

# STUDIES IN SOUTH ATTICA

## COUNTRY ESTATES AT SOUNION

(PLATES 34–37)

I wish here to consider six ancient tower-like structures at Sounion, along with their outbuildings, and further, to establish their purpose and use by comparing them with similar structures elsewhere in the Greek world. The buildings themselves were studied, drawn,<sup>1</sup> and photographed before the war, and the present paper was envisioned years ago;<sup>2</sup> but the war itself, and, after it, other obligations which I deemed to hold priority have long delayed its appearance. In preparing the paper for publication, my mind has often turned back to the halcyon days I spent on that wind-swept Attic cape, and especially to the Terlakis family at Sounion, who were at once hosts, friends, and family to me. To them I should like to dedicate this paper.

Let us first consider these Sounion towers in the order that we come to them as we proceed northward from the cape into the inland part of the deme of Sounion.

### 1. THE PRINCESS TOWER (Fig. 1; Pl. 34, a-c).

The tower, with its outbuildings, stands upon a low neck of land jutting eastward between two branches of the lower Agrileza stream bed;<sup>3</sup> it is close to the great ancient road which leads from Sounion to the north.<sup>4</sup> The tower itself is circular in plan, its outer diameter five and a half meters. It is built throughout of local marble, with heavy blocks in courses on the outside, a lining of smaller stones within; the total thickness of the wall is just under a meter. Although little over a meter in height is preserved, the thickness of the wall and the remains of fallen blocks around it demand a much greater original height. The single door faces southeast toward the sea, and the doorposts, with carefully tooled faces and slightly drafted margins, are still in

<sup>1</sup> The plans of the towers show, in every case, the blocks of the highest course *completely preserved*.

<sup>2</sup> The field work was begun in 1938, when I was Norton Fellow of Harvard University at the American School of Classical Studies in Athens, and was completed in 1940-41, when I held a research fellowship from the School itself. My wife has assisted me in all stages of this task, both in the field and in preparation for the press. The first of these studies appeared in *Hesperia*, X, 1941, pp. 163 ff.

<sup>3</sup> The place-names and locations at Sounion can be found in E. Curtius and J. Kaupert, *Karten von Attika*, Sheet XV.

<sup>4</sup> A discussion of this and other roads at Sounion will appear in *Antiquity*, XXX, 1956; cf. *A.J.A.*, LIX, 1955, p. 175.

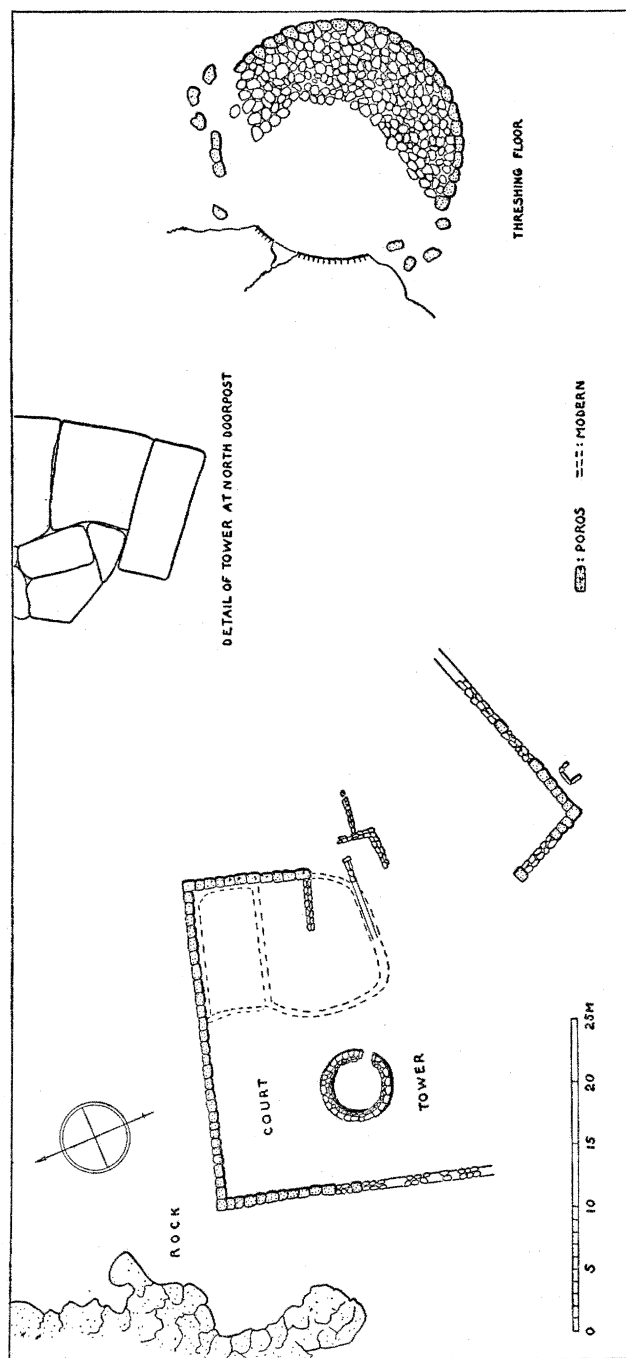


FIG. 1. The Princess Tower (Sounion 1).

place, while the massive lintel lies on the ground outside.<sup>5</sup> In the springtime, the tower is a favorite haunt of shepherds, who perch upon its walls to watch their flocks and play their reed-pipes; they will still tell the passing stranger tales of the little princess who was imprisoned in this tower by her cruel father, whose Palace (the Temple of Poseidon) lies below on the cape.

The gleaming white tower is easily seen, but not so evident is the rectangular wall which surrounds it on all sides save the south (where it has toppled into the stream bed). This is built of heavy poros blocks, quarried on the site and held on a dry rubble foundation. The gate apparently lay at the northeast, where some haphazard modern construction may well overlay ancient building. To the southeast is part of another structure, oriented quite differently from the enclosure wall, but of precisely the same material and construction.

Farther east, at the end of the ridge, is a terraced and carefully paved circular platform nearly twenty meters in diameter, encircled at the east by a low rim of stones, at the west by careful cutting in the native rock.

How shall we reconstruct and explain this cluster of buildings? We must picture the tower rising many meters high, within a large rectangular courtyard containing other buildings, and at least one other structure outside. The circular platform is certainly an ancient threshing-floor, and there are numerous fragments of trachyte grindstones and hoppers scattered about. The buildings, then, seem to be connected in some way with ancient farming in the level valley below, which is sown to grain today by farmers from Keratea.

Without excavation, the date of construction cannot be surely established. Yet the great quantity of potsherds found on the site provides an approximate chronology. They represent two distinct periods: (a) the late fifth to fourth centuries B.C., and (b) the second and first centuries, perhaps extending into the first century after Christ.<sup>6</sup> The quantity of later fifth-century sherds is so great as to prove occupation here by 450-425, and it seems likely that most of the structures now visible were built at that time.

## 2. THE CLIFF TOWER (Fig. 2; Pl. 35, a-b).

Continuing northward from the Princess Tower along the ancient road, we come to a point where the open glade suddenly narrows. On both sides of us are steep

<sup>5</sup> The ruins were visited by Milchhoefer, at which time two "anta-like" projections could be seen on the inner face of the wall, opposite the door to left and right. These may have been the stubs of division-walls. See E. Curtius and J. Kaupert, *Karten von Attika*, Text III-VI, 1889, p. 29.

<sup>6</sup> The dating of these and other sample sherd collections (most of them of coarse pottery) would have been quite impossible without the unrivalled groups of dated pottery in the storerooms of the excavations of the Athenian Agora. I should like to thank Professor Thompson, Professor Vanderpool, and Miss Talcott (as well as many others) for their never-failing help and hospitality.

slopes; to the west, the foothills of Megali Vigla cut back into sheer marble cliffs, and atop one of these stands our next tower. Time has dealt harshly with it; its wall stands today scarcely 70 centimeters high, and only its thickness (*ca.* 1.00 m.) shows the ambitious character of the original structure. It is again circular, 5.20 m. in diameter, built of rough blocks, both marble and schist, in very irregular courses. The doorway faces east and stumps of the doorposts are still in place. A wall extends north from

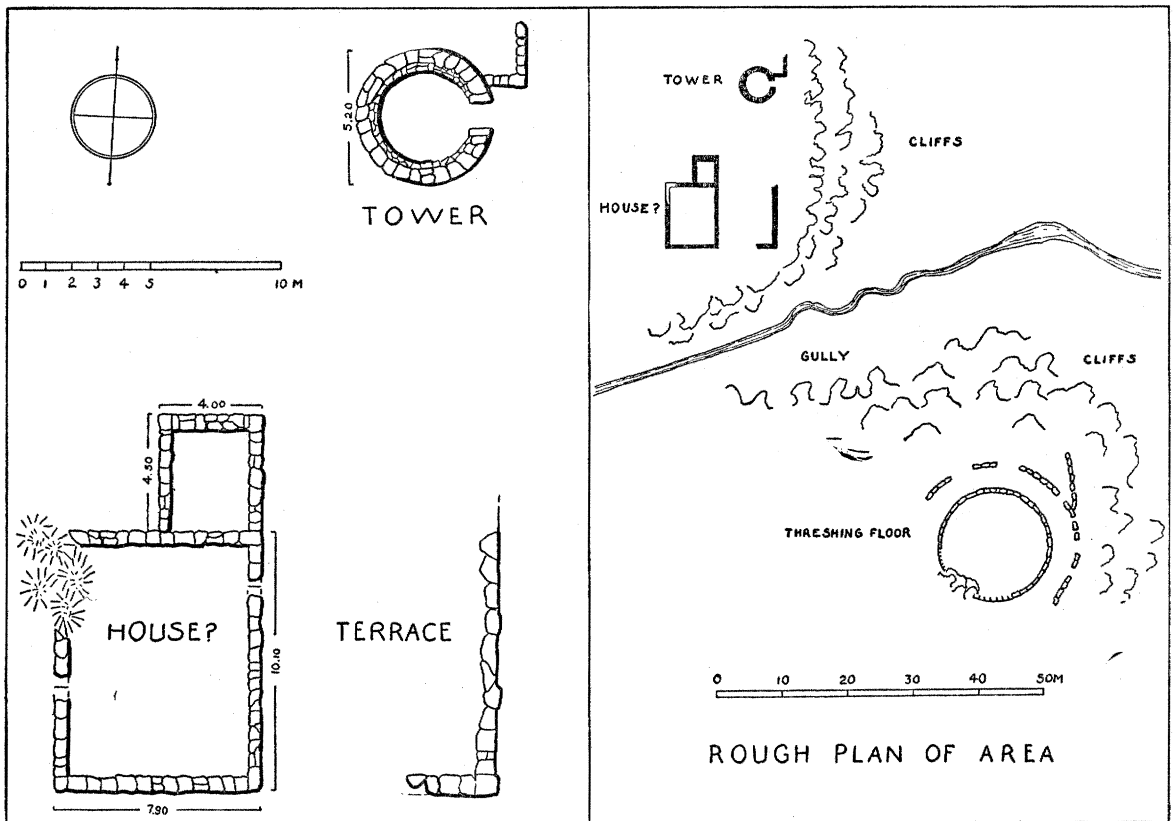


FIG. 2. The Cliff Tower (Sounion 2).

the doorway, but since it is not bonded to the tower wall, it is presumably a later addition. A modern hut to the north is built entirely of blocks removed from the tower; thus most of the destruction is fairly recent.

A few meters to the southwest of the tower, there are foundation-walls of a large rectangular building with a smaller addition to the north. No doorway can now be distinguished; it may have been at the west, where the remains are now obscured by a thick growth of gorse, but I should prefer to place it on the east side, where a terrace was built to level off the ground. Some distance to the southeast, across a narrow gully, there is a heavily terraced threshing-floor similar to the one at the Princess Tower.

