

EXCAVATIONS AT LERNA, 1952-1953

(PLATES 1-11)

A LOW rounded hillock stands by the south bank of the stream Amymone, which runs its short course from the Lernaean spring to the Gulf of Argos (Pl. 1, a).¹ It is an artificial mound made up entirely of the debris of successive ancient settlements, principally of the Bronze Age. Oval in shape, measuring some 180 m. from east to west and 160 m. from north to south, it now rises about 5.50 m. above the neighboring plains (Pl. 1, b and c). Thus it might seem to have been a mere village site and, like the hamlet of Myloi today, insignificant in comparison with the great citadels of the Argive country. Yet one must bear in mind that local settlements of the early periods were regularly small; it is not with Mycenae that Lerna should be compared, but rather with a site like Zygouries, which is only 165 m. long and 70 m. wide. Seen in that light, it takes its proper place among the larger mounds of this sort in southern Greece.

Certainly the region has sources of prosperity in large measure: the abundant waters of Lerna, the rich fields to north and south, the open but rarely stormy roadstead,² and the dominating height of Mt. Pontinos which narrows the coastal strip and even now forces the railway and the main highroad to pass close at its foot.³ In all times men must have been aware of these natural advantages; the legends of the heroic past which center here testify to people's feeling the nearness of divine power in the land and the sea and the welling springs.⁴

The mound itself, with which we are concerned at present, has been recognized as the place of a pre-Mycenaean settlement since the explorations of A. Frickenhaus and W. Müller in 1909.⁵ Cut by the railway line that was extended from Myloi to

¹ See also *Archaeology*, VI, 1953, p. 99, fig. 1. For the location of Lerna, the modern Myloi or Myli, see H. Lehmann's excellent map of the Argolid in *Argolis*, I, or the simplified adaptation in A. J. B. Wace, *Mycenae*, fig. 1 and *Archaeology*, VI, 1953, p. 100, fig. 3.

² Leake, *Travels in the Morea*, II, p. 473.

³ The strategic importance of the place is obvious. For an account of the successful defence of Myloi by Makryiannis and Ypsilantis against Ibrahim Pasha in 1825 see E. Prevelakis, *Ἡ Ἐκστρατεία τοῦ Ἱμπραήμ Πασᾶ εἰς τὴν Ἀργολίδα*, Athens, 1950.

⁴ For references to ancient literature and mythology see Frazer's commentary on Pausanias, II, 36, 6-37, 6 and his supplementary notes in the *addenda*; A. Boethius in Pauly-Wissowa, *R. E.*, s. v. Lerna, also gives a convenient summary. Representations of Herakles and the Hydra in ancient art are listed by P. Amandry in *Bulletin de la Faculté des Lettres de Strasbourg*, 1952, pp. 293-322, and F. Brommer, *Herakles*, Münster/Köln, 1953, pp. 12-17, 83.

⁵ *Klio*, X, 1910, pp. 390-391; *Ath. Mitt.*, XXXVI, 1911, p. 24; Wace and Thompson, *Prehistoric Thessaly*, p. 224; Fimmen, *Die Kretisch-Mykenische Kultur*, pp. 11, 76; H. Lehmann, *Argolis*, I, pp. 54, 72.

Tripolis in 1891-92, and gashed again more recently by artillery installations of the Second World War, the hill presented several scarps where remains of walls and floors were observable at various levels. The surface, divided between an orchard on the north side and grain fields on the south (Fig. 1), was strewn with potsherds which gave a clue to the numerous periods of occupation. Thus even before any excavation had been undertaken it was possible to gain a rough picture of the history of the site.⁶ The number and variety of Middle Helladic wares, the scarcely less numerous Early Helladic sherds, and the presence of a few pieces assignable to the Neolithic period, all attracted attention; for these earliest stages of civilization on the Greek mainland are known only in their general outlines and now urgently require new stratigraphical investigations.⁷

A proposal by the American School to make preliminary soundings at Lerna was approved by the Archaeological Council in August 1952 and a brief campaign was conducted in the fortnight of September 8-20. We would express our warm thanks to the Ephor of the district, Mr. J. Papadimitriou, as well as to Professor Orlandos, Professor Marinatos, Mr. Karouzos, and other colleagues and members of the Council for their support of the enterprise. We are particularly grateful also to Messrs. George and Panayotis Kotsopoulos, of Lithovounia and Steno in Arcadia, owners of the property, for permission freely given to dig in their fields, and to Mr. Nicholas Yannakopoulos of Myloi, who allowed us to use his orchard as our headquarters at the site (Pl. 1, a). Evangelos Lekkas of Corinth served capably as foreman, and nine workmen were employed.

The staff comprised Mrs. J. L. Caskey; Miss Alikí Halepa of the technical staff of the Agora Excavations, who joined us as a volunteer during her annual holiday; Mr. S. Charitonides, Epimelete of Antiquities for the district; and the author, who served as field director. Each supervised the excavation of a trial trench about 2 m. wide and 5 m. long: Mrs. Caskey Trench A, Mr. Charitonides Trench B, J. L. Caskey Trench C, and Miss Halepa Trench D. Descriptions of these soundings will be given below. In general the outcome was extremely satisfying, showing a long sequence of strata within the Middle and Early Helladic layers and abundant remains of Neolithic deposits. At the end of the campaign the pottery and other objects, which had received a preliminary washing at the site, were transported to the museum in Corinth for further cleaning, mending,⁸ and study; the ultimate disposition of the material is to be decided after the close of the excavations.

For so small an investigation, the body of material was very large, and it required all the available time of the staff to make a first survey and record during the winter

⁶ A brief survey of the superficial evidence is presented in 'Εταιρεία Μακεδονικῶν Σπονδῶν, 'Επιστημονικαὶ Πραγματεῖαι, Σειρὰ Φιλολογικὴ καὶ Θεολογικὴ, IX, 1953 (Γέρας Ἀντωνίου Κεραμοπούλλου), pp. 24-28.

⁷ A. J. B. Wace, *B.C.H.*, LXX, 1946, p. 631; C. W. Blegen, *B.S.A.*, XLVI, 1951, pp. 16-24.

⁸ At the hands of the veteran George Kachros.

months of 1952-53. Each excavator went over the objects from his own trench; in addition, Mrs. Caskey was in charge of the inventory, Miss Halepa made drawings and arranged the records, and J. L. Caskey took the photographs. As work proceeded it became clear that Lerna was an even richer and more promising site than we had had reason to suppose. The pottery, particularly, proved to be of great interest, including bright and well preserved samples of familiar wares along with imported pieces that showed relationships with Crete, the Cyclades, and Troy, and among them also were pieces of new and unexpected types.⁹

The School's Managing Committee having given generous approval of the project, a more extensive campaign was planned and carried out in the summer of 1953, lasting from July 1 to August 8. The staff included the members who had taken part the preceding fall, with the addition of O. L. Anton Spaeth, undergraduate student of architecture at Princeton University, who came to Greece as a volunteer and served as draftsman at the excavations. Miss Gloria S. Livermore, holding a fellowship of the American Association of University Women at the School for 1953-54, joined us for the final week of digging, and C. W. J. Eliot, Edward Capps Fellow, visited the site on several days and assisted with the drawing and surveying.¹⁰

Mrs. Caskey, Mr. Charitonides, and Miss Halepa supervised enlarged areas of excavation around the trenches they had dug in September; these are known as Areas A, B, and D, respectively (Fig. 1). Sounding pits and trenches, E, F, G, and H, were supervised by J. L. Caskey. Miss Livermore had charge of Trench GA. An account of each area and trench is given below, beginning excavation-wise at the top and working downward. Elevations are given in meters above sea level, with the standard abbreviation A. T. (above tide). Following roughly a chronological sequence in reverse, we present first the areas that yielded the latest material and proceed toward the earlier, dealing in order with Area D, Trench F, Area A, Trench C, Trench H, Area B, Trenches G and GA, and Trench E. At the present writing only a small selection of the material found in 1953, which is again stored at Corinth, has been examined and recorded, and the excavation is far from being concluded. This is therefore only a preliminary and incomplete report, subject to alteration and correction as further information becomes available.

⁹ A report on the progress of the work was made at the meetings of the Archaeological Institute of America in December 1952 (*A.J.A.*, LVII, 1953, p. 105); a brief illustrated report appears in *Archaeology*, VI, 1953, pp. 99-102, and a notice, also illustrated, in *B.C.H.*, LXXVII, 1953, pp. 211-214.

¹⁰ During both campaigns the staff was housed at the Hotel Neon in Nauplia, where Mme. Kontou, the proprietress, and her assistants gave us thoughtful service and attention. We commuted to Myloi by car, the trip taking 25 minutes. Life was extremely pleasant and relatively comfortable but, like that of any excavation, not easy. In the name of the School I would express sincere thanks to my colleagues for their industry and unflagging good will.

AREA D

Area D lies in Squares G-H 5, toward the eastern edge of the hill and immediately beside the railway cut (Fig. 1). Here in 1952 Miss Halepa excavated a narrow strip

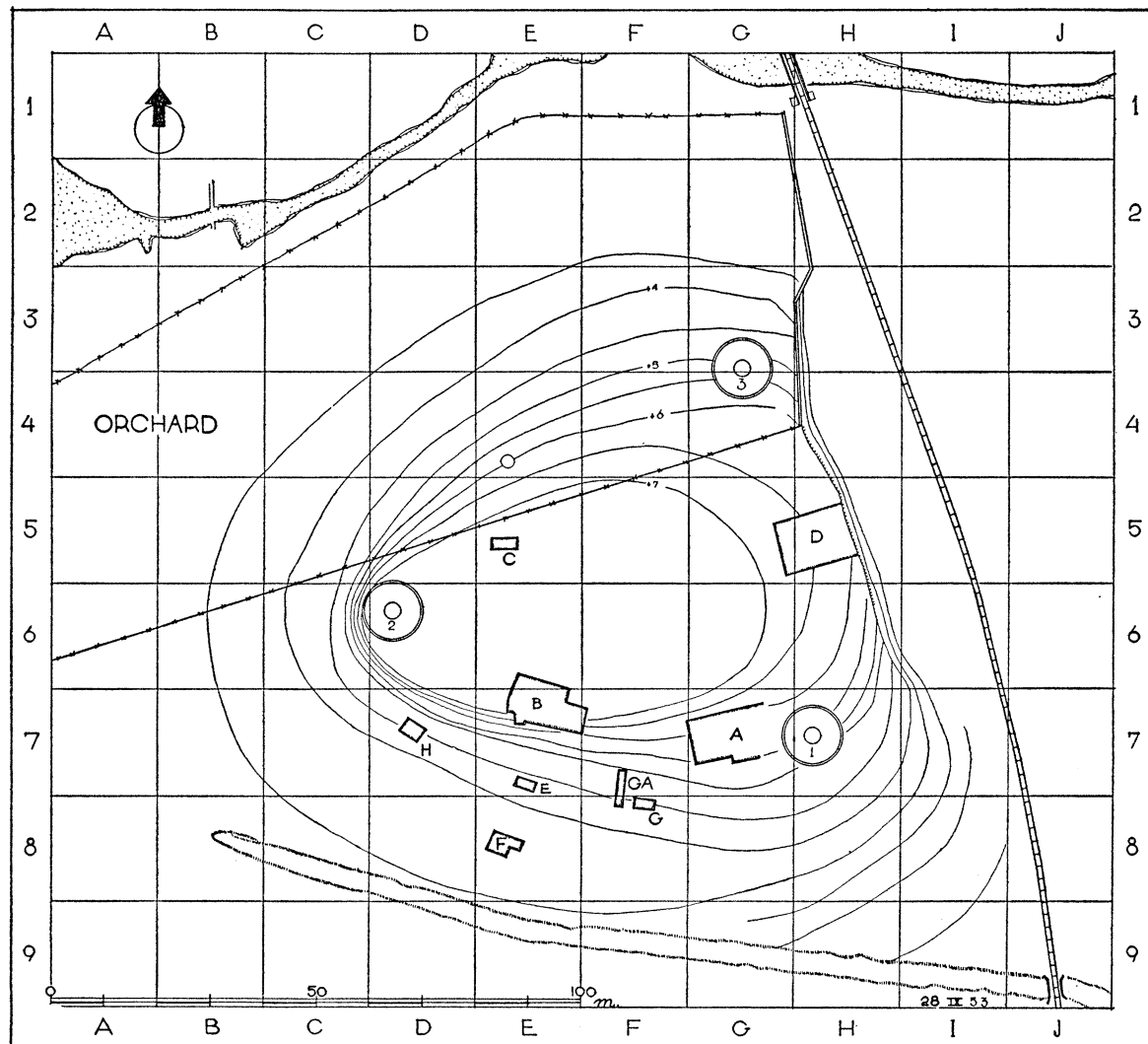


FIG. 1. Topographical Plan of the Site at Lerna (adapted by C. W. J. Eliot and Alik Halepa from a survey by B. Nantis, 1953).

5 m. in length along the scarp, exposing and testing the successive layers down to the level ground about 3 m. below the crest, and then continued the sounding in a trench 2 m. wide to a further depth of 2.35 m., where ground water was encountered at *ca.* 0.70 m. A. T. The bank revealed a great number of superposed strata, including at

least four assignable to the Middle Helladic period and two or three to the Early Helladic. The region thus seemed likely to furnish a synopsis of numerous successive phases, and in 1953 a considerably larger area was marked out for investigation. Beginning with trial trenches, the field of digging was gradually expanded to a rectangular space 10 m. wide and 14 m. long, which cut into the mound toward the west at right angles to the line of the railway track (Pl. 2, a and b).

At the western limit of Area D the surface before excavation stood at an average of 6.80 m. A. T.; at the east the average was 6.05 m. A. T., with a slight inclination downward from north to south. Disturbance from ploughing reached depths of 0.30 m. to 0.50 m. Among the sherds recovered from the loose earth near the surface were many of black glazed ware, datable to the fifth and fourth centuries B.C., as well as wares of the preclassical periods.

