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THE SETTING OF THE PERICLEAN
PARTHENON



BY

GORHAM PHILLIPS STEVENS



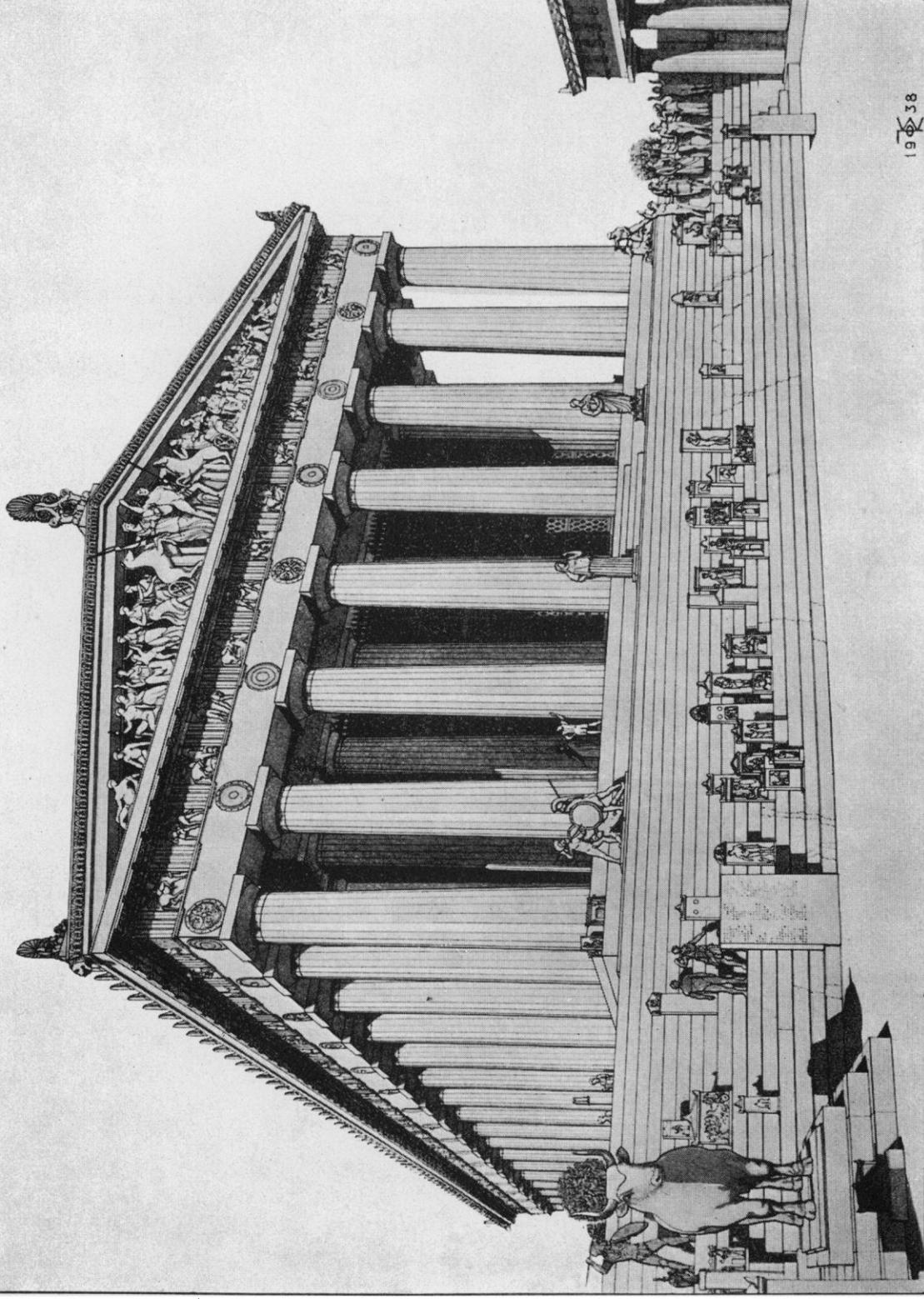
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The First Good View in Antiquity of the Parthenon (from B, Fig. 1) : a Restoration

INTRODUCTION ¹

The present study is an extension of the investigations on the Acropolis of Athens which the author started in 1936 and which were published under the title of *The Periclean Entrance Court of the Acropolis of Athens*.² In that book attention was confined to the entrance court and the adjacent portions of the Acropolis. In the present essay interest will be focussed chiefly upon the Parthenon, the far-famed shrine of Athena Parthenos. To say that the writer did not approach the task with considerable awe would be far from the truth, for the Parthenon, the chief building on the Acropolis, is the one monument which critics of every school have agreed in considering the most faultless in design and execution of all the buildings erected by man.

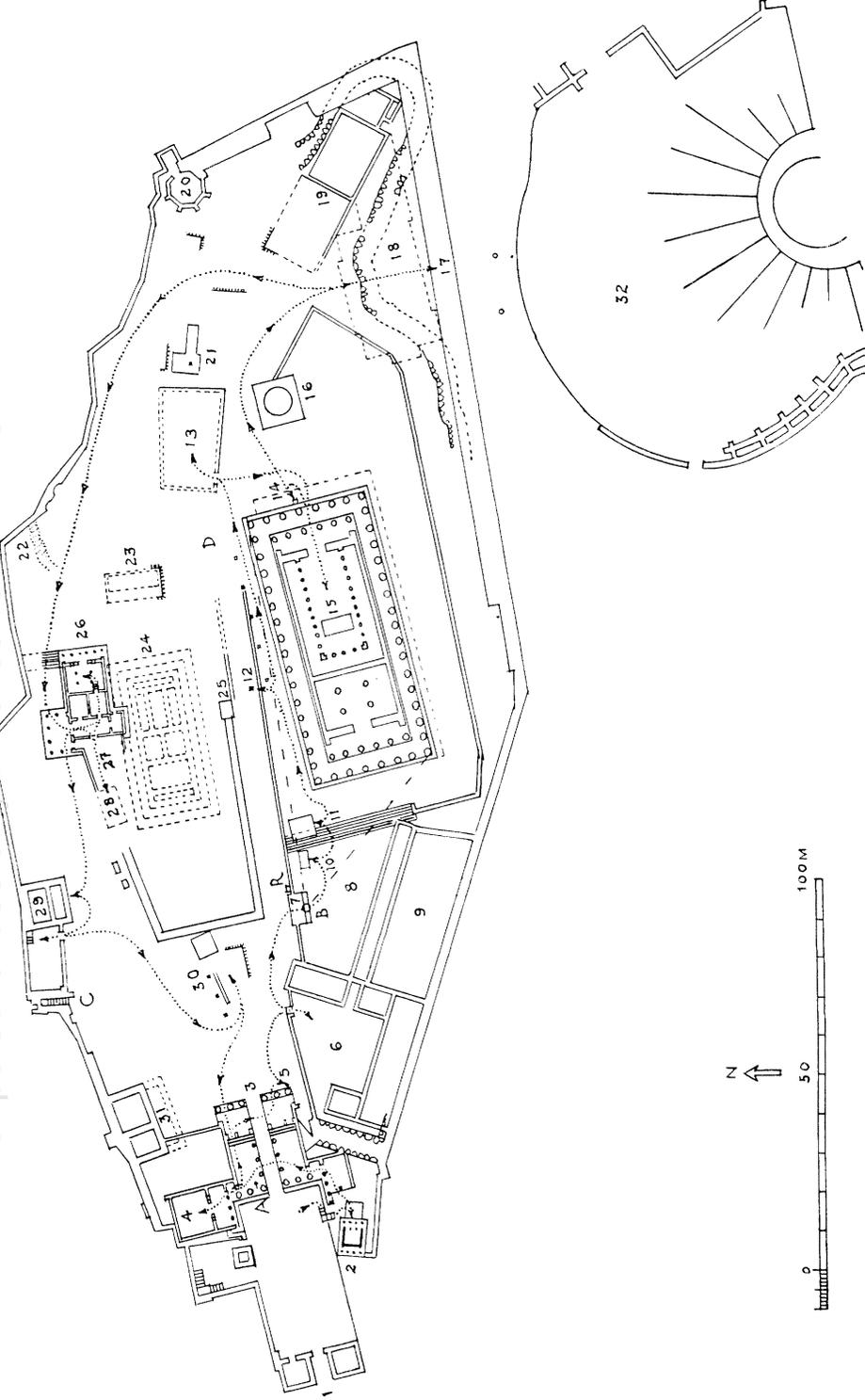
In *The Periclean Entrance Court of the Acropolis of Athens* it was shown, it is hoped, that Athens emerged from the Persian wars in an enviable position; she had won glory and wealth. The highly intellectual Athenians who directed the destinies of the city immediately after the Persian wars seized the propitious moment which presented itself and, in relatively few years, succeeded in crowning the Acropolis with a group of unrivalled buildings.

In the book alluded to above particular attention was called to the fact that the ancient Greek, from the time of Pericles on, saw, as he entered the Acropolis through the Propylaea, only the western gable of the Parthenon rising above certain structures. The latter were:

- i. The East Stoa of the Sanctuary of the Brauronian Artemis.
- ii. The propylon and wall on the north side of the court west of the Parthenon.
- iii. The Mycenaean wall immediately behind (east of) the colossal statue of the Promachos.

¹ The writer wishes to thank the Greek Government for permission (obtained through the courtesy of Professor Charles Morgan II, recently Director of the American School of Classical Studies at Athens) to excavate three portions of the Chalkotheke. In the matter of borrowed illustrations the writer owes much to those publishers who kindly permitted him to reproduce their illustrations. Professor Oscar Broneer of the American School of Classical Studies at Athens has read the manuscript and has made important suggestions. To Professor Bert H. Hill, former Director of the American School of Classical Studies at Athens, a very special debt is due for the rare generosity with which he placed his scientific knowledge at the disposal of the writer. The reader will observe that in many places the method of imparting information by means of photographs and drawings has been preferred to that of lengthy written descriptions and discussions.

² Published in book form and also as an article in *Hesperia* (V, 1936, pp. 443-520).



1. Beulé's Gate. 2. Nike Temple. 3. Propylaea. 4. Pinakothek. 5. Statue of Athena Hygieia. 6. Sanctuary of the Brauronian Artemis. 7. Propylon. 8. Court. 9. Chalkotheke. 10. Votive Bull. 11. Monument of Athena Ergane (?). 12. Inscription of Ge. 13. Precinct of Zeus Polieus. 14. Statue of Iphikrates. 15. Chryselephantine Statue of Athena in the Parthenon. 16. Temple of Roma. 17. Votive Group of Attalus. 18. Modern Museum. 19. Work Shops. 20. Modern Belvedere. 21. Boukoleion. 22. Mycenaean Steps. 23. Great Altar of Athena. 24. Old Temple of Athena. 25. Propylon (I.G., I², 4). 26. Erechtheum. 27. Court of the Pandroseum. 28. Temple of Pandrosus. 29. Dwelling of the Arrephoroi. 30. Group of the "Promachos." 31. Service Building (?). 32. Theatre of Dionysus.

Fig. 1. General Plan of the Acropolis, Showing Route of Pausanias

The relation of these features to the Parthenon is shown in Figures 1 and 2. The station point for Figure 2, however, is in the west portico of the Propylaea, at A, Figure 1. If the station point had been taken in the east portico of the Propylaea—from which, in fact, the first adequate view of the interior of the Acropolis was

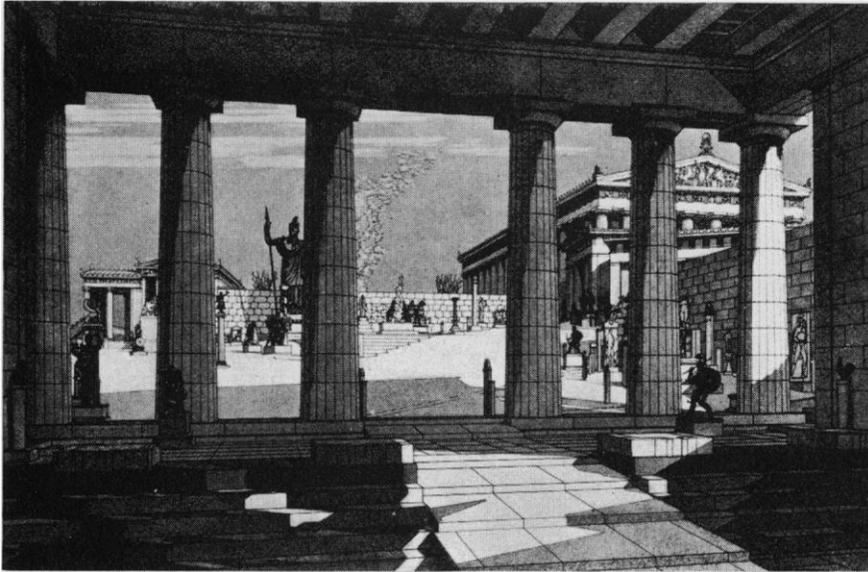


Fig. 2. The Periclean Entrance Court of the Acropolis (view from A, Fig. 1):
a Restoration

obtained in antiquity, as it is today—the ridgepole of the east stoa of the Sanctuary of the Brauronian Artemis would have run across the frieze and cornice of the Parthenon, thus hiding considerably more of that temple than indicated in the figure (Fig. 2). In other words, the ancient Greek did not obtain his first view of the Parthenon as a whole until he had passed through a propylon at 7, Fig. 1, and reached point B, Fig. 1 (compare also Figure 19).

I. THE FIRST GOOD VIEW IN ANTIQUITY OF THE PARTHENON

It has just been shown that the ancient Greek obtained his first good view of the Parthenon only after passing through the propylon on the north side of the court west of the Parthenon, that is, only when he had reached B, Fig. 1. The main entrance of the Acropolis is from the west; the entrance to the cella of the Parthenon is at the east end of the temple. Ictinus, the architect of the Parthenon, decided to approach the rear of the temple first—a bold resolution.



Fig. 3. The West Façade of the Parthenon, Photographed on the Axis of the Temple

The importance of position B was fully appreciated by Ictinus. For, first, in deciding upon position B for the propylon of that portion of the Acropolis which was destined for the Parthenon and its dependencies, he fixed the main approach not on the axis of the Parthenon, but somewhat to one side, so that the temple might be seen in its three dimensions. The mass of the west façade frankly dominated the composition of this first view, as was proper, but one also had a distinct idea of the majesty of the seventeen columns along the north flank of the temple: Ictinus wished the first view of the temple to be as imposing as possible. The Romans usually solved similar problems by approaching their temples from directly in front, as,

for example, in the case of the temples of the Imperial Fora in Rome; only the width and height of the temples could be appreciated from such an approach, and the observer had to imagine how many columns there were along the sides. A comparison of the Frontispiece and Figure 3 strikingly shows the advantage of the approach located somewhat to one side over the approach along the main axis.

Second, Ictinus evidently studied carefully the main sight-lines of the first place from which he knew the Parthenon would be well seen, namely, from B, Fig. 1. The

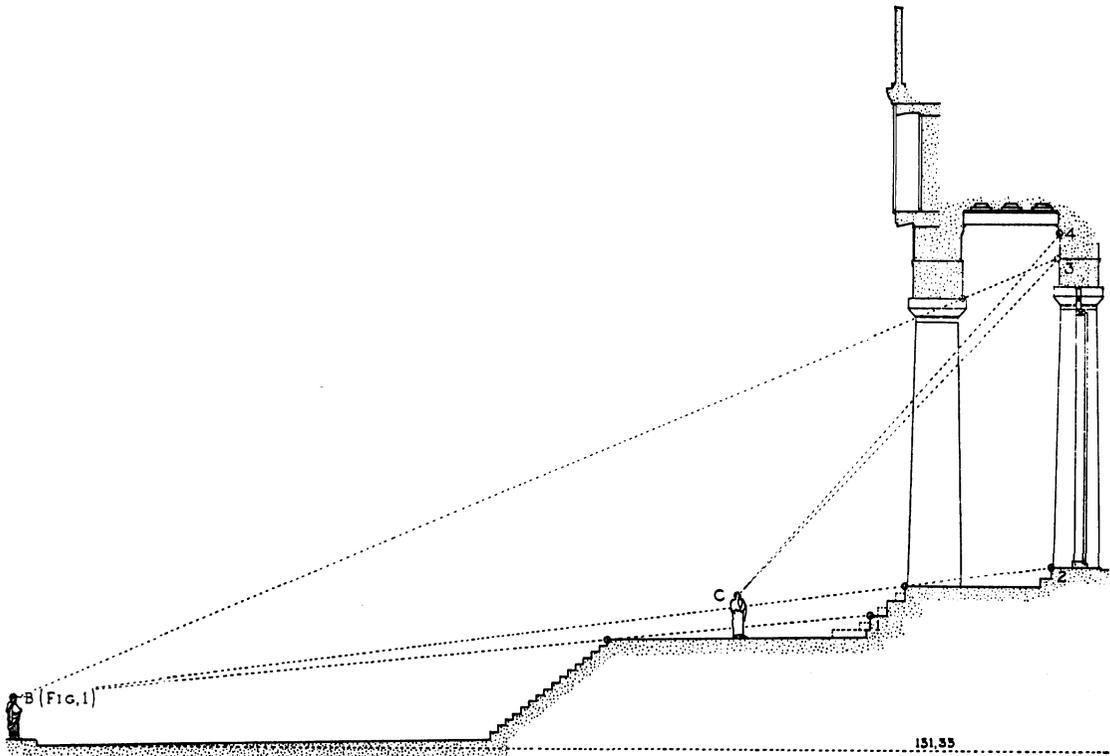


Fig. 4. Sight-lines for the Parthenon from the Propylon and from the Terrace of the Temple

two horizontal sight-lines (indicated by broken lines in Fig. 1), between which the columns of the Parthenon on the extreme right and left can be seen, make with each other an angle of almost exactly 45° , an angle which is not too great for an observer to appreciate easily the whole of the Parthenon—he does not have to turn his head from side to side to take in the extreme columns on the right and left. The vertical sight-lines are even more illuminating. For, in Fig. 4, sight-line B-1 shows that just the whole of the two upper steps of the Parthenon was visible from the propylon. Further, the columns of the opisthodomus were raised exactly enough above the main stylobate of the temple to insure visibility, from the propylon, of the bottom of the columns—see sight-line B-2 in Fig. 4. In order to secure this visibility

the following make-shift was necessary. The two steps under the columns of the opisthodomus are re-used steps from the Older Parthenon.³ They were placed in the Periclean Parthenon as shown in Figure 5. The proper method would have been to dress both steps to the required height, instead of leaving risers of unequal heights. Time and money were saved by the method employed. The difference in height of the steps is, then, a confirmation of the theory that Ictinus wished the Parthenon to look well from the propylon. Furthermore, sight-line B-3, Fig. 4, shows that the top of the architrave over the columns of the opisthodomus was just visible from the propylon. Note that the arrangement brought the bottom of the architrave considerably above that of the architrave of the peristyle (cf. Fig. 4).

