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Glar: A Chalcolithic Site in the Northern Negev, Israel

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Glar is one of the largest Chalcolithic sites in southern Israel. The first part of this article presents an overview of the results of excavations carried out on the site during 1981-1987. The site of Glar is a cluster of occupational units once inhabited by sedentary farmers growing cereals and raising sheep, goats, pigs, and cattle. Glar is similar to other sites in the northern Negev previously considered as ephemeral. This suggests that the role of pastoralism and semi-nomadism in the Chalcolithic period has been overemphasized. Glar and other sites of the Chalcolithic period are, in fact, the earliest versions of villages of the Near Eastern fellahin, or peasants.

A comparative study of Glar and other northern Negev sites follows. Although the area in question is small, it is suggested that during the Chalcolithic period the northern Negev was settled by two groups, or "tribes," with the same cultural background but different modes of life.

Introduction

The Chalcolithic period in the Levant, especially in its southern part, includes numerous sites, some of which yielded very rich cultural assemblages. One of the most impressive finds is the hoard of copper artifacts from Nahal Mishmar, in the Dead Sea basin. This hoard has no parallels anywhere in the world, and it has been recently suggested that its artifacts were produced in the Chalcolithic villages of the northern Negev (Moorey 1988: 186-187), one of the most interesting Chalcolithic culture areas of the prehistoric Near East. The new evidence from the recently excavated site of Glar contributes to a better understanding of the settlement patterns and cultural processes in this time and place.

More Chalcolithic sites are known from the northern Negev than any other part of the Levant. Most of the sites in this region are concentrated along the Nahals (wadis) Besor, Beer Sheva, Glar, and Patish, to name the most important (FIG. 1). Among the best known sites are the large settlements around the town of Beer Sheva: Bir es-Safadi, Abu Matar (Perrot 1955, 1984; Eldar and Baumgarten 1985), and Horvat Beter (Dothan 1959). Further west, along the Nahal Beer Sheva, are the recently-discovered large settlement and cemeteries of Shiqmim (Levy and Alon 1985; Levy 1987).

The sites along Nahal Beer Sheva were until recently the only source of information for the study of the 4th millennium B.C. (unrecalibrated) in the northern Negev. The stone architecture, the underground structures, and the copper and the ivory industries are some of the best known attributes of these sites. The Nahal Beer Sheva area, however, is only one part of the northern Negev that was settled during the Chalcolithic period. Another concentration of sites is located along the Lower Nahal Besor and Nahal Glar. In fact, those of Nahal Besor, near Tell Fara, were the first Chalcolithic sites excavated in the northern Negev (Macdonald 1932; Roshwalb 1981). The Besor site reports are outdated, and only limited information regarding more recently excavated sites has been published. The Besor sites, however, have some attributes in common that differ significantly from those of Nahal Beer Sheva. In particular, structures are rare; stone was hardly used for construction; there is no evidence of copper or ivory industries; and the flint and pottery industries seem to be of a somewhat different nature. Some of these differences have been noted previously (Anati 1963: 296-314; de Vaux 1970; Gophna 1979; Kenyon 1979: 59-62; Levy 1983, 1986: 87, 100) but the new information from the Besor-Glar sites (Gilead 1986a, 1988b) adds new dimensions to the contrasts.

Like most of the other Chalcolithic sites in the northern Negev, Glar was discovered by David Alon (1961). His observations, and the small soundings conducted by the Israel Department of Antiquities, indicated that it was a large occupation site, ca. 0.5 km long, and that it was similar to the Tell Fara sites (Gophna 1979: 205).

It became evident that the study of the history and nature of Chalcolithic settlement in the Negev needed to
be supplemented by new information from large sites beyond the Nahal Beer Sheva area, this information being required in order to establish a more complete range of variability and thus a better understanding of the local settlement patterns and the social and economic organization of Chalcolithic occupation in the northern Negev. The potential of Grar and the need to carry out modern excavations of sites in the Besor-Grar area lay behind our decision, in 1981, to study the site.

The following pages contain a comprehensive, brief overview of the results of five seasons of excavations at Grar. First, the primary features of the site and its cultural assemblages are described briefly; then some topics regarding Chalcolithic settlement in the northern Negev, as seen from Grar, are discussed.

**The Site and the Excavations**

Grar is located on the right (north) bank of Nahal Grar, near its confluence with Nahal Gadi (FIGS. 1, 2, 4). This area is part of the Beer Sheva basin, a large depression filled with Neogene sediments. The undulating terrain is covered by an accumulation of loess that obscures the ancient topography and is dissected by the Nahal Grar and other wadis. The climate of the area is semi-arid and the mean annual precipitation of ca. 250 mm is subject to substantial yearly variation.