Below the ploughed earth there was some further evidence of the Hellenic settlement,¹¹ including two parallel rows of flat stones set on edge, the purpose of which is still unexplained; part of a wall solidly built of rough stones, possibly a foundation, bedded at 6.10 m. A. T. in a Mycenaean layer at the western end of our area; an intrusion to 5.40 m. A. T. near the east scarp; and a well (E in Pl. 2, b) which had cut through a Mycenaean wall and street (F in Pl. 2, b) in the south central region. The well was unlined and could not safely be excavated this season. Its upper filling yielded a Corinthian lamp of Broneer's Type IV and pottery of the late fifth century.

Half of a large pithos (H. ca. 1.55) which had served as a burial urn was found resting on its side at 5.40 m. A. T., near the eastern edge of Area D. It had been broken and partly removed by one of the late intrusions, but evidently belonged to the Geometric period. A few human bones, a black glazed cup¹² (Pl. 2, c, left), and some small fragments of bronze were found in the hollow of the side; around the exterior several stones had been set to wedge the big vessel in place, and in burnt earth around and under its mouth, which faced southwest, were a black glazed cup with linear decoration in a small reserved panel¹³ (Pl. 2, c, right), a trefoil oinochoe of buff monochrome ware¹⁴ (Pl. 2, c, center), and a shell bead or amulet.

Remains of the Late Helladic period, none of which had been found undisturbed in the preliminary soundings of 1952, came to light in 1953 almost everywhere in Area D. They comprised part of one house and broken walls of several others, a street with three successive gravel pavements, an area which may possibly have been

¹¹ Whether this was a village or other sort of establishment has not been ascertained. Ross (*Reisen im Peloponnes*, p. 151) and Curtius (*Peloponnesos*, II, p. 371) mention squared blocks of stone on the mound south of the springs; Frazer speaks of the ruins of a Greek sanctuary, and the remark recurs inaccurately in the *Guide Bleu*, 1953. No ancient masonry protruded when our excavations began.

¹² Inv. L.77; H. 0.07, D. 0.122.

¹³ Inv. L.75; H. 0.062, D. 0.111.

¹⁴ Inv. L.76; H. 0.112, D. 0.101.

devoted to a small local cult, and two graves. The total layer varied in thickness from *ca.* 0.40 m. to nearly 1 m. and undoubtedly represented a considerable period of habitation, all falling, however, within the limits of Late Helladic III. The yield of finely decorated Mycenaean pottery and other objects was abundant and should lead to a fairly accurate dating of the settlement when a detailed analysis can be made.

The extreme eastern side of a room—namely the east wall and parts of the north and south walls, bordering a strip of the floor 1 m. to 1.40 m. wide and 6 m. long—was exposed at the western edge of Area D. Clearly, the rest of this room and house, which we have provisionally labelled T, lies in unexcavated ground beyond the present limits of our trench. The floor, sloping irregularly downward from 5.75 m. A. T. at the south to 5.35 m. A. T. at the north, was of hard trodden earth with patches of gravel, and was found covered with a stratum of gray carbonized matter. From this gray deposit were recovered a large krater with Mycenaean Flower patterns and Multiple Stems¹⁵ (Furumark, *Mycenaean Pottery*, Motives 18, 19) and a small unpainted kylix¹⁶ (Pl. 6, c).

Adjoining the house on the east was a roughly rectangular area a little over 6 m. square, itself bounded by walls along the southern and eastern sides. Lacking interior supports, this space was probably not roofed but is rather to be interpreted as an open courtyard. A hard ground level, possibly somewhat later than the floor noted within the house, was observed at 6 m. A. T. Some 0.25 m. lower were traces of a second, earlier, hard stratum. In this was a sort of path, irregularly paved with cobbles, which ran 3.50 m. eastward from the house to a very large slab of rough stone set upright on edge (H. 0.65, L. 1.20, Th. 0.20. Top at 5.95 m. A. T. Seen at left (A) in Pl. 2, b, after removal from its position). Under the pathway (if such it was) and around the big stone, Mycenaean deposits were found deeper than elsewhere, reaching a level of 5.10 m. A. T. They contained many potsherds and several figurines (Pl. 6, d). Directly below the stone was a grave, D.10; the skeleton, only partially preserved, lay on a pebble floor between two rows of small stones. The significance of these remains and their context is by no means certain; the contents of the grave may merely have been scattered, or, possibly, the big slab was a sort of stele and offerings were made here from time to time in honor of the dead.

A street varying from 1.50 m. to 2 m. in width (Pl. 2, b, F) bordered the south side of the house and courtyard, descending eastward and leading ultimately, we may guess, to the seashore. It had been paved with gravel at least three times: the topmost stratum found was at 6.40 m. A. T., considerably higher than the floor of the house; the earlier levels, also relatively high, were at 6.15 m. and 5.80 m. A. T. Walls flanking the south side of the street and other ruined walls in the eastern part of Area D show

¹⁵ Inv. L.73; H. 0.20, D. 0.275.

¹⁶ Inv. L.74; H. pres. 0.10, D. 0.10.

that this whole region was occupied by houses in the third Late Helladic period. Their fragmentary state of preservation does not warrant a detailed description at the present stage of our investigation.

There remains to be mentioned a small cist grave, D. 2 (Pl. 6, a), which was found in the north central part of the area. Several earlier walls, including one certainly assignable to Late Helladic III, were cut through when this grave was made. Aligned north and south, the cist was 0.80 m. long and 0.40 m. wide, including the thickness of the upright slabs. A single flat stone *ca.* 0.90 m. long served as cover. Of the skeleton only the skull and a few other bones were partially preserved, resting on a stone floor. They were those of a small child, seemingly a favorite: around the head at the north end of the cist were six pots (Pl. 6, b), a feeding bottle,¹⁷ a miniature jug¹⁸ and stirrup vase,¹⁹ a one-handled cup,²⁰ and two small plain bowls;²¹ and scattered throughout the grave were some 28 beads of blue glass paste, elaborately moulded.

The Mycenaean deposits reached a level of 5.10 m. A. T. in the western part of Area D and *ca.* 4.95 m. in the eastern. Along the southern side in some places they reached only *ca.* 5.70 m. No early Mycenaean strata were encountered, although sherds of fine wares attributable stylistically to Late Helladic I and II had been found here and there in the later deposits, testifying to continuous occupation of the site.

The most conspicuous feature of the latest Middle Helladic stratum preserved in this area was a long wall, R, which emerged below the Mycenaean room, T, and ran somewhat north of east for 13.50 m., making a pronounced curve to the north near our eastern scarp, where it had been broken off by the railway cutting. This wall was constructed of large and small stones in irregular fashion, perhaps section by section. It was preserved standing to heights between 0.15 m. and 0.80 m. above the adjacent floors (viz. to 5.80 m. A. T. at the west, 5.10 m. A. T. at the east). Three walls projected northward from Wall R at intervals, dividing the adjoining space into four rooms. At the north end of one of these partitions were remnants of another wall running east and west, which probably marked the northern limit of the building. This would produce a peculiarly awkward and uneven plan, however, and we cannot be sure, without much further excavation, how the whole structure was closed on that side. As now seen, the rooms appear to have been 2.50 m. to 3 m. wide from east to west and 4 m. to 5 m. long from north to south.

Three of the four rooms had compact gravel floors, the pebbles in many places so firm and tight as to resemble a crude mosaic. From east to west, these floors stood at *ca.* 4.95 m., 5.05 m., and 5.10 m. A. T. In the westernmost room the floor level was not clearly discernible. Upon the removal of the two easterly walls, it was observed

¹⁷ Inv. L.68; H. 0.085, D. 0.065.

¹⁸ Inv. L.69; H. 0.049, D. 0.054.

¹⁹ Inv. L.67; H. 0.059, D. 0.061.

²⁰ Inv. L.70; H. 0.048, D. 0.085.

²¹ Inv. L.71; H. 0.054, D. 0.124.

Inv. L.72; H. 0.04, D. 0.124.

that the gravel pavements passed under them and were in fact one with the metalling of the street that ran east and west outside the building. Evidently a broad open area of prepared ground had existed here just before the construction of Wall R and its series of apartments, for which the earlier paving was employed as a floor. Thereafter, the street continued to be used and was twice repaved in Middle Helladic times; its successor was the Mycenaean street mentioned above.

Inside the second and third rooms, several flat stones rested on the floors and were propped against the walls, possibly having served as supports for benches or other furniture. The floors themselves were covered with a normal accumulation of debris from habitation. The pottery recovered has not yet been studied; at present we can say only that it includes many fragments of characteristic Minyan and Matt-painted wares. Outside the building, especially in the southeastern part of the excavated area, there are traces of other contemporary structures which may be investigated in a future season.

During the last days of the campaign of 1953 Miss Halepa was able to clear one room, AH, of a building of the next earlier architectural phase (Pl. 2, b, center, C). It lay partly below the street, partly under the second and third rooms described above. Approximately rectangular and oriented to the points of the compass, it measured *ca.* 3.60 m. east and west by 4.10 m. north and south. The stone socles of the walls, 0.50 m. thick at an average, were covered in a few places by scanty remains of crude brick. At the northeast corner there was an opening, presumably a doorway, 1 m. wide. The room had been destroyed in a fire and the earthen floor at 4.80 m. A. T. was covered with a thick layer of black ash, over which in turn were remains of fallen bricks and clay. The floor deposit yielded one spindle whorl and a number of pots, including two small Matt-painted jugs²² and a brownish Gray Minyan bowl²³ (Pl. 7, b); fragments of several large jars, including one in Matt-painted ware and one with patterns in light paint on a dark ground; and one large jug²⁴ (Pl. 8, c) with spirals and rectilinear patterns in dull white and purple over a shiny dark surface, unhappily much chipped and worn.

Nine Middle Helladic burials have been found in Area D, one (D. 1) coming to light in the scarp excavated in 1952,²⁵ the rest among the houses toward the west. Four were the graves of adults, built in the form of cists enclosed by flat slabs on edge or at least encircled by rough stones; one infant skeleton was found in a cist grave, four others in simple pockets in the earth. Most of the bodies had been buried in a contracted position with head to the north.

One of the infant burials, D. 6, was at 5.60 m. A. T., so high that it must be ascribed to the very end of the Middle Helladic period. All the graves in this area

²² Inv. L.81; H. 0.146, D. 0.128.

Inv. L.84; H. 0.168, D. 0.086.

²³ Inv. L.85; H. 0.108, D. 0.153.

²⁴ Inv. L.86; H. 0.24, D. 0.204.

²⁵ *Archaeology*, VI, 1953, p. 101, fig. 6.

appear to have been shallow: one of the cists, D.5, containing bones of a child and three Middle Helladic pots ²⁶ (Pl. 7, a), was encountered still higher, at 5.72 m. A. T., immediately below the first Late Helladic deposits. Six of the graves in Area D rested at levels between 4.47 m. and 5.10 m. A. T. and are almost certainly assignable to the time of the four rooms adjoining Wall R. The one grave found in the investigation of the east scarp (D.1) was considerably lower, at 3.50 m. A. T., and belonged probably to an earlier phase.

Surveying the results of the work in Area D to date, we may note that it has yielded traces of occupation in the Classical and Geometric periods, fairly extensive remains of the Mycenaean settlement (L.H. III), and two clearly defined strata with house walls and habitation deposits of the Middle Helladic period. Excavation in the main area reached a level of 4.80 m. A. T. in one room. From the preliminary soundings made in 1952 we know moreover that other Middle Helladic strata exist, at least along the eastern scarp, to a depth of 2.50 m. A. T., where a floor and an apsidal wall were found well preserved. The level of division or transition from the underlying Early Helladic layer could not be fixed with assurance in our limited exploratory trench, but unmixed Early Helladic strata were recorded at 1.65 m., 1.35 m., and 0.70 m. A. T. Fragments of a fine tankard (Inv. L.39; Pl. 10, b) were found built into a hearth in the second of these. The bottom of the trench soon became flooded at this depth, but potsherds were still plentiful, indicating that the water level must have risen since ancient times. A few stray fragments of Neolithic wares were found here in the lowest Early Helladic deposits, but whether a Neolithic layer exists in this part of the mound is uncertain.

TRENCH F

A trial trench, F, was excavated in Square E 8 on the southern slope of the mound 10 m. below Trench E (Fig. 1). It began with dimensions of 2 m. by 4 m. and was later expanded 2 m. west and south at the west end, forming an L-shaped area. The surface of the ground here was 3.70 m. A. T. on the north side, sloping to 3.35 m. A. T. on the south.

The first 1.30 m. of digging yielded mixed deposits with many fragments of roof tiles and pottery of the late Classical period. These stopped abruptly at an average level of 2.25 m. A. T., where we came upon a gravel pavement, on which lay most of the skeleton of a horse,²⁷ the bones in disorder, and fragments of at least 37 kylixes and other vessels of Late Helladic III. There were no signs of burning.

²⁶ Cup, Inv. L.78; H. 0.045, D. 0.082. Jug, Inv. L.79; H. 0.125, D. 0.082. Cup, Inv. L.80; H. 0.08, D. 0.105.

²⁷ The identification was confirmed by Miss Wace and Miss Witherill of the staff of the British excavations at Mycenae.

Leaving much of the pavement in place, we opened a trial pit at the west end of Trench F in order to test the underlying strata. Part of a human skeleton came to light at 1.70 m. A. T. No walls were encountered but the deposits of earth, with occasional traces of carbonized matter, appeared to be in stratified sequence. From *ca.* 2.15 m. to *ca.* 1.10 m. A. T. the pottery recovered, including a squat alabastron (Pl. 6, e) and fragments of an open bowl (Pl. 6, f), was assignable to early phases of the Mycenaean period (L.H. I—L.H. II); below that, to 0.45 m. A. T., where the trench became flooded with ground water, only Middle Helladic wares were found. Digging was suspended at this level, although habitation deposits apparently continued still deeper.