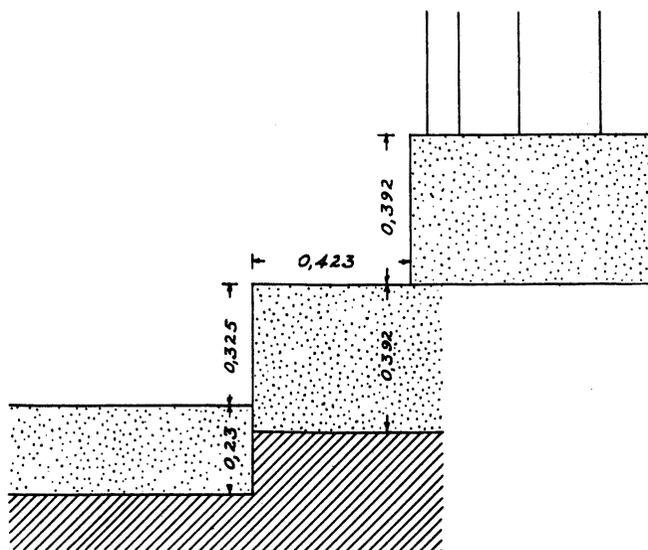


Fig. 5. Section through the Steps beneath the Columns of the Opisthodomus of the Parthenon

Third, the flight of steps to the west of the Parthenon has a curve similar to that of the steps of the Parthenon; the curve of the flight of steps is, however, far from being as regular as that of the Parthenon. The curve is best seen today from the north end of the flight of steps. The top of the flight of steps was seen against the steps of the Parthenon by every one standing in the court to the west of the temple (cf. Frontispiece). Under such conditions it would be bad design to have one set of steps curved and the other not.

Fourth, the procession of the sculptural Panathenaic frieze starts at the southwest corner of the Parthenon, progresses along the west and south sides of the temple, and meets over the main entrance at the east. The composition of the frieze at the southwest corner, with its figures moving in opposite directions, is weaker

³ B. H. Hill, "The Older Parthenon," *A.J.A.*, XVI, 1912, pp. 535-558.

than that at the northwest corner with its continuous movement around the corner. The northwest corner was considered the more important of the two, because it faced an approach to the temple which the southwest corner did not (cf. the Frontispiece and Fig. 1).

The sight-lines of the Parthenon from position B, Fig. 1 (compare also Fig. 4), can only mean, at least in the mind of the writer, that Ictinus designed temple, flight of stairs, and propylon as a unit. Additional evidence to confirm this theory will be advanced later on. For the moment it is sufficient to call the reader's attention to the fact that sight-lines are of capital importance in the study of architectural settings of all successful buildings. Their use in making a building look well from a certain vantage point is undoubtedly as old as the hills. Needless to say, the method is universally employed today in the best architectural practice—both consciously and, perhaps more often, unconsciously.

The reader should not infer from what has been said that the beauties of the Parthenon were exhausted after a look or two from point B, Fig. 1. Far from it! New and interesting features appeared as the spectator advanced. Was not the remarkable Panathenaic frieze only visible from the platform around the temple (compare sight-lines C-3 and C-4, Fig. 4; also Fig. 43), and did not the colossal gold and ivory statue of Athena within the east cella form a fitting climax to a marvellous ensemble? The first impression of a true work of art should be good; closer inspection should be invited and rewarded. The discussion of these and other artistic features is reserved, however, for a later portion of this essay.

II. CHALKOTHEKE

The excavations of 1888-1889 by the Greek Government, under the direction of Kavvadias and Kawerau, brought to light the foundations of a large building in the southern part of the court to the west of the Parthenon (Fig. 1, 9). It was clearly a civic building, consisting of a large rectangular portion with a portico along its northern front. Most commentators are of the opinion that it was the Chalkotheke or "storehouse for bronzes," which is known from an inscription dating from 362/1 B.C.⁴ to have stood on the Acropolis. That neither Pausanias nor any other ancient writer mentions the Chalkotheke is a good indication that the artists who were responsible for the embellishment of the Acropolis at the time of the erection of the building designed an inconspicuous structure in spite of the large area the building occupied (756 sq. m.). It was not to compete with the Parthenon.

⁴ So dated in the *Corpus* (I.G., II², 120); Schweigert suggests 353/2 (*Hesperia*, VII, 1938, p. 286).

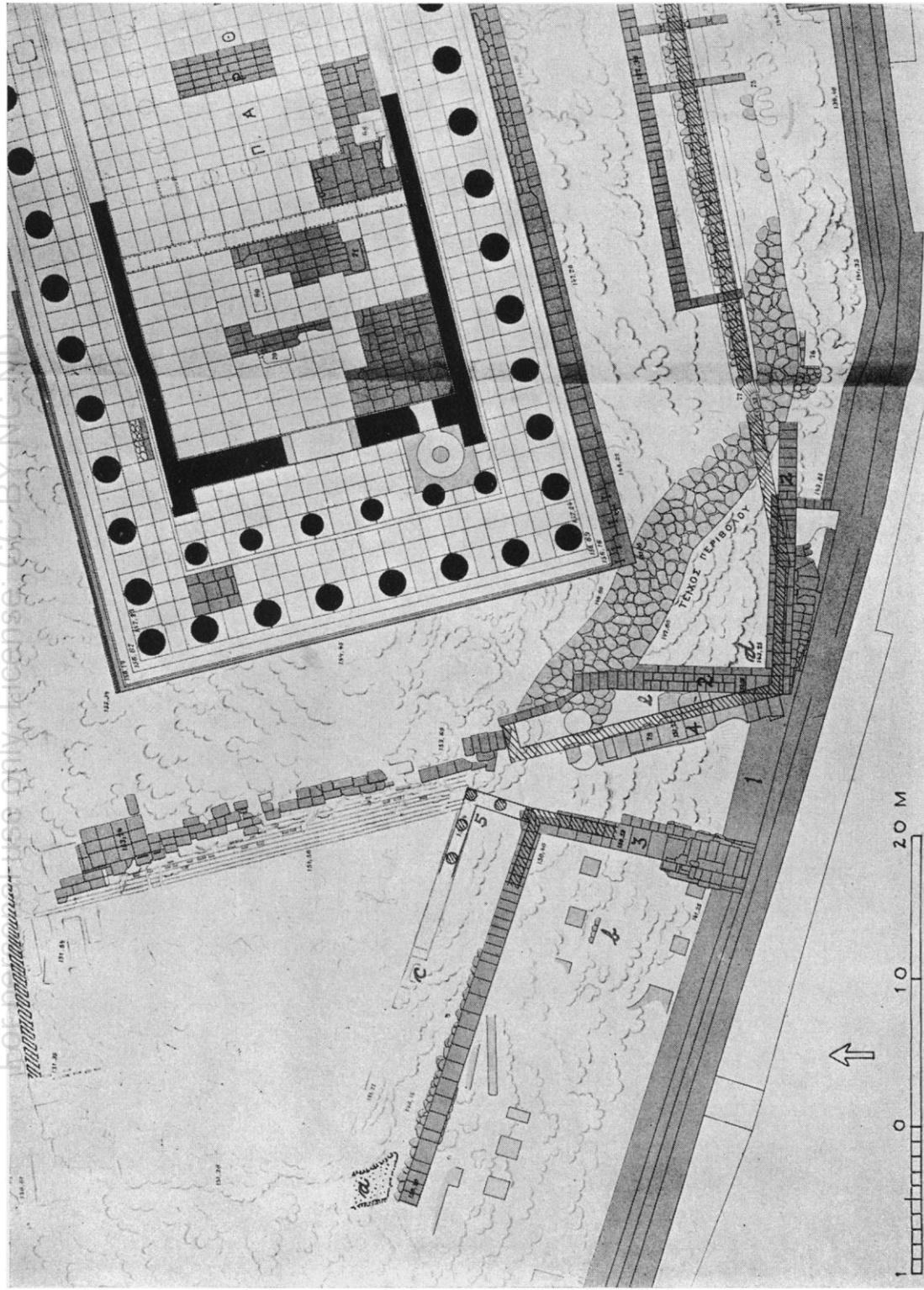


Fig. 6. The Western Portion of the Parthenon and the Adjacent Area (Kavvadias and Kawerau, 'Η Ανασκαφή τῆς Ἀκροπόλεως, Πίναξ Ζ' [in Part])

Kavvadias and Kawerau published the results of their excavations (Fig. 6).⁵ But, as their plans are drawn at small scale and comparatively little is said in the text about the building in question, a restoration based on the data they give would have been uncertain. New excavations at three points were therefore deemed desirable; and permission was soon graciously granted by the Greek Government.

The results of the excavations of 1938 and the studies resulting from them are as follows:

1. EAST FOUNDATION WALL (FIG. 6, 3 AND FIG. 7)

Kavvadias and Kawerau had shown that this wall did not rest upon the Acropolis rock, but upon a fill. They also proved that the Acropolis wall south of the Chalkotheke, which was built by Cimon a little before the middle of the fifth century before Christ, antedated the east foundation wall of the Chalkotheke, because the south end of the wall of the Chalkotheke was laid over the Acropolis wall and, further, was not bonded into the latter. Later on the date of the foundation wall will be shown to be earlier than that of the broad flight of rock-cut steps west of the Parthenon—in fact, the date of the foundation wall will prove to be about 450 B.C. The date of the Chalkotheke may then indicate that it was built to replace the opisthodomus of the Old Temple of Athena.

Later on, too, a reason will be advanced for erecting the east wall of the Chalkotheke at a considerable angle to the north and south walls of the building (Fig. 1, 9).

The new excavations revealed that Kavvadias and Kawerau had already investigated this portion of the Acropolis and had refilled their excavations, for the earth was not found in a stratified condition and the sherds were of all periods. The east foundation wall of the Chalkotheke was discovered to be as broad at the north as at the south. The core of the course which is uppermost today was composed of poros headers about 1.30 m. long, faced on either side with poros stretchers 0.65 m. wide; the total thickness of the course was 2.60 m. It was evident that the foundations were made especially broad because they rested on a fill. On the other hand, the north foundation wall of the Chalkotheke rested upon the Acropolis rock and thus could be a foundation wall of normal width (*ca.* 1.50 m. for the course in contact with the rock). Here, then, were two walls meeting at the northeast corner of the Chalkotheke, one resting on a fill, the other on rock. To avoid unsightly cracks in the angle due to unequal settlement of the two walls different types of foundations were found necessary.

⁵ Ἡ Ἀνασκαφή τῆς Ἀκροπόλεως.

SETTING OF THE PARTHENON

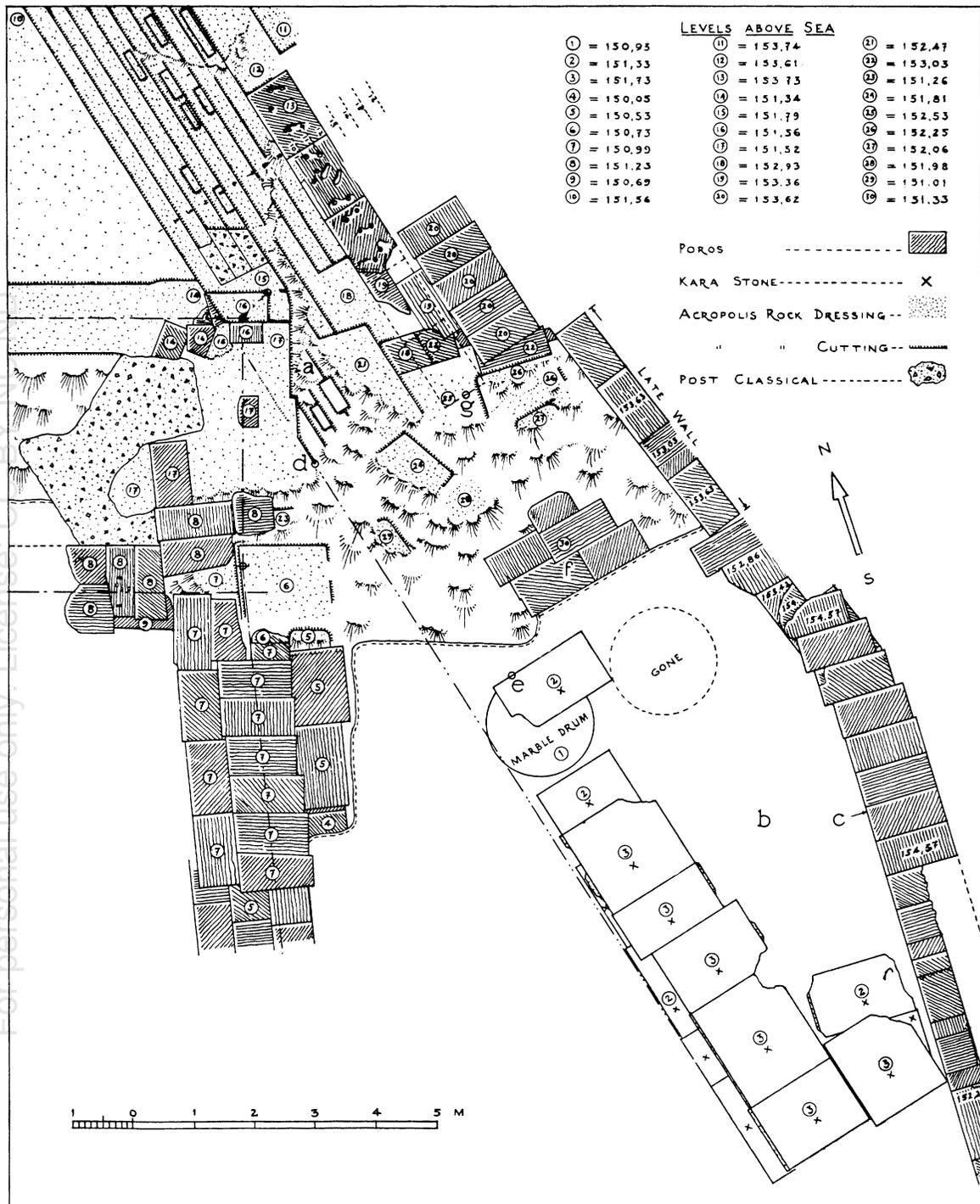


Fig. 7. Plan of the Excavation of 1938 at the Northeast Corner of the Chalkotheke

2. EAST END OF THE PORTICO

A tank of considerable importance was constructed in mediaeval times at the east end of the portico. The lower steps of the long rock-cut flight of steps were covered with stucco to form the east side of the tank. Precisely at the northeast



Fig. 8. The Northeast Corner of the Chalkotheke before the Excavation of 1938

corner of the portico was a mass of mediaeval masonry, forming part of the tank, which looked as though it concealed interesting features: it was accordingly cut out, but not without considerable difficulty due to the excellent quality of the brickwork. Figures 8 and 9 show the conditions before and after the removal of the masonry. Five interesting features came to light. *First*. The east side of the portico did not prove to have been in line with the east wall of the Chalkotheke (cf. Fig. 7). If the Chalkotheke proper and the portico had been built at the same time, the two

portions would probably have been in a straight line. Hence different dates for the two features seem likely. *Second.* The northeast corner of the portico projected into the long flight of rock-cut steps. From this fact two deductions may be made. (1) The portico was of later date than the rock-cut steps, obviously because the steps were cut away to receive the portico. (2) The portico was later than the Chalkotheke proper, because, if the portico and Chalkotheke had been erected at the same time, the building as a whole would have been located far enough west for the portico to avoid the rock-cut steps. *Third.* The long flight of rock-cut steps



Fig. 9. The Northeast Corner of the Chalkotheke after the Excavation of 1938

originally went at least as far south as the southeast corner of the portico, where the Acropolis rock falls away abruptly. Let us suppose that the Chalkotheke has been erected without a portico, and that the Chalkotheke antedates the steps (as will be shown later on). The natural place to stop the steps would be at the northeast corner of the Chalkotheke. Is this not another indication that the portico was an afterthought? The arrangement of portico and steps is certainly unorthodox. *Fourth.* The treads of the long flight of rock-cut steps were cut down 0.04 m. to the east of the portico. The lowering can be observed plainly by taking a position at the southern end of the flight of steps and placing the eye on the level of the first, second, or third treads. There is also the trace of the original tread against the fourth riser at *a*, Fig. 7. Furthermore, the treads east of the portico are more roughly cut than those elsewhere, showing that there were two periods in the

cutting of the steps. A plausible explanation for lowering the treads to the east of the portico is that rain water from the rock-cut steps flowed into the portico and consequently had to be diverted; for it will be shown later on that the top of the stylobate of the portico probably lined with the first tread of the flight of rock-cut steps. In the cutting down of the treads we have an indication that the portico was later than the rock-cut steps. *Fifth.* The surface of the rock-cut court to the north of the Chalkotheke pitches to the west for the disposal of rain water (the pitch also caused an economy of stone cutting in the making of the court itself). In a second period of rock cutting, the surface of the court was warped to a considerable extent in the southeastern corner of the court, the warping amounting to almost the height of one of the rock-cut steps. The trace against the first rock-cut riser of the cutting for the warping is obvious. The reason for the warping was evidently to make the full height of the stylobate of the portico visible from end to end. The warping shows that the portico was later in date than both the rock-cut court and the rock-cut steps (the general rock cutting for the court is, of course, of the same date as that of the rock-cut steps).

3. ROCK-CUT INCLINED PLANE AT *a*, FIG. 6

Kavvadias and Kawerau uncovered the inclined plane. It does not appear in their drawings, however; nor is it mentioned in their text. Why was it made? The inclination is 3 to 1—that is, for every 3.00 m. of horizontal distance the rise is 1.00 m. As, in 1938, it was covered with earth toward the north side of the north foundation wall of the Chalkotheke, only an excavation seemed likely to disclose its mysterious character. The inclined plane (Fig. 10) was found to pass beneath the foundations of the north wall of the Chalkotheke, thus indicating that it antedated the latter. The hope that the earth, which was to be removed from the small pocket to the north of the north wall of the Chalkotheke, had not been disturbed by Kavvadias and Kawerau, and that interesting objects would be found, came to nought; Kavvadias and Kawerau had done their work well. Potsherds of all periods were found, but those of Mycenaean date were by far the most numerous. The inclined plane may possibly be explained as a portion of the route over which building materials were carried from the Propylaea (through which large quantities of heavy materials must have passed) to the southern sections of the Acropolis: perhaps the materials were largely blocks for the southern wall of the Acropolis. We may imagine a route skirting the Sanctuary of the Brauronian Artemis on the north and east, thus avoiding a route around the north and east of the Parthenon, where the blocks would have to be carried up hill and then down hill, and where, moreover, their transportation would have interfered to a considerable extent with the religious life of the Acropolis. There are no signs of the blocks being lowered down the plane—there are no grooves, scratches, or anchoring holes. Perhaps greased

timbers were used beneath the blocks. In any case, we have seen that the inclined plane was not functioning after the Chalkotheke was built. And the good preservation of the inclined plane proves that it could not have been in use during many years before the erection of the Chalkotheke.