The site is situated on the top of a thick, silty sediment that forms the right bank of Nahal Grar (FIG. 4). This part of the channel is covered by dense vegetation. Owing to its immediate proximity to the channel, parts of the site are being eroded. The grey-ashy habitation deposits are clearly seen in the sections of the bank and help to define the spatial extent of the occupation.

The surface of the silty block of sediment, on which the site is situated, is plowed annually for sunflower cultivation. As the archaeological sediment is at and immediately below the surface, plowing disturbs its upper 30–40 cm. In the autumn, after the harvest and plowing, darker areas containing scattered ashes and artifacts become visible. These darker areas are separated from each other by the yellow, natural sediment of the local silt (loess). It is apparent that Grar was not a single, large, continuously occupied site, but rather a cluster of small to medium-sized occupational units (FIG. 2). This also is obvious from the section created by the wadi at the southern edge of the site: the ashy archaeological deposits are separated by natural, sterile sediments.

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1. The excavations of the site were carried out as part of a large project of the Archaeological Division of Ben Gurion University of the Negev, "The Land of Grar Project," directed by E. D. Oren (Oren and Morrison 1986). Excavations were carried out during summer seasons in 1981–1983, 1985, and 1987, under the direction of the author, in collaboration with Jean Perrot of the French Center for Scientific Research in Jerusalem.
As Grar was a cluster of occupational units and not a single large site, we decided to excavate parts of some of the occupational units in order to study their variability. Thus, portions of occupational units A, B, C, D, E, and G (FIG. 2) were excavated. All the areas excavated, excluding area G, were situated along the bluff of the wadi bank. The reason behind excavating near the edge of the cliff is that it has not been plowed recently, and preservation is better. The excavations in area G, in the center of a cultivated field (FIG. 2), were carried out in order to examine that part of the cluster, as well as to determine the effect of plowing on the archaeological deposits.

A grid of 5 m × 5 m was superimposed to cover each of the excavated areas, but only the inner 4 m × 4 m of each square was excavated, leaving 1 m baulks between the squares for stratigraphic observations. All units of deposition were recorded as “baskets,” or lots. In addition, features regarded as having been made by the inhabitants of the site, were labeled as “loci” (e.g., pits, rooms, etc.). We sifted with a 3 mm mesh only those sediments that originated in units defined as loci.

The Plans and Stratigraphy of the Occupational Units

Area A

Area A, the easternmost part of Grar (FIG. 2), was excavated during one week in 1981. It consists of two stratigraphic units: the upper unit is a Late Bronze Age occupation containing brick walls and a thick deposit of very dark ash and vitrified silts. This part of the site functioned as an industrial installation of an as-yet unknown nature. The lower unit is of the Chalcolithic period, which is clear from the pottery sherds found below the Late Bronze Age occupation. Due to the destructive effects of the later occupation, however, virtually no architectural remains were discernible.

Area B

Area B, the largest exposure (FIG. 2), was excavated for about six weeks during the seasons of 1981, 1982, and 1983 (Gilead 1986a). The stratigraphy of B consists of three major units. The topmost is a yellow surface and
Figure 3. Plan of Grar B.
sub-surface deposit, ca. 20–30 cm thick, that has been disturbed by rodent activities, rootlets, and possibly cultivation. This layer is, in fact, a disturbed upper part of the unit below, which is a grey-ashy layer with pits and walls that pertain to the Chalcolithic occupation. Its thickness varies with the depth of the pits, from ca. 30 cm to ca. 100 cm. Below that is a virgin yellow soil, composed of sterile silt with calcareous concretions. Area B thus represents a single occupation during the Chalcolithic period.

The pits, the dominant feature in area B (FIGS. 3, 4), may be divided into three types. The first consists of large
(2–3 m × 2 m) oval pits ranging in depth from 30 to 60 cm. These are filled with a light-grey sediment that yielded numerous artifacts, including pottery fragments and flint. Between these pits are small and rounded ones (up to 100 cm in diameter) filled with grey sediments. The frequency of artifacts is low compared with that in the larger pits. One of the pits contained a double burial (loci 523, 539), and one, locus 572, a single burial (FIG. 3). One pit was filled with wadi pebbles. A third type of pit occurs along the wadi bluff. Similar in horizontal dimensions to the first type, these pits reach a depth of ca. 100 cm, but the sediments are darker because of the greater amount of ashes. While the fill of the first type is homogeneous and horizontal, the fill of the third type dips slightly southward, and also includes yellow lenses. Numerous pottery and flint artifacts were found in the third type of pit.

In addition to the pits, parts of brick walls were found in the western part of area B. These walls are part of a rectangular structure, locus 528, of ca. 6 m × 5 m (FIG. 3). Only the lowermost few centimeters of the bricks were preserved. Artifacts were rare inside the structure. South of the structure, in locus 549 (FIG. 3), was found a “cache” of in situ vessels (FIG. 5). They stood on the surface of the occupation layer, immediately below the recent surface. This is an indication that the thin surface cover, the first stratigraphic unit, was part of this layer, and that the artifacts of that upper unit are not from a later occupation.

