Stone pedestalled vessels from Tel Tsaf, a Middle Chalcolithic site in the Central Jordan Valley, Israel

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Abstract:

The pedestalled bowls described here are part of the ground stone tool assemblage discovered during the Hebrew University of Jerusalem excavations at Tel Tsaf (2004-2007). This site, located in the Central Jordan Valley, is the first well-documented and large-scale excavation of the Middle Chalcolithic period in the southern Levant. The inhabitants used two types of raw materials for their stone items: basalt and limestone. While the first is commonly used in the stone-vessel industry of the Chalcolithic period, the second is rarer. We present here the preliminary results of our analysis of the typology and function of the pedestalled bowls, a small but important component of the local ground stone tool assemblage.

Keywords: Middle Chalcolithic; ground stone tools; fenestrated; pedestalled bowls; Tel Tsaf

1. Introduction

The period classified as Middle Chalcolithic in the southern Levant is preceded by the Wadi Rabah Culture (Early Chalcolithic) and preceded by the Ghassulian Culture (Late Chalcolithic). It is dated to the end of the 6th to the beginning of the 5th millennium BCE (Garfinkel 1992: 6; Gopher 2012: 1533) and is considered to be a relatively obscure phase in this sequence. Tel Tsaf is one of the only well-documented and extensively excavated sites of this period, with \(^{14}C\) dating suggesting that it was occupied during the entire Middle Chalcolithic period (Gophna & Sadeh 1988: 33; Garfinkel et al. 2007: 27; Rosenberg et al. 2014; Streit & Garfinkel 2015a).

The site is located in the Central Jordan Valley, in the vicinity of the modern Kibbutz Tirt Tzvi, at an absolute elevation of 270-280 m below sea level (Figure 1). It consists of three low hills (Garfinkel et al. 2007: 2) and covers up to 20 hectares, including the neighboring Tell Jema'in (Figure 2). Two of these hills were excavated: the southern and the western (or central) hills, the latter being the largest of the three and the location of the main excavation area. The eastern hill is located beyond the modern border fence and thus, was not excavated (Garfinkel et al. 2007: 2).
Figure 1. Location of Tel Tsaf and the sites mentioned in the text.
The site was first reported by N. Tzori (1958) during a survey he conducted in the 1940s and 1950s in the Beth Shean Valley. Due to damage caused by military activity, a small-scale salvage excavation was conducted in the late 1970s by R. Gophna, on behalf of Tel Aviv University and the Israel Department of Antiquities; a small area of 100 square meters was excavated on the western hill (Gophna & Sadeh 1988: 3-4). Two additional surveys were conducted in the region during 2000-2001, one by A. Zertal as part of the Menashe Hill Country survey (Zertal 2005: 136-137) and the other by A. Cohen-Tavor as part of a survey of the vicinity of Tel Reḥov (Cohen-Tavor 2010: 95). In the latter, it was found that the site, in fact, is even larger than the previous estimates.

The first large-scale excavations at the site were conducted over four seasons, between 2004 and 2007, directed by Y. Garfinkel of the Hebrew University of Jerusalem. Roughly 800 square meters were excavated in the two main areas and yielded a rich assemblage of pottery (local and a few imported Ubaid sherds), obsidian, flint tools, ground stone tools, botanic and animal remains (Garfinkel et al. 2007), and a copper awl that probably originated from the Caucasus (Garfinkel et al. 2014).

Two main areas were excavated, Areas B and C. Area B is located on the summit of the southern hill and was excavated in the 2004 and 2005 seasons, revealing a vertical shaft dug into the sediment that served as the well of the settlement, and a living surface around the well. Area C is located in the eastern part of the western hill and was excavated in the 2005-2007 seasons (Garfinkel et al. 2007: 10). It served as a residential area in the Middle Chalcolithic period, containing two phases: the early Stratum C-4 and the later Stratum C-3. Four separate residential units were uncovered (Table 1).

Beginning in 2013, a renewed multidisciplinary project was initiated at Tel Tsaf as a cooperation between the Zinman Institute of Archaeology, University of Haifa and the German Archaeological Institute in Berlin (Rosenberg et al. 2014).
Table 1: The residential units of Area C at Tel Tsaf.

