

THE POTTERY NEOLITHIC SETTLEMENT AT TEL YOSEF (TELL ESH-SHEIKH ḤASAN)

KAREN COVELLO-PARAN

INTRODUCTION

The Neolithic site of Tel Yosef is located at the foot of the Gilbo'a Mountains, on the southern border of the Ḥarod Valley (Figs. 1, 2; map ref. 23780/71500). Its remains were revealed in the summer of 1993, when large quantities of soil were extracted for the construction of a dairy waste reservoir. It was determined that the Neolithic site originally extended over an area of at least five hectares, based on observations during the removal of occupation debris when the reservoir was constructed. It is probable that much of the site is preserved below the colluvial accumulation south of this reservoir, and therefore, not detectable by surface survey. Although this area had been continuously surveyed by Zori

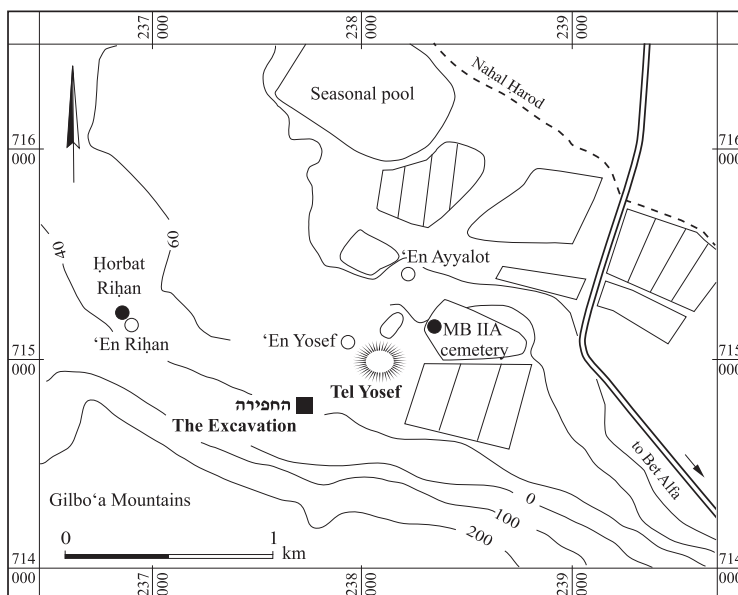


Fig. 1. Location map.



Fig. 2. Aerial view of the excavation area and vicinity, looking north.

(1971; 1977), who noted intense prehistoric occupation in the vicinity, the site was buried under 2 m of colluvium, eluding its detection until revealed by modern building activities. Approximately one hectare of the site has been excavated (Fig. 2).

Approximately 200 m east of the excavated area rises Tell esh-Sheikh Ḥasan, renamed Tel Yosef Ha-Yeshana (Old Tel Yosef) on account of the pioneers of Kibbutz Tel Yosef who temporarily settled there in the 1920s (Zori 1971:14–22). It is likely that the prehistoric site extended to the tell itself, dated by Zori from the Neolithic to the Islamic periods (Zori 1971:14–22; 1977:26–27). Zori collected Paleolithic and Neolithic flint tools on the tell's surface (1977: Pl. 11:3), and a polished deer bone, which he associated with the Neolithic occupation (Zori 1977:26). Excavations east of the tell exposed a cemetery dating to MB IIA (Covello-Paran 2001). About 800 m west of the site reported here, the site of Ḥorbat Riḥan, surveyed by Zori (1977:25), also yielded evidence of prehistoric human activity.

There are abundant water sources in the site's immediate vicinity. These include Naḥal Ḥarod and the perennial springs of 'En Yosef, 'En Ayyalot and 'En Riḥan (Fig. 1). Paleoenvironmental studies of the region (see Rosen, this volume) indicate marshy conditions during the Neolithic period. Following the paleotopography, the site slopes significantly from southwest to northeast.

THE EXCAVATION

The salvage excavations were carried out from August to October 1993.¹ Both budget restrictions and time limitations dictated the excavation strategy and the methods employed to achieve it. Based on the architectural remains, which were observable prior to the excavation, it was recognized that the site's chief potential laid in revealing a Neolithic settlement plan. The elucidation of this plan thus constituted the primary objective of the excavation. A grid of 5×5 m squares was spread on a northeast–southwest axis. Balks were c. 0.5 m wide between most squares, with the exception of two perpendicular one-meter-wide balks.

Artifacts were scarce and poorly preserved (see Rosen, this volume) and sieving the clayey sediments proved extremely time and labor consuming. Consequently, and keeping with the excavation's main objective (above), sample sieving with a 5×5 mm mesh screen was limited to floors and their removal. Due to the unfavorable marshy conditions, no paleobotanical remains were well-preserved.

STRATIGRAPHY AND ARCHITECTURE

Three successive occupations were revealed at the site (Fig. 3; Plan 1), all dated to the Pottery Neolithic period (see below). Direct evidence for stratigraphical relations was scarce. The following review of the architectural elements is presented from early to late, according to defined buildings. *Buildings* are clusters of architectural elements for which a whole or partial plan is distinguishable. Additional architectural elements are discussed separately.

Stratum III: The Early Pottery Neolithic Period

The initial occupation at the site was founded directly upon sterile soil. Stratum III (included in Unit II; see Rosen, this volume) was revealed throughout the excavated area. Its settlement plan is characterized by rectilinear architecture with rounded corners and long meandering walls. The architectural features have a slightly different orientation than the Stratum II structures, and are of an entirely different architectural nature (see below). The stratigraphic positioning of Stratum III was observed, for example, in Sqs C4/5, E4/5, where Stratum III elements were found below those of Stratum II. In other cases, the Stratum II elements cut those of Stratum III (e.g., Building II/1 cuts Building III, Sq B7).

¹ The excavations (Permit No. A-2042) were carried out on behalf of the IAA under the direction of the author, with the assistance of Haya Ben-Nahum (area supervisor), Nir Erthrecht (administrator), Israel Vatin and Itzhak Stark (surveyors), Sando Mandrea (photographer), Gila Midbari (draftsperson of finds) and Irina Berin (plans). The author wishes to express special thanks to Hamoudy Khalaily and Ofer Marder for their valuable assistance throughout the preparation of this publication, and to Avi Gopher, Yosef Garfinkel and Nimrod Getzov, for their valuable comments.

