

EXCAVATIONS AT NEMEA, 1979

(PLATES 35–52)

Summary

Near the southwest corner of the Temple of Zeus the Late Geometric wall discovered in 1978 was further explored with interesting if enigmatic results. Immediately west of the temple masses of material were recovered from the destruction of the Archaic Temple of Zeus, and much evidence was thus gained concerning the nature of that temple, as well as for the date of its destruction. Further to the west, the ancient course of the Nemea River was explored as was the area immediately to the west of the river. South of the Temple of Zeus and west of the Oikoi an Early Christian cemetery was uncovered alongside a small tholos of the 5th century B.C. The latter may have played some role in the cult of Opheltes. Further south and west of the bath, a very large building (palaistra?) of the late 4th century B.C. was partially uncovered with an unusual deposit of pottery and other material. Work in the stadium included a further clearing of the tunnel, tests in various parts of the stadium floor, and a continuation of the clearing of the eastern part of the track up to and beyond the 400-foot marker. A small test on Tsoungiza produced remains of a Mycenaean house and evidence of Middle and Early Helladic activity.

THE WORK AT NEMEA in 1979 was concentrated on the south and west sides of the Sanctuary of Zeus and in the stadium, with a test also performed on Tsoungiza.¹ Once again, this report is arranged topographically.²

¹The staff consisted of Thomas Knight of the University of California at Berkeley, Elissa Lewis of Bryn Mawr College, and David Romano of the University of Pennsylvania as excavators; Dr. Caroline Belz of the University of California at Los Angeles as excavator and museum technician; Phyllis Allen of the University of California at Davis as museum technician and cataloguer; James Parker of the University of California at Los Angeles as photographer; Gail Grant of the University of California at Berkeley as house manager; and Professor Stella G. Miller of Stanford University as Assistant Director. We also enjoyed the services of Martha Bredemeyer of Indiana University as illustrator in the recording of the stadium tunnel graffiti and of pottery profiles. All of these people, both individually and as a group, worked well and helped to make the 1979 season at Nemea particularly enjoyable and fruitful; to each of them goes the gratitude of the undersigned.

Thanks for their help also to the American School of Classical Studies at Athens and to its Director, Professor H. R. Immerwahr; to the Greek Archaeological Service and to its Inspector-General, Professor N. Yialouris; to the Director of Archaeological Parks, Ch. Kritsas; to the Nauplion Ephoreia of Antiquities and its Ephor, K. Krystalli-Votsi, and its Epimeletria, A. Dragona-Latsoudi; and to the town council of Archaia Nemea and its Mayor, I. Malakos. Our gratitude to Chancellor A. H. Bowker of the University of California at Berkeley remains deep and sincere; his support of our work has remained vital.

The operating expenses at Nemea in 1979 were supported by a gifts-and-matching grant from the National Endowment for the Humanities and by gifts from 128 private donors. Without this support our work would not have been possible, and we hope that the NEH and our private donors will share in our pride at the progress toward a fuller understanding of Greek antiquity at Nemea.

²For previous work at Nemea, see "Excavations at Nemea, 1973–1974," *Hesperia* 44, 1975, pp. 144–172; "Excavations at Nemea, 1975," *Hesperia* 45, 1976, pp. 174–202; "Excavations at Nemea, 1976," *Hesperia* 46, 1977, pp. 1–26; "Excavations at Nemea, 1977," *Hesperia* 47, 1978, pp. 58–88; and "Excavations at Nemea, 1978," *Hesperia* 48, 1979, pp. 73–103. In the following presentation specific references to previous work will be made only in the case of particularly important or argumentative points.

SOUTHWEST CORNER OF THE TEMPLE OF ZEUS

Sections K 14 and K 15

The results of excavations in this region in 1977 and 1978, and particularly the discovery of a small section of the “prehistoric wall” in Section K 14, led to a further exploration of the earlier levels in the southern part of K 14 and the northern part of K 15 (Fig. 1). Because of the work of earlier years, the tests conducted in 1979 began in

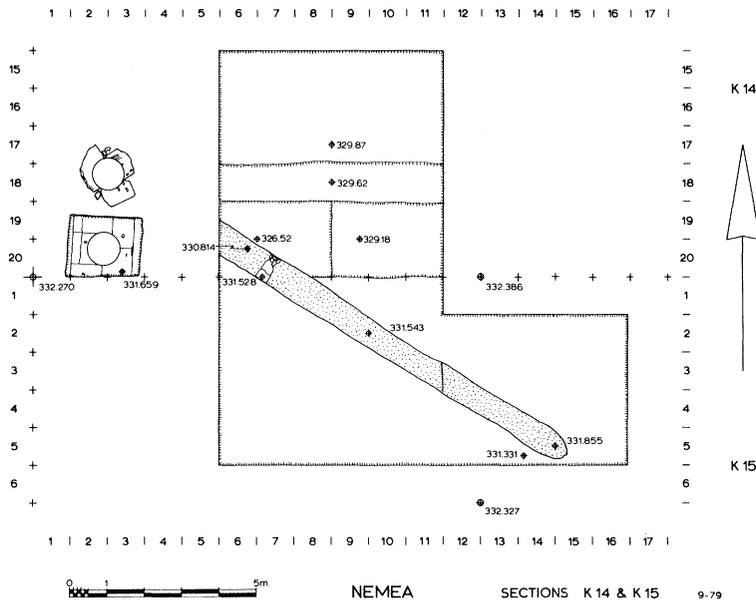


FIG. 1 Sections K 14 and K 15.

the Classical and early Hellenistic levels and produced some material of intrinsic interest but with no direct relation to the real purpose of the tests. Among these artifacts may be noted a nearly complete “cylindrical” skyphos (P 415, Pl. 35:a),³ a fragment of a bronze pin of “Illyrian” type (BR 691, Pl. 35:b), and a lead strip inscribed with the name *Τίμαιος* (IL 315). Both the pin and the lead strip came from a ceramic context of the third quarter of the 5th century B.C.⁴

Some additional evidence for the violent destruction of the sanctuary in the late 5th century was found in the form of a single bronze arrowhead (BR 707) whose

³For a very similar shape see W. Rudolph, “Hellenistic Fine Ware Pottery and Lamps from above the House with the Idols at Mycenae,” *BSA* 73, 1978, p. 218, no. 23. The context for the Nemea example cannot be dated closely, but Rudolph’s suggested date for the Mycenae example of well into the 3rd century B.C. seems a bit too late for the situation at Nemea.

⁴Pottery lot K 15:11.

stratigraphic context can be dated to *ca.* 410 B.C.⁵ Also worthy of note, and from a late Archaic or early Classical context,⁶ is a bronze plaque pierced by a nail hole at its top center and with a handsome bull incised upon it (BR 708, Pl. 35:c).

Much new information was gained about the early wall, although the question of its function remains unanswered. A total length of some 11.20 m. has been uncovered and there is no trace in that length of any cross wall, nor of any continuation of the wall to the east beyond its stopping point at K/15–15/4 (Pl. 35:d). The wall continues to the west into the area of the two wells excavated in 1978 (Fig. 1). The upper part of the wall averages about 0.70 m. in width and is constructed of mud brick, or rather of a *pisé* of clumps of clay of varying types and consistencies. There is a small cluster of stones embedded in this fabric at K/7–14/20. (The stones further to the west are part of a later pit and do not belong to the wall; cf. Pls. 35:e, 36:a.) The *pisé* construction has a total maximum preserved height of about one meter and rests upon foundations which begin at an average elevation of about +330.80 (Pl. 35:e). These foundations have been fully exposed along their north side in Section K 14 and have been revealed to have a total depth of nearly 4.50 m. (+326.52; Pl. 36:a). They were constructed by means of the excavation of a trench down through earlier layers and, in the lower elevations, through virgin soil. The trench was then packed hard with a mixture of clay and chips of soft, white poros stone. The proportion of chips to clay varies within the fabric of the wall, with layers predominantly of chips alternating with those which are predominantly of clay.

With the more precise definition of the wall and the nature of its construction came a better definition of its chronology. It is now clear that the layer interpreted last year as the destruction layer of the wall actually represents debris from its construction.⁷ A precise date for the construction has not yet emerged, but preliminary analysis of the pottery from the construction layer dates it clearly within the 7th century B.C.⁸ This chronology would indicate that the wall was earlier than the Early Temple of Zeus and, indeed, a layer of poros limestone working chips which may be associated with the Early Temple construction lay immediately over the construction layer of the wall. The ceramic date of the working-chip layer also belongs within the 7th century B.C. and is somewhat earlier than the date previously suggested for the construction of the Early Temple.⁹ It might also be noted, as another indication of the precedence of the wall to the Early Temple, that the working-chip layer did not extend south of the wall. For whatever purpose, the wall remained in use into the middle of the 5th century B.C., at which time it was covered over by the general surface of the Sacred Square in this region.

⁵Pottery lot K 15:17; cf. *Hesperia* 48, 1979, p. 82 and note 30, and below, p. 186.

⁶Pottery lot K 15:28.

⁷Cf. *Hesperia* 48, 1979, pp. 82–83.

⁸Pottery lots K 14:169–176; K 15:37–42, 53–55.

⁹Pottery lots K 14:159–168; cf. *Hesperia* 48, 1979, p. 82 and note 31.

These deep and massive foundations would appear to have been intended to carry a heavy superstructure, and it is somewhat surprising that only mud brick rests on top of them and that there is no indication that anything more substantial than mud brick ever rested on them. There is also no indication that this wall was a part of a full, roofed structure, for we lack not only cross walls, but also roof tiles, the absence of which in this region is striking. As a single, freestanding wall an explanation of its function is not forthcoming. Its own nature, as well as that of the stratigraphy north and south of it, will not allow an interpretation as a terrace or retaining wall. A fortification wall seems most unlikely in the context of a sanctuary, and a precinct wall would hardly have needed such massive foundations. For the moment the function of this wall is enigmatic, although it clearly played some role in the Archaic and early Classical Sanctuary of Zeus.

As reported in 1978, Early Neolithic material also exists in the lower levels of K 14. More such material was found in K 14 during the 1979 excavations. This consisted of Early Neolithic pottery and fragments of obsidian.¹⁰ The quantity of material, while more than modest, is not sufficient to justify the identification of the excavated area as a habitation area; no traces of architecture were found, although one layer at an elevation of +330.20 contained heavy traces of decomposed sticks which might suggest wattle-and-daub construction in the vicinity. The lack, however, of any systematic arrangement to the sticks as recovered would equally well support their interpretation as a natural deposit.

WEST OF THE TEMPLE OF ZEUS

Sections J 13 and J 14

The area immediately west of the Temple of Zeus and between it and the Nemea River was partially excavated in 1979. Although this was, in a topographical sense, a continuation of the work of 1978 in J 14, the results were significantly different. Before this work could be undertaken, some 45 fallen blocks of the temple had to be moved. It should be noted that this number represents but a tiny fraction of the total number of temple blocks which must once have been here, and that at least 17 of these blocks had been moved into the positions where we found them by B. H. Hill in 1935 and 1936. It is thus perhaps not surprising that the whole area, with the removal of the blocks, yielded heavy concentrations of Early Christian, Byzantine, and Turkish materials, including two jugs (P 484 and P 514, Pl. 36:b, c) and a bronze fibula (BR 758, Pl. 36:d). These layers were found to rest directly upon layers of the Classical period and to show, once again, that later activities in the sanctuary have removed much evidence including, in this region, even the construction layers of the Temple of Zeus. These same later activities may be responsible for the destruction of the continuation of the apsidal

¹⁰Pottery lots K 14:181-189.

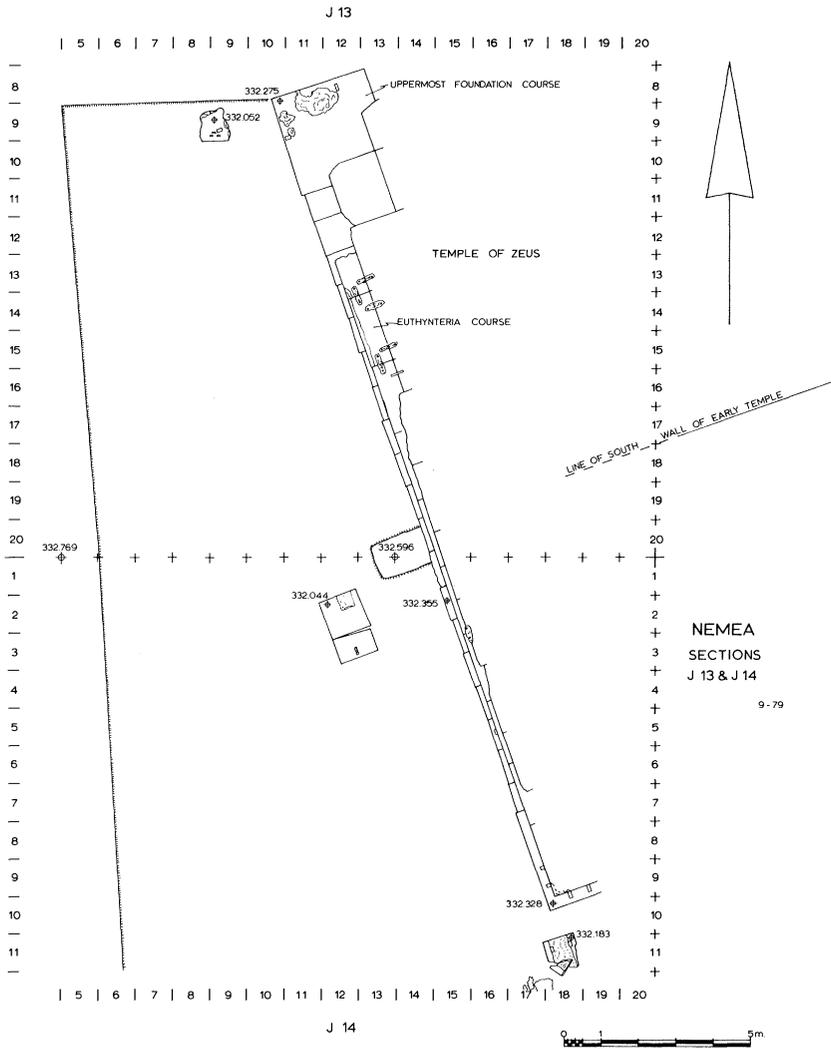


FIG. 2 Sections J 13 and J 14.

wall found in 1978 in J 14.¹¹ No further trace of this wall was found this year, but sufficient stratigraphy was recovered to establish that the wall had been constructed between the middle of the 6th century and the first quarter of the 5th century B.C.¹²

Closer to the west end of the temple, at J/12,13-14/2,3, the base of a monument or altar was uncovered (Fig. 2, Pl. 37:a, lower right). The southeast corner of this base had already been found in a test trench in 1964,¹³ and the work of 1979 makes it clear

¹¹ *Hesperia* 48, 1979, pp. 84-85.

¹² Pottery lots J 14:21, 23, 25.

¹³ The outline elevation of this block can be seen in B. H. Hill, *The Temple of Zeus at Nemea*, Princeton 1966, p. 28, fig. 5, stratum 3.

that the battered upper surface of the base is probably due to Early Christian activities.¹⁴ The base measures 1.09×1.73 m. and consists of two hard, gray limestone blocks of unequal size, which are not joined neatly because the north edge of the smaller, southern block is cut obliquely to its sides. The nature of the stratigraphy revealed that this base and the Temple of Zeus are roughly contemporary; that is, the base was set in place in the last third of the 4th century B.C. The disturbed stratigraphy above the base yielded no clue as to its precise function.