Area C

Area C was excavated in 1983 (FIG. 2). The stratigraphy and the nature of the occupation are clearly different from those of area B. The uppermost 20–30 cm comprise a surface sediment, similar to that of area B. Below this, there is an ashy, sometimes dark, sediment of the upper archaeological horizon (Layer A), which is 30–50 cm thick. Layer A overlies a lower archaeological layer (B) of a yellow color. In the sw part of area C the deposits reach a depth of ca. 200 cm. The layers here dip to the south and consist of alternating grey and yellow bands, similar to those found in the third type of pits in area B. The second archaeological layer overlies the virgin soil.

The pits that are the dominant features in area B are rare in layer A of area C. Instead, there are two large concentrations composed of numerous pottery fragments, some of which join. The fragments were spread on a flat, compact surface in the eastern part of area C, a probable floor. Also, in the western part of the area there was a small stretch of a stone wall, a few other very poorly preserved portions of walls, and a small rounded installation made of pebbles. Layer B of area C was devoid of...
Area D

Area D (FIG. 2) was excavated in 1985. Most of it comprises a shallow sediment, ca. 20 cm thick, formed by an ashy deposit overlying the virgin soil. The archaeological horizon is packed with numerous fragments of pottery, flint artifacts, and bones. Despite the rich yield of artifacts, we did not find any architectural features, apart from one small pit and two small concentrations of stones of an unknown function.

In the northern part, a grey deposit with occasional finds reaches a depth of 2.5 m. Sections showed that the shape of this ashy fill is irregular and does not form a pit. This may be fill within a small natural gully, similar to those now found near the edge of the bluff.

In contrast to areas B and C, which had pits and structures indicative of their function as occupation sites, area D lacks attributes suggesting actual living surfaces. It is of interest to note in this context that the limestone vessels and mother-of-pearl shells found in the other areas were absent from area D.

Area E

Area E (FIG. 2) was excavated in 1985 and 1987. The gross stratigraphy of E is similar to that of the other excavation areas. The occupation layer, about 20–30 cm below the present surface, consists of a grey ashy sediment with architectural features. The depth of the occupation horizon is not uniform: in the western part it is only about 30 cm deep, while in the east it is 150–200 cm deep. This probably reflects the topography of the terrain before occupation. In the eastern squares, some of the deeper strata are composed of thin, dipping layers.

Area E is similar to area B in containing pits and brick architecture. Its central architectural element is a long brick wall: locus 902 (FIG. 6). The NE corner of the wall features a circle made of bricks, locus 917 (FIGS. 6, 7); this is probably a silo. There are fragments of walls to the east and south of the main wall. In addition to the walls, there are various pits. The southern end of the main wall has been disturbed by a large pit with ashes and a burial at its top: locus 914 (FIGS. 6, 8). Other pits are mostly to the west of the wall. The majority are shallow and of medium size, and one is bell-shaped.

Area G

Area G (FIG. 2) was excavated in 1985. This is the only area that is not adjacent to the wadi bluff. It is now under cultivation, which has disturbed the original sediments and scattered the ashy deposit and artifacts on the surface. Our sounding showed that the two eastern squares are sterile and that the size of the occupation area is smaller than the area of the surface scatter.

Below the 30–40 cm of surface earth that was disturbed by plowing, the occupation horizon was found to be characterized by numerous pits of various sizes. There are small (D. ca. 100 cm) pits, the bottom of one of which is paved with small pebbles, as well as pits of medium size (ca. 200 cm). No remains of brick walls were identified.

The Finds

Pottery

The areas excavated at Grar produced an immense quantity of pottery fragments, including most of the types known from the Chalcolithic period in this region. The most common type is small bowls with everted sides (FIG. 9: 1–3). Also common are medium-sized jars and hole-mouth jars (FIG. 9: 7–8). Cone-shaped vessels (“cornets”) are also present in large numbers (FIG. 9: 4–6), and their frequency indicates that they were used for domestic activities. The churn was another type of vessel popular at Grar. One churn from area C is exceptional in shape, featuring an extremely large neck; such types are rare and only solitary specimens are otherwise known (e.g., Commenge-Pellerin 1987: fig. 37: 3, 5).

In addition to the types listed above, there are less common ceramics in the assemblage such as bowls on fenestrated pedestals, cups, small “Cream Ware” jars, spoons, and miniature churns. Many of the vessels are painted, with one or more red bands encircling them. Area B yielded a unique sherd that is clearly distinct from the bulk of the local pottery. This is a fragment of a Late Neolithic vessel with typical “herring bone” incised decoration and remnants of red paint.

