

sanctuaire signalé par Pausanias (II, xx, 8) dans cette région s'en trouve donc apparemment confirmée. Le matériel atteste son activité à partir du début du VI^e siècle au moins. Mais son histoire n'apparaît pas encore clairement. Peut-être la partie fouillée cette année ne représente-t-elle qu'un élargissement du *téménos* primitif. En tout cas, aucun bâtiment n'y a été reconnu, à l'exception d'un massif rectangulaire en *pôros*, très ruiné, qui peut avoir été un autel monumental (cf. BCH 91(1967), Chronique, p. 1028, fig. 9).

Une fouille partielle des états antérieurs au sanctuaire a déjà permis de reconnaître trois niveaux d'occupation (de l'Helladique Moyen au Mycénien), et occasionné la découverte d'une tombe mésohelladique d'un type exceptionnel: il s'agit d'une fosse à incinération, où, sous les ossements calcinés du mort, l'on a retrouvé les restes du bûcher (P. I. 92 b). L'offrande que l'on y avait déposée, un beau canthare *mat-painted* (P. I. 92 a), paraît dater la tombe de la dernière phase de l'Helladique Moyen.

b) Sondage d'urgence (Su 85)

Un sondage, entrepris à la demande de l'Ephorie, sur le terrain de D. Hatzixénophon, près de l'angle SE de la même place, a permis de dégager partiellement une villa du Bas-Empire (cf. BCH 91(1967), Chronique, p. 1040, fig. 1).

Trois pièces, dont le sol est revêtu de mosaïques à motifs décoratifs, constituent dans la partie fouillée le corps principal de bâtiment (P. I. 91 b). Empiétant sur l'angle Sud-Ouest de la pièce Nord, un escalier desservait l'étage supérieur. A l'Ouest, communiquant par une porte avec la pièce Sud, se trouve une construction de même appareil, mais de plan différent : dodécagonale (diam. intérieur 4.40 m), elle comporte, ménagées dans chacun des côtés, onze niches, l'emplacement de la douzième étant occupé par la porte. Cette « rotonde », conservée jusqu'à 1 m. env. au-dessus du sol intérieur, contenait beaucoup de briques tombées, mais, à la différence des autres pièces, pas de tuiles: sans doute était-elle recouverte d'une coupole. Sa destination, faute d'une fouille plus étendue, que rendent impossible les constructions environnantes, reste difficile à déterminer.

L'architecture et les mosaïques permettent

de situer la construction de la villa au IV^e siècle ap. J.-C. D'après les monnaies trouvées dans la couche de destruction, elle n'aurait été abandonnée que sous Constant II (641-668).

Des sondages profonds, limités par la présence des mosaïques, ont provoqué la découverte, au Sud du terrain, des restes d'une citerne hellénistique, et sous le sol de la « rotonde », d'une tombe protogéométrique. Ils ont permis d'observer, au Nord-Est, une stratigraphie remontant au moins jusqu'à l'Helladique Moyen.

ÉCOLE FRANÇAISE D'ATHÈNES

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HALIEIS (Porto - Cheli)

The fourth season of exploration and excavation in the neighborhood of Porto-Cheli in the southern Argolid was carried out during a campaign of about two months in the summer of 1967*. Although problems of land acquisition precluded excavation on the site of ancient Halieis itself, it was possible to investigate three areas in the immediate neighborhood: 1) the submerged portion of the ancient city in the harbor of modern Porto Cheli; 2) a post-classical tile kiln on the beach at Lorenzo, southeast of Porto Cheli; and 3) a large prehistoric cave at Franchthi near Koilada, northwest of Porto Cheli.

Underwater. The investigation of the underwater remains in the harbor of Porto Cheli represents a continuation of the exploration begun there in 1965. The principal objective during the past season was to clarify a gap of ca. 180 m. in the northernmost stretch of the submerged city wall (Cf. the 1965 plan of the ancient city, *AJA* 71 (1967), pl. 88, fig. 15). Although no excavation was conducted, considerable new information was gathered by means of probing with metal rods, cleaning with a pump and high pressure nozzle and aerial photographs taken from a balloon or airfoil. Indeed, the result of this campaign has been that all but ca. 7 m. of the above gap has now been filled in (P. I. 93). Moreover, an additional 50 m. of fortification wall was discovered near the western end of the city and a complex of large buildings was located in the northeastern portion of

the modern harbor. Several new towers have come to light along the course of the submerged city wall.