North of this base in J 13 and west of it in both J 13 and J 14, Roman and especially Early Christian layers rested directly upon, and sometimes cut into, layers of the Classical period. Once again, the late Classical, Hellenistic, and Roman periods had been erased totally from the stratigraphy of the area, as was shown most dramatically by the fact that levels of the 6th century after Christ were lower in elevation than the euthyteria of the 4th-century B.C. Temple of Zeus. The only feature in J 13 which can be associated securely with the temple is a block located some 1.29 m. west of the northwest corner of the temple at J/9,10–13/9 (Pl. 36:e; cf. Fig. 2). This block is re-used in its present position, and was certainly originally from the Early Temple (see below, pp. 184–185). Now battered on all sides, it exhibits a set of “ice-tong” lifting cuttings and a dowel hole from its original use, and a pair of deep cuttings, 0.079×0.125 m., the northern one of which is partly broken away. These cuttings are nearly, but not quite, parallel to the west side of the Temple of Zeus. On the uppermost corner foundation block of the temple are a pair of similar, but not so deep, cuttings along the west side (partly broken away, but still visible in Plate 36:e), and another pair of similar cuttings on the north side of the temple (Fig. 2). The re-used block is thus clearly analogous in date of re-use, fact of re-use, type of cuttings, and general situation to the block discovered in 1978 at the north end of the “thringos lithon” at the southwest corner of the temple.¹⁵ The differences in the situations of the two blocks are the greater distance between the temple and the northwestern block than between the temple and the southwestern block (1.29 m. vs. 0.76 m.), the slightly lower elevation of the upper surface of the northwestern block (+332.052 vs. +332.183), and the placement of the northwestern block west of the temple rather than to the north of the temple as might have been expected by strict analogy to the southwestern block. These differences seem minor, however, when compared to the number of similarities, and the conclusion seems clear that the blocks performed similar functions. Although the northwest block lies at the northern limits of the excavations in J 13 in 1979, we can expect to find a rubble wall extending in a northerly direction from it in future excavations, and we can provisionally interpret the block itself as forming part of a gateway at the northwestern corner of the temple.

Beneath the Early Christian levels, nearly the whole of the excavated area of J 13, with the exception of the southeastern part of the trench, roughly in the area J/10,13–

¹⁴Pottery lot J 14:11.

¹⁵Cf. *Hesperia* 48, 1979, pp. 83–84 and note 38.

13/14,20, produced heavy layers of destruction debris, and along the western edge of the trench the destruction levels continued well southward into J 14. These layers were considerably thicker to the west, and somewhat thicker to the north. This is a function of the steep slope in the Classical period down to the west toward, and certainly because of, the Nemea River. The top of the layer directly beneath the destruction layer, for example, exhibits a slope of some 0.87 m. (+331.046 west vs. +331.916 east) in an east-west length of four meters, or an incline of nearly 22% (cf. Pl. 38:a). The destruction layers probably originally continued up the slope to the southeast, but were later cut away (see below, Section H 14).

The heavy destruction layers can be differentiated into two basic types of activity. The uppermost layer contained large blocks, battered but more or less complete, scattered through fill which was reddish brown in color and which contained relatively little carbon (Pl. 37:a). The lower destruction layers were more notable for badly broken blocks and tiles and for large quantities of carbon mixed into a fine white clay which recalls the white-clay paving of the 5th century B.C. east of the temple (Pl. 37:b).¹⁶ The upper level may thus be interpreted as a deliberate, post-destruction dismantling of a building, while the lower level must represent the violent and fiery actual destruction of the building. Both layers, as is shown by the material from them, relate to the destruction of the same building, and the amount of debris from that building is impressive. An estimated 15 tons of hard, gray limestone blocks, some nearly complete, some badly broken, have been recovered from the excavated area. These layers also produced some six kilograms of bronze fragments, most of thin bronze sheathing but with a few distinctive pieces such as a handle fragment with ridged and beaded decoration (BR 791, Pl. 37:c) and a lion's-paw handle attachment from a bronze vessel (BR 774, Pl. 37:d). There also emerged 11 whole or fragmentary, small bronze nails or nail heads (BR 742, BR 747, BR 749–BR 752, BR 754, BR 755, BR 769, BR 776, BR 792), which might have been used with the bronze sheathing inasmuch as some of the latter preserve nail holes of an appropriate size. On a larger scale are the 11 iron nails (IL 346–IL 356, Pl. 38:b) which also come from this debris. Several of these are bent or broken at a length of 0.050–0.052 m. from the head, implying a similar thickness for the wood through which they were originally driven. The debris also included a considerable amount of cement (about six buckets), which is in the form of slabs about 0.05–0.06 m. thick, broken all around but with smooth flat surfaces on both sides. One of these slabs (ST 440, Pl. 38:c) has a layer of plaster 0.006 m. thick adhering to one of its flat surfaces. A like amount of yellow sandstone was also discovered. Most of this has been badly burnt, turning it to a red and crumbly stone, and much of it is in the form of slabs 0.045–0.050 m. thick, which have been worked, where preserved, to crisp right-angled corners. The gray limestone blocks are largely wall blocks, which were probably all originally 0.928 m. long, *ca.* 0.88 m. wide, and 0.306 m. high. These uniformly have thin coats of plaster on the sides, fairly rough anathyrosis on the ends,

¹⁶Cf. *Hesperia* 44, 1975, p. 160, and *Hesperia* 45, 1976, p. 183.

and broad anathyrosis with miltos on the bottom.¹⁷ The upper surface is characterized by a pair of “ice-tong” lifting holes near one end, with a deep pry cutting closer to the center of the block.¹⁸ Exceptional in the latter regard is the fragmentary A 163, which displays all the other characteristic features and dimensions but which has a cutting *ca.* 0.098 m. deep across the whole of its preserved upper surface (Pl. 38:d). The surface of the stone within this cutting is badly burnt, which suggests that it once held wood, presumably a timber for the roofing of the building.

The roof tiles from this debris also represent a massive amount of material. They are exclusively of the Corinthian style and many have been heavily burnt, some to the point of vitrification. Many also have cement adhering to their joint surfaces. They include fragments of at least eight different antefixes of a very distinctive type (AT 85, AT 88, AT 90–AT 92, AT 107–AT 112). The most complete of these (AT 91, Pl. 38:e) shows an impressed design on the face consisting of three vertical grooves of which the one at either corner ends in a small volute at the top, the groove in the center in a central palmette. These elements are tied together horizontally by sweeping grooves across the center and the top of the face of the antefix.¹⁹ On either side of the weather surface of this tile is a rosette stamp.²⁰ With these antefixes goes a series of typical Corinthian pan tiles, many of which bear, on their weather surfaces, a distinctive stamp in the form of a “hairpin” or a “keyhole” (e.g. AT 94, Pl. 39:a).²¹ There are also a few other antefixes from this area, including an undecorated peaked example (AT 103, Pl. 39:b) and a bifacial, vividly painted palmette (AT 87) which comes, however, from Early Christian disturbed fill and thus is not strictly from the same destruction debris.

Of all the tiles, the most informative is a series from the ridge of a hipped roof. The lower corner of these (e.g. AT 95, Pl. 39:c, d) is undercut and raised in order to accommodate the top of the next lower ridge tile as well as its flanking normal pan tiles. The raised ridges on the upper surface at the lower corner will have been the point of juncture with two cover tiles, and the essentially right-angled weathering line marks the resting surface of some, as yet, missing element (a cover tile in the form of a right angle?) which covered this place. The upper corner of these tiles (e.g. AT 97) displays the characteristic upturned edge of a Corinthian pan tile, but the edges meet at right angles instead of running parallel to one another along the sides of the tile. These edges

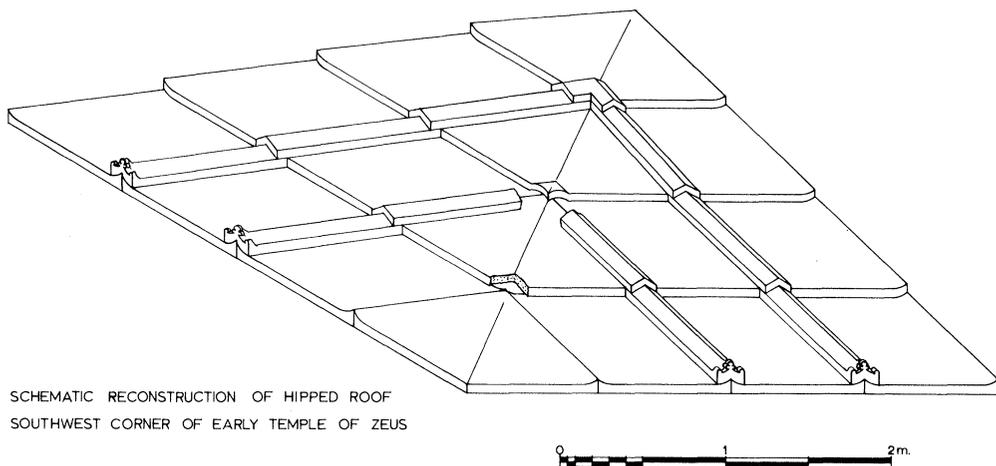
¹⁷The latter feature is particularly distinctive and has been noted already on blocks previously tentatively assigned to the Early Temple of Zeus; cf. A 54, *Hesperia* 44, 1975, pp. 158–160, pl. 38:e.

¹⁸This feature is also quite distinctive and has been noted on blocks tentatively assigned to the Early Temple; cf. *Hesperia* 48, 1979, p. 81.

¹⁹For similar antefixes, including one from Nemea, see C. K. Williams, “Demaratus and Early Corinthian Roofs,” *Στήλη (Τόμος εις μνήμην Ν. Κοντολέοντος)*, Athens 1978, pp. 345–350. On page 348, note 18, read “Nemea Excavations of 1964.”

²⁰Another example of this stamp was previously discovered in the southeastern part of the sanctuary (Section O 16; AT 34). See further, below, Section H 14.

²¹Section J 13 produced six other examples of this stamp: AT 98–AT 102 and AT 114; and three other examples have been found previously in the southeastern corner of the sanctuary: AT 27 (Section N 16), AT 51 (Section O 16), and AT 52 (Section O 15).



SCHEMATIC RECONSTRUCTION OF HIPPED ROOF
SOUTHWEST CORNER OF EARLY TEMPLE OF ZEUS

FIG. 3 Schematic reconstruction of hip roof at southwest corner of Early Temple of Zeus.

will have abutted the flanking normal pan tiles, and the whole system will have looked something like the sketch in Figure 3.

The date of all this destruction debris is clearly within the last quarter of the 5th century B.C., for such a date emerges not only from the pottery of the debris itself, but also from a test dug through the layer which immediately preceded the destruction (Pl. 38:a).²² The violence of the destruction is attested not only by the debris and the heavy traces of fire within it, but also by an iron spear point (IL 342) and two bronze arrowheads (BR 766, BR 770). We are thus once again confronted by the evidence of a violent episode in the Sanctuary of Zeus during the last quarter of the 5th century B.C. Evidence for this battle has been noted elsewhere in this and previous reports,²³ but nowhere else in the sanctuary has the evidence been so clear and vivid, and the battle obviously claimed as one of its victims a large and important building. This building must inevitably be identified as the Early Temple of Zeus. It has long been recognized that there was a predecessor to the 4th-century temple, and that the early east-west wall which passes through the crypt of the 4th-century temple is probably the south wall of the Early Temple.²⁴ The position of the west wall of the Early Temple is not known, but the work of 1979 shows that it cannot have been further west than the western end of the 4th-century temple. This places the southwest corner of the Early Temple within the fabric of the 4th-century temple (cf. Fig. 2), and shows that the debris must come from the west wall of the Early Temple.

The material recovered from that debris allows us to make several suggestions about the appearance of the west end of the Early Temple. We can state that the roof

²²Pottery lots J 13:23 and 24, destruction; J 13:25, pre-destruction.

²³*Hesperia* 44, 1975, p. 160; *Hesperia* 46, 1977, pp. 9-10; *Hesperia* 47, 1978, p. 65; *Hesperia* 48, 1979, p. 82.

²⁴Cf. Hill, *op. cit.* (footnote 13 above), p. 29 and pl. III.

was hipped, at least at this west end, with a Corinthian tile system, and that extensive use was made of cement in sealing, and perhaps bedding, those tiles. The cement slabs which must have come from high in the structure might be interpreted as sealing around the eaves, but the location and function of the sandstone slabs are not apparent. Not surprisingly, there were many heavy timbers used in the superstructure of the Early Temple, but it seems doubtful that all the iron nails recovered this year belong to that timbering, for at least some of them were driven through wood only *ca.* 0.05 m. thick and then bent over. Perhaps they come from a door which was sheathed in bronze tacked on with the small bronze nails discovered in the debris.

Striking by its absence is any trace in the debris of columns, capitals, epistyle or frieze. These may, of course, have been of wood, but the foundations visible in the crypt of the 4th-century temple are cut away to carry a next higher course no more than 0.92 m. wide. This is not suitable for a multi-stepped krepidoma. It may thus be suggested that the Early Temple was not peripteral, but had a simple exterior cella wall *ca.* 0.88 m. thick, which was lightly but finely plastered. The east end of this temple will then have had either a prostyle porch or one *in antis*. The over-all impression of the Early Temple is one of substance but simplicity verging on austerity. Of course, future excavations may modify this assessment.

The date of construction for the Early Temple has previously been suggested as belonging in the first half of the 6th century B.C.,²⁵ and evidence from Section K 14 (see above) would imply a construction date no earlier than the 7th century B.C. at the earliest. Section J 14 also yielded some information on this point in the form of pottery of the 7th and 6th centuries B.C. found in a working-chip layer.²⁶ The latest pottery in this layer dates to about 560 B.C., but it is still too soon to attempt a firm dating, for much more, and it is hoped conclusive, evidence for the date of the construction of the Early Temple of Zeus will emerge in future excavations on the north side of the 4th-century temple.

Section I 14

As mentioned above, there is a pronounced slope in the ancient levels from the Temple of Zeus down toward the Nemea River. Section I 14 proved to have been nearly completely consumed with the line of the river throughout antiquity. The only exception occurred during the Byzantine period, by which time the river had shifted eastward toward its present course. During that era a building was constructed, largely of re-used 4th-century temple wall blocks, with its southeast corner at I/9-14/12 (Pl. 39:e). The greater part of the structure lies directly beneath the modern asphalt road to the west of the section (Fig. 4), and thus the most that can be said about it, for the moment, is that the large amounts of stucco or hydraulic cement in the corner of the building together with a crude drain at the corner should indicate some hydraulic facilities within the building.

²⁵ *Hesperia* 47, 1978, p. 63.

²⁶ Pottery lots J 14:23, 24, 26.

