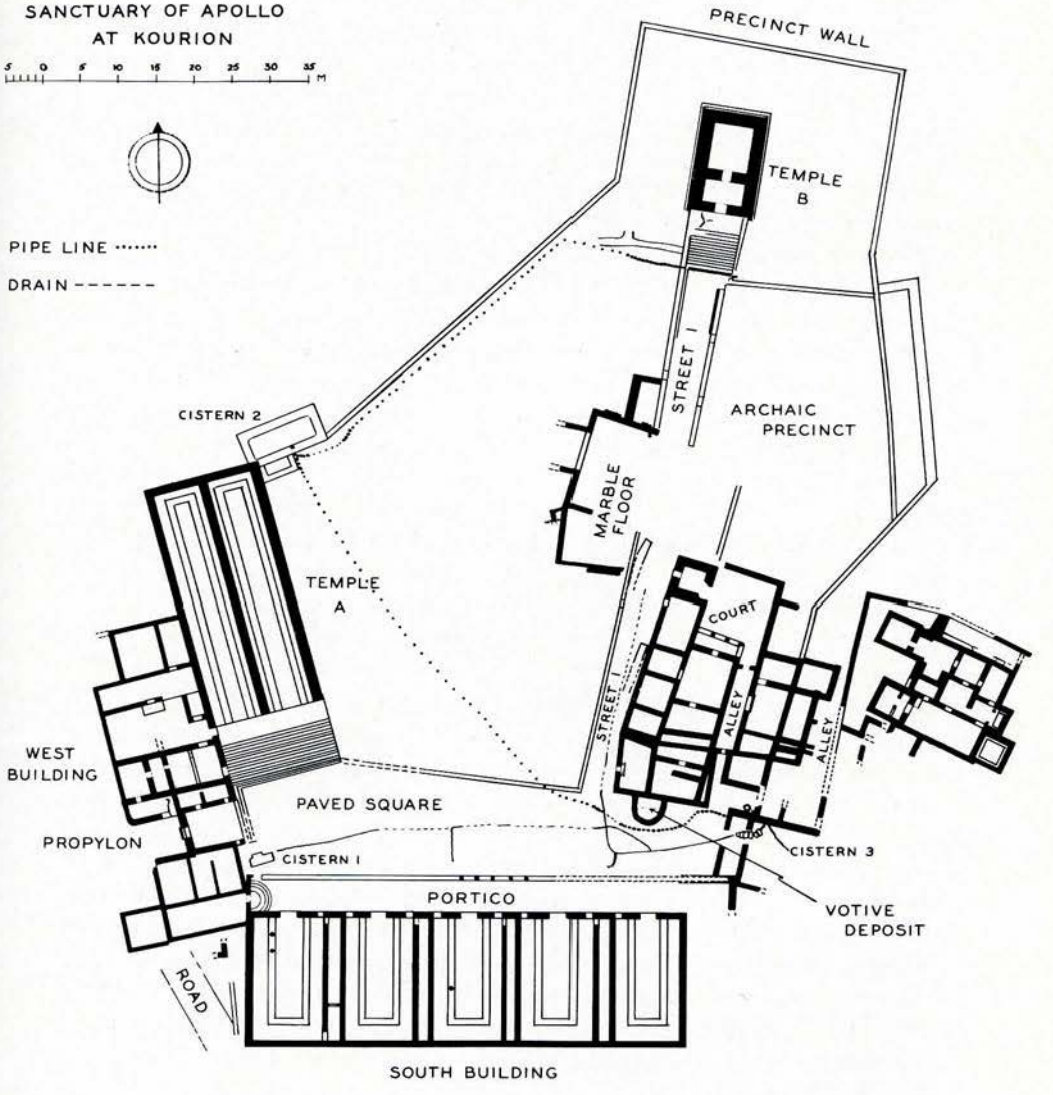
KOURION—THE APOLLO BATHS

Excavations were resumed on the site of the Sanctuary of Apollo during the first week of April of 1949. The area chosen was that east of the lower alley, just beyond the eastern limits of the area excavated during the previous season. On the east side of this alley, and north of a large cave (Plan I), there was a mound, composed largely of heavy débris, which offered a tempting objective to the excavator. Some trenches were sunk across this mound, and not many weeks had elapsed before the greater part of a building of considerable size and interest had been cleared. This building proved to be a bathing establishment in the Roman style, with central heating and hot and cold baths (Plan I).[1]