Restored, the Cliff Tower would much resemble the Princess Tower, save that here, while there is no trace of a courtyard, the outlines of a house are clear; the terrace in front may well have been roofed with wattle to form a shady porch, as is common today on island farms. The threshing-floor was built with much effort, because of the difficult terrain, in a place open to both easterly and westerly winds, and thus ideal for its purpose.

Sherds are scarce here, for they are easily washed over the cliff by winter rains; all those found probably belong to the earlier part of the fourth century B.C., and to this period we may tentatively date the whole complex.

### 3. THE GOLDEN PIG TOWER <sup>7</sup> (Fig. 3; Pl. 35, c-d).

If we return once more to the ancient road and travel northward, we come to a place where the steepest slope is to the east, up the foothills of Mont Michel. A scramble up the hill brings us to a level space and Tower 3. This tower is rectangular, about six meters square; the maximum height of the wall now standing is 1.20 m. The walls are built in Scranton's "irregular Trapezoidal style,"<sup>8</sup> with some very large blocks of both marble and poros, the interstices filled with smaller stones. The outer corners are carefully drafted. The face of one large marble block, unlike its companions, is decorated with three rows of vertical furrows, and may have originally been part of another structure. There is an inner lining of marble stones. The doorway, with remains of both doorposts, faces northward toward the upper town of Sounion.

Before the tower, extensive foundations of a rectangular enclosure can be traced for some distance; the northeast corner has been walled off to form a square building. Behind the tower, there is a rectangular shaft cut deep in the rock; it is too small for a mining shaft, and is probably an ancient well.

The few sherds found here, together with the style of building, suggest that the date of construction was the late fourth or early third century.

### 4. THE YELLOW TOWER (Fig. 4; Pl. 36, a-b).

Almost due west of the Golden Pig Tower, on the high tableland called Spitharopousi which overlooks the Legrana Valley, is our fourth tower. It is oblong in shape (6.60 x 4.10 m.) with walls 70 centimeters thick. The style of the outer walls is

<sup>7</sup> The tower itself has been greatly damaged in recent times, and the area around it is pock-marked with freshly dug pits, revealing remains of ancient graves. These graves probably inspired the legend that the ubiquitous golden sow, with her golden piglets, was buried here. For her I have named this tower, although, as the destroyer of many ancient monuments, she hardly deserves the honor.

<sup>8</sup> R. L. Scranton, *Greek Walls*, 1941, pp. 79 ff.

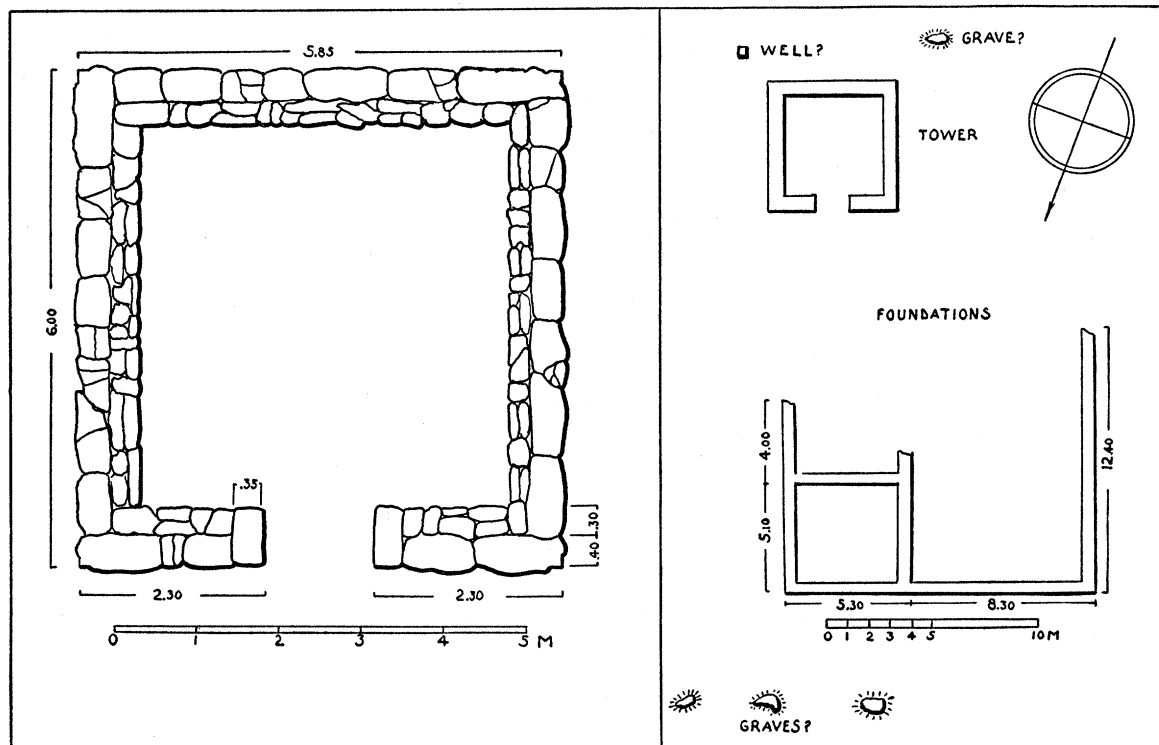


FIG. 3. The Golden Pig Tower (Sounion 3).

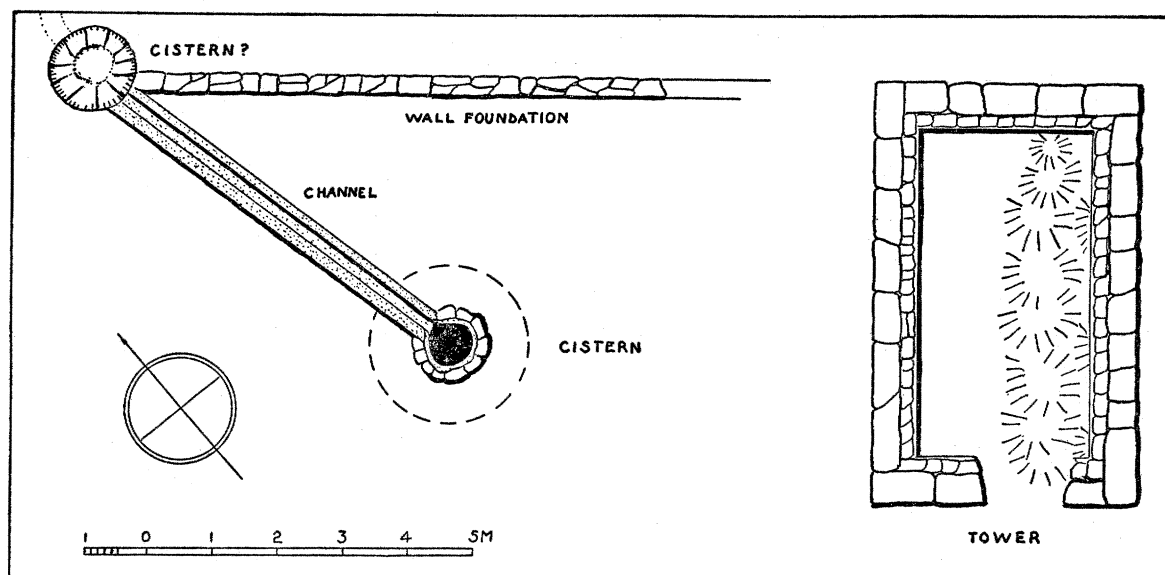


FIG. 4. The Yellow Tower (Sounion 4).

similar to that of the last tower, but the inside is lined with very small stones covered with a thin coat of yellow, muddy plaster. The wall is now somewhat less than a meter in height. The doorway must have been to the southwest, where the only opening appears.

To the northwest, in line with the back wall of the tower, rubble foundations for a wall extend as far as a depressed spot, which probably represents an ancient cistern, now filled in. From here, a built channel with cement lining leads back toward the tower and empties into a deep rock-cut cistern shaped roughly like a bottle. Such narrow-necked cisterns at Sounion were usually for drinking-water. Without clearing the sinking, it is hard to explain the function of the channel.

This tower is close to extensive ancient mining remains, yet it need have no connection with them. The sherds from the whole area are consistently of the fourth century B.C., but they belong with the mining-works rather than specifically with the tower.

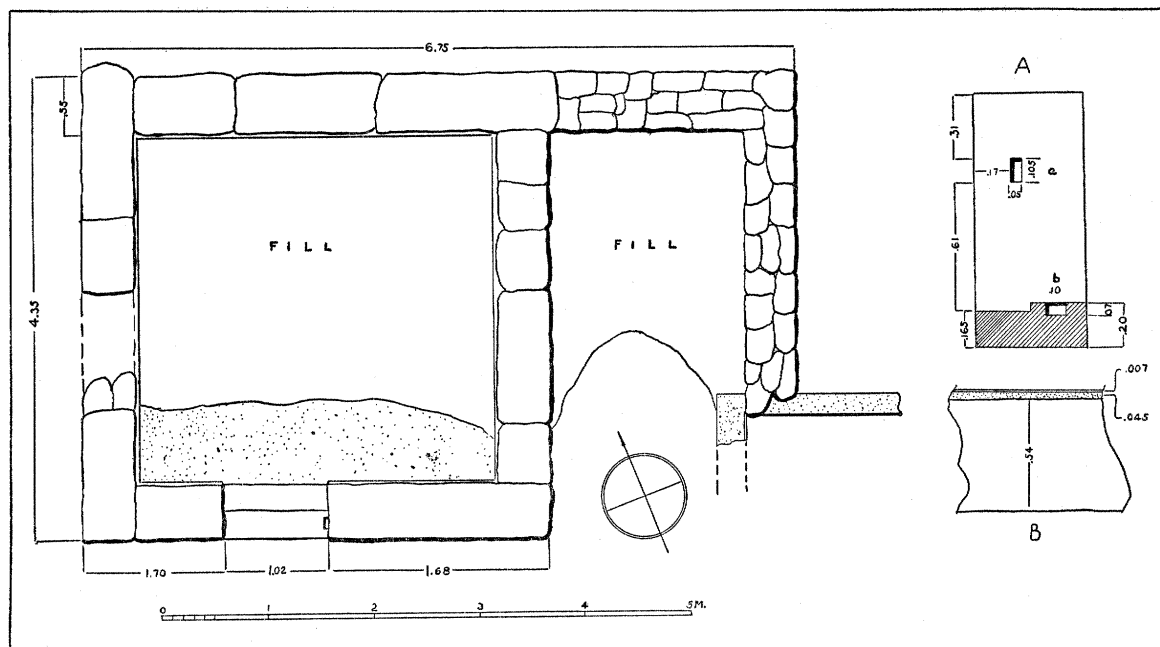
#### 5. THE RED TOWER (Fig. 5; Pls. 36, c-d, 37, a-b).

Our fifth tower is deep in the hills of Agrileza, almost at the headwaters of the stream. It is almost square (4.35 x 4.40 m.), and built of a single thickness of very heavy blocks, 55 to 60 centimeters thick. The maximum preserved height is 1.18 m. The inner faces of the wall are coated with several layers of fine plaster, the surface of each coat painted deep red; these superimposed layers may well represent a considerable period of occupation. Most peculiar is a comparatively thick layer of earth packed between the undermost coat of plaster and the blocks of the wall (Fig. 5, B). Since it seems impossible that this could have been the first surfacing, perhaps it represents a layer of some perishable material used as backing for the first coat of plaster, which, as it vanished, was gradually replaced by earth. The floor shows traces of a thin coat of white cement.

The doorway faces southeast and its threshold block is still in place, the inner half of its top surface cut down 7 centimeters. There are no doorposts; the faces of the wall-blocks to left and right were smoothed down to hold the frame. On one of these is a cutting (Fig. 5, A, a), apparently for the bar of the door and at its base another cutting (Fig. 5, A, b), extending into the threshold block and presumably serving as a lock or catch—how, I cannot imagine.