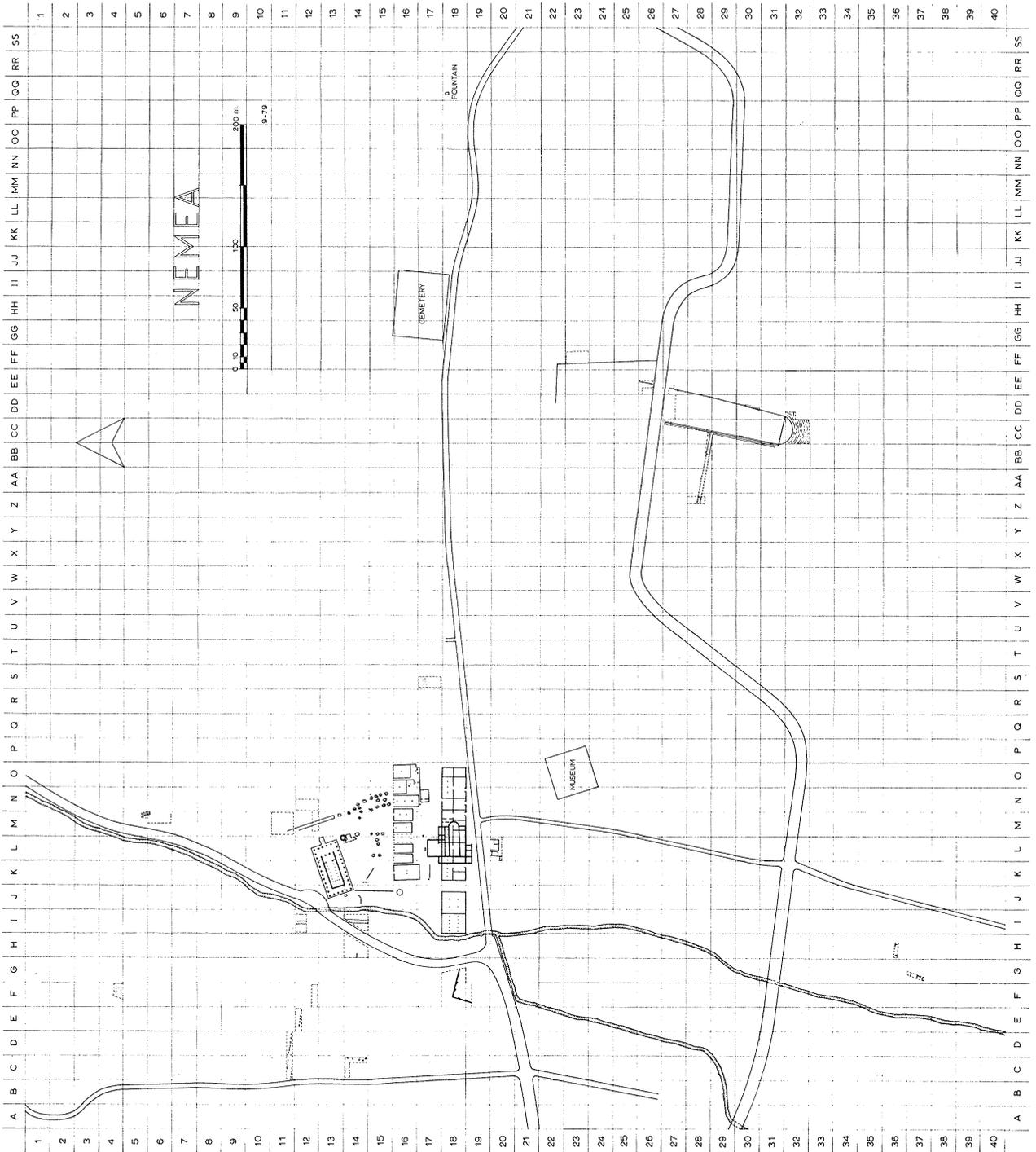


FIG. 4 Grid plan of sanctuary and stadium areas.

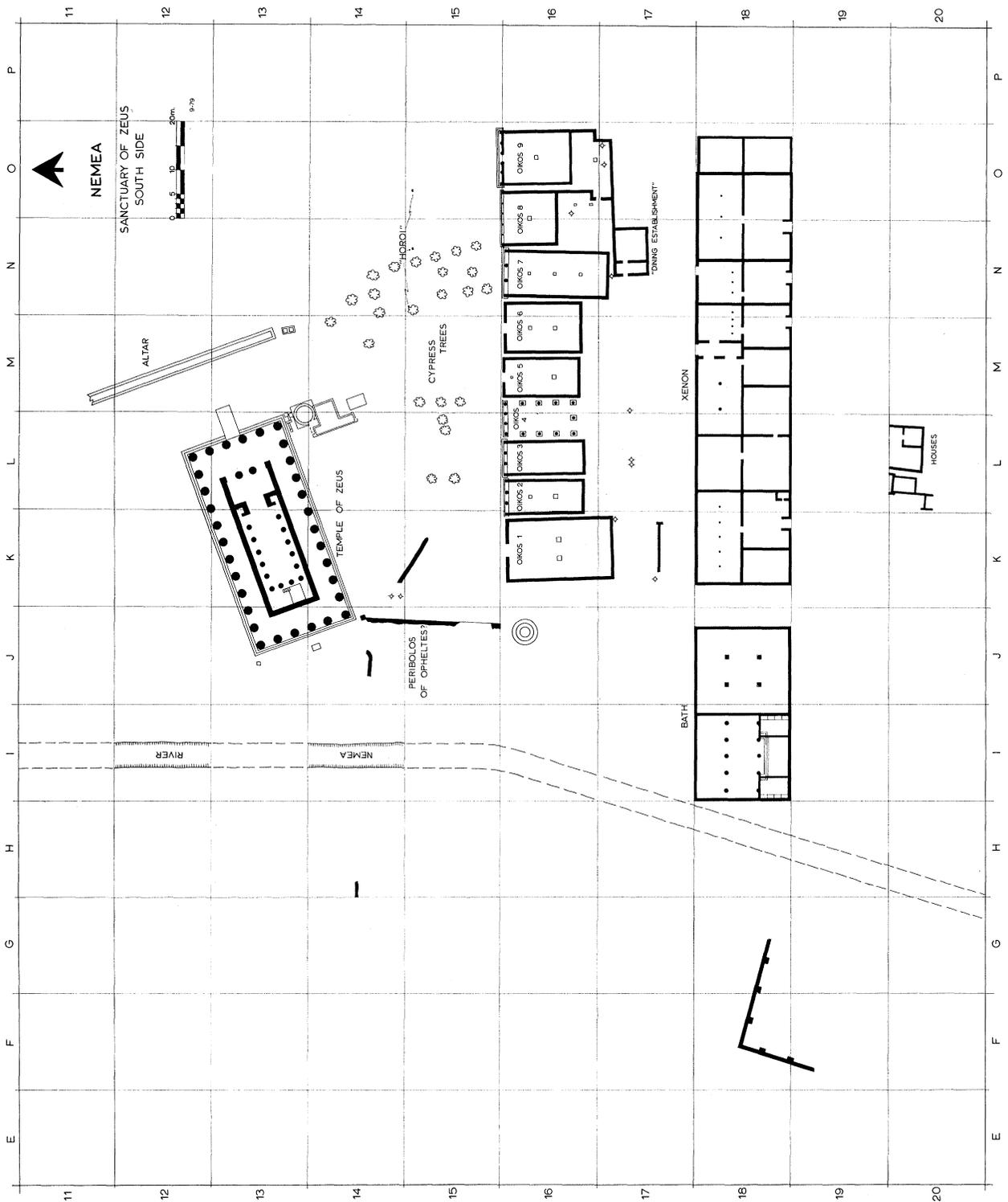


FIG. 5 Restored plan of south side of Sanctuary of Zeus, Archaic to Hellenistic periods.

Although the river bed was not, in the interest of time, fully excavated, its western bank was defined and can be said to have followed a north-south line in the I/9 or I/10 squares throughout the Hellenistic, Classical, Archaic, and Mycenaean periods.²⁷ The pottery from these levels was fragmentary, with the exception of a late Archaic pyxis lid (P 424, Pl. 39:f). Considering the need for drainage from the bath in Section I 18 and the course of the Byzantine river discovered in Section I 12 in 1975,²⁸ it can now be suggested that the Nemea River in antiquity followed an essentially north-south line through the I sections of our grid system (cf. Fig. 5). It will be noted that such a course for the river would bisect the area suggested in 1978 for the Peribolos of Opheltes west of the Temple of Zeus.²⁹ Perhaps this was the source of the water implicit in Pausanias' reference to Opheltes' nurse setting him down in the "grass".³⁰ Such an interpretation may place too great a strain upon the significance of the word *πόα* (which does, nonetheless, imply a source of water), but it would fit into the general topographical scheme of the Sanctuary of Zeus as we now understand it.

Section H 14

The part of H 14 excavated in 1979 is separated from the excavated part of I 14 by the modern asphalt road, which will soon, it is to be hoped, be moved out of the middle of the Sanctuary of Zeus. Section H 14 proved to have suffered extensively from Early Christian farming activities as well as from some undefined activities during the 3rd century after Christ. Among the earlier material which was churned up in these layers were a bronze ear spoon (BR 688, Pl. 40:b), a fragmentary inscription (I 87, Pl. 40:a), fragments of an interesting black-glazed bowl with an incised design (P 439, Pl. 40:d), and an iron knife of indeterminate date (IL 341, Pl. 40:c). Among the more than 30 coins found in these layers were three silver examples (C 1460 and C 1463 of Sikyon, and C 1453 of the Achaian League, Pl. 40:f). Lower layers produced masses of rubble debris mixed with fragments of worked blocks, some of which are clearly from the Early Temple of Zeus, and terracotta tiles and antefixes, at least one of which is also from the Early Temple (AT 82, Pl. 40:e). The ceramic date for these layers was uniformly in the second quarter of the 5th century B.C., which is earlier than the true destruction date of the Early Temple (see above, p. 186),³¹ but one silver coin (C 1477 of Corinth, Pl. 40:f) belongs to the period between 400 and 338 B.C. If a 4th-century B.C. date is, then, correct for these debris layers, perhaps we have here an indication of a clearing or landscaping at the time of the construction of the 4th-century Temple of Zeus. This will have resulted in the transfer of earlier material from the west end of the temple across the Nemea River and further to the west. Some such activity must, in

²⁷Pottery lots I 14:8, 9, 10, 11–12, respectively.

²⁸*Hesperia* 45, 1976, pp. 177–178.

²⁹*Hesperia* 48, 1979, p. 84.

³⁰Pausanias, II.15.3: τὸν Ὀφέλτην ἐνταῦθα ὑπὸ τῆς τροφῆς τεθέντα ἐς τὴν πόαν διαφθαρῆναι λέγουσιν ὑπὸ τοῦ δράκοντος.

³¹Pottery lots H 14:10–15.

any event, be posited in order to explain the absence of destruction debris at the southwest corner of the Early Temple (see above, pp. 183–184).

The removal of these layers in H 14 revealed the slight remains of an east-west rubble wall which extends into the trench from the west (Pl. 41:a, b) at H/1,4–14/9,10. This wall has a good northern face and was probably a victim of the general destruction of the Sanctuary of Zeus in the late 5th century B.C. For the moment, little can be said about its construction date and function.

SOUTHWEST CORNER OF THE SACRED SQUARE

Section J 16

This section was cleared in 1979, with the exception of the southwest corner where a baulk was left to preserve a modern Greek Army survey marker, in the hope of uncovering more of the wall which has been tentatively identified as the “*thringos lithon*” that defined the Peribolos of Opheltes (Figs. 5, 6). This goal was frustrated, for Early Christian activities cut through the wall just at the line between Sections J 15 and J 16. The only possible element which has survived and which might be a part of this

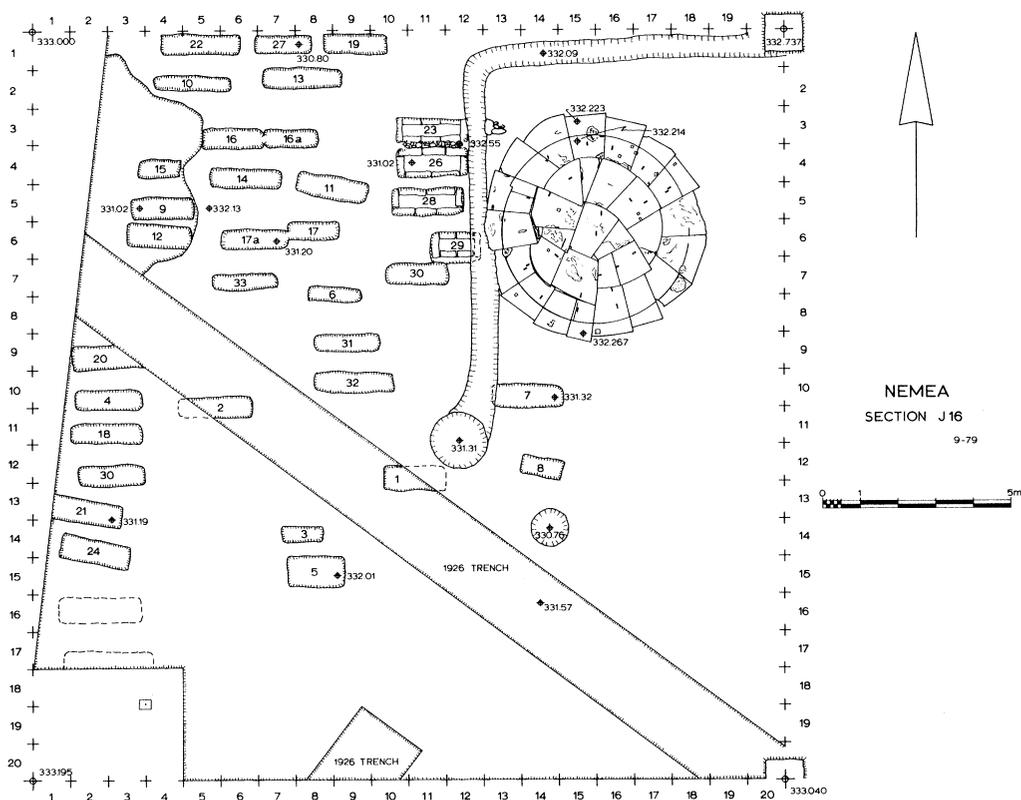


FIG. 6 Section J 16.

wall is the small cluster of rubble at J/13–16/3, which could indicate that the wall had turned sharply to the west along the northern edge of J 16 (Fig. 6). Such a turn must, in fact, have occurred because of the existence of the tholos slightly further to the south (see below).

Two trenches of the 1926 excavations cut through Section J 16, but it was, once again, the Early Christians who were the cause of churning up large quantities of earlier material that included many iron spear points, bronze arrowheads (e.g. BR 662–BR 665, BR 667, BR 719, BR 720; Pl. 41:c) and coins, including two silver examples (C 1409 of Argos and C 1410 of Sikyon; Pl. 41:d). The Early Christians also left behind many artifacts of their own time, including a number of lamps, four of which are presented here: L 48 and L 49,³² L 50,³³ and L 51³⁴ (Pl. 41:e). Evidence of three basic types of activity in this period was discovered in Section J 16. First, there are the typical, long and narrow farming trenches on the east side of the section; secondly, there were discovered and excavated 35 graves in the western half of the section (there are yet more graves in the southwestern part which were left unexcavated); and thirdly, there is a channel (for irrigation?) which slopes down westwards from the northeast corner of the section to a point at J/12–16/1 where it turns southward to empty into a circular pit or unlined well at J/12–16/11,12. It was in the fill of this channel that there was discovered a small bronze figurine of a seated baby boy who waves his right hand (BR 671, Pl. 42:a, b). A nub of bronze under his buttocks held him onto his original seat, and the detailed workmanship on, for example, tresses, eyes, fingers, and navel indicates that he is a fine piece of, probably, Hellenistic date. Although his archaeological context is of the 6th century after Christ and his original provenience cannot be determined, his place of discovery (in or near the “Peribolos of Opheltes”) makes his identification as a representation of Opheltes difficult to resist.

The graves in the western part of the section are simple rectangular pits (Pl. 42:c). Most of them were covered with tiles, but a few were lined and covered with stone slabs (nos. 23, 26, 28, 29; Fig. 6). These slabs were all re-used and reworked blocks, some of which can be identified as coming from the 4th-century B.C. Temple of Zeus. Inasmuch as the Early Christian basilica which overlies the Xenon is largely constructed of blocks also from the temple, perhaps Graves 23, 26, 28, and 29 are roughly contemporary with the construction of the basilica. Furthermore, it has become clear that the stone-lined graves are earlier in date than the tile-lined examples. The graves were, as usual, very poor and produced, in total, only three pairs of bronze earrings (GJ 35 from Grave 5, GJ 36 from Grave 6, GJ 38 from Grave 23; Pl. 43:a), a bronze wire loop, and a bronze belt buckle (BR 721 from Grave 3; Pl. 43:a).

With the clearing of the Early Christian layers in the northeast corner of Section J 16, the heavy foundations of a circular structure appeared (Pl. 42:c). These foundations

³²Cf. A. Bovon, *Études péloponnésienes*, V, *Lampes d'Argos*, Paris 1966, no. 642.

³³*Ibid.*, no. 610.

