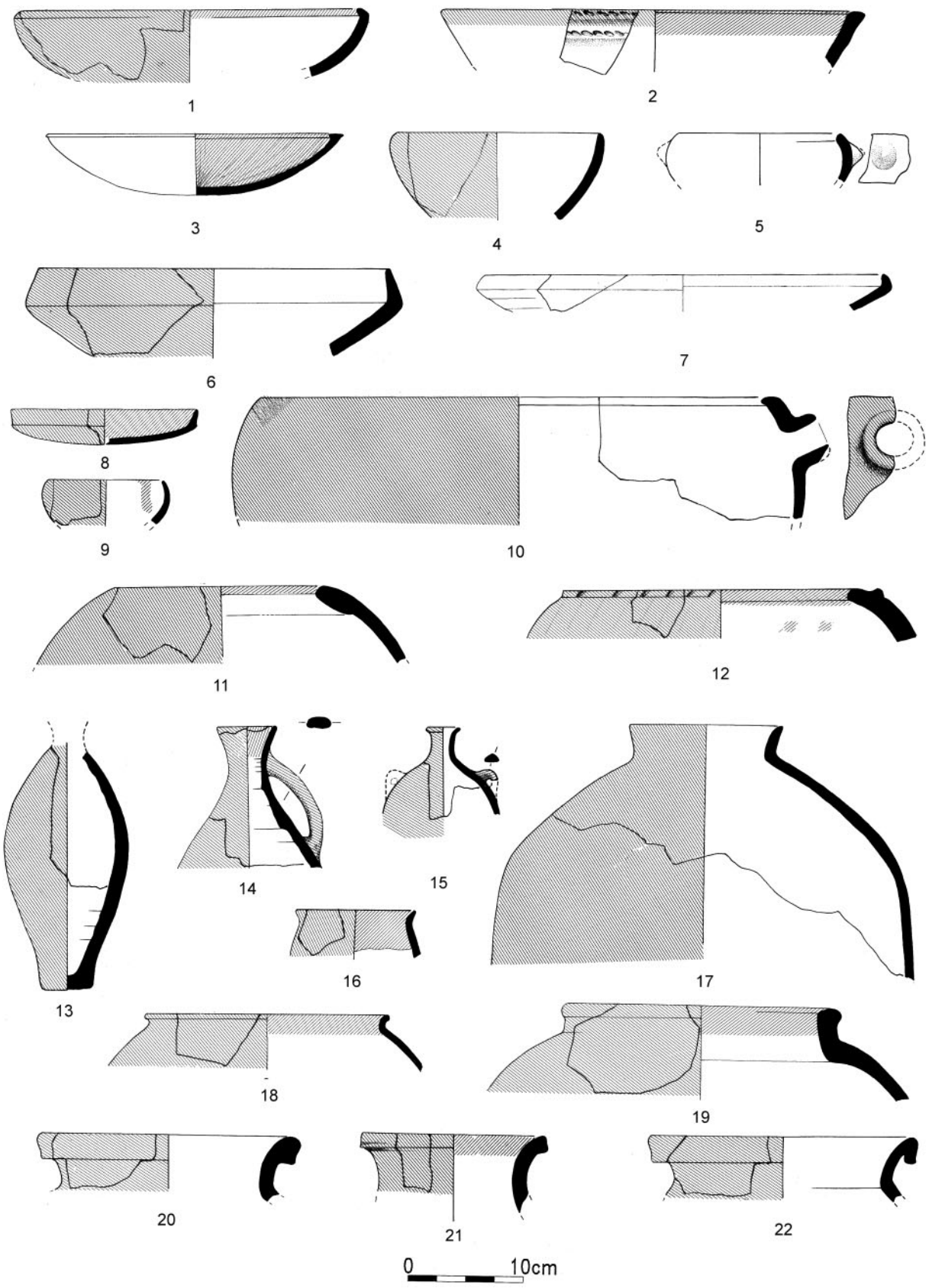

Figure 9 Pottery types from Building MA in Stratum M-2

and globular, with a short everted rim, or medium and globular, with a short straight neck and ledge or loop handles.

Teapots (Fig. 8:19). 'Teapots' are not common in the assemblage; very few EB I 'bent spouts' were found (such as Fig. 8:19); all of them are red-slipped.

Storage jars. Two main types were discernible: large storage jars with a high, straight, everted neck (Figs 8:22, 9:17), and jars of medium size with a wide opening and a short straight or everted rim (Figs 8:23–24; 9:18). The first type is a precursor of the typical high-necked EB II storage jar.

Pithoi (Figs 9:19–22; 10; 12:5). Pithoi have either a straight or an everted thickened rim, both belonging to the 'rail-rim' variety, though the distinctive incised decoration on the rim found at other sites is absent in our assemblages. Thin red or reddish-brown slip, mostly non-continuous, appears on the exterior and inner part of the rim of most pithoi. This treatment may be regarded as part of the 'Band-Slip' tradition, which is common in the Jezreel and Upper Jordan Valleys in the EB IB (Braun 1996, 198), though it is less distinctive in our assemblage then usual. The pithoi are large vessels; the single compete example is over 1 m high, with a capacity calculated as 138·5 litres. The minimal number of pithoi in the main hall of the building in Stratum M-3 was estimated at 25, providing a total capacity of 3460 litres.

Chalices (Fig. 11). Sixteen chalices and fragments of chalices were registered (Fig. 11:1–3), as were parts of fenestrated stands (Fig. 11:4–5). One complete chalice (Fig. 11:1) came from the main hall of Building MA in Stratum M-3 and several chalices and the foot of a fenestrated stand (?) were recovered in the main building of Stratum M-2 (Fig. 11:2–5). The chalices are either broad-based, with narrow slit windows, or narrow-based with multiple small circular apertures. Red slip appears on most. They may be interpreted as cult vessels, though their cultic function cannot be defined with any certainty. Wide-legged chalices are known at Tel Beth Shean from Level XVII of the Chalcolithic period (FitzGerald 1935, pl. III:14; Braun 2004, fig. 3.5:5–6, 8) through to the EB III occupation (FitzGerald 1935, Pl. IX:26). Two wide-legged examples, and a narrow-legged chalice from FitzGerald's Stratum XIII, are similar and contemporary with our examples (FitzGerald 1935, Pl. IV:23–24 [= Braun 2004, Pl. IV:23–24]). The broad- and narrow-based chalices also find parallels in Qiryat Ata Stratum III (Golani 2003, fig. 4.14:1–4).

Handles. Ledge handles, either plain or thumb-indented, are common. Other types are loop handles which are usually marked with incisions (see below) as well as loop handles with applied decoration, thin-sectioned loop handles and pierced handles.

Surface treatment. Thin red, brown or grey slip, mostly non-continuous, appears on more then 60% of the registered sherds. Thicker slip may appear on bowls, though no 'Crackled Ware' surface treatment was identified. Hand burnishing (irregular, horizontal, continuous, vertical, net-patterned, radial or polished) was found on *c.* 15% of the sherds. 'Band Slip' surface treatment is discussed under 'Pithoi', above.