A fairly accurate restoration of the Chalkotheke is possible by using the data derived from the two excavations of 1888-1889 and 1938. There will be a first period



Fig. 10. The Rock-cut Inclined Plane at *a*, Fig. 6.
Viewed from the South

with a building having no portico, and a second period with a building provided with a portico (consult Figs. 7, 11, and 12). As the width of the Chalkotheke proper was almost exactly that of the two unfinished east wings of the Propylaea (cf. Fig. 1), we shall not be far wrong in supposing that the thickness of the walls above ground in the case of both buildings was about the same, namely, 0.863 m. (a measurement taken at the northeast corner of the Propylaea). Figure 12 shows that the north wall of the Chalkotheke was carried down to the rock of the Acropolis, and that the south wall rested upon the southern wall of the Acropolis (leaving, however, a circulation on the top of the Acropolis wall, which was necessary for military

purposes, and to which there was access at the southeast corner of the Chalkotheke). We have seen that the east foundation wall of the Chalkotheke was spread because there the foundation rested on a fill of earth, chips, and the like. Now, where a foundation is spread, the superincumbent wall should be balanced over the center of the foundation wall, otherwise the pressure on the earth will be unevenly distributed, and the wall as a whole will tend to tip toward the side where the earth is subjected to the greater pressure. For a second time the explanation of why the east wall of the Chalkotheke was not made perpendicular to the north and south walls of the Chalkotheke will be postponed. For the present it will serve our purpose sufficiently

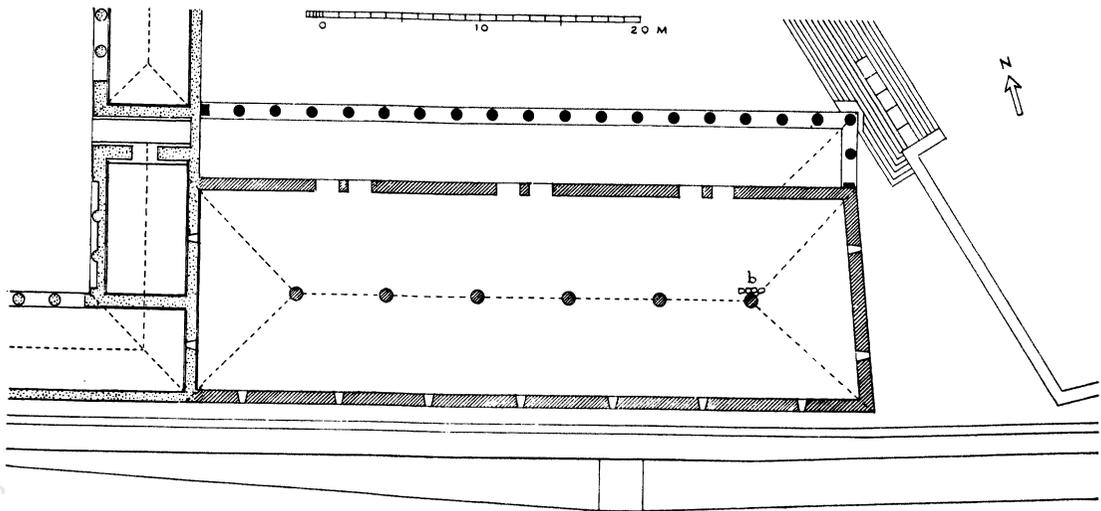


Fig. 11. Restored Plan of the Chalkotheke

to note that in the case of both building periods—that is, a Chalkotheke first without and then with a portico—circulation was maintained around the east end of the building. For its west wall the Chalkotheke utilized the southern portion of the east wall of the Sanctuary of the Brauronian Artemis—as the south stoa of the Sanctuary of the Brauronian Artemis is bonded into the south wall of the Acropolis, the stoa antedated the Chalkotheke.⁹

There are no data in regard to the entrance (or entrances) of the Chalkotheke, as the foundations of the Chalkotheke proper nowhere rise today to the level of the floor of the building. The Chalkotheke faced north, however, and access to the interior would, therefore, naturally be from the north.

The interior probably followed the arrangement of most Greek stoa, that is to say, there were, probably, columns down the center of the interior, rising to the ridgepole. There is, perhaps, an indication for such an arrangement, but, unfortu-

⁹ G. P. Stevens, "The Periclean Entrance Court of the Acropolis of Athens," *Hesperia*, V, 1936, pp. 459-470.

nately, the data are buried today under meters of earth. At *b*, Fig. 6, Kavvadias and Kawerau show what may be the remains of all that is left of the foundation for the interior support at the extreme east. It is possible that the four polygonal stones shown there were used in the foundation for the interior support in question, just as was done in the case of the north wall of the Chalkotheke (also shown in the same plate). The position of the four polygonal stones in relation to the east and side walls of the Chalkotheke is correct for a foundation for the easternmost support (Fig. 11, *b*). If this easternmost support be accepted, then an internal support at

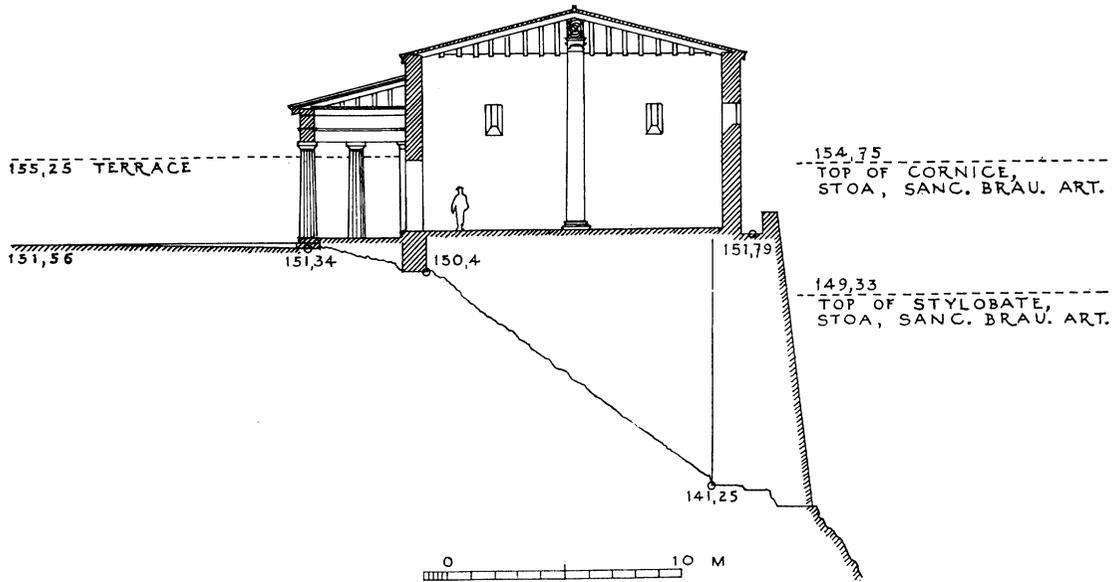


Fig. 12. Restored Section of the Chalkotheke, Looking East

the west end of the room may be symmetrically located in regard to the east internal support, as shown in Fig. 11. Finally, four supports placed between the extreme supports will give an axial unit which is not far from customary in stoaes of about the same width. The width (internal measurement) of the Chalkotheke is 12.80 m., and the axial distance of the internal supports is 5.70 m. (cf. Fig. 11). The corresponding figures for the south stoa at Corinth are 12.00 m. and 6.50 m.; for the stoa of Eumenes at Athens, 15.12 m. and 4.93 m.

A fairly accurate restoration of the portico does not present as many difficulties as one might at first suppose. As the rock-cut trench for the foundation of poros beneath the stylobate is almost exactly as wide as the rock-cut trench beneath the east wing of the south stoa of the Sanctuary of the Brauronian Artemis (see Fig. 13), the suspicion at once arises that the two orders were of about the same size. Moreover, the relation of the rock cutting *a-b*, Fig. 14, to the axis of the rock-cut trench of the portico gives a stylobate 0.85 m. wide, the same width as that in

the wing of the Sanctuary of the Brauronian Artemis (Fig. 13), a good confirmation that the orders were alike (see below). Unfortunately there are no stylobate blocks to give us the axial distances of the columns, but we can use for the portico of the Chalkotheke certain arguments presented in the discussion of the better preserved south stoa of the Sanctuary of the Brauronian Artemis.⁷ For example, the stylobate of the portico of the Chalkotheke, just as in the case of the south stoa of the Sanctuary of the Brauronian Artemis, is too narrow for an Ionic order with its projecting base, for the resulting Ionic column would be far too short. But, when we actually see how exactly the free order between the two wings of the south stoa of the Sanctuary of the Brauronian Artemis fits the northeast end of the portico

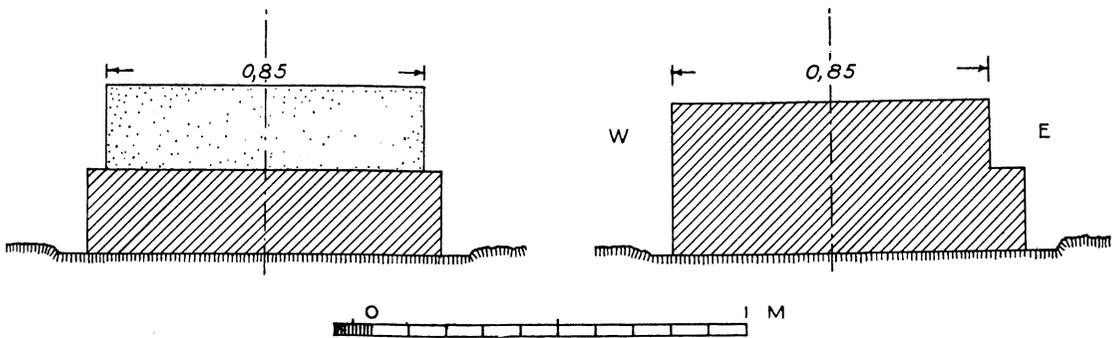


Fig. 13. Right: Section through the Stylobate of the East Wing of the South Stoa of the Sanctuary of the Brauronian Artemis. Left: Section through the Stylobate and the Foundation of the Chalkotheke; Restoration

of the Chalkotheke, with the same intercolumniation and the same width of the metopes and triglyphs as those established in the study of the south stoa (see Fig. 14), suspicion gives way almost to certainty that a correct solution has been found. Where the portico comes in contact with the Chalkotheke proper (*c*, Fig. 14), a pilaster of substantial cross section is necessary to help support the entablature of the portico, for the entablature, an applied feature, probably had little bearing upon the wall of the Chalkotheke. The pilaster was in itself easily put in place and obviously facilitated the attachment of the portico to the building. Note the relation of the axes *d-c* and *c-e*, Fig. 14. That they should meet at *c* is noncommittal, however, as to whether or not the portico was built later than the Chalkotheke proper. Note, also, that at *c* the mouldings of the pilaster are properly received against the main building, and that the cornice of the portico is cut off in a manner analogous to that of the cornice of the Porch of the Maidens of the Erechtheum at the northwest corner of the porch.⁸

Study of Figure 7 will show that the columns of the portico rested on two courses.

⁷ "The Periclean Entrance Court of the Acropolis of Athens," *Hesperia*, V, 1936, pp. 459-470.

⁸ Paton and Stevens, *The Erechtheum*, Pl. XXVII, 10.

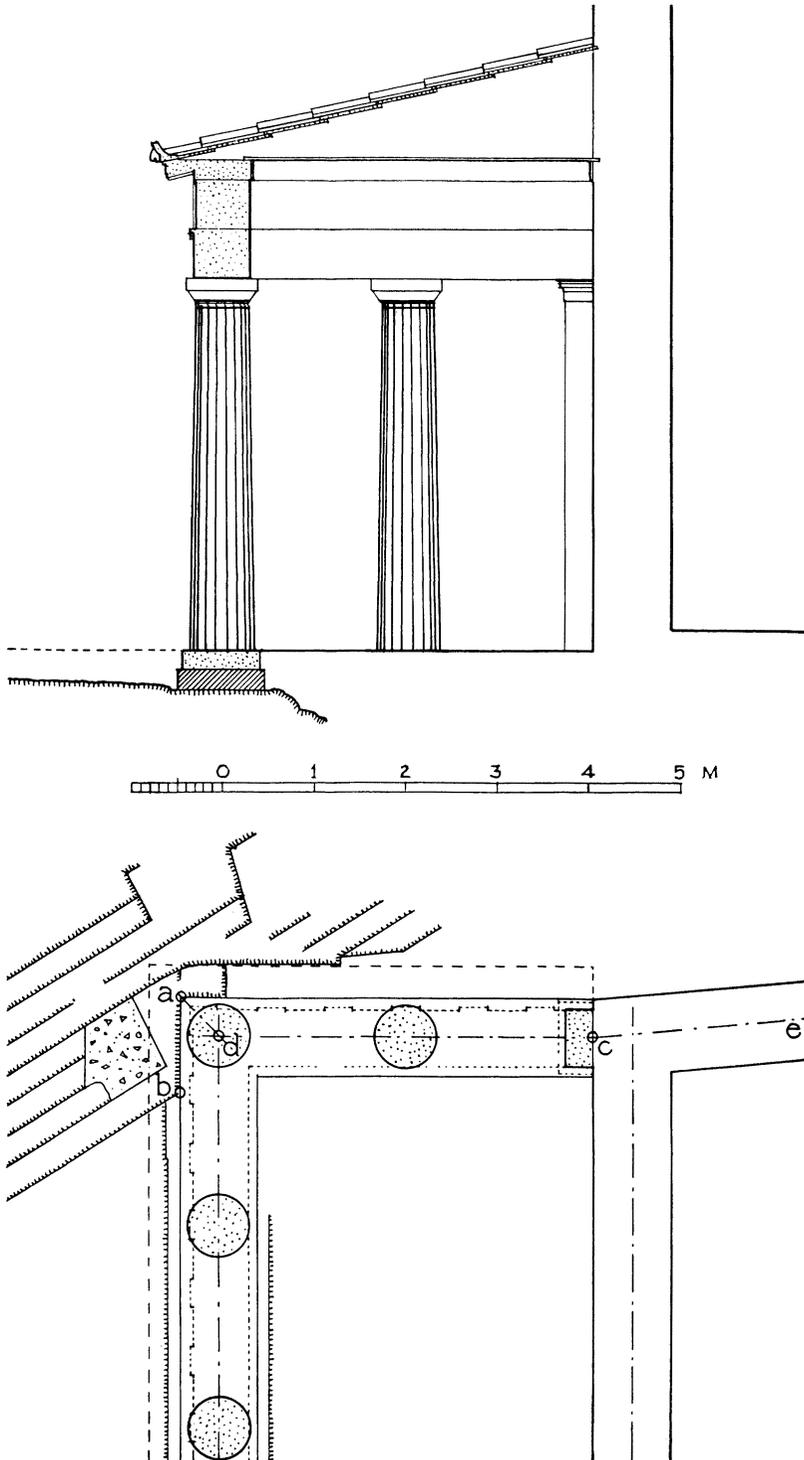


Fig. 14. Detail of the Portico of the Chalkotheke: Restored Plan and Section of the Northeast Corner

The upper one—the stylobate—was made of unknown material; the lower one—the foundation proper—was of poros. That there were two courses under the columns for a distance of at least 14.00 m. from the northeast angle of the portico is proved by the fact that the rock is dressed at *c*, Fig. 6, so as to bring its level in line with the top of the poros blocks at the northeast corner of the portico: from this the inference may be drawn that the entire colonnade of the portico rested on a foundation of two courses. That there were two steps beneath the columns is out of the question, as the rock-cut trench is too narrow to receive the projection for a lower step (cf. Fig. 13). Why were not the stylobate and foundation made in one course, as was done in the case of the south stoa of the Sanctuary of the Brauronian Artemis (cf. Fig. 13)? There seems to be no better answer to the question than that two different materials were used beneath the columns of the Chalkotheke—the upper one (the stylobate) marble, the lower one (the foundation proper) poros. We may reason one step further and say that, if the stylobate was made of marble, the columns and entablature were also. Certainly a portico in marble is in keeping with the Parthenon, where no expense was spared in making a *chef d'œuvre* of architecture (cf. Frontispiece). No blocks of the superstructure of the portico have been identified. This is unfortunate, as they would undoubtedly help in dating the portico. We have seen, however, that the portico is later in date than the broad flight of rock-cut steps. But how much later? From the foundation blocks of the portico still *in situ* and from the nature of the rock cutting required for the portico, the early fourth century may be tentatively advanced as a date. And it will be seen in the section dealing with the rock-cut steps that this approximate date does not conflict with the date assigned to the rock-cut steps themselves.

III. VOTIVE BULL OF THE COUNCIL OF THE AREOPAGUS

From Pausanias' account of his visit to the Acropolis we learn that he saw "a bull set up by the Council of the Areopagus" somewhere between the "group of Theseus and the Minotaur" and the "statue of Ge."⁹ Other ancient writers say that it was made of bronze, and reference is made to it as "the bull of the Acropolis," from which the inference may be drawn that it was of large size.¹⁰ In "The Periclean Entrance Court of the Acropolis of Athens" a highly probable location for Theseus and the Minotaur was found just outside the propylon, at R, Fig. 1, and R, Fig. 15.¹¹ Further, an inscription referring to Ge is cut in the rock of the Acropolis at 12, Fig. 1; the inscription thus definitely fixes the location of the statue of Ge. The

⁹ Pausanias, I, 24, 2.

¹⁰ Hesychius, *s. v.* βούς ἐν πόλει; Diogenianus, iii, 67; cf. Heniochus in Athenaeus, IX, p. 396 d.