One might ask what a bath establishment is doing on the site of Apollo's sanctuary. We shall see, however, that it is not situated within the sacred enclosure but stands, as will be made clear from the plan, just east of the precinct walls.

The building faces south. One entered through a narrow vestibule (room 1) into a long hall (room 2) paved in mosaic. Immediately to the left is a small chamber (room 3), probably a dressing room; and opposite two more rooms (room 4, possibly an attendant's room, and room 5, probably another dressing room). The bather would proceed, as we imagine, to one of the two dressing rooms and then pass down the hall to a large water basin. He stepped down into this basin and stood on its bright-colored mosaic floor, probably at least waist deep in cold water; for this was the unheated part of the establishment known as the *frigidarium*. Or he might pass by the large basin and enter room 6 and have a cold bath

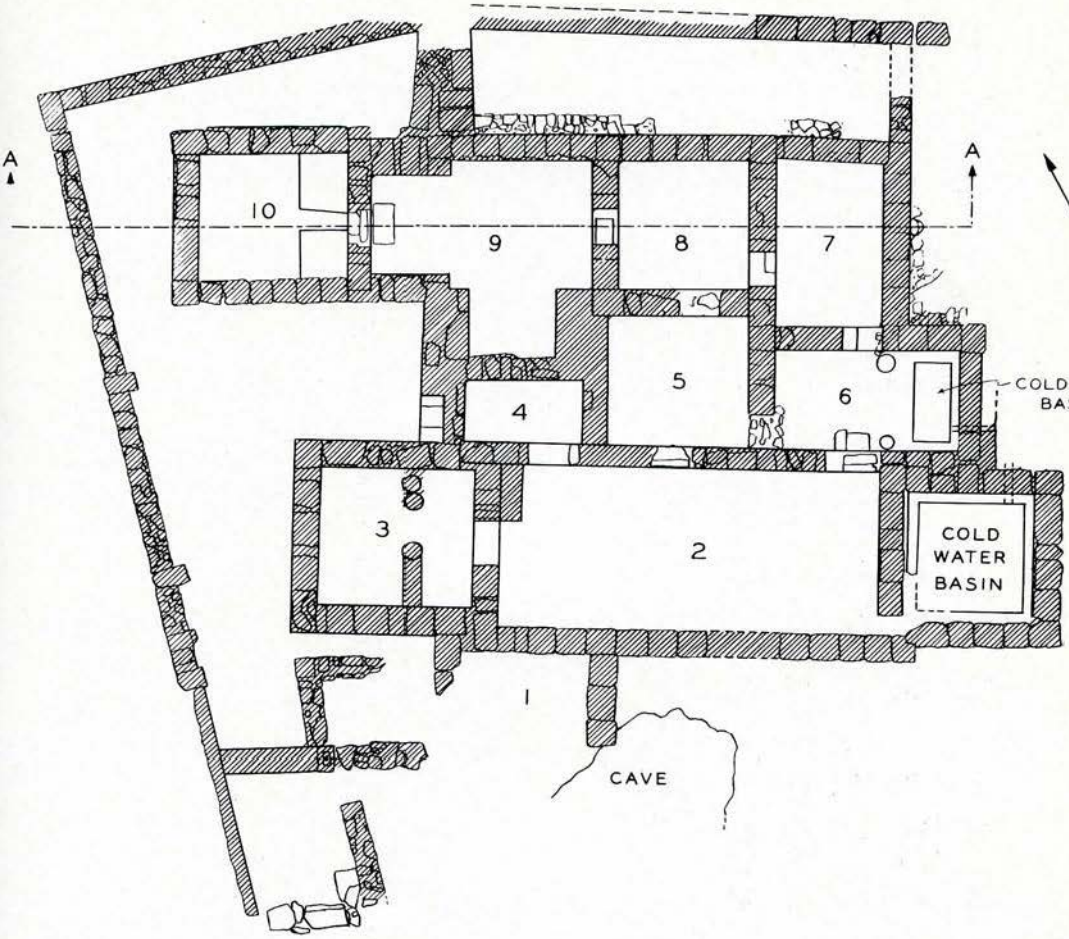
1 Another bathing establishment of the Roman imperial period is being excavated on the bluff of Kourion at a distance of about two miles from the Sanctuary of Apollo. Results will be reported in due course by Mr. De Coursey Fales, a member of the expedition staff. (See following article, page 27).