<table>
<thead>
<tr>
<th>Building complex</th>
<th>Location</th>
<th>Stratum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building complex I</td>
<td>Western part of Area C</td>
<td>C-3, C-4</td>
</tr>
<tr>
<td>Building complex II</td>
<td>Eastern part of Area C</td>
<td>C-3</td>
</tr>
<tr>
<td>Building complex III</td>
<td>Southern part of Area C</td>
<td>C-3, C-4</td>
</tr>
<tr>
<td>Building complex IV</td>
<td>Eastern part of Area C</td>
<td>C-4</td>
</tr>
</tbody>
</table>

2. The Ground stone tool assemblage

The Tel Tsaf ground stone tool assemblage from the 2004–2007 Garfinkel excavations is comprised of 788 items of which 441 (52%) are final products such as tools and vessels, and 347 (48%) are raw materials and production waste (chunks and debris created during the manufacturing process).

The raw materials used in the ground stone tool industry include basalt, limestone, chalk, sandstone and apatite. The most dominant groups are basalt (254 raw-material pieces and 141 tools) and limestone (69 raw-material pieces and 156 tools); together, they comprise ca. 67% of the stone tool assemblage. These raw materials are found in proximity to the site, basalt at a distance of ca. 15 km and limestone even closer, roughly 10 km; both distances are no more than one-day’s walk.

Basalt and limestone were used to produce a wide range of tools, vessels and decorated items. The basalt items include lower and upper grinding stones, grooved items, weights, and vessels (bowls, mortars and pedestalled bowls). Altogether, this group (n=141) constitutes 32% of all the stone tools. The extensive limestone industry is composed of weights, pestles, vessels such as bowls, bowlets (this expression is after (Gophna & Orrelle 1995: 49), mortars and pedestalled bowls, together with decorations, figurines, and more. This group is slightly larger (n=156) and constitutes 34% of the tools. A comprehensive account of the complete stone assemblage will be given in a future publication.

Pedestalled bowls

A stone vessel is an implement which can contain other materials (Adams 2014: 224). It is carved from a single piece (Amiran & Porat 1984: 12) and must possess the following characteristics: well-defined rim, base and walls and fine exterior finishing (Wright 1992: 75). Four types of vessels were found at the site: bowls, bowlets, mortars and pedestalled bowls (n=59); together, they compose 13% of the assemblage. The six pedestalled bowls discussed here are a small component of the ground stone tool assemblage, comprising less than 1%; four are made of basalt and two of limestone (Table 2).

Several classification systems have been proposed for this type of vessel (Wright 1992; Rowan 1998; van den Brink et al. 1999; Rosenberg 2011: 64-85; Rosenberg and Garfinkel 2014). The main characteristic defining the type in all the classifications is the elevated base, which can be either solid or fenestrated. It seems that the solid pedestal base pre-dates the fenestrated type (Rosenberg 2011: 303). One such example has been reported from the Natufian site of Eynan (Perrot 1960: 19; Valla 1975: 93).

Such solid-based pedestalled bowls have been found at sites relating to the Wadi Rabah culture, such as Hagoshrim (Rosenberg 2011: 209), Neve Yam (Rosenberg 2011: 231), Nahal Zehora II (Gopher 2012: 1052) and Kabri (Prausnitz 1969: 122). However, as such pedestalled bowls had not been reported at the typical Wadi Rabah sites, such as Munhata and Ein el Jarba, this possibly points to stratigraphic problems with these contexts.
Table 2: Data summary of the assemblage. Abbreviations: M - mass, L - length, W - width, T - thickness.