¹¹ *Hesperia*, V, 1936, p. 483

bull, therefore, probably stood somewhere between the propylon and the statue of Ge. There are no rock cuttings for monuments in a straight line between Theseus and the Minotaur and Ge north of the wall which bounded, on the north, the court to the west of the Parthenon, while there are many cuttings south of the wall (cf. Fig. 15). Therefore Pausanias must have passed through the propylon and entered the court to the west of the Parthenon, thence making his way along the northern terrace of the Parthenon to the statue of Ge. Moreover, there is a possibility that the terrace

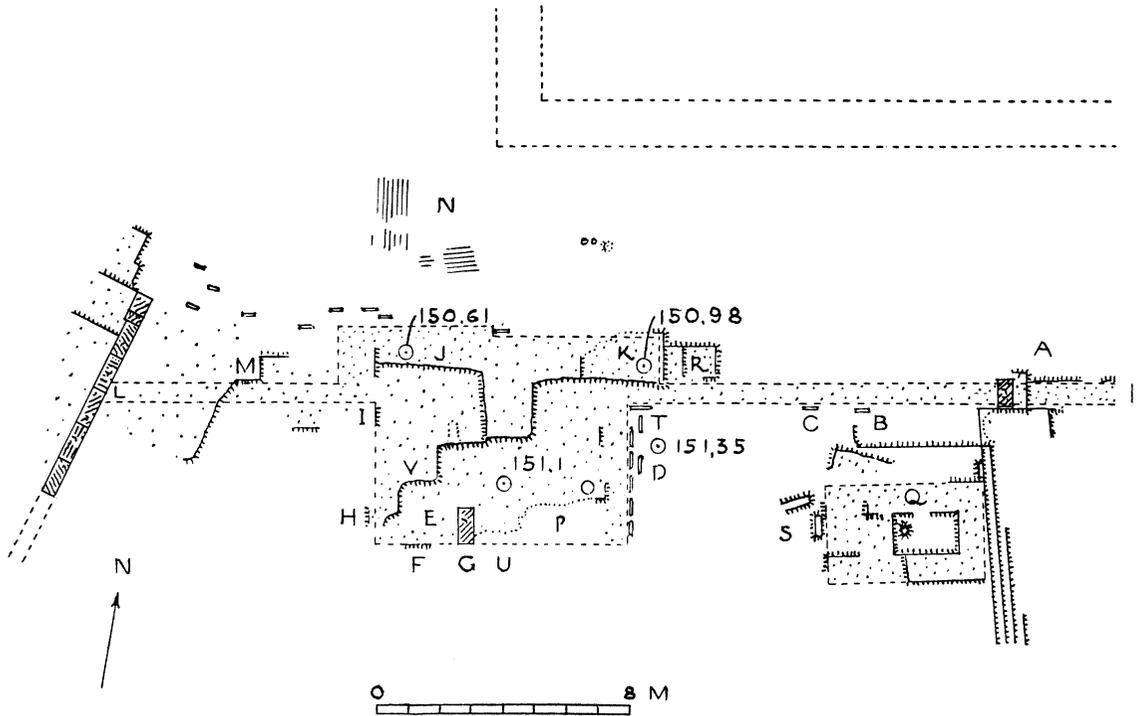


Fig. 15. Plan of the Rock Cuttings on the North Side of the Court West of the Parthenon

of the temple was adorned with monuments which have left no traces in the Acropolis rock, because the northwest corner of the terrace was artificially raised about three meters above the rock. Let us take the route of Pausanias and see if we can discover traces suitable for a large bull. There is a rock cutting at Q, Figs. 15 and 20, which looks promising both in size and location. The monument over the cutting appears to have faced the propylon, for there is a rock cutting for a stele along the west side of the monument and parallel to it; upon this stele may have been incised the decree relative to the dedication of the monument. The northeast corner of the cutting for the monument just touches the lowest riser of the long flight of rock-cut steps back of the monument, indicating that the monument was later in date than the rock-cut steps. Further, a rock cutting for a small monument in the middle of the

cutting for the big monument and with a different orientation shows that there are two periods of rock cutting on the site. The rock cutting for the big monument is excellently made—it does not seem to be later in date than the fourth century before Christ.

There are four blocks of poros which can be fitted into the rock cutting for the big monument. Two of these are lying to the east of the Parthenon; the other two, to the northeast of the Theatre of Herodes Atticus. All have been re-used and, consequently, show here and there recuttings for new positions. Those east of the Parthenon are badly worn. An isometric drawing of one of the blocks near the Theatre of Herodes Atticus is given in Fig. 16. The way all four blocks can be fitted into the rock cuttings for the base is shown in Fig. 17. There are three checks on the identification of the blocks, as follows: (1) the width of the blocks (0.715 m. to

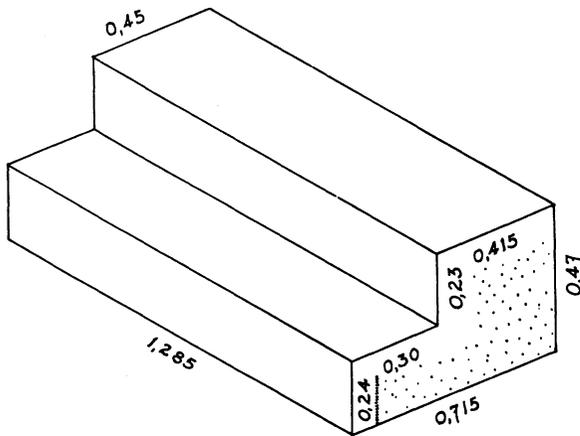


Fig. 16. Block from the Base of the Votive Bull of the Council of the Areopagus: Isometric Drawing

0.755 m.) fits the width of the rock-cut trench (0.80 m. to 0.84 m.); (2) the length of the end blocks is that required by the corresponding rock cutting (Fig. 17); (3) the length of the side blocks is correct for three blocks of equal length on the north side of the monument (not on the south side, where the rock cuttings show that blocks of varying lengths may have been used). To sum up at this point, we have the complete rock cutting for the monument and four blocks of poros from the base.

Let us try to restore the entire monument. Before attempting to do this, however, it will be well to consider certain parallel cases of votive bulls. Pausanias himself mentions three other bronze bulls—two of these were at Olympia,¹² the third at Delphi.¹³ At Olympia the entire base of one of the bulls—that set up by the Eretrians—is preserved: it is reproduced in Figure 18. The two lower courses are made of poros. They support a marble plinth in which the cuttings for the attachment of the hoofs of the bull are clearly visible. The distance between the front and rear hoofs (1.60 m.) indicates that the sculptor had undertaken to represent a bull at full size. The poros portion of the base (2.20 m. \times 4.03 m.) is not much smaller than the base on the Acropolis (2.75 m. \times 5.01 m.). At Delphi, on the other hand, the base (2.60 m. \times 5.90 m.) is somewhat longer than that of the Acropolis and, although a trifle less wide, probably supported a representation of an unusually large bull. Thus, in size the Acropolis base lies between those of Olympia and Delphi.

¹² Pausanias, V, 27, 9 f.

¹³ Pausanias, X, 9, 3.

It may, therefore, be suitable for a good sized bull at full scale. Figure 17 attempts to restore the monument. The plinth is of marble, like that of the Eretrian bull at Olympia. In order to understand something about the size of actual bulls, the writer visited the agricultural establishment of the Greek Government at Botanikos, Athens. The Director, Prof. Χρήστος Γ. Πασιοκάς, kindly permitted him to sketch, measure,

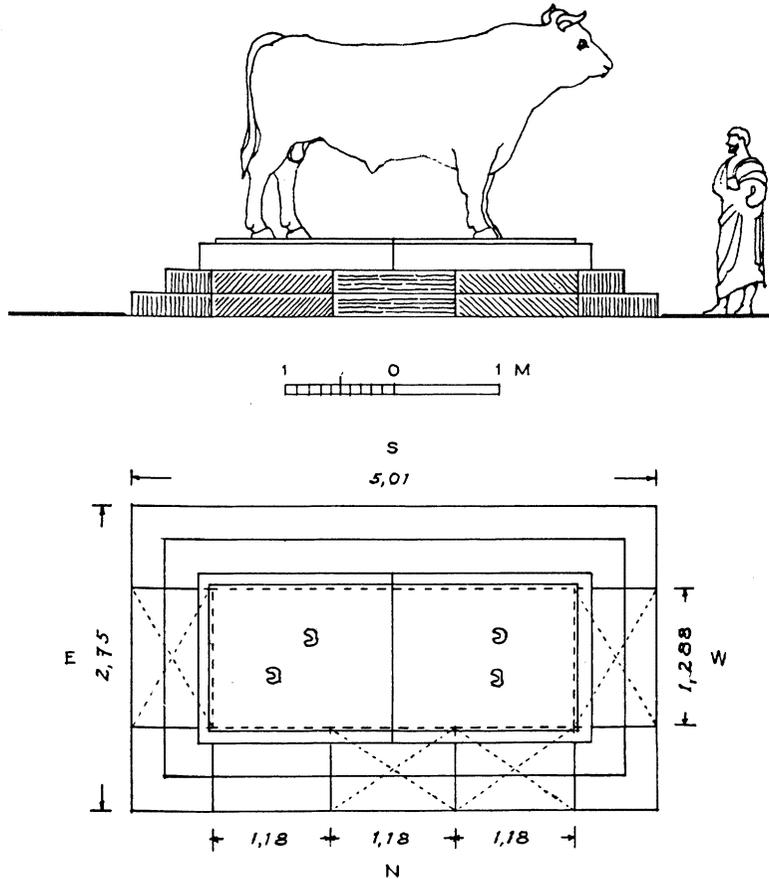


Fig. 17. A Restoration of the Votive Bull of the Council of the Areopagus. The Plan Shows Possible Positions for Four Blocks (Indicated with Diagonals) of the Base

and photograph two excellent bulls. The professor is the authority for the statement that some bulls are considerably bigger than the animal represented in Fig. 17, others smaller.

The attitude of the bull is probably given by that of the many small votive bronze bulls found on the Acropolis during the Greek excavations of 1885-1890 and

now preserved in the National Museum at Athens. All are represented standing naturally, with head up. Not one of these small bulls is charging with its head down, in the attitude of the famous bull of the Kerameikos. But the bull of the Kerameikos is placed upon a high pedestal, and the lowered face can, consequently, be well seen from the ground. If the bull of the Acropolis had its head down, the face would be practically invisible because of its nearness to the ground.

The reader's attention is called to the Frontispiece, where he will see how well the bull fitted into the general scheme of the Parthenon.

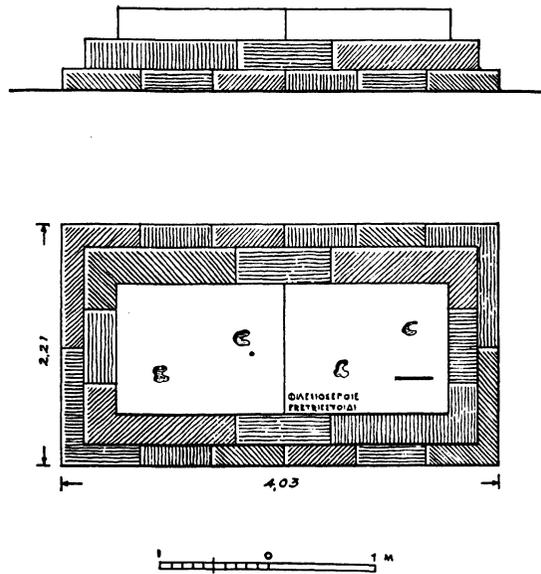


Fig. 18. Base of the Eretrian Bull at Olympia (*Olympia*, II, Pl. XCII)

Pausanias says that he does not know why the bull was set up.¹⁴ It may have been a votive offering to Zeus Polieus, who is mentioned by Pausanias when he is in the vicinity of the northeast corner of the Parthenon.¹⁵ The worship of Zeus Polieus was centered in the sacrifice of bulls, as we shall see when Section VIII is reached. But, if the Bull of the Areopagus was a votive offering to Zeus Polieus, why was it placed so far away from his shrine? Perhaps a good site—certainly the site to the west of the Parthenon could hardly have been improved upon—was given to the Council of the Areopagus, because, at the time the bull was set up, there were no good sites available near the Sanctuary of Zeus Polieus.

¹⁴ Pausanias, I, 24, 2.

¹⁵ Pausanias, I, 24, 4.

In “The Periclean Entrance Court of the Acropolis of Athens” the so-called Temple of Athena Ergane was proposed in an “extremely tentative” way for the site assigned above to the Bull of the Areopagus.¹⁶ The reader will, it is hoped, agree that good arguments have just been advanced for assigning that location to the Bull of the Areopagus. The site of the so-called Temple of Ergane must, therefore,



Fig. 19. The Broad Flight of Steps West of the Parthenon. A View Taken from B, Fig. 1

be sought for elsewhere in the neighborhood. A new possibility for the position of the so-called temple will be advanced in Section V of this essay.

IV. BROAD FLIGHT OF STEPS WEST OF THE PARTHENON

As soon as the visitor of today enters the court west of the Parthenon (B, Fig. 1), he is impressed by a broad flight of steps between him and the Parthenon. The steps are parallel to the Parthenon. The flight has been referred to thus far as a “broad flight of rock-cut steps,” because that is what they look like today (Fig. 19).

¹⁶ *Hesperia*, V, 1936, p. 484.

But study soon shows that the rock-cut portion of the steps nowhere reached the top of the original flight, and that the upper steps, many of which are preserved and a few even *in situ*, were made of poros. It will be our object in this section to discuss the flight of steps as a whole and to determine, if possible, what its function was.

The greatest number of rock-cut steps in the flight is nine and occurs a little to the north of the axis of the Parthenon. The number decreases gradually toward the north until there are only two steps at the extreme north (Figs. 19 and 20). The southern end of the steps disappears suddenly at the northeast corner of the Chalkotheke proper, because there the rock of the Acropolis slopes off rapidly (Figs. 7, 8, and 20). The cost of cutting the rock-cut steps must have been considerable, an indication of the importance of the steps. The treads and risers average 0.291 m. and 0.227 m. respectively. The upward curve of the steps was mentioned on page 6.

On the treads of the rock-cut steps there are no less than thirty-eight rock cuttings in which once stood votive stelae (Fig. 20). As the cuttings differ in length, width, and depth, it follows that the stelae must have varied considerably (cf. Frontispiece). The designer of the steps probably never foresaw that a great number of stelae would be placed on them. Without doubt the stelae must be looked upon as a growth of some seven or eight hundred years—from the time the Parthenon was finished until it ceased to be used as a temple for Athena. A study of the location of the stelae shows clearly that they encroached year by year upon the direct path from the propylon to the center of the west façade of the Parthenon, but that they never completely choked the path (Figs. 6 and 20). Have we here an indication that that portion of the Panathenaic procession which was on foot (for the horses and sacrificial animals could not have climbed the stair)¹⁷ approached the center of the west façade of the temple and divided there into two sections, one of which was to advance along the north side of the temple, the other along the south, both sections finally meeting at the east end of the temple? This would repeat the action of the actual marble frieze of the Panathenaic procession. But the Panathenaic procession occurred only every four years. Does the disposition of the stelae on the rock-cut steps only mean that we are dealing with the general approach to the temple for all visitors coming from the Propylaea? The writer believes that both questions should be answered in the affirmative. The reader is referred to the Frontispiece for an idea of the way the stelae and passageway between them looked in antiquity. The votive stelae indicated in the drawing are actual stelae and were selected because their bases had the correct length and width for the rock cuttings in the steps. The general impression of the stelae indicated in the Frontispiece cannot, then, be far wrong.

¹⁷ In "The Periclean Entrance Court of the Acropolis of Athens" (*Hesperia*, V, 1936, p. 480), it was shown that the sacrificial animals in the procession did not enter the court west of the Parthenon, but were led to the great altar of Athena (Fig. 1, 23) from a point just north of the propylon.

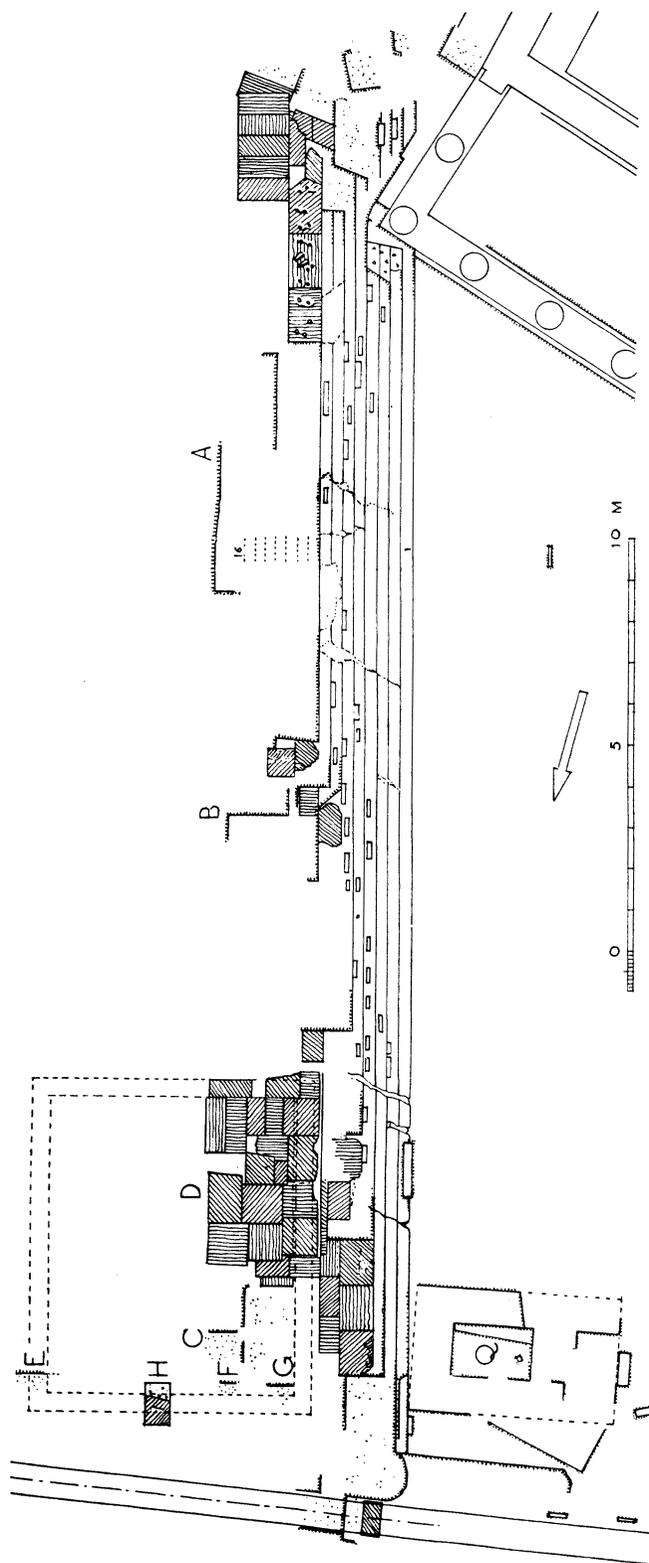


Fig. 20. Plan of the Broad Flight of Steps West of the Parthenon.