Our typological analysis of the pottery compares, among other observations, the “minimum number of individuals” of vessels from the various loci. One of our conclusions regarding spatial distribution is that most of the pits were used as trash receptacles before the occupational units were abandoned. The pits contained more sherds than could have resulted had complete vessels been stored, then fragmented, in them. It was not possible to reconstruct vessels from the sherds in the pits. The living surfaces of the site produced fewer, though better preserved, fragments of pottery.

The pottery from Grar was subjected to a detailed petrographic analysis (Goren 1987). The results indicate that almost the entire assemblage was locally produced. The paste is local silt supplemented by a small fraction of the
Figure 6. Plan of Grar E.
local wadi sand, which includes nodules of calcified sand (kurkar), a rock found in the immediate vicinity of the site. The firing temperature, which was low (500°-600° C) did not demand the use of kilns. The second, less frequent, petrographic group found in the site is the “Cream Ware,” made of Late Eocene crushed chalk. Most of these “Cream Ware” vessels were probably imported from areas east of Grar. In some cases, grits were added to the crushed chalk for the production of larger vessels.

Flint Artifacts

The flint assemblages from Grar comprise ca. 6000 artifacts, of which 695 are tools (Table 1). The most commonly-used raw material is brecciated Senonian flint, either light-brown or grey, which occurs as pebbles in the nearby channel. Sickle blades and microliths were manufactured from non-local material: banded flint and white to pink, semi-translucent flint respectively. The most common product of the local flint are flakes, which make up ca. 60% of thedebitage, while the blades comprise only ca. 13%. This is well reflected in the cores, which are dominated by irregular, unstandardized flake types.

The most common tool type (ca. 24%) is the sickle blade, which is of a very standardized shape: narrow, backed, with a triangular cross-section, fine denticulation, and either snapped or truncated end (Fig. 10: 9-11). This type is common in all the Chalcolithic sites of the northern Negev. Another important element among the tools are microliths (ca. 10%), which are almost equally divided between bladelets with fine retouch (Fig. 10: 5-8) and micro-endscrapers (Gilead 1984) (Fig. 10: 1-4). The bladelet cores for the production of these tools were found in the site, although they are not of local origin. Other typical Chalcolithic elements such as bifacial tools (axes, adzes, chisels), fan-scarpers, and borers were also found, although their frequencies are very low. An analysis of the flint artifacts from two occupational units (B and C), show that from typological and technological aspects, the assemblages are identical. There are, however, statistically significant differences in the relative frequency of some tool types. For example, in B there are more endscrapers, while in C there are more sickle blades (Hershman 1987: table 4).
Figure 8. A flexed burial in Grar E.

Table 1. Flint and limestone tools from Grar.

<table>
<thead>
<tr>
<th>Tool type</th>
<th>Flint</th>
<th>Limestone</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Endscrapers</td>
<td>43</td>
<td>6.19</td>
<td>77</td>
</tr>
<tr>
<td>Fanscrapers</td>
<td>7</td>
<td>1.01</td>
<td>4</td>
</tr>
<tr>
<td>Sidescrapers</td>
<td>12</td>
<td>1.73</td>
<td>36</td>
</tr>
<tr>
<td>Heavy duty scrapers</td>
<td>-</td>
<td>0.00</td>
<td>17</td>
</tr>
<tr>
<td>Burins</td>
<td>4</td>
<td>0.58</td>
<td>-</td>
</tr>
<tr>
<td>Drills</td>
<td>37</td>
<td>5.32</td>
<td>4</td>
</tr>
<tr>
<td>Retouched flakes</td>
<td>76</td>
<td>10.94</td>
<td>67</td>
</tr>
<tr>
<td>Truncations</td>
<td>13</td>
<td>1.87</td>
<td>-</td>
</tr>
<tr>
<td>Notches</td>
<td>167</td>
<td>24.03</td>
<td>74</td>
</tr>
<tr>
<td>Denticulates</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
</tr>
<tr>
<td>Sickle blades</td>
<td>166</td>
<td>23.88</td>
<td>-</td>
</tr>
<tr>
<td>Retouched blades</td>
<td>42</td>
<td>6.04</td>
<td>-</td>
</tr>
<tr>
<td>Retouched bladelets</td>
<td>70</td>
<td>10.07</td>
<td>-</td>
</tr>
<tr>
<td>Micro-endscrapers</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
</tr>
<tr>
<td>Axes</td>
<td>14</td>
<td>2.01</td>
<td>1</td>
</tr>
<tr>
<td>Adzes</td>
<td>27</td>
<td>3.88</td>
<td>3</td>
</tr>
<tr>
<td>Chisels</td>
<td>3</td>
<td>0.43</td>
<td>-</td>
</tr>
<tr>
<td>Mixed tools</td>
<td>3</td>
<td>0.43</td>
<td>-</td>
</tr>
<tr>
<td>Varia</td>
<td>11</td>
<td>1.58</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>695</td>
<td>99.99</td>
<td>286</td>
</tr>
</tbody>
</table>
Other Artifacts