Incised potsmarks. Twenty-nine vessels in both Strata M-3 and M-2 bear pre-firing incised potmarks (examples in Fig. 12). These include: 17 holemouth jars of various types, one pithos, six loop handles from storage-jars and five body sherds from hole-mouth jars. The marks always appear in visible places, in the case of holemouth jars close to the rim, and on the necks of other jar forms. Most marks comprise combinations of two to six short lines or dots, except three of the designs: an X mark inside a circle (Fig. 12:1), a pentagram incised on a pithos (Fig 12:5) and three dots under an horizontal bow (not illustrated).

Incised potmarks are common during the EBA, and have been reported from almost every EBA site. The largest reported group (545 marks) was found in EB II–III contexts at Khirbat az-Zayraqun (Genz 2004). They have been found on vessel types similar to ours in EB IB contexts at many sites: Qiryat Ata (Golani 2003, 217, fig. 7.8), Tel Shalem (Eisenberg 1996, 11, fig. 15:2), Tel Abu-al Kharaz (Fischer 2000, 227, fig. 12.4:1–6), 'Afula (Sukenik 1948, Pl. 3:2), Tel Qashish (Zuckerman 2003c, 47, fig. 22:9–1), Megiddo (Guy 1938, 12) and Bab edh-Dhra (Schaub and Rast 1989, 261, fig. 152:30–41).

Genz (2004, 224–27) has surveyed the various explanations for such signs: potters' marks (referring to the producers of the vessels); potters' marks relating to specialized pottery production as opposed to household production; owners' marks; decorative elements emblematic of certain families or clans; volume measures or particular units of certain goods such as grain; a numeric system of some sort; marks indicating the contents of the vessels. Genz rejects all these proposals except the last (suggested also by Fischer 2000, 227), but also draws attention to problems with this explanation. At present, we have no satisfactory explanation for the marks, except to make a general statement that they must been of significance either to the manufacturing process or were related in some way to ownership and/or distribution of the contents of the vessels.

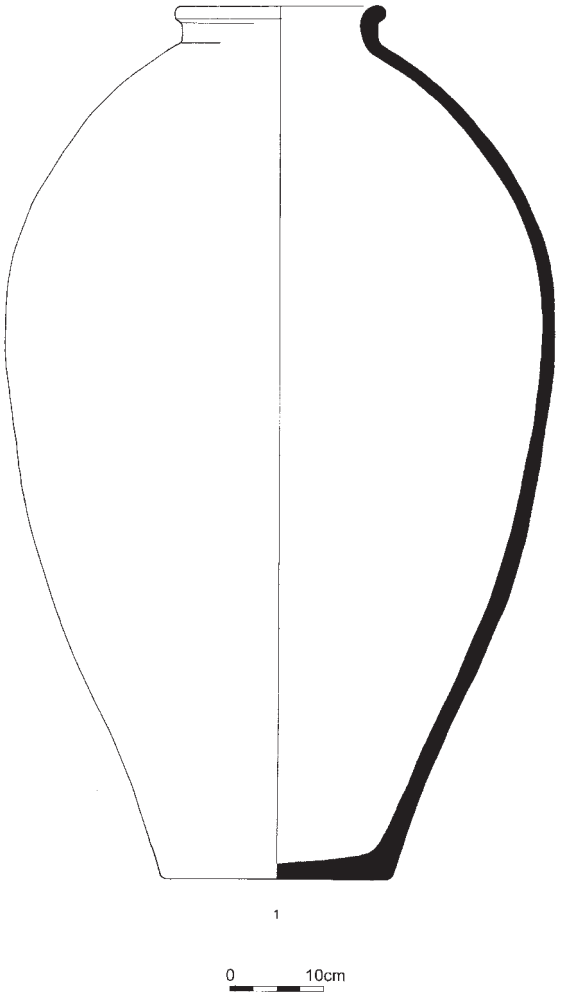

Figure 10 A pithos from Stratum M-3

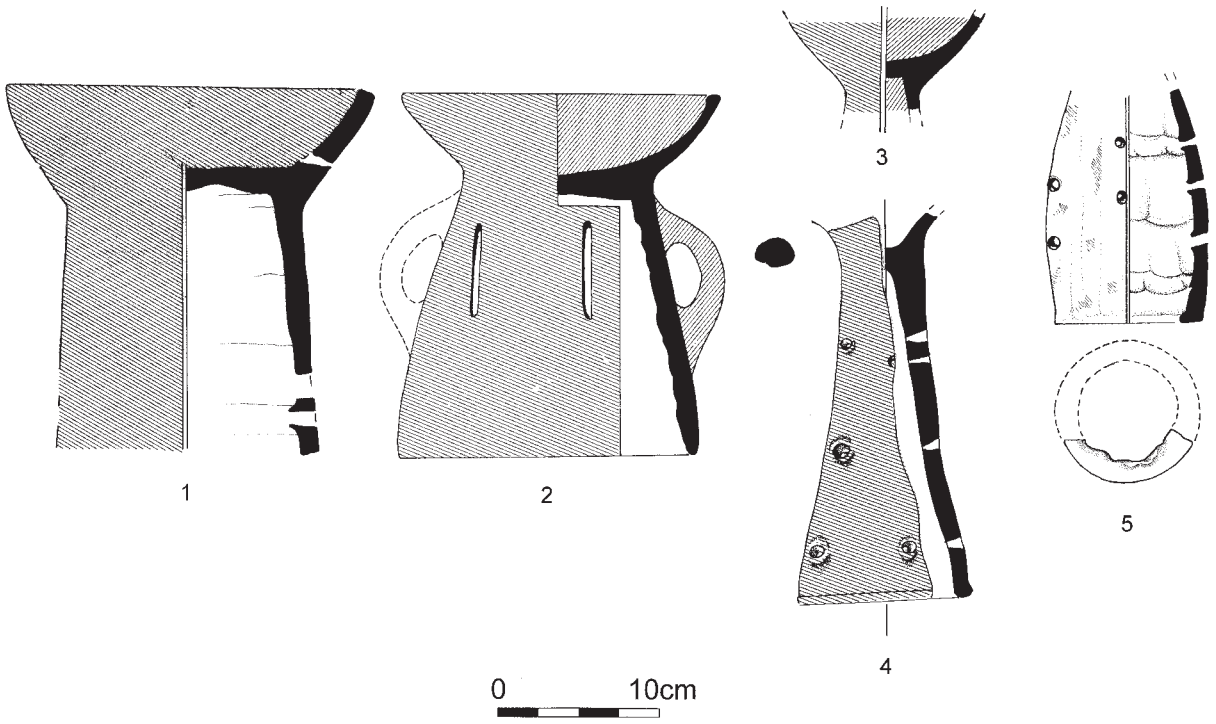

Figure 11 Chalices and fenestrated stands

Discussion

The Strata M-2 and M-3 pottery assemblages should be dated within the last phase of the EB IB period. A detailed ceramic comparative study (Rotem forthcoming) shows that the assemblage has its best parallels in northern EB IB sites belonging to the 'Ein Shadud Horizon' (Braun 1996, 82–87), such as Qiryat Ata Strata III–II (Golani 2003), Tel Qashish Strata XV–XIII (Zuckerman 2003b; 2003c), Tell el-Far'ah (N) 'Bronze Ancien I' (de Vaux 1955 and de Vaux and Steve 1947, 1948), Beth Yeraḥ Period B (Greenberg *et al*. 2006) and Stratum V (Getzov 2006, 7–40) and Tel Esur (Ain el-Assawir) Stratum II (Yannai 2006). However, on the basis of the appearance of certain forms, we can narrow down the definition of the assemblage in terms of chronology and regional variations, and define it as characteristic mainly of the Jordan Valley and its surroundings in the last phase of the EB I. The closest parallels are found at Tel Shalem Strata II–III (Eisenberg 1996), Tel Abu al-Kharaz Phase I (Fischer 2000, 204–12) and perhaps also the unpublished EB IB phase at Tel Yaqush (Esse 1993).