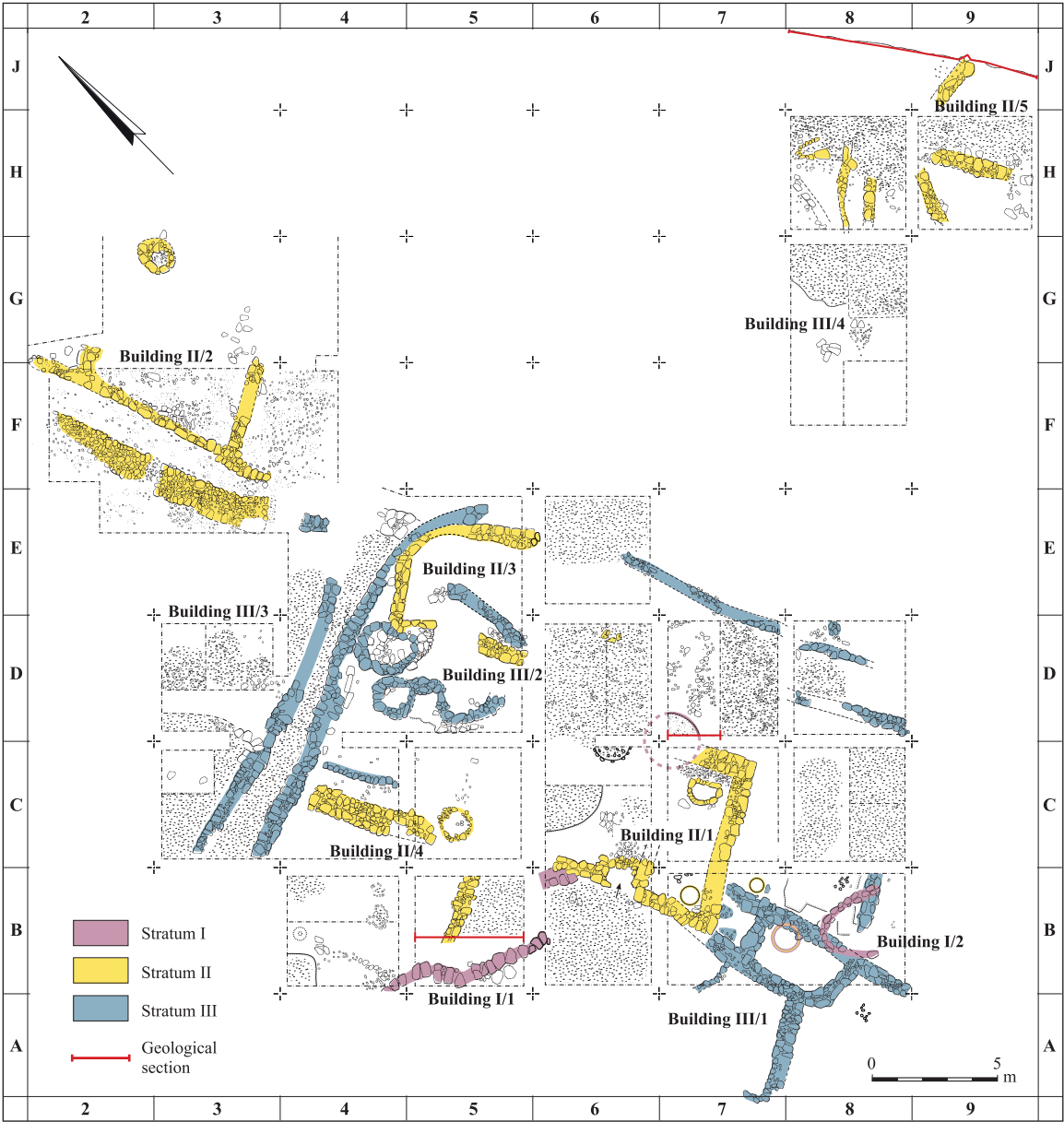


Fig. 3. Schematic plan of the site, including building designations.

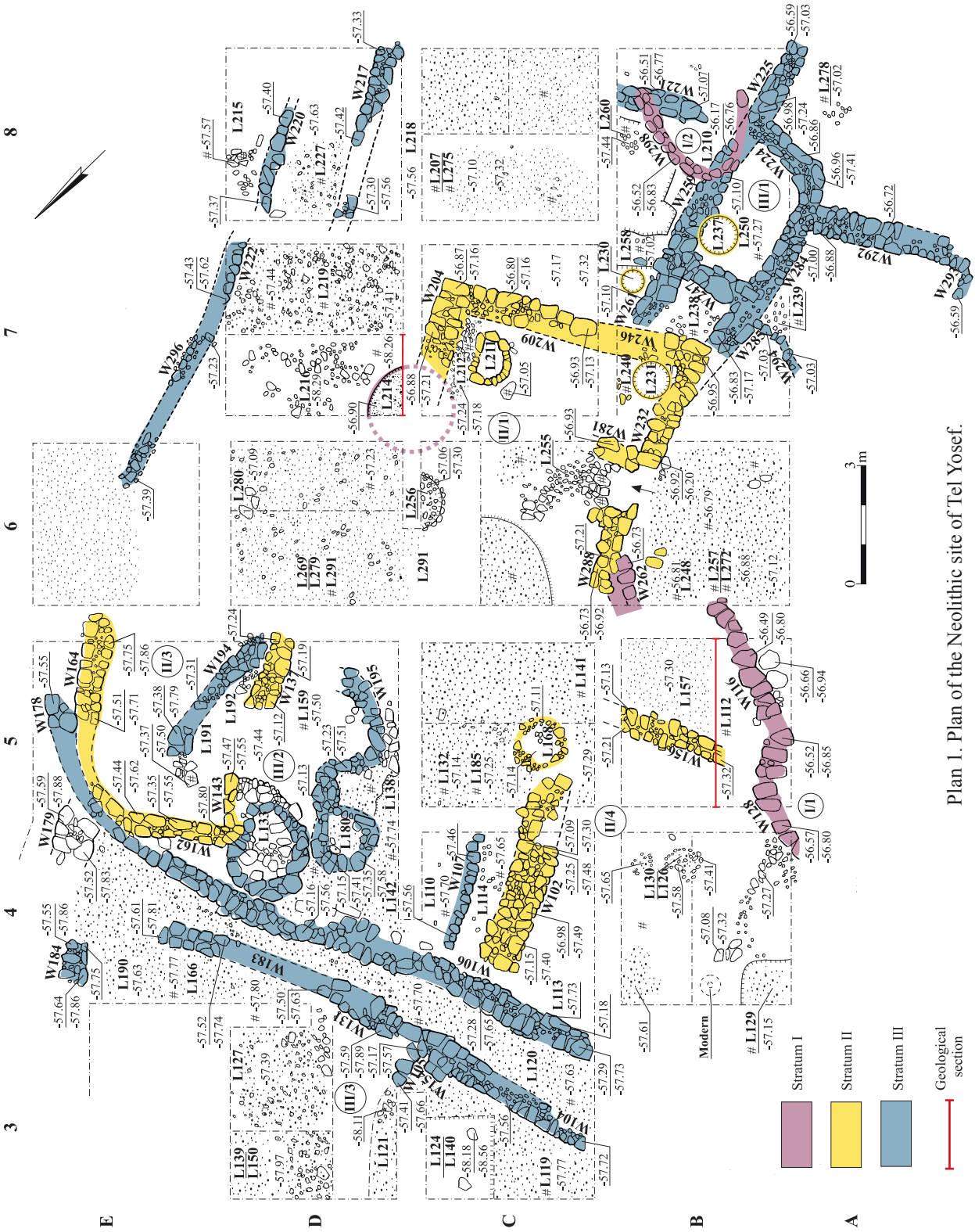
Stratum III comprises walls that were erected in a rather irregular manner using a few rows of stones, with the stones placed in varying directions, alongside limited evidence of a better construction method, for example in Building III/1 (see below). The walls were built directly above the sterile colluvium soil. In a few instances, the remains of a mud-brick superstructure were partially preserved. Especially dominant in this stratum is an alleyway running east–west, bordered by slightly curving walls, which separated two structures and their associated gravel floors and installations.



Fig. 4 Stratum III, Building III/1, looking north.

Building III/1.— This building, in the southernmost part of the excavation (Sqs A–B/7–8), comprised at least two juxtaposed rooms (Fig. 4). It was not exposed in its entirety and seems to have extended in all directions. The plan is rectilinear, but one corner (between W284 and W224) is rounded. The walls, preserved to a maximum height of 0.5 m, are constructed of two external faces of medium to large uncut limestones, with a core of smaller stones. Evidence of a brick superstructure was found in the collapse above the corner of W284 and W224 (L295). This collapse also produced evidence of some localized destruction: burned stones and many charcoal fragments, and a pointed bone tool (Fig. 5:1). A limestone mortar fragment (see Khalaily and Marder, this volume: Fig. 1:4) was incorporated in the outer face of W224 and a perforated shell (Fig. 5:2) was found in the debris above this wall.

Of the two rooms, only the southern one (L250) was exposed in its entirety; no clear entrances were distinguished. The northern room (L238) was cut by the walls of Building II/1 of Stratum II and was likely further damaged by undetected post-Stratum II disturbances. The floors of this building (L238, L250, L278) were made from a matrix consisting of gravels hard-packed into brown earth. Finds associated with these floors were sparse. The floors were not removed, and thus the possibility that they are superimposed above earlier floors cannot be ruled out. The general southwest–northeast slope of the site was especially



Plan 1. Plan of the Neolithic site of Tel Yosef.

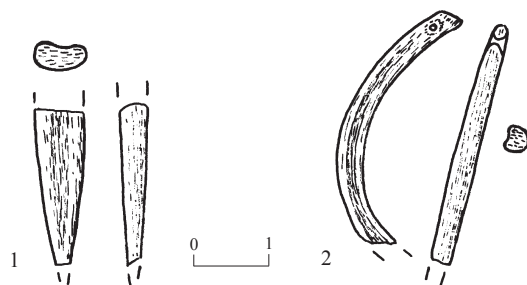


Fig. 5. Stratum III, finds in Building III/1:
(1) bone point (2) perforated shell.

observable in this area; thus, Floor 250 is c. 0.2 m lower than Floor 278. Associated with Floor 278 was a basalt handstone with signs of hammering and pounding (not illustrated).