After the tower was completed, a rectangular structure was added against the east wall. It is built of dry rubble, and could never have been more than one story high. The front has been torn away in recent times. The outer wall of this building at its south end was laid directly upon an earlier cemented wall.<sup>9</sup>

Sherds from around the Red Tower date from the fourth to the second century B.C.; perhaps the washing-table belongs to the fourth century, the tower to the third.



6. THE HILLTOP TOWER (Fig. 6; Pl. 37, c-d).

Due west across the valley from the Red Tower, and a little to the north on a pine-covered hill, stands the Hilltop Tower. It is again square, about 6.50 m. to a side. It is built of heavy roughly squared blocks of schist about 70 centimeters thick, laid in even courses. In some places these courses are preserved to a height of 1.80 m. The doorway faces south; as in the Red Tower, there were no monolithic doorposts.

The east corner of this tower is built directly upon a cemented settling-basin and channel, and these in turn are built hard against a large open cistern of roughly oval plan. Such structures are connected with the silver-mining industry, and it is evident that the tower was not built until they went out of use.

In front of the door, there is a flat terrace held back by a retaining wall. One might suppose that this formed a kind of porch similar to that in front of the house of the Cliff Tower. Perhaps it did, yet the outer face of the retaining wall is coated with hydraulic cement, which suggests that, whatever its possible re-use, it was originally connected with the mining-works.

A few sherds of the fifth and fourth centuries were found in the area, but it is

<sup>9</sup> Probably part of a washing-table for extracting lead and silver ore, of a sort very common in the Sounion mining region. Cf. E. Ardaillon, *Les Mines de Laurion dans l'Antiquité*, 1897, pp. 63 ff.



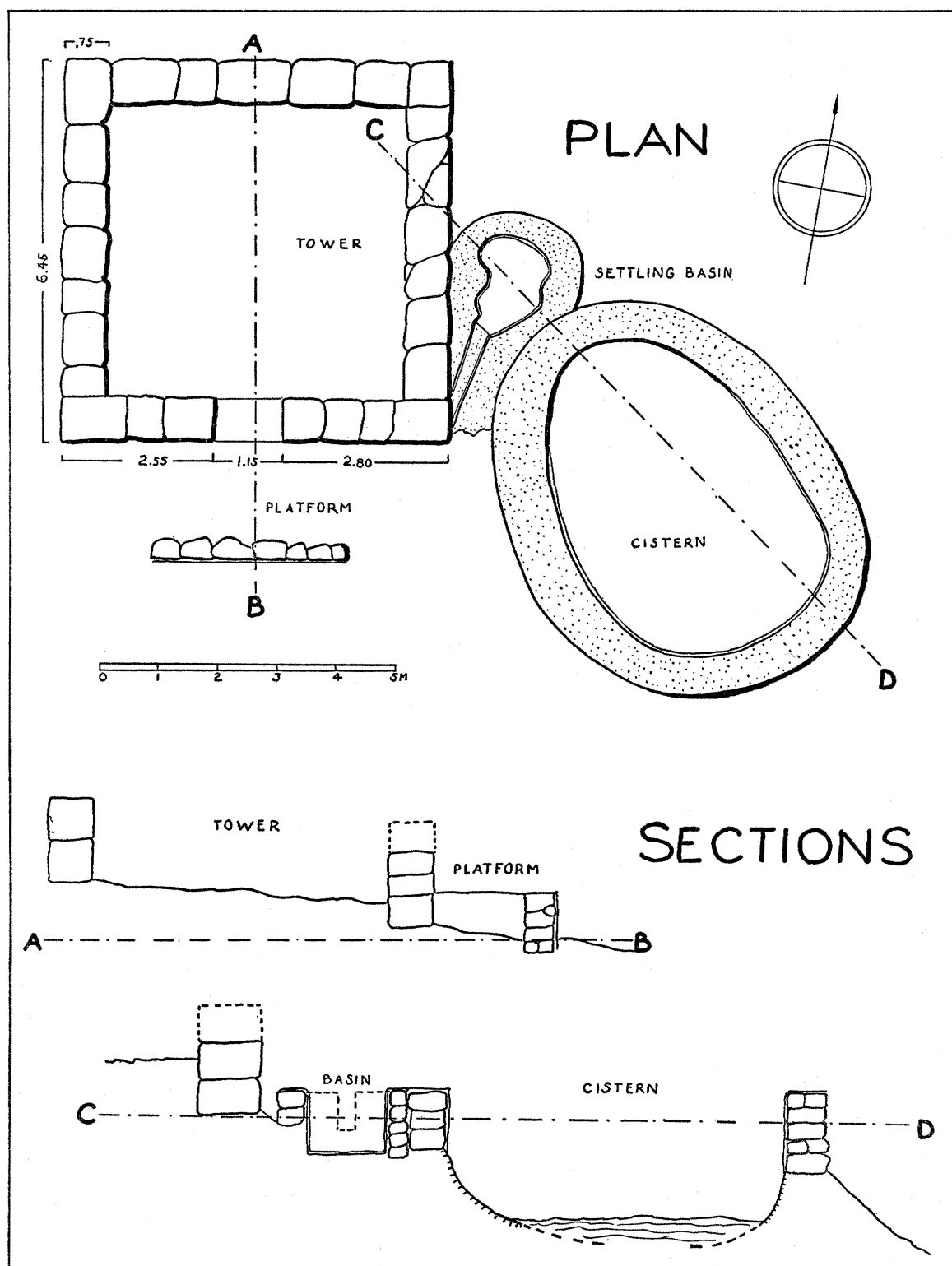


FIG. 6. The Hilltop Tower (Sounion 6).

difficult to associate them directly with the tower, although the kind of masonry employed is consistent with a date in the late fifth or early fourth century.

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Without costly excavation it is difficult to date our towers more precisely, and even excavation would probably fail to explain their original purpose. On the other hand, similar towers in other parts of the Greek world<sup>10</sup> have been studied by a long procession of archaeologists and explorers, who have produced several (often conflicting) theories as to their purpose. These theories are:

A. *That they are forts.*

In northern Attica, a large number of ancient towers has been convincingly presented as a network of border fortifications. Winterberger mapped a great number (most of which have by now disappeared) that he considered destined to guard the northern borders of Attica and the roads from the north to Athens;<sup>11</sup> some of these same border towers, which have been carefully described in recent times,<sup>12</sup> closely resemble our towers at Sounion. Can ours, then, be similarly explained? They can not, for there are no borders at Sounion to guard, and although the Princess Tower stands close to an important ancient thoroughfare, none of the rest are close enough to any road to be useful in guarding it.

B. *That they are watchtowers.*

In discussing two well preserved towers in the Megarid, close to Attica, Tillyard came to the conclusion that they were not forts but watchtowers, while similar towers in the Greek islands had long before been so explained by Ross; Miss Chandler agreed that this must have been the function of some of the towers along the northern border of Attica,<sup>13</sup> but here again our evidence at Sounion will scarcely permit such an explanation. To be of any use, a military watchtower must somehow be connected with fortifications.<sup>14</sup> There is, in fact, such a tower at Sounion, on an eminence easily visible

<sup>10</sup> In the following discussion, towers referred to by site and number, *e. g.* Keos 1, will be found in the list appended to this paper. For the towers on Siphnos, the numbers refer to the list in *A.J.A.*, LX, 1956, pp. 52 ff.

<sup>11</sup> *Arch. Anz.*, 1892, pp. 122 ff., and map, p. 123. It must be noted that the roads shown on Winterberger's map are hypothetical and have been located *by the towers*. The south Attic towers referred to by Kotzias in *Νέος Έλληνομνήμων*, XVI, 1922, pp. 81, 482, have been neither listed nor located as far as I know.

<sup>12</sup> Particularly by Miss Chandler, *J.H.S.*, XLVI, 1926, pp. 1 ff.; cf. Milchhoefer, *op. cit.*, II, p. 12; VII-VIII, p. 18; IX, p. 3.

<sup>13</sup> Tillyard, *B.S.A.*, XII, 1906, pp. 101 ff.; Chandler, *loc. cit.*, although she observes (p. 19) that the view from the tower at Varnava (Attica 4) is poor.

<sup>14</sup> For signal-towers in connection with fortresses, see Krischen, *Die Befestigungen von Herakleia am Latmos* (= Wiegand, *Milet*, Vol. III, Heft 2, 1922), pp. 41 ff.

from the fortress on the cape, and it is built in precisely the same style as are the earliest walls there.<sup>15</sup> The countryside at Sounion abounds in such excellent sites, but the towers we are considering here were not built upon them. In short, it is quite impossible to believe that they were ever planned as watchtowers.

C. *That they are lighthouses.*

Into the wall of a tower in Thasos (Thasos 13 in the list) are built some blocks (others lie about near by) which bear a three-line metrical inscription<sup>16</sup> announcing that this tower, the memorial of Akeratos, stands here at "the highest point of the harbor as a deliverance for ships and sailors." The publishers of the inscription, followed by others, assumed that the tower was a lighthouse; yet the inscription seems to imply that it was a tomb as well. That our towers at Sounion are not lighthouses is evident, while the threshing-floors connected with Nos. 1 and 2, and the location of No. 5 in the center of an industrial region, rule out their identification as tombs. But it is not quite certain that the Thasos tower was either lighthouse or tomb. The verses of the inscription suggest that the body of Akeratos was lost at sea (perhaps off this very cape) and the tower constructed as a kind of memorial—perhaps a cenotaph; at the same time, by its position over the harbor (or roadstead) and its height, it served to warn approaching vessels away from the rocks.<sup>17</sup> We need not suppose that the tower was built as a lighthouse, equipped with fire or other warning devices.

D. *That they are beacon-towers.*

Some hold that all ancient Greek towers were points in a giant network of signal-towers, sending smoke signals by day and beacon flares by night. I have pointed out elsewhere<sup>18</sup> that some of the towers on Siphnos are only three to five minutes walk apart; further refutation is hardly needed.

E. *That they served as refuges from pirates.*

This is the oldest of all explanations of these towers—and one which is still very popular.<sup>19</sup> The suggestion is both appealing and dramatic and, although lacking direct

<sup>15</sup> I have drawn and photographed this tower, and propose to publish it in my general study of Sounion.

<sup>16</sup> *I.G.*, XII, 8, *add.* 683; Baker-Penoyre and Tod, *J.H.S.*, XXIX, 1909, pp. 95 ff., no. 9, and p. 250.

<sup>17</sup> This theme appealed to many later poets: *Anth. Pal.*, VII, 269 ff. For a tower serving as a tomb upon its owner's death, cf. *ibid.*, VII, 402. On lighthouses, cf. *R.E. s.v.* Leuchtturm (Ebert).

<sup>18</sup> *A.J.A.*, LX, 1956, p. 51.

<sup>19</sup> An early proponent of this theory was Buondelmonti in his *Descriptio Insularum Archipelagi* (1420 A.D.), F<sup>o</sup> 40 (on Rheneia), quoted by Gallois, *Exploration archéologique de Délos*, III, p. 84. Some (among many) more recent adherents: Ross, *Inselreisen*, I, 1837, pp. 132 f.; Ormerod, *Liverpool Annals*, XI, 1924, pp. 31 ff.; Rostovtzeff, *Social and Economic History of the Hellenistic World*, III, 1941, pp. 1459 f., note 9; Kent, *Hesperia*, XVII, 1948, pp. 295 f., note 188.

proof, seems to fit very well the towers lining the coasts of the Cyclades, especially when we contemplate them on the map. At Sounion, we might believe that pirates could make their way inland from the coast to the Princess Tower, and it is perhaps conceivable that they might continue on up the cliffs to towers 2 and 3. But can we persuade ourselves that they extended their raids miles in from the sea, into the heart of a large industrial community? And, if they did, how many people could take refuge in towers 5 and 6? The pirate theory, then, although it might conceivably account for half our towers at Sounion, is clearly impossible for the other half; it will not do.<sup>20</sup>

We have now considered the theories so far advanced to explain towers similar to ours, and have found none satisfactory. Therefore what we clearly need is not modern speculation, but some indication from antiquity itself as to their purpose. Although such clues are rare and widely scattered, they are nevertheless vital.