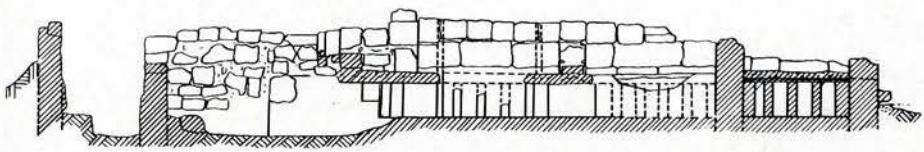

SANCTUARY OF APOLLO
AT KOURION
5 0 5 10 15 20 25 30 35 M
PIPE LINE
DRAIN
PRECINCT WALL
TEMPLE B
STREET I
ARCHAIC PRECINCT
CISTERN 2
MARBLE FLOOR
TEMPLE A
COURT
ALLEY
ALLEY
STREET I
WEST BUILDING
PAVED SQUARE
PROPYLON
CISTERN I
CISTERN 3
PORTICO
VOTIVE DEPOSIT
ROAD
SOUTH BUILDING

PLAN I

there in a small built-in basin with a mosaic floor. Having completed his cold bath, he would enter room 7, the *tepidarium*, as the Romans called it. The people of his day were of the opinion that sudden changes in temperature were to be avoided. So, before proceeding from the unheated rooms into that part of the establishment which was heated, the bather passed through a tepid room, where he remained for what was considered a suitable interval of time. This room was heated by having hot air pass under a section of the mosaic floor. He then passed into the first hot room (room 8), known as the *sudatorium*. This room had its marble floor and walls heated sufficiently to allow the bather to perspire freely before going on into the last room (room 9), the *caldarium*, as it was called. This last room, as will be seen from the plan, had two bays, one in the south wall, and another at the west end. Judging from parallels elsewhere, there would have been built-in basins here occupying the entire space of the two bays. These would have been filled with hot water. After a hot bath the bather would return by the same way he came, remaining for a suitable interval in the *tepidarium*, before passing into the unheated part of the establishment to his dressing room.

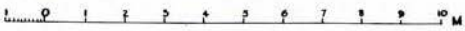
The bath establishment, as we have said, had central heating. A fire was kindled near the east end of the narrow passage leading from room 10 to the chamber under room 9 (Plan II, section). Room 10 was the stoker's room, known as the *praefurnium*. The floor of this room, only a part of which has been cleared, was, probably, rock-hewn throughout. The passage floor is rock-hewn; the walls are lined with fire bricks; and the ceiling is composed of terracotta tiles. Both bricks and tiles come from a local factory. The heated air passed from the passage to the chamber under room 9. The purpose of this chamber was to distribute the hot air to heat the rooms above. Such chambers were known as *hypocausts*. Our bath has three (Plan II, section; and Plate V). Their floors, in a fine state of preservation, are composed of terracotta tiles measuring 62 cm. square. The *hypocaust* walls are