Several architectural elements were associated with Building III/1: (1) a small stone floor (L258) abutted the eastern face of W261 (later cut by Pit 230 of Stratum II); (2) south of L258, W221 is of comparable absolute level and most likely abutted the eastern wall (W259) of Building III/1—it was abutted by a small stone floor (L260) that reached the balk, but its continuation was not discernable eastward beyond the balk into Sq C8; (3) Floor 239 abutted W285 and W284 to the west, and north of it, curvilinear W294 is probably a partition/installation that abutted Building III/1.

In the southwestern edge of the excavation, two walls, W292 and W293, exposed and traced on the last day of the excavation, form a corner. Wall 292 abutted the western wall (W284) of Building III/1. These walls delineate another irregularly shaped room or an open area. They are structurally later than W284 and W224, suggesting an early and later phase of the occupation in this building.

Building III/2.— This structure is situated to the south of Alley 120 (Sqs C–E/3–5), and is delineated on the north by the long, slightly curving W106. Its extent in other directions is indeterminable. The structure seems to comprise an enclosed open area, incorporating several interconnected architectural elements within it: a partition wall (W107) on the west, circular installations (L133, L180), and a circular structure (W194/W195). The relationship between Building III/1 and this structure is discussed below.

Wall 106 was preserved to a height of two courses (0.4 m) and slightly meanders between Sqs C–D/4. Eventually, it curves southward at its eastern extremity toward W178. Wall 106 (0.6 m wide) was not uniformly constructed. Portions of it are built using a single row of large stones lying breadthwise, while other sections have large stones placed lengthwise and reinforced by smaller stones. The inconsistent nature of this construction may indicate various rebuilding stages. Two segments of stone flooring (L110; Sqs C–D/4) abutted W106 on the south. These hard-packed stone and small gravel surfaces were covered by a beaten earth floor (L142; c. 0.8 m thick), discernible in the balk. It is probable that the stone flooring served as the foundation for the beaten earth floor.

Directly above Floor 142, in the east, two curvilinear stone installations (L133 and L180) were exposed. The larger one (L133; preserved c. 0.3 m high) was oval in shape and was constructed of medium to large fieldstones, with an inner partition wall of small stones. The northeastern side of the installation directly underlies Stratum II walls (W162, W143). The smaller circular installation (L180) was constructed from various-sized stones, with a floor made from small stones and hard-packed earth. Both installations were devoid of finds, suggesting that they might have been silos.

To the south of these installations, a curvilinear structure was formed by W194 and W195 (preserved height c. 0.2 m; Fig. 6). It was built from a row of large stones reinforced by smaller ones, and a hard-packed stone flooring (L191). This structure was cut by Stratum II walls (W137, W143). It is uncertain whether this structure was originally of circular form or, alternatively, that W194 and W195 were connected to Installations L133 and L180. The former possibility would indicate that this structure belongs to an early phase within Stratum III. The stratigraphic sequence of all these elements is not conclusive.

Additional floor fragments associated with Building III/2 were exposed east and west of W107 (L110, L113, L114, L126 and L130), made from hard-packed small stones. These floors are attributed to Stratum III on account of their proximity to W106 and their levels relative to this wall. Wall 107 apparently used to abut W106; however, their actual connection was not preserved. This wall, in turn, is abutted by floors L114 and L110 (see above). Above Floor 126 (Sq B4), a flint ax, an 'Amuq-type arrowhead, a basalt handstone, a few animal bones and fragmentary charcoal fragments were found. A probe below Floor 113 yielded virgin soil, c. 10 cm below the floor matrix, thus stratigraphically corroborating the attribution of this floor to Stratum III.

Alleyway 120.— A paved alleyway (L120; Fig. 7) runs east–west between long W106 of Building III/2 and W104 (=W131=W183) of Building III/3. The alley's pavement comprised a hard-packed floor of small stones abutting these walls; it is probable that the floor incorporates successive re-floorings, like many floors of both Strata III and II. Both the alleyway's paving and W106 descend toward the east, which is characteristic of the entire site. The alley varies in width, from 0.6 to 1.5 m. Its function, however, as a passageway between two structures, is evident, despite its narrow and irregular configuration. Above this floor were brick fragments, animal bones and minute charcoal fragments.

Building III/3.— This structure was erected opposite Building III/2, to its north, and is bordered on the south by the long east–west W104/131/183, that runs parallel to W106 of Building III/2. The eastern extent of this structure is marked by segment W184, and the structure continues both northward and westward beyond the excavated area.

Additional features associated with this structure are a short north–south wall segment (W154), which is bonded with W104, and a series of floors (see below). There may be evidence of at least two phases of construction in this structure, as indicated by W105, which overlies W154 and abuts W104 (Fig. 8). It is likely that W105 represents the rebuilding of



Fig. 6. Stratum III, Building III/2 W194 and W195 superimposed by W137 (Building II/3), looking south.



Fig. 7. Stratum III, Alleyway 120 between W106 (Building III/2) and W104 (Building II/3), looking east.

the earlier wall and that both walls were internal partition walls of Building III/3, separating rooms or dividing an open area. However, according to its stratigraphic position and levels, W105 may in fact be associated with the Stratum II occupation.

A series of hard-packed floors composed of small stones (L119, L127, L150, L166, L190) were associated with Building III/3. These different loci numbers are largely due to the excavation process, which was conducted by squares; most likely, all of these segments are part of one floor, which underwent several resurfacings. Brick fragments, flint, bone, and minute non-diagnostic pottery sherds were found in the accumulation on the surfaces, while a single mud-brick fragment was found in the floor matrix of L127.

Floor 127 was removed in the northern quarter of Sq D3, revealing a fill (L139) containing flint, bone and patches of grayish organic material, which overlie floor segment L150. The anthropogenic remains between several of these superimposed floors indicate consecutive occupations within the structure.

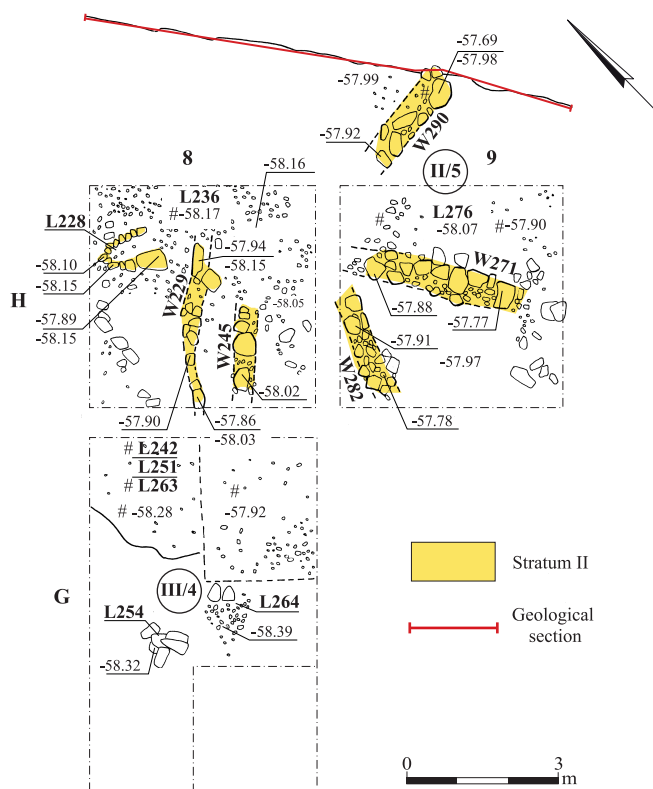
Two other probes were excavated below the floors in this structure in order to determine the initial level of occupation here. In Sq C3, a 2 × 2 m probe below Floor 119 revealed a fill (L124), below which colluvial soil and natural limestone fieldstones (L140) were revealed. A similar probe in Sq D3 exposed a stone surface (L121), comprising various-



Fig. 8. Stratum III, Alleyway 120, looking south; W107 of Stratum III and W102 of Stratum II are in background.

sized limestones, which was devoid of archaeological material. These probes indicate that pre-occupation surface levels in this area of the site were at a level of c. -58.15 m asl.