³⁴Cf. O. Broneer, *Isthmia*, III, *Terracotta Lamps*, Princeton 1977, no. 3157, for the rim decoration.

consist of hard, gray limestone blocks with an average thickness of about 0.35 m. Most of the blocks are wedge shaped, but of varying dimensions, and they have been fitted together to form a polygonal paving. This is well preserved, except on the west where the blocks have been chopped through by the Early Christian "irrigation" channel mentioned above. No attempt was made to form a circle with the exterior course, but rather the corners of the blocks fall where they will with a resulting "saw-tooth" effect (Pl. 43:c). This might suggest that the blocks came from another earlier and somewhat larger circular building which has been "compressed" to form a smaller structure. The lack of concern with the exterior of the foundations is explained by the fact that they served to form a platform for a circular building which was set back from the edge. The size of this tholos is marked by a circular area on the top of the foundations, which has been worked down to a smooth surface about a centimeter lower than the rough surface of the outer parts of the blocks. The circular surface thus formed is about 5.01 m. in diameter, although there is a slight offset in the circle on the west side of the structure. Within this circle was set a course of stones, as indicated by a series of pry marks which are cut at varying distances of 0.20 to 0.35 m. from the edge of the circle in a radial scheme and lie 0.80 to 1.00 m. distant from one another. Another set of pry marks describes a basically concentric circle and lies 1.25 to 1.30 m. inside the exterior circle of the structure. All these prys appear to indicate very thick blocks (i.e. *ca.* 1.20 to 1.25 m.), or perhaps a double row of blocks, for the first course of the tholos above the foundation or platform. They also indicate that, if an interior was intended for the tholos, free space was limited to a circle with a maximum diameter of about 2.50 m. It is perhaps better to understand the course above the foundations as a solid circular platform. No information is available regarding any higher part of the structure. Two possibilities for the original form of the structure come to mind: a solid, multisteped circular monument or altar, or a freestanding monopteros, but no elements of either possible reconstruction are known at present. The function of the structure is also unclear, but it clearly played an important role in the sanctuary, for it is located in line with the Oikoi and on the left of the only entrance into the Sacred Square from the south (Fig. 5). If the suggested identification of the Peribolos of Opheltes is correct, then the tholos may also have played a role in the rituals associated with Opheltes.

The chronology of the tholos has emerged fairly clearly. It was constructed by at least the second quarter of the 5th century B.C. and was destroyed already at a time during the fourth quarter of the same century.³⁵ It is not entirely certain that the tholos was a victim of the late 5th-century B.C. destruction which claimed so much of the rest of the Sanctuary of Zeus, but the arrowheads and spear points in the Early Christian disturbed fill over and around the building make such a conclusion probable. Thus, the role of the tholos in the life of the sanctuary would appear not to have been an essential one despite its prominent position. It is striking to note the similarities between this

³⁵Pottery lots J 16:63-65, 77-79; and J 16:66-71, 58, for the construction and destruction, respectively.

circular structure and the one found earlier at the southeast corner of the Temple of Zeus.³⁶ Although the construction techniques are quite different, the sizes and the histories of the two buildings are much the same.

THE SECULAR FRINGES AT THE SOUTHWEST CORNER OF THE SANCTUARY

Sections F 18, F 19, G 18

Directly west of the modern asphalt road, and some 30 meters west of the Bath, a new area was opened in 1979. This produced, once again, heavy Early Christian and Byzantine disturbances in the form of farming trenches. These disturbances yielded very large quantities of material, some of which was of the date of the disturbances, such as a terracotta bread stamp (TC 100, Pl. 43:d) and a bronze finger ring (GJ 43, Pl. 43:b). Most of the material was, however, of much earlier date and gave an indication of rich and important layers below, which had been partially disturbed by the Early Christian farming. This material included many aryballoi (e.g. P 436, Pl. 43:e) and lamps (e.g. L 59, Pl. 43:f), iron spear points and bronze arrowheads (e.g. IL 328, IL 330, IL 332; BR 731–BR 733; Pl. 44:a), pieces of rock crystal (ST 426 a–h; Pl. 44:b), a bronze fish hook (BR 728, Pl. 44:d), a curious hollow polygonal bronze object (BR 734, Pl. 44:c), and a battered Archaic stone figurine apparently of a woman holding a child (SS 3, Pl. 44:e). The numismatic material was equally rich with 77 coins discovered here, including six silver examples (C 1401 of Thebes, C 1402 of Argos, C 1486 of Corinth, C 1501 of Opuntian Lokris, C 1506 of Phlious, and C 1555 of the Arkadian League; Pl. 44:f).

With the removal of the Early Christian levels, there emerged the foundations of two walls of a very large structure, which continues out of the excavated area to the south and to the east (Fig. 7, Pl. 45). These foundations, which have been badly hacked through by Early Christian farming trenches in many areas, are of the typical soft, yellow poros so common, for example, in the foundations of the Oikoi. The blocks vary in size, but average 0.60–0.70 m. in width and 1.20–1.30 m. in length. The exposed length of the north wall is 23.20 m., of the west wall 16.30 m. Along the interior faces of both walls, and at intervals which are irregular due in part to the state of preservation, are set projecting blocks which may have been intended to support a colonnade with a very wide intercolumniation or, more likely, to serve as the bases for buttresses for the wall and the roof system.³⁷ That the building was roofed is clearly implied by the discovery of a complete Corinthian pan tile at F/12,13–18/20,19/1 (AT 86, Fig. 7) and a fragment of a painted terracotta horizontal sima at F/9–18/10 just beside the northwest corner of the building (AT 84, Pl. 46:a). On the other hand, it must be pointed

³⁶Cf. *Hesperia* 47, 1978, pp. 62–63.

³⁷Although it may be coincidental, we should note that the east stoa, or xystos, of the gymnasium at Olympia has buttresses along the exterior of its east wall. These have been interpreted as structurally necessary for the brick, rather than stone, of the upper walls; cf. A. Mallwitz, *Olympia und seine Bauten*, Munich 1972, p. 285.

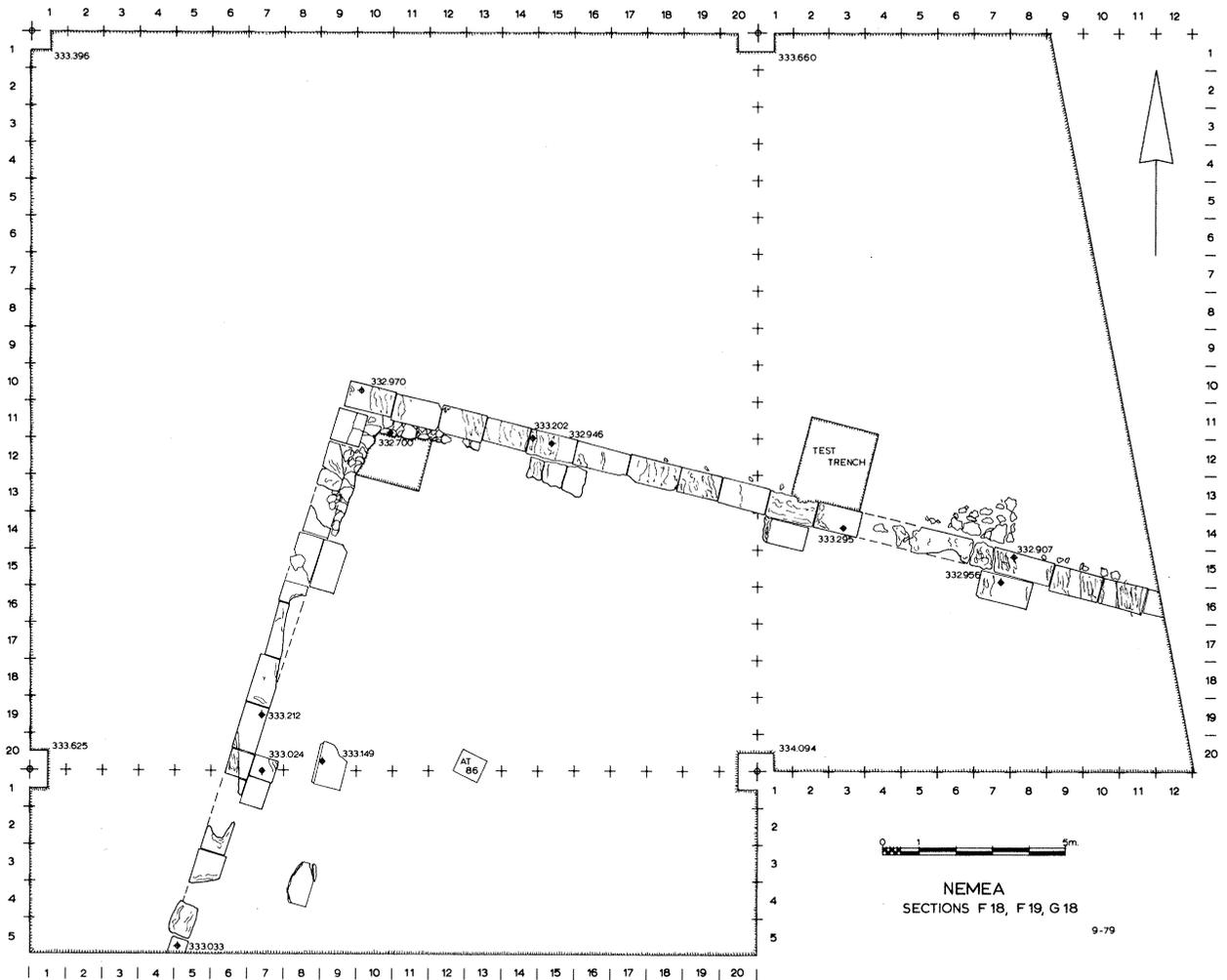


FIG. 7 Sections F 18, F 19, G 18.

out that no evidence has, as yet, been found for interior roof supports, which surely would have been necessary. Two large stone slabs which are along the west wall inside the building and which had been knocked from their original positions by the Early Christian farming (Fig. 7) might once have served as bases for such interior supports.

The later disturbances in the area have totally removed the floor of the building, but a date for its construction should have emerged from the contents of a filling layer which was dumped against the foundations. This layer, however, produced material which is clearly much earlier than the date of the building, such as a skyphos (P 502), a small bowl (P 447), a votive skyphos (P 448), and a salt cellar (P 449, Pl. 46:b).³⁸ Better dating evidence comes from an amorphous, broad but relatively shallow pit

³⁸Pottery lot F 18:4.

which spread along the western side of the building's interior over a very large area.³⁹ The earth of this pit was loose in consistency and black in color and was covered in part by the dumped fill mentioned above. The pit therefore antedates the construction of the building and provides us with a *terminus post quem*. The pit can be dated to the late 4th century B.C. on the basis of the latest pottery in it, as, for example (Pl. 46:c), a black-glazed skyphos (P 489), a shallow bowl (P 497), a Boiotian kantharos (P 445),⁴⁰ and a mug (P 498). The greater part of the ceramic contents of the pit, however, is rather earlier than the deposit as a whole, most of which belongs in the second half of the 5th century B.C., as can be seen in the case of the one-handled drinking cups (P 442, P 446), lekythoi (P 440, P 444), a ribbed blisterware oinochoe (P 443), and a skyphos (P 510). Other ceramic material, such as a lid (P 483), a lekane (P 494), and a jug (P 441), is not so easily datable. One interesting piece from this deposit is a blisterware dinos with incised ribbing on the shoulder and a double band of indentations just below the shoulder (P 503b; Pl. 46:f). This dinos is, as far as I know, without previous parallel. The lamps from this deposit are also earlier than the date of the pit as a whole and belong to the late 5th century (L 56–L 58, Pl. 46:e). The building thus cannot be earlier in date than the late 4th century at the earliest, and could quite conceivably belong in the early part of the 3rd century B.C. or even later. The pit whose ceramic contents have been discussed above should probably be understood as part of a leveling fill dumped over the area in preparation for the construction of the building. This pit also produced other interesting material such as a fragment of a terracotta fluted column (the stand for a perirrhanterion? AT 83; Pl. 46:d), fragments of three grinding stones (ST 423–ST 425; Pl. 47:a), a bronze strigil (BR 729; Pl. 47:c), an iron caduceus (IL 324; Pl. 47:b), and a lead tablet (IL 327, Pl. 47:d) which, when opened, produced the following text:⁴¹

ἀποστρέφω Εὐβουλαν
 ἀπὸ Αἰνεία, ἀπὸ τοῦ ^{νν}
 προσώπου, ἀπὸ τῶν ὀφ-
 θαλμῶν, [ἀπὸ] τοῦ στόμα-
 5 τος, ἀπὸ τῶν τιθθίαν, ^ν
 ἀπὸ τᾶς ψυχᾶς, ^{νννν}
 ἀπὸ τᾶς γάστρου, ἀπὸ
 [τ]οῦ, ἀπὸ τοῦ πρω-
 κτοῦ, ἀφ' ὅλου τοῦ σώμα-
 10 τος. ἀποστρέφω Εὐβου-
 λαν ἀπ' Αἰνεία.

³⁹Deposit F 18,19:1; Pottery lots F 18:3, F 19:3.

⁴⁰Cf. K. Gallis, "Θεσσαλία," *Δελτ* 27, 1972, *Χρον*, p. 419, pl. 352:γ.

⁴¹This tablet was discovered right at the top of the dumped fill of Deposit F 18,19:1 and at the bottom of the Early Christian disturbances. It thus cannot be assigned with absolute security to the deposit, although it almost certainly originally belonged to it, and its date should probably be in the late 4th century B.C. I would thank David Jordan for his help with reading the difficult area of lines 8–9. He believes, perhaps correctly, that the strokes visible in the middle of line 8 yield the reading *ψωλίον*.

We thus have to do with what might be called an apostrophic curse, which is of some intrinsic interest in its topographic arrangement of the human anatomy. One notes particularly the localization of the soul or spirit.

Although much of this material is earlier than the building presented above, it implies extensive activity in the same area by at least the second half of the 5th century B.C., and this may be connected with the remains of earlier rubble walls which project inward from beneath both the east-west and the north-south soft, yellow poros foundations and lie parallel to them (Fig. 7, Pl. 47:e). Despite the alignment of the rubble walls with the poros walls (and it should be noted that neither describes a right angle at the northwest corner), earth fill over the top of the rubble and beneath the poros shows that the former is distinctly earlier than the poros walls. A test trench at the inner corner of the rubble wall (which produced a mass of field stones at its bottom; cf. Pl. 47:e) yielded no evidence for the date of the rubble walls, so that it must remain, for the moment, only a reasonable assumption that the rubble walls are to be associated with the 5th-century material and the other artifacts in the 4th-century pit (i.e. Deposit F 18,19:1).

It might well be expected that both the earlier, rubble building and the later, yellow poros building performed the same function. The nature of that function can be deduced only from the form of the building, which is not yet fully known, from the location of the building west of the Nemea River and of the Bath, and from the nature of the material found within it. The aryballoi and the strigil suggest an athletic function, and the caduceus (of Hermes?) would not be inappropriate to a palaistra identification.⁴² The space available to the east (cf. Fig. 5) would preclude a gymnasium, but a palaistra might fit into that area. The pottery, while highly distinctive, lends no help to this question, however, and it is not clear what role would be played by the grinding stones in a palaistra. Neither does the lead tablet confirm the identification, but it would not be surprising to find such material in a palaistra. For the moment, the identification of the building as a palaistra must remain only a suggestion.

One further set of results from this region of the Sanctuary of Zeus must be noted here. A test trench was opened at G/2,3-18/11,13 (cf. Fig. 7 and Pl. 45:b), with the original intention of finding evidence for the date of the yellow poros building. The information obtained confirmed that presented above: the poros foundations date to the late 4th century B.C. at the earliest.⁴³ It was decided to continue this test to a lower level in order to find out whatever possible about this part of the sanctuary in earlier periods. The total depth of the trench was ultimately nearly two meters (+332.96-+331.04) and was stopped at that depth only because of the exigencies of time. Neither virgin soil nor bedrock was encountered. Below layers of the 5th century and perhaps of the Archaic period, at a depth of 0.53 m. (+332.43), the first of at least four different layers of Mycenaean date were encountered.⁴⁴ Below this came four layers (+331.97-

⁴²Among the other evidence attesting a connection between Hermes and the gymnasium-palaistra, note Philostratos, *Imagines* II.32, where Palaistra is identified as a daughter of Hermes.