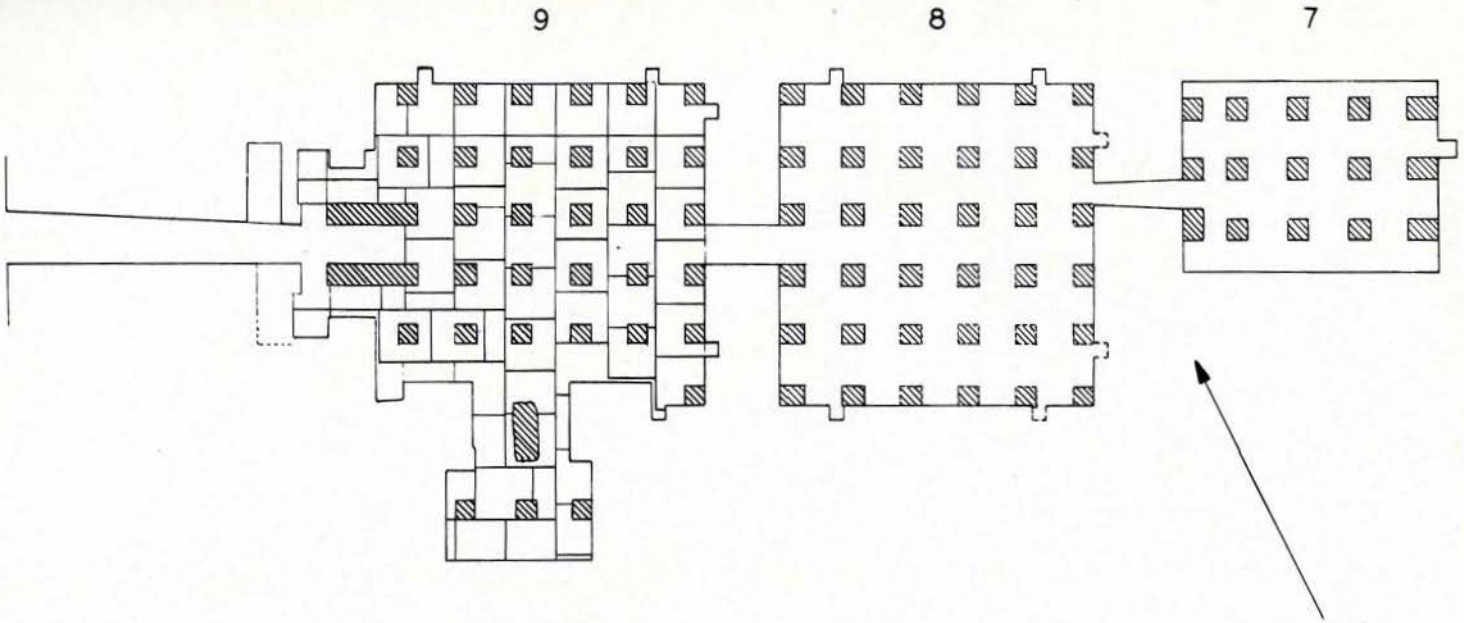


SECTION A-A

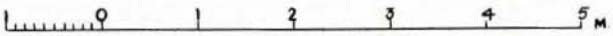
APOLLO BATHS



PLAN II



APOLLO BATHS - HYPOCAUSTS OF ROOMS 7, 8, & 9



PLAN III

lined with similar tiles. Piers, made up of fire bricks protected with lime mortar, supported the ceilings (Plate V). The hot air, and with it the smoke, would past from *hypocaust* to *hypocaust*. In rooms 9 and 8 the hot air and smoke passed through the hollow walls and then on out of the building through flues in the upper part of the walls. In room 7, where there was no hollow panelling, the air passed out through flues originating at the level of the *hypocaust* ceiling.

