THE GROUNDSTONE ASSEMBLAGE FROM THE POTTERY NEOLITHIC SITE AT TEL YOSEF (TELL ESH-SHEIKH HASAN) HAMOUDI KHALAILY AND OFER MARDER

INTRODUCTION

Three distinct occupation strata were identified in the Tel Yosef excavations, attributed to two cultural horizons: Strata III and II are attributed to the sixth millennium BCE, and Stratum I, to the late fifth millennium BCE (see Covello-Paran, this volume). Sixty groundstone artifacts were unearthed in the excavations.¹ In most cases, however, their stratigraphical attributions are not secure and therefore, the groundstone assemblage is presented typologically, according to the classification suggested by Wright (1992; 1993). Tools that do not correspond to Wright's typology are described under *Varia* (see Table 1). The raw material used for manufacturing these artifacts was mainly limestone; approximately 60% of the artifacts were manufactured of either hard limestone or dolomite. Another 30% were made of fine-grained or vesicular basalt, and the rest, of sandstone, beachrock, granite and exotic minerals, such as quartzite.

Туре	Ν	%
Grinding slabs	10	17.5
Mortars	6	10.5
Handstones	17	29.8
Pounders	2	3.5
Perforated objects	8	14.1
Stone bowls	6	10.5
Bowlettes	6	5.3
Varia	5	8.8
Total	60	100.0

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THE OBJECTS

Grinding Slabs/Querns (Metates)

This group of objects comprises ten artifacts, which are divided into two subgroups. The first subgroup consists of large limestone slabs (average length 35 cm; width 24 cm; thickness 8 cm; Fig. 1:1, 2), which were utilized on both sides. The upper surfaces feature abrasion marks, and recesses are visible on their central parts. The lower surfaces display polishing marks, multi-directional striation and abrasions. Lastly, the slabs in this subgroup bear evidence of unidirectional flaking on their edges (Fig. 1:2). The second subgroup (not illustrated) comprises smaller, elliptical basalt slabs, with two complete examples and six broken fragments. The upper surface is usually flat, and the lower surface concave.

Mortars

Six mortar fragments belong to this group (Fig. 1:3, 4), all of which were manufactured of limestone. Four mortars were classified as large. Two mortars exhibit deep parallel striations, and two exhibited multidirectional striations; the bases are concave and the rims are well-formed. The mortar in Fig. 1:3 was very well-shaped, its rim decorated with a horizontal incision; the interior and exterior surfaces display polishing. Morphologically, this mortar resembles late Neolithic ceramic platters (Garfinkel 1992:273). The base of one of the mortars (Fig. 1:4) displays unique regularized wavy chisel marks. One example (not illustrated) appears to have been reused after breakage, with bifacial flaking that may have converted this broken piece into a chopping edge. Another item (not illustrated) is a small, shallow mortar, rounded in shape, with a flattened base.

Handstones (Manos)

Seventeen artifacts belong to this group. They were manufactured from small pebbles (mean diam. 6.6 cm). The raw materials employed were basalt, flint, limestone and dolomite. All handstones appear to have been utilized on multiple sides. One artifact (Fig. 2:1) has a cubic shape and appears to have been utilized on all six sides. Several other handstones show multiple use wear surfaces, indicating that they were in the process of becoming cubic. Six handstones have a flat discoidal shape, and show evidence of bifacial flaking on the edges (e.g., Fig. 2:2).

Pounders

Pounders are generally rounded in shape (diam. 2–5 cm), displaying traces of hammering and battering on major portions of their surfaces. Two pounders were found, both made of limestone (not illustrated). One dolomite pounder was covered with signs of pecking on the entire surface. The other pounder is spherical and the surface shows several flake scars resulting from the pounding.



Fig 1	Grinding	slabs	(1 2)) and	mortars	(3)	4)

No.	Basket	Locus	Square	Material	Comments
1	2157	I/248	B6	Basalt	Complete, flat surface
2	2283	270	В9	Limestone	Flaking around the edge
3	1356	III/190	E3	Dolomite	Polished on both sides, decorated rim
4	2325	III/254	G-8	Limestone	Wavy chisel marks on ext. surface



No.	Locus	Basket	Square	Material	Comments
1	II/W188	1345	G1	Dolomite	Cubic
2	100	1000	C4	Basalt	Flat discoidal

Perforated Objects

Eight objects belong to this group, four of which are broken. Five are typical spindle whorls, with a flat rectangular cross-section and perforations in the center (Fig. 3:1–3). All of the spindle whorls appear to have been perforated from both sides, which is especially evident from one soft limestone object, whose perforation was only partially achieved (Fig. 3:2; see Wright 1992:74). One artifact (Fig. 3:3) is highly polished, presumably from use wear. It also shows regular, unidirectional striations on one of the working surfaces and on both sides. This artifact shows evidence of having been drilled from both sides as well.

A large basalt perforated object (Fig. 3:4) is broken in half, and exhibits clear bidirectional drilling. Such objects are found in Neolithic contexts and are also very common in Chalcolithic sites (Gilead 1995: Fig. 8.1); its function is as yet unknown.