⁴³Pottery lots G 18:4, 5, 7.

⁴⁴Pottery lots G 18:13-18.

+331.77) whose date could not be determined from the scanty material recovered, but yet further down were found at least seven distinct layers which clearly belong to Early Neolithic times.⁴⁵ Little can be said in detail about the nature or extent of the pre-historic activity thus documented, for the test trench was too small in size, but its existence in this part of the Sanctuary of Zeus during the Mycenaean and Early Neolithic periods has been clearly shown.

THE STADIUM

The East End of the Tunnel—Sections BB 28 and AA 28

The first seven meters of the entrance tunnel had been fully cleared during the excavations of 1978. This work was continued in 1979 for a distance of another 12 meters making a total of 19 meters which have been cleared from the east end of the tunnel (Pl. 48:a). During the course of this clearing, several observations were made which augment and/or alter the preliminary conclusions presented last year. First, the excavations revealed three large and carelessly hacked holes in the north wall of the tunnel beginning at a point 7.22 m. from the east end (Pl. 48:a, right). The purpose of these holes is not clear, although they surely have nothing to do with the functioning of the tunnel, and they can be dated no more precisely than to the period between the 2nd and the 6th centuries after Christ, when the tunnel was in the process of silting closed.

Secondly, at a point between 16.56 and 17.13 m. from the east end of the tunnel, the bottom of the fifth course on the south side has two loops or holes carved through the stone in a rather crude fashion (Pl. 48:b). The left, or easternmost, of these was cut to form a vertical loop but is now broken away. Its neighbor was cut horizontally and apparently was intended as a replacement for the vertical hole. This pair of cuttings is matched by a single vertical loop cutting on the north wall opposite them. We have no evidence for the date when these were cut, but they recall the similar cuttings on the left and right of the eastern entrance to the tunnel.⁴⁶ Both sets of cuttings must have been intended to hold a rope or chain stretched across the width of the tunnel.

Thirdly, a major adjustment in the history of the tunnel as presented last year is necessary. The terracotta water channel which was set through the floor of the tunnel along the south wall was not cut through the layer of the 1st century after Christ, but was covered over by it.⁴⁷ This ceramically rich layer, composed of yellow clay and soft, black ashy earth, continues down into the cut for the terracotta water channel and completely fills it, thus creating a new floor level (Pl. 49:a). This fact was documented not only by the nature of the fill, but also by countless pottery joins between the layer over the floor of the tunnel and that in the water-channel trench. The fill produced a fragment of the draped leg of a life-sized marble statue (SS 4, Pl. 49:d) and masses of

⁴⁵Pottery lots G 18:23–30.

⁴⁶Cf. *Hesperia* 48, 1979, p. 98, and pl. 38:a, b.

⁴⁷*Contra Hesperia* 48, 1979, pp. 99–100 and note 73.

pottery (Pl. 49:b), including more of the “Pergamene” plate found last year (P 365),⁴⁸ a bowl (P 466),⁴⁹ three globular, two-handled cups (P 467–P 469),⁵⁰ a deep bowl (P 470), an imitation Gray Ware mug (P 471), a plate (P 472), a coarse-ware bowl (P 473), and a cooking pot (P 475). Although some of the material of this deposit dates to the latter part of the 1st century B.C., some of the pottery clearly comes well down into the second quarter of the 1st century after Christ, and the date of the whole deposit probably belongs at about the middle of that century. Such a date is in no way contradicted by the worn bronze coin of Corinth (C 1382, Pl. 49:c) which belongs in the first decade of the 1st century after Christ.⁵¹

For the history of the tunnel this means that by *ca.* A.D. 50 the south wall of the entranceway had already collapsed, had been partially cleared, a terracotta water channel put through the entranceway and the tunnel, the channel destroyed and its trench filled in and a new floor created in the tunnel. Although the sequence of events is thus clear, as is the *terminus ante quem* for the whole, the absolute date for all but the very latest of these events cannot be determined. Nor is the impetus for the new paving of the tunnel in the mid-1st century after Christ clear. There is no sign of any other activity in the stadium at that date, nor is there any hint in our sources that the Nemean Games had been returned from Argos at any time in the Roman Imperial period. Indeed, considering that the entranceway was never completely cleared after its collapse and that its functioning was thus never fully restored, the new paving in the tunnel in the mid-1st century after Christ probably had nothing to do with the Games.

A test was carried out through the earlier floors of the tunnel down to the worked bedrock and the foundation trench for the tunnel, which still exists along the north wall where it was cut through the bedrock (Pl. 49:a). The foundation trench along the south wall was destroyed by the placement of the terracotta water channel. Of these early levels, only the original floor level yielded any artifacts whatsoever, and those can only be dated generally to the Hellenistic period.⁵²

The West End of the Tunnel—Section Z 28

Although restricted by considerations of time and property, some work was carried out at the west end of the tunnel in 1979. Outside the end of the tunnel, the area was cleared to bedrock north and south of the extended line of the tunnel and showed that this line continues directly westward as a cut through the bedrock for at least four meters beyond the end of the tunnel (Pl. 50:a). Thus, the inevitable northward turn of the Sacred Way toward the Temple of Zeus must lie further to the west.

Within the tunnel, the fill was cleared to the floor for a total distance of four meters to the east and for an additional meter to the bottom of the Early Christian fill.

⁴⁸Cf. *ibid.*, pl. 38:c. Deposit STAD:1, pottery lots STAD:75, 76, 82, 83, 93, 98.

⁴⁹Cf. H. S. Robinson, *The Athenian Agora*, V, *Pottery of the Roman Period*, Princeton 1959, p. 14, F 30.

⁵⁰*Ibid.*, p. 30, G 85, for a general parallel of shape and fabric.

⁵¹Cf. K. M. Edwards, *Corinth*, VI, *Coins*, Cambridge, Mass. 1933, pp. 7 and 18, no. 34.

⁵²Pottery lot STAD:121.

The latter cut was occasioned by the discovery of a hoard of 23 bronze coins of the 6th century after Christ, which was located at Z/20–28/11 (Pl. 50:b).⁵³ These coins were clustered together around and beneath a group of stones, and they had clearly been deposited deliberately, perhaps during the Slavic invasion of the 580's after Christ.⁵⁴

The lower layers in the west end of the tunnel yielded no helpful information for the chronology of the history of the tunnel, but the water-channel cut was uncovered along the south wall and found still to contain two of the terracotta channels, which were not, however, in their original positions. One of these (TC 107, Pl. 51:a, foreground) was removed and proved to be of the same dimensions as those found in the entranceway east of the tunnel in 1977.⁵⁵ The water was clearly being carried through the tunnel and beyond to the west, but its ultimate destination is not yet known.

Tests in the Race Track

A series of test trenches was undertaken in various parts of the stadium track in an attempt to gain further information about its history. Only those which yielded conclusive results will be presented here.

One trench was at the center of the starting line, where bedrock was encountered immediately below the track surface which proved to be about 0.12 m. thick (Pl. 51:b). There is no earlier floor, nor are there any artifacts within the only floor to help in dating it. Three post holes, however, were discovered clustered together in front of the starting line and cut into the bedrock slightly to the west of the center of the width of the track. The purpose of these holes is not immediately apparent, although the possibilities for their function include that of turning posts or of a part of the starting mechanism.

Another test alongside the stone turning-post base revealed bedrock (into which the turning post had been set) at a depth of some 0.08 m. below the surface of the floor. Again, no pottery or other dating evidence emerged from the track floor.

A test was also dug on each side of the eastern stone water channel south of the 200-foot marker (Pl. 51:c). Removal of the surface of the track along the west side of the channel revealed several features. First, the trench for, and several battered fragments of, a terracotta water channel were found to be covered by the track surface. This channel runs at right angles to the stone channel and clearly cut through it.⁵⁶ This is the same terracotta channel which has already been discussed as running westward through the entranceway and the tunnel. It thus bisected the racecourse and shows that, at the time of the installation and use of the terracotta channel, neither the track nor the tunnel was being used for the Nemean Games. We still have no precise date for this interruption of the racecourse other than that discussed above with regard to the tunnel deposit. Inasmuch as the Games were at Argos more or less continuously from

⁵³C 1509–C 1531; Deposit STAD:2; Pottery lot STAD:130.

⁵⁴Cf. *Hesperia* 48, 1979, p. 99 and note 71.

⁵⁵Cf. *Hesperia* 47, 1978, pp. 87–88.

⁵⁶This is the gap in the stone channel noted in *Hesperia* 46, 1977, p. 23, fig. 7, at DD/17,18–29/4.

the first half of the 3rd century B.C., the channel could have been cut through the race-track floor at any time during or after the late Hellenistic period; that is, at any time after the collapse of the entranceway wall.⁵⁷ If, however, it is correct that Mummius returned the Nemean Games to Nemea in 145 B.C.,⁵⁸ then the placement of the terracotta channel should almost certainly post-date that return of the Games.

The fact that the terracotta channel was covered by the race-track surface shows that the latter (like the later tunnel floor) is no earlier than the mid-1st century after Christ in its present form. This might seem to imply that there is an earlier, lower, floor for the race track, but the layer of earth directly below the track surface (as well as the bedrock lower down) is cut by the foundation trench for the stone water channel and for the 200-foot marker (which are thus stratigraphically contemporary). Thus, if there were to be an earlier floor, it would have to antedate the installation of the stone channel which cut through all lower levels. Furthermore, the wear on the stone channel and a cutback on the 200-foot marker indicate that they were in use only with a floor at the level of the present track surface. But that track surface covered the terracotta water channel and thus post-dates it, while the terracotta channel cuts the stone channel and thus, in turn, post-dates it. We are thus confronted with an apparent contradiction which can be resolved only by remembering that the surface of the track can never have been raised, for its level had to respect the level of the stone channel. Toward that end, as well as in the interest of preparing the track surface for the actual competitions, the track will have been dug up, leveled, and rolled every two years before the Nemean Games.⁵⁹ Thus the track surface will have been worked down constantly to maintain the level of the water channel, and its archaeological date will be the same as the date of the last preparation of the track for the Games, while its original date was the same as the original date of the stadium. This may well explain why the average thickness of the track surface is 0.08–0.10 m. (see above), for such a thickness could easily be picked and dug up every two years.

On the west side of the track opposite the trench just discussed and, again, south of the 200-foot marker another test was made. Once again, the terracotta water channel was found to have cut through the stone channel (Pl. 51:e).⁶⁰ Once again, the stone water channel and the 200-foot marker were shown to be stratigraphically contemporary.⁶¹ Beneath the track surface were lower layers of dug bedrock which appear to have

⁵⁷Cf. *Hesperia* 48, 1979, p. 96.

⁵⁸Cf. *Hesperia* 45, 1976, p. 191, note 28.

⁵⁹In addition to the frequent representations of picks in athletic scenes in vase-painting and the less frequent depictions of rollers, we have specific evidence for this practice in the xystos and the paradromis of the gymnasium and in the stadium at Delphi. See J. Pouilloux, "Travaux à Delphes à l'occasion des Pythia," *BCH* Suppl. IV, 1977, pp. 105, lines 5–6 (gymnasium), and 106, lines 23–24 (stadium); cf. E. N. Gardiner, *Athletics of the Ancient World*, Oxford 1930, p. 132; and S. G. Miller, "Turns and Lanes in the Ancient Stadium," forthcoming in *AJA*.

⁶⁰This is the explanation for the previously enigmatic "rough cutting through the water channel"; cf. *Hesperia* 47, 1978, p. 88.

⁶¹This should show conclusively that the "Ionic-Roman" (or the "Attic-Euboic") foot of 0.296+ m. is no more Roman at Nemea than it was at Olynthus (C. M. Robinson and J. W. Graham, *Olynthus*, VIII,

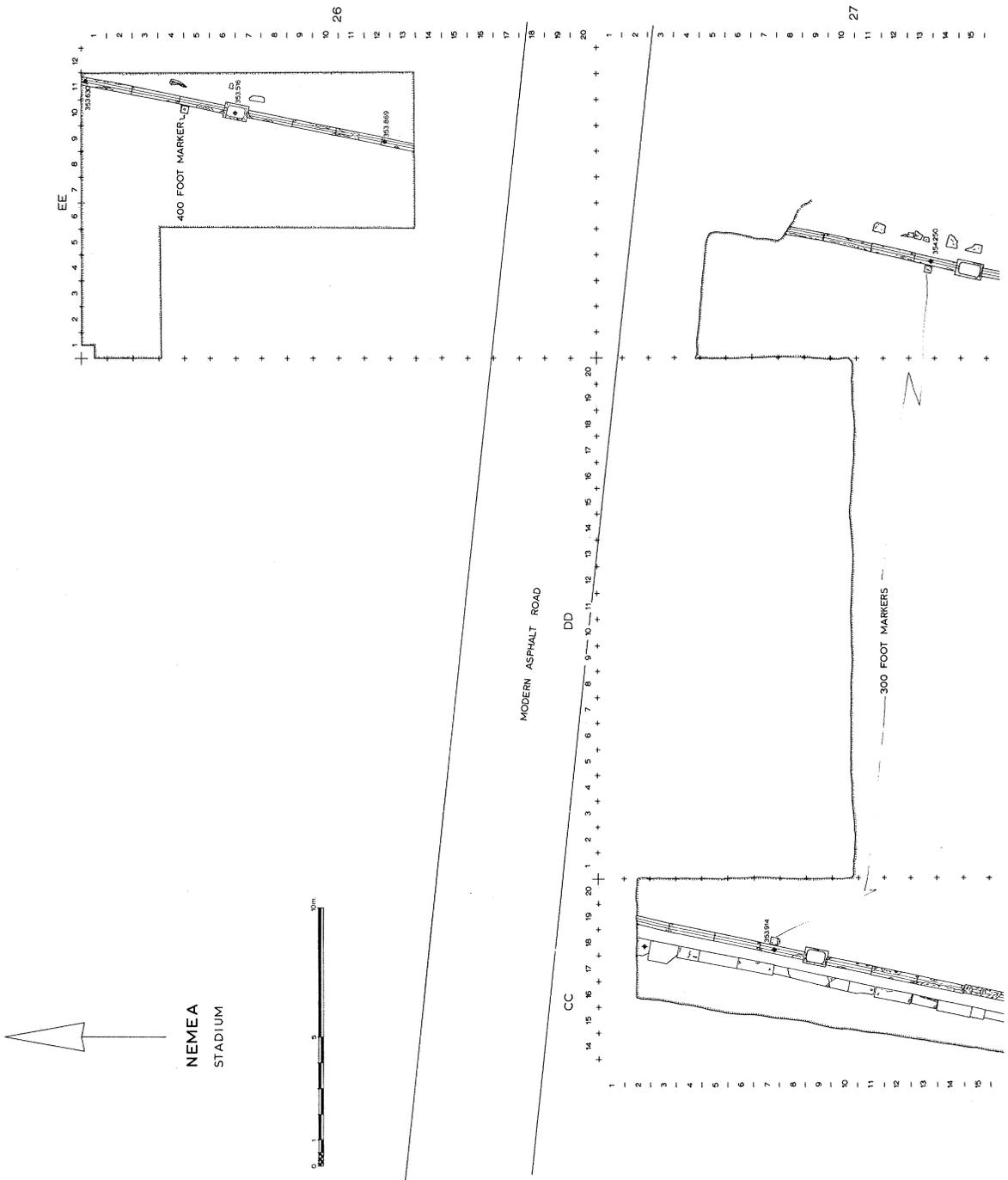


FIG. 8 Stadium, Section EE 26.

been brought in to raise the track surface to the requisite level, as was to be expected from the natural slope of the terrain off to the north. Below these filling layers and directly over the smoothed-down bedrock was a layer of working chips of stone like that of the entranceway and the tunnel. In the working-chip layer there was found, between the line of the stone water channel and the sidewalk and below the floor of the storm drain, a somewhat worn and badly corroded bronze coin. The reverse of the coin is, however, clearly identifiable as being an issue of Philip II of Macedon (C 1423, Pl. 51:d). This gives a clear *terminus post quem* for the construction of the sidewalk and the stone water channel and, by extension, for the construction of the entranceway and the tunnel. It also indicates that the period around 325 or 320 B.C. is, as has already been suggested, the correct time for the construction of the stadium together with its tunnel.