First, a fourth-century *poletai* list<sup>21</sup> reports the lease of a silver mine located in the deme of Besa directly northwest of Sounion and records one of the boundaries of the mine as *πύργος καὶ οἰκία*, "a tower and a house." Now when we recall the Cliff Tower at Sounion, with a house near by, we may suspect that the arrangement in Besa was similar. Second, papyri refer to *pyrgoi* in a way so clearly showing them to be connected with farming estates that papyrologists long ago concluded that *πύργος* in these contexts should not be translated "tower" at all, but simply "farm-building" (*Wirtschaftsgebäude*).<sup>22</sup> In addition, there is an ancient text which gives us the fullest account we have of a *pyrgos* (interpreted as this same kind of farm-building) together with its surroundings. Since the account concerns a property in Attica, and is probably of fourth-century date, it is of primary importance for our towers. In the anonymous oration against Euergos and Mnesiboulus<sup>23</sup> the plaintiff gives a lively description of an assault upon his farm. One man seized his flock of fifty sheep and the shepherd as well, while the other two went on to his farm, where they broke open the

<sup>20</sup> Similar difficulties arise at other tower sites. As examples we may cite Siphnos 14 and 18, which are on high and abrupt cliffs far above the sea; Astypalaia 1 stands low on a spot north of the harbor, yet faces *inward*; Argolid 4 is well inland, and commands no view at all; Kythnos 1 is said to stand in an especially isolated spot. Baker-Penoyre was perplexed as to what could be guarded by Thasos 2, while Bon remarked how far from the sea Thasos 16 stood. The list could easily be lengthened.

<sup>21</sup> Crosby in *Hesperia*, X, 1941, pp. 14 ff., no. 1, lines 71-76.

<sup>22</sup> The references are cited and discussed by Preisigke, "Die Begriffe ΠΥΡΤΟΣ und ΣΤΕΡΗ bei der Hausanlage," *Hermes*, LIV, 1919, pp. 423-432. The principal references are these: P. Strassburg 110.6; *B.G.U.* 1194.9; *idem* 650.8; P. Oxy. 243.15; P. Giss. 67.16; P. Lond. 2.371.3; *idem* 216.10. For similar references in Biblical texts, cf. Meyer, *Hermes*, LV, 1920, pp. 100 ff., and on this, Alt, *Hermes*, LV, 1920, pp. 334 ff.

<sup>23</sup> [Demosthenes], XLVII. In what follows I summarize paragraphs 53-57; on this passage see Hasebroek, *Hermes*, LVII, 1922, pp. 621-623. It is generally agreed that the attribution to Demosthenes is spurious: Blass, *Die attische Beredsamkeit*<sup>2</sup>, III, pp. 543 ff.; Schaefer, *Demosthenes und seine Zeit*, III B, pp. 193 ff.

gate leading into the garden and carried off all the furniture and equipment that were in the house (*oikia*). The plaintiff's wife and children happened to be lunching in the courtyard (*aulē*) with their aged nurse. "The rest of the women-servants (for they were in the *pyrgos* where they live and work) when they heard the screaming closed up the *pyrgos* so that the men didn't get in."

From this description we can reconstruct the property of the unnamed plaintiff: first, a tract of unfenced pasturage, in which was a large courtyard, with a doorway at one side leading into the kitchen-garden (*kēpos*), his house (*oikia*), and somewhere within the courtyard another free-standing building called *pyrgos*, in which the servants worked. The *pyrgos* in this case is certainly a farm-building, but is there any reason why it cannot be an actual tower as well? The orator does, in fact, suggest that it was. Later on in the oration<sup>24</sup> we are told that Euergos made another raid on the farm; meantime, the equipment which had before been safely stored in the *pyrgos* had been "brought down" (*κατηνέχθη*) to be used, and was this time carried off. If we think of the Princess Tower, standing within a large courtyard, with traces of other buildings both inside the court and out, we can see at once how well it corresponds to the sort of property described in this oration. And we must inevitably conclude that the term *pyrgos*, although it may be correctly translated as "farm-building," means a farm-building which was, in actual fact, a tower. If the Princess Tower can be explained as part of a country estate, then so can the Cliff Tower with its threshing-floor, and the Golden Pig Tower with courtyard and house. Yet before we can consider this explanation proved, we must test it by at least a sampling of the many other towers of this type known in the Greek world: (a) in order to find the best counterparts for restoring the Sounion towers, (b) by accumulating information from various sources, to reconstruct a composite image elucidating our Sounion complexes, and (c) to discover whether these other towers may also be explained as parts of country estates.

I have compiled a list of towers of the same general kind from many parts of the Greek world,<sup>25</sup> arranged by diameter, when circular, or by mean average of length and width when rectangular.<sup>26</sup> From this list, it is at once apparent that the six towers at Sounion are among the smallest so far recorded. Indeed, I know of only two towers less than five meters in outer diameter: Thasos 12 (3.50 m.), which is so small that we can almost accept Bon's theory<sup>27</sup> that it was a lighthouse, and the Red Tower at Sounion (4.35 x 4.40 m.), which is in any case exceptional in that it stood in the midst of a busy industrial community. Of the others on my list of eighty, the large

<sup>24</sup> *Op. cit.*, paragraph 63.

<sup>25</sup> I have taken into account our six Sounion towers, 24 towers on Siphnos, and all other towers in the appended list (pp. 144 ff.) for which measurements (or plans) are available.

<sup>26</sup> The "diameters" here cited are always taken from the *outer*, not the inner, wall faces.

<sup>27</sup> *B.C.H.*, LIV, 1930, pp. 179 ff.

majority (59) measure somewhere between 5.15 and 9.20 m. across (almost every increase of 10 centimeters is represented by a tower).<sup>28</sup> Among the smaller towers of this large group belong the five remaining Sounion towers. At the other end of the list are the really large towers, eleven with diameters between 10 and 11 meters,<sup>29</sup> seven very large towers close to 12 meters wide,<sup>30</sup> and finally Siphnos 34, the largest of all, with the impressive diameter of 14 meters.

Of these eighty towers, only Megarid 1 and Keos 1 survived to modern times with their full height, and to these we may add three others preserved to somewhere near the top. Arranged in proportion of diameter to height, we find this series (all the measurements are in meters):

	diameter	height
Megarid 1	5.34	10.00
Megarid 2	6.40	<i>ca.</i> 15.00
Naxos 1	9.20	17.00 plus
Andros 1	10.00	20.00 plus
Keos 1	11.00	24.30

Scanty as these data are, they nevertheless suggest that the original height of a tower was roughly 2 to 2½ times its outer diameter; whether the lower or the higher figure is to be chosen will be dictated in part by the thickness of the outer wall.<sup>31</sup> If we apply this proportion to the towers at Sounion, we can tentatively restore the Princess Tower, the Cliff Tower, and the Golden Pig Tower to a height of about 13 meters, the Yellow Tower to somewhere between 11 and 12 meters, the Red Tower to 9, or at most 10, meters, and the Hilltop Tower to 14 meters, or even more. We must also note in reconstructing the upper portion that the outer diameter will decrease somewhat toward the top, either by slightly narrowing the width of the blocks in successive courses, or by the use of two or three set-backs on the outer face. The inner dimension normally remains constant from basement to top story.<sup>32</sup>

The doors of our towers at Sounion face roughly either to south or east (except for the Golden Pig Tower); although there are a fair number of exceptions among

<sup>28</sup> For example, here is the six to seven meter series: Siphnos 33 (6.00 m.); Siphnos 20 (6.10); Tenos 1 (6.25); Siphnos 10 (6.40); Sounion 6 (6.48); Siphnos 38 (6.70); Attica 1 (6.75); Siphnos 18 (6.80); Attica 5 (6.90); Siphnos 37 (6.90); Siphnos 24 (7.00).

<sup>29</sup> Andros 1, Mykonos 1, Tenos 2, Thasos 2, Siphnos 16, Seriphos 1, Thasos 14, Argolid 5, Argolid 1, Astypalaia 1, Keos 1.

<sup>30</sup> Thasos 16, Peparethos 3, Rheneia 1, Argolid 7 and 8, Siphnos 32, Keos 2.

<sup>31</sup> For towers up to nine meters in diameter, the thickness of the walls varies from 60 centimeters to about one meter; this variation does not regularly correspond to increase or decrease of diameter. Towers ten or more meters in diameter have (with one exception) walls one meter or more thick.

<sup>32</sup> At Naxos 1, there are two exterior set-backs, and similar set-backs have been noted at other sites. Keos 1 has no set-backs, but not only is there diminution toward the top but Graindor observed true entasis, and the height of the courses decreases with the height of the tower.

towers elsewhere (to be explained by local contingencies), these are the directions in which ancient towers regularly face. The reason for this orientation is readily seen when we consider how dark the ground story of a tower would have been with a single doorway as its only source of light. The doorways at Sounion are simply but massively constructed, with heavy lintels, and either monolithic stone doorposts, or jambs dressed smooth to hold the wooden doorframes. The door-leaves themselves were probably always wooden, and we know that they were considered to be part of the furnishings of the tower rather than part of the actual building.<sup>83</sup> In towers larger than ours at Sounion, where the masonry was correspondingly heavier and the weight over the door opening greater, the lintel had to resist enormous pressure, and in such cases simple three-block arches were sometimes used.<sup>84</sup>

Three of the better preserved towers have large openings at the second-floor level. At Naxos and Andros these are directly over the main door, while at Keos there is no opening at the ground-level.<sup>85</sup> It seems likely that there were very often, perhaps even regularly, such openings at the second floor, reached by ladders from outside. We know that the ground floor was used for various kinds of work connected with the farm, and if (as I believe) the upper floors were used mainly for storage, it would be convenient to have direct access to them without having to disturb the work in progress below. Furthermore, at both Naxos and Keos there are projecting corbels farther up the tower on the side of the upper opening, and a rope slung over them could easily haul materials up and down; one is reminded of the haylofts of barns today.

Sometimes there are also smaller openings—true windows—in the upper stories, although to the cold north they are never more than narrow slits. At Keos, there is a kind of observation balcony outside (or at least the corbels to hold it) on all four sides just below the level of the roof.

All that is left within to indicate the upper floor-levels of the towers are the holes for wooden joists cut into the walls.<sup>86</sup> These are visible at both Megara towers for the second-floor joists, and at Keos for four stories above the basement, while at

<sup>83</sup> Cf. Kent, *Hesperia*, XVII, 1948, pp. 293 f. See also Robinson and Graham, *The Hellenic House (Olynthus, VIII)*, pp. 251 ff.

<sup>84</sup> So, at least, in Siphnos towers 11, 16, and 26. No. 11, where one springer has fallen, shows that these springers were doweled in below to hold their position until the keystone was slipped into place. This device presumably was used to avoid costly wooden centering. Because of a mix-up in numbers, I wrongly included Siphnos 34 among towers with arched doorways (*A.J.A.*, LX, 1956, pp. 52, 54). In point of fact, the builders of this enormous tower spanned the doorway with a very heavy marble lintel-block, which nevertheless cracked straight across the center, although only after the tower had been in use for some time.

<sup>85</sup> Naxos 1, Andros 1, Keos 1. The ground floor of the Andros tower is, in effect, a basement, with partially vaulted ceiling and only a narrow shaft leading to the floor above, where the staircase begins. Attica 1 also lacks a door at ground-floor level.

<sup>86</sup> Exceptions are the second floor at Andros 1, composed of radiating corbel slabs, and a somewhat similar arrangement at Siphnos 23.

Naxos they are preserved for five floors above the ground floor. Each of the upper stories was 2.75 m. high at Andros, higher at Keos. Normally, stairways run spirally in round towers, and around all four sides in rectangular towers, beginning either at the ground floor or the floor above it, and continuing up to the very top. In a few towers there apparently never was a stairway,<sup>37</sup> and we must assume that access to the upper floors was by ladder.