Alleyway 227.—Two parallel walls running north–south are the remains of another alleyway, south of and perpendicular to Alley 120 (Sqs D–E/6–8). The eastern wall is a long irregular wall, exposed in segments (W220, W222, W296). One of these segments (W296) was only exposed on the surface and not fully excavated. Of the western wall (W217) two segments were preserved; this wall continues beyond the excavation area to the south. It is probable that W217 continued northward as well, yet was disturbed by the Stratum II building activities. Traces of mud bricks were found above the upper stone course of W217, providing evidence of the brick superstructure of this wall, and additional brick fragments were found in a collapse on the east (L206) above the alleyway floor L227 and west of the wall (L218). The alleyway floor (L227) was composed of hard-packed earth and small stones with brick material, bones, charcoal, flint and pottery. This floor in fact comprised an accumulation of successive floors, which could not be distinguished from one another in the excavation. These walls are assigned to Stratum III as their method of construction is similar to that of W106 and W104 flanking the east–west Alleyway 120 and their alignment fits that of the Stratum III architecture. It is proposed here that these walls belong to two separate structures located on either side of Alleyway 227, similarly to the architecture flanking Alleyway 120.



Plan. 2. Plan of Buildings III/4 and II/5.

Abutting the eastern wall of the alley (W220) is the remnant of a stone pavement (L215) that is probably associated with the structure east of the alleyway. A hard-packed stone floor (L219) was found in Sq D7. This floor abuts W222, attributing it to Stratum III, along with its level which also fits with this assessment. This means that either (a) W217 was constructed on this floor; or (b) that, as opposed to the suggestion above, W217 did not extend into Sq D/7 and then the reconstruction of an alleyway here is improbable. A probe in the northern half of this square (L216) exposed sterile soil and stones at -58.26 m asl.

Building III/4.— In Sq G8, in the easternmost part of the excavation area, a probe below Floor 242 of Stratum II revealed evidence of the Stratum III occupation (Plan 2). Two floor patches (L263 and L264) were discovered, made from a matrix of small limestone and basalt gravel. At a similar level—and therefore stratigraphically associated with these floor patches—was a heap of basalt, limestone and flint implements topped by an overturned basalt grinding slab (L254; Fig. 9).² Below the grinding slab, a stone mortar (Khalaily and

² The grinding slab is displayed in a local exhibition at Moshav Regba.



Fig. 9. Stratum III, *in situ* groundstone and flint implements in Building III/4, L254, looking west.



Fig. 10. Stratum III, plaster-lined Installation 350, looking south.

Marder, this volume: Fig. 1:4) and other stone fragments were found, including a limestone perforator (Khalaily and Marder, this volume: Fig. 3:3) alongside a flint knife and a sickle blade. This concentration of implements indicates the processing of agricultural produce in a functionally defined space.

Installation 350.— The contours of a rectangular plaster-lined pit were observed in an artificial section cut by the bulldozers c. 15 m west of Sq C3 (Fig. 10; not on plan); its walls were 3–4 cm thick. This installation was attributed to Stratum III on account of its levels, which are relatively low, and because it penetrated sterile soil. This pit is the only evidence at Tel Yosef for the use of plaster.

Stratum II: The Early Pottery Neolithic Period

The Stratum II occupation extended throughout the excavated area, reaching a maximum depth of 0.6 m. Part of the architecture of this stratum (Unit II; see Rosen, this volume) was overlying the Stratum III architectural elements. The attribution of additional elements to Stratum II is based on their relatively uniform levels and on the orientation and construction methods, which differ from those of elements attributed to Stratum III. This stratum is composed of a number of well-constructed rectilinear structures. Not all of the structures have a coherent or complete plan, but there is a common orientation to the walls and an overall sense of planning.

The architecture of Stratum II is characterized by well-constructed and apparently pre-planned (see below) rectilinear structures notable throughout the excavated area. The floors are all fabricated of small hard-packed cobble surfaces, often constituting several superimposed ones. The floors were laid at the base of the lower course of the walls and indicate that the walls were built without foundations, similarly to Stratum III. Additional

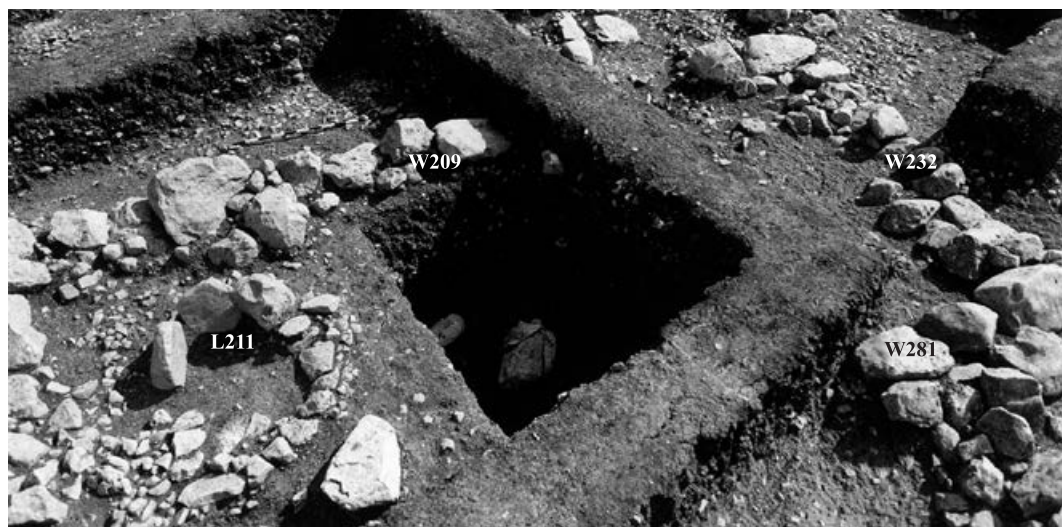


Fig. 11. Stratum II, Building II/1, looking south; on left, Installation 211.

architectural features common to this phase are small circular stone installations. An adult burial was found associated with one of the buildings of this stratum (see below), indicating intra-site burial during this period.

Building II/1.— This rectilinear building (Sqs B–C/6–7) is bordered by W209/W246 on the south, W204 (fragmentary) on the east, and W232 and W288 on the west (Fig. 11). The northern wall of this structure is not preserved. The walls were constructed from two rows of stones, the outer row of large uncut limestones and the inner from medium-sized stones. Notable were the very large cornerstones at the two preserved corners and at the edge of W232. The corner of W246 and W232 overlies Stratum III architectural elements.

The floor of this building (L255) was a surface of hard-packed small stones, patches of which abutted the walls. It is probable that the entrance into this building was located in the western wall, as indicated by a small wall (W281) which abuts the edge of segment W232 from the east. The floor in this area (L255) is paved with medium-sized stones.

In a small pit (L231) in the southwestern corner of the building, alongside W232, a non-articulated human burial was found, partially lined by medium-sized stones. The exact borders of this burial pit were not traceable as the surrounding matrix at the time of the excavation was extremely muddy. The burial included postcranial bones, including shaft fragments of femur, tibia, fibula, radius, metacarpal and a mandibular condyle. The femoral cortex is relatively thick, indicating an adult individual, but age and sex estimations could not be determined.³ No artifacts could be interpreted as burial offerings.

³ I thank Yossi Nagar of the IAA for studying the human remains presented here.



Fig. 12. Stratum II, circular Installation 211 in Building II/1, looking south.