The floors over the *hypocausts* were constructed in the following way: after the brick piers were completed, terracotta tiles, measuring 62 cm. by 31 cm., were laid across them from east to west, forming a kind of architrave. These carried the tile ceiling of the *hypocausts*. Over this ceiling was laid the floor bedding of small rough stones and mortar which carried the mosaic or marble floor (Plate V). No trace of the floor has survived in room 9, and the floor bedding is intact only in the two bays and at the east end (Plate V).

Room 9, which was next to the fire, should have been the hottest of the rooms. There was no hollow panelling, however, in the bays of this room. This is clear from the absence of any openings in the floors at the base of the walls to permit the hot air to pass through. The floor was solid over the area where these should have been. Furthermore, there is good evidence that the hollow panelling elsewhere in this room did not extend to the roof.

One interesting bit of evidence may be mentioned here. In the débris over the floor of room 9 were found as many as 23 worked blocks, all with the same molding (page 25). There are enough blocks to cover a lineal distance of something more than twelve meters. It would seem that they were to serve as a coping for the top of the hollow panelling. The molded part would have projected from the wall, extending over the panelling without placing any weight on it. The fact that the wall to which some of them belonged was solid up to a height of 1.66 m. above the floor compels us to place the coping at least as high as this level. To place the course much higher would be open to the objection that it would not

have looked at all well so high in the wall. This coping would have supported a solid wall in masonry above it without panelling. The wall above the coping was coated with lime plaster, samples of which have been recovered in the débris. The plaster was decorated with painted panels having borders in blue and red. Some of the molded blocks had large holes through them. These, presumably, were to carry the hot air and smoke from the hollow panelling below to the flues in the upper part of the wall. One of the molded blocks was found with a bit of plaster adhering to it. In room 8 samples of marble revetment in tiles measuring 25 cm. in width were found. It is our belief that they covered that part of the wall which was under the molded course and served as a facing for the hollow panelling in terracotta tiles.

Although the hollow panelling did not reach very high in room 9, it may well have reached as high as the top of the walls in room 8, where no molded blocks were found to serve as a coping. The hollow panelling extended around the room on all four walls, as is evident from openings in the floor at the base of the walls (Plate V). This room, accordingly, though further removed from the fire, should have been very well heated, and sufficiently so to have served for the *sudatorium* where one sat, as in a Turkish bath, before proceeding to room 9. The floor of room 8 sags in the center (Plate V). It is at present supported mainly by the fill of earth which silted down into it after the destruction of the building. When this fill can be removed from the *hypocaust* it will be found that some of the brick piers have collapsed. It is hoped that in another season these piers may be repaired and the floor restored to something like its former condition. The floor we now have, in marble tiles of irregular size, would date from the last period of use. The original floor would have been paved in a mosaic or, what is more likely, in marble tiles of uniform size to match those which we believe covered the lower part of the walls.

Room 7, the *tepidarium*, has its *hypocaust* intact. This, however, extends only under the north side of the room (Plan

III). There was no hollow panelling in this room. The hot air and smoke passing through the *hypocaust* was drawn up into flues through the solid stone walls. The *tepidarium*, as we see, was heated moderately only, probably just enough to take the chill off the room. Part of a mosaic floor was found at the south end. Only a very small area has been cleared, as it was found advisable not to expose it until the entire building has been excavated.

There are no *hypocausts* under the floors of the rooms on the south side of the building. The floors of rooms 2, 3 and 5 have a foundation in small rough stones which served as a bedding for the mosaic floors. Samples of these mosaics have been found in rooms 2 and 5 and in the two cold water basins where the mosaics are quite intact. In the large water basin the mosaic floor is composed of large *tesserae* which were painted in various colors. A thin lime deposit adheres to the greater part of it, however, and it has been found advisable not to remove it at the present time. The mosaic of the small basin is covered with a similar deposit of lime. If it was painted, none of the paint has survived on the exposed surfaces. Directly over the cave, south of room 2, is another fragment. It is clear from the floor bedding that the entire area here was paved in mosaic.