The presence of the horse's bones and fragmentary drinking cups in unmistakable conjunction is a subject to provoke speculation, but for the moment we have no explanation to propose. Apart from this mystery, the stratification in Trench F is of interest. The thick layer of disturbed matter at the surface may represent debris from the late Classical settlement, eroded from the higher parts of the hill where remains of that period seem now to be scanty. Early Mycenaean strata, lying under one of Late Helladic III, strengthen our belief that the site was continuously occupied in the Bronze Age. Finally, the fact that Middle Helladic debris here lies at water level, whereas only 10 m. to the north in Trench E we found Neolithic and Early Helladic wares much higher (*ca.* 5 m. A. T.), indicates an important topographical anomaly which calls for investigation.

AREA A

Area A, the second of our principal areas of excavation, is situated in Square G 7, near the southeastern edge of the roughly level ground at the top of the hill (Fig. 1). Immediately beside it is one of the large circular gun emplacements of the Second World War. From this a deep trench ran westward in a dog-leg to an underground shelter or depot, cutting through earth and debris of the ancient settlement and revealing some evidence of the stratification. The bank of the military trench thus first attracted our attention, offering a favorable place to dig with a modicum of foreknowledge, as was the case beside the railway cutting in Area D. In the brief campaign of 1952 Mrs. Caskey opened our Trench A, *ca.* 2 m. wide and 5 m. long, on the north side of the dugout, and carried it down step by step to a maximum depth of 5 m. below the surface (i. e. *ca.* 1.80 m. A. T.). This sounding gave us satisfactory and promising samples of many successive deposits, particularly those of the Middle Helladic period. A much larger space, measuring some 8 m. by 15 m. with a few irregularities in outline, was therefore laid out for investigation in 1953.

The ploughed surface of the ground along the north edge of Area A lay at an average of 7.10 m. A. T., along the south edge *ca.* 0.75 m. lower. In the campaign

of 1953 this whole space was excavated to 5.70 m. A. T. and the western part of it about 1 m. deeper. Our attention was focussed first on the clearing of a large apsidal building, House M, of the Middle Helladic period (Fig. 2). This proved to have had several phases of occupation, and in spite of destruction by the artillery emplacements on east and south it was remarkably well preserved. At the close of the season we

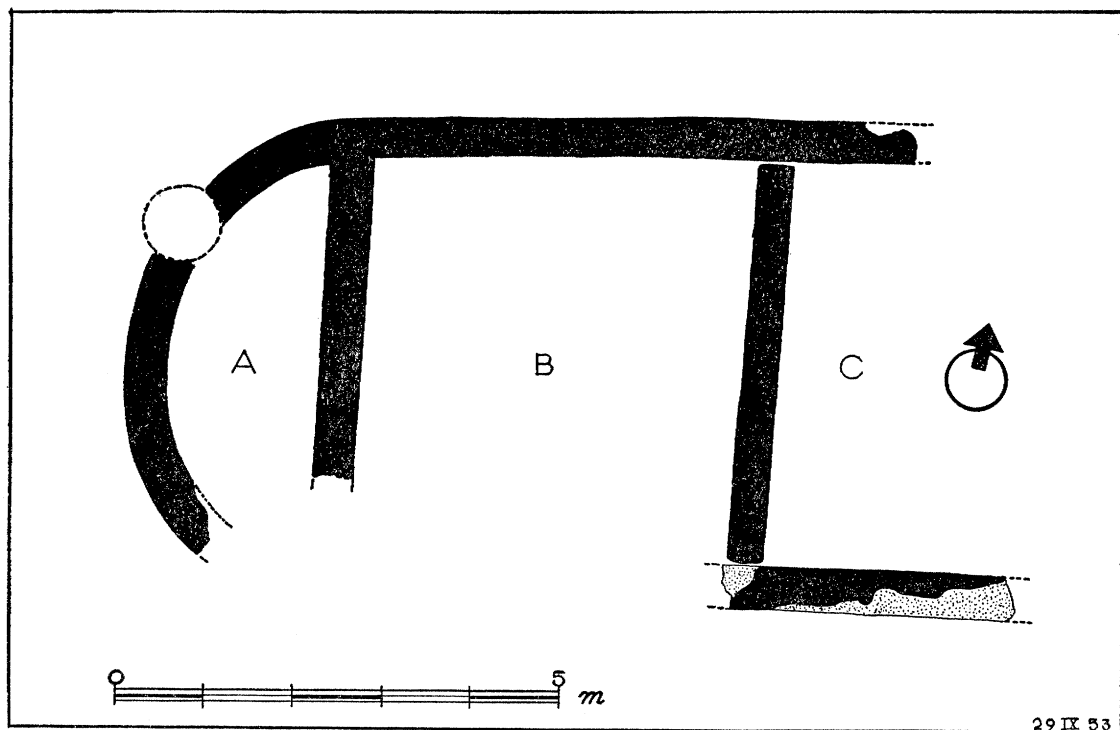


FIG. 2. House M in Area A; Diagrammatic Plan.

left it standing, having cemented the walls where necessary in order to preserve them as long as possible. Remains of habitations later than House M were scanty in this region; those of contemporary and preceding phases, behind its apse on the west, were abundant but woefully ruinous. In the following account we present an abbreviated summary of the various habitation levels, beginning with the latest.

Only a few potsherds of the Mycenaean and succeeding ages were found in the disturbed earth over the surface of Area A. A well, apparently of the Hellenic period, was discovered to have cut through the curving wall of House M (Fig. 2); it is unlined and could not be dug out this year. All the other remains in this region were pre-Mycenaean. First to be mentioned are three cist graves and several plain interments which came to light not far below the surface. Only one of them held an offering, but by analogy with other burials on the site they are all assignable with

probability to the latest phases of the Middle Helladic period. The three cist graves form a compact group. The smallest, A.9, was that of an infant; slabs which may once have covered the cist were found piled at the south end. Under this, with one corner overlapped, was a much larger grave, A.1, which contained two skeletons on their right sides, heads to the east and legs bent at the knees (Pl. 3, b). Grave A.10, a little to the southwest, its place apparently marked by two upright slabs at the foot, contained the skeleton of a young person, also on its right side, with head to the north. In front of the skull was a two-handled jar ²⁸ (Pl. 8, d) of rough fabric, coated with orange-red glaze; on the rim is a row of white dots, under the rim a band of purple with white dots, and on the side a series of hooked spirals in white; altogether an unusual color scheme, but clearly related to the types of polychromy that were fashionable at Lerna. Among the simple interments, three were so disturbed as to be almost unrecognizable; a fourth (A.5), of an infant, was surrounded by bits of crude bricks; and a fifth (A.7), another infant burial, resting on a pebble paving, was marked by an upright slab of stone (Pl. 3, c).

Below Grave A.10 were broken house walls and a bothros that had destroyed the end of one of them. The stage or stages represented by these remains may have followed the destruction of House M or may have been contemporary with its last occupation.

House M (Fig. 2) was a large, well constructed building. Aligned roughly east and west, it had long parallel walls on the north and south, a broad apse on the west, and cross walls dividing the interior into separate rooms; there were at least two partitions of this sort after the first occupation of the house, making three rooms, or two rooms and a deep porch. The over-all width of the building as preserved is 5.50 m.; the length from the vertex of the apse to the easternmost limit of the floor beside the gun emplacement is 10.50 m. All the east end, much of the south side, and a bit of the apse were cut away by the military installation (Pl. 3, a). The stone walls, which are clearly socles for superstructures of lighter material, stand to a maximum height of 0.80 m. and vary in thickness from 0.35 m. to 0.50 m.

These walls, as we now have them, were not all built at the same time. The north wall, the curve of the apse, and the western internal partition, which is bonded with them, belong to the original construction, whereas the eastern partition and the remaining stretch of the south wall are bedded about 0.10 m. above the first floor level and are not bonded. The earlier construction is particularly firm and strong: at the bottom are fairly large flat stones arranged in about six irregular courses, and above these are much smaller stones set sloping inward from each side, prepared to hold the superstructure of clay or crude brick. The later partition wall is made with large blocks on the east face and much smaller stones on the west. In the south wall, of which only

²⁸ Inv. L.91; H. 0.10, D. 0.14.

one or two courses are standing, there are traces of reddish clay or brick almost to the bottom.

The reconstitution of the plan of the building presents various problems. If the apse was symmetrically curved, as one might expect it to be, the original south wall must have stood 0.50 m. to 0.70 m. further out than the later south wall which has been partly preserved. This would give the main hall (Fig. 2, B-C) an impressive width of more than 5 m., and an uncomfortably long span for horizontal beams. There were no signs of internal supports, however, and it is fairly certain that the eastern partition wall had no predecessor in the initial phase since potsherds lay on the first floor, under its bottom course. The position of the doors is also uncertain. There was presumably an opening at the south end of the western partition wall, giving access from the main hall to the small room in the apse, A. The principal entrance to the house may well have been at the east in the first phase, but in the second and later phases the central room, B, must have been entered from the south, since the continuous eastern partition is preserved to a height of 0.45 m. The questions raised by these features of the plan and their implications about the form of the building at various stages will require further study.

In each of the three rooms there was a succession of floor levels, each covered with burnt debris. Evidently the house was destroyed four times by fire, and on each occasion until the last the good solid stone foundations encouraged the owners to rebuild and repair it. Pottery and other objects have been collected from all the strata; detailed analysis has not yet been undertaken, but an interesting series can undoubtedly be established, illustrating a period of at least two or three generations, and perhaps longer.

The original floor of House M lay at an average of about 5.70 m. A. T., rising in general toward the walls and containing various small rubbish pits and broad hollows. Many of the latter held white ashes and may possibly have served as fire-places; there were no traces of a built hearth. The small room in the apse was probably used for storage and perhaps for cooking; a number of pots and other objects were abandoned there at the time of the conflagration. Among these were a hoard of 10 flints with serrated edges, two spindle whorls, several fragments of mother-of-pearl; two cups, a small bowl, a large basin, and a ring-stem of a large goblet, in Gray Minyan ware; a small stemmed goblet of Minyan shape with highly lustrous surface, mottled red and black²⁹; a spouted vessel³⁰ (Pl. 8, a) and a large jar³¹ (Pl. 8, b) in Matt-painted ware; fragments of a jar coated with black glaze and decorated with linear patterns in dull white and purple; and a small rounded cup in plain brown ware.

²⁹ Inv. L. 14; H. pres. 0.128, D. 0.199. Illustrated, *Archaeology*, VI, 1953, p. 102, fig. 7 (there wrongly ascribed to an "Early phase" of M.H.).

³⁰ Inv. L.40; H. 0.22, D. 0.265.

³¹ Inv. L.41; H. 0.35, D. 0.352.

From the second floor deposit of Room A were recovered a number of very large knuckle bones. Over the third floor were many flat slabs of stone lying compactly but not in perfect order; they may have been placed as a raised paving or may possibly have fallen from the superstructure. On the third floor of Room C was the skeleton of a small child who may conceivably have perished there in the fire. In the fourth period additions were built against the east faces of the curving wall in the apse and the western partition wall, either as buttresses or to support pieces of permanent furniture.

In the western part of Area A we found a complex of ruined walls resting at *ca.* 5.85 m. A. T., apparently contemporary with the second phase of House M. In the time of the first occupation a street came toward it from the west and forked to pass on either side. To the south of this street was another house, S, of which we found a small room. Two building periods were represented, the earlier possibly antedating phase 1 of House M. The masonry of House S showed examples of herringbone construction. A further group of walls on the north side of the street was almost certainly earlier.

Clear evidence of a distinct phase of the Middle Helladic settlement, antedating those mentioned above, was found both under and west of House M. Trench A, excavated in 1952, revealed a curving wall, presumably part of an apse, just below the western partition wall of House M; a second, straight and running north to south, was observed *ca.* 3.25 m. further east; and the northern side wall of the same building could be traced in 1953 just at the floor level of House M and at the scarp toward the east. The south side was of course lost in the military dug-out. This building, which we call D, may be interpreted with some confidence as another apsidal house, the predecessor of M but considerably smaller. It had a floor at *ca.* 5.10 m. A. T. and possibly one or two others somewhat higher. In one place at least the north wall still stands to a height of 0.70 m. From the habitation deposits of House D were recovered considerable quantities of pottery, including part of a lustrous Black Minyan bowl³² (Pl. 7, c) and a fragmentary Matt-painted jug³³ (Pl. 9, b) with cut-away spout and a bold, if crude and hasty, pattern of decoration. This is probably the earliest Matt-painted vessel yet found at Lerna. With the above came part of a Gray Minyan jar and a small, crude stemmed cup in coarse ware.

In the western part of Area A an approximately contemporary building, House Q, was discovered in 1953. Having been remodelled at least once and being in a poor state of preservation, this house was not easy to understand in all its details. It was small, some 3.20 m. wide and probably 4 to 5 m. long from north to south, with side walls bowed outward. The north end may have been curved, the south open as a porch. A dividing wall ran across the middle, with a doorway at the west side. At an

³² Inv. L.7; H. 0.17, D. 0.33.

³³ Inv. L.9; H. pres. 0.227, D. 0.189.

earlier stage the west wall seems to have been aligned differently and the house to have lacked the cross wall. The uneven floors lay at an average of 5.50 m. A. T., sloping southward, in the later period; in the earlier they were at least 0.10 m. lower. No whole pots were found here.