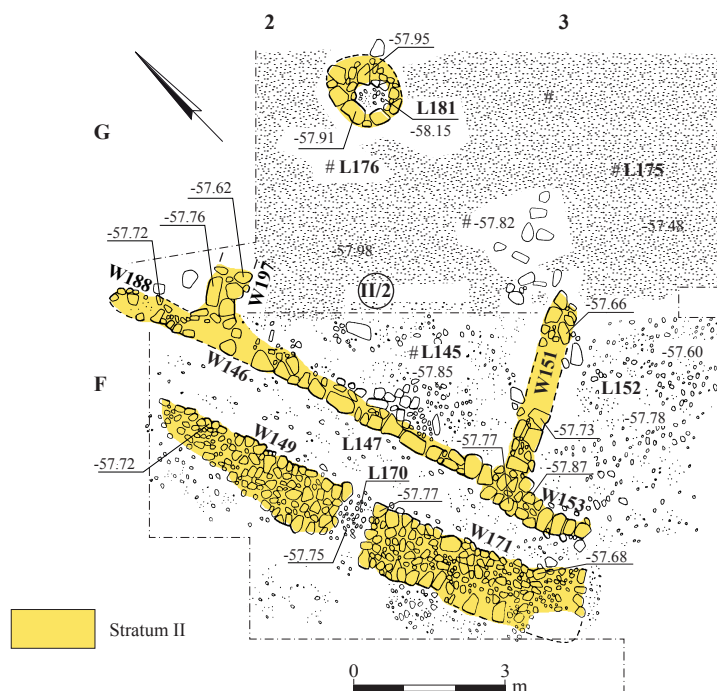
A circular installation (L211) was found above Floor L212 near the southeastern corner of the building (Fig. 12). It was constructed of medium-sized fieldstones with three conspicuously larger slabs standing upright in its southern part. Inside this installation was an ashy matrix, but it was devoid of finds. It is not clear whether the ashy matrix is *in situ*, thus indicating some burning activity (a hearth?), or was deposited post Stratum II.

A series of hard-packed floors composed of small stones were found around Building II/1 on the south (Sq C8; L207, L275), west (Sq B6; L257, 272) and north (Sq D6; L269). Some of these floors were superimposed, e.g., Floor 257 sealed Floor 272, and Floor 207 sealed Floor 275.⁴ Above these floors, brick material, charcoal fragments, pottery, flint and bones were found. South of Building II/1 were two circular stone-lined pits: Pit 230, which contained animal bones,⁵ and Pit 237, in which were found a number of pottery bowls (see below).

Building II/2.— This building is situated in the northern part of the excavation area (Sq F/2–3; Plan 3). It was not exposed in its entirety, but certain observations regarding its plan can be offered. A long wall (W146/188/153) runs approximately north–south, and is abutted by two fragmentary walls (W197, W151), which divide this area into three spaces.

⁴ It is possible that Floor 275 actually belongs to Stratum III, but this could not be determined due to the lack of any other architectural elements in this square that could be attributed with certainty to Stratum III.

⁵ This is based on observation during the excavation.



Plan 3. Building II/2.

Rectangular central space L145 (5.8 m wide) is identical to L255 of Building II/1. The eastern limits of this building are unknown. The lower courses of the long wall were constructed from an outer face of large stones placed mostly lengthwise, with smaller stones filling in the spaces between the stones of the inner face. It should be noted that the building's walls were notable on the surface and were not fully excavated.

The floor of the central room (L145) was a hard-packed gravel surface with flint artifacts, sparse potsherds and bone fragments embedded in and above it. East of the floor (Sqs G/2–3), cobbled and pebbled surfaces (L176, L175, only partially excavated) were noted at a similar level as Floor 145. Embedded into L176 was a small circular installation (L181) constructed of a single row of large stones in its western part and smaller stones in its eastern part (Fig. 13); the installation was not excavated.

Alleyway 147.— A narrow alleyway (L147), built of small cobbles, runs due west of Building II/2 on a north–south axis (Fig. 14). Its width tapers from north (1.3 m) to south (0.7 m). To the east, the alleyway is bordered by two wall segments (W149, W171), separated by



Fig. 13. Stratum II, circular Installation 181 in Building II/2, looking south.

a narrow (0.5 m) opening (L170). These two wall segments are extremely wide (c. 1.5 m), compared to all other walls at the site. Both were constructed in a similar technique: two faces of medium–large stones with a fill of stones of various sizes in between. Wall 149 clearly continues north beyond the excavated area.



Fig. 14. Stratum II, Alleyway 147 in Building II/2, looking south.

Building II/3.— A rectilinear structure in the central area of the excavation is represented by two wall segments (W137, W162; Sqs D–E/4–5). No definite floor levels are associated with this structure. Wall 162, constructed of two faces of medium-sized stones, clearly overlies W106 and Installation 133 of Stratum III, making its stratigraphic placement in Stratum II secure. Likewise, W137 cuts the curvilinear W194 of Building III/2.

South of W137, in Sq D6, the entire square was covered by a stone surface (L269), built of small hard-packed stones with flint, bones and tiny pottery fragments. A poorly-preserved stone installation (L280) was partially exposed in the eastern part of this square and is reminiscent of Installations 211 and 181. It is possible that stone Floor 269 represents an open area connecting Building II/3 and Building II/1. Half of this stone layer was removed, revealing a loose brown fill (L279) above a stone collapse (L291), which is indicative of the Stratum III occupation in this area.

Building II/4.— This structure is situated in the western part of the excavation area (Sqs B–C/4–5). The following architectural elements were attributed to this unit: two walls (W102, W156), a circular installation (L168) and numerous floor patches (L129, L132). It is conceivable that these elements are actually part of Building II/1, but this is inconclusive and thus they are presented separately.



Fig. 15. Stratum I, W116 and W262, and adjacent Floor 248 above W288 (left) and W156 (right) of Stratum II, looking southwest.

Wall segment W102 is extremely wide (1 m) and was visible on the surface prior to excavation (see Fig. 8). Preserved to a maximum height of two courses (c. 0.5 m), it was constructed of two outer faces of medium–large fieldstones with an inner fill of smaller stones. The small circular Installation 168 was constructed from small–medium fieldstones. It is not likely that this is a Stratum I feature, as its height is below Stratum I levels. If it belongs to Stratum II, there are two alternatives: either it cuts W102 and should be considered an additional phase within Stratum II; otherwise, it must be postulated that W102 ended just short of this installation (similarly to W171).

Wall fragment W156, south of W102, appears to have continued eastward and westward, but no traces of it were found in Sq C5. Its stratigraphic placement in Stratum II is definitive as it is lower than W116 of Stratum I and was possibly cut by it (Fig. 15). Furthermore, its levels match those of Stratum II. Floor 157, built of hard-packed earth with brick material, pottery, flint artifacts and bones abuts W156 on the south. An additional series of superimposed hard-packed gravel floors associated with Building II/4 was revealed in Sqs C5 (L132, L185) and B4 (L129). Floor L185 was exposed in a probe below Floor 132, under a 5–8 cm fill (L141). Floor 129 was disturbed by the placement of a modern water pipe. The continued resurfacing of this area with small stones is typical of the site and suggestive of adaptation to periodic flooding of the site (see Rosen, this volume).

Building II/5.— In the southeastern corner of the excavation (Sqs H/8–9; Plan 2), several walls and floors were exposed, included in what may be defined as a structure.⁶ This structure comprises a series of wall fragments, both rectilinear and slightly curved, that are interconnected through a number of floors composed of small stones. The walls (W290, W271, W282, W245, W229) are all one course high and are constructed of small- to medium-sized fieldstones. Wall 271 is the most prominent wall segment. It is possible that narrow W229 and W245 constitute internal partitions of installations. The floors (L236, L242, L276) were built of very hard-packed earth with a surface of very small cobbles (limestone and basalt) with flint. Embedded into Floor 236 was an oval feature (L228) constructed of a perimeter of small–medium fieldstones (limestone and one basalt). A probe below Floor 242 revealed a brown earth fill (L251), relatively void of stones; this fill overlies Stratum III Floor 263.

Stratum I: The Late Pottery Neolithic Period

Stratum I is represented only in the southern squares of the excavation (Sq B/5–6, B/8–9), i.e., at its highest levels. They belong to Rosen's (this volume) post-Unit I period. It is not clear whether this occupation level was indeed more prominent in this part of the site—and possibly continued in the unexcavated area in the south—or if the limited preservation is the result of the damage caused by the bulldozers prior to excavation. Limited probes below Stratum I (see below) revealed evidence of localized water activity that occurred at some point between underlying Stratum II and Stratum I (Unit I; see Rosen, this volume). As mentioned, Stratum I was only partially exposed, along the higher, western edge of the excavation. The sparse wall fragments suggest curvilinear architecture.

Building I/1.— This fragmentary structure was poorly preserved due to the damage caused by bulldozers. Its plan is not clear; it is defined by two walls, W116 to the northwest and W262 to the southeast. Floors 112 and 248 abut these walls. The northwestern limits of Floor 112 were not determinable, as it was destroyed by the modern construction. The irregular curvilinear W116 was constructed of a single row of large stones, of which two courses were exposed. The very fragmentary W262 was apparently constructed from two rows of medium-sized stones. It lies directly above W288 of Stratum II (Fig. 15).