<table>
<thead>
<tr>
<th>Basket</th>
<th>Locus</th>
<th>Context</th>
<th>Phase</th>
<th>Raw material</th>
<th>Fragment type</th>
<th>M (g)</th>
<th>L (cm)</th>
<th>W (cm)</th>
<th>T (cm)</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B50/1</td>
<td>topsoil</td>
<td>topsoil</td>
<td>topsoil</td>
<td>basalt</td>
<td>base</td>
<td>834</td>
<td>72.78</td>
<td>90.44</td>
<td>70.10</td>
<td>solid base</td>
<td>Compact basalt, rounded base, polished</td>
</tr>
<tr>
<td>B83/1</td>
<td>B9</td>
<td>fill</td>
<td>unstratified</td>
<td>basalt</td>
<td>window fragment</td>
<td>74</td>
<td>33.88</td>
<td>52.02</td>
<td>20.17</td>
<td>fenestrated</td>
<td>Compact basalt, fine polished, trapezoidal shape</td>
</tr>
<tr>
<td>C75</td>
<td>C42</td>
<td>debris</td>
<td>C-3</td>
<td>basalt</td>
<td>base</td>
<td>250</td>
<td>83.72</td>
<td>94.08</td>
<td>21.73</td>
<td>fenestrated</td>
<td>Compact basalt, polished, trapezoidal shape</td>
</tr>
<tr>
<td>C1248/1/2</td>
<td>C597</td>
<td>floor</td>
<td>C-4</td>
<td>basalt</td>
<td>rim</td>
<td>1217</td>
<td>105.93</td>
<td>130.59</td>
<td>35.94</td>
<td>unclassified</td>
<td>Compact basalt, polished, rounded rim</td>
</tr>
<tr>
<td>C373/1</td>
<td>C174</td>
<td>pit</td>
<td>C-3</td>
<td>limestone</td>
<td>rim</td>
<td>192</td>
<td>93.58</td>
<td>84.94</td>
<td>40.99</td>
<td>unclassified</td>
<td>Horizontal chisel marks on exterior, circular on interior; burn marks, rounded rim</td>
</tr>
<tr>
<td>C120/1</td>
<td>C58</td>
<td>fill</td>
<td>unstratified</td>
<td>limestone</td>
<td>rim</td>
<td>376</td>
<td>86.65</td>
<td>116.31</td>
<td>39.20</td>
<td>unclassified</td>
<td>Horizontal chisel marks on exterior, circular on interior; burn marks, flat rim, rope decoration at neck</td>
</tr>
</tbody>
</table>
Pedestalled bowls were also discovered at the Middle Chalcolithic site of Tel Ali (Prausnitz 1970: 91; Garfinkel 1992: 211), Tel Dan (Gopher & Greenberg 1987: 100*; for dating, see Garfinkel 1999: 108) and Abu Ghosh (Milevski et al. 2015: 109). The fenestrated pedestalled bowls appear regularly at various Late Chalcolithic sites, such as Gilat (Rowan et al. 2006: 598), Grar (Gilead 1995: 314) and Ghassul (Mallon et al. 1934: 67-68; Koeppel 1940: 114; Lee 1973: 266; Seaton 2008: table 1.31). Both fenestrated and solid bases were found in the same level at Tel Tsaf, making the site an important connecting link in this sequence.

A total of four basalt fragments were found: three bases and one with a rim. All are made of fine-grained, compact basalt and show various degrees of surface treatment. They were found equally in the residential area (Area C) and near the well (Area B). Only two limestone rim or rim and body fragments were found, both in Area C. The following classification follows Rosenberg’s typology (Rosenberg & Garfinkel 2014: 38).

**Solid-base type (Rosenberg’s Type B4a/b)**

One solid-based basalt vessel fragment (Figure 3) was found in topsoil near the well in Area B, among a group of vessels fallen from a cliff above the excavated area. The base is round, with its diameter decreasing towards the neck (the join of the bowl to the base); the exterior walls are polished and the upper part was intentionally removed. The lower part of the base is an unpolished flat surface, with use-marks around the edges that seem to indicate the item could have been in secondary use.

![Figure 3. Solid base type. Basket B50/1, locus - topsoil, raw material - basalt, notes - flat solid base.](image-url)
Fenestrated Type (Rosenberg’s Type B4f, see Figure 4): Two fragments of this vessel type were found. One small, trapezoid-shaped fragment of the lower part of a fenestrated base was found inside the well in Area B, made of finely polished basalt. The second fragment is a fenestrated base found in the residential area, in the fills of the Building complex I courtyard in Area C, made of basalt, roughly polished (slightly more so on the exterior than the interior), with a trapezoidal upper foot and a ring-shaped base bottom.

![Figure 4. Fenestrated type. 1. Basket C75, locus - C42, raw material - basalt, notes - base and ‘window’ fragment. 2. Basket B81/3, locus - B9, raw material - basalt, notes - small ‘window’ fragment.](image)

Unclassified fragments (Rosenberg’s Type B4g)

Three unclassified items (Figures 5 to 7) were found, one of basalt and two of limestone (Figure 5). Three pieces of the same basalt vessel, two joining rim fragments and one fragment of the narrow part joining the vessel to the pedestal, were discovered on a floor level south of Building complex IV in Area C; the stone is polished and the rim is rounded, typical of V-shaped vessels of the Late Chalcolithic period.

Two limestone rim fragments were discovered in Area C, both made with the same manufacturing technique. One rim is flat, with a smoothed exterior bearing chisel marks inside and outside, and traces of burning inside; a ‘rope’ decoration adorned the neck (Figure 6). It was found in a pit inside Building complex IV. The second rim is rounded, with vertical chisel marks outside and circular chisel marks inside; it also contained traces of burning inside (Figure 7). It was found in a general fill, broken into two pieces.

3. Discussion

Although the six pedestalled vessels fragments are a small component of the stone assemblage (less than 1%), their very presence has unique significance. The main raw material used to manufacture this type of vessel (except for the more ubiquitous ceramic that is not discussed here) is basalt. At Tel Tsaf, we encounter such vessels not only in basalt, but in limestone as well, constituting two complementary industries. As noted above, both raw
materials were relatively easily accessible, being at a walking distance of no more than a day away, thus making them equally available for tool production at the site (32% of the total ground stone tools assemblage at the site is made of basalt and 34% of limestone).