The main ceramic characteristics of this horizon are the initial appearance of carinated bowls with inturned rims (which may be regarded as prototypes of the EB II platters), jugs with tall necks and handles from rim to shoulder, tall-necked storage jars with simple out-turned rims, and early appearances in small quantities of what we tentatively call 'Proto Metallic Ware' (called 'Early Metallic Burnished Ware' by Fischer 2000, 208). These characteristics were discerned in each of the assemblages listed above, alongside the common EB IB typological components. Megiddo Stages IV–III (Engberg and Shipton 1934) and Strata J-3 and J-4 of the renewed excavation (Joffe 2000) most probably belong to the same transitional phase, though variation in typological forms is noticeable and should be explained as the result of regional and functional differences.

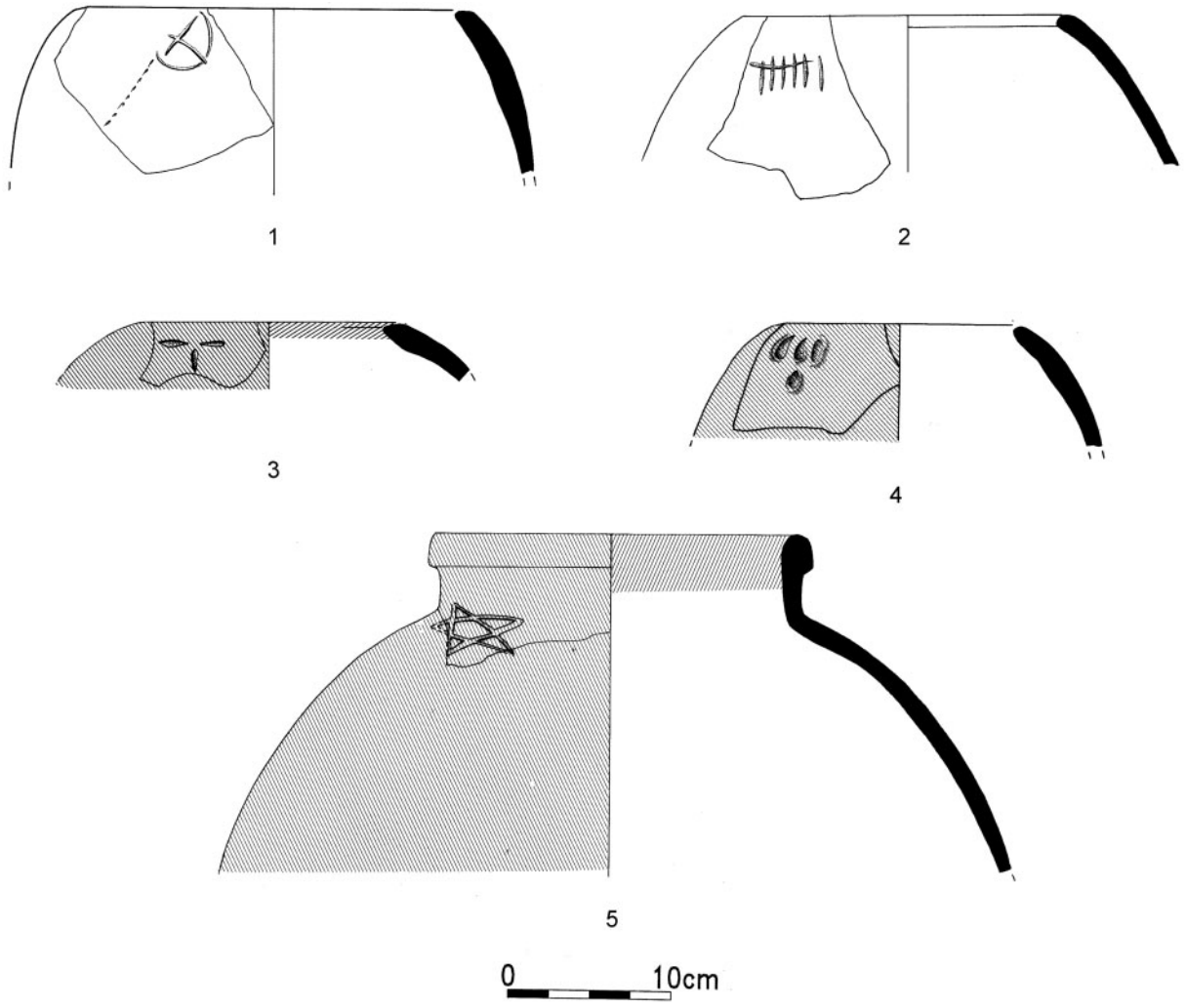

Figure 12 Potmarks on vessels from Stratum M-3

While Joffe (1993, 40) pointed out the difficulty involved in defining the precise end of EB I and beginning of EB II in the north, we believe that a distinctive phase at the end of EB I can be defined, at least in our region. That said, its archaeological characterization requires further research. For now, we suggest that this particular phase is included within EB IB, but we are aware that it may represent a sub-phase at the end of the period, or a transitional EB I/EB II unit.

The functional nature of the assemblage, drawn from the distribution of vessel types and quantities in each stratum, will be discussed below.

Additional finds

Metal objects. Three copper axes were found in the destruction layer of the main hall in Stratum M-3 (Fig. 13:1–3); two of them were found together while a simple flat copper javelin head was found attached to one of the axes (Fig. 13:4). The axes are of the simple type, many examples of which are known from the Chalcolithic period through the various stages of the EBA in the southern Levant (for a comprehensive catalogue and discussion, see Miron 1992, 3–30 and Figs 1–11). Additional EB I examples were published from Yiftaḥel Stratum II (Shalev and Braun 1997, fig. 11.3:1–2), Qiryat Ata Stratum 3 (Golani 2003, 215, fig. 7.6:1) and an EB II group from Tell el-Ḥusn near Pella (Bourke *et al*. 1999, 61–63, fig. 11:2–5). Typologically, our Fig. 13:1–2 belong to Miron's (1992) Type VII and our Figure 13:3 to his Type II. In several cases such axes were found in groups of two, four or more examples (e.g. at Chalcolithic Mezer, EB I Jericho, Yiftaḥel and Kfar Monash, EB II Pella and EB III Tell el Ḥesi; see Miron 1992 for all references). The definition of such concentrations as 'hoards' may be misleading. They might simply represent groups of utilitarian tools that were kept together. Yet, such concentrations of high-value objects may indicate the high status of the owners, perhaps the case in Building MA, and so in addition to their function as tools, they also have may reflected the wealth and status of the owner.