Floors 112 and 248 were built of gravel, hard-packed earth and minute fragments of bricks, pottery, flint, bone and shell. Two wide sickle blades were found lying on Floor 112 (Khalaily, this volume: Fig. 6:5, 6), which can be attributed to the Wadi Rabah culture.

⁶ The three squares opened in this area of the site are adjacent to an artificial section created by the extraction of over 5 m of earth for the modern reservoir. The original goal of the excavation in these squares was to connect the main excavated area with this section, from which stone wall foundations were protruding. An attempt was made to integrate the architecture in this area within the stratigraphic sequence of the main excavated area, but the overall plan of these elements is obscure. It should be noted that the walls in this area were visible on the surface prior to excavation, and were partially destroyed by mechanical equipment working on the site.

On Floor 248 were a number of groundstone vessels, including a basalt grinding slab and a quartzite perforator (Khalaily and Marder, this volume: Figs. 1:1; 3:5), as well as typical Wadi Rabah potsherds (not illustrated).

Building I/2.— The entire surface of Sq B8 was covered with a hard matrix of mud-brick material (L205/208 and L210) into which potsherds, bones and flint were embedded. Associated with this surface was an undefined U-shaped row of large uncut stones (W298), most likely a wall segment. Although not directly abutting this wall, an accumulation (L277), comprising a small concentration of flint and a limestone handstone, was observed. Among the ceramic vessels found in this building are a holemouth and two decorated body sherds (Fig. 16:5, 13, 14).

Pit 214.— This pit (c. 1.3 m deep) was discovered in the western corner of Sq D7. Its uppermost part was not distinguished during the excavation and only after the wet soil dried, it was possible to determine its border. The pit cuts W204 of Stratum II and thus is attributed to Stratum I.

THE FINDS

Due to the marshy nature of the site, the modern building activities that took place prior to excavation and the poor preservation of many of the archaeological contexts, the finds from Tel Yosef are discussed primarily from a cultural/typological perspective (see *Pottery*, below; Khalaily, this volume; Khalaily and Marder, this volume). That said, there is a clear distinction between the Stratum III–II horizon and that of Stratum I. In the following *Discussion* (see below), the chronological attribution of the finds and their influence on the dating of the various layers at the site are elaborated. These finds enable an investigation of the role of the settlement at Tel Yosef in what has been termed the new agricultural village life in the Pottery Neolithic (see Gopher 2012).

Pottery

The excavation produced a small quantity (less than 100) of pottery sherds, most of which are non-diagnostic body sherds. The low density of potsherds throughout the excavated area must be due to the prevalent marshy conditions (see Rosen, this volume). The context of the pottery sherds analyzed is problematic since they did not originate from primary loci. Yet, there are clearly two chronologically and culturally distinct pottery traditions with affinities to the Yarmukian/Lodian assemblages and to Wadi Rabah.

Stratum III.— The plotting of the potsherds from the site revealed that Stratum III was void of pottery with the exception of a minute sherd in Building III/3 which is most likely the result of post-settlement intrusion. It is therefore conclusive that this stratum is dated to the Pre-Pottery Neolithic phase.

Stratum II.— The pottery from Stratum II is typical of the Pottery Neolithic era; however, it cannot be pinpointed whether the site's occupation belongs to the Yarmukian or Lodian cultural phase.

Among the bowls are deep straight walled bowls (Fig. 16:1–4; cf. Garfinkel 1999: Fig. 13:3; Getzov et al. 2009: Fig. 28:2–8). One holemouth (Fig. 16:5) has a handle and traces of red decoration, and is similar to a vessel from Lod (Garfinkel 1999: Fig. 49:5). The holemouth vessel (Fig. 16:6) has a small knob slightly below the rim. The wide rimmed open pithos (Fig. 16:7), with the knob below the rim, is comparable to vessels from Ard el-Samra (Getzov et al. 2009: Fig. 29:10; see also Garfinkel 1999: Fig. 23:3). The storage jar in Fig. 16:8 is a typical Yarmukian storage jar with a flaring rim, as opposed to the inverted rims typical of the Lodian phase (see Garfinkel 1999: Fig. 32; Getzov et al. 2009:129). A single flat base of a large closed vessel is presented in Fig. 16:9. The knobs illustrated in Fig. 16:10–12 are also typical of both Yarmukian and Lodian assemblages (e.g., Getzov et al. 2009: Fig. 29:13).

Stratum I.— The few potsherds associated with this stratum belong to the Late Pottery Neolithic Wadi Rabah culture. The three illustrated sherds in Fig. 16:13–15 were retrieved from Stratum I contexts. The body sherds with the impressed decoration (Fig. 16:13, 14) are typical of the Wadi Rabah repertoire (Kaplan 1958: Fig. 6, see discussion in Garfinkel 1999:143–145). The flat-sectioned ribbon handle in Fig. 16:15 is also characteristic of the Wadi Rabah vessels (Kaplan 1958: Fig. 5:12).

Fig. 16 ▶

No.	Vessel	Locus	Basket	Stratum
1	Bowl	207	2008	II
2	Bowl	237	2114	II
3	Bowl	237	2114	II
4	Bowl	237	2114	II
5	Holemouth	205	2049	I
6	Holemouth	Surface	2330	Surface
7	Pithos		2001	
8	Store jar	175	1334	II
9	Base	112	1111	I
10	Knob	248	2161	I
11	Knob	248	2138	I
12	Knob	248	2161	I
13	Decorated sherd	210	2035	I
14	Decorated sherd	210	2062	I
15	Handle		1011	I

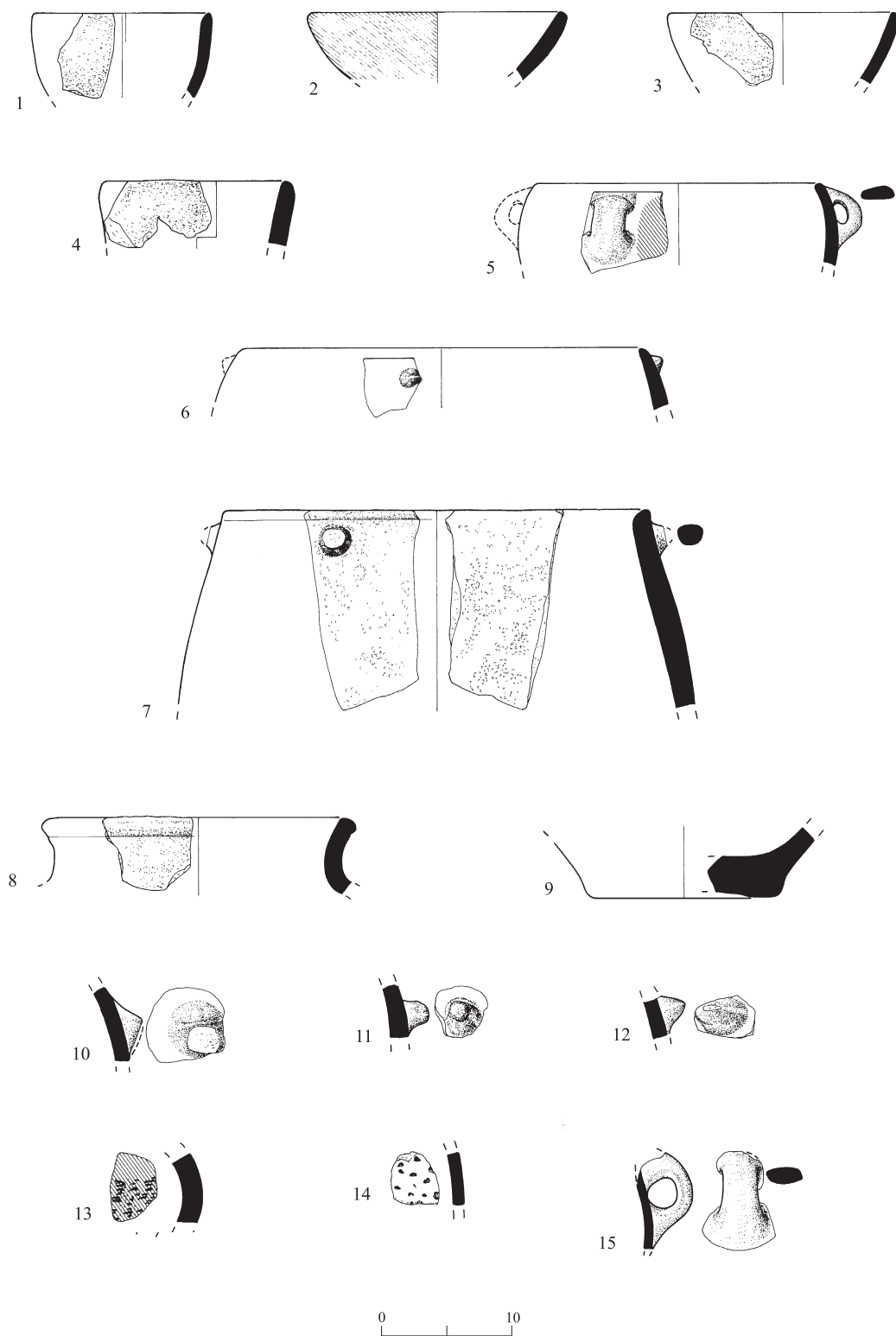


Fig. 16. Pottery assemblage from Strata II-I.