The fact that there are no rock cuttings between the broad flight of steps and the Parthenon excludes the possibility of more than one terrace between the court west of the Parthenon and the Parthenon itself, for every terrace calls for a retaining wall with at least some indication of a bedding. Thus the broad flight of steps

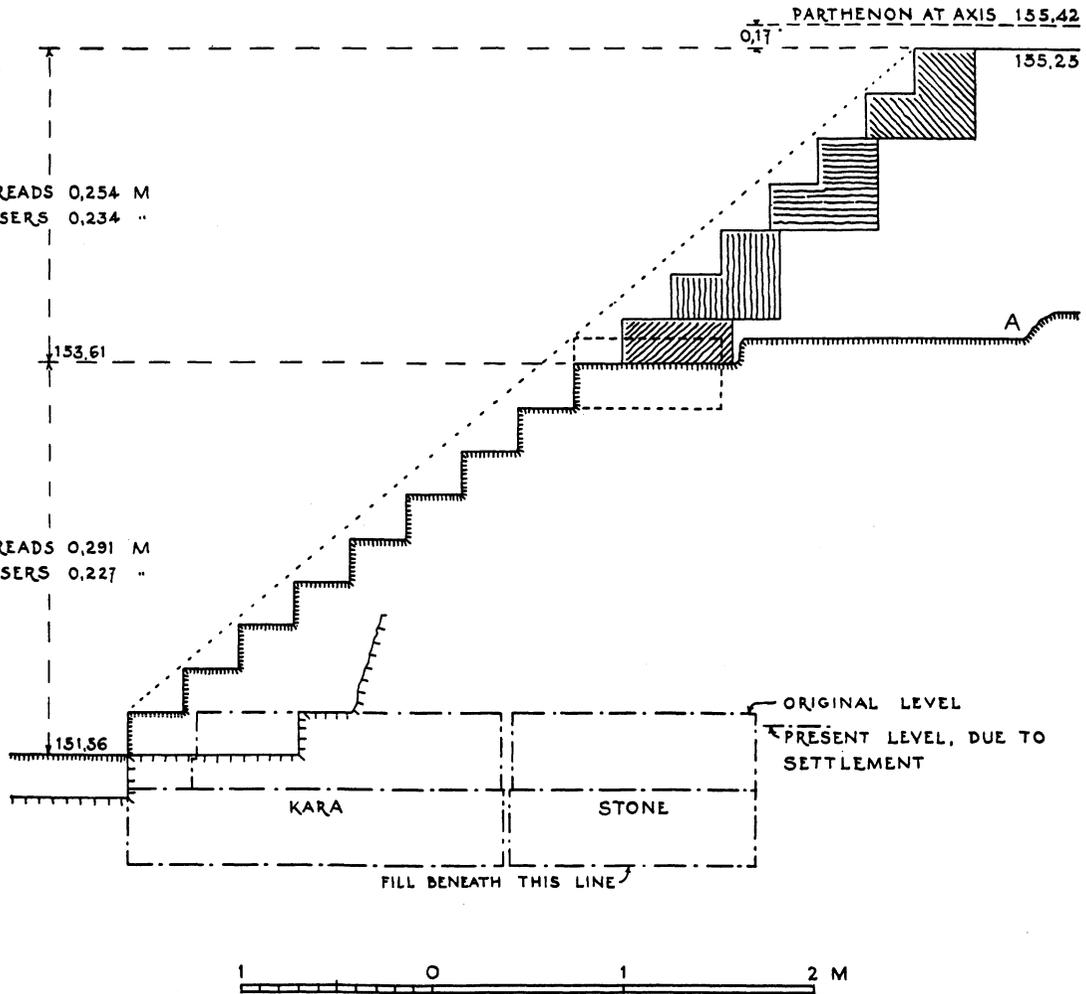


Fig. 21. Section through the Broad Flight of Steps West of the Parthenon, Taken on the Axis of the Parthenon: Restoration

unquestionably led up to a single platform in front of the west façade of the Parthenon. The difference in level between the tread of the top rock-cut step and the bottom of the lowest visible marble course of the Parthenon is 1.81 m., a difference which seven risers at 0.234 m. plus a drop of 0.17 m. to carry rain water away from the Parthenon will account for (Fig. 21). The rock cutting at A, Figs. 20 and 21, is far enough east to receive the foundations of the topmost step of poros, and the

same cutting appears at B and C, Fig. 20, in proper positions for the continuation of the foundation of the topmost step.

What were the top steps like? Fortunately a few of them are still *in situ*. These are cut out of poros and are only one step high (Figs. 19 and 20). There are today five blocks of this type of step *in situ* (Fig. 20); five others, badly damaged, are near at hand.

There is another type of block—a block with two steps cut out of it—which without doubt came from the upper portion of the broad flight of steps. None of them is *in situ*. Fifteen, some of which are in poor condition, are now lying on top of the rock-cut steps. Unfortunately none of the original positions which these stones occupied in the broad flight of steps can be determined. Three of the blocks are to be seen in Fig. 8, in the left hand part of the illustration. The material is poros, like that of the blocks with one step. The risers and treads accord well with those of the rock-cut portion of the stairs. Moreover, the risers and treads correspond almost exactly with those of the small stair which starts from a point west of the dwelling of the Arrephoroi (C, Fig. 1) and descends to the Grotto of Pan. The measures for the steps to the west of the Parthenon are—treads 0.254 m., risers 0.234 m. (Fig. 21); those of the steps to the Grotto of Pan—treads 0.26 m., risers 0.23 m. Thus the steps to the west of the Parthenon, which are decidedly steep according to modern ideas, are not steeper than another flight of steps on the Acropolis itself. A further resemblance between the two stairs is that two steps are cut out of a single block of poros in both cases. Fig. 21 shows that a block of poros one step high is needed between the rock-cut steps and the blocks of poros two steps high. If the section had been taken where there is one less rock-cut step, that is, a little to the north of the section shown in Fig. 21, only blocks of poros with two steps cut out of them would have been required. Thus we see that, if the architect who designed the broad flight of steps intended to use blocks two steps high in the upper portion of the stairs, he would have been obliged to employ blocks one step high in certain places to make the blocks two steps high line properly with the rock-cut steps. Also, the blocks two steps high would outnumber the blocks one step high, a condition we find today in regard to the blocks which are preserved. Rock cuttings and actual poros blocks thus agree in giving us a section as indicated in Fig. 21.

The heights of the risers of both the rock-cut steps and those in poros vary somewhat, and the same is true of the treads; there is more variety in the rock-cut steps than in the steps of poros. Fig. 21 is drawn using the average of many measures. It will be noticed that the slope of the portion in poros is slightly steeper than that cut in the rock. Was this done to make the rock cutting a minimum? Such work requires much time and is costly. The difference in slope is too small either to injure the appearance of the stair or to inconvenience users of the stair. The stair north of

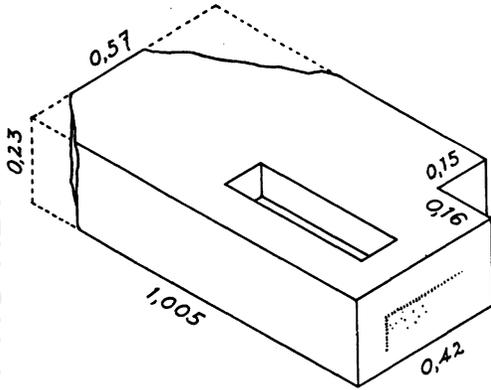


Fig. 22. Block One Step in Height

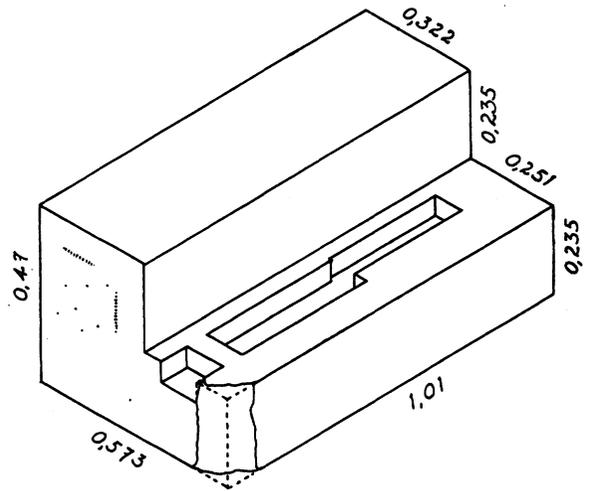


Fig. 23. Block Two Steps in Height, with Cuttings for Stelae in the Lower Tread Only

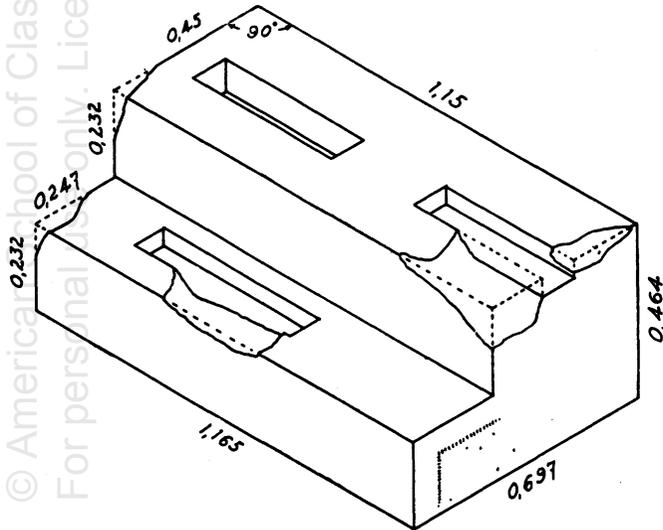


Fig. 24. Block Two Steps in Height, with Cuttings for Stelae in Both Treads

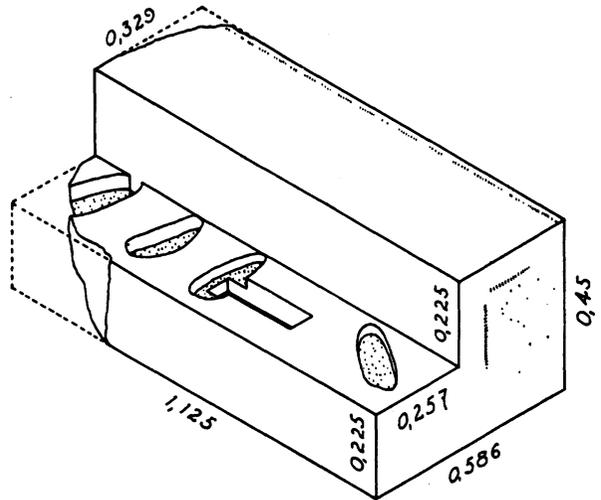


Fig. 25. Block Two Steps in Height, with Cuttings for the Feet of Two Statues and a Stele

Figs. 22-25. Isometric Drawings of Blocks of Poros from the Upper Portion of the Broad Flight of Steps West of the Parthenon

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the east portico of the Erechtheum has a much greater variation in its risers and treads.

Among the blocks one step high some have cuttings for stelae, others have not. Fig. 22 is an isometric drawing of one of the former blocks.

Of the blocks two steps high some have no stelae cuttings, others have stelae cuttings in one tread only (Fig. 23); still others have stelae cuttings in both treads (Fig. 24). A fourth type, represented in Fig. 25, shows cuttings for the feet of two statues. Judging from the size of the cuttings for the feet (0.21 m. long, or about

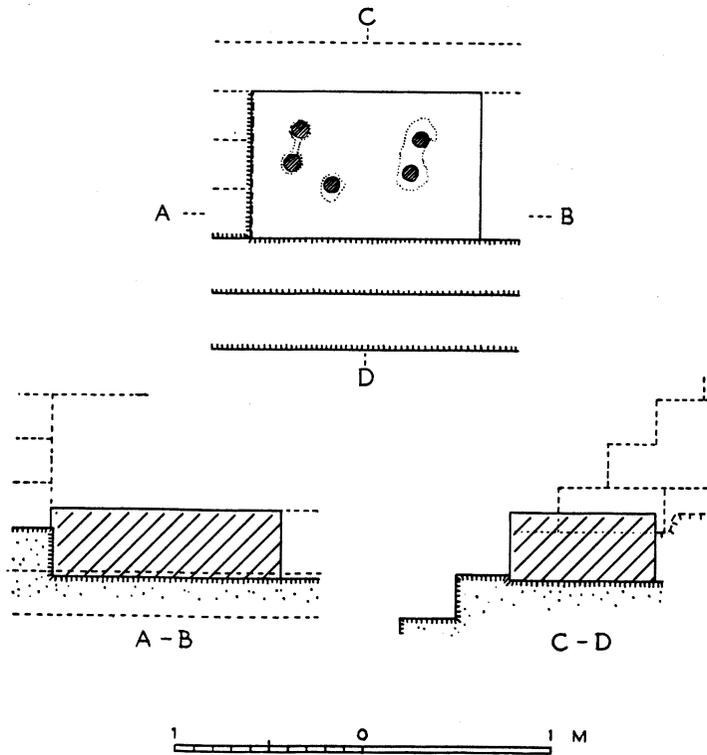


Fig. 26. The Northernmost of a Series of Similar Blocks Which Supported a Row of Statues at the Southern End of the Broad Flight of Steps West of the Parthenon

0.05 m. less than the length of an average man's foot) the statues seem to have been under life size—about 1.40 m. high. There is also a cutting in the same step for a stela, which overlaps a cutting for a foot, showing that there were two periods in the placing of the monuments upon the lower step.

Near the southern extremity of the broad flight of steps to the west of the Parthenon are three blocks of poros, which have cuttings in their upper surfaces for the feet of statues (Figs. 8 and 20). The northernmost block is in its original position: this is proved by the way the block is notched over the rock-cut step to the north of it (Fig. 26). The west face of the block is now 0.25 m. back of the

corresponding rock-cut riser, but the two surfaces were intended to line with each other, as the countersinking in the tread beneath the block (section C-D, Fig. 26) shows. The block may have been shifted eastward 0.025 m. by an earthquake. It is possible, however, that Kavvadias and Kawerau identified the block and did not put it back in its exact original position, or that, if they did put it back correctly, an earthquake has shifted it subsequently. Neither of the two blocks to the south of the block just referred to is *in situ*, for the cuttings for the feet do not make sense as the blocks are now arranged. They were probably placed where they are today by Kavvadias and Kawerau. There is a fourth block which from its workmanship and dimensions evidently belongs to the series. It is now lying on top of the broad rock-cut flight of steps, almost opposite the northwest corner of the Parthenon. All four

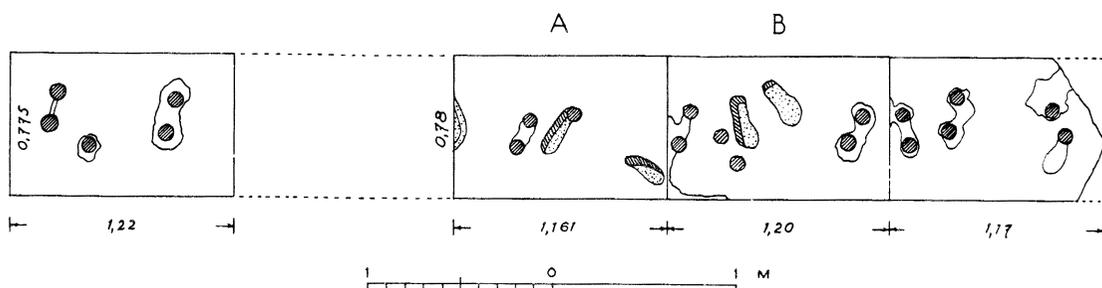


Fig. 27. A Possible Restoration of the Row of Statue Bases at the Southern End of the Broad Flight of Steps

blocks can be combined in a logical way, if one block is supposed to be missing (Fig. 27): the third block from the south, block A, Fig. 27, is the one now lying apart from the rest. The blocks undoubtedly supported a row of seven statues. But of more importance is the fact that the south face of the southernmost block gives, in all likelihood, the end of the broad flight of stairs, as will be seen later on. The cuttings for the feet, with a few exceptions, are of a different type from those shown in Fig. 25. In Fig. 27 each foot, as a general rule, is held in place with two lugs, one under the ball of the foot and the other under the heel. This method of attachment shows that the statues were of bronze. The second block from the south (block B, Fig. 27) displays both methods of attachment. Here the proximity of the countersunk feet to the feet with lugs (to the north) indicates two periods. For some unknown reason the statue with the lugs was removed, and later the statue with the countersunk feet was set up. In all probability the later statue also was of bronze. The third block from the south (block A, Fig. 27) shows a combination of the two methods of attachment; the figure next the south face of the block had its right foot countersunk, while the left foot was both countersunk and held by a lug (under the heel). As the cuttings for the feet are not far from life size, it follows

that the statues themselves were about the height of an ordinary man. Some of the attitudes of the statues can be guessed. For example, the southern figure of the third block from the south (block A, Fig. 27) had its left foot well advanced beyond the right foot, and the two feet were almost at right angles to each other; this is the attitude of a warrior in combat.

The workmanship of the blocks points to a Hellenistic date and to the probability that they were all put in place at the same time. The similarity in the method of attachment of the statues and in the character of the cuttings for the lugs beneath the feet also indicates that the seven statues were set up simultaneously. Did they form a group of statues which had a relation to one another? Very possibly. Unfortunately there is no classical reference to the statues.

There is a series of four blocks, similar in a number of ways to the last series, now lying on top of the broad flight of steps (Fig. 28). None of them is *in situ*. They resemble the blocks which supported statues at the south end of the flight of stairs in that the blocks of both series are made of poros, both are three treads wide, the lengths are similar, the heights of each are greater than one riser (the blocks at the south of the flight of stairs are, however, 0.10 m. higher than the four blocks shown in Fig. 28), and, finally, the workmanship of both series seems Hellenistic. The cuttings in the tops of the four blocks extend over three different periods—some of the cuttings may be Christian or even Turkish. As there are no cuttings for feet, and as the rectangular sinkages are too narrow to receive bases for statues, the possibility that bronze or marble figures once stood on these blocks must be excluded: but there is no reason to suppose that votive monuments of other kinds or even architectural barriers were not placed over the cuttings. The blocks cannot be fitted together, perhaps because they are too badly damaged (Fig. 28). The most likely place for them in the broad flight of steps is at the north end of the stairs, balancing, in a way, the somewhat similar blocks at the south end of the stair; at the north, too, there is less left of the stair than in any other part of its entire length. There is no proof for this allocation, however. In the Frontispiece the beginning of this series of blocks is shown to the left of the Bull and lining with the third rock-cut riser of the flight of stairs. The southernmost block of the series is indicated supporting a small votive column with a bronze Athena atop. There is, also, a possibility that the blocks belonged to the near-by monument of Athena Ergane(?), referred to in Section V.