In addition to the flint industry, the inhabitants of Grar produced a relatively large assemblage of knapped limestone artifacts. This industry consists of cores and choppers, flakes, blades, and retouched tools that are imitations of the flint artifacts (TABLE 1). Among the limestone tools worth mentioning are scrapers, endscrapers, retouched flakes and blades, notched pieces, awls, and bifacial tools. It is of interest to note, for example, that while there are 43 endscrapers in the flint assemblage of Grar, there are 77 limestone endscrapers of similar types (TABLE 1). There are no reports of such an industry from any other Chalcolithic site. This is, in fact, the first time that knapped limestone artifacts reflecting a complete reduction sequence, similar to flint knapping, have been reported from the southern Levant.

There is also a ground stone industry, which consists mainly of stone bowls and grinding slabs. Many stone bowls, some on a fenestrated pedestal, are made of basalt, with a few made of phosphorite. Both raw materials prob-
Gar: A Chalcolithic Site in Israeli Gilead

Figure 10. Flint tools from Gar B. 1–4: micro-endscrapers; 5–8: re-touched bladelets; 9–11: sickle blades.

...ably originate in Transjordan (Amiran and Porat 1984: 14; Gilead and Goren in press). Most of the grinding slabs were made of beach-rock fragments, a type of rock that is found in the vicinity of the site, and were probably used primarily for grinding cereals, although traces of ochre were identified on a few of them. The stone artifacts also include perforated, rounded stones: spindle whorls, weights, and mace-heads.

Artifacts of a probable decorative nature were made of stone, pottery, and mother-of-pearl. Worth mentioning...
are small, rounded, and perforated pendants and flat trapezoidal pendants, each with two tiny perforations.

Two unique finds are a seal and a seal impression. The seal is a button-shaped black stone with a perforated dorsal face, and a shallow spiral pattern on its flat, ventral face. Such seals are well known from sites in the north; one of similar shape has been recently reported from the Golan (Ben-Tor 1985). The seal impression, on a small fragment of clay, consists of a rhomboid border, inside of which are lines in a spider-like pattern of an unknown meaning. On the reverse side of the piece there are impressions of narrow bands that were probably left by the container to which the seal was attached.

Discussion

The Nature of the Settlement

Glar consists of a group of occupational units inhabited by Chalcolithic farmers. Together these are a few hundred meters in area and consist of isolated structures surrounded by pits of various shapes and sizes. The former were probably inhabited by families of farmers that used the structures as shelters or sleeping quarters, and performed most of the daily, domestic activities in open courtyards adjacent to them (Gilead 1986b: 21–25; 1988a: 416–418). A few members of the community were also buried in the pits. Settlements of an almost identical layout—a structure and an open court with numerous pits, some with burials—were reported by Flannery and his associates from the Oaxaca Valley in Mesoamerica where they were labeled “household clusters.” This pattern of habitation is characteristic of agricultural, pre-urban societies (Winter 1976). Grar is composed of a group of segregated household clusters spread over an area of ca. 7.5 ha.

The economy of the local inhabitants was mixed farming, based on growing wheat/barley and herding sheep and goats, along with raising pigs and cattle. This is well reflected in both the artifactal and faunal assemblages (Gilead 1986b). The Nahal Beer Sheva sites produced carbonized grains of wheat and barley, none of which were preserved in Grar. The phytoliths recovered by Arlene Rosen, and the sickle blades and grinding slabs suggest cereal cultivation, however. The frequency of the sickle blades in the flint assemblage of Grar (25%) is exceptionally high, while in the assemblages from the Beer Sheva sites they are rare (see the next section for details).

The occupational units of Grar yielded over 1200 identifiable animal bones that are being studied by Caroline Grigson. Almost all are of domesticated animals, the most common bones in the assemblage (ca. 60%) being those of sheep and goats with the remainder being from pigs and cattle.

The frequencies of the different animal species are not identical in the various occupational units. Preliminary analysis has indicated that while in area B the frequency of sheep-goats was ca. 53% and of pigs 22%, the ovicaprids in C constitute 71% of the assemblage and pig bones only about 6%. Considering the sample sizes, 407 and 240 specimens, respectively, this difference is statistically significant (Caroline Grigson, personal communication, 1988). It is worth mentioning here that the analysis of the flint artifacts also indicated that there is a functional difference between the two occupational units: sickle blades being more common in area C.