Below House Q was another stratum, distinctly separated, with house walls and debris of habitation resting at an average level of 5.12 m. A. T., sloping downward in this case toward the north. Parts of a rectangular building, House A, could be traced near the western limits of our area. It appeared to have at least two rooms. On the floor of one were found a miniature cup ³⁴ (Pl. 9, e) in plain brown ware with handle set upright on the rim, a cup ³⁵ (Pl. 9, d) in burnished coarse ware with high-swung handle, a miniature jar ³⁶ (Pl. 9, f) with two horizontal lugs, five obsidian blades, a bone spatula, and a conch shell. The other room produced six obsidian blades, a small stone polisher or pestle, and most of a black bowl ³⁷ (Pl. 9, a), slipped and polished, with two small ribbon handles. Fragments of Gray Minyan ware were present in this stratum but there was no Matt-painted ware.

Part of a street or courtyard paved with small pebbles lay under the walls of House A, and next to this paving, on the west, were walls of a still earlier building which we have labelled House B. These walls have not yet been disengaged but were left in place at the end of the campaign, excavation having reached a level of *ca.* 4.85 m. A. T. A few sherds of Gray Minyan ware occurred at this depth, as well as a good many of Early Helladic fabrics; but the material has not yet been examined in detail.

The exploratory trench of 1952 gave us only an uncertain glimpse of the layers below this level. A wall resting at 4.40 m. A. T. could be assigned to the Early Helladic period. Lower there was a massive but unintelligible stone structure, and under this a broad pit full of gravel which yielded Early Helladic sherds down to 2.20 m. A. T. In the next 0.40 m., which we could test only in a very small sounding, we found a few sherds of Neolithic glazed ware. A remarkable terracotta figurine, found with Early Helladic material at 3.80 m. A. T. is illustrated in *Archaeology*, VI, 1953, p. 102, fig. 10.

TRENCH C

The only investigation undertaken up to now in the north central part of the mound is a trial trench, C, excavated in Square E 5 (Fig. 1) during the preliminary campaign of 1952. Oriented approximately east and west, it was 2.50 m. wide and

³⁴ Inv. L.92; H. 0.048, H. to top of handle 0.058, D. 0.057.

³⁵ Inv. L.93; H. 0.077, H. to top of handle 0.098, D. 0.093.

³⁶ Inv. L.94; H. 0.074, D. 0.091.

³⁷ Inv. L.95; H. pres. 0.112, D. rim 0.178. For the shape, cf. a bowl in Gray Minyan ware, Pl. 9, c, which was put together from fragments found in 1950 projecting from the bank of a military trench at about this level. The fabric of L.95 is not that of the black Argive Minyan class (e. g. L.7, Pl. 7, c) but rather resembles certain black slipped wares of the Early Helladic period.

just over 5 m. long at the top but contracted by steps as we dug deeper. A diagrammatic sketch of the stratification as seen from the south is presented in Figure 3. The area was too restricted to give us the plans of houses, and some of the strata of habita-

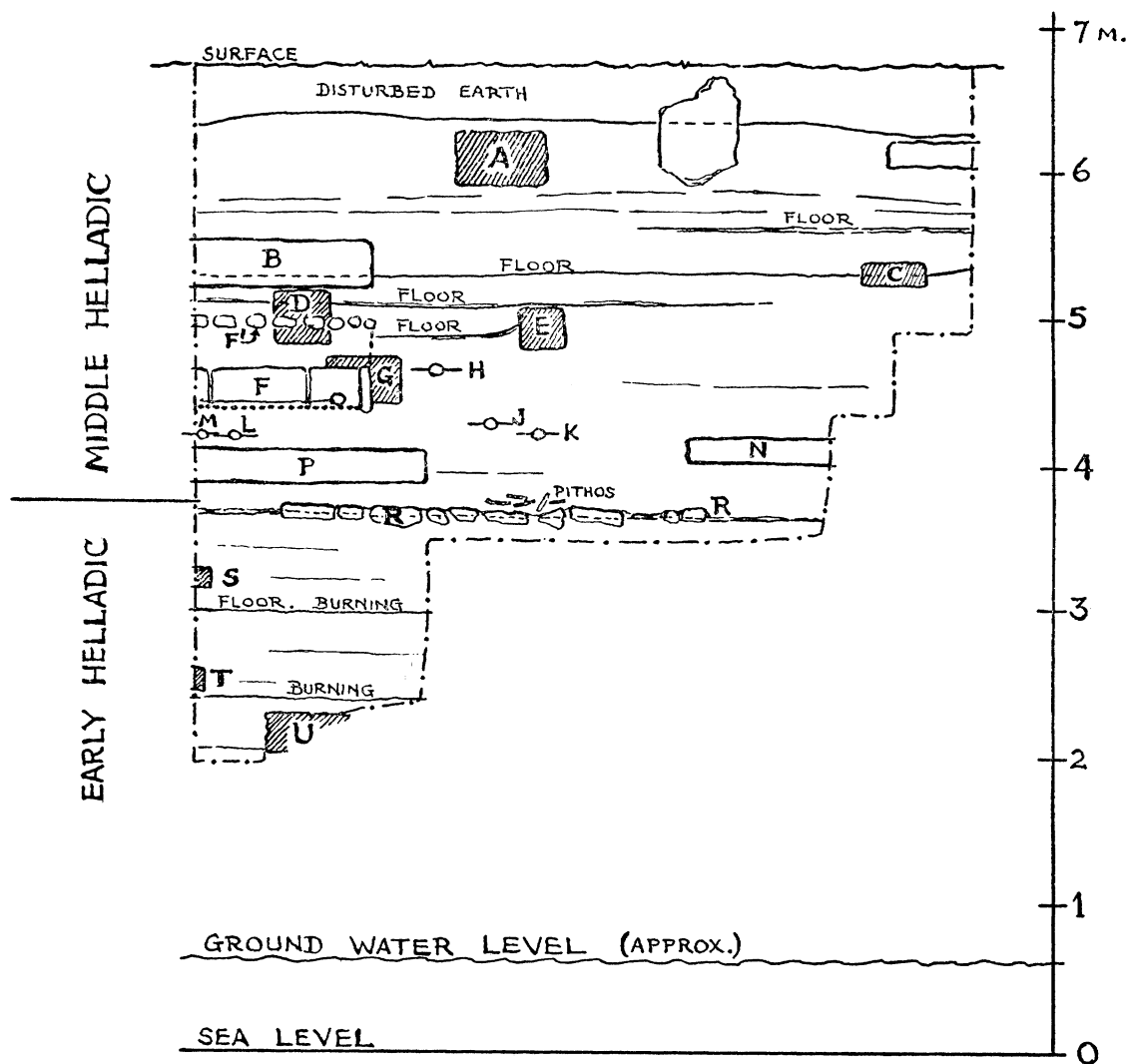


FIG. 3. Diagram of Stratification in Trench C; Section as Seen from South.

tion deposits had been cut by the digging of graves, but in general the sequence of layers and building periods could be clearly observed.

For about 0.45 m. below the ploughed surface of the ground (6.75 m. A. T.) the earth was disturbed and the deposits mixed. Notable among the potsherds recovered here were a half-dozen fragments of early Mycenaean vessels (L.H. I and L.H. II; Pl.

6, g). The first architectural remains were encountered around 6.25 m. A. T., consisting of a substantial house wall, A, and various groups of stones of uncertain significance. One large slab, found erect in the north bank of the trench, may have been part of a cist grave or, possibly, a rude stele used as a grave marker. The pottery from this level was all assignable to the Middle Helladic period, but not necessarily to the very latest phase; other subsequent strata may have been lost through ploughing or erosion.

The next earlier building level—we may not designate it with assurance as a phase of the Middle Helladic period on the evidence of so limited an observation—was represented by Walls B and C and associated floors at *ca.* 5.25 m. A. T. Immediately below, there was a third set, Walls D and E, at *ca.* 4.80 m. A. T. Gray Minyan ware, Black (Argive) Minyan, and Matt-painted wares occurred plentifully in these strata. Also present in appreciable quantities were fragments of hand-made pots of good quality bearing linear patterns in lustrous dark paint on a light ground, sometimes with added lines in dull white, and others of the same fabric wholly or largely coated with a dark lustrous slip, over which the patterns were painted in dull purple and white.

At 4.90 to 5 m. A. T. we found a ring of small stones, labelled F' in Figure 3, near the southwest corner of the trench. The ground within the ring was soft, and some 0.35 m. directly below it we came upon the top of a cist grave, F. It had no covering slabs but was well made and had a floor (4.40 m. A. T.) of small beach pebbles, on which the skeleton of an adult lay on its left side, with head to the east and legs drawn up. A spindle whorl was found behind the shoulders and a shallow one-handled cup beside the left elbow. This cup³⁸ (Pl. 8, e) is made of light clay, coated with black glaze that has a grayish metallic sheen, and is decorated with two horizontal bands of dull red and with bands, strokes, and—on the bottom—a large petal rosette, in dull white. This is an example of the polychrome style which we are finding not infrequently in Middle Helladic strata at Lerna. Part of a Gray Minyan jar was found just outside the cist. Grave F belongs clearly to the time of Walls D and E, i. e. to one of the middle phases of the period as observable in Trench C.

Wall G, which was cut by Grave F, was obviously somewhat earlier. The ground to the east of it was disturbed by another burial, H, a simple interment, which may have been made from the level of Walls D and E or from that of Walls B and C. Slightly lower, at 4.45 m. to 4.20 m. A. T., were four other interments, J, K, L, and M, all without offerings. Skeletons L and M lay side by side with their heads toward the south, the bodies certainly having been buried together (cf. Grave A.1 in Area A, above).

The fifth and earliest Middle Helladic level in Trench C was represented by

³⁸ Inv. L.13; H. 0.051, D. 0.096, Th. of walls 0.0035.

Walls N and P, the latter resting at 3.85 m. A. T. At this depth there was no polychrome or Matt-painted ware; Gray and Black Minyan, and coarse wares both rough and burnished, occurred plentifully, along with a sprinkling of Early Helladic fabrics which presumably had come up from the underlying deposits.

The top of the Early Helladic layer was clearly marked in this area by a stratum of habitation debris at 3.70 m. A. T. A platform of stones, R, some 2.90 m. in length, occupied the north side of the trench. Around it were a trodden floor and many chunks of yellow clay; fragments of a pithos lay just above, and in the surrounding debris we found a one-handled jar of coarse burnished ware, a small hand-made black chalice with a disproportionately large pedestal base³⁹ (Pl. 10, a), three millstones, a flake of obsidian, and a bone pin. There were no signs of conflagration at this level.

Below Platform R we were obliged to restrict the sounding to a very small space at the west end of the trench. At least two building periods were apparently represented by traces of walls, S and T, each of which rested just above a burnt stratum. A more substantial wall, U, marking a fourth Early Helladic level, was encountered at 2.35 m. A. T. It seemed to rest at 2.05 m. A. T., where we stopped digging.

The small trial excavation in Trench C has thus given us a useful key to the sequence of certain layers in this part of the mound. At the top are five Middle Helladic levels with a total thickness of *ca.* 2.60 m. Below them, we were able to sample four strata of the Early Helladic period in a total depth of 1.70 m. Other Early Helladic levels may exist still lower. A few sherds of Neolithic wares were found in almost every lot collected from the earlier strata in this trench, but pure Neolithic deposits were not reached.

TRENCH H

Trench H, in Square D 7, was opened in order to test the strata near the surface and to show which settlement was uppermost in this region on the southwestern slope of the mound (Fig. 1). The cutting was 4 m. long from northwest to southeast; 2 m. wide at the start, it was soon expanded to 3 m. The surface of the cultivated ground averaged 5 m. A. T. along the northeastern side. Deep sounding was not undertaken, excavation stopping at 3.80 m. A. T.

Just below the loose topsoil, walls of Middle Helladic houses began to appear, one running lengthwise, another crosswise in the trench. They were in a fairly ruinous condition and were not investigated in detail. Near the southeast corner was a grave, H.1; its floor of pebbles at 4.10 m. A. T. lay so close to the surface that the skull and the rim of a pot which stood beside the skeleton had been chipped by passing ploughs. A few stones lay around and over the bones, all probably out of place. The skeleton,

³⁹ Inv. L.42; H. 0.14, D. 0.10. Other examples of this type have been found in E.H. strata elsewhere at Lerna.

that of an adult, lay on its left side with head to the southwest and legs drawn up tight. Accompanying offerings were small but more numerous and varied than in any other Middle Helladic grave yet found on the site. They included, besides a single Matt-painted jug, two chips of obsidian (probably intrusive), two small polyhedrons of dark brownish-gray crystalline stone, one elongated and three spherical beads and a spiraliform bit of glass paste, the ends of two flat bone implements pierced for suspension, three fragments of bone pins, two tubular bone beads, and twelve seashells.

AREA B

Trench B, one of the four soundings excavated in 1952, was laid out in the northern part of Square E 7, on sloping ground near the crest of the hill. It measured 5 m. in length from north to south and was 2 m. wide. At the upper end, remains of the Middle Helladic settlement were found just below the surface (*ca.* 6.90 m. A. T.), but at the downhill end, where the ground was about 0.60 m. lower, only Early Helladic deposits were encountered. At a level of 5.55 m. A. T. Mr. Charitonides came upon the corner of what appeared to be a very substantial building; the socles of the walls, 0.90 m. thick and solidly constructed of rough flat stones laid horizontally, ran north and east into the banks of the trench. The masonry, standing 0.70 m. above its bedding, had been coated with clay and had borne a superstructure of crude brick, and on the ground to south and east of the walls were hundreds of fragments of rectangular terracotta plaques and slabs of bluish- or greenish-gray schist. It being obvious that these remains must be left in place for further investigation, work was thereafter restricted to the southern half of the trench, where a pit was excavated step by step to a final depth of 4.60 m. below the surface (1.70 m. A. T.). The space within the pit was so narrow—scarcely 1.50 m. by 2 m.—that excavation became increasingly difficult, but an interesting series of potsherds was recovered. Not far below the foundations of the big Early Helladic building, fragments of late Neolithic wares (Pl. 10, d and f) began to appear; toward the bottom of the pit the deposits were purely Neolithic and contained a few sherds of “Variegated” or “Rainbow” ware. Many small stones and several bits of construction which we took to be house walls appeared at descending levels, but the strata were too confused to provide reliable information about the chronology. The one conclusion to be drawn with certainty was that the site had been inhabited in more than one phase of the Late Stone Age.