The floor of room 6, of which only the foundation is extant, was drained by means of a terracotta pipe, still *in situ*, which leads under the north wall, just east of the doorway to room 7, to a gutter east of the building. The two cold water basins were also drained by pipes leading to another gutter east of the small basin and north of the large one.

The walls have not been preserved to a sufficient height to tell how the building was lighted. The windows would have been high and probably would have had glass panes to keep the cold out. Flat pieces of broken glass have been recovered from the débris and it is not at all unlikely that these belonged to window panes.

The roof over the entire building was in terracotta tiles, as is evident from the great quantity found in the débris.

We now come to the question of water supply for the needs of the Baths. No fresh water pipe lines were found within the area of the building, nor is there any hole in the walls through which these might have passed either in the *caldarium* (room 9), or in the rooms where the cold baths were situated. The inference is that the water was carried to the Baths in jars from a place outside the building. The cave south of the Baths may have served as a cistern. A trial pit sunk into the silt which filled it has, however, failed to produce evidence. The nearest cistern known to the excavator is cistern 3 (Plan I). This cistern was cleared during the spring season of 1949 and the contents show that it was no longer in use after the close of the first century A.D. As the bathing establishment was in use probably during the second and third centuries and a part of the fourth century, this cistern cannot have supplied its needs.

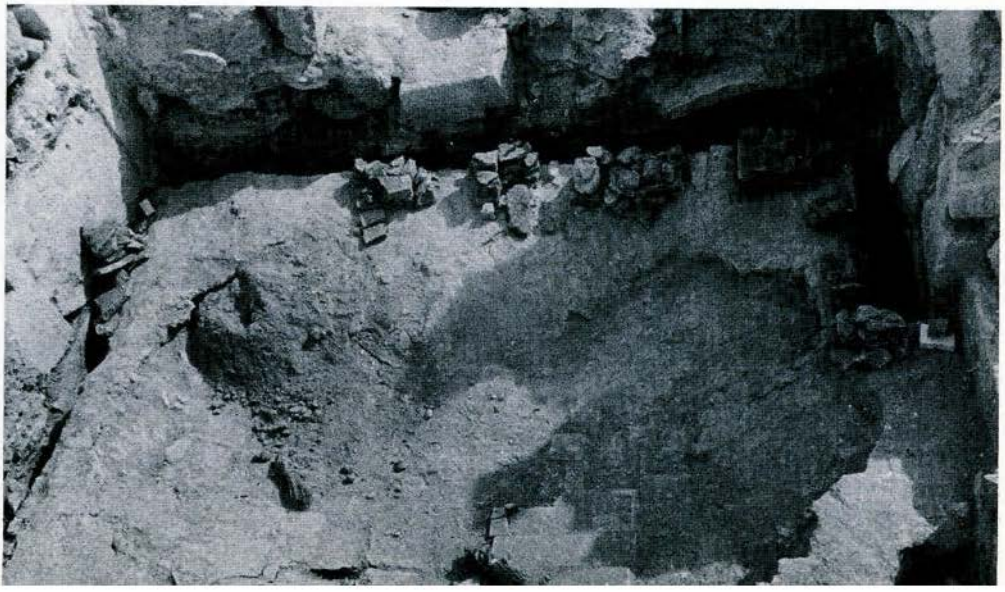
There is a pipe line some 12 meters north of the building. The full length of it has not been traced but there is reason to believe that it came from cistern 2 (Plan I). This cistern collected the rain water from the roof of Temple A. It is not impossible, therefore, that the rain water from cistern 2 came to a point not far from the Baths where it could be drawn to serve the needs of the building. It is a late pipe line, however, and is to be dated not earlier than the third century A.D. In any event, the supply from this cistern would be restricted, and it would seem quite inadequate to supply the Baths throughout the dry Cypriot summer. It is hoped that another season may throw more light on this important question.