Now that the cuttings for votive stelae in the broad flight of steps as a whole have been discussed, a few remarks may be advanced in regard to the stelae shown in the Frontispiece. Only stelae in actual rock cuttings are there indicated (with the exceptions of the monuments to the left of the stele inscribed with three columns of lettering). We have seen that there were many cuttings for stelae in the steps of poros which formed the upper part of the stair, but that the actual location of all these blocks is unknown. In the late Roman periods the steps of the upper portion of the

stair certainly supported some stelae, and the appearance of the stair in that late period must, consequently, have been more crowded than shown in the Frontispiece. But, as at first there were no stelae at all, there was some period between the first and last periods when the appearance of the stairs probably looked about as it does in the Frontispiece.

The way the broad flight of steps to the west of the Parthenon was terminated at its north end can be quickly dismissed. It was shown in "The Entrance Court

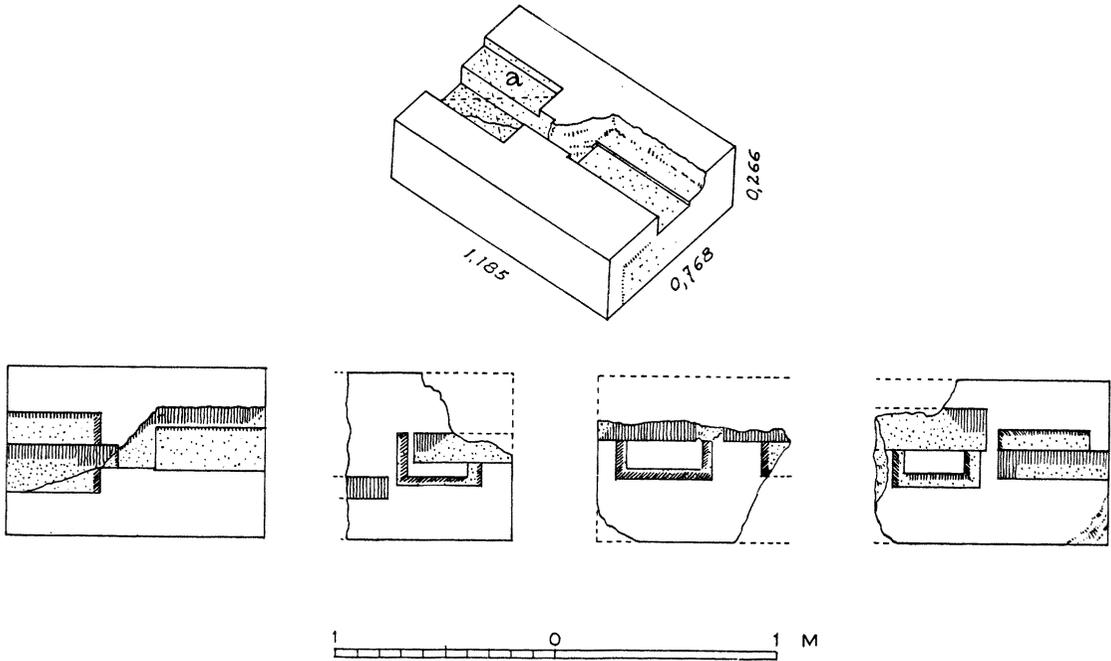


Fig. 28. A Series of Four Poros Blocks, Perhaps Belonging to the North End of the Broad Flight of Steps

of the Acropolis of Athens," that there was a long retaining wall to the north of the Parthenon (Fig. 1).¹⁸ The wall held up the western portion of a terrace along the northern side of the Parthenon. Against this retaining wall, then, the broad flight of steps west of the Parthenon abutted in a simple architectural manner (Fig. 1).

How the broad flight of steps to the west of the Parthenon was terminated at its southern end will require time to explain.

Starting from the northeast corner of the Chalkotheke proper is a foundation running southward which lies in the prolongation of the broad flight of steps (Figs. 6 and 7). It is composed chiefly of stylobate blocks of Kara stone, which come from

¹⁸ *Hesperia*, V, 1936, pp. 480-481.

beneath the peristyle of the Old Temple of Athena.¹⁹ Some of the stylobate blocks may even have come from beneath the Porch of the Maidens of the Erechtheum (Fig. 1); if this be so, then the foundation south of the broad flight of stairs cannot antedate the Erechtheum, which was begun between 435 B.C. and 418 B.C.²⁰ The north end of the foundation abutted the Acropolis rock near the northeast corner of the Chalkotheke proper, where the rock slopes away rapidly (Fig. 7). The south

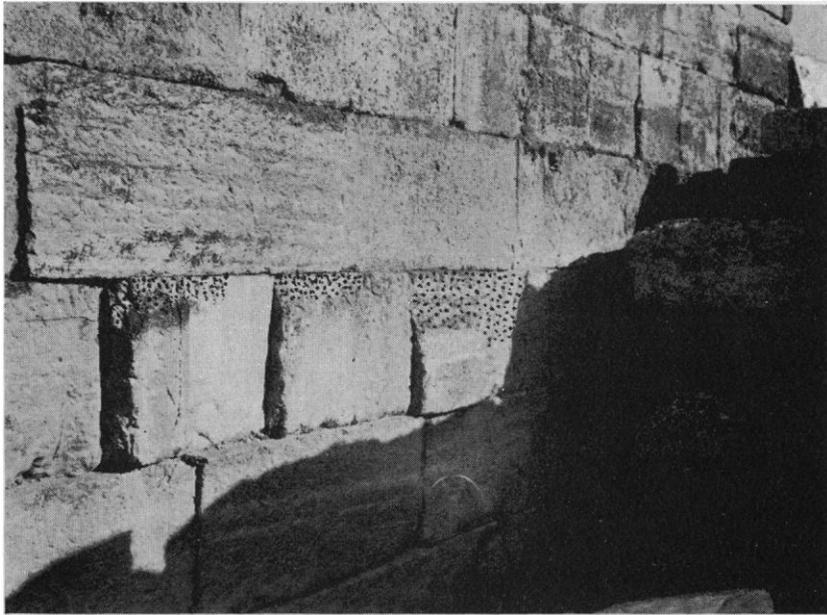


Fig. 29. The Dressing at *c*, Fig. 7, for Missing Blocks of the Lower Course of the Foundation of Kara Stone

end of the foundation is built over the foundations of the Acropolis wall, that is, the two walls do not bond; consequently the Acropolis wall is earlier in date than the foundation of Kara stone. The foundation of Kara stone does not go down to rock—it rests on a fifth-century fill of earth and chips. There is a considerable gap in the foundation of Kara stone at *e*, Fig. 6, and *b*, Fig. 7. But the dressing at *c*, Fig. 7 (seen in direct elevation in Fig. 29), which was made to accommodate some of

¹⁹ At the time of the Greek excavations of the Acropolis two marble drums from the earlier Parthenon were discovered in the foundations here. They are shown in the drawings by Kavvadias and Kawerau (Fig. 6). One of the drums has disappeared (Fig. 7).

²⁰ Paton and Stevens, *The Erechtheum*, pp. 452-456. In a letter to the writer, Professor Dörpfeld gives 438 B.C. as the date for the founding of the Erechtheum, his reason being that the Parthenon (begun 447 B.C., finished 432 B.C.) was then sufficiently advanced so that masons could be transferred to the Erechtheum. And the famous building inscription of the Erechtheum favors this earlier date, as it indicates that a considerable time had elapsed between the setting up of the inscription in 409/8 B.C. and the founding of the Erechtheum.

the missing blocks of the lower courses of the foundation of Kara stone, proves that there was no gap in antiquity. Figures 6 and 7 show that the foundation in Kara stone was only a little, if any, wider than the foundation of the east wall of the Chalkotheke, the unusual width of which has already been explained in connection with the discussion of the Chalkotheke. Moreover, the two foundations are alike in two other ways: (1) the north ends abutted constructions resting on rock; (2) both foundations rest on fills. These are reasons for supposing that the foundations of Kara stone supported a wall which was carried over the center of the foundation, just as in the case of the east wall of the Chalkotheke. This theory will be considerably strengthened, if it can be shown that steps here (indicated by Kavvadias and Kawerau in their plate 1) would be useless. To demonstrate this point, however, it will be necessary to discuss the relation between walls 1, 2, 3, and 4, Fig. 6.

The first of these walls to be built was the wall of the Acropolis, erected by Cimon (No. 1, Figs. 6 and 34). As Cimon was active in Athens from 468 B.C. until his ostracism in 461 B.C., an approximate date of 460 B.C. may be assigned to the completion of the wall.

Wall No. 2, Fig. 6 (composed of a west and a south portion meeting at right angles) is a well-built wall of poros, 1.80 m. wide at the bottom, 1.20 m. at the top. Investigations in 1938 showed that the wall is carried down on its inside to within about 0.80 m. of the Acropolis rock (Kavvadias and Kawerau state the exact contrary on p. 118 of their book). Fragments of the Older Parthenon were found in the foundations both during the excavations of Kavvadias and Kawerau and those of this year. The southwest corner of the wall rests upon the Acropolis wall: wall No. 2 is, therefore, later than Cimon's wall. The technique of the blocks and the nature of the pottery found when the wall was excavated by Kavvadias and Kawerau show that a date for the wall of 450 B.C. cannot be far wrong. It thus antedates the Periclean Parthenon and, consequently, had something to do with the Older Parthenon. It is to be remarked that Cimon's wall ran considerably south of angle *d*, Fig. 6. The top of wall No. 2 is today about 3.00 m. above the top of wall No. 1, and in antiquity the level of the terrace upon which the Older Parthenon was placed must have been at least this height above the present top of Cimon's wall. One of the routes today from the Propylaea to the museum of the Acropolis passes between angle *d*, Fig. 6, and the Acropolis wall; it seems likely that a similar access to the space south of the Older Parthenon (or whatever was intended to replace it) was thus deliberately designed by Cimon, perhaps for manning the Acropolis wall in case of a siege—the return of the Persians was still feared in Cimon's time. Thus the peculiar orientation of the southern portion of wall No. 2-2, Fig. 6, seems to have been designed to allow a passageway between wall No. 2 and the Acropolis wall. In other words, in Cimon's day there was to be a terrace below the southern side of the area upon which the Periclean Parthenon was eventually placed.

But why was the western portion of wall No. 2-2, Fig. 6, not built parallel to the west front of the Older Parthenon? A study of wall No. 3, Fig. 6, will help in answering this question. We saw in Section II, where the Chalkotheke was discussed, that wall No. 3 was built on top of wall No. 1, thus making the Chalkotheke later in date than Cimon's wall. We also saw in Section II that possibly the Chalkotheke was built to house material provisionally kept in the Old Temple of Athena (probably temporarily restored, without its colonnade, after the Persian invasion of 480 B.C.). If this theory be correct, then the Chalkotheke antedates the Periclean Parthenon (started in 447 B.C. and finished in 432 B.C.). The constructional features of the walls of the Chalkotheke, such as the dimensions of the blocks, the dowels employed, and the use of anathyrosis, correspond to those of about the middle of the fifth century. The date of the Chalkotheke probably lies, then, between 460 B.C. and 447 B.C.; let us say 450 B.C. as an approximate date. Suppose for a moment that Cimon has erected the Acropolis wall and that a building scheme is being considered for the region under discussion. Better circulation around the southwest corner of the foundation of the Older Parthenon; a new building (the Chalkotheke) to store certain objects kept in the Old Temple of Athena (temporarily restored); convenient access to the Acropolis wall for defensive purposes—these are the requirements which confront the authorities responsible for the work. The best solution of the problem, it seems to the writer, is shown in Figure 30, No. 3. The position of wall No. 2, Fig. 30, gives ample circulation around the foundation of the Older Parthenon and leaves proper access, for military purposes, to the Acropolis wall. Wall No. 3 is so nearly parallel to wall No. 2 that the difference in direction between the two could not be detected by the eye, were the walls seen in perspective. If either wall No. 2 had been made parallel to the west façade of the Older Parthenon, or wall No. 3 perpendicular to Cimon's wall, an awkward triangular space between walls 2 and 3 would have resulted. That wall No. 2 was not parallel to the west façade of the Older Parthenon mattered little, as the Chalkotheke rose above the wall, thus hiding it. Wall No. 3 was not quite at right angles to the north and south walls of the Chalkotheke; but this, too, mattered little, as the Chalkotheke was only a storeroom. Thus the theory that walls No. 2 and No. 3 were built at the same time solves the difficulties of those in charge of the improvements. It accounts for the strange angle of the west section of wall No. 2, which, in the mind of the writer, is the most difficult of the peculiarities to explain.

We have seen that the flight of steps and the propylon of the court west of the Parthenon played an integral part in the general scheme of the Parthenon. Therefore, the date of the broad flight of steps and whatever was constructed between it and the south wall of the Acropolis probably falls between the years 447 B.C. and 432 B.C., years which mark the beginning and finishing of the Parthenon; perhaps nearer the later date than the earlier, as the surroundings of a building are generally made at,

or near, the end of building operations. Let us, then, assign a tentative date of 432 B.C. to the broad flight of steps.

If the reasoning thus far advanced be correct, the foundations of Kara stone at 4, Fig. 6, could not have supported steps, for the long blank wall of the east end of the Chalkotheke would lie at the foot of such steps; we see that steps at 4 are useless. If, on the other hand, the foundation of Kara stone supported a wall balanced on the axis of the foundation, the wall would mask the earlier wall No. 2, straighten out the southwest corner of the terrace of the Parthenon, and, further, leave access to the Acropolis wall for military purposes. Fig. 6 shows how such a wall as we propose to balance over the foundation of Kara stone would meet the southwest angle of the terrace of the Parthenon; the hatched walls are restored by the writer and lie above ground (only walls below the finished grades he proposes are shown by Kavvadias and Kawerau). There is as much room to pass around the southwest angle of the terrace of the temple as there is in the same spot today—it is ample for military purposes.

One more building period remains to be noted, namely, that of the portico of the Chalkotheke (No. 5, Fig. 6; Fig. 7; Fig. 14). The addition of a portico to the Chalkotheke proper did not interfere with the circulation around the east end of the Chalkotheke, for there was still a passageway between the east columns of the portico. We have seen that the portico was of later date than both the Chalkotheke proper and the broad flight of steps. It was later, then, than 432 B.C., the date assigned to the broad flight of stairs. The technique of the blocks of poros out of which the foundation course of the portico was constructed—only a few blocks remain (see Fig. 7)—and also the technique of the rock cuttings for the foundation of the portico itself indicate, as previously noted, a date in the early part of the fourth century.

The various building periods, just discussed, are represented graphically in Fig. 30.

Figure 31 is a restored section through the foundation of Kara stone, looking northward toward the broad flight of steps. The wall balanced over the foundation of Kara stone is supposed to be made of poros and to be 1.20 m. in width, which are features characteristic of wall No. 2 in Fig. 6, itself a wall which once supported a similar terrace, and against which there was considerable pressure caused by the fill to the east of it and by whatever the terrace itself carried in the way of monuments, planting, crowds of people, etc. The western portion of wall No. 2-2, Fig. 6, although buried by the new terrace, still continued to resist most of the pressure caused by the terrace—this is probably the reason why the foundation of wall No. 4 was not carried as far down as the foundation of wall No. 2, and why it was not thought necessary to bond the eastern portion of the foundation of Kara blocks into the western portion, a disposition which would have spread the pressure more evenly upon

SETTING OF THE PARTHENON

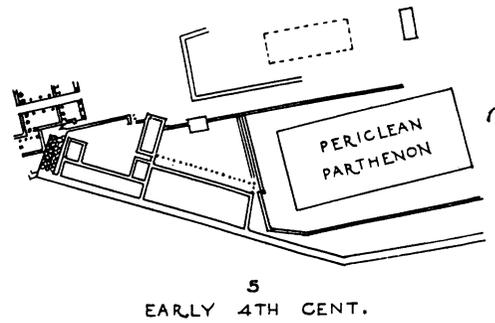
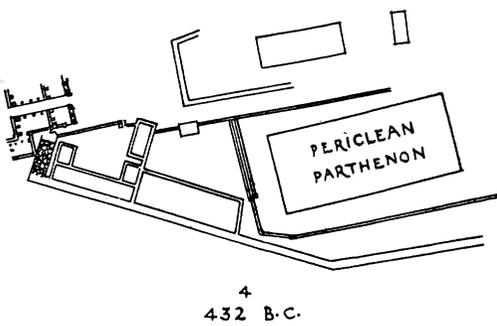
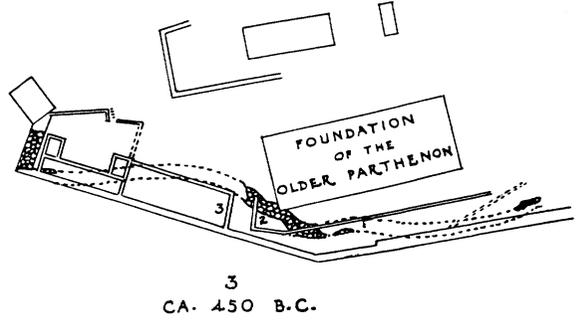
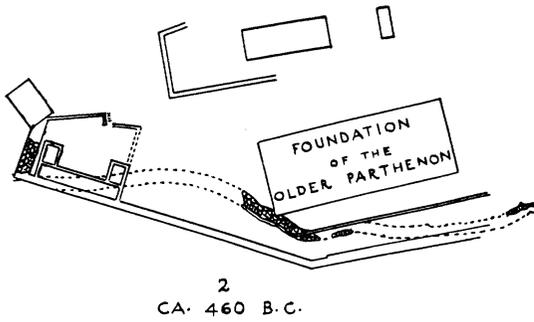
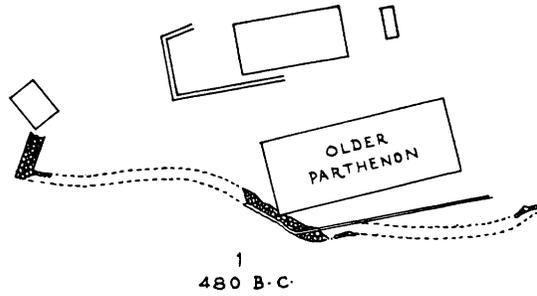