The upper floors were of wood, which has long ago perished, and our literary and papyrological texts are silent about them, except for implying that they were mainly used for storage of farm equipment and produce. What information we have about them is therefore derived mainly from the well preserved tower of Aghia Marina in Keos. Here there are indications that the upper stories were divided into sections by cross-walls.

That such was often the case at the ground-floor level is demonstrated by a good number of towers. On Siphnos, where the plan was consistently round, we find normally, upon entering the door, a stairway beginning to one side of us, while to the other a cross-wall runs from the inner wall by the door across the tower, cutting off somewhat less than half the circumference to form a side-room entered by a central door. At the Laouteri Tower (Siphnos 14), excavation established that this room served as a storeroom in which some sort of produce was kept, in great storage-jars partly sunken in the earthen floor. With the aid of a Delian inscription, we can identify such a room as a *πιθών*.<sup>38</sup> In the largest tower of all on Siphnos (the Aspros Pyrgos, Siphnos 34), there is a side-room to both left and right of the door, the wall to the left running beneath the corbeled stairway. In rectangular towers, the division-walls, when present, appear to cut the tower into equal halves, and sometimes further into quarters.<sup>39</sup>

In three cases<sup>40</sup> (excavation would probably reveal others), cisterns or wells were found within towers, but only the one in Siphnos 34 has been studied. It is hewn from the native rock and is of roughly rectangular shape (2.80 x 4.12 x 4.33 m.), divided into two sections with a passage between them.<sup>41</sup> Above one corner of the cistern was found a stone wellhead, square with round opening, and beside it a stone base with cuttings for two (wooden) uprights. These presumably held a simple winch for drawing up pails of water. It is almost certain that the excavators failed to observe some sort of passage leading out from this cistern to a shaft outside the tower wall. A similar cistern inside the Keos tower (Keos 1) is in fact connected to an outer shaft in this way; without such an arrangement it is difficult to understand how water could be introduced in to the cistern in the first place.

<sup>37</sup> Megara 2 is a certain example.

<sup>38</sup> *I.G.*, XII, 5, 872, line 53: τοῦ πύργου καὶ τοῦ πιθώνος τοῦ ἐν τῷ πύ[ρ]γῳ.

<sup>39</sup> In halves: Argolid 2, Thasos 14; in quarters: Argolid 1, 3, 5, and Thasos 4.

<sup>40</sup> Andros 1, Keos 1, Siphnos 34.

<sup>41</sup> Dragatsis, *Πρακτικά*, 1920, p. 151, gives the plan of this cistern.



Stone towers necessarily had heavy and well-built foundations and because of the massive construction their chances of survival<sup>42</sup> are far better than lighter and more careless work. Thus, while ruins of towers can be counted today in hundreds, remains of out-buildings are comparatively scarce. Of those that do survive, the courtyard is the commonest. We have observed that Towers 1 and 3 at Sounion have preserved such courts, which we can identify with the *αὐλή* at the farm described in the Demosthenic oration.<sup>44</sup> Similar courtyards have been reported in connection with a number of other towers; they are more or less rectangular in shape, and either abut on the tower or completely enclose it. In Figure 7 some of the better preserved court-and-tower complexes have been reduced to a common scale. These courts, which enclosed not only the tower but presumably other farm-buildings as well, no doubt served a variety of purposes. One example (Siphnos 18), which abuts upon a tower, lies in an area so rocky as to preclude agriculture; here the only likely activity would be goat-herding, and the court may have served as a fold. In more fertile country, the enclosure was perhaps more to keep flocks of sheep and goats out, rather than in; we recall that within the *aulē* described in the oration there was apparently a garden, near which the owners enjoyed their meals *al fresco* in pleasant weather. In general, we may perhaps liken these ancient courtyards to modern barnyards, which may sometimes also include kitchen and flower gardens.

We are, I believe, safe in assuming that a Greek country estate comprised three basic structural elements: tower, court, and house (*πύργος, αὐλή, οἰκία*). Of the first two we now have a fairly good idea, but for the house our information is woefully inadequate. At Sounion, we do, indeed, find the foundations of a house preserved near the Cliff Tower, with a terrace before it,<sup>45</sup> and what may have been a house in one corner of the courtyard of the Golden Pig Tower, but aside from dimensions they

<sup>42</sup> Survival, that is, at the hands of the elements; but where man is concerned, nothing is safe. In the Spring of 1940 the late Christos Tselonis of Laurion, a devoted *amateur* of antiquity, showed me the remains of a unique tower-complex in the region southwest of modern Laurion called Noria. There was the basis of a large round tower, about eight meters in diameter, and still nearly two meters high, with its door facing southeast. Close to it, to the southwest, was another round building, much smaller (*ca.* 3 m. in diameter) but preserved to almost the height of the large structure. This small building, a kind of miniature tower, had no visible entrance. It was built of a single circle of large blocks, which, though forming a perfect circle on the outside, were cut so as to make a perfectly square interior (*ca.* 1.50 m. to a side). Both buildings were of good local (Agrileza) marble. Unhappily, my camera was out of film and I had no measuring equipment along that day. The next autumn, when I returned fully equipped to draw and photograph the complex, much to my astonishment it had disappeared. Wagon-tracks leading to a newly built limekiln and from there to a new factory in the distance explained the tragedy.

<sup>44</sup> Such *αὐλαί* are also mentioned in papyri, *e. g.* P. Oxy. 243, lines 16 ff.: . . . τῆς προσούσης τῷ πύργῳ ἀπὸ βορᾶ μέρους αὐλῆς, ἐν ᾗ φρέαρ . . . P. Lond. 216, lines 18 ff. (= Wilcken, *Chrestom.* 192): . . . θησαυρὸν . . . ἐν ᾧ πύργος καὶ αὐλὴ καὶ ταμῖα ("storerooms") πέντε καὶ νοῦβασι (?) καὶ σιροῖς (grain-pits) καὶ τοῖς λοιποῖς χρηστηρίοις.

<sup>45</sup> With this, cf. Thasos 2 and 17.

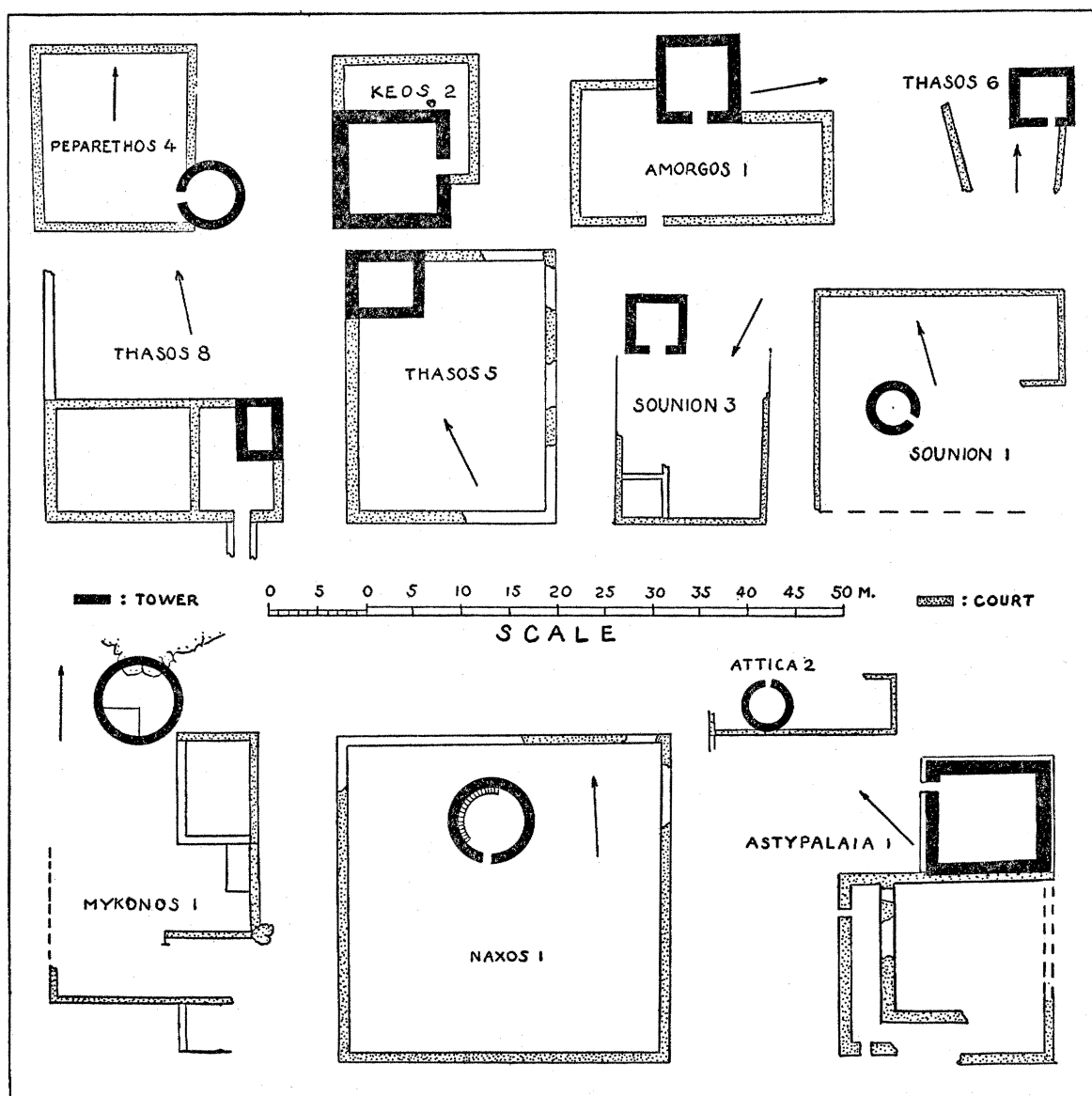


FIG. 7. Twelve Tower-and-Court Complexes.

tell us nothing. Traces of smaller structures connected with towers have also been reported at Mykonos 1, Kalymna 1, and perhaps at Astypalaia 1, but other than confirming the fact that the house was comparatively small, simple, and probably of only one story, they show us nothing.<sup>46</sup> Only excavation can give us the information we should like about these country houses, yet it seems unlikely that they will differ very markedly from humbler city residences, such as those uncovered in the Athenian Agora and at Olynthos.<sup>47</sup>

Remains of various objects in and around the towers suggest in some cases the principal occupation of the owners. We have already observed the ancient threshing-floors at Sounion near both the Princess and the Cliff Towers; a similar structure is found near a tower at the extreme south end of Siphnos (Siphnos 38), and I daresay many others exist elsewhere unrecognized. Fragments of trachyte hand-mills were also found near the Princess Tower, and similar fragments within the Aspros Pyrgos (Siphnos 34); in the excavated tower at Cape Zoster (Attica 5), a sickle was found. In the Argolid, millstones are especially common in conjunction with towered estates; directly within one tower stood a large circular mill of the revolving type;<sup>48</sup> from all this we can properly conclude that the growing, threshing, and milling of grain was the principal occupation of many mainland estates.

In the smaller islands, where there are few areas large and fertile enough to raise grain profitably, our evidence suggests that olives were the main crop. An olive press stands within the tower at Siphnos 34,<sup>49</sup> and similar presses, or weightstones for presses, have been found near Kalymna 1, Amorgos 1, and Paros.<sup>50</sup> A press is also reported in a tower in Attica near Rhamnous (Attica 3), and another near a tower between Nauplia and Epidaurus (Argolid 11).<sup>51</sup>

Remains of much ancient terracing near some of the island towers, notably on Siphnos and Thasos, suggest cultivation of the grape; this is perhaps corroborated by what I believe to be a wine press near Siphnos 20. We have already suggested that on estates in rockier country, agriculture gave way to sheep and goat herding. It is likely that some livestock, especially sheep, was kept on many other farms. We

<sup>46</sup> The tower at Cape Zoster (Attica 5) has two out-rooms appended to the back of the tower-wall.