Lithics

Strata III and II.— The flint assemblages from these two strata yielded tools typical of the Yarmukian culture, most characteristic are the ‘Amuq arrowheads. Some of the tool types, such as sickle blades Type C, are a defined type associated with the Jericho IX culture (see Khalaily, this volume).

Stratum I.— The lithic assemblage from the limited exposure of Stratum I is securely assigned to the Wadi Rabah culture. This corroborates the date obtained by the ceramic analysis.

The Groundstone Assemblage

This assemblage is presented typologically and not according to cultural division (see Khalaily and Marder, this volume). It includes a variety of tools for crushing, grinding and pounding activities related to food processing, as well as a few bowls that were apparently used for serving. Noted in both Stratum III and I was the practice of storing together a number of groundstone implements.

DISCUSSION

Chronology

Stratum III.— A radiocarbon dating from a single sample provided a date (6570–6200 BCE) for Stratum III within the range of the second half of the seventh millennium BCE (Khalaily 2006:292–293). Albeit there is only a single date from this stratum, it is an important contribution toward finetuning the timeframe for the Stratum III occupation. There are no pottery sherds from Stratum III loci. The lithic assemblage from Stratum III is very similar to Layer II at Beisamun West (Hamoudi Khalaily, pers. comm.), where according to the excavators the lithic traditions there are comparable to those from PPNC Ha-Gosherim, which are noted to have continued into the early phases of the Early Pottery Neolithic (Khalaily et al. 2015:55). It can therefore be suggested that Tel Yosef Stratum III is contemporary with Beisamun II, which is defined as a pre-Yarmukian culture (Khalaily et al. 2015:56). According to Getzov (pers. comm.), the later dates of Ha-Gosherim VI are of similar range. In summary, the finds enable the cultural and chronological attributions shown in Table 1.

Stratum II.— The cultural affiliation of the pottery assemblage from this stratum to the chronological horizon of the Yarmukian culture is reinforced by the specific flint tools noted by Khalaily (this volume). There are also affinities with the Lodian culture, clearly within the early Pottery Neolithic (PNA) according to extensive radiocarbon dating of contemporary settlements (see Gopher 2012:1532). The small quantity of the pottery does not enable a clear-cut distinction or definition of the Yarmukian or the Lodian cultures. However, the

Table 1. Cultural and Chronological Attribution of the Tel Yosef Neolithic Strata

Stratum	Period	Culture	Date (BCE)
III	PPNC/Early Pottery Neolithic	Pre-Yarmukian	Late 7th millennium
II	Early Pottery Neolithic	Yarmukian/Lodian	6th millennium
I	Late Pottery Neolithic	Wadi Rabah	Late 5th millennium

presence of specific types, such as the storage jar together with the lithic assemblage, allow for the assignment of Stratum II to the Yarmukian phase.

Stratum I.— The pottery and lithic assemblages exhibit traits that enable us to date Stratum I to the late Pottery Neolithic (PNB) defined Wadi Rabah culture.

Architecture

Though the architectural units presented above are quite fragmentary, distinct architectural traditions and elements of village planning are discernable at the site, primarily in Strata III and II.

Stratum III.— The rectilinear and curvilinear architectural traditions are contemporary. The former is exemplified by the rectangular complex Building III/1; the latter is evident for example by the long curvilinear W106 separating Alley 120 and Building III/2. The walls, erected on the sterile colluvial soil, were constructed from one or two rows of stones. Collapsed mud-brick material above several of the floors indicates that at least some of the walls had a brick superstructure. Superimposed hard-packed gravel floor levels associated with the structures attest to the extended period of occupation of Stratum III. These gravel levels at Tel Yosef are most likely connected with a constant attempt to stabilize floor levels due to the prevailing sediment regime and marshy conditions (see Rosen, this volume). The smaller circular stone-built features attributed to this stratum (in Building III/2) could have served as storage installations or for a myriad of other functions. Notable is the use of plaster in the sunken pit/installation L350.

Curvilinear architecture, in addition to W106 of Building III/2, is represented by a building or installation associated with that structure, formed by fragmentary W194 and W195. Above, it was suggested that these walls be associated either with a Pre-Stratum III phase or with phasing within Stratum III. Despite the fragmentary plan, this curvilinear structure is reminiscent of the rounded house forms noted in Pre-Pottery Neolithic (PPNB) and Pottery Neolithic (PN) levels at sites in the Jordan Valley (see discussion in Garfinkel and Ben-Shlomo 2002b:72–73, Fig. 6.2). The slightly meandering W106 is paralleled at the PPNB occupation at Yiftah’el Area A, Stratum IV (Braun 1997: Plan 7). However, long curvilinear walls with associated gravel floor levels are becoming increasingly known from

PN Yarmukian levels at sites such as Abu Gosh Phase 1 (W12; Marder et al. 1996:3–4), ‘Ein Ghazal (Rollefson, Simmons and Kafafi 1992:450), and Sha‘ar Ha-Golan Area E (Garfinkel and Miller 2002: Fig. 2.11). At the well-planned and extensively-excavated site of Sha‘ar Ha-Golan, these long walls were understood as the enclosing walls of separate building complexes (Garfinkel and Ben Shlomo 2002a).

At Sha‘ar Ha-Golan, adjoining Rooms F–I of Building I (Garfinkel and Ben Shlomo 2002a: Fig. 5.6) offer a parallel for the rectangular Building III/1. Other comparable houses were unearthed in the PN levels of Tabaqat al-Buma in the Wadi Ziqlab area (Banning, Rahimi and Siggers 1994: Fig. 1). Contemporary rectilinear and curvilinear traditions are also known at Jebel Abu Thawwab in the central Jordan Valley (Kafafi 2001:23–27). The nature of the Stratum III settlement in the easternmost excavated squares (F–G/8) is not entirely clear and there is not enough evidence to shed light on whether the floors in this area, including the concentration of groundstone implements, were included in open or closed spaces.

Stratum II.— Stratum II is typified exclusively by rectilinear architecture. The identical width of the well-constructed room of Building II/1 and the central room of Building II/2 implies adherence to a specific building style. The exposure of two extremely wide rectilinear walls (W102 and W149 = W171) indicates the existence of an additional building style. Gravel floors are also associated with the Stratum II architecture, indicating that the marshy conditions at the site persisted (see Rosen, this volume), requiring continued adaptation.

An apparent common feature in Stratum II are the rounded stone installations evident in Buildings II/1 (L211, L280), II/2 (L181) and II/5 (L228). These are smaller than the installations noted in Stratum III Building III/2, suggesting another function, possibly as hearths.

Stratum I.— The poorly preserved Stratum I revealed only limited architectural elements of curvilinear tradition.

Village Planning

The most important feature of Strata III and II is the evidence for site organization and village planning. Alleyways (albeit partially very narrow) divided between and provided access to separate building complexes. In Stratum III, Alleyway 120 ran between two parallel building complexes, Building III/3 and Building III/2, and another possible alley (L227) ran perpendicular to it. Alleyway 147 of Stratum II runs alongside Building II/2 and probably continues beyond the excavated area.