The most interesting accomplishment of this season's underwater operation was the discovery that the stretch of wall descending into the bay from the eastern sector of the ancient city does not join directly but overlaps slightly with the stretch coming down from the west. The two stretches terminate in circular towers, ca. 20 m. distant from each other (P l. 94). The towers differ in the construction of their uppermost courses: the upper course of that at the north is made of 38 roughly wedge-shaped blocks of local conglomerate while the curved portion of the southern tower (it is not completely circular) consists of a series of 15 headers alternating with pairs (14 visible) of stretches. The superstructure of each tower must have been of mudbrick. Both towers had a diameter of ca. 9.20 m., about the same size as the submerged tower found in 1965 but somewhat smaller than the semicircular tower excavated on the acropolis in 1965.

Approximately two-thirds of the interval of ca. 20 m. between the two towers is taken up by a heavy conglomerate foundation projecting northeastward from the south tower. This foundation terminates short of the north tower, leaving an open gap of ca. 7 m. just south of the north tower (at the deepest point in the interval). This gap must represent an entrance to the ancient city, but the apparent absence of any additional construction (such as a stone sill) suggests that it is not a land entrance. Indeed, it seems rather more likely that this is a narrow sea gate leading to a small harbor within the fortifications of the city. A series of three cuttings at the northern end of the foundation may have been used for the base of a boom to be lowered across the 7 m. gap. Further investigation of this area is planned for the 1968 campaign.

Surface Find. Several interesting surface discoveries were made during the course of the summer. Certainly the best of these is a well preserved terracotta mould (ca. 0.25 m. x ca. 0.21 m.) found in the western part of the lower town of Halieis (P l. 95 a). It bears the representation of a youth and nude female and may have been used to create

small domestic altars of stucco. It probably belongs to the fourth century B.C.

Lorenzo Kiln (P l. 95 b). The excavation of this small site, under the direction of F.R. Matson, was completed during a period of three and one half weeks' fieldwork. The kiln was used for the production of roof tiles and was in fact built of roof tiles and bricks faced with a coating of clay. Although wave action of the sea on an eroding shoreline has removed the central portion of the hearth, leaving two large blocks of it and a small separate fragment, and no evidence of the superstructure remains, the lower portion of the kiln (hearth floor, two firing tunnels beneath it and two stoking chambers now extending into the sea) have been preserved in a manner rarely seen elsewhere in Greece (P l. 96 a).