Fig. 30. Five Building Periods in the Area West of the Parthenon

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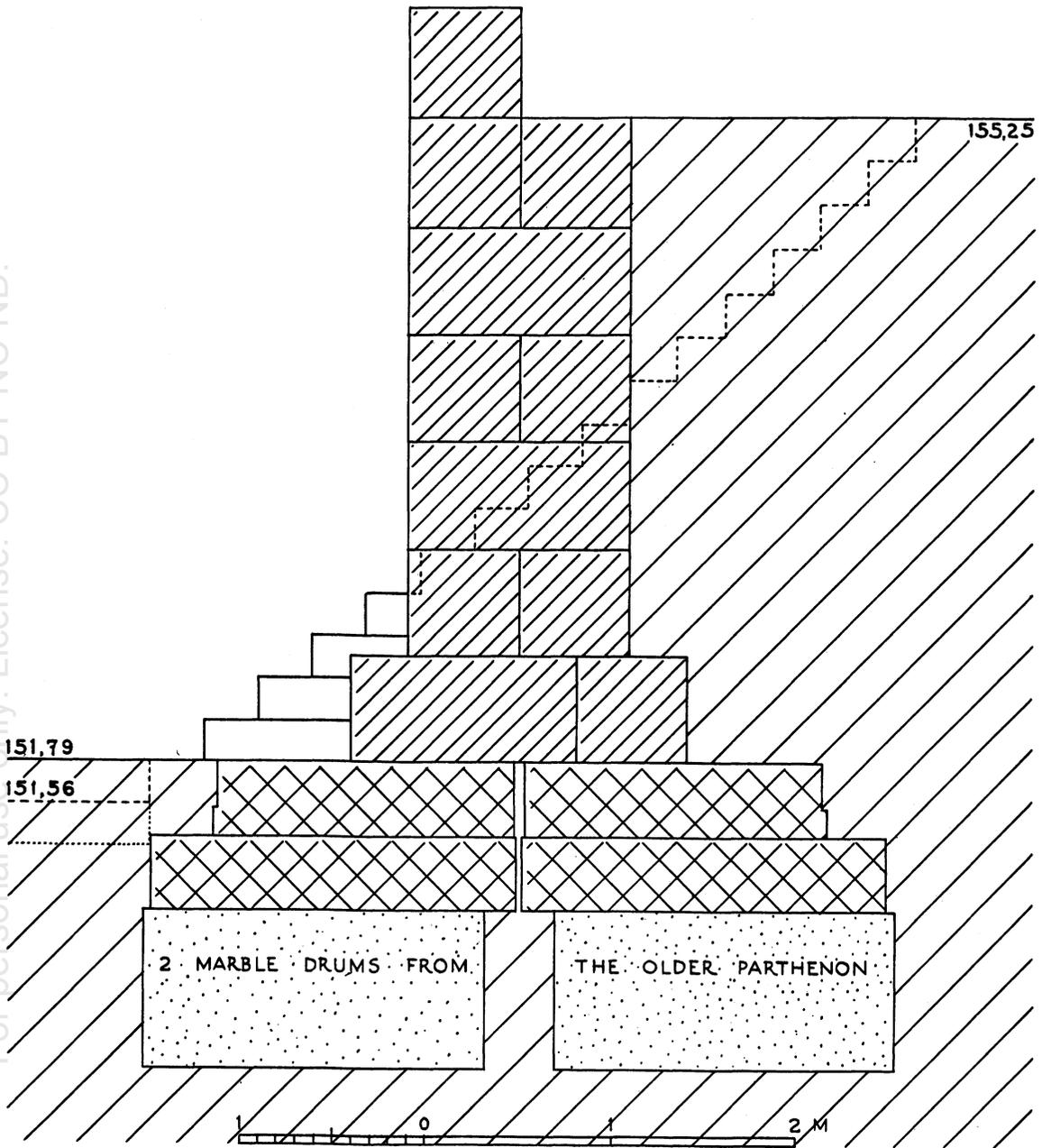


Fig. 31. Restored Section, Looking North, through the Foundation of Kara Stone and Superincumbent Retaining Wall at the South End of the Broad Flight of Steps West of the Parthenon

the earth beneath. The ground level in the space between the foundation of Kara stone and the Chalkotheke is indicated in Figure 31 as being one step above the level of the court to the west of the Parthenon; this makes the upper course of the foundation of Kara stone flush with the ground.

Where did the broad flight of steps meet the wall which rose above the foundation of Kara stone? The junction certainly took place between *d*, Fig. 7 (the trace farthest south of a rock-cut riser of the flight of steps), and *e*, Fig. 7 (the point farthest north of the foundation of Kara stone preserved today). But the poros blocks at *f*, Fig. 7, and the rock cuttings north of them suggest that the wall over the foundation of Kara stone was carried as far north as *g*, Fig. 7 (the southern end of the series of five blocks of poros which supported statues at the south end of the flight of steps). This seems a natural place to terminate the steps; the Frontispiece was, therefore, restored according to this scheme. There is a possibility, however, that there were one or more blocks in the series of blocks which supported statues, or that there may have been a passageway (up the broad flight of steps) south of the series of blocks which supported statues.

Now that the north, south, and east sides of the court west of the Parthenon have been discussed, a few words may be said about the west side of the court. In "The Periclean Entrance Court of the Acropolis of Athens" it was shown that the northeast stoa of the Sanctuary of the Brauronian Artemis was connected with the design and erection of the Propylaea, and that the date of the stoa was probably about 432 B.C.²¹ But 432 B.C. is also the date just assigned to the broad flight of steps on the east side of the court. Further, we have seen that the propylon of the court probably had the same date. In other words, the north, east, and west sides of the court were probably constructed at the same time (*ca.* 432 B.C.). Thus it was possible to harmonize the three sides not only with each other but also with the south side (already built). Accordingly Ictinus may have been responsible for the designing of the court and temple as a unit.

In Section I we remarked briefly that the main entrance to the Parthenon was at the east end of the temple while the entrance to the Acropolis was to the west of the Parthenon, and that Ictinus was thus obliged to design an approach from which the rear of the temple was seen before the front of the temple. His was no easy task, and we must admire the extremely successful solution of the problem. The special propylon of the court to the west of the Parthenon; the court itself, which afforded a place from which the west façade of the temple could be well seen; the broad flight of steps west of the Parthenon; the sculptures of the west façade of the temple, which were as elaborate as those of the east façade; the Panathenaic frieze—these were the main features with which he succeeded in designing a dignified and beautiful approach to the main entrance of the temple.

²¹ *Hesperia*, V, 1936, pp. 459-470.

V. TERRACE OF THE PARTHENON

The terrace of the Parthenon will be discussed under two headings: the first, the retaining walls of the terrace; the second, what was placed upon the terrace.

THE RETAINING WALLS OF THE TERRACE

It has been seen that the broad flight of steps west of the Parthenon served the purpose of a retaining wall along the western side of the terrace of the temple.

It has also been seen that the northern portion of the terrace of the Parthenon was supported by a retaining wall practically parallel to the Old Temple of Athena

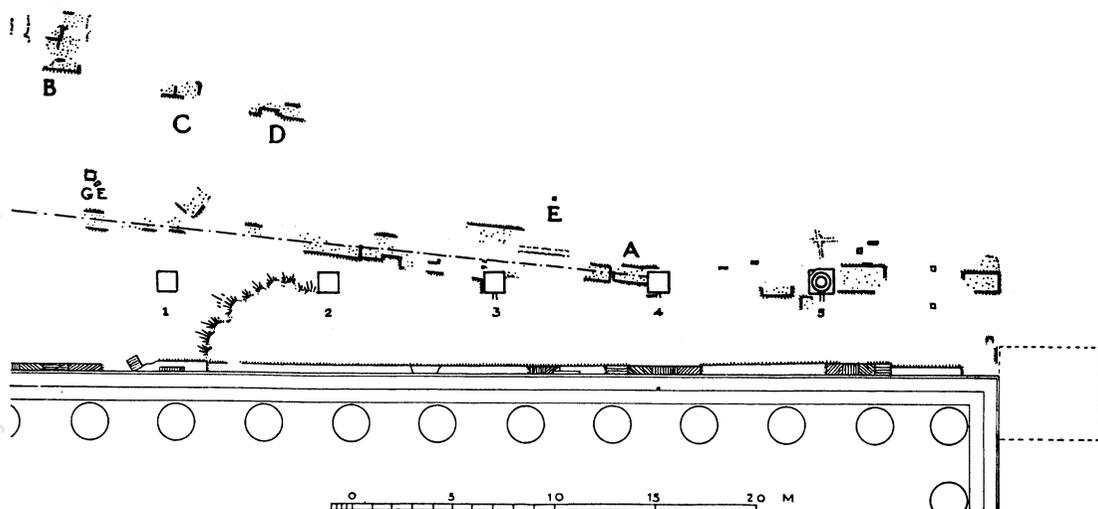


Fig. 32. Rock Cuttings North of the Parthenon

(cf. Fig. 1). Due to the inclination of the Acropolis rock this retaining wall ceased to be a retaining wall at a point about north of the fifth column of the Parthenon, counting from the northeast corner of the temple (cf. Fig. 1, Fig. 34, and Fig. 32, A). But the cutting at A, Fig. 32, the level of which agrees with the level of the rock-cut portion of the terrace between A and the Parthenon, was surely made for a substantial block; in other words, we have here an indication that the terrace had a parapet. Eastward from point A the general line of the retaining wall is continued by a series of rock cuttings parallel to the Parthenon; the cuttings extend as far as the northeast corner of the temple. Monuments of various kinds once stood in them, very possibly some of those which Pausanias saw between the statue of Ge and the shrine of Zeus Polieus.²² There are four stelae cuttings on the north side of the monuments, none on the south side, showing that the monuments faced north, toward the Great Altar

²² Pausanias, I, 24, 4.

of Athena (cf. Fig. 1). In line with these monuments are five ancient rock-cut wells in which rain water was gathered (1, 2, 3, 4, 5, Fig. 32). No. 1 is now filled with earth: Nos. 2 to 5 inclusive are about 3.00 m. deep. No. 5 is covered with a well head of poros which may be original. The terrace north of the Parthenon is rock cut from the northeast corner of the temple almost as far as well No. 1, Fig. 32. To the west of this point, however, the Acropolis rock falls away, so that the terrace from there on must have been artificially made. As no cuttings for votive monuments are to be found in the rock-cut portion of the terrace, there is little doubt but that the space between the cisterns and the Parthenon was reserved for the circulation of the people.

On the northern side of the retaining wall of this terrace was a passageway almost eight meters wide and of fairly gentle slope ($4\frac{1}{2}$ percent rise); the passage led from the entrance court to the central and eastern portions of the Acropolis (Fig. 1).²³ The route passed between two terraces of unequal height (those of the Parthenon and of the Old Temple of Athena, with difference of levels amounting to 2.42 m.), and finally reached, at D, Fig. 1, the level of the higher terrace (that of the Parthenon). At 25, Fig. 1, the level of the passageway was the same as the level of the lower terrace (that of the Old Temple of Athena), and here, in the line of the southern retaining wall (of Mycenaean date) of the terrace of the Old Temple of Athena, we find the rock cuttings (of post-Mycenaean date) of a propylon which lead into the area south of the Erechtheum. The cuttings for only the eastern portion of the propylon can be seen today. The entrance appears to be located on the axis of the Porch of the Maidens of the Erechtheum (digging and removal of blocks might settle this point).

There is an inscription which undoubtedly mentions the propylon.²⁴ In the inscription certain prohibitions are specified for an area between a "naos" (almost certainly whatever then occupied the site of the Erechtheum), an altar (almost certainly the big altar of Athena), and a propylon (cf. Fig. 1, 26, 23, 25). The triangular area indicated by these three points was especially sacred, and, therefore, it is not surprising that the offenses were punishable with fines. The setting up of the inscription in about 485 B.C. proves that the propylon antedated the Persian invasion of 480 B.C. The propylon must, therefore, be looked upon as an entrance to the platform of the Old Temple of Athena.

When the Erechtheum was built, was the Porch of the Maidens placed opposite the propylon to make a composition with it? If so, then either the Old Temple as restored after the Persian invasion had been pulled down, or the builders of the Erechtheum had some assurance that it would be pulled down. Further, we may suppose that only the opisthodomus of the Old Temple was repaired, as that portion

²³ *Hesperia*, V, 1936, pp. 480, 501, 503.

²⁴ *I.G.*, I², 4. The inscription dates from about 485 B.C.; $\pi\rho\omicron[\pi\acute{\upsilon}\lambda\omicron]$ is restored in the eighth line by A. Wilhelm, B. H. Hill, and J. M. Paton (*The Erechtheum*, p. 440).

of the temple lies so far to the west that it would not interfere with the composition of the Porch and the propylon (cf. Fig. 66).

There are two rock cuttings to the east of the propylon (cf. Fig. 32, C and D) which show that the route was continued eastward, to serve the eastern portions of the Acropolis. The wall which rose above the cuttings was either a retaining wall for the route or a precinct wall. And at E, Figure 32, is a cutting in the Acropolis rock for the anchorage of tackle, showing that heavy materials, such as blocks of stone, were hauled up the passageway. Thus at least one of the purposes of the passageway was utilitarian. Furthermore, sacrificial animals must have traversed this same route.

We pass to the southern retaining wall of the terrace of the Parthenon.²⁵ We already know that the southwest corner of the terrace was at angle *d*, Fig. 6. The southern wall of the terrace can be traced eastward from angle *d* for a considerable distance. The wall was first borne on wall No. 2, Fig. 6, to a point about south of the southwest angle of the Parthenon. Thence the wall of the terrace was carried on wall *e-f*, Fig. 34, as far east as the modern museum, as we shall now attempt to show. Wall *e-f*, Fig. 34, dates from the time of Cleisthenes. As Cleisthenes, the grandfather of Pericles, especially distinguished himself in 510 B.C. by driving Hippias out of Athens, a date of about 507 B.C. may be given to the wall. The wall is made of blocks of Acropolis rock mixed with occasional reused blocks of poros.

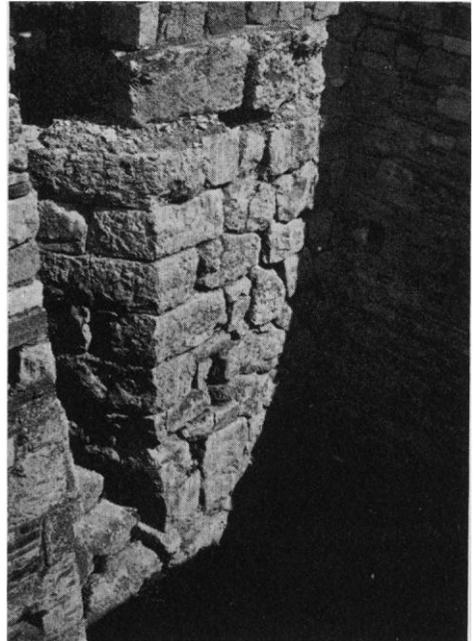


Fig. 33. Wall of Cleisthenes, with Blocks of the Time of Pericles on Top (the Southern Retaining Wall of the Terrace of the Parthenon)

The horizontal courses are hardly maintained—the wall is almost polygonal in character. The south face is roughly dressed to a plane, indicating that the face was originally intended to be seen, and the small staircase near the west end of the wall confirms this fact (Fig. 33 and Fig. 36, 1).²⁶ In the time of Pericles, however, wall *e-f*, Fig. 34, became a foundation for a wall of squared blocks of poros, characteristic of the fifth century before Christ. At least three of the blocks are still *in situ*; two of

²⁵ The conflicting problems encountered south of the Parthenon have not failed to arouse the interest of archaeologists (cf. Dörpfeld, *Ath. Mitt.*, XXVII, 1902, pp. 379 ff., and Dinsmoor, *A.J.A.*, XXXVIII, 1934, pp. 408 ff.; Kolbe, *Jahrbuch*, LI, 1936, pp. 1-64).

²⁶ The small staircase was entirely buried in the time of Pericles (cf. Fig. 36, 1). It is probable that in Cleisthenes' day the stair led down to a terrace south of Cleisthenes' wall (cf. Fig. 35, 1).

them and the beginning of the third are shown in Fig. 33. The level of the bottom of the blocks is 151.53 m. above sea level. This is within 0.02 m.—a negligible quantity—of the level of the bottom of the broad flight of steps west of the Parthenon (Figs. 6, 21, and 31). We may think of this ashlar wall as rising at least to the bottom of the lowest marble course of the west façade of the Parthenon, and as supporting a terrace made by filling the space between the Parthenon and the retaining wall with earth, chips, useless building materials, and the like (cf. Fig. 36). The three blocks of poros, then, show that the space south of the Periclean Parthenon was composed of not one but two terraces, the lower of which had approximately the same level as that of the bottom of the broad flight of steps to the west of the Parthenon. We cannot go far wrong, if we assign to the lower terrace a level of about 151.79 m. (cf. Fig. 31 and Fig. 36, 1). This level leaves the upper half of the three poros blocks shown in Fig. 33 exposed. But the southern faces of the blocks are not as well finished as we should expect to find in the case of an exposed wall of the time of Pericles. The level of the terrace, therefore, may have coincided with the top of these blocks, an arrangement which would raise the level of the terrace one step above that shown in Figure 36—a possibility. We may add that two terraces to the south of the Parthenon fit the slope of the Acropolis rock better than if the upper terrace had been carried out to the wall of the Acropolis (a scheme requiring a considerable amount of fill and also the raising of the Acropolis wall by about 3.00 m. [cf. Fig. 36, 1]). And there are two other matters to be considered in this connection, namely, (1) the appearance of the Acropolis wall as seen from outside the Acropolis and (2) military requirements. It was important for aesthetic reasons that there should be but one level for the top of the Acropolis wall, from the west of the Sanctuary of the Brauronian Artemis to the east end of the Acropolis itself. And this is especially important from a military point of view, for troops and war materials can be moved faster along a straight horizontal rampart than along a rampart of two levels, where stairs must be climbed. Various buildings on the Acropolis might here and there rise above this long horizontal line with propriety, but one long line would add greatly to the general external appearance of the Acropolis. It was the composition we see today when we view the Acropolis from the south, with this difference, however: today the Parthenon is the only building rising above the wall of the Acropolis, while in antiquity the upper portions of the Chalkotheke and the south stoa of the Sanctuary of the Brauronian Artemis were visible, both of them, however, of less importance than the Parthenon. We may add that two terraces south of the Parthenon meant that more of the Parthenon was visible from the outside of the Acropolis than if there were only one high terrace. Surely the Parthenon ought to be the dominant feature in the composition of the Acropolis as seen from the south.