The Race Track—Section EE 26

A small portion of the eastern part of the race track north of the asphalt road was uncovered in 1979 (Fig. 8, Pl. 52:a). This work resulted in the discovery of the northward continuation of the eastern stone water channel, another settling basin, and the 400-foot marker. The area had been disturbed by two small test trenches which were dug in 1926 and which cut through the surface of the track. All features were found to be similar to the same features further to the south in dimensions, workmanship, and material. Exceptional is the state of preservation of the 400-foot marker vis-à-vis that of the 300-foot markers discovered in 1978 (Pl. 52:a). The presence of the modern asphalt road prevents a precise measurement of the distance between the 300- and the 400-foot markers, but the interval on center is clearly less than 29.75 m. Although the full width of the track is not yet known at this point, the water channel seems to be bending westward and the width of the track thus beginning to narrow.

TSOUNGIZA

Section EEE 19

Although no work had been planned for Tsoungiza in 1979, events necessitated a brief investigation there. Despite the declaration of Tsoungiza as an archaeological zone in 1975, a small piece of property was thereafter purchased and the new owner applied to the Greek Archaeological Service during the winter of 1978/79 for permission to build a house. This property is located about 50 meters north of the area explored in 1974 and 1975.⁶² The Nauplion Ephoreia of the Service undertook a series of test

The Hellenic House, Baltimore 1938, pp. 47–51) or at Corinth (A. W. Parsons, *Corinth*, III, ii, *The Defenses of Acrocorinth and the Lower Town*, Cambridge, Mass. 1936, pp. 291–292) or in the gymnasium at Delphi (J. Jannoray, *Fouilles de Delphes*, II, *Le Gymnase*, Paris 1953, p. 50, where the track in the gymnasium, but not the gymnasium, is dated to the Roman period because of the presence of the “Roman” foot, and for no other reason); cf. *Hesperia* 46, 1977, p. 25 and note 56.

⁶²Cf. *Hesperia* 45, 1976, pp. 174–177, and *Hesperia* 44, 1975, pp. 150–152 and p. 144, fig. 1 (map). The property under discussion is located at about the “A” of the label “TSOUNGIZA” on that map.

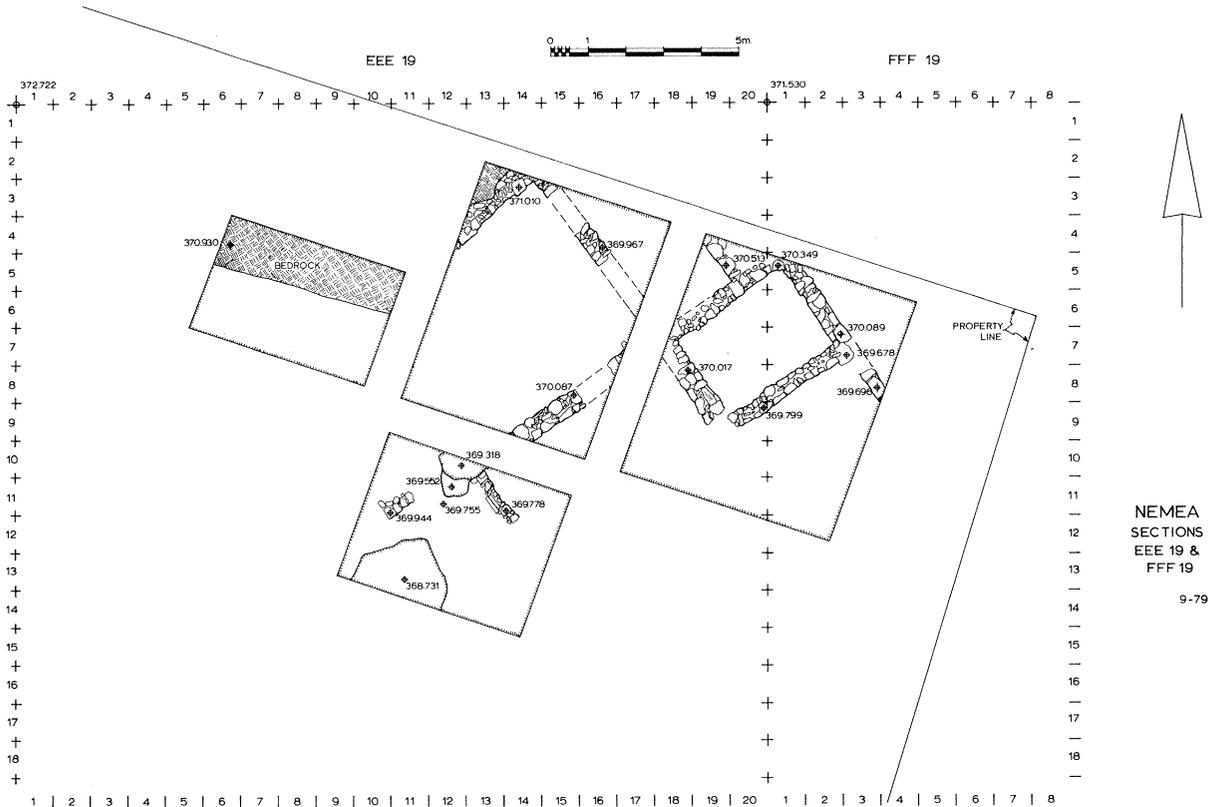


FIG. 9 Tsoungiza, Sections EEE 19 and FFF 19.

trenches, and we later, at the request of the Service and of the American School, carried out a continuation of those tests.⁶³ Our work was limited to the 4.00 × 5.50 m. trench which lies south of the Service trenches at EEE/9,15–19/10,15 (Fig. 9, Pl. 52:b).

The modern cultivation of the present vineyard had disturbed much of the area explored, but there quickly emerged large quantities of worked stone, obsidian, chert, flint, fragments of stone grinders, and Mycenaean pottery, of which a late Helladic IIIB painted bowl is an example (P 518, Pl. 52:c).⁶⁴

With the removal of this disturbed fill, it was clear that there were the slight remains of at least two walls which extend the line of, and are probably a part of, the Mycenaean building complex uncovered by the Archaeological Service immediately to the north and east (cf. Fig. 9). In addition, some areas of the white-clay paving that belongs to this building and which also exists in the trenches to the north were found. This paving, however, was missing in several places, a condition which allowed the exploration of deeper pits. One of these pits (at EEE/9,12–19/12,14) was of particular interest. It has not been fully excavated either in its depth or in its breadth, but it

⁶³I would thank Miss Konstantina Kaza of the Nauplion Ephoreia of Antiquities for providing us with a report of her results.

⁶⁴Pottery lot TS:26.

produced very large quantities of bones, stone tools, and pottery, most of which is of Middle Helladic date and which included Matt Painted, Yellow Minyan, Gray Minyan, and other characteristic wares. Also present in this pit were significant quantities of characteristic Early Neolithic ceramics (e.g. Rainbow Ware).⁶⁵ It is thus clear, even in such a limited test, that Tsoungiza had substantial settlements in at least the Early Neolithic, Middle Helladic, and Late Helladic periods, but much exploration remains to be done in order to understand the nature and extent of those settlements.

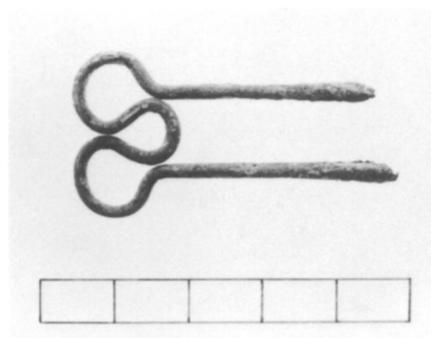
STEPHEN G. MILLER

UNIVERSITY OF CALIFORNIA, BERKELEY

⁶⁵Pottery lot TS:29.



a. P 415



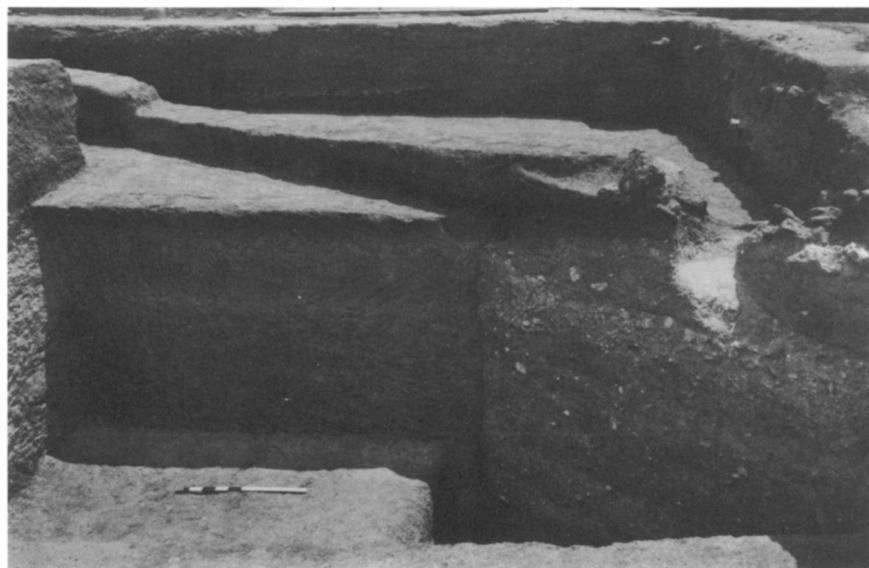
b. BR 691



c. BR 708



d. Wall in K 15, from east



e. Wall in K 14 and K 15, from north

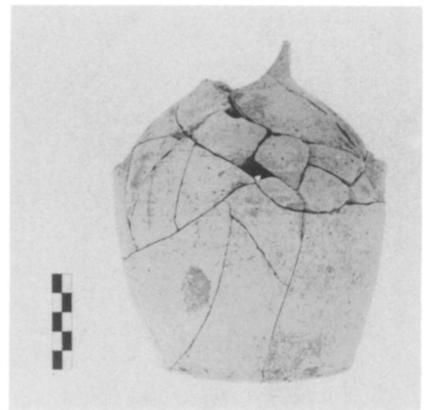
PLATE 36



a. Foundations of wall in K 14 from east



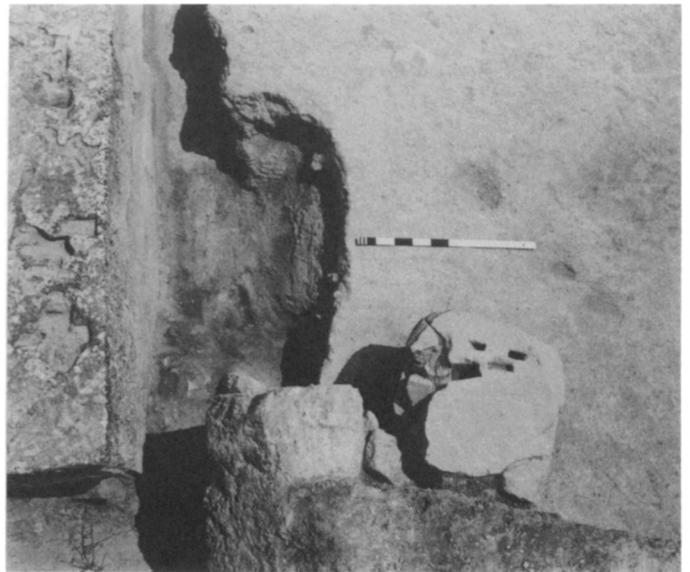
b. P 484



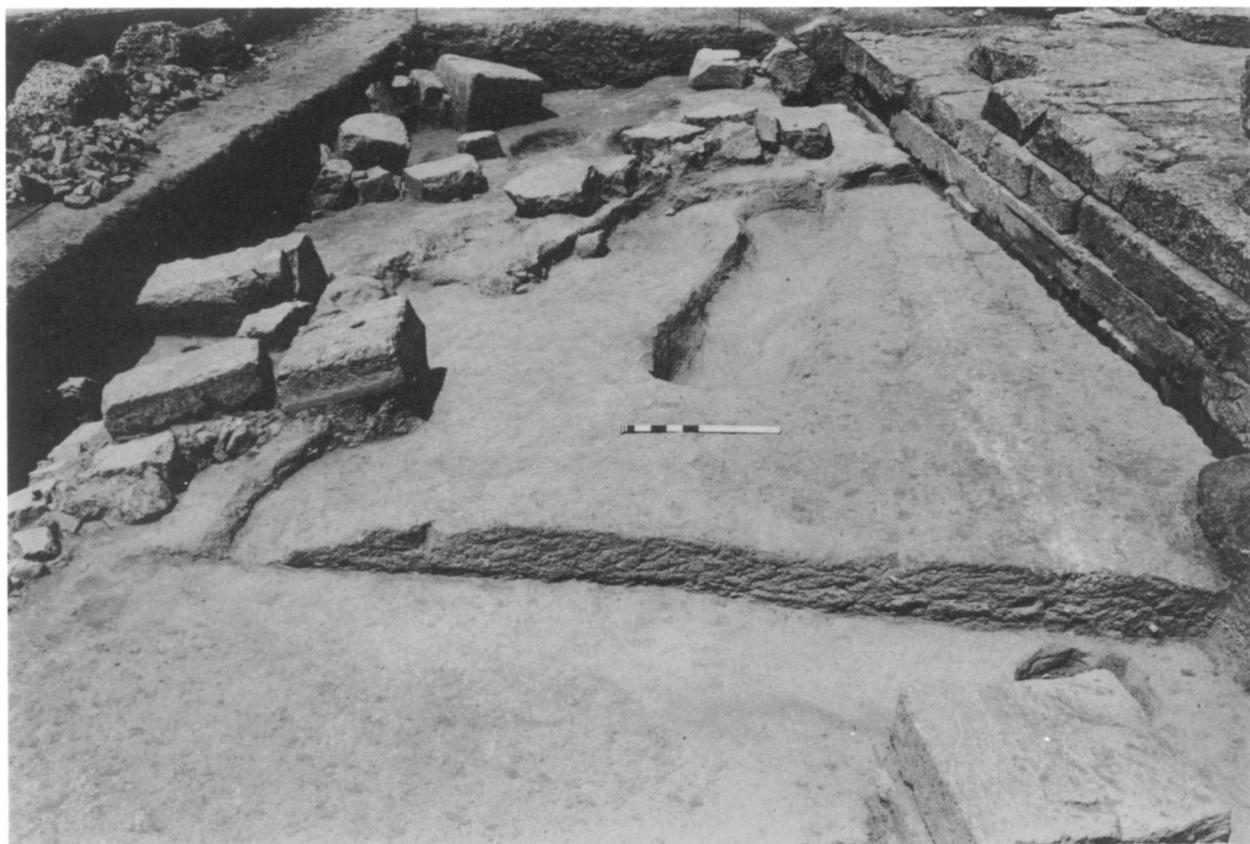
c. P 514



d. BR 758



e. Northwest corner of Temple of Zeus with re-used block, from north



a. Section J 13 from south before partial removal of Early Temple debris



b. Section J 13 from east during removal of Early Temple debris



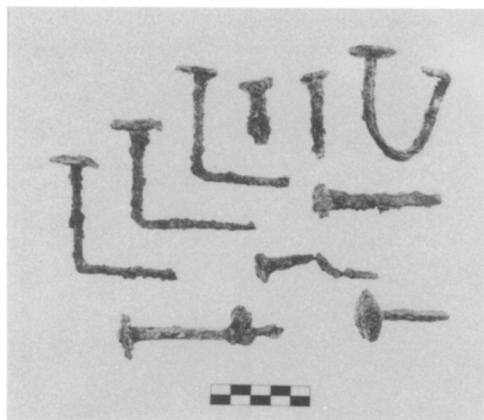
c. BR 791



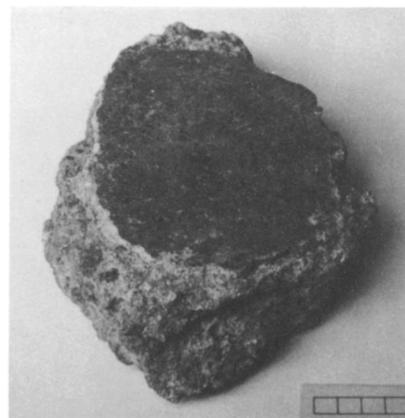
d. BR 774



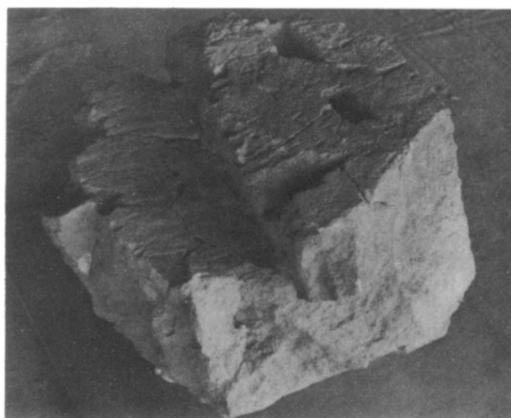
a. Section J 13 from southeast after removal of Early Temple debris