The basalt pedestalled-bowl fragments show uniformity in the quality of their raw material (compact basalt). The only difference between them appears in the level of the finishing; while the small “window” fragment shows a high level of polishing, the other fenestrated base was roughly polished and of a lesser quality. The other two pieces (rim and solid base) are well polished, but not as finely as the former “window” fragment.

The two limestone rims are part of a larger limestone industry found at the site. Typically at Chalcolithic sites vessels made of this raw material are found in small quantities compared to those made of basalt. At Tel Tsaf, limestone bowls and pedestalled bowls comprise 30% of the ground stone vessel assemblage (n =18). They are characterized by the good quality of
their surface treatment. In this respect, they bear an affinity to the elaborate basalt vessels of the Late Chalcolithic period.

Figure 6: Rope decoration on limestone-pedestalled bowl.

Figure 7: Burn marks on limestone-pedestalled bowls.

All the items in this category were fragmentary. The four basalt fragments include one rim and neck, and three base fragments (one solid and two fenestrated). The two limestone items are of the upper part of the vessel. The absence of complete vessels can be explained by
either intentional or accidental breakage during their use. Their location in a courtyard, open spaces, or in fills between the floors, can point to the latter option.

It is not clear if there are earlier examples of limestone pedestalled bowls. They have not been reported in classical Wadi Rabah assemblages. Therefore, the one example of a fenestrated stone base from Tel Ro’im (Rosenberg 2011: 164, fig. 6.88) might be out of context. In the Late Chalcolithic period, such examples can be found at sites such as Grar (Gilead 1995: 324) and Gilat (Rowan et al. 2006: 598, 600).

A unique feature found on the pedestalled stone bowls in the Tel Tsaf assemblage is the rope decoration at the join between the bowl and the base (Figure 7). A similar rope decoration appears at this spot on the ceramic version of these bowls. The potter made the bowl and the leg separately and combined them together in the last phase, before firing. To hide the scar left from this join, a decoration, typically a rope-like, was sometimes applied. Ceramic examples are commonly found at Tell el-Mafjar (Leonard 1992: 16), dated to the Middle Chalcolithic (Garfinkel 1999: 156), as well as at Late Chalcolithic settlements and burial contexts, such as Peqi’in (Shalem et al. 2013: 239-241, fig. 5.3-5.5; 5.11-5.13), Bir Safadi (Commengé-Pellerin 1990: 18), Shoham (van den Brink & Gophna 2005: 53), Azor, Ben-Shemen (Perrot & Ladiray 1980: 55, 73), Gilat (Commengé 2006: 415-416), and Grar (Gilead 1995: 163-165). This decoration in stone vessels is unnecessary, since they are made out of one block of stone and no scars remain during the production process. Therefore, the function of this feature in the stone vessels is purely decorative and appears as an imitation of the ceramic vessels, suggesting that they were the predecessors of the stone version.

The function of the stone pedestals remains a matter of discussion, although the ceramic pedestalled bowls are sometimes referred to as “incense burners”, stone vessels have been found together with the ceramic vessels, although in much smaller numbers. At Tel Tsaf, the stone pedestalled bowls were found in the residential area and in proximity to the well, where one ceramic bowl of this type was also discovered (Streit & Garfinkel 2015b: 67-68). Van den Brink and his colleagues (1999: 180-181) classified the basalt pedestalled bowls as prestige ritual vessels, often used in burial rites. It may indeed be assumed that pedestalled bowls, of both stone and ceramic, served a ritual purpose in the lives of their owners. The two limestone bowls were found with burn marks inside them, suggesting they were used for activity connected with fire. It is much more difficult to locate such evidence on basalt, but it cannot be ruled out that they were used in the same way. The ritual in which these vessels were operated was not necessarily on the community scale, but probably was conducted on a smaller and more private family level. They were deliberately discarded after they served their initial purpose or broke unintentionally and were then disposed of. The lack of complete vessels can suggest that those were taken when the residents left the site.

The finds from Tel Tsaf mark one of the first appearances of fenestrated pedestalled stone bowls in the southern Levant, a typical feature of the Late Chalcolithic period. It is clear that this vessel type had been manufactured from three different raw materials- clay, basalt and limestone, making it the first site to use those three materials for the production of one type of vessel. As the manufacturing process of the stone vessels is much more complicated and time consuming than those of clay, it is reasonable to assume that they were prestige items, probably functioned in feasting events or other ritual ceremonies.

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