On the east side of the Parthenon the Acropolis rock is dressed to a horizontal plane from the northeast corner of the temple to a point a little farther than the third

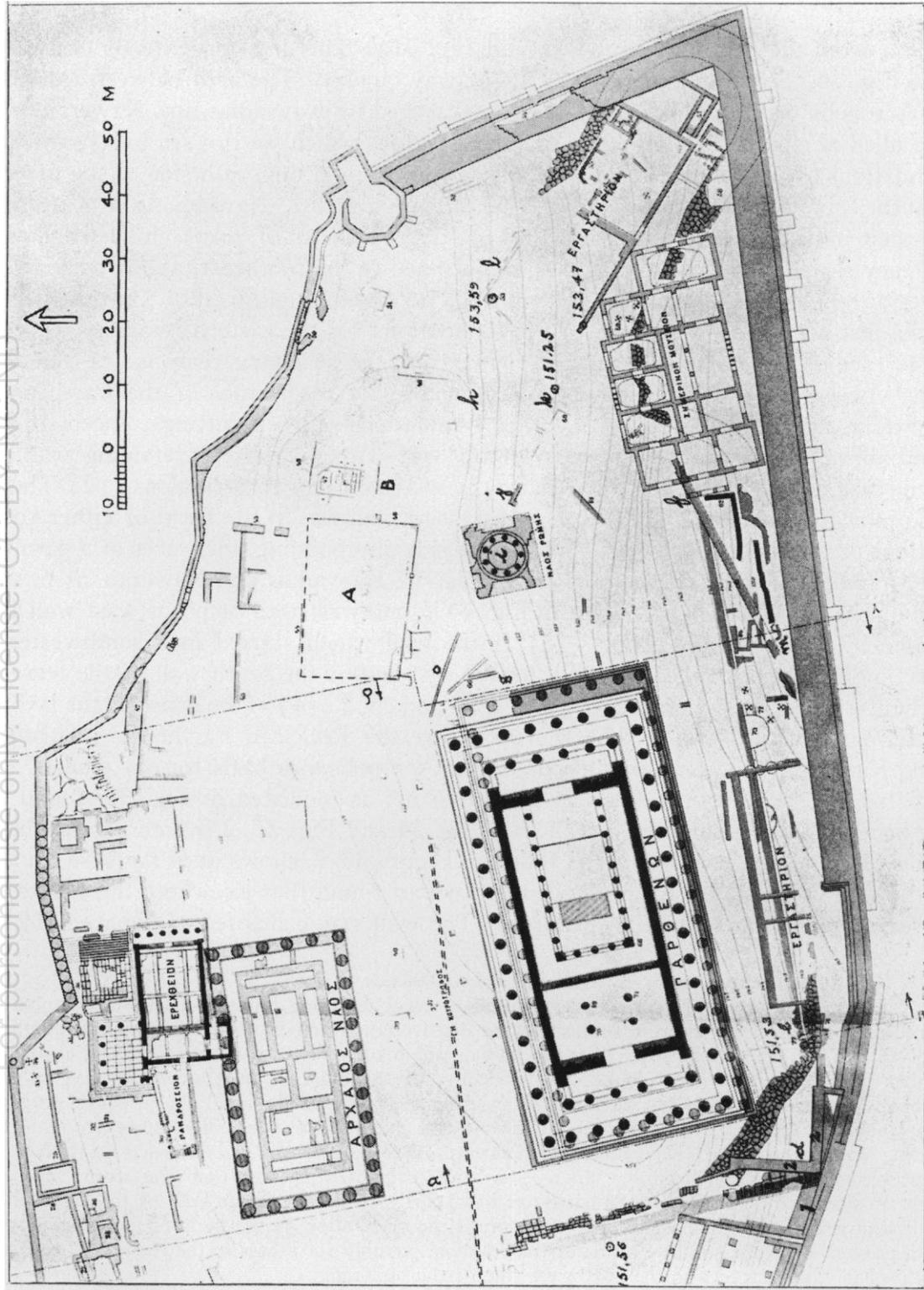


Fig. 34. Plan of the Central and Eastern Portions of the Acropolis (Kavvadias and Kawerau, 'Η Ανασκαφή της 'Ακροπόλεως, Πίναξ Α' [in Part])

column from the corner (Fig. 34, *g*, and Fig. 61). The dressing extends eastward to *h*, Fig. 34. South of *g-h* the rock falls away quickly. The area between *g-h* and the Acropolis wall to the south of it was excavated by Kavvadias and Kawerau and then filled in again. The only data of interest to us, which we can see today, are the foundations of the round temple of Roma, *i*, Fig. 34—on the south side of the monument the foundations rest upon an early fill of chips and dirt. Kavvadias and Kawerau call their indication at *j*, Fig. 34, a wall of squared blocks of poros (hidden today), and they say that the line of the wall is continued to the southeast, as far as *k*, by a series of rock cuttings. At *k* the rock cuttings turn to the southwest.²⁷ That the poros blocks just mentioned form part of the foundations for the eastern retaining wall of the terrace of the Parthenon may be claimed for the following reasons: (1) In the area between *g-h* and the southern retaining wall of the terrace of the Parthenon, Kavvadias and Kawerau show no other foundations or rock cuttings, except those noted above, which can be connected in any way with the eastern retaining wall of the terrace of the Parthenon, or with any post-Mycenaean constructions. (2) There is no indication of a wall parallel to and west of wall *j-k*, in the form of either rock cuttings or foundation walls. If *j-k* were one side of a building, the traces of a parallel side would probably have appeared on the plan of Kavvadias and Kawerau, as in the case of the ΕΡΓΑΣΤΗΡΙΟΝ shown in Fig. 34 (southwest wall of poros, east wall indicated by rock cuttings at *l*).²⁸ (3) If the wall which started in a southwesterly direction at *k* be prolonged, it will meet the east end of the south wall of the terrace of the Parthenon in the vicinity of *f*, Figs. 34 and 35, 2. (4) If we consider the layout of this portion of the Acropolis shortly before the Periclean Parthenon was built, using Kavvadias' and Kawerau's book on the Acropolis as a basis for our studies, we find that two building periods may be drawn up, as indicated in Fig. 35, 1 and 2. We believe that the purpose of wall *m-f*, Fig. 34 and Fig. 35, 2, which has troubled archaeologists, can be explained as follows. Figure 36, 2, shows at *m* the base course of the wall in question. Kavvadias and Kawerau found that elsewhere the wall was preserved up to a height of five courses. The wall was composed of squared blocks

²⁷ Kavvadias and Kawerau, 'Η Ἀνασκαφή τῆς Ἀκροπόλεως, p. 102.

²⁸ The walls of the foundations are too thin to carry anything but a wooden superstructure. Moreover, no traces for interior supports were discovered, which is an indication in a building of this width (16.00 m. clear span) that the roofing was made of light materials. Finally, a greater number of marble chips were found in the vicinity of the building than anywhere else on the Acropolis. From these facts Kavvadias and Kawerau concluded that the building served the purpose of a workshop where marble was cut. They did not exclude the possibility, however, that the building was a storehouse (Kavvadias and Kawerau, 'Η Ἀνασκαφή τῆς Ἀκροπόλεως, p. 98). It may be inferred from Fig. 34 that the "Ἐργαστήριον" was composed of more than one room; that the northeast side of the building rested partly on rock, partly on the Pelasgian wall of the Acropolis; that the direction of the Pelasgian wall determined the orientation of the building; and that there was a passage along the southwest side of the building, possibly for access to the rooms. There was also, probably, an entrance in the northwest side of the building.

similar to those at *j*, Fig. 34. The width of the wall is 1.20 m., an indication that it did not rise to any great height, as did wall No. 2, Fig. 34 (as we have seen), where the foundation is 1.80 m. wide. Immediately south of *m-f*, Cimon's wall considerably overlapped the Pelasgian wall; the portion indicated with hatched lines

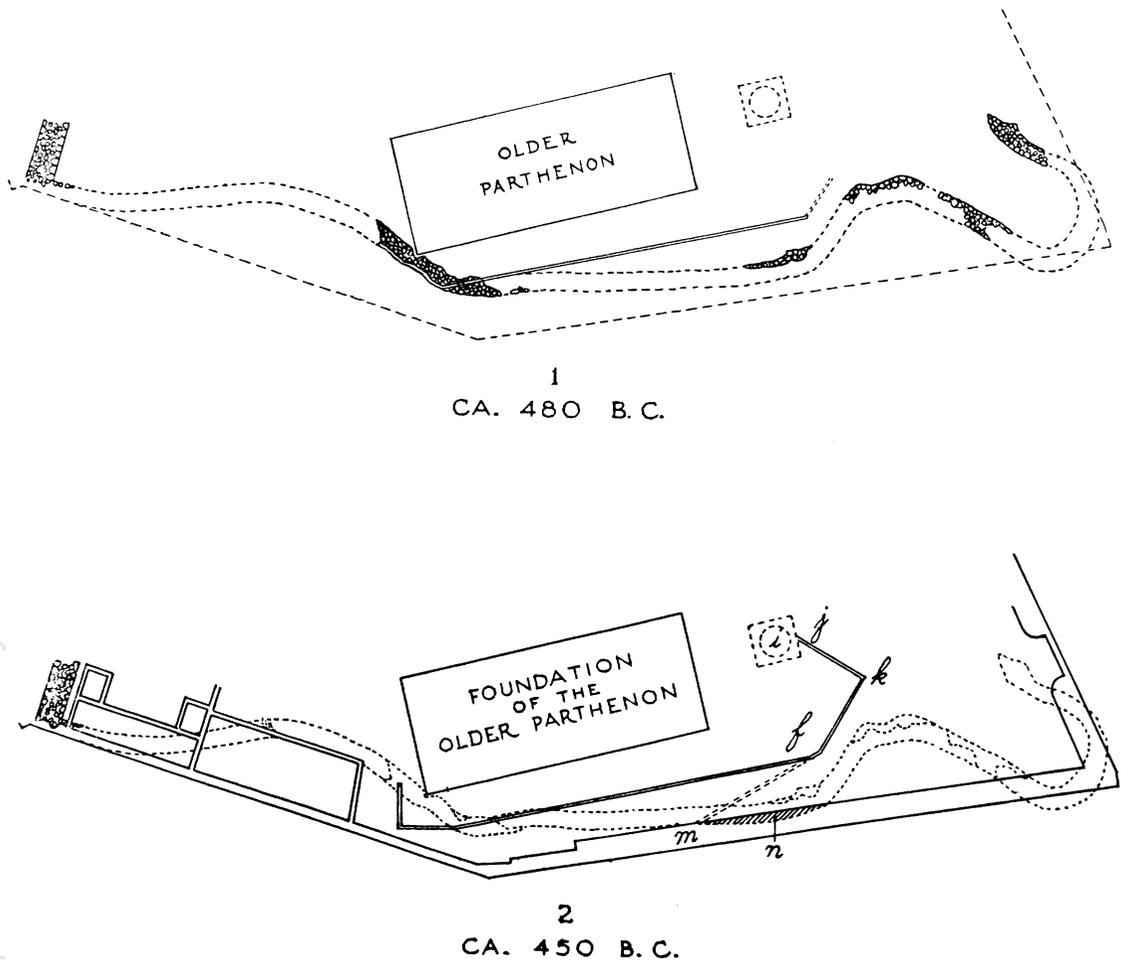


Fig. 35. Two Building Periods for the Southern Portion of the Acropolis

at *n*, Fig. 35, 2, was actually removed when Cimon's wall was built (cf. Fig. 36, 2). Indeed, so much of the Pelasgian wall was demolished to make room for the new wall, that what remained of the Pelasgian wall must have become too weak to resist the pressure upon its north side. A new wall—wall *m-f*, Fig. 35, 2—thus was necessary to take the pressure previously resisted by that portion of the Pelasgian wall which Cimon weakened.

It is possible, furthermore, that all sections of wall *m-f-k-j*, Fig. 35, 2, were built at the same time, for the similarity of the foundation blocks of squared poros in wall *m-f* and at *j* bear out such a supposition; the widths and lengths of the blocks are

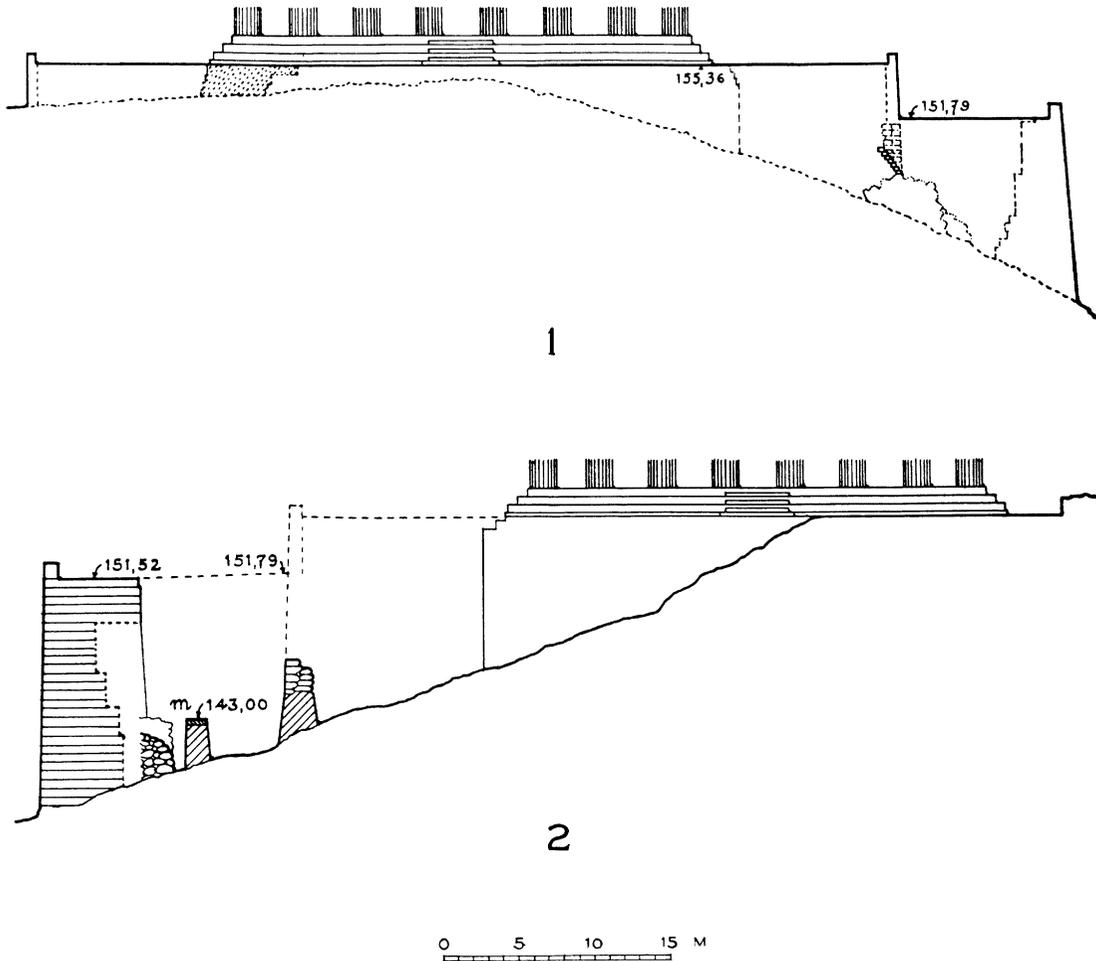


Fig. 36. Sections through the Terrace of the Parthenon: (1) α - β , Fig. 34; (2) γ - δ , Fig. 34

the same, as already noted.²⁹ The portion *m-f*, however, did not rise above ground, whereas the portion *f-k-j* formed the visible east retaining wall of the terrace of the Parthenon. It is to be remarked that this difference in level of the top of wall *m-f-k-j* is itself suggested by the difference in levels of the Acropolis rock beneath the wall, as given by the contour lines of Kavvadias and Kawerau (cf. Fig. 34).

²⁹ Compare Kavvadias and Kawerau, 'Η 'Ανασκαφή τῆς 'Ακροπόλεως, Πίναξ Ε'.

Considerable importance may be attached to the fact that the levels at *k*, *e*, and at the foot of the broad flight of steps west of the Parthenon—that is, on the east, south, and west of the terrace—are so nearly alike (cf. Fig. 34). They suggest that the Parthenon was raised upon a terrace of its own.

The rock-cut drain at *o*, Fig. 34, is of interest in that it supports the theory which we have advanced in regard to the odd shape of the terrace to the east of the Parthenon. When the Roman monument at E, in Fig. 39 (described in more detail on page 54) was erected, the drain was effaced where it crossed the rock-cut bed made for the outside course of the monument; that is, the drain was earlier than the monument. There are other drains south of drain *o* (cf. Fig. 34), but they are small, shallow and poorly cut, and may date from Christian or even Turkish times. Drain *o* is a main drain. It is heading in the proper direction to avoid the terrace at the east of the Parthenon; that is, it is heading in a suitable direction to carry water away from the terrace, not to flood it.

It is evident that the orientation of the Pelasgian walls at the southeast corner of the Acropolis dictated the peculiar orientation of the walls of the terrace to the east of the Parthenon (cf. Figs. 1, 34, and 35, 1 and 2).

We can now explain why the temple of Roma (dating from the latter part of the first century before Christ) was placed where it was (Figs. 34 *i*, and 35, 2). A site was selected opposite the main entrance of the Parthenon and as far east on the terrace as possible, that there might be a maximum amount of space in front of the temple. The builders did not trouble to carry the southern foundation of the temple down to rock but were satisfied to rest the foundation here upon the pre-existing fill of the terrace.

Pausanias describes in considerable detail four votive groups which stood at the south wall of the Acropolis.⁸⁰ They were set up by Attalus I, King of Pergamon, to commemorate his victories over the Gauls. Ten of the individual statues are known today by highly finished marble copies (possibly some are originals) in various museums, but there must have been many more in the groups as set up in Athens. They were half life size. Plutarch says that the figure of Dionysos in the group representing the battle of the giants was blown over into the theatre of Dionysos during a violent storm.⁸¹ Plutarch's statement thus locates the statue of Dionysos—it was *on the wall of the Acropolis* directly above the theatre of Dionysos (Fig. 1, 17). As the statue was only half life size and probably highly finished, it must have been placed at no great height above the ground, otherwise it could not have been appreciated. It very probably stood upon a parapet of ordinary height—one only sufficiently high to prevent people from falling off the wall of the Acropolis. That many of the figures were represented flat upon the ground is a further indication

⁸⁰ Pausanias, I, 25, 2.

⁸¹ Plutarch, *Antonius*, 60.

that they were placed on low pedestals, where they could be seen. Cimon's wall