Having thus obtained a preliminary survey of the stratification in this region, we set out to make a more extensive investigation in 1953, paying particular attention to the Early Helladic building. Mr. Charitonides was again in charge and gave the work his unremitting personal supervision. Beginning with trial trenches east and north of Trench B, he gradually expanded the area, now known as Area B, to a

roughly rectangular space 15 m. long, east to west, by 8.50 m. wide (Fig. 1); only the northeast corner of the oblong remained undug this year. The average surface level along the north side was 7.30 m. A. T., on the south 6.50 m. A. T.

Apart from a mere handful of Mycenaean and Classical sherds in the disturbed surface layers, the only evidence of the later settlements found in Area B was a well, unlined like those noted in Areas A and D. Its upper filling held many glazed and unglazed tiles and fragments of pottery, apparently Hellenistic in date. We have not yet attempted to dig it to the bottom.

Two cist graves and two or three simple interments, all without offerings, came to light near the surface. They are undoubtedly Middle Helladic, but since the whole layer assignable to that period is thinly preserved in Area B they probably represent a middle rather than a late phase, the latest strata having been removed altogether by erosion. Only one clear architectural stratum was found below the graves, almost exclusively in the northern part of the area. Fragmentary house walls resting at an average level of 6.40 m. A. T. could be associated with patches of floors a few centimeters higher. A well, which we had to leave undug, appeared also to be assignable to this initial phase of the period. Many sherds of coarse fabrics and some Gray Minyan ware occurred at this level.

Among the utensils and miscellaneous implements recovered here is one of special interest, a thin strip of bone, 0.106 m. long, with seven hemispherical knobs on one flat side (Inv. L3.11; Pl. 9, g). The strip is slightly bowed in its length, rounded at the tips, and well polished; otherwise it is undecorated, and it is not pierced for attachment or suspension. There can be no doubt that it belongs to a class of objects already known outside Greece, about which there has been much speculation. Three were found by Schliemann at Troy, one purportedly in debris of the Second Settlement;⁴⁰ several others came from tombs excavated many years ago in Sicily;⁴¹ and still another was recovered more recently at Tarxien in Malta.⁴² Our example from Lerna is, to the best of my knowledge, the only one yet found in Greece. Its finding place is fixed exactly at 6.40 m. A. T., in the earliest floor deposit that contained Gray Minyan ware, immediately above a stratum in which only Early Helladic pottery occurred.

Two successive Early Helladic levels overlay the ruins of the great building which we were seeking particularly to examine. The upper was marked by a few ruined and apparently unrelated walls and a floor strewn with broken pottery at

⁴⁰ Two found by Schliemann were in Berlin (H. Schmidt, *Trojanische Altertümer*, Nos. 7953, 7954), the third in Istanbul (H. Bossert, *Altanatolien*, No. 49); see also a comparable though by no means identical piece found by the Cincinnati expedition in Stratum IIg (C. W. Blegen, *Troy*, I, p. 363, No. 35-528).

⁴¹ P. Orsi, *Ausonia*, I, 1906, pp. 5 ff.

⁴² References and a discussion of the chronological problem are given by K. Bittel, *Prähistorische Forschung in Kleinasien*, pp. 57-58.

6.10 m. to 6.20 m. A. T. One fragmentary vessel, found at this level in 1952, deserves special attention. The shattered pieces, of reddish-brown clay that tended to split and chip, comprised parts of the cylindrical collar-neck and globular body of a two-handled jar with plastic spiral ornaments that curved upward to broad free-standing hornlike attachments ⁴³ (Pl. 11, b). This is a vessel of well known Trojan type, and the style and fabric leave no doubt that it was in fact manufactured at or near Troy.⁴⁴ Exact dating is unhappily not possible, since the shape occurs there in the Second, Third, and Fourth Settlements; but the porous texture of the clay, particularly as it appears on the inner surface, make its ascription to Troy IV seem most probable.

The next earlier level, a clearly distinguishable stratum of trodden earth without walls, was about 0.30 m. under the first at an average of 5.80 m. to 5.90 m. A. T. Here we found several rows of stones which may have marked the limits of outdoor enclosures, foundations of house walls, a hearth, a stone structure that resembled a small rough table or bench, and a remarkable series of bothroi. Not less than 17 of these were discovered in various parts of the area. Roughly circular, averaging 0.80 m. to 1 m. in diameter and 0.70 m. in depth, they were full of carbonized matter, animal bones, shells, and fragments of pottery (Pl. 3, d). All had penetrated the underlying debris and some had cut through the standing walls and floors of the big building, as became evident when parts of the latter were wholly cleared (Pl. 4, a).

The House of the Tiles

The big building whose corner we had come upon by chance in Trench B proved to be far more extensive and elaborate than any of us had guessed. By the end of the campaign of 1953 fully 13 m. of its south wall, 6.50 m. of its west wall, and *ca.* 55 sq. m. of the interior had been cleared without revealing the northern or eastern limits or giving even a hint of the full size and plan of the building. The style and scale of construction became evident, however, and some other interesting bits of information could be gained. One of the most remarkable features was the great quantity of tiles that lay scattered and broken in the ruins; from them the building soon came to be known among the excavators as the House of the Tiles, though we use the word "house" only in its most general sense.

A diagrammatic plan of the excavated part of the building is presented in Figure 4. The walls were found standing to a height of *ca.* 0.70 m. and all around them, in the rooms and corridors and beyond the outer walls, was burnt debris reaching the same level, 5.80 m. A. T. Clearly the whole area, in which the debris was probably

⁴³ Inv. L.22; H. pres. 0.28, D. 0.29. In the partial restoration shown in the photograph only the shape of the base and the height of the horn are uncertain.

⁴⁴ H. Schmidt, *Trojanische Altertümer*, No. 1949 (cf. also Nos. 433, 527, 529, 830, 1044); C. W. Blegen, *Troy*, I, fig. 389, Nos. 35.1160, 35.561; *Troy*, II, fig. 81, No. III-147 and fig. 164, No. 37.1226; D. Levi, *Bollettino d'Arte*, 1952, p. 347, fig. 47 (jars from Poliochni in Lemnos).

heaped even higher just after the conflagration, was graded to this level in the succeeding phase when the stratum with the bothroi was made. Besides the fragmentary tiles of terracotta and slate, which will be described in more detail below, the debris consisted of fallen bricks and clay much reddened from burning, gray and black ash, and carbonized wood. One of the bricks which could be extracted whole ⁴⁵ measured 0.36 m. square and was 0.13 m. thick. The debris contained numerous fragments of

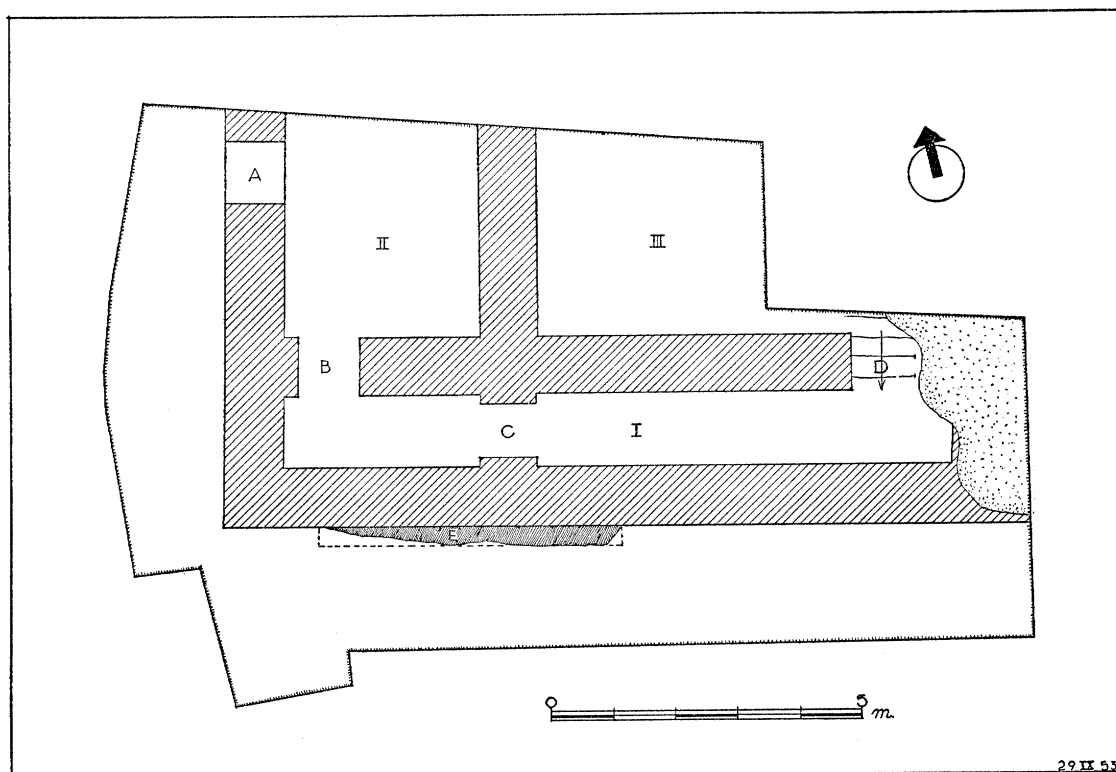


FIG. 4. House of the Tiles in Area B; Diagrammatic Plan of Parts Excavated in 1953.

one or more large pithoi and a piece of clay with seal-impressions (Inv. L3.10, Pl. 10, c), but very few sherds of small pots.

The southwestern part of the building—all that has been cleared—consists of three principal divisions. A long corridor (Fig. 4, I), 1.15 m. wide, ran along the south wall and opened through a doorway (B) at its west end into a room (II) on the north; this room, 3.15 m. wide, had another doorway (A) leading out to the west; beyond the partition on the east was a second room (III), apparently larger, from which a flight of steps (D) rose through an opening in its south wall (Pl. 5, a). This

⁴⁵ It lay in the southwest corner of Room II, near the west jamb of Door B (Fig. 4).

stairway probably gave onto a landing within the width of the corridor and then continued upward toward the east or doubled back toward the north; the ground here was disturbed by bothroi and the space was too cramped to allow complete excavation in 1953. Striking elements of construction, giving a remarkably sophisticated air to the building, are the pair of projecting anta-like jambs of a doorway (C) in the south corridor (Pl. 4, b), in line with the partition between Rooms II and III, and a similar projecting jamb on the west side of Door B between the corridor and Room II.

The walls are of uniform thickness. They have socles 0.90 m. wide, neatly and carefully constructed of unworked stones, upon which rest the remains of superstructure in crude brick. The socles of the external walls rise *ca.* 0.45 m. above the floor level, those of the inner partition walls being slightly lower. On the outer faces are well preserved patches of a thick stucco of yellow clay; inside the rooms there are many traces of another coating of reddish-brown clay, combed in sweeping curves (Pl. 4, c). These surface coatings increase the thickness of the walls to about 0.95 m.

In an exploratory trench and in cuttings left by bothroi in Room II we observed a layer of stones about 0.15 m. below the floor, set carefully as if to form a solid foundation (Pl. 4, a, at left). The floor itself, at an average level of 5.10 m. A. T. in both rooms and in the corridor, consisted of a thick layer of yellow clay and a thinner coating of reddish-brown. Yellow clay also coated the threshold of Door A and the steps, D. The floor was smooth and hard, baked by the fire. On it we found none of the domestic litter that usually appears in the living quarters of ancient houses. A few fragments of pottery, chiefly from plain open bowls of the commonest Early Helladic type, were all that came to light.

In the narrow strips excavated outside the house on the west and south there were evidences of ground levels corresponding approximately with the floors inside. At some places it even appeared that a clay paving, like those within, had been laid down. Against the south wall were remains of a solid bench of reddish clay, nearly 5 m. long and *ca.* 0.30 m. in width and height (Fig. 4, E). It was certainly an addition, since the yellow facing of the wall was continuous behind it.

Fragments of terracotta tiles and of bluish- and greenish-gray schist, referred to above, were found in fallen debris outside the walls of the building as well as inside (Pl. 5, b and c). We made an effort to gather all the pieces, although in some parts of the area they were strewn so thickly that the work was tedious. Quite obviously, none were in place; all had fallen from above and very few were unbroken. From the area excavated so far 128 basketfuls have been collected. By laying out the contents of a basket in a tight mosaic we discovered that that quantity covered a rectangle of just over 0.80 m. by 1 m., and consequently that our whole collection if placed in a single layer would cover more than 100 sq. m. If we reckoned the fragments lost through the digging of bothroi and those still in unexcavated ground to the west and south, the figure would be much higher. The area of the house as excavated up to

now, including the thickness of the walls, is about 75 sq. m. Thus we see that the tiles must have overlapped by nearly one third, if not considerably more.

The terracotta tiles are essentially flat and rectangular, though not perfectly regular. They are by no means uniform in size (Pl. 5, e) : the thickness varies, among samples measured, from 0.011 m. to 0.019 m.; the width and length from *ca.* 0.16 m. to 0.28 m., many tiles being nearly square and many others distinctly elongated (e. g. 0.191 x 0.20, 0.268 x 0.27, 0.179 x 0.20, 0.244 x 0.28, 0.162 x 0.257). The material is rough, full of tiny particles of stone, and is brick-red or brownish-red, sometimes mottled with gray; in several cases lines of weathering are visible across one face (Pl. 5, e, left). All the tiles are baked to a hard even strength, not as a result of the conflagration but by deliberate firing. The edges were cut with a sharp blade, which sometimes made only a deep groove, leaving the tiles to be broken apart. Evidently the clay was laid out in large sheets ⁴⁶ and then marked into rectangles. The state of the broken edges gives a distinct impression that the whole sheet was fired before being divided into single tiles, but a process so cumbersome seems highly improbable; more likely, the sheet was dried very hard in the sun before being broken for firing. The edges are never hooked, except accidentally and very slightly by the pressure of the cutting blade, and there are no holes for fastenings.