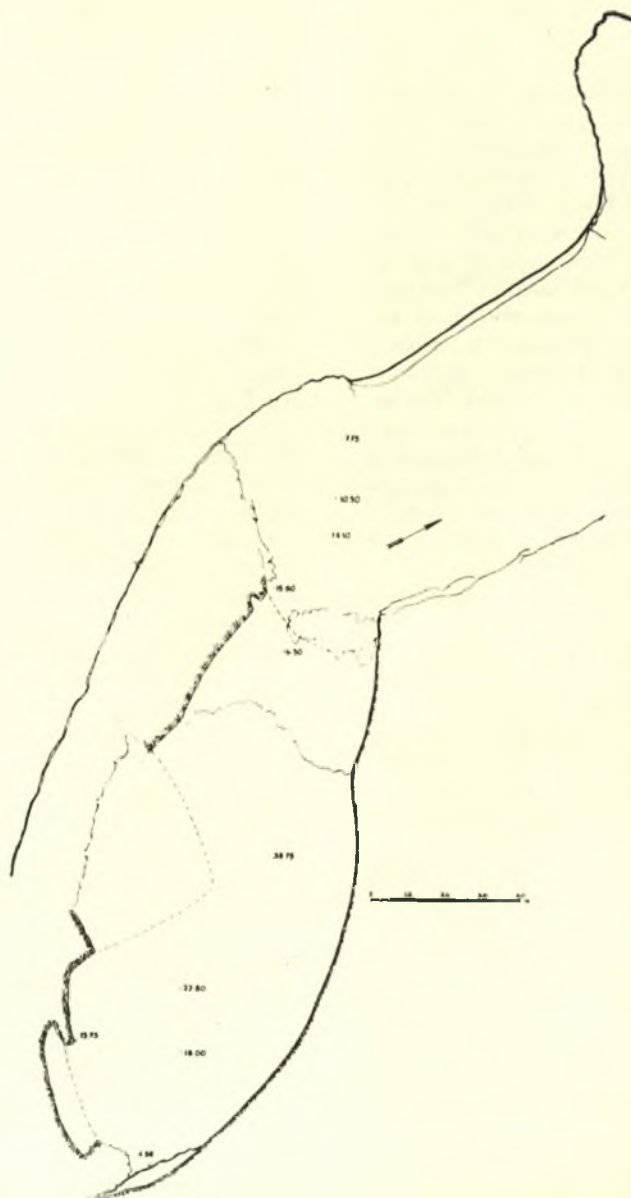
Perhaps the most interesting feature of the structure is the hearth floor (ca. 3.50 m. x ca. 3.50 m.) whose preserved surface is perforated by 168 flue holes (P l. 96 b). These small openings, varying in diameter from 0.04 m. to 0.08 m., would have permitted heat from the firing tunnels to reach the newly made tiles stacked on the floor of the hearth itself. The walls covering the hearth, possibly of mudbrick construction, have long since disappeared. The finds from the kiln complex (including roof tile fragments, a few potsherds, a gourd scoop, a small lead disk and a fine stoking rod some 2.50 m. in length) tentatively point to a date for its use in late Roman or Byzantine times; but a final estimate of its date must await a radioactive carbon analysis of the well preserved charcoal collected from fuel remaining on the floors of both stoking chambers.

Franchthi Cave (P l. 97 d). The site is an enormous natural cavern situated at the western tip of a high and rugged headland known locally as Franchthi (or Fragthi), directly across the bay from the village of Koilada. The cave is oriented northwest-southeast (its mouth opens to the northwest) and measures ca. 150 m. in depth by ca. 50 m. in width (P l a n 1). A large area at the mouth and a considerable portion of the interior are now covered by massive rubble resulting from a collapse of the brow and the roof, thus leaving only the rocky terrace in front of the cave and an area 20-30 m. deep

just inside the mouth free for excavation.

Seven trenches were opened during the past season (Plan 2): three within the cave (A, F and G) and four on the terrace in front of

Excavation in the remaining soundings, none of which exceeded 1.50 m. in depth, had been temporarily suspended earlier owing to the difficulties involved in penetrating the great



Plan 1. Halieis. Plan of the cave, showing the relationship to the beach

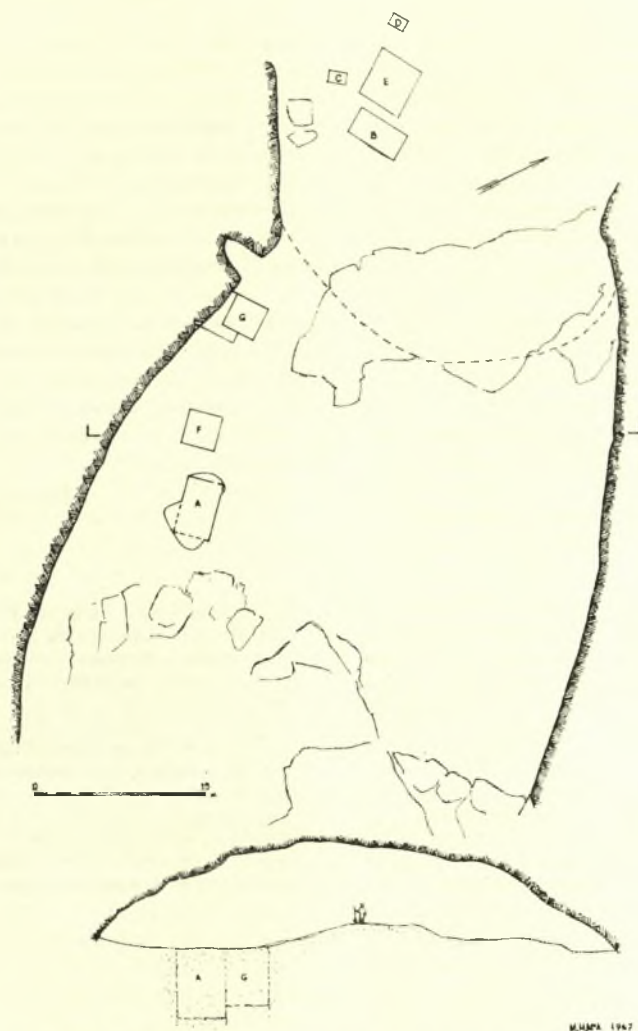
the cave (B, C, D and E). Significant depths were reached in only two of these trenches (A and G); both were arbitrarily discontinued at season's end at depths of ca. 6 m.