Lithics. A unique find in the main hall of the Stratum M-3 building was an assemblage of 646 flint objects, found in a single concentration on the centre of the southern bench (Bankirer and Marder forthcoming). The majority of the assemblage are chips (n = 565), most of them by-products of the massive fire that occurred in the building. However, the assemblage also includes 56 tools, of which 47 are sickle blades (33 of them of the 'Canaanean Blade' type), five are retouched Canaanean blades, one is a 'Beth Shean point' (for definition of the term, see Bankirer 1999) and three are *ad hoc* tools. The assemblage does not include cores, yet the large number of chips and a limestone hammer stone found together with the group suggests that the tools were manufactured in this particular location.

A cache of ten superb 'Canaanean' flint blades was found in the corner between two mudbrick walls in the south-eastern part of the building in Stratum M-2. These are blade blanks, unretouched, of average length 20·75 cm long, and had been packed close together. The cache appears to have been deliberately hidden between the bricks of the wall, suggesting that retrieval was the eventual intention.

Ring-shaped weights. Made of either basalt or limestone these are of maximum diameter 4·5 cm, with a central perforation of maximum diameter 1·4 cm. Their weight falls in the range 45–58 g. Such ring weights are common in the EBA and are usually interpreted as spindle whorls (Shamir 1996, 150–51, with numerous parallels listed).

Food remains. A rich collection of botanical remains was recovered from the building of Stratum M-3, through flotation. No such remains were found in Stratum M-2. Analysis was undertaken by Simchoni and Kislev (forthcoming), and the evidence is summarized here. Cereals comprised about 49% of the material. Two-row barley (*Hordeum distichon*) was the most abundant crop; small-grain naked wheat (*Triticum parvicoccum*) and emmer (*Triticum dicoccon*) were second in importance. Emmer chaff, probably used for feeding animals was also identified. Pulses comprised 43% of the assemblage, of which 46·6% of these were chickpea (*Cicer arietinum*), 28·8% lentil (*Lens culinaris*), and 24·5% horse bean (*Vicia faba*). Various fruits (grape, olive and fig) were identified, but these were rare, comprising only 3% of the assemblage. Seed remains indicative of the cultivation of flax were also recovered. No olive pits were recovered, and very few animal bones.

Wood remains. Twenty-seven samples of carbonized wood from the main hall of Building MA in Stratum M-3 were identified by U. Baruch. These were (in parenthesis: the number of examples identified): *Olea europaea* (7); *Olea europaea Populus* (2); *Olea europaea Punica* (1); *Fraxinus syriaca* (7); *Quercus ithaburensis* (1); *Tamarix* (3); *Pistacia* (*palaestina* or *atlantica*) (3); *Pistacia atlantica* (1); *Cercis siliquastrum* (1); *Pinus halepensis* (1). Not surprisingly timber appears to have served in the construction of the building. The fact that 37% of the examples were identified as olive trees, points to a widespread presence of olive groves in the region

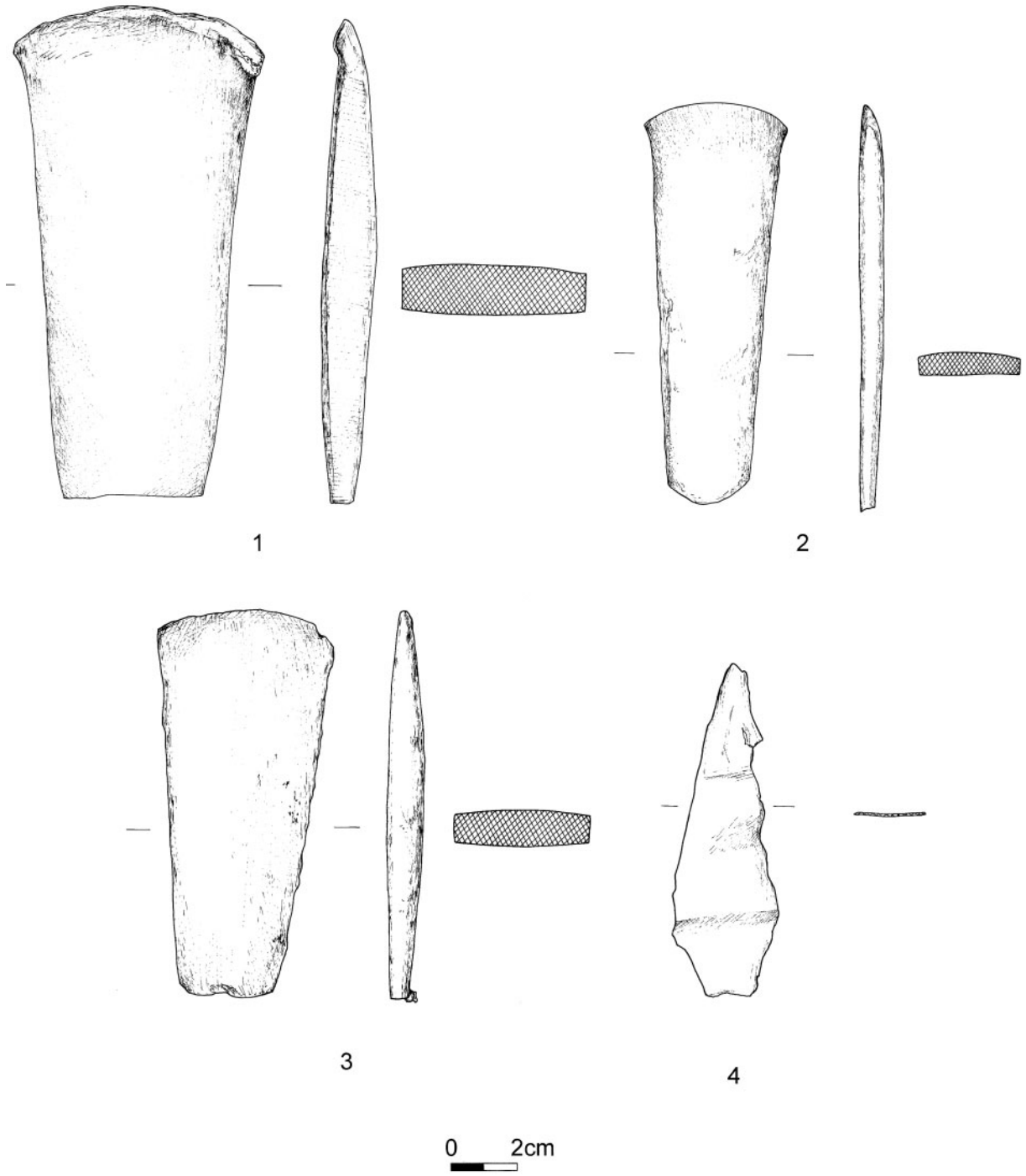

Figure 13 Copper-alloy axes and a javelin head from Building MA in Stratum M-3

during the late 4th millennium BC. Only two examples (oak and pine) are likely to be non-local, perhaps from the Galilee or Transjordan. All others species grow, even today, in the Jordan Valley.