Splinters and small fragments of schist occurred frequently enough to be noticed but in no great numbers within the limits of the house. Outside, however, and particularly along the southern flank, they lay in considerable profusion. A few were unbroken. They are fairly heavy slabs of stone, larger than the terracotta tiles; averaging 0.02 m. to nearly 0.03 m. at the thickest part, they taper toward the edges, which are straight and trim. One complete slate measures 0.305 m. by 0.33 m.; others are as narrow as 0.17 m.; the largest piece yet found is 0.23 m. wide and is preserved to a length of 0.42 m. Some of these, like the last, have one or two holes drilled in them, by which they could be held in place with small pegs (Pl. 5, f).

Stone of the kind here used is not native to the immediate region of Myloi, but we were told by our workmen that in villages on the slopes of Mt. Parnon, some six or eight hours away, many houses are roofed with slates of the same sort.

There is little room for doubt that the House of the Tiles was indeed roofed with a combination of terracotta and stone slabs. The exact form of construction is not yet known, but there is a reasonable hope that further evidence may be forthcoming. It may be taken as certain that the tiles and slates were laid in a bedding of clay, chunks of which were found adhering to one or both sides of many pieces. Several such masses furthermore retained impressions of the overlapping tiles, which may shed light on the pattern of their setting; and certain wedge-shaped accretions of clay, showing a plane surface at an angle of about 30 degrees with that of the tile, may

⁴⁶ A few fragments show one uneven rounded side which must have been at the edge of the sheet.

possibly indicate the pitch of the roof (Pl. 5, d). That there was in fact an appreciable pitch, steep enough to shed water readily but not enough to require that the tiles be individually fastened, is suggested by all the evidence so far observed. The big slabs of slate with holes for pegging may well have been used at the eaves, where extra stability would be desirable, and, incidentally, just above the place where we found many of them lying.

TRENCHES G AND GA

Trial Trench G, 4 m. long and 2 m. wide, was excavated in the sloping ground between and a little south of Areas A and B, at the northern border of Square F 8 (Fig. 1). The surface here was 5.45 m. A. T. at the northwest corner, 4.95 m. A. T. at the southeast. This region had been traversed and disturbed by military trenches, which had been refilled since the war, but along the north side of our cutting we came upon a massive and well built stone wall running roughly east and west. Where measurable it proved to be 1 m. to 1.05 m. thick and to be standing almost 1 m. high. In it there was a gap, probably a doorway, 1.40 m. wide, flanked by trimly squared ends or jambs. The debris next to it showed signs of burning; the floor was not found but numerous fragments of Early Helladic pottery came to light around 4.20 m. A. T.

Led on by the impressive appearance of this structure, we opened another trench, GA, 1.50 m. wide and 7 m. long, running north and south a little to the west of G. Miss Livermore, who supervised the digging, here found the same sort of debris. In spite of intrusions from recent military installations, the big wall was seen to continue westward; there were many signs of burning, reddened bits of bricks, black and gray ash, and potsherds. Also present were fragments of terracotta tiles and greenish-gray schist of the sort found in Area B. A hard stratum was noted at 5.20 m. A. T., but, more important, a patch of undisturbed floor was found in the north end of the trench at 4.45 m. A. T. The black debris just over it yielded several unbroken blades of obsidian, five pieces of polished bone tubes, two small open bowls, most of a very large open bowl or basin, and an exceptionally fine askoid vessel⁴⁷ (Pl. 11, a). This last, delicately made and very light, has a flattened-spherical body, a spout rising obliquely from the edge of the upper side, and a small plaited handle formed of two continuous twists of clay. The light buff surface, smooth and lustrous, bears a decorative pattern of single lines, zigzags, and lozenges in a dull reddish-brown paint.

The building of which we have here caught a glimpse is obviously one of importance, deserving thorough investigation. It belongs to the Early Helladic period, and would seem to be not inferior in size and style to the House of the Tiles. The wall found in Trenches G and GA is very nearly parallel to the east-west walls in Area B; possibly they may prove to be joined in a single complex of vast extent.

⁴⁷ Inv. L.96; H. 0.157, D. 0.226.

TRENCH E

In an attempt to find undisturbed remains of the Neolithic settlement, the presence of which was indicated by discoveries in Trench B in 1952, we dug a shaft 4 m. long and 2 m. wide in the southern part of Square E 7, *ca.* 10 m. from the south edge of Area B. This we called Trench E (Fig. 1). The ploughed surface of the ground at its north side was 5.30 m. A. T., at the south slightly lower. Trench E was excavated to a depth of nearly 4 m., reaching a level of 1.35 m. A. T.

Immediately below the ploughed earth we began to find strata of various thicknesses and colors, containing many small loose stones and many potsherds, and these continued in sequence as far as we dug. There were no walls or floors of any sort. The pottery consisted almost wholly of Neolithic wares: fragments of rounded bowls in Variegated ware of the early type that is known from Corinth, Nemea, and elsewhere;⁴⁸ sherds of red and black burnished wares; at least a few pieces of Gray Monochrome ware;⁴⁹ and a great many pieces of pots that were wholly coated with glaze paint ("Urfirnis") or bore rectilinear patterns, drawn in the same substance, which turned orange-brown or dark brown to black according to the thickness of the application (Pl. 10, e). This category has been shown to be characteristic of the later phases of the Neolithic period⁵⁰ and is obviously out of context when found with Variegated ware. Telling evidence of the mixed quality of the deposit was supplied, moreover, by a small number of Early Helladic sherds which occurred persistently in all the lots collected, down to the lowest.

Clearly this whole mass of earth, at least 4 m. deep, is a filling taken from some part of the Neolithic settlement and placed here in the Early Helladic period. Since none of it appeared, even at a much lower level, in Trench F only 10 m. to the south, we must presume that it was heaped behind some sort of retaining wall and formed a level terrace. The facts remain to be ascertained by further excavation. If our conjecture about the terrace is correct, we shall try also to discover the region from which the earth filling was taken. One is led to guess that it was moved in connection with the building of the House of the Tiles, but as yet this is only an inference from the proximity.

⁴⁸ S. S. Weinberg, *Hesperia*, VI, 1937, pp. 493-495; L. W. Kosmopoulos, *The Prehistoric Inhabitation of Corinth*, pl. Ia; C. W. Blegen, *Art and Arch.*, XXII, 1926, p. 134.

⁴⁹ S. S. Weinberg, *op. cit.*, pp. 503-509. Mrs. Kosmopoulos refers to this ware as "Proto-Minyan."

⁵⁰ E. g. at Corinth, S. S. Weinberg, *op. cit.*, pp. 500-503; at Gonia, the Heraion of Argos, and Hageorgitika in Arcadia, C. W. Blegen, *Metr. Mus. Studies*, III, 1930-31, p. 69; at Asea, E. J. Holmberg, *The Swedish Excavations at Asea in Arcadia*, pp. 49-54.

Only a beginning has been made at Lerna. At this stage of the investigation it is impossible to draw general conclusions, but we may summarize a few of the interesting facts that have been ascertained.

The site was inhabited in the Neolithic Age, probably over a long period of time. It may prove difficult to discover and excavate undisturbed Neolithic deposits, since in some parts of the mound they appear to lie at or below water level and in others to have been cut by Early Helladic builders. The Neolithic settlement must, however, be one of the principal objects of our search.

Remains of the Early Helladic settlement present an unexpectedly imposing picture. The House of the Tiles has no close parallel among contemporary structures yet known on the Greek mainland. In scale it would seem perhaps comparable to the great tholos at Tiryns and to the Megara of Troy II, and it is built with extraordinary precision, scarcely any error being discernible in the straightness of its walls and the right angles of its corners. The terracotta tiles and pieces of slate from this building give us, furthermore, a new and welcome body of evidence for the type of roofing.⁵¹ The date of the house, even in relative terms, is not yet known; it appears that two phases of the Early Helladic period succeeded its destruction by fire, and that in the latter of those two the horned jar was imported from the region of Troy. Evidently Lerna was in communication with the outside world. A flanged lid,⁵² found in an Early Helladic stratum in Trench A, bears a pattern of lines and tangent-spirals that strongly suggests a Cycladic origin.

The Middle Helladic settlement seems also to have been extensive and prosperous. In Areas A and D we have fine examples of domestic architecture, and the many successive strata observed there and elsewhere give promise of yielding pottery and other objects in reliable chronological sequence. The numerous graves testify to the practice of burying the dead, adults as well as children, in and among the houses; but remains of stone cists, revealed by military trenches on the lower southeastern slopes of Mt. Pontinos, suggest that a Middle or Late Helladic cemetery existed there also. It is too early to make deductions about the dates of the various phases. Our first observations show that coarse pottery predominated at the beginning of the Middle Helladic period; Gray Minyan ware was in use throughout; Black, or Argive, Minyan, with a thick lustrous slip, occurs plentifully; Matt-painted ware is common in the later phases but is rare, if not wholly absent, in the earliest. Alongside the familiar types of pottery in the middle and, especially, the late phases, occur pieces wholly or partially coated with a lustrous dark glaze, on which are patterns in dull white and red

⁵¹ Tiles of the same sort were found at Tiryns (K. Müller, *Tiryns*, III, pp. 85-86) and at Asine (Frödin and Persson, *Asine*, p. 233), but not in such quantities or in such clear association with the buildings.

⁵² Inv. L.23; H. 0.041, D. 0.135; illustrated in *B.C.H.*, LXXVII, 1953, p. 214, fig. 18.

or purple,⁵³ and others, of a technically related class, bearing linear decoration in lustrous dark paint on a light ground. No whole vessels of the last category have yet appeared but sherds (e. g. those shown in Pl. 8, f) have been found in almost all areas tested so far.

Remains of the Late Helladic and succeeding periods have been found, up to now, chiefly on the eastern side of the hill. They bear witness to the continuous occupation of the site at least until early Hellenistic times. The topmost layers have suffered and, over much of the ground, have been removed. Cultivation and normal erosion account for a part of the loss, military construction in the recent war for still more. On the last day of our preliminary campaign of September, 1952, a violent wind storm broke over Lerna, coming in hot furious gusts from Arcadia. Windows were broken in Myloi, tables and chairs at an outdoor restaurant were hurled fifty feet or more, and men had to take hold of trees and posts to keep themselves from being knocked down. Whirling clouds of dust rose from the mound and blew eastward into the Gulf. We were told that winds of this sort were not a rare phenomenon in the district. In the course of centuries they have undoubtedly removed much earth from the ancient site.

JOHN L. CASKEY

AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

⁵³ Examples of the same style are known at Mycenae, Berbati, and Asine.



a. The Lernaean Marshes, the Stream Amydone, and the Ancient Site from Mt. Pontinos.



b. Mound from West.



c. Mound from Southeast.

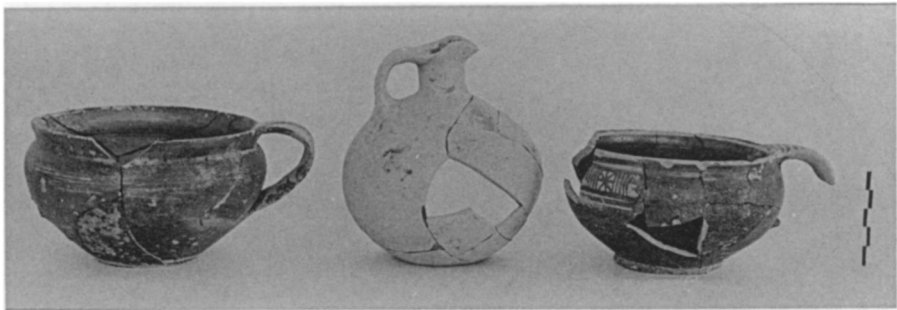
PLATE 2



a. Area D from East after Excavation, 1953.



b. Area D from West after Excavation, 1953: B, C, D, Middle Helladic Houses; F, a Mycenaean Street.



c. Area D. Geometric Cups and Oinochoe from Pithos Burial (ca. 1:4).



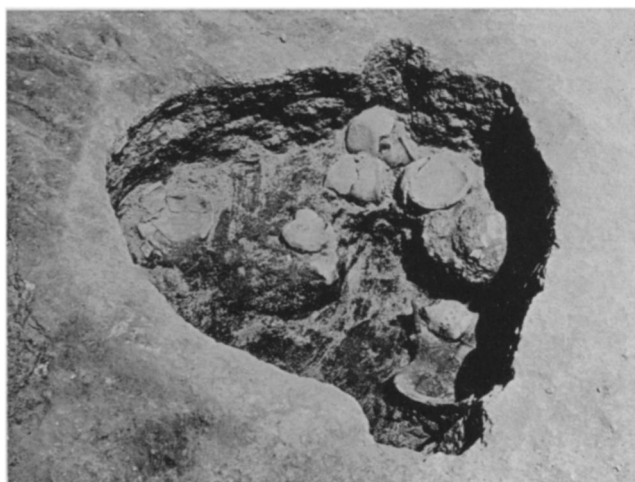
a. Area A. House M during Excavation, from Southwest.



b. Area A. Grave A.1.



c. Area A. Grave A.7 with Stele.



d. Area B. Early Helladic Bothros.

PLATE 4



a. Area B. House of the Tiles from West.



b. House of the Tiles.
Corridor from East.