Both the alleys and the well-defined architectural complexes are paralleled in Area E of the Yarmukian village at Sha‘ar Ha-Golan. Just as at Tel Yosef, the complexes at Sha‘ar Ha-Golan (defined there as courtyard houses) related to each other through a network of alleyways (Garfinkel and Ben-Shlomo 2002a; 2002b). In fact, the well-preserved architecture at Sha‘ar Ha-Golan enabled us to identify the poorly preserved elements at Tel Yosef as

more organized structures. It is conceivable that the separately defined Buildings III/1, 2 were both part of a larger courtyard house bordered by alleyways 120 and 227, thus already in Stratum III there are clearly defined elements of village planning. The courtyard houses at Sha‘ar Ha-Golan were understood as the habitations of extended families as indicated by their size and division (Garfinkel 2002:258–260). A similar social organization may be reflected at Tel Yosef Strata III and II. The slight differences in architectural traditions between Strata III and II are difficult to interpret in the absence of finds that can provide insights regarding the function of the various architectural units.

The Stratum II Burial.— The single adult burial in Stratum II (L231) is the only evidence for intra-site burial. This sub-floor burial in a defined round installation within a domestic context is an addition to the well-documented practice of intramural burial during the Pottery Neolithic at sites, such as Naḥal Zehora II (Gopher and Eshed 2012, and see discussion therein).

Economy and Subsistence

The continuous settlement at Tel Yosef during the Pottery Neolithic period can be understood in light of its geographical setting. The site is located on fertile land with abundant perennial water and other natural resources, permitting a wide variety of subsistence strategies advantageous for the early village settlement. The exploitation of streamside vegetation is suggested by Rosen (this volume) and exploitation of the woods of the Gilbo‘a Mountains is implied by the flint axes (see Khalaily, this volume). The importance of wheat and other grains in the local economy is apparent from the significant number of sickle blades, in addition to groundstone tools associated with the preparation of grain-based foods (e.g., grinding slabs and mortars). It is probable that the round installations found in both Strata III and II might have functioned as silos. The presence of arrowheads (see Khalaily, this volume) indicates that hunting was practiced, most likely in the neighboring mountains, although probably not a dominant feature of the economy.

The limited faunal evidence from Strata III and II exhibits a high frequency of domesticated caprines (Liora Kolska Horowitz, pers. comm.), implying that the exploitation of both animal meat and secondary products were an integral feature of the economy.⁷ The animal management strategies at the site most probably resembled those known at contemporary sites in the northern part of the Jordan Valley, e.g., Sha‘ar Ha-Golan (Marom and Bar Oz 2013). These pasturing animals depended on the numerous water sources in the vicinity.

CONCLUSIONS

The excavations at the Neolithic site of Tel Yosef provided additional evidence for the apparent high density of Pottery Neolithic sites in the Ḥarod–Bet She’an Valleys, some

⁷ A faunal analysis was not carried out; the finds are stored in the IAA storerooms.

of which are presently buried below post-Neolithic colluvium. The site was established alongside the Gilbo'a Mountains, close to the margins of the Harod Valley, most likely presenting evidence for the first inhabitants in the area around the 'En Yosef spring. This location, above the marshy valley floor, was optimal. The gravel floors indicate the ever-present need to adapt to the wet conditions of this area, especially periodic flooding, but this did not prevent sedentary life here during the late seventh–fifth millennia BCE. The site, which provides data for the study of early village planning, was abandoned in the late fifth millennium and this specific spot was never resettled, with the primary settlement moving up to the adjacent tell.

REFERENCES

- Banning E.B., Rahimi D. and Siggers J. 1994. The Late Neolithic of the Southern Levant: Hiatus, Settlement Shift or Observer Bias? The Perspective from Wadi Ziqlab. *Paléorient* 20/2:151–164.
- Braun E. 1997. *Yiftah'el: Salvage and Rescue Excavations at a Prehistoric Village in Lower Galilee, Israel* (IAA Reports 2). Jerusalem.
- Covello-Paran K. 2001. Middle Bronze Age IIA Burials at Tel Yosef. *'Atiqot* 42:139–157.
- Garfinkel Y. 2002. Conclusions: The Effect of Population Size on the Human Organization at Sha'ar Hagolan. In Y. Garfinkel and M.A. Miller. *Sha'ar Hagolan 1: Neolithic Art in Context*. Oxford. Pp. 257–262.
- Garfinkel Y. and Ben-Shlomo D. 2002a. Architecture and Village Planning in Area E. In Y. Garfinkel and M.A. Miller. *Sha'ar Hagolan 1: Neolithic Art in Context*. Oxford. Pp. 55–70.
- Garfinkel Y. and Ben-Shlomo D. 2002b. Sha'ar Hagolan Architecture in Its Near Eastern Context. In Y. Garfinkel and M.A. Miller. *Sha'ar Hagolan 1: Neolithic Art in Context*. Oxford. Pp. 71–84.
- Garfinkel Y. and Miller M.A. 2002. *Sha'ar Hagolan 1: Neolithic Art in Context*. Oxford.
- Getzov N., Barzilai O., Le Dosseur G., Eirikh-Rose A., Ktalav I., Marder O., Marom N. and Milevski I. 2009. Nahal Betzet II and Ard el-Samra: Two Late Prehistoric Sites and Settlement Patterns in the Akko Plain. *JIPS* 39:81–158.
- Gopher A. 2012. The Pottery Neolithic in the Southern Levant: A Second Neolithic Revolution. In A. Gopher. *Village Communities of the Pottery Neolithic Period in the Menashe Hills, Israel: Archaeological Investigations at the Sites of Nahal Zehora III* (Tel Aviv University Institute of Archaeology Monograph Series 29). Tel Aviv. Pp. 1525–1579.
- Gopher A. and Eshed V. 2012. Burials and Human Skeletal Remains from Nahal Zehora II in PN Perspective. In A. Gopher ed. *Village Communities of the Pottery Neolithic Period in the Menashe Hills, Israel: Archaeological Investigations at the Sites of Nahal Zehora III* (Tel Aviv University Institute of Archaeology Monograph Series 29). Tel Aviv. Pp. 1389–1412.

- Kafafi Z.A. 2001. *Jebel Abu Thawwab (Er-Rumman), Central Jordan: The Late Neolithic and Early Bronze Age I Occupations* (Yarmouk University Monograph of the Institute of Archaeology and Anthropology 3). Berlin.
- Kaplan J. 1958. Excavations at Wadi Rabah. *IEJ* 8:149–160
- Khalaily H. 2006. *Lithic Traditions during the Late Pre-Pottery Neolithic B and the Question of the Pre-Pottery Neolithic C in the Southern Levant*. Ph.D. diss. Ben-Gurion University of the Negev. Be'er Sheva' (Hebrew; English summary, pp. a–k).
- Khalaily H. This volume. The Flint Assemblage of the Pottery Neolithic Site of Tel Yosef (Tell Esh-Sheikh Ḥasan).
- Khalaily H. and Marder O. This volume. The Groundstone Assemblage of the Pottery Neolithic Site at Tel Yosef (Tell esh-Sheikh Ḥasan).
- Khalaily H., Kuperman T., Maron N, Milevsky I. and Yegorov D. 2015. Beisamun: An Early Pottery Neolithic Site in the Ḥula Basin. *'Atiqot* 82:1–61.
- Marder O., Khalaily H., Barzilay O. and Peterson-Solimany M. 1996. Recent Excavations at Abu Ghosh. *Neo-Lithics* 1/96:3–4.
- Marom N. and Bar-Oz G. 2013. The Prey Pathway: A Regional History of Cattle (*Bos taurus*) and Pig (*Sus scrofa*) Domestication in the Northern Jordan Valley, Israel. *PLoS ONE* 8(2):e55958. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0055958>.
- Rosen A.M. This volume. Geomorphological Setting and Paleoenvironments of the Pottery Neolithic Site at Tel Yosef (Tell esh-Sheikh Ḥasan).
- Rollefson G.O., Simmons A.H. and Kafafi Z. 1992. Neolithic Cultures at 'Ain Ghazal, Jordan. *JFA* 19:443–470.
- Zori (Tzori) N. 1971. *Tel Yosef Area in Antiquity*. Tel Yosef (Hebrew).
- Zori N. 1977. *The Land of Issachar: Archaeological Survey*. Jerusalem (Hebrew).