It has generally been agreed that the Besor sites near Tell Fara (Macdonald 1932), which are similar in many ways to Grar, were sites inhabited by mobile herders (de Vaux 1970: 526; Kenyon 1979: 59; Gophna 1979: 207; Levy 1983: 30). The contents and nature of Grar, however, indicate that this view is based on a consideration of only part of the evidence (Gilead 1986b; 1988b). The most important element not yet considered is the fact that a large proportion of the faunal assemblage at Grar, as well as at the Besor sites (Perrot 1968: 442; Grigson 1987: table 7-2), consists of the remains of domesticated pigs. Pig raising, one of the attributes of the Late Neolithic Levantine communities (Gilead 1988a: 418–420), cannot be reconciled with the mode of life of herders, and it is considered an attribute of settled farming communities: “... it is unlikely that we will find swineherding associated with early Near Eastern societies for which transhumance is important” (Flannery 1983: 183). On this basis, it is more realistic to view Grar and most of the sites in the now semi-arid parts of the Levant as representing sites of sedentary farmers. This aspect unites the entire Levant from the foothills of the Taurus to the northern Negev steppe (Gilead 1988a: 418–421).

Another indication that Grar was settled by sedentary inhabitants is the prominence of locally produced pottery in the artifact assemblages. Ethnoarchaeological observations indicate that there is a very clear correlation between sedentism and pottery production (Arnold 1985: 109–125; Rafferty 1985: 133–134). The burials found in Grar, and the thick accumulation of deposits (ca. 200 cm) in some parts of the occupational units, further support the contention that in Grar we are dealing with a fully sedentary farming community.

The subsistence economy at Grar was similar, in many ways, to the economy of the recent Levantine fellahin, and is a very early version of what is now viewed as traditional Near Eastern farming. It was different from
the subsistence of the more mobile Bedouin (Gilead 1988a: 421). The economic basis and the modes of life of the recent pastoral, semi-nomadic Bedouins cannot, therefore, be used as an ethnographic analogue for the Chalcolithic settlers.

Sheep and goats, which were the most numerous animals in the faunal assemblage, probably were herded. The herding stations we have discovered in Nahal Sekher area are small, are poor in stone artifacts and ceramics, and represent ephemeral stations (Gilead and Goren 1986). This suggests that herding was an occupation of a small segment of the community, while most of the members remained in the large, permanent settlements such as Grar. It is possible that most of the 30 sites along Nahal Grar reported by Alon (1961) are also remnants of herding stations used by the people from the fewer large village sites.

Imported artifacts made of exotic raw material are found in Grar, but are uncommon. The basalt and phosphorite bowls from Transjordan, shells from the Mediterranean, and the seal, probably from the north, indicate the primary directions of contact. The scarcity of such items indicates that they were a minor element in the economy and daily life of the site's inhabitants. The fact that they occur almost evenly over most of the occupational units suggests that the distribution of wealth among the different units was not differential and that a low degree of social complexity may be signified.

Fourth Millennium Traditions in the Northern Negev

The nature of Grar and its artifact assemblages is clearly within the range of the typical 4th-millennium B.C. cultural sphere of the southern Levant. This cultural entity, the Ghassulian, is best documented at the site of Teleilat Ghassul and at the sites in the northern Negev. Grar shares numerous attributes with these assemblages, attributes that are the hallmarks of this time span: bowls with everted sides, cones, churns, basalt bowls, sickle blades, microliths, fan-scrapers, bifacial tools, and a similar subsistence economy. When the details of the sites and assemblages are more closely examined, however, the apparent uniformity is not so marked, making subdivision possible.

In general, the preliminary subdivision of the sites in the northern Negev proposed here is based on the definition of two cultural entities. The first is the group of sites along the Nahal Beer Sheva such as Abu Matar, Bir es-Safadi (Perrot 1955, 1984; Eldar and Baumgarten 1985), Horvat Beter (Dothan 1959), and Shiqmim (Levy 1987). This is best referred to as the “Beer Sheva cluster.” The sites of the second group, the “Besor-Grar cluster,” are distributed along the Lower Nahal Besor, in Nahals Patish and Grar, and in NE Sinai. Sites that belong to this cluster are those excavated by Macdonald near Tell Fara (Sites A, B, D, M, E, and O: Macdonald 1932; Rosshwalb 1981), Gilat (Alon 1977), those near Yamit and Tell Qatif (Oren and Gilead 1981), and Grar.

The differences between the two clusters are readily apparent both in the nature of the sites and in aspects of their cultural contents. Stone architecture for the lower courses of walls is standard in the Beer Sheva cluster, while it is rare or nonexistent in the Besor-Grar cluster. In the latter, bricks were used for the construction of walls, as best exemplified at the site of Grar. The fact that stones were used in area C for a wall construction suggests that the preference for bricks was not a result of scarcity of stone. Bricks, however, are almost unknown in the Tell Fara sites, but this is probably due more to problems of preservation and excavation sampling than the fact that bricks were not used. It must be remembered that all the Chalcolithic sites in the Nahal Grar, Tell Fara, and Beer Sheva areas are close to the surface. Bricks on the surface, or just below it, are heavily affected by a variety of natural and human agencies such as water erosion, rootlets, rodents, plowing, and so on. Because the dried mudbricks were made of the local loess, when they decay they can hardly be distinguished from the local virgin soil. Moreover, Grar demonstrates that a settlement need not occupy an extensively built-up area but rather dispersed units, represented mainly by pits. For example, in the ca. 350 sq m of area B, only about 30 sq m had actual constructions, i.e., less than 10%. It is probable that there are areas in the Besor sites with walls that were not excavated. These factors, and some bricks found by Jean Perrot (1962) in the Tell Fara area (Perrot, personal communication, 1988) suggest that brick architecture was more common there and that the sites are very similar to Grar.