Radiometric dates and absolute chronology

Nine ^{14}C dates from Stratum M-3 and three dates from Stratum M-2 were measured in the radiocarbon laboratory of the Weizmann Institute of Science using scintillation counters (initially published by Segal and Carmi 1996, 2004; Carmi and Segal in press; see Table 3 and Fig. 14). This is one of the largest groups of radiometric dates from the 4th millennium in the southern Levant.

Almost all of the samples were well-stratified, and taken from short-lived species; only two were wood samples and one was undefined organic material. All came from reliable contexts. Two problems should be mentioned: 1. Two of the short-lived samples from Stratum M-3 (RT2154 and RT2324) provided a BP

Table 3 Radiocarbon dates from Strata M-3 and M-2 (calibrated using OxCal 4·10)

RT No.	Str.	YBP	Cal BC* (68·2% probability)	Cal BC* (95·4% probability)	Sample	Reference**
RT2153	M-3	4450±55	3329–3021	3341–2928	Charred grain	A, 48
RT2154	M-3	4690±50	3621–3375	3632–3366	Charred grain	A, 88
RT2321	M-3	4455±55	3329–3024	3346–2930	Charred grain	B, 131
RT2324	M-3	4635±55	3516–3357	3631–3124	Charred grain	B, 132
RT2525	M-3	4410±45	3096–2927	3328–2912	Charred grain	B, 132
RT2590	M-3	4475±45	3334–3091	3352–3019	European olive	B, 132
RT2591	M-3	4490±50	3336–3098	3359–3023	Seeds	B, 132
RT2592	M-3	4405±25	3089–2935	3097–2922	Seeds	B, 132
RT2593	M-3	4480±45	3334–3094	3352–3023	Charred grain	B, 132
RT2322	M-2	4410±70	3311–2917	3337–2904	Charred seeds	B, 132
RT2577	M-2	4390±55	3090–2920	3328–2899	Common carob	B, 132
RT2528	M-2	4380±60	3090–2913	3328–2892	Organic material	B, 132

** Calibrated with OxCal 4·0·1 software (Bronk Ramsey 2006) using IntCal04 atmospheric curve (Reimer* et al. *2004).*
***A= Segal and Carmi 1996; B: Segal and Carmi 2004.*

date that is almost 200 years earlier than the other dates from the same context and thus must be defined as outliers; 2. The wiggles in the calibration graph cause a wide range of calibrated dates between 3300–3000 BC in the 95·4% probability range ('2σ'). The combined calibrated date of the seven samples from Stratum M-3 which pass the X^2 test (ignoring the two outliers), calculated with OxCal 4·0 software, is 3119–3033 BC in the 68·2% probability ('1σ') and 3313–3024 BC in the 95·4% probability range ('2σ'). The three dates from Stratum M-2 are 3056–2974 in the 68% probability and 3093–2936 in the 95·4% probability (see Fig. 14 for a multiplot and boundaries of M-3 and M-2, excluding the two outliers in Stratum M-3). More accurate dating is prevented by the limitations of the calibration curve.

Some recent radiometric dates from late EB I contexts in northern Palestine point to similar dates in the 31st–early 30th centuries BC. At Tell Abu al-Kharaz, six ^{14}C dates from late EB I contexts provide a calibrated date range of 3134–3028 BC and the calculated date for the end of Phase I is 3090±60 (Fischer 2000, 223, 227). As mentioned above, the pottery assemblage from Abu al-Kharaz, Phase I resembles that of our Strata M-3 and M-2, and the dates are in the range of our M-3 dates. The average of three dates from Megiddo Stratum J-4 is 3020–2920 BC (Boaretto 2006, 551), partly overlapping our dates from Stratum M-2.[1]

[1] We wish to avoid a comprehensive discussion of EB I radiometric dates here. Braun (2001) collected much data and pointed out problems and contradictions associated with radiocarbon dates from other EB I sites. Bruins and van der Plicht (2001) claim for much higher dates for the entire EB I–EB II sequence at Jericho based on measurements of short-lived samples from Kenyon's excavations. These results contradict our dates, as well as the traditional chronology for Egypt and EB Palestine. Late EB I contexts at Horvat 'Ilin Tahtit near Beth Shemesh provided four dates in the 31st century BC and four samples in the 37th–34th centuries, yet these are all charcoal samples which could be of old wood (Segal and Carmi 2001).

Discussion

Building MA of Strata M-3 and M-2 is part of a larger settlement, additional parts of which were excavated by UME as their Levels XIV and XIII respectively (see plan in Braun 2004, figs 2.30–2·31, 2·36–2·38; our building is located east of Squares M-23–25 on this plan). This EB IB settlement followed an EB IA occupation characterized by curvilinear (oval) dwellings (Levels XV–XVI). A similar development has been observed at several northern EB I sites, such as Qiryat Ata and Beth Yeraḥ.

Function and meaning of the Stratum M-3 building

Building MA of Stratum M-3 is larger than any other contemporary residential structure: no parallels for its plan or architectural details are currently known from EB I Palestine. Essential components of domestic structures such as a courtyard and cooking facilities have not been found in this building (though they could have existed in the unexcavated area to the east), while the pillared main hall, with a floor area of 52 sq m, is unknown in EB I private architecture. Therefore, from both the architectural and the functional aspects, we suggest defining the building as non-residential, and as having a particular socio-economic function. Based on its plan and contents, we suggest that the main hall should be interpreted as a two-storey space used for the storage and processing of agricultural products, and as a workshop for certain craft activities. The ground floor was perhaps used mainly as a working area for the collection, grinding and packing of foodstuffs such as cereals and pulses, and also for the manufacture of flint tools, mainly sickle blades used in agriculture.

We assume that the 14 pillars bases could have supported a second storey which might have served mainly for the storage of food supplies, contained in ceramic pithoi, storage jars and holemouth jars. This