<sup>47</sup> The Agora: R. S. Young, *Hesperia*, XX, 1951, pp. 187 ff. Olynthos: D. M. Robinson and J. W. Graham, *The Hellenic House (Olynthus, VIII)*; D. M. Robinson, *Domestic and Public Architecture (Olynthus, XII)*.

<sup>48</sup> Argolid 2. Mills were also found at or near Argolid 1, 3, 6, 11.

<sup>49</sup> Until recently another one stood just outside the tower.

<sup>50</sup> I have not found published notice of the Paros tower, which is a short walk southeast of modern Naousa. It is indicated on Philippson's map (*Petermann's Mitteilungen*, Ergänzungsheft 134). I visited and photographed both tower and weightstone in 1938.

<sup>51</sup> And cf. *B.G.U.* 650, lines 6 ff. (= Wilcken, *Chrestom.* 365): κλήρον κατοικικοῦ . . . ἐν ᾧ ἐλαιὼν καὶ πύργος καὶ ἔτερα.

may remember that the servant-girls were working in the tower of the farm described in the oration against Euergos and Mnesiboulos; a clue to at least one of their occupations is offered by the discovery of loomweights in two of the excavated towers.<sup>52</sup> Finally, we must observe that a tower in Argolis contained a dyeing establishment.<sup>53</sup>

It is now clear that wherever we have evidence it points to farming or other connected industries as the object of these towers' existence; we may safely conclude that all were in fact parts of country estates. In this light, we must re-examine the six towers at Sounion, bearing in mind that Sounion was, in antiquity, a part of the Laurion mining region, and by no means a primarily agricultural deme. The extent of this mining region was determined not only by the geological limits of the lode, but also by the courses of the stream beds within these limits, since water was all-important in the process of washing the powdered ore. The only area in Sounion today extensively planted with grain is in the lower Agrileza Valley, which lies completely outside the mining area; precisely here stands the Princess Tower, and there can be no doubt that the chief occupation of this estate was the farming and milling of grain. The grain threshed on the circular floor outside the enclosure wall may have been milled on the ground floor of the tower, the flour stored on the upper floors. Since the Cliff Tower also was furnished with a threshing-floor, we must suppose that the owner of this estate, too, raised grain, presumably along the foot-hills round about. The Golden Pig Tower and the Yellow Tower stand today in pine-covered highlands which skirt, but are not included in, the mining region. We can prove that these areas were deforested in antiquity by at least the third century B.C., and probably considerably earlier; they would then have offered fine cultivable land—whether sown to grain or to some other crop we cannot now demonstrate. Similarly, the Hilltop Tower stands on a pine-covered hill today; it was built directly over parts of a mining-works after the latter was abandoned, and by this time the trees on the surrounding slopes had almost certainly been devoured by the smelting-furnaces. All five of these towers, then, stood in good, if restricted, farming land. Furthermore, three closely adjoined an industrial center with a comparatively heavy

<sup>52</sup> Attica 5, Siphnos 34.

<sup>53</sup> Argolid 3. Cf. P. Lond. 2, 371.3: . . . πύργον ἐν ᾧ βαφεῖον καὶ ἕτερα χρηστήρια. Argolid 3 is the well known "pyramid" of Ligourio. That I include both this and the "pyramid" of Kephalaria (Argolid 2) in my list of towers perhaps calls for explanation. As Lord pointed out, these are not true pyramids, but rather correspond to geometric *frustra*, enclosing a ground floor not unlike that of our other towers; the indications are that the superstructures (perhaps of mud brick) continued up vertically, precisely as in our square towers. Why this singular form for the ground floor was adopted is not known, although we may compare the heavy vaulted ground floor of Andros 1. A late (ca. A.D. 130) catalogue of farm properties (*I.G.*, II<sup>2</sup>, 2776) which lists πύργοι (lines 65, 115) and πυργίδια (lines 15, 24, 117-118) also includes a πυραμῖς (line 16). On the inscription, see Mommsen, *Hermes*, V, 1871, pp. 129 ff.

population, with many mouths to feed. Since five of our towers stood on land that could be cultivated, and since there were urgent economic reasons why it should be cultivated, we may safely conclude that these towers do, indeed, mark the sites of flourishing agricultural estates.

We are left with the Red Tower, which stood not on the borders of the mining region, but in its midst. We may recall that this tower is smaller than the others, and that it cannot have been as high. It could not, I think, ever have been part of a farming estate, yet its general similarity to the others is enough to suggest a similar function. Although I cannot establish with certainty what that function was, it seems plausible to suppose that it was somehow connected with mining operations. Its salient features are: (a) it stands in the very center of the Sounion mining region; (b) it is to be restored as considerably lower than the others, and thus with fewer stories; and (c) the door has an unusually elaborate system of bolts and bars. These facts all suggest that the Red Tower, although modeled more or less after its farming neighbors, was used not for storing bulky wheat or oil, wine or wool, but silver and lead, the latter as ingots, the former either as ingots or as *coins*. As in the farm-towers, the ground floor may well have been used as a workshop, and in this case the work would have been the weighing and stamping of bullion.

Finally, we may close with some general observations on these towered country estates. I have attempted to deal with such examples as can be dated roughly within the Classical Period,<sup>54</sup> but the evidence for date is none too certain. Few towers have been excavated, and in those that have, significant evidence has either not been found at all, or has been overlooked.<sup>55</sup> But in most instances, the style of masonry suggests a range of dates for most of the towers mentioned above in the period between the late sixth and (earlier ?) third century B.C., and the little direct evidence we have confirms this.<sup>56</sup> That similar farm-towers also existed in later Hellenistic times is demonstrated by Grimal, while the papyri show that (at least in Egypt) they were still in use in the Byzantine period. It may seem odd that Classical literature is so silent about what must have been a common feature of the countryside; but we must remember that before the discoveries at Olynthos we were almost equally at a loss as to even the most elementary conception of the disposition of a Classical house. Meanwhile, we have the vivid description in the Demosthenic oration; we may also

<sup>54</sup> For a brilliant treatment of later towered farms, especially as revealed in Hellenistic and Roman wall-painting, see Grimal, *Mélange d'Archéologie et d'histoire*, LVI, 1939, pp. 28 ff.

<sup>55</sup> An example of the first instance: the towers excavated by Lord in the Argolid; of the second, Dragatsis' excavations on Siphnos (Siphnos 14 and 34).

<sup>56</sup> At Zoster (Attica 5) coins of the fourth and third centuries were found within the tower. Scranton, who excavated and studied the remains from Argolid 3, favors a fourth-century construction-date; some of the sherds from Siphnos 14 look like late sixth-century wares; Wrede's analysis of Attic walls leads him to a fourth-century date for Attica 1 and 4; swallowtail clamps were used in Keos 1.

recall Hero in her tower at Sestus,<sup>57</sup> then the fine *pyrgos* Konon's son Timotheos built for himself,<sup>58</sup> and that of Timon the Misanthrope,<sup>59</sup> the towers of Aglomachos and Euphrantas at Cyrene,<sup>60</sup> and the *pyrgoi* of Teos which both Wilamowitz and Eduard Meyer long ago brilliantly conjectured to have been manorial estates.<sup>61</sup>

We must also consider how it ever came about that a tower was the most prominent feature of an ancient estate. We know that the most conspicuous structure on a modern farm is not the farmhouse, but the barn, which dwarfs it. Similarly, in ancient Greece, a farm approaching the manorial estate in size must first of all be furnished with a place to store equipment and crops; and grain (always the principal crop) demanded a dry place. But where we build in wood, the Greek built in stone, and if his building spread out very far he would have trouble finding timbers long enough to roof it. The answer was obvious: to expand not out, but up. Thus he had a ground floor which could be used for storing oil in pithoi, wine in amphorae, and would also serve as a work-place for the women, while on the upper floors his grain could be high and dry. The top of the tower provided the owner an excellent command of his farm, where he might see his whole domain and make certain that his farmhands and shepherds were on the job. At the same time, the tower and all it held could be securely locked; it was thus reasonably impregnable against the kind of mischief described in the Demosthenic oration, and stood a better chance to escape looting in time of war.

Although we have deprived our towers of the romance connected with pirates and flashing fire-signals, we have established (as I hope the reader will agree) their real function, which is always an advance. Furthermore, the economic historian is given a new means of determining what areas were under ancient cultivation, and how they compare with the modern exploitation of Greek agricultural resources.<sup>62</sup>

<sup>57</sup> Musaeus, 187 f. Similarly, Achilles at Skyros was made to share the tower of the daughters of Lykomedes (Philostratus Minor, *Imagines*, I, paras. 1 and 3).

<sup>58</sup> Aristophanes, *Plutus*, 180 and scholia.

<sup>59</sup> Pausanias I, 30, 4; Olympiodorus, *Vita Platonis* (Westermann), p. 4; cf. Judeich, *Topographie von Athen*,<sup>2</sup> p. 414.

<sup>60</sup> Herodotos IV, 164; Strabo XVII, 836. Cf. F. Chamoux, *Cyrène sous la Monarchie des Battiades*, Paris, 1952, pp. 149, 221.

<sup>61</sup> *Sitzungsberichte Akademie Berlin*, 1906, p. 63, note 4; Meyer, *G. d. A.*, II, paras. 201, 204. The evidence is found in *C.I.G.*, 3064. See also Bequignon, *Rev. Arch.*, ser. 5, vol. XXVIII, 1928, pp. 185 ff., and the refutation by Ruge, *R.E.* (2nd ser., vol. 9), s.v. Teos, cols. 554-556.

<sup>62</sup> The fact that islands today deserted are reported to have ruins of such farm towers would seem to indicate that in ancient times they were made to produce considerable harvest of some sort. Cf. Ross, *Inselreisen*, I, p. 134 (on Seriphopoula, off Seriphos); Wace and Dawkins, *B.S.A.*, XII, 1906, p. 171, for Pergousa and Pachia, off Nisyros. I visited Herakleia, off Amorgos, in 1945; the tower there, reported by Ross (*Inselreisen*, II, p. 34) has suffered much in recent times.

## APPENDIX

CATALOGUE OF PRINCIPAL TOWERS CITED WITH THE MORE  
IMPORTANT REFERENCES

## AMORGOS

1. Aghia Triadha. Ross, *Inselreisen*, II, pp. 43 ff., and pl. 1; Scranton, *Greek Walls*, p. 167; Dawkins and Wace, *B.S.A.*, XII, 1906, p. 157, figs. 4 f.

## ANDROS

1. Aghios Petros. Ross, *op. cit.*, II, p. 12; cf. Sauciuc, *Andros* (= *Sonderschriften Oest. Arch. Inst.* 8), pp. 29-34. For others, see Ross II, 15; Weil, *Ath. Mitt.*, I, 1876, pp. 242 f.; Sauciuc, 36; Philippson, *Beiträge zur Kenntnis der gr. Inselwelt* (= *Ergänzungsheft 134, Petermann's Mitteilungen*), map.

## ARGOLID

References are to Lord in *Hesperia*, VII, 1938, pp. 481 ff.; *A.J.A.*, XLIII, 1939, pp. 78 ff.; *Hesperia*, X, 1941, pp. 93 ff. Cf. also Scranton, *Hesperia*, VII, 1938, pp. 528 ff.

1. Phychtia. Lord, 1938, pp. 481 ff.; Lord, 1939, p. 82.
2. Kephalaria. Lord, 1938, pp. 496 ff.; Lord, 1939, p. 82; also Weigand, *Ath. Mitt.*, XXVI, 1901, pp. 241 ff.
3. Ligourio. Lord, 1938, pp. 511 ff.; Lord, 1939, pp. 82 f.; Scranton, 1938, pp. 528 ff.
4. Lerna. Lord, 1941, pp. 103, 107 ff.
5. Below Kephalaria. Lord, 1941, pp. 95 ff.
6. Mycenae Station. Lord, 1941, pp. 93 ff.
7. Nemea Station. Lord, 1939, pp. 80 f.
8. West of Ligourio. Lord, 1939, pp. 80 f.
9. Argos-Tegea Road. Lord, 1941, pp. 109 f.
10. West of 9. Lord, 1941, p. 109.
11. Kasarma. *B.C.H.*, LXXIX, 1955, pp. 244 f., figs. 31 f.