b. IL 347 IL 356 IL 349 IL 350
IL 351 IL 354
IL 353 IL 348
IL 355 IL 352



c. ST 440



d. A 163



e. AT 91



a. AT 94



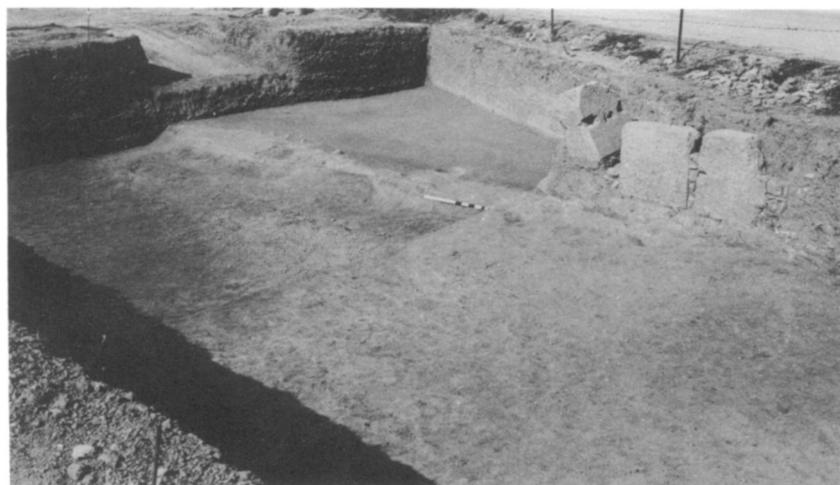
b. AT 103
AT 82 AT 87 AT 91



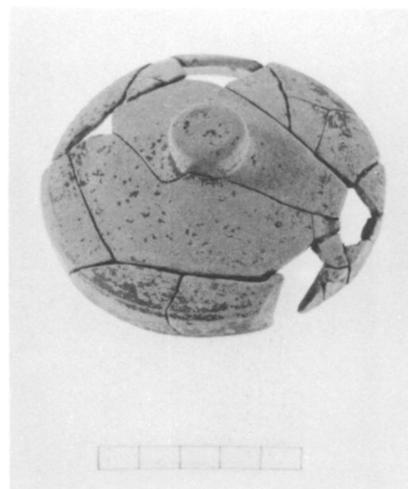
c. AT 95, upper surface



d. AT 95, lower surface



e. Section I 14 from northeast; meter stick at west bank of Nemea river

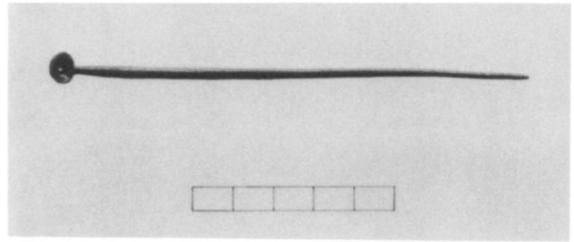


f. P 424

PLATE 40



a. I 87



b. BR 688



c. IL 341



d. P 439



e. AT 82



obverse

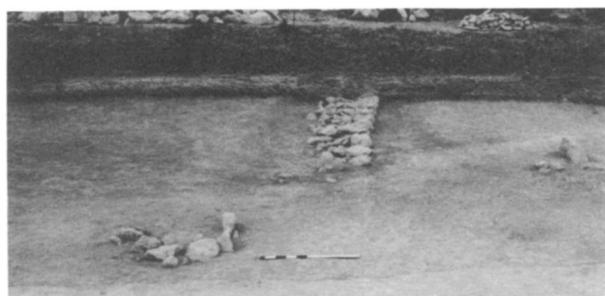


reverse

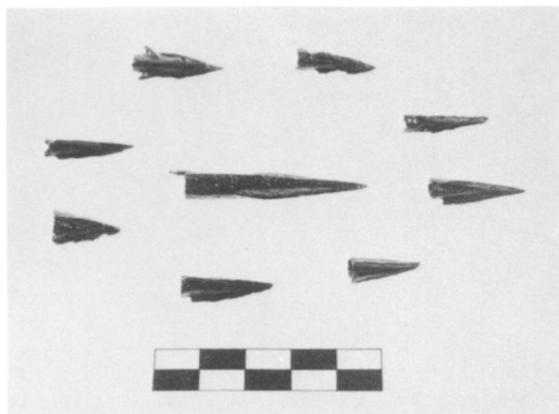
f. C 1463 C 1460
C 1452 C 1477



a. Section H 14, from south



b. Wall in H 14, from east



c. BR 664 BR 675
BR 665 BR 663
BR 720
BR 667 BR 674
BR 719 BR 662



obverse

reverse

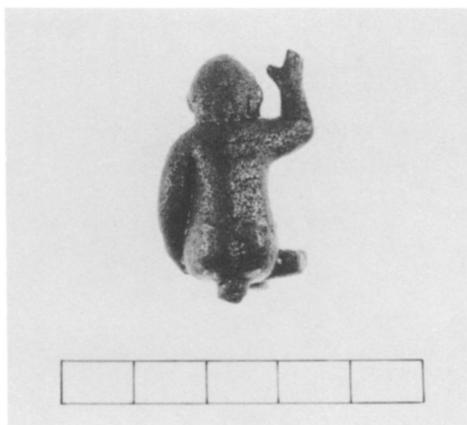
d. C 1410 C 1409



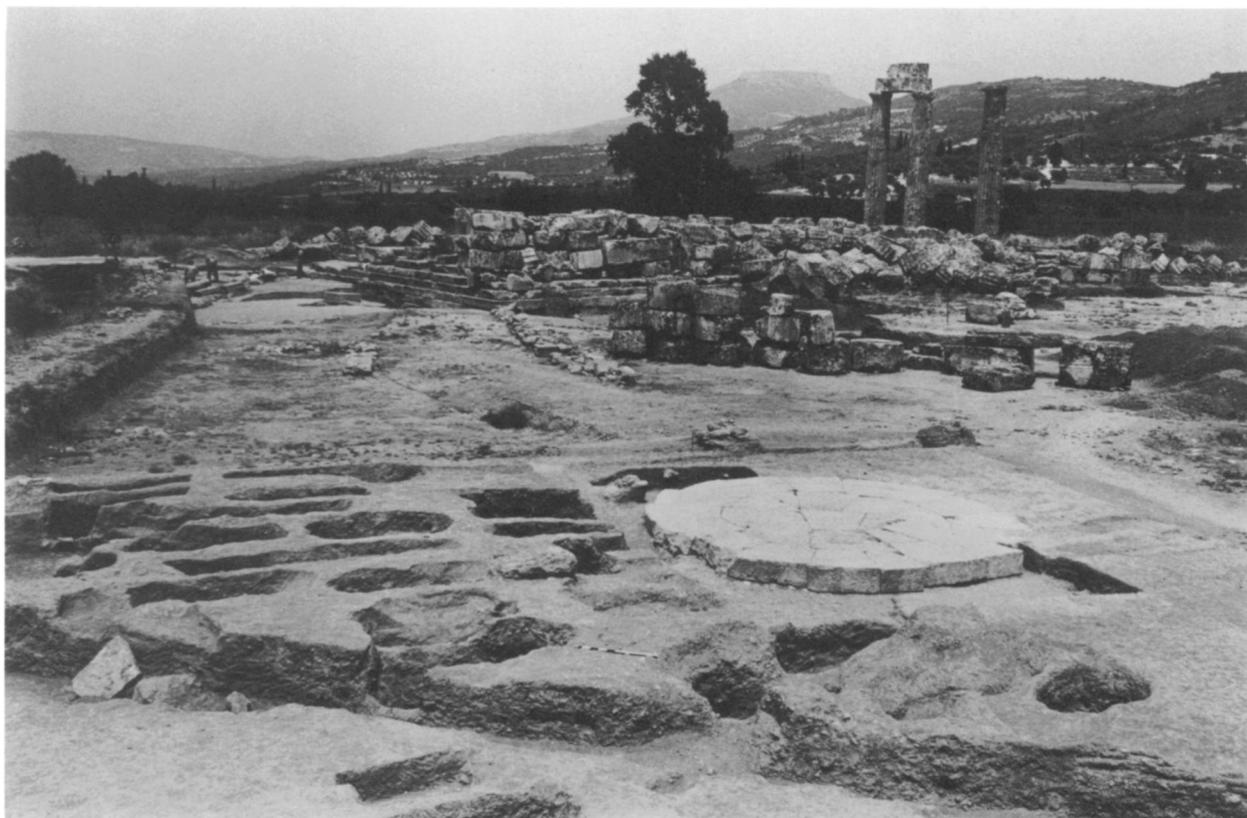
e. L 51 L 50
L 49 L 48



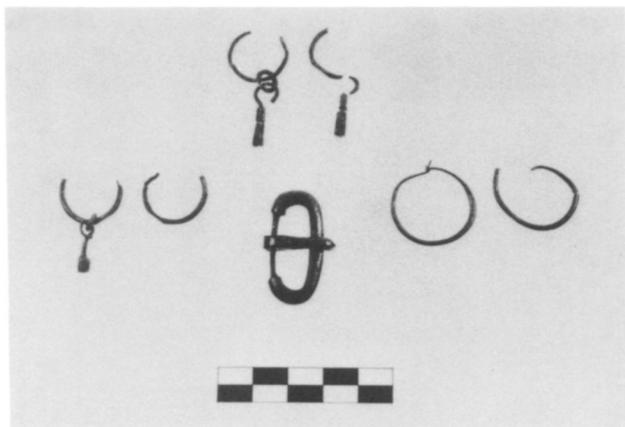
a. BR 671, front



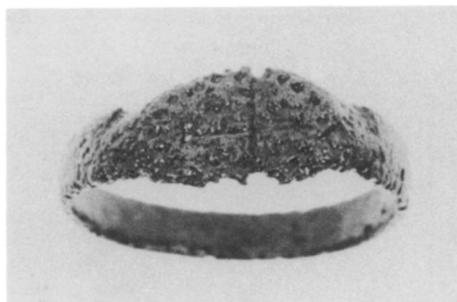
b. BR 671, back



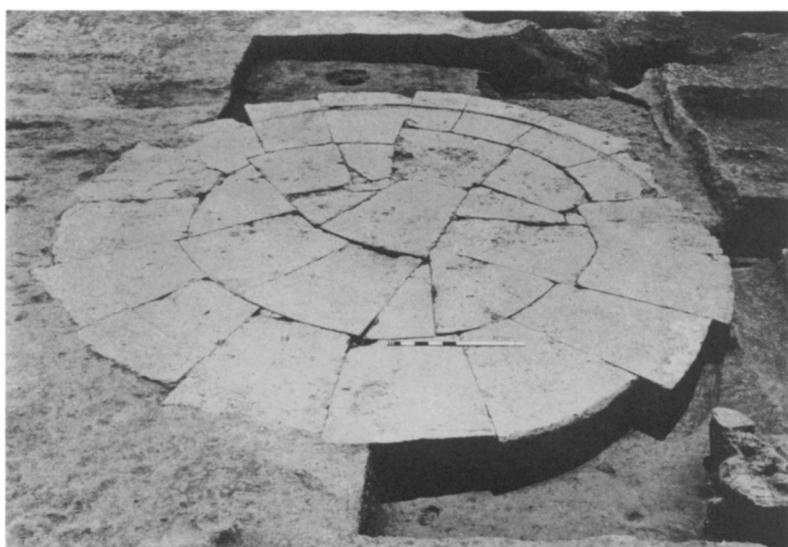
c. Section J 16 from southwest



a. GJ 38
GJ 36 BR 721 GJ 35



b. GJ 43. Diameter 0.022 m.