Two of the best known crafts of the Beer Sheva cluster, copper metallurgy and ivory carving, were not practiced in the sites of the Besor-Grar cluster. On the other hand, the violin-shaped figurines of stone from the Besor-Grar cluster are unknown in the Beer Sheva cluster.

The cone, or “cornet,” one of the typical pottery vessels of the Chalcolithic period, is restricted in distribution to the Besor-Grar cluster and is very rare in the large sites of the Beer Sheva cluster. While there are hundreds of them at Grar, for example, there is not a single one in the very large assemblages of Shiqmim (Levy and Menachem 1987: 319) and Zumelli, and only two fragments at Abu Matar (Commeng-Pellerin 1987: tables 2, 7). Cornets...
are found in the Chalcolithic sites of NE Sinai (Oren and Gilead 1981: 30, 32); at Qatif (Y-2), near Deir el Ballah (Eliezer Oren, personal communication, 1988); at Gat-Govrin (Perrot 1961); and at Gilat. In the Besor group, cornets are found mainly in site O, and a few were recovered from sites A, D, and E. In the Beer Sheva cluster, few cornets were reported, and then only from Horvat Beter (Dothan 1959) and Horvat Hor (Govrin 1987: 125). Cornets were also found in the small Chalcolithic stations of Nahal Sekher, south of Beer Sheva (Gilead and Goren 1986: figs. 5, 6).

Although it cannot yet be quantitatively substantiated, it seems that in the pottery of the Besor-Grar cluster painted red decoration is more common than in the Beer Sheva cluster. Petrographically, our division corresponds broadly with the two petrographic groups of Goren (1987: 38–43): the western Negev group and the Beer Sheva group.

The dichotomy of the two clusters is also expressed in the flint industry. The frequency of sickle blades is higher in the Besor-Grar cluster than in the Beer Sheva. In the larger sites of the former such as Qatif (Hershman 1987: 134) and Grar, the sickle blade frequency is ca. 32% and 25% respectively, while the frequency of sickle blades in the large sites of the second cluster such as Horvat Beter, Bir es-Safadi, and Shiqmim is only 3.9%, 8%, and 2.3% respectively (Rosen 1987: table 11.2; Hershman 1987: 85).

Another important difference is the higher frequency of microliths in the Besor-Grar cluster. While microliths at Grar and Qatif constitute 10%–14% of the tool assemblage, at Horvat Beter, Bir es-Safadi, and Shiqmim their frequency is extremely low: 0–1.4% (Gilead 1984: 8–9; Hershman 1987: tables 2, 10, 27; Rosen 1987: table 11.1). The rich microlithic industries of sites near Tell Fara produced, in addition to the bladelets, large collections of bladelet cores (Macdonald 1932: plate 18). With a few exceptions, there is no evidence in the flint industries of the Beer Sheva cluster for the production and use of microliths. The higher frequencies of sickle blades and microliths in the Besor-Grar cluster indicate that these flint knappers used a blade technique of production more extensively than did their Beer Sheva counterparts who employed it only rarely.

A final and major difference between the two clusters is the fact that pigs were raised in the Besor-Grar cluster, whereas they are not found in the faunal assemblages of the Beer Sheva cluster (Grigson 1987: table 7-2). Raising domesticated pigs cannot be done on a sporadic and opportunistic basis. The fact that one group raised pigs and the other did not, in addition to differences in the cultural assemblages, should be regarded as reflecting significant behavioral, cultural, and socioeconomic differences between the members in these two clusters.

The analysis presented indicates that the Grar-Besor assemblages are similar to those from Teleilat Ghassul (Mallon, Koeppel, and Neuville 1934; Koeppel 1940), which resemble the Besor-Grar sites in featuring brick architecture, cornets, microliths, and pig bones. The new excavations of Hennessy (1969, 1982) at Teleilat Ghassul have revealed a longer sequence than the one described by Mallon and Koeppel. Here, the uppermost strata (A-D) correlate with the main occupations of the previous excavations and are characterized by cornets, which are not found in the strata below. When more details from this site are published, it is probable that a stratigraphical ordering of the two units will become possible.