We do not know when the Apollo Baths were constructed but, judging from the molded blocks and the good solid masonry, it is likely that it was before the end of the second century A.D. We do know that a great building period at the sanctuary coincided with the reign of the Emperor Trajan (98-117 A.D.). Building inscriptions inform us that the South Building (Plan I) was completed in 102 A.D. and the paved square leading to the propylon in 114 A.D. The earthquake

Hypocaust of room 9, Apollo Baths, showing through large hole in floor.

PLATE V

Floor of room 8. Note the openings along the walls through which the hot air passed into the hollow panelling.



of 76-77 A.D. may have been the occasion for this building program.

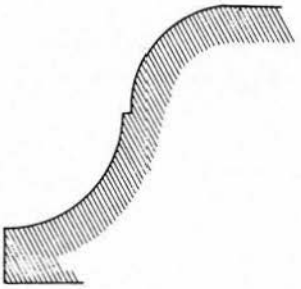
We have better evidence for the period of destruction. It is as follows: under the débris in the *hypocausts* of rooms 7 and 9, and in the flue between rooms 8 and 9, over the accumulation of soot and ashes dating from the last period of use of the *hypocausts*, were found many terracotta lamps. They belong to a type which at Curium was in vogue during the middle of the fourth century A.D. No other type was found there. Three lamps of the same type, and probably from the same workshop, came from House 1 of the bluff of Curium. [2] Two were found on the floor and one on the arm of one of two women whose remains lay under the débris of the fallen house. It is quite clear that they were victims of an earthquake which brought down the building. With them on the floor were found two coins of Constantius II, (323-361). There were two serious earthquakes which we know of during the mid fourth century, one in 332 and another ten years later. There is a good probability that both of these shook our building. It is at least clear that the building suffered considerable damage not very long before its final destruction in the fourth century. After the first shake the *praefurnium* was used as a dump for building material which could not be re-used in the repairs. Over this dump a rough floor of re-used stone blocks was laid. It is evident that the *hypocausts* and hot baths were no longer to be used and that at least this part of the building was to be put to some other purpose. In the dump under the new floor was found a lamp like those which came from the *hypocausts*.

It was probably at this time that the doorway between rooms 7 and 8 was walled up and that a new door with stone jambs, which had once belonged to a window, was opened in the wall between rooms 9 and 10 (Plan II). In the south part of the building the doorway leading from room 4 to the yard between this room and room 10 was carefully closed by large stone blocks. A new threshold block was placed over

2 See *University Museum Bulletin*, October, 1940, p. 28.

an earlier one in the south doorway to accommodate the higher level of the new dirt floor. The old floor, paved in stone, was removed. In the fill between the two floor levels was found a lamp of the same type as that from the *hypocausts*. Room 3 was divided into alcoves by a rough wall composed of second-hand material, including two stone columns.

Rooms 2, 3 and 5 lost all but a few traces of their mosaic floors. In room 6, only the foundation of the original floor is extant. During this impoverished period, which appears to have been general throughout the island in the mid fourth century, the stone bedding of the mosaics served in their stead. It was probably at this time, too, that the outer walls of the building on the east and north sides were reënforced by an additional outer foundation wall.



APOLLO STONE MOLDING FROM BATHS

The earthquake which finally destroyed the building brought the walls down over the stone floor beddings. Much pottery was found over these trodden levels under the débris. This pottery belongs to the same class as that from the black accumulation of soot and ashes in the *hypocausts*. Furthermore, lamps of the same type, and probably from the same workshop, as those recovered from the same accumulation were found in the débris dating from the period of final destruction. It is probable, therefore, that the final destruction of the building occurred not longer than a generation after the *praefurnium* and *hypocausts* went out of use. It is tempting to draw the conclusion that the interval of time between coincided with the ten-year period between the earthquakes of 332 and 342, but it would be premature to do so at the present stage.

We have been fortunate enough to find the Baths in an exceptionally good state of preservation. The season's work has already added to present knowledge as to how the hollow panelling in the heated rooms of a Roman bathing establishment was constructed, and it is hoped that further research may throw more light on this particularly interesting feature.

G. H. McF.