c. Tholos in J 16, from north



d. TC 100

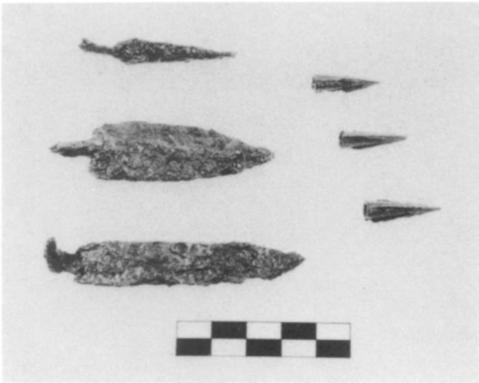


e. P 436

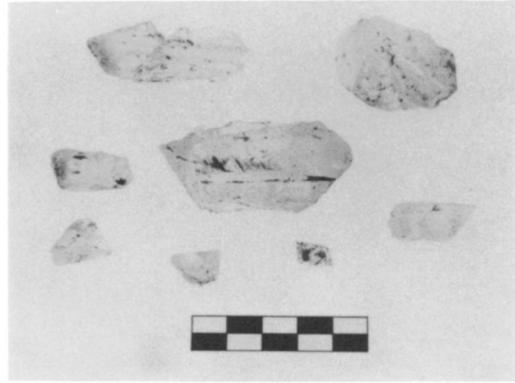


f. L 59

PLATE 44



a. IL 328 BR 733
IL 330 BR 731
IL 332 BR 732



b. ST 426 a-h



c. BR 734



d. BR 728



e. SS 3

obverse



reverse



f. C 1501 C 1555 C 1486
C 1506 C 1401 C 1402



a. Sections F 18, F 19, G 18, from southwest



b. Sections F 18, F 19, G 18, from east

PLATE 46



a. AT 84



b. P 447 P 502
P 449 P 448



c. P 444 P 441 P 443
P 489 P 498
P 494 P 510
P 442 P 483 P 445
P 446 P 497
P 440



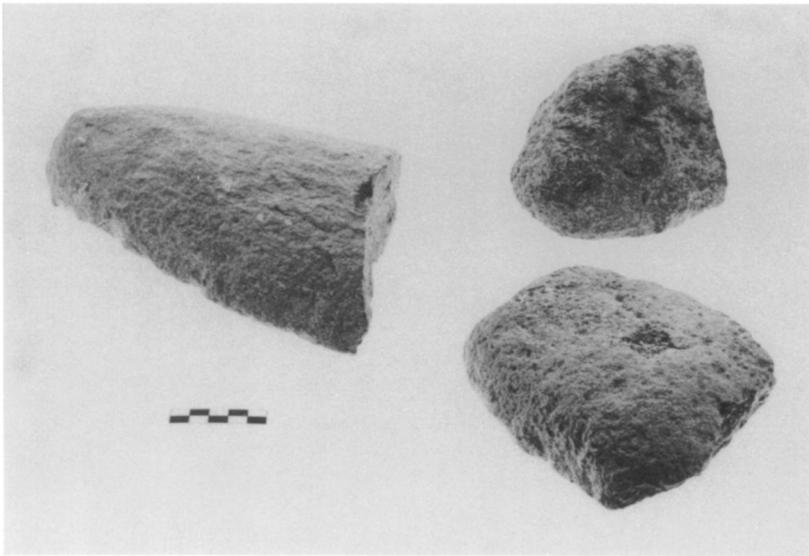
d. AT 83



e. L 57 L 56 L 58

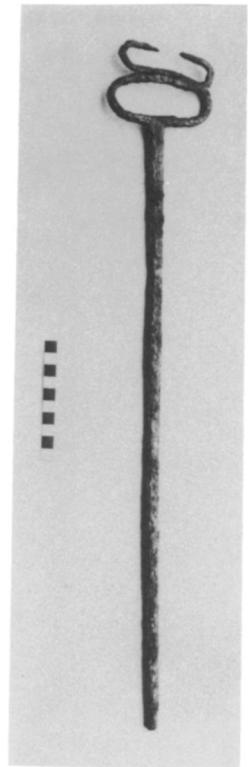


f. P 503 b



a. ST 423

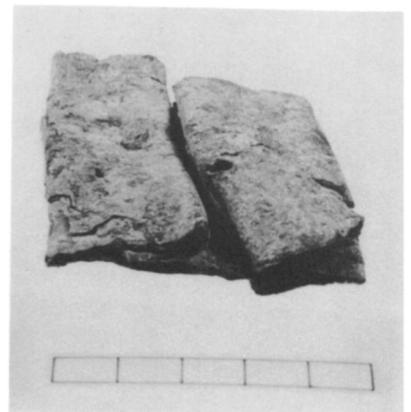
ST 425
ST 424



b. IL 324



c. BR 729

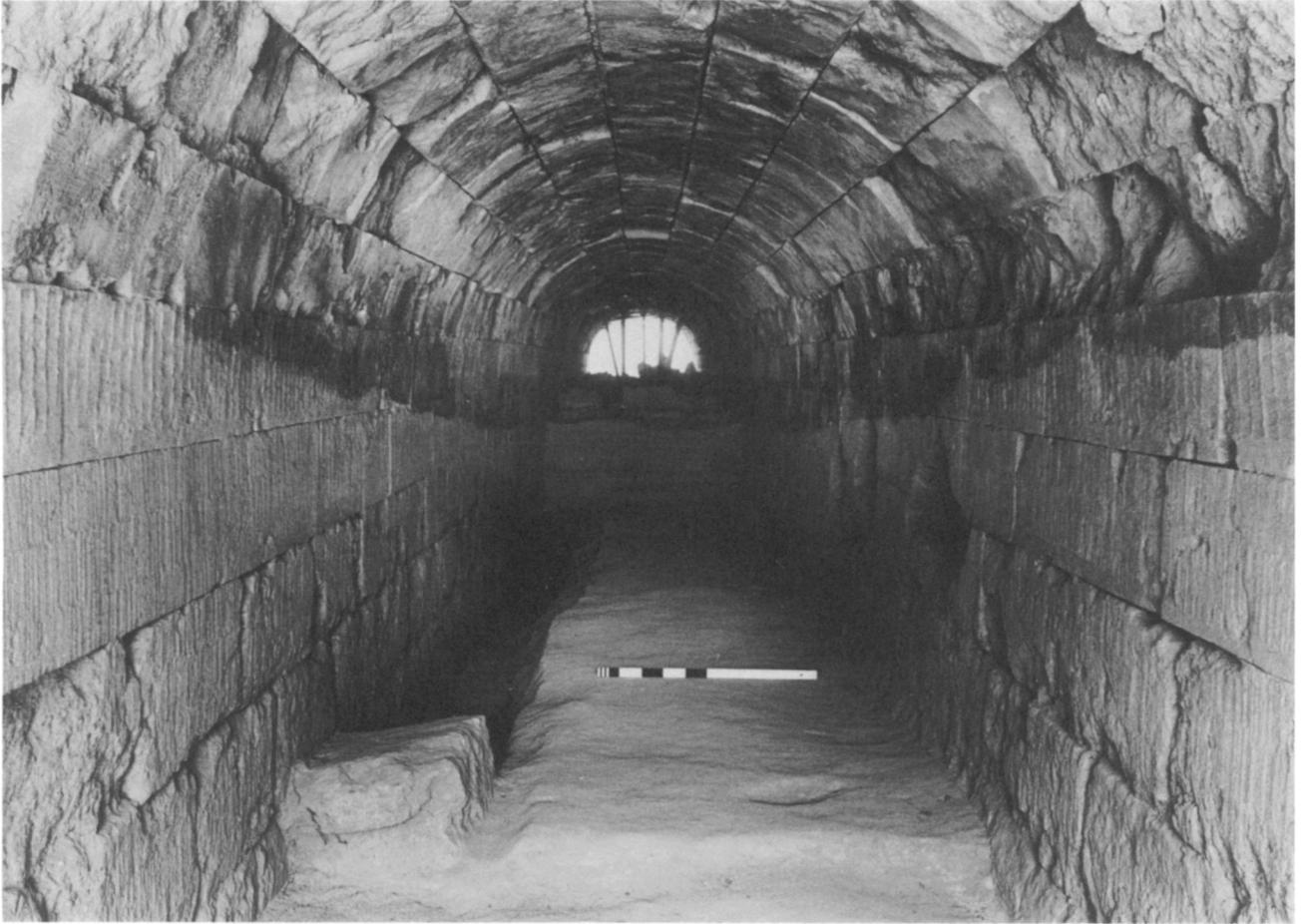


d. IL 327



e. Test at northwest corner of building in F 18, from east

PLATE 48



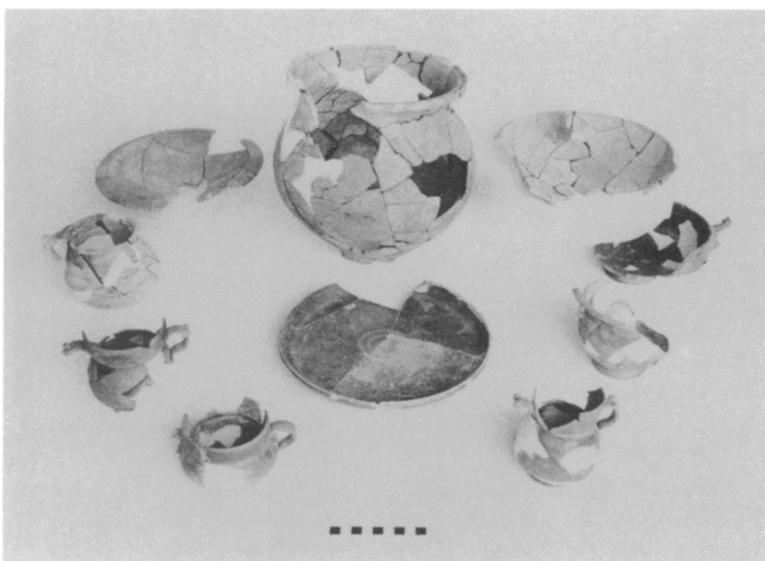
a. Stadium entrance tunnel from east



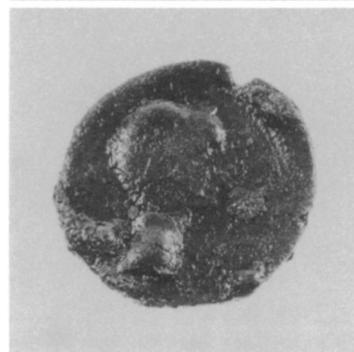
b. "Rope" holes in south wall of tunnel



a. Stratigraphy in center of tunnel from east



b. P 472 P 475 P 473
P 471 P 466
P 469 P 365 P 470
P 467 P 468



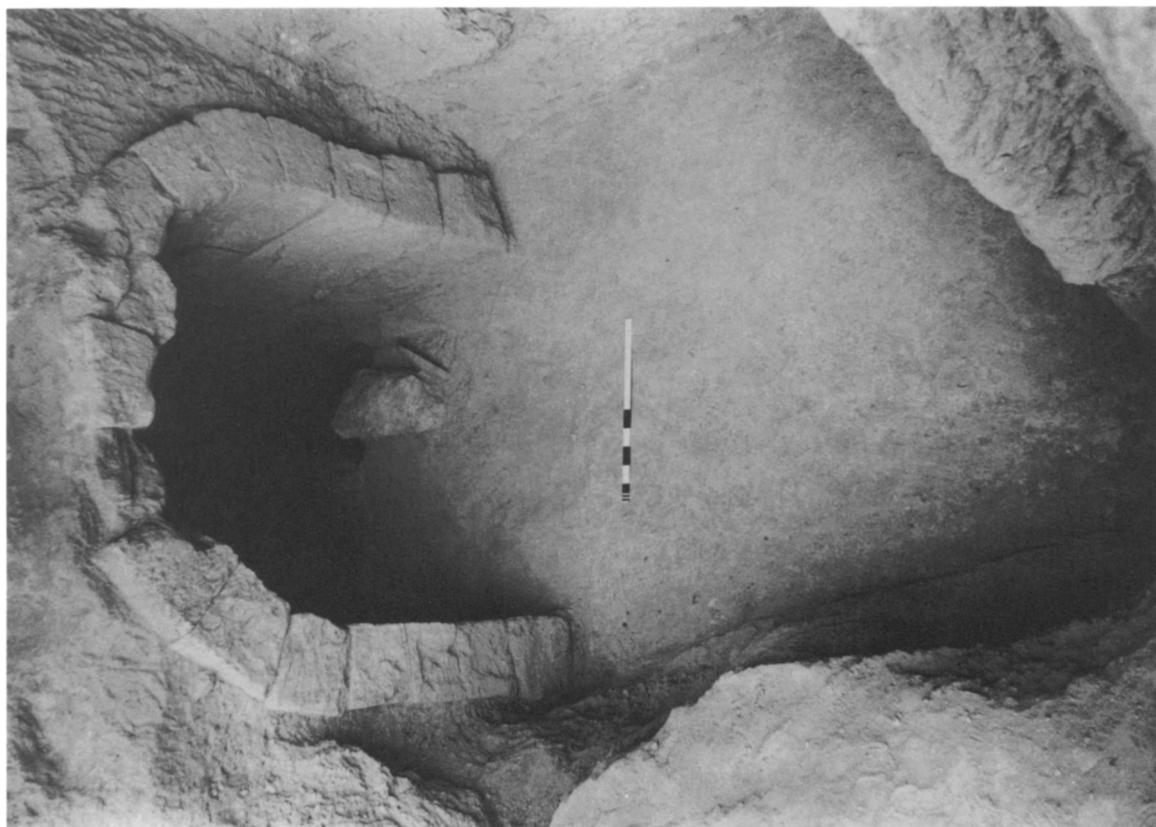
c. C 1382



d. SS 4



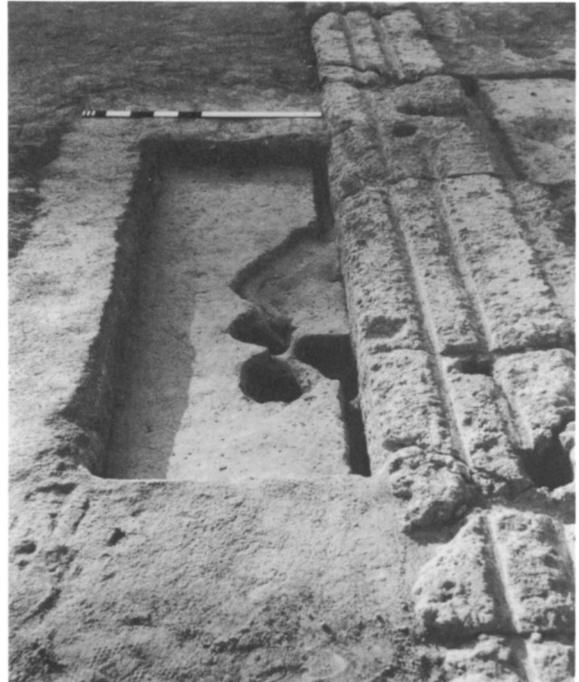
b. C 1512 C 1516 C 1515
C 1510 C 1514 C 1513 C 1509
C 1523 C 1530 C 1529 C 1518 C 1519 C 1517



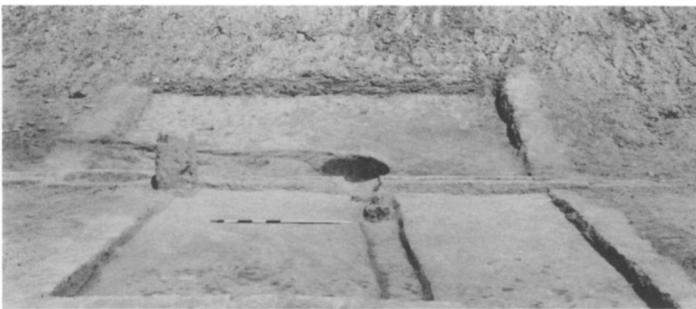
a. West end of stadium entrance tunnel, from west



a. Terracotta water channels at west end of tunnel



b. Test at middle of starting line, from west



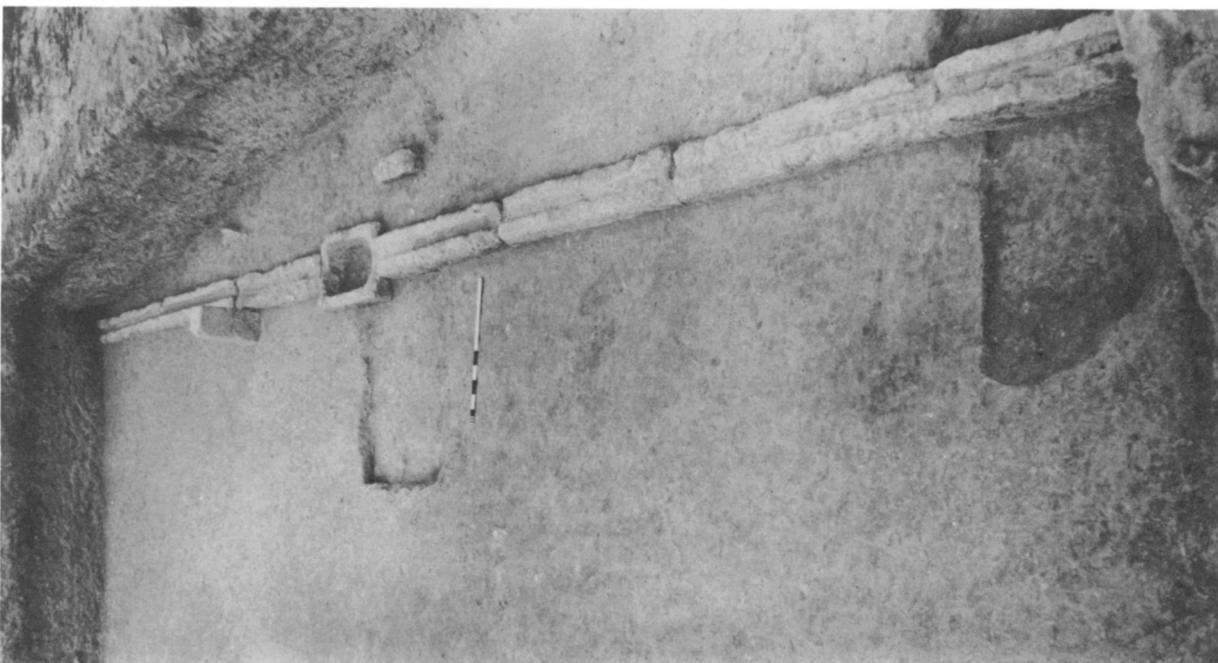
c. Test at eastern 200-foot marker, from west



d. C 1423, reverse



e. Line of terracotta water channel south of western 200-foot marker, from east



b. Test in Section EEE 19, from southeast



c. P 518

a. Section EE 26 from south