## ASTYPALAIA

1. Vathy. Dawkins and Wace, *B.S.A.*, XII, 1906, p. 155 f.

## ATTICA

References are to Milchhoefer, Text to Curtius-Kaupert, *Karten von Attika*, and Chandler, *J.H.S.*, XLVI, 1926, pp. 1 ff.

1. Plakoto. Chandler, pp. 14 ff.; Milchhoefer, VII-VIII, p. 18; Wrede, *Attische Mauern*, p. 34, fig. 8, 57, pls. 92 f.
2. Korydallos. Milchhoefer, II, pp. 12 f.
3. Aghia Marina. Chandler, p. 19; Milchhoefer, IX, p. 3.
4. Varnava. Chandler, pp. 18 f. Wrede, *op. cit.*, pp. 32, 56 f., pls. 68, 82.
5. Zoster. Stavropoulos, *Εφ. Ἀρχ.*, 1938, p. 6, note 1 and fig. 6. Another tower at Cape Zoster is mentioned here.

## IKAROS

1. Phanari. Ross, II, p. 158.

## KALYMNA

1. Paton, *Class. Rev.*, VIII, 1894, p. 376; *J.H.S.*, XVIII, 1898, pp. 213 f.

## KEOS

1. Aghia Marina. Of the many references to this well preserved tower, the following are the most useful: Graindor, *Musée Belge*, XXV, 1921, pp. 113 ff.; Welter, *Arch. Anz.* 1954, cols. 88-92, with reference to Schaubert's unpublished drawing.
2. Panachrantos Pyrgos. Welter, *op. cit.*, col. 92, fig. 23. For a list of 25 other towers on Keos, cf. Welter, *op. cit.*, cols. 87 f., fig. 24.

## KYTHNOS

1. Ross, *Inselreisen*, I, p. 120.

## LEROS

1. Partheni. Dawkins and Wace, *B.S.A.*, XII, 1906, p. 172, fig. 16.
2. Xerokambo. Dawkins and Wace, *op. cit.*, pp. 173 f., figs. 17 f.

## MEGARID

1. Square Tower. Tillyard, *B.S.A.*, XII, 1906, pp. 101 ff., figs. 1 f.
2. Round Tower. Tillyard, *op. cit.*, pp. 105 ff., figs. 3 f. The measurement of the outer diameter used here is from fig. 4 rather than the text.

## MYKONOS

1. Aghia Marina. Möbius, *Ath. Mitt.*, L, 1925, pp. 39 ff., pl. III, 2.
2. Stis Portes. Möbius, *op. cit.*, p. 42, pl. III, 1.
3. Between 1 and 2. Möbius, *op. cit.*, p. 43.

## NAXOS

1. Pyrgos tou Cheimarrou. Droop, *Liverpool Annals*, X, 1923, pp. 41 ff., pl. X, 2 (wrongly titled); Ross, *Inselreisen*, I, p. 43.

## PEPARETHOS

1. Helleniko. Fredrich and Wace, *Ath. Mitt.*, XXXI, 1906, pp. 126 ff.
2. Prionnos. Wace, *op. cit.*, p. 128, note 2.
3. Sindouka. Wace, *op. cit.*
4. Mavragani. Fredrich and Wace, *op. cit.*, pp. 125 f.

## RHENEIA

1. Palia Vardhia. Kent, *Hesperia*, XVII, 1948, p. 251 and fig. 4.

## SERIPHOS

1. Aspropyrgos. Ross, *Inselreisen*, I, p. 136.



## SIPHNOS

For the many towers of this island, see *A.J.A.*, LX, 1956, pp. 51 ff.

## SKIATHOS

1. Ag. Anastasios. Fredrich, *Ath. Mitt.*, XXXI, 1906, pp. 104 f., figs. 1 f.

## SKYROS

1. Ag. Phokas. Fredrich, *Ath. Mitt.*, XXXI, 1906, p. 277.

## TENOS

1. Aydho. Demoulin, *B.C.H.*, XXVII, 1903, p. 258.
2. Smovolon. Demoulin, *op. cit.*, pp. 258 f. The so-called building-inscription (*I.G.*, XII, 5, 955) is on a re-used block built into the mediaeval masonry of the rebuilt second floor; it thus has no sure connection with the tower.

## THASOS

References are to Bon, *B.C.H.*, LIV, 1930 and Baker-Penoyre, *J.H.S.*, XXIX, 1909. I omit the buildings at Thymonia (Bon, p. 164; Baker-Penoyre, pl. XXI, e) and Elliniko of Potamia (Bon, p. 155 f.).

1. Aghios Ioannis East. Baker-Penoyre, p. 235, fig. 20; Bon, p. 162.
2. Aghios Ioannis West. Baker-Penoyre, p. 235, fig. 20; Bon, p. 163.
3. Amygladhia. Bon, p. 165; Baker-Penoyre, p. 244, pl. XVII, 5.
4. Astris. Bon, p. 164; Baker-Penoyre, p. 242, pl. XVII, 4.
5. Avatsinia. Bon, p. 165; Baker-Penoyre, p. 242, pl. XVII, 3.
6. Evraio. Bon, pp. 176 f., figs. 16 f.
7. Kalyvia Gravousa. Bon, p. 160 f., figs. 8 f.
8. Kaminorokhaiko. Bon, p. 165; Baker-Penoyre, p. 243, pl. XVII, 1.
9. Kephalos (= Phari). Bon, p. 169, fig. 12.
10. Limenaria. Conze, *Reisen auf den Inseln des thrakischen Meeres*, p. 38; Fredrich, *Ath. Mitt.*, XXXIII, 1908, p. 240.
11. Loutro. Bon, p. 162; Baker-Penoyre, pl. XV, 1.
12. Phanari. Bon, p. 151; cf. Déonna, 'Εφ. 'Αρχ., 1909, col. 12, fig. 5.
13. Pyrgos. Bon, p. 154; Baker-Penoyre, p. 231, figs. 17 f.
14. Saliari. Bon, p. 151 f., figs. 3 f., pl. VIII.
15. Schidhia. Bon, p. 163; Baker-Penoyre, p. 240, pl. XVI, 3.
16. Theologo. Bon, pp. 166 f., figs. 10 f.
17. Trypiti. Bon, p. 165; Baker-Penoyre, p. 242, pl. XVII, 2.
18. Tsoukidhia. Bon, p. 174; Baker-Penoyre, p. 245.
19. Vathia Potamia. Baker-Penoyre, p. 244, pl. XVII, 6.

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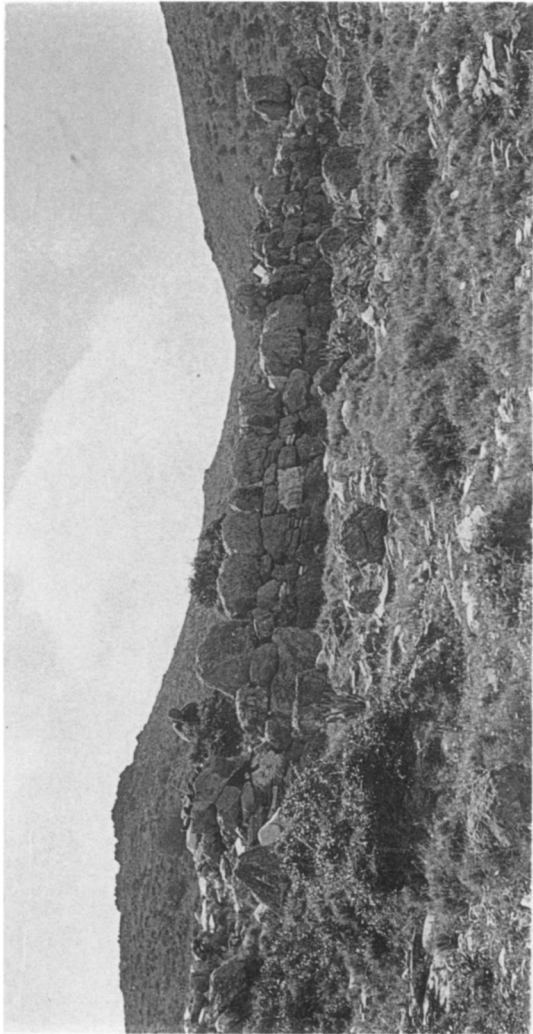
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a. The Princess Tower (Sounion 1) : Interior, showing Doorway



c. The Princess Tower (Sounion 1) : Detail of Court Wall

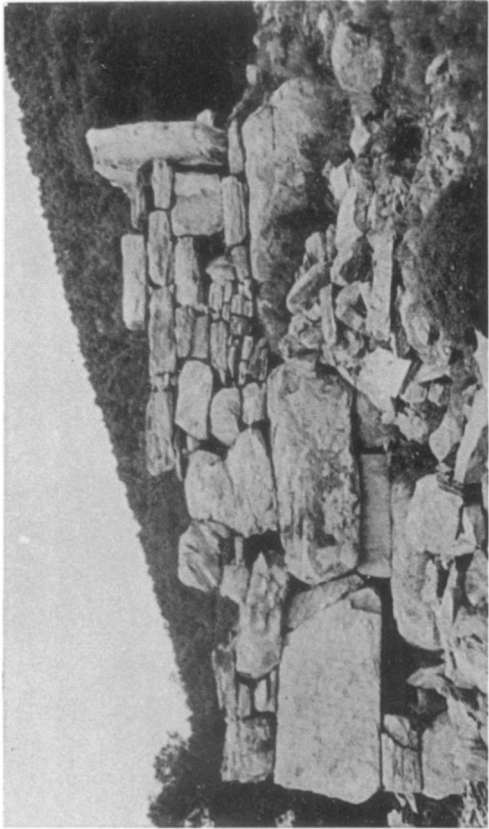


b. The Princess Tower (Sounion 1) : North Wall of Court, from outside

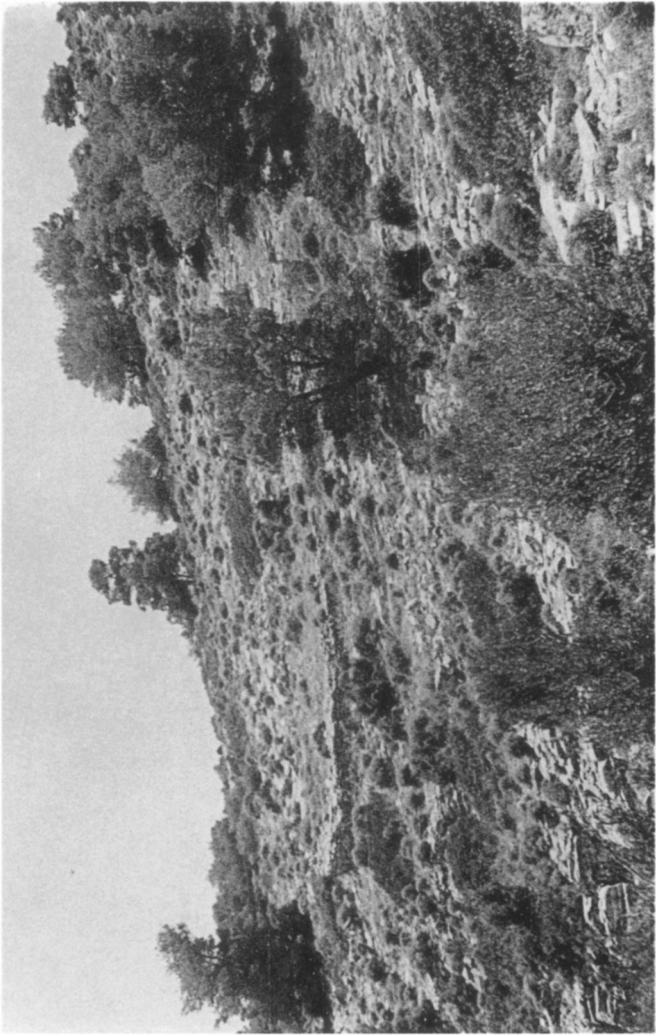
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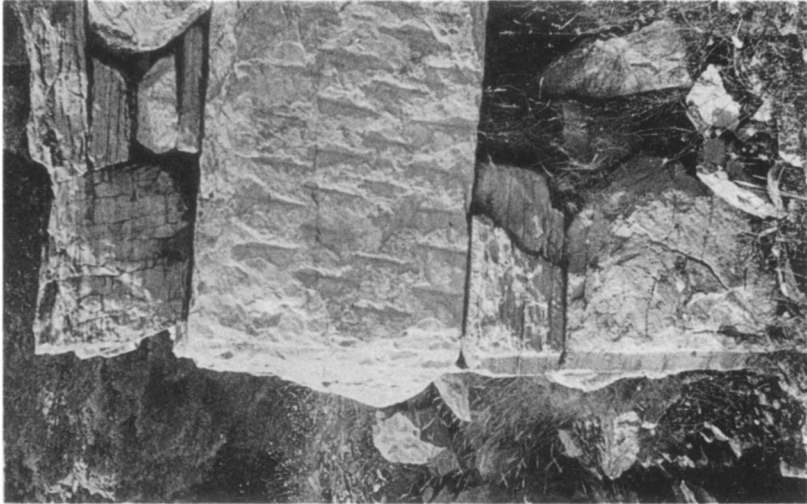
a. The Cliff Tower (Sounion 2) : Detail of South Wall of House