accumulation of fallen stone. Bedrock has not been reached in any of the trenches.

Trenches A and G produced similar stratigraphic sequences. Beneath a deposit of

mixed surface soil resting upon an often very deep accumulation of loose rubble, pure Neolithic levels were reached (there is as yet no evidence of Bronze Age occupation in the cave). All of the major sub-phases of the Neo-

in matt paint (dark on light, light on dark and polychrome) are common. The Middle Neolithic period is particularly well represented among the finds from the cave. By far the most characteristic ceramic class of this



Plan 2. Halieis. Plan and elevation of the cave, showing trenches

lithic period are represented by the abundant ceramic remains from these trenches (over 100 baskets of potsherds were collected from A and G alone). The Late Neolithic phase is characterized by rather coarse and poorly made pottery, yet finer wares certainly are present. Pieces bearing patterned decoration

phase is the handsome and extremely well made ware decorated (in patterns or monochrome) with a lustrous reddish brown to black paint (*Urfirnis*), so well known from the excavations at Corinth and Lerna. Several vessels belonging to this class have been restored, but the best example (P1. 97 a) is

an angular bowl on a raised base bearing geometric patterns from trench G (height, 0.185 m.). A substantial Early Neolithic deposit has yet to be found, but a number of potsherds belonging to ceramic classes characteristic of this period in the Peloponnese (e.g. Spongy, Rainbow/Variegated) have turned up in the lowest pottery-bearing levels.

In addition to the ceramic remains, over 150 objects of bone, stone, shell and clay were inventoried. These include polished stone celts (P.I. 97 b), chipped tools of flint and obsidian, fragments of stone vessels, bone points or awls (P.I. 97 e) figurines of stone and clay, and beads and other ornaments of stone, bone and clay. An interesting stone (possibly a fine grained dolomite) amulet or stamp seal in the shape of the lower half of a female's body belongs to the Middle Neolithic period (P.I. 97 c).

The season's most remarkable discovery in the Franchthi Cave was the exposure of a deposit, ca. 1 m. in depth, of *aceramic* remains

beneath the pottery levels in trenches A and G. Although there was absolutely no trace of pottery in this deposit, it did contain chipped tools of flint and obsidian, bone points and a generous supply of mammal and fish bones. After a preliminary study of the mammal bones, S.N. Payne of Cambridge University suggested that they could be divided tentatively into two groups: the lower, characterized by the absence of sheep and goat and the predominance of red deer and large bovid; and the upper, characterized by the first appearance of sheep and goat and an increase in the frequency of pig. Although these observations are necessarily subject to revision upon further study, it may tentatively be suggested that there is evidence here for the first time in Greece of the transition from a basically Mesolithic economy to that of Neolithic domestication of animals. Moreover, since no sounding has yet reached bedrock, there is reason to expect even earlier remains in 1968.

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NOTE

Work officially began on 21 June and lasted through 26 August, including a short study period in the Nauplion Museum. For brief reports of previous work at Porto Cheli, cf. *Expedition*, 5 (1963), pp. 2-11; *Delton*, 18 (1963): *Chronika*, p. 74; *BCH* 90 (1966), (*Chronique*), pp. 786-791; and *AJA*, 71 (1967): p. 299; *Delton*, 21 (1966): *Chronika*, p. 148 ff.; *Delton*, 22 (1967): *Chronika*, p. 195 ff.