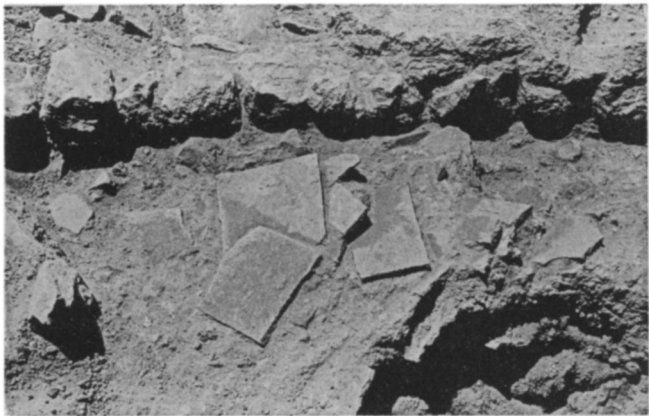
c. House of the Tiles.
Plaster on Wall of Room III.



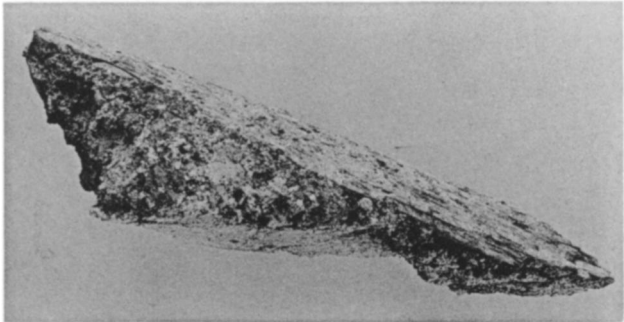
a. Staircase D from East.



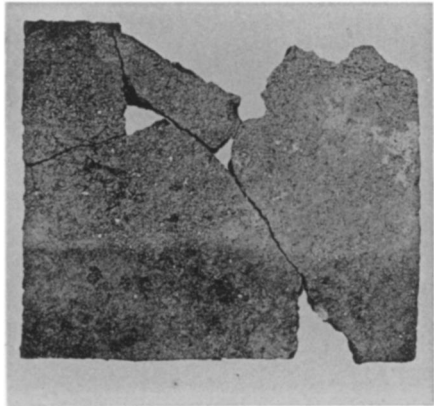
b. Fallen Slates.



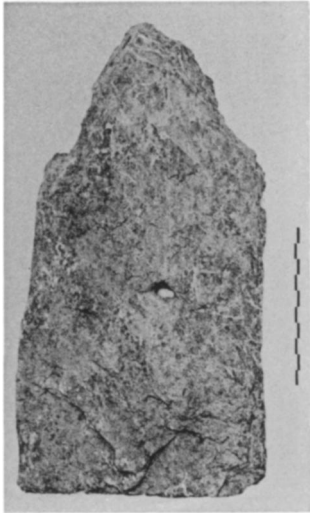
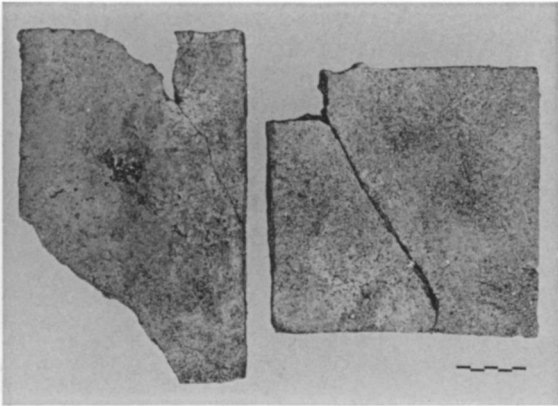
c. Fallen Tiles as Found.



d. Slate with Mass of Clay Adhering.



e. Tiles of Various Dimensions.



f. Pierced Slate.

House of the Tiles.

JOHN L. CASKEY: EXCAVATIONS AT LERNA: 1952-1953

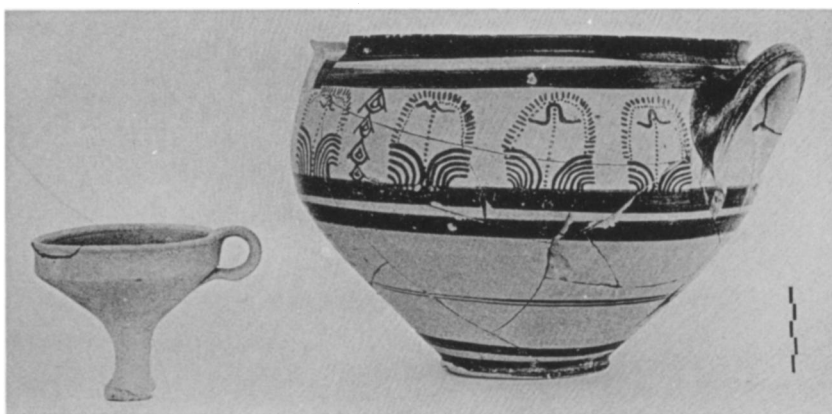
PLATE 6



a. Area D. Grave D.2 Opened,
from South.



b. Pots from Grave D.2.



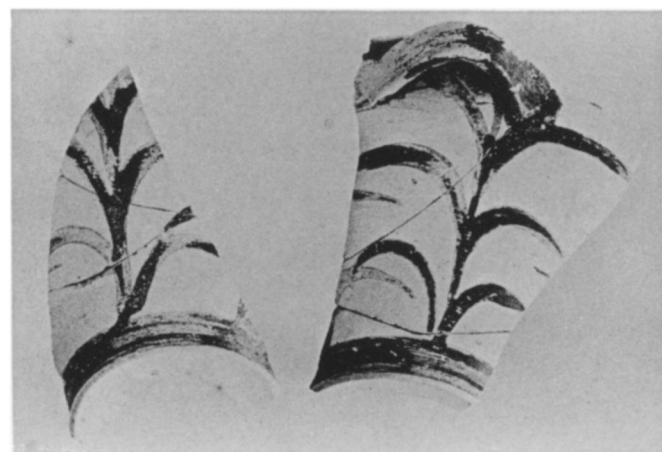
c. Area D. Pots from Room T.



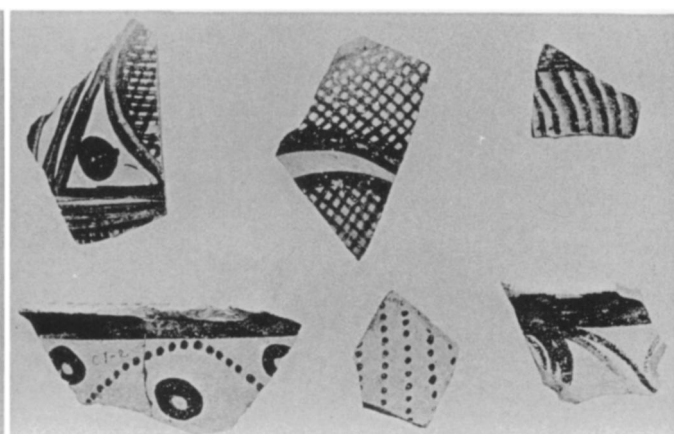
d. Area D. Figurines, L.H. III (1:2).



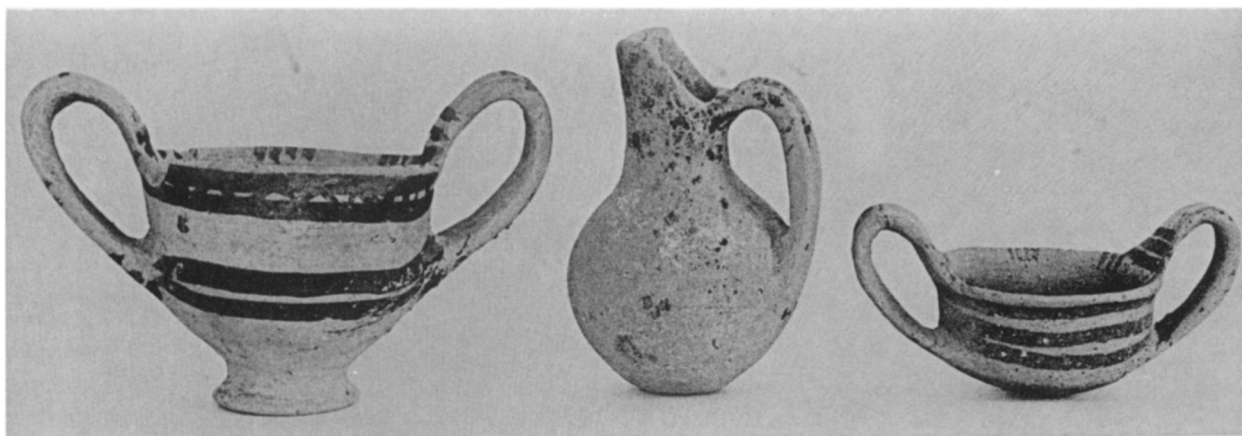
e. Trench F. Squat Alabastron, L.H. II (1:2).



f. Trench F. Fragments of Bowl, L.H. II (1:2).



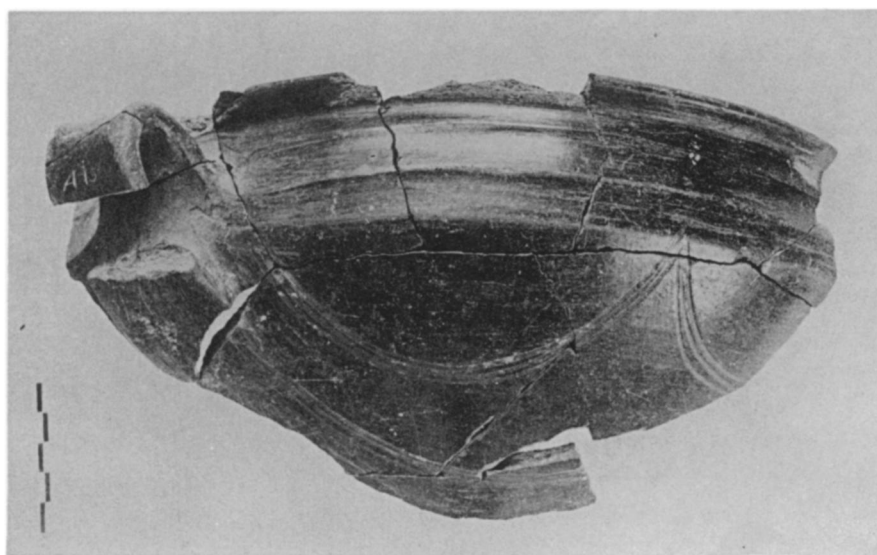
g. Trench C. Sherds of Mycenaean Wares, L.H. I-II (1:2).



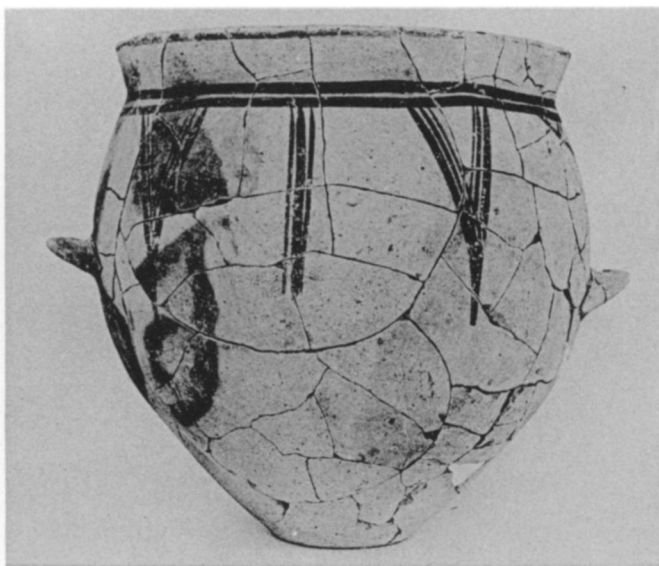
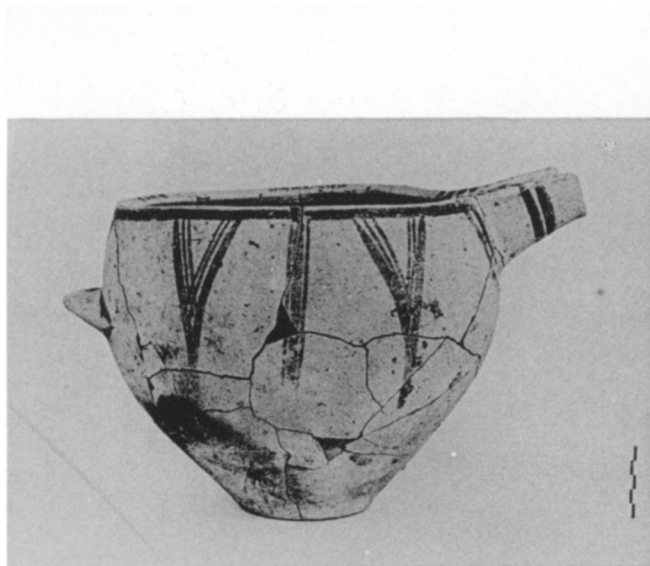
a. Area D. Jug and Matt-painted Cups from Grave D.5 (1:3).



b. Area D. Matt-painted Jugs and Minyan Bowl from Room of Penultimate Phase, Middle Helladic Layer (1:3).



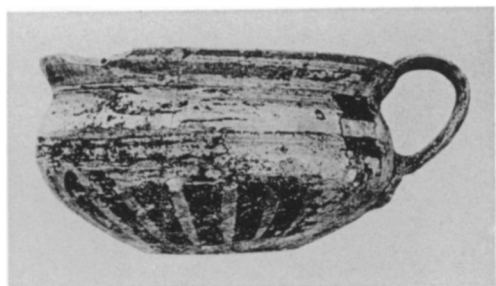
c. Area A. Fragment of Black Minyan Bowl from House D.