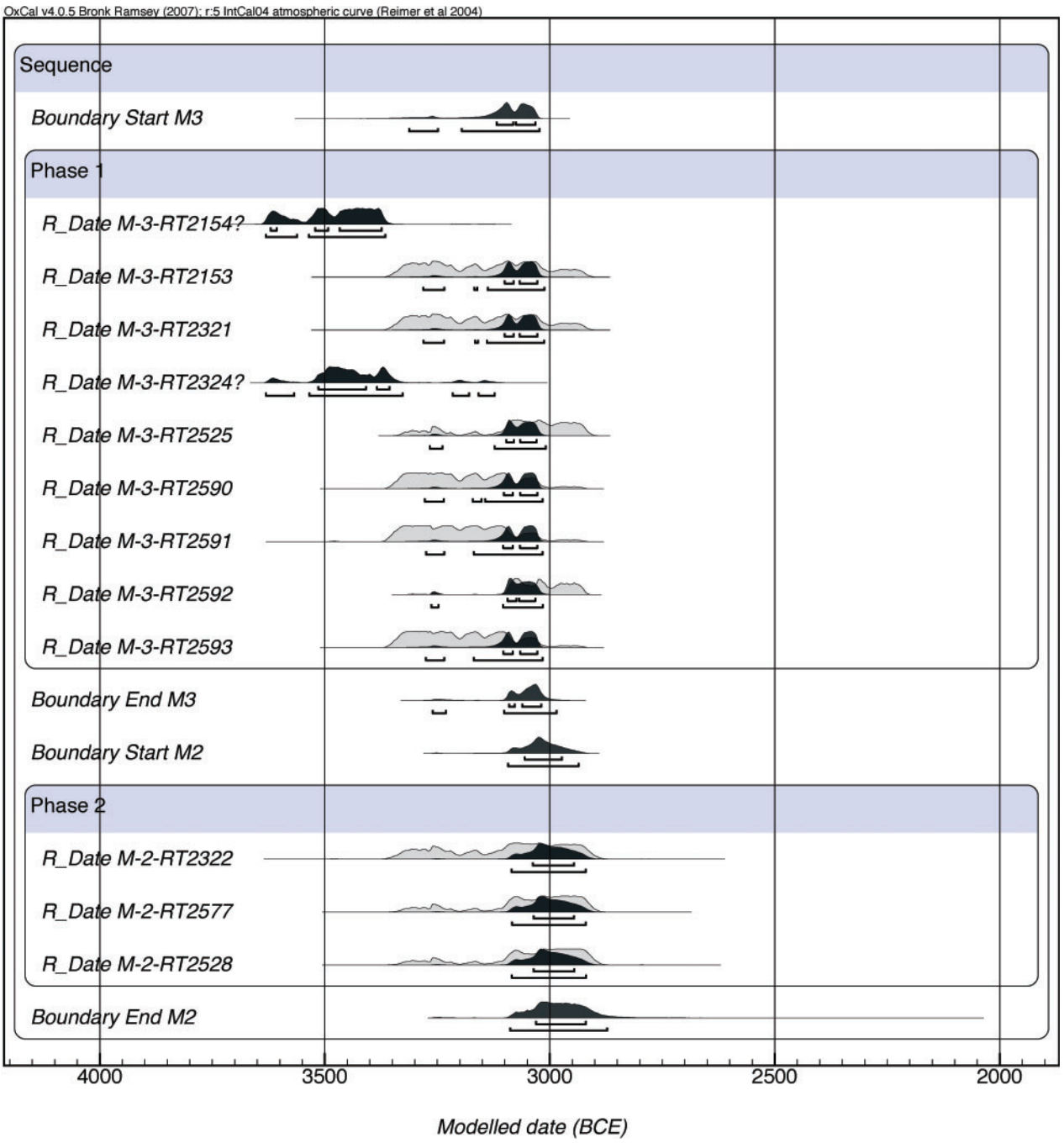

Figure 14 Graphic probability distribution of ^{14}C dates from Strata M-3 and M-2 and boundaries of Strata M-3 and M-2 based on radiometric dates in Table 3 (prepared with OxCal 4·10 software, courtesy Ch. Bronk Ramsey)

is supported by the nature of the destruction layer, as described above. The eastern rooms, where there was no severe destruction layer and finds were less frequent, may have had other functions. The northernmost room was probably an entrance vestibule leading to the south-eastern room, as well as to the main hall. The presence of ring-shaped stone weights in this room may indicate some connection with textile production. The large south-eastern room yielded remains of two pithoi with no other indicative finds and the benches in this space may hint at an administrative function, such as managing and documenting the storage and distribution of commodities stored in the main hall.

Quantitative analysis of the pottery from this building appears to support the functional interpretation of the rooms outlined above. A total of 815 diagnostic pottery sherds and vessels from the destruction debris in the main hall were counted and registered, with only 86 sherds coming from the north-eastern and 167 from the south-eastern rooms. Forty-six per cent of the vessels were holemouth jars

and 24% pithoi and storage jars. Table 4 summarizes the capacity of pithoi and holemouth jars from the building (based on the minimal number of vessels counted), and their total capacity is estimated as being 5417 litres.

Additional food could have been stored in the smaller vessels or in perishable containers made of textile, basketwork or leather. In addition to storage vessels, our building also yielded high-value items such as three copper axes and a javelin head, a stone mace head, and a small quantity of possibly imported 'Proto Metallic Ware'. The location of the building on the summit of the site, its unique plan and its contents all argue for it having been used for food processing, storage and perhaps redistribution, and that it was owned or managed by an elite family or some other such expression of leadership in the settlement. However, it is worth noting that high proportions of storage vessels can be found on occasion in what are assumed to represent normal domestic structures. At EB IB Qiryat Ata, holemouth jars and storage jars comprised 62–69% of the ceramic assemblage in the elliptical buildings of Stratum III and 55% of the vessels in a building in Stratum II (Golani 2003, 152–53).

We may try to estimate the economic significance of the storage capacity of our building. A major question is the nature of the commodities stored in the building. Were these high value commodities like olive oil and wine, or more foodstuffs intended for local consumption such as cereals? No simple answer to this question can be given. The existence of olive groves in the vicinity of Tel Beth Shean during this period is supported by the fact that 27% of the charred-wood samples from the main hall were from species of olive tree (see above). Yet almost no olive pits were found and no other evidence of olive oil or wine storage was detected. We would also guess that large pithoi and holemouth jars would not be well suited to the storage of such expensive commodities.

The abundance of charred grain and lentils in the main hall, and the presence of a grinding installation, indicates that the processing of grain took place in that space. Thus the following (admittedly somewhat speculative) calculation is based on the working assumption that grain was the main commodity processed and stored in the building. A storage capacity of 5417 litres could contain 4171 kg of wheat (based on a parameter of 770 kg per 1 cubed m) or 3304 kg of barley (based on a parameter of 610 kg per per 1 cubed m). In terms of traditional agriculture in the Middle East, this would be the product of about 6 ha of land (based on an average annual yield of 700 kg of grain from one ha; for references, see Mazar [2001, 455–59], where aspects of public storage in EB III Beth Yeraḥ were explored). A calculation of 200–250 kg of grain per individual is a common yearly consumption in ancient Mediterranean societies. We thus may estimate that the storage capacity of our building (not including perishable containers) could support *c.* 20 persons annually in terms of grain consumption. This is, of course, a very rough calculation, as other food supplies such as legumes, vegetables, fruits, olive oil and meat would also have featured in the diet.

The population of the site depends on its size and as mentioned above, the settled area is likely to have been between 2 and 4 ha. Using a figure of 200 persons per ha, we estimate that the site would have accommodated 400–800 persons. Thus, the building may have had the capability to store the annual grain consumption of 2·5–5% of the site's population. If correct, our building may have served an extended family, and other buildings of similar function may have been present on the site.