These investigations (Argolid Exploration Project) now represent a joint undertaking of Indiana University and the University of Pennsylvania and are under the auspices of the American School of Classical Studies in Athens. Financial support for the project has been provided by

the National Endowment for the Humanities, the Indiana University Foundation and the University of Pennsylvania. T. W. Jacobson of Indiana University and M. H. Jameson of the University of Pennsylvania are co-directors of the project, while Jacobson served as field director. Other members of the professional staff were: Mrs. M. H. McAllister, F. R. Matson, J. H. Whittlesey, Miss S. Dublin, Miss M. Symington, Miss M. Johns, R. Platt, J. Wollerton and Mr. and Mrs. J. Dirksen. Mr. D. Giakoumis of Nauplion represented the Ephor, Mrs. Deilaki, and Mr. N. Didaskalou of Old Corinth acted as conservator. Mr. and Mrs. S. N. Payne spent a week in the Nauplion Museum looking at the mammal bones from the Franchthi Cave.

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Halieis. Plan of the underwater remains

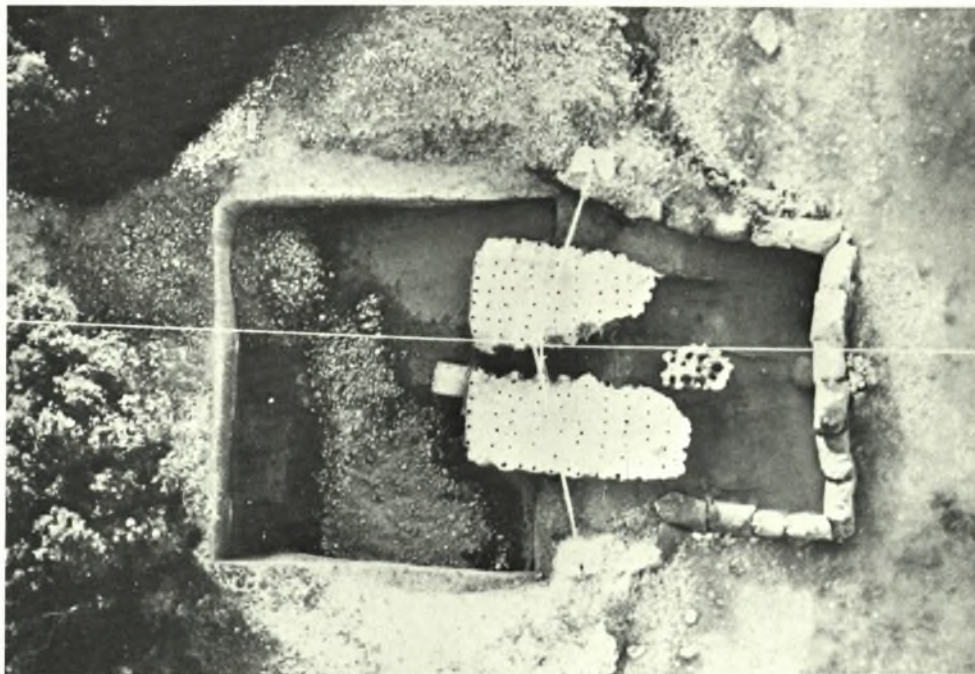
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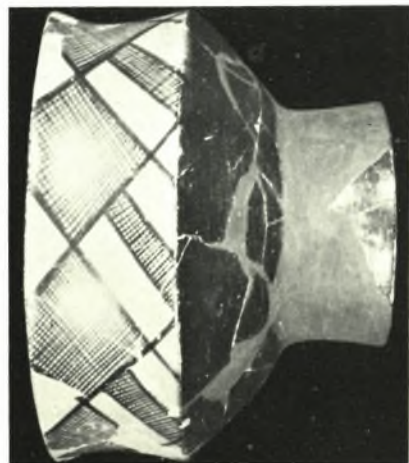
Halieis. Aerial view of the round towers



Halieis: a. Terracotta mould (HC 247), b. Kiln hearth as exposed by the sea, before excavation commenced



Halicis: Aerial view of the kiln hearth, the sea dike enclosing the stoking chambers and the excavated area behind the kiln, b. Kiln hearth and exposed substructure



Haliçis. Franchthi Cave: a. Patterned urfirmis bowl (HP 597), b. Neolithic celts, c. Stone amulet,
d. Mouth of the cave and the beach from the north, e. Bone points

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