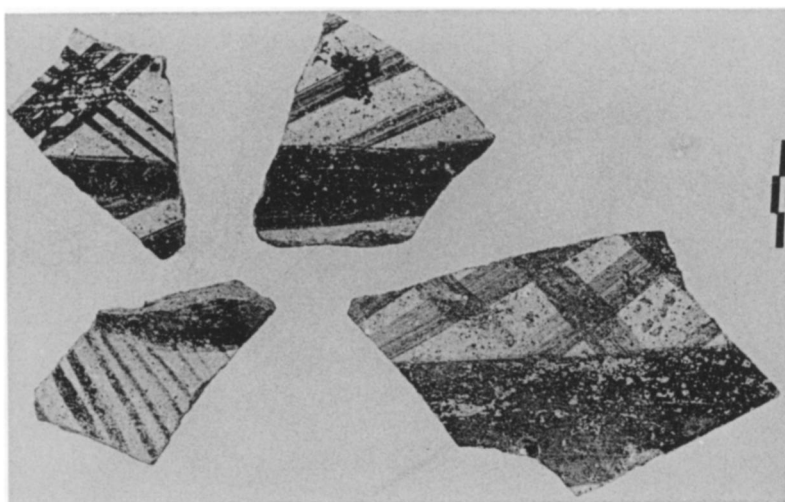
a. and b. Area A. Spouted Vessel and Large Jar in Matt-painted Ware from House M.



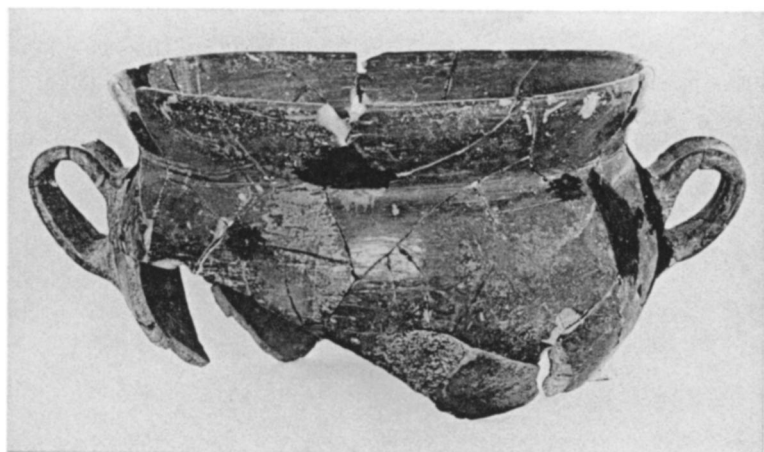
c. and d. Area D, Room AH, and Area A, Grave A.10. Jug and Cup with Patterns in White and Purple on Dark Ground, Middle Helladic Period.



e. Trench C. Cup with Polychrome Decoration from Grave F, Middle Helladic Period (1:2).



f. Area D. Sherds with Patterns in Lustrous Dark Paint on Light Ground. Middle Helladic Period.



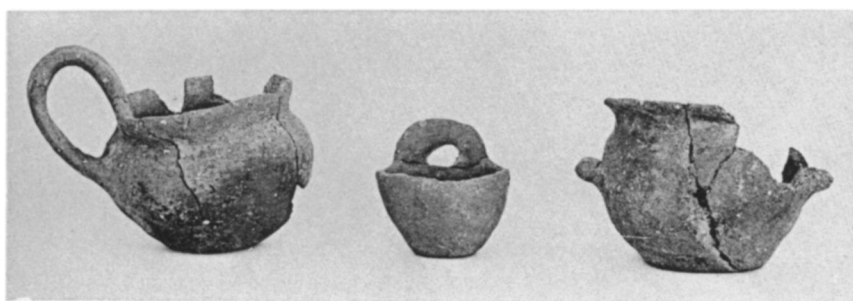
a. Area A. Bowl in Black Slipped Ware from House A (2:5).



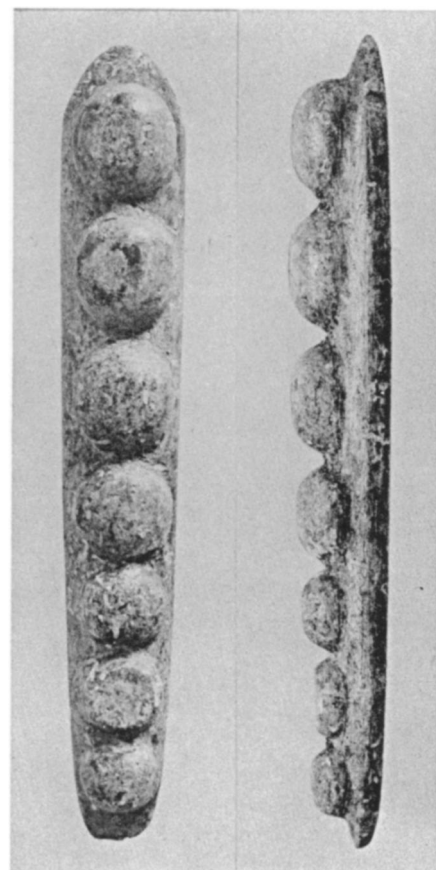
b. Area A. Jug in Matt-painted Ware from House D (2:5).



c. Bowl in Gray Minyan Ware. (1:2).



d.-f. Area A. Small Vessels in Coarse Ware from House A. (1:4).

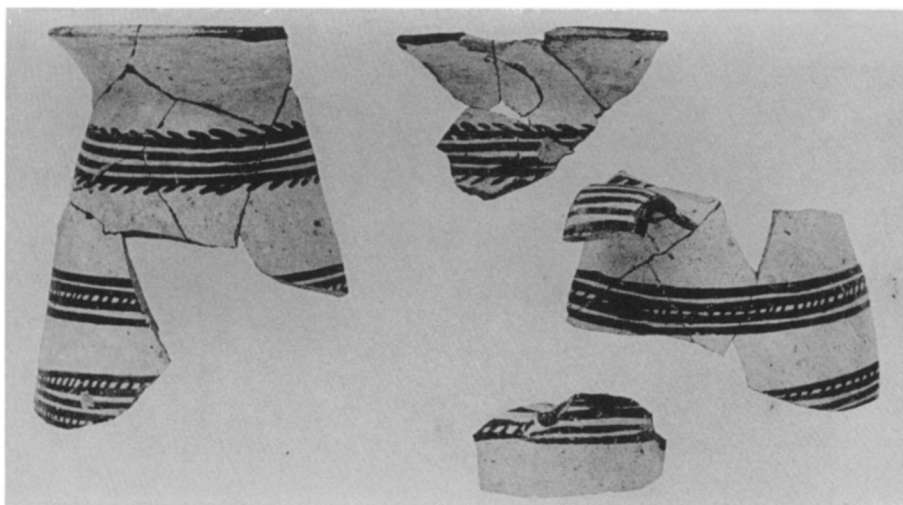


g. Area B. Knobbed Strip of Bone from First Stratum of Middle Helladic Layer. (1:1).

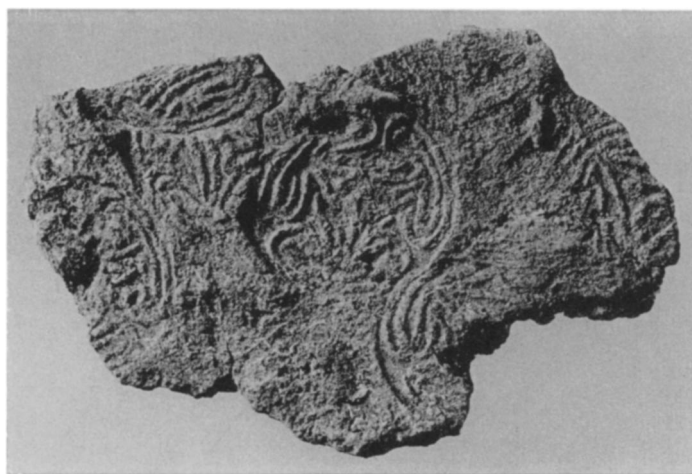
PLATE 10



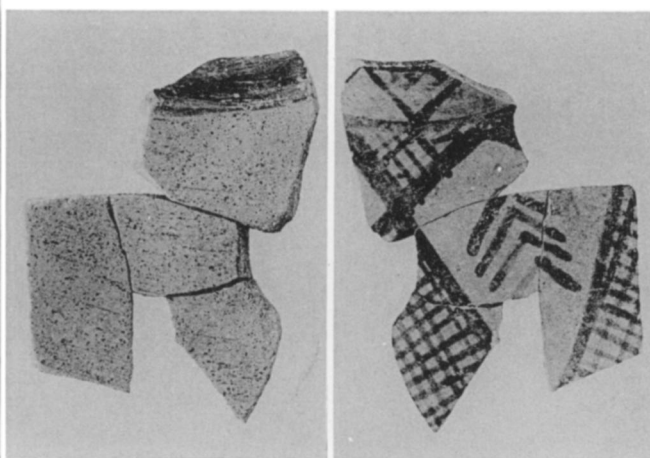
a. Trench C. Chalice in Black Burnished Ware. Early Helladic Period. (1:2).



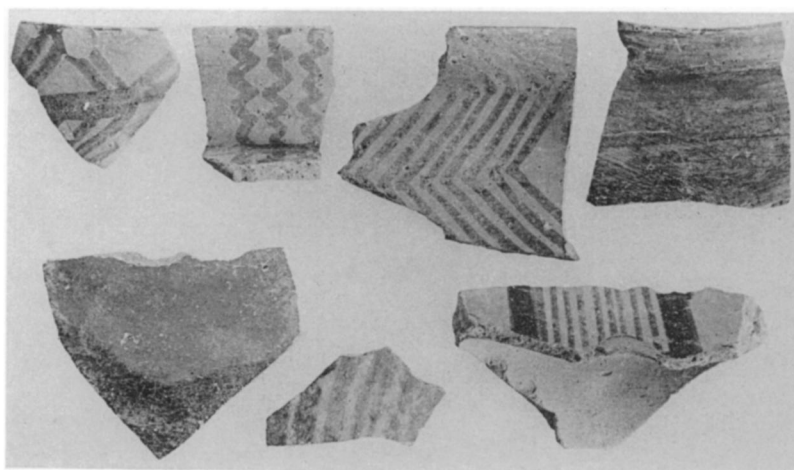
b. Area D. Fragments of Early Helladic Tankard. (2:5).



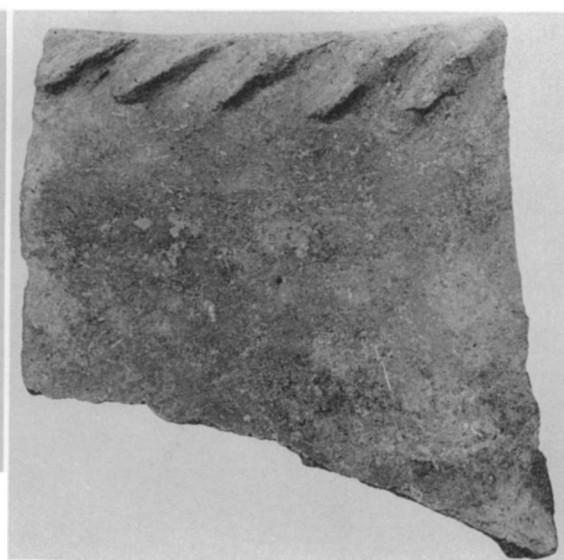
c. Area B. Seal Impressions on Clay, from the House of the Tiles. Early Helladic Period. (1:1).



d. Area B. Fragment of Neolithic Jar, Interior and Exterior. (1:2).



e. Trench E. Sherds of Neolithic Wares. (2:5).



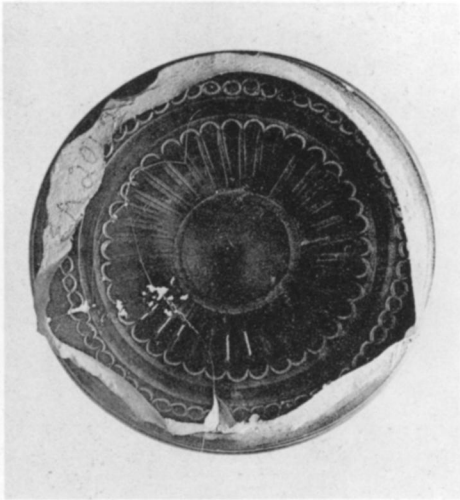
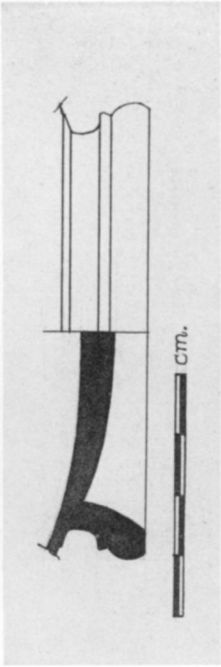
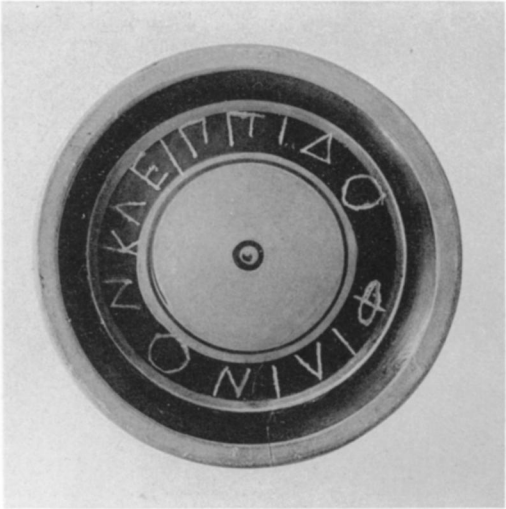
f. Area B. Rim of Jar in Red-slipped Ware. Neolithic Period. (1:2).



a. Trench GA. Askoid Vessel. Early Helladic Period.



b. Area B. Fragmentary Trojan Jar from Late Stratum of Early Helladic Layer, Partly Restored.



ANTONY E. RAUBITSCHKE: PHILINOS