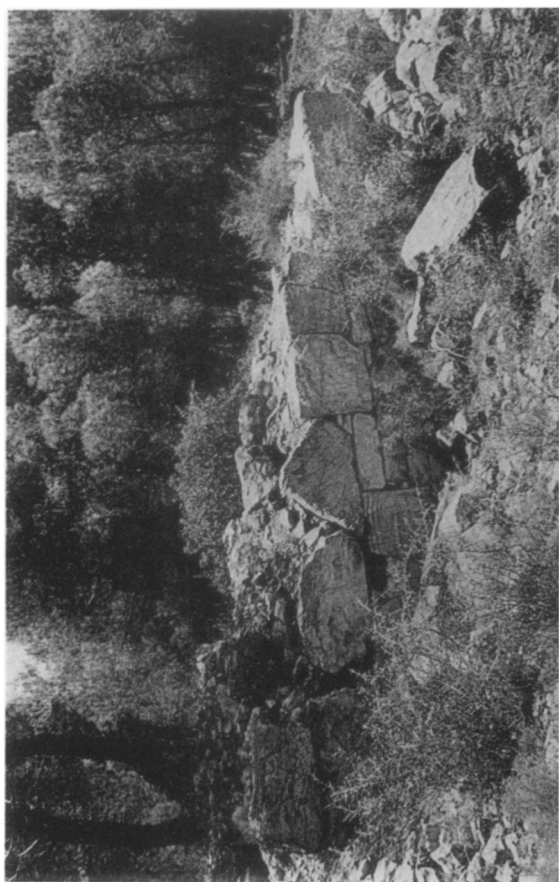
c. The Golden Pig Tower (Sounion 3) : South Wall.



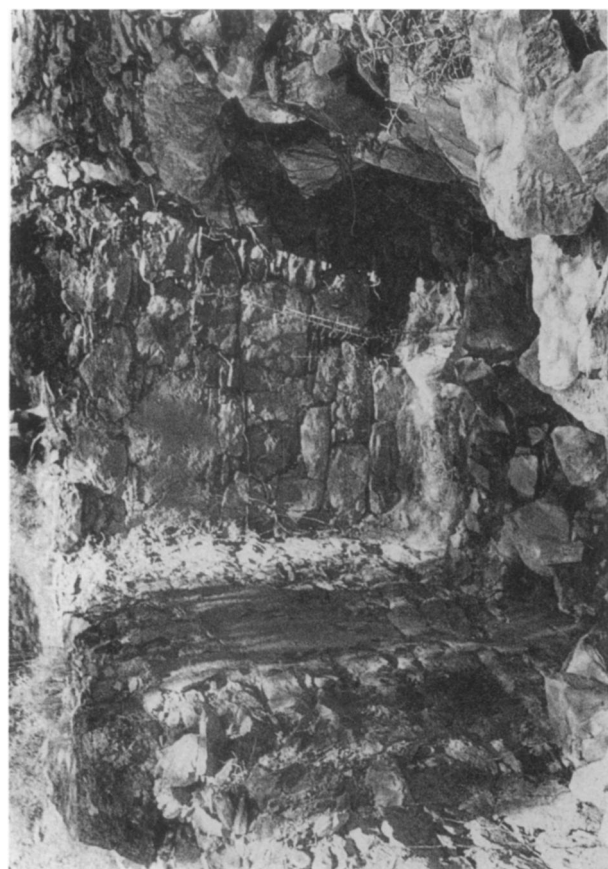
b. View from Cliff Tower (Sounion 2) : To left, Threshing-floor



d. The Golden Pig Tower (Sounion 3) : Detail of South Wall at West Corner



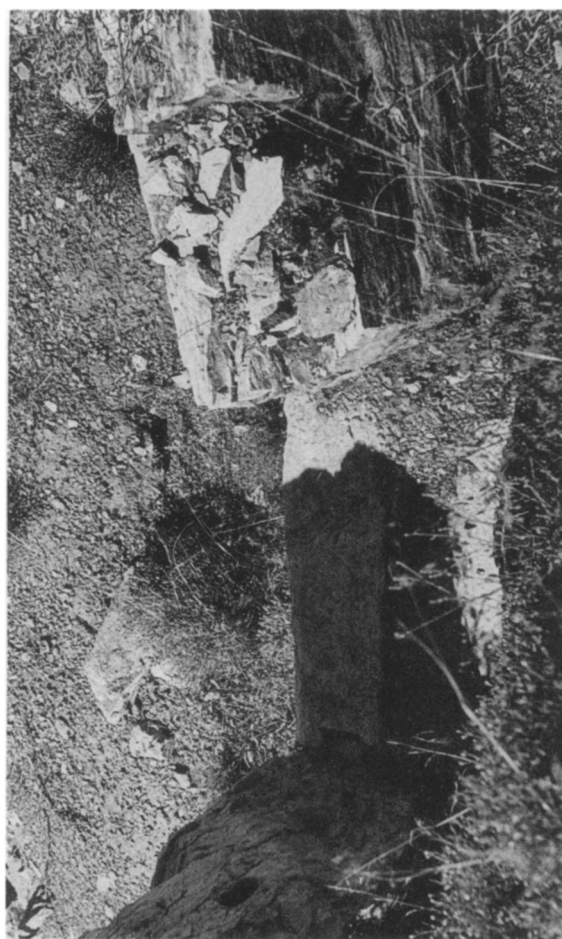
a. The Yellow Tower (Sounion 4) : Northwest Wall



b. The Yellow Tower (Sounion 4) : View within, from Door

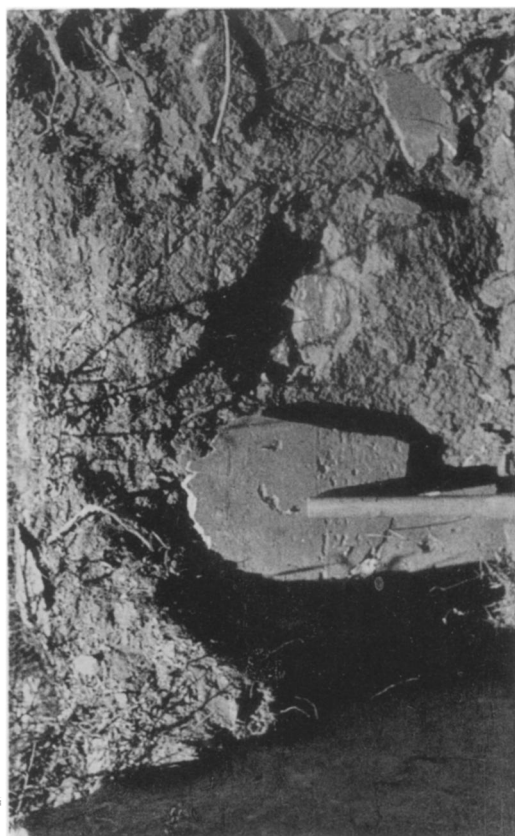


c. The Red Tower (Sounion 5) : View of East Wall, with Outbuilding

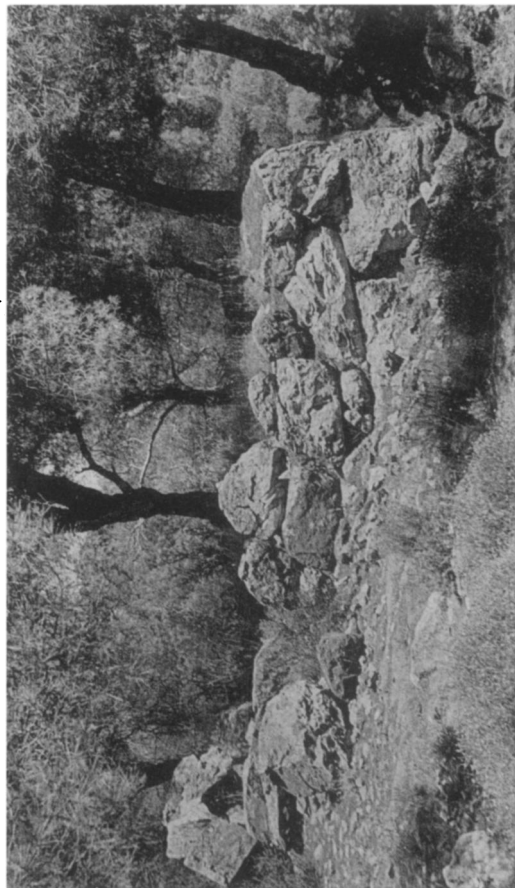


d. The Red Tower (Sounion 5) : View of Doorway, from within

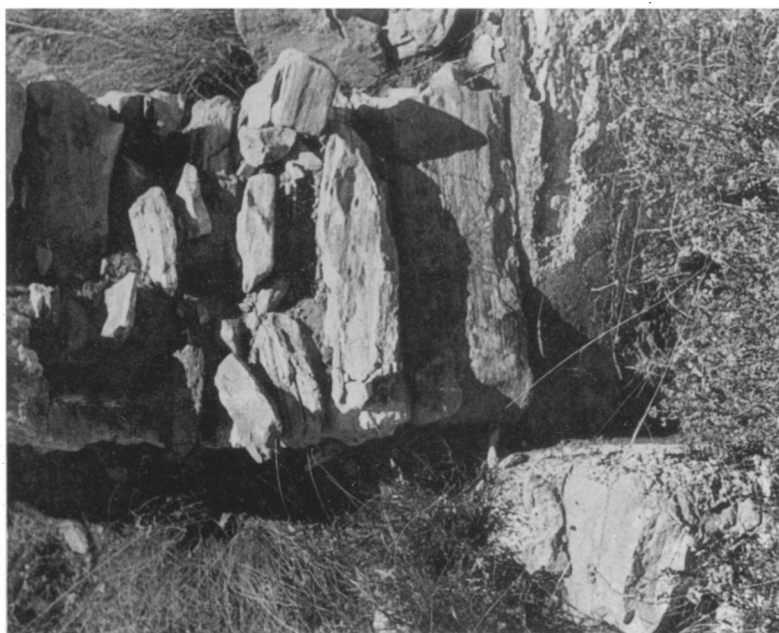




a. The Red Tower (Sounion 5) : Plastered Back Wall, from within



b. The Red Tower (Sounion 5) : Broken end of Outbuilding Wall, over Cemented Channel



c. The Hilltop Tower (Sounion 6) : South Wall (to left, Corner; to right, Doorway)



d. The Hilltop Tower (Sounion 6) : View from West