The differences between the two otherwise-similar clusters in the nature of the sites, the artifact assemblages, and in some aspects of the subsistence economy suggest the existence, in the northern Negev, of two groups. They shared the same cultural background, but each group had its own modes of life. Such a dichotomy may either represent two coexisting groups—geographical sub-cultures in the terminology of Clarke (1978: 249–261; Gilead 1985)—or two temporal phases of one culture. The main problem in interpreting the distinction is that there is not even one radiometric date from any of the sites of the Besor-Grar cluster. Neither charred wood nor grains have been uncovered in any of these sites. Samples of bones contained too little collagen for 14C dating (John Vogel, personal communication, 1988).

On the basis of the radiometric evidence from Shiqmim, the possibility that these are two different temporal phases is plausible. The 14C dates from the upper village of Shiqmim (5750 ± 180 and 6150 ± 180 B.P.) are earlier than those from the lower village (5250 ± 140 and 5050 ± 490 B.P.).

Levy and Alon (1985: 74–75) suggested that the nature of the upper village is similar to the sites of the Besor-Grar cluster. The excavated area in the upper village of Shiqmim, however, is too small to be certain, and the artifact assemblages were neither described nor compared with the assemblages of the lower village.

A more detailed examination of the elements in each of the clusters is more complex than presented in this brief outline, since variability exists within each of the clusters. Some of the Besor sites differ from others, especially in the nature of the ceramic assemblages. The typical jars of
sites A, B, D, and M, with the loop handles, are not found in the other sites near Tell Fara, and the dominance of the bowls with everted sides and cornets that typify sites E and O is replaced in the other sites by numerous basins with thumb-impressed rims.

The existence of two clusters on the one hand, and the complexity within them on the other, are the results of an intricate interplay of factors such as adaptation to different micro-environmental niches, possible climatic changes, cultural interaction, etc. The dichotomy described here, however, should be accepted as a basic distinction in studies of settlement patterns and social and economic organization of the northern Negev during the Chalcolithic period.

Summary and Conclusions

The site of Grar consists of a group of neighboring household clusters along the bank of Nahal Grar in the northern Negev. Each household cluster consists of a small- to medium-sized brick structure surrounded by a courtyard with numerous pits of various shapes and sizes. Most of the daily domestic activities were carried out in this courtyard, whose installations were used for storage, food processing, trash removal, and even burial.

The sickle blades, grinding slabs, and bones of sheep, goats, pigs, and cattle indicate that subsistence was based on a mixed farming economy involving cereals and animal husbandry. The thick accumulation of debris in some parts of the site, the burials within the households, and pig raising signify that the community was sedentary. The numerous ephemeral sites along this part of Nahal Grar show that at least some of the herding activities were carried out in the vicinity of the site.

The cultural assemblages of Grar show that the site falls within the typical 4th-millennium b.c. group of the northern Negev Ghassulian sites. A more detailed study of specific traits within the cultural assemblages and of the makeup of the sites, along with an examination of other sites, suggests that there are two distinct Ghassulian entities in the northern Negev: the Besor-Grar cluster and the Beer Sheva cluster. It is unknown yet whether these were two phases in a local cultural development or two contemporary facies. We have recently suggested (Gilead in press; Gilead and Alon 1988) that there was a local development in southern Israel from the Late Neolithic to the Chalcolithic (Gophna 1979: 205–206). We have noted that some intrusive elements in the pottery and flint assemblages of Macdonald's sites D and M (Moore 1973: 59; Roshwalb 1981: 347) are similar to the Late Neolithic assemblages of the site near Tell Qatif (Epstein 1984) dated to the late 5th millennium b.c. These assemblages were labeled by us as Qatifian. We have also suggested that the assemblages of sites A, B, D, and M resemble the Qatifian and are different than the typical Ghassulian sites of the northern Negev. Grar, although Ghassulian, includes some traits common to the above-mentioned Besor sites.

Unfortunately, the Besor sites and Grar were not radiometrically dated. Most of the dates from the Beer Sheva sites (Gilead 1988a: table 1), excluding the upper village of Shiqmim, fall within the second half of the 4th millennium b.c. It is therefore possible that the sites of the Besor-Grar cluster fall within the first half of the 4th millennium b.c., between the Qatifian and the Beer Sheva cluster. This possibility suggests that the major movement into the Beer Sheva basin is later then previously suggested (Levy 1983), and might reflect a different set of explanatory mechanisms. The further substantiation of this hypothesis, however, still depends on getting many radiometric dates in the future. Even though this idea seems more plausible now, the possible contemporaneity of the clusters or another kind of chronological ordering cannot be ruled out.

The possible existence of two cultural entities, or "tribes," in the northern Negev during the Chalcolithic period should become the focal point for future research. The nature of the variability between and within the clusters should be employed to elucidate the nature of the differential adaptation to the local environments, the history of the clusters, and their possible inter-relationship in time and space.

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