A broken mace head (Fig. 3:5), manufactured of quartzite, shows bidirectional conical drilling. It also bears evidence of intentional flaking on both sides, after breakage. This type of artifact is abundant in Chalcolithic contexts, but there are also clear examples in Neolithic ones (Gopher and Orrelle 1995: Fig. 33:15–18).

Bowls

This group comprises six fragmentary bowls made of fine-grained basalt. Four of them are V-shaped, one of which is partially fenestrated (not illustrated) and one with a modified tripod base (Fig. 4). This last type is predominantly characteristic of Chalcolithic groundstone assemblages (e.g., Gilead 1995:321), but is also present in Neolithic ones (Gopher and Orelle 1995:30).



Fig. 3. Perforated objects.

No.	Locus	Basket	Square	Material	Comments
1	II/157	1306	B5	Limestone	Broken, striations on both sides
2	II/244	2103	H8	Limestone	Unfinished perforation
3	III/254	2324	G8	Limestone	Polished on both sides, striations
4	100	1000	C4	Basalt	
5	I/248	2153	C6	Quartzite	Fine finish, flaked edges



Fig. 4. Basalt tripod bowl with polished rim (B1000, L100, Sq C4).

Bowlettes

Six artifacts (not illustrated) were included in this group, four of hard limestone and two of flint. There is considerable variability in the shape and depth of the depressions. Some are shallow (less than 5 cm deep), while several are deep (over 5 cm); some vessels are square in shape, while others are round or elliptical. Two examples (one of flint and one of limestone) show intensive flaking on the entire dorsal surface (the base). This is an unusual method of shaping such vessels (cf. Gopher and Orrelle 1995: Fig. 27:16).

Varia

Two types of artifacts were not attributable to any of the above-mentioned categories (not illustrated). One modified stone resembles hammerstones in shape, and bears evidence of battering on its chopping bit. The circumference is abraded and the bit displays large flake removal. Four small river pebbles, of varying shape and size, display signs of use, although their function was not determined.

CONCLUSIONS

The Tel Yosef groundstone assemblage exhibits a high degree of similarity to other Neolithic groundstone assemblages, *inter alia* in type frequencies. A high percentage of handstones and flat grinding slabs is indicative of other Pottery Neolithic assemblages, such as Munhata (Gopher and Orrelle 1995), Yiftah'el (Braun 1997:98), Nahal Zehora (Gopher and Orrelle 1989:73), Jericho (Kenyon and Holland 1982:510), 'Ein Ghazal (Rollefson, Kafafi and Simmons 1993) and Wadi Jilat (Garrard 1998:144). Three elements characterize the groundstone assemblage at Tel Yosef: the flaking and shaping of the exterior surfaces of the bowlettes and mortars, the unidirectional striations and the bidirectional drilling

on the perforated objects. Three artifacts in this assemblage—the large perforated stone, the macehead and the tripod bowl—are typical of Chalcolithic groundstone assemblages. However, as absolutely no Chalcolithic pottery and lithics were found at Tel Yosef, it seems that these groundstone artifacts are an integral part of the Neolithic assemblage, and not intrusive elements. This assumption, however, will have to be supported by further analysis.

References

- Braun E. 1997. *Yiftah'el: Salvage and Rescue Excavations at a Prehistoric Village in Lower Galilee, Israel* (IAA Reports 2). Jerusalem.
- Covello-Paran K. This volume. The Pottery Neolithic Settlement at Tel Yosef (Tell esh-Sheikh Hasan).
- Garfinkel Y. 1992. *The Pottery Assemblages of the Sha'ar Hagolan and Rabah Stages of Munhata (Israel)* (Les Cahiers du CRFJ 6). Paris.
- Garrard A.N. 1998. Environment and Cultural Adaptation in the Azraq Basin: 24,000–7,000 BP. In D.O. Henry ed. *The Prehistoric Archaeology of Jordan* (BAR Int. S. 705). Oxford. Pp. 139–148.
- Gilead I. 1995. The Stone Industry. In I. Gilead. *Grar: A Chalcolithic Site in the Northern Negev* (*Beer-Sheva* VII). Be'er Sheva'. Pp. 309–333.
- Gopher A. and Orrelle E. 1989. The Flint Industry of Nahal Zehora I: A Wadi Raba Site in the Menashe Hills. *BASOR* 276:67–76.
- Gopher A. and Orrelle E. 1995. *The Ground Stone Assemblages of Munhata, a Neolithic Site in the Jordan Valley–Israel: A Report* (Cahiers des missions archéologiques françaises en Israël 7). Paris.
- Kenyon K.M. and Holland T.A. 1982. *Excavations at Jericho* IV: *The Pottery Type Series and Other Finds*. London.
- Rollefson G.O., Kafafi Z.and Simmons A.H. 1993. The Neolithic Village of Ain Ghazal, Jordan: Preliminary Report on the 1989 Season. *AASOR* 51:107–126.
- Wright K. 1992. A Classification System for Ground Stone Tools from the Prehistoric Levant. *Paléorient* 18/2:53–81.
- Wright K. 1993. Early Holocene Ground Stone Assemblages in the Levant. Levant 25:93-111.