This reconstruction may help to define the socio-economic structure of the community at Beth Shean, though it must be emphasized that in proto-historic periods, where textual evidence is absent such reconstructions are always tentative and should be treated with caution. The building could have been owned and managed by a local elite family that both owned land and controlled a system of agricultural production, harvesting, and the redistribution of food supplies among its members. This view echoes Philip's (2001, 189) argument that a key distinction

Table 4 Assumed capacity of pithoi and holemouth jars from Stratum M-3

Room	Pithoi (MNI)	Holemouth jars (MNI)	Capacity in litres*
Main Hall	22	53·12	4642
North-eastern Room (38041)	0·4	5·25	214·6
South-eastern Room (38048)	2·25	8·25	560·4
Total	24·65	66·62	5417

MNI = Minimum number of individuals
** According to the calculation of vessel capacities by A. Karassik, the capacity of an average pithos is 137·6 litres, and the capacity of an average holemouth jar is 30·4 litres, from base to neck.*

between the Chalcolithic and EB I periods was a shift in the means to power, with decreasing emphasis on access to prestige objects and more on control of land, labour and agricultural products. Such a phase of social complexity has been detected at other EB IB sites, such as Qiryat Ata where social complexity appears to increase in EB IB (Faust and Golani 2008, 231–32). A partly excavated architectural complex at Hartuv may also indicate the presence of a local elite (Mazar and Miroschedji 1996). At Tell Abu al-Kharaz, social complexity in the EB IB was deduced in light of the extent of the settlement that occupied the tell and its slopes, and the evidence for a centralized grain storage system located on the western slope of the mound (Fischer 2002, 324–25). Fischer claimed that the grain was intended to be 'distributed centrally within the city, but was almost certainly also of economic significance as a medium of exchange for coveted goods — mainly copper and/or copper alloys, 'exotic' ceramics and other luxurious commodities such as cosmetic oils' (ibid.).

In the analysis of a somewhat similar, albeit larger building at Tell el-Raqa'i in the Middle Habur (Level IV, dated to 2900−2600 BC), Schwartz (1994, 32) concluded that the building may indicate 'the existence of a system of rural economic specialization coincident with the development of complex society in Northern Mesopotamia' and that 'the concern of such a system was large-scale grain storage and processing of agricultural surplus, the economic foundation of complex societies'. Such a definition might well apply to the Beth Shean building, though the scale of storage involved was more modest (see also Joffe 1993, 53–54).

Building MA in Stratum M-2

The architectural changes in Stratum M-2 following the turmoil at the end of Stratum M-3 probably indicate a substantial change in the function of this building. This change is also reflected in the relative number of vessel types compared to the previous building (Table 2): a significant increase in bowls (from 16% to 28%), a slight decrease in storage jars (from 11% to 8%) and a significant decrease in pithoi (from 13% to 4%), while the percentages of other vessels remains almost unaltered. There is thus a decrease in storage vessels and increase in serving vessels. The elaborate chalices in the eastern wing of the building may have been used for serving food or perhaps in cultic activity. The cache of exceptionally large flint blades may also point to some unusual activity, perhaps close to the abandonment of the building, yet the exact significance of this cache eludes us. It seems, however, that the earlier function of the building as a location for storage and craft activities, had changed, and the Stratum M-2 building was perhaps used as the dwelling of an elite family and perhaps for some ceremonial activity. As mentioned above, the building may well have been divided into two separate units at this stage.

The Beth Shean Valley in EB I

In the course of a survey conducted over many years, Zori (1962) identified 23–26 EB I sites and 18–19 EB II–III sites in the entire Beth-Shean Valley (see also Esse 1991, 146–51 with more updated distribution maps and a site list on pp. 177–95; Joffe 1993, map opposite p. 40). Esse mentions 15 EB I sites in the southern part of the Beth Shean Valley (south of Tel Beth Shean), with a mean area of 1·3 ha and only two EB II–III sites in the same area (Esse 1991, 160–61, data based on Zori). Esse argued that the decline in the number of EB II–III sites compared to EB I is consistent in various parts of Cis and Transjordan (Esse 1991, 150–51). He also argued that the climatic conditions in the Beth Shean valley did not enable consistent settlement and that perhaps the many small EB I settlements in the valley were seasonal and were occupied only during the winter (Esse 1991, 160). In contrast, it may be suggested that an irrigation system by canals operating on simple gravity was in use in the valley during the EB I period, thus enabling the distribution of dense permanent settlements. This suggestion, however, cannot be corroborated, and analysis of the plant remains has failed to either prove or disprove it.

EB I society in light of recent discoveries

The combined evidence from the University Museum and our excavations at Beth-Shean indicates the existence during EB IB of densely set buildings, a well-organized street system and the existence of at least one non-residential building perhaps used for the processing, storing and distribution of food. The potmarks and the appearance of coveted goods, such as a small quantity of 'proto-Metallic' ceramic vessels (possibly imported from sites to the north of Beth Shean) and high quality copper and stone objects, may indicate that Beth Shean was a large village in an advanced stage of social and economic development in which wealthy families and landlords controlled economic and perhaps political power.

The recent discoveries at Megiddo indicate that the EB IB period should be re-evaluated in terms of the degree of social complexity, as manifested in the size of the settlement (*c.* 50 ha) and the monumental

temple architecture of Stratum J-4 (Finkelstein and Ussishkin 2000b, 577–84; Finkelstein, Ussishkin and Peersmann 2006; Finkelstein, Ussishkin and Halpern 2006, 843–47). At Tel Shalem, south-east of Beth Shean, an EB IB fortification system was identified in the lower city (Eisenberg 1996). It was suggested that evidence for EB IB fortifications was present at seven additional sites: Beth Yerah (for which see now Getzov 2006, 8–11), Megiddo, Tell Abu el-Kharaz, Tell es-Sa'idiyeh, Tell el-Far'ah (North), Aphek, Jericho, and Tel Erani (Paz 2002), and we may add to this list Jawa in eastern Jordan. However, the dating of the fortifications at several of these sites to EB I is questionable.

It appears that at least at Megiddo, and probably in many parts of Palestine, EB IB saw the beginnings of a complex and ranked society (for an earlier evaluation of complexity in EB I, see Joffe 1993, 50–54). At Megiddo there must have been a central authority that was capable of organizing and implementing large-scale building operations, although we should perhaps consider alternative models for other parts of Palestine. The excavators of Megiddo write that Stratum J-4 'represents a highly-developed, stratified urban society, which controlled a vast rural countryside' (Finkelstein, Ussishkin and Halpern 2006, 846). Paz (2002) suggested the existence of an urban society already during EB IB. Alternatively, Philip (2001) suggested a model of 'dynamic corporate villages' based on the concept of 'heterarchical villages communities' for the entire EB period, while Chesson (2003) suggested applying Lévy-Strauss's concept of 'house society' for the entire EB (for a reaction see Faust and Golani 2008, 234–37).

In our view, these latter explanations cannot be considered appropriate for the entire *c.* 1300 years covered by the EBA, but may fit the EB I period. Our building as well as those at other EB I sites may fit the concept of 'house society' if by this concept we mean extended elite families that controlled land, economic power and wealth. Building MA might be interpreted as a centre belonging to one such extended family, wherein the family head, as an 'elite' member of the settlement, would have conducted the family's economic affairs, with the system underpinned by ownership of land. The social complexity and ranking in EB IB, at least as exemplified in the Jezreel and Beth Shean valleys, may justify, in our view, the definition 'Proto Urban', as suggested by Kenyon (though she used it for the entire EB I period, while we suggest using it descriptively just for the EB IB).

The emergence of complex societies and perhaps centralized polities in northern Palestine during the late 4th millennium BC may be understood as having been influenced by developments in First Dynasty Egypt; the local population must have been acquainted with the Egyptian colonies in southern Palestine such as at Tell es-Sakan and Tel Erani, where contemporary Egyptian urban centres existed (Miroschedji and Sadek 2000; Miroschedji 2002; Joffe 1993, 39–40, 54). It may be suggested, though with due caution, that complexity in Palestine also reflects remote echoes of the developments in northern Syria, where Uruk colonies flourished on the upper Euphrates, some 450 km north-east of Beth Shean. We are aware of Uruk influence on Egypt, and although Uruk influence is detected in EB I Palestine in only a few components such as the appearance of spouted vessels and cylinder seals, monumental temple architecture like that of Megiddo may have been inspired by these developments in both the north and south. We should also note that the only public buildings known so far from EB I are temples, and this may hint at the possibility that religious authorities might have owned economic resources and thus a route to leadership, as was the case in Mesopotamia during the contemporary Uruk period. However, this subject requires a separate discussion and we can only touch on it in passing for now (see Miroschedji 2002 and Philip 2002 for an evaluation of Uruk influence in the various parts of the Levant).

The gap in EB II

Following Stratum M-2, there was a gap in occupation at Beth Shean which lasted until EB III and the appearance of Khirbet Kerak Ware. Such a gap has been observed at other excavated sites in the Jezreel and Beth Shean valleys, such as 'Afula (Dothan 1993) and Tel Shalem (Eisenberg 1996). At Megiddo, the abrupt destruction of the monumental building of Stratum J-4 (due to an earthquake?) was followed by a poor reconstruction in Phase J-4a of late EB IB and subsequently by abandonment and an occupational gap in EB II (Finkelstein and Ussishkin 2000a, 73, 585–86). Abandonment of EB I settlements at the transition to EB II is a well-known phenomenon (Esse 1991, 146–52, 173–76; Portugali and Gophna 1993), although some EB I sites developed into larger walled settlements, probably as a result of agglomeration of population from the abandoned villages into these larger settlements, which are defined by most scholars as urban in nature (i.e., Kempinski

1978; Esse 1991; Finkelstein 1995; for alternative definitions, see Philip 2001, 163–68; Chesson 2003).

Close to our region, EB I settlements that developed into more complex settlements include Beth Yeraḥ, Tell Abu al-Kharaz, Pella, Tell es-Sa'idiyeh and Tell el-Far'ah (North). The lack of clear development from EB I to EB II in the Jezreel and Beth Shean valleys is surprising and enigmatic, considering the ideal environmental conditions offered by these areas. A similar situation has been identified in large parts of the central and northern coastal plain (Portugali and Gophna 1993).[2] Greenberg (2003) attempted to explain the gap in the Jezreel and Beth Shean valleys as a result of an emerging EB II 'Galilean' polity which, in his view, entailed much of northern Israel but excluded these valleys. Yet, the existence of such a large polity is still questionable and, even if it did exist, it remains unclear why the fertile valleys of Jezreel and Beth Shean remained abandoned. The phenomenon remains far from being understood, and reasons could include the social disintegration and collapse of the previous (EB IB) political entities (in particular Megiddo), as well as plagues or localized ecological factors.

Absolute chronology

Until the late 1980s, EB I was generally dated to the last three centuries of the 4th millennium (3300–3000 BC in Stern 1993, 1529; 3300–3050 BC in Mazar 1990, 30). Subsequent studies have proposed a much earlier date for the beginning of the period and a date before 3000 BC for its end (3500–3100 BC in Esse 1991, 146; Joffe 1993, 39–41; Stager 1992, 40; Dessel and Joffe 2000, 39; 3600–3100/3000 in Philip 2001, 169). This longer time range for the entire EB I allows for a longer duration of EB IB. Thus, Paz (2002, 238, n. 1) dates EB IB to 3300–3050 BC; Braun (2004, 62) dates his 'developed EB I' to the 33rd century and his 'Late EB I' to the 32nd–31st centuries BC, and Philip dates his 'Late EB I' to 3400/3300–3100/3000 BC.

The radiocarbon dates from Beth Shean presented above provide dates from the 33rd to the 31st centuries BC in the 95% probability range ('2 standard deviations') for Stratum M-3, while the 68% probability ('1 standard deviation') narrows this range to the 31st century and Stratum M-2 to the late 31st and early 30th centuries BC. The radiocarbon dates indicate that Stratum M-2 is slightly later than M-3, though there are also overlaps between the dates of the two strata. These dates point to the 31st century and even early 30th century for the latest phase of EB I, later than the date 3100 BC for the end of EB I as suggested by many of the scholars mentioned above. We concluded that our ceramic assemblage can be defined as very late EB I or even as a transitional phase EB I/EB II (see above). It seems that this transition indeed occurred during the 31st or early 30th centuries BC.

To sum up, the excavations in Area M at Beth Shean provide a new set of data relating to architecture, ceramic regionalism, chronology, economy and social complexity in the last centuries of the 4th millennium BC at this particular site. Combined with the evidence from other sites in the region, one can envisage the last phase of the EB I as one of substantial social and economic change, and a move towards greater social complexity that eventually led to the even more hierarchical social systems of EB II–III. The fact that these developments failed to continue into EB II in this particular region, is something of an enigma.

[2] Portugali and Gophna (1993, 176–77 and fig. 6) cite Beth Shean and Megiddo as examples of emerging EB II cities following the posited disintegration of EB I society. We now know that both sites were unoccupied during EB II.

Acknowledgements

The excavations at Tel Beth Shean directed by Professor A. Mazar on behalf of the Hebrew University of Jerusalem, were conducted within the framework of a joint expedition coordinated by the Beth Shean Tourism Development Administration. See Mazar 1993; 1997; 2003; 2008, 1616–18; in press. For the first two final reports, see Mazar 2006; Mazar and Mullins 2007. The excavation of Area M was supervised by D. Weinblatt (1993–96) and G. Stiebel (1993–94). D.Weinblatt helped in the procession of the funds for publication. The research was supported by the Philip and Muriel Berman Center of Biblical Archaeology in the Hebrew University and the Shelby White – Leon Levy Program for Archaeological Publications. Figures 3–4 were prepared by J. Rosenberg on the basis of field plans prepared by M. Caplan. We wish to thank Professor Christopher Bronk-Ramsey from the Research Laboratory for Archaeology and the History of Art, Oxford University for preparing the calculations and the graph reproduced as Figure 14. The authors also wish to thank two anonymous reviewers and Graham Philip, editor of *Levant*, for valuable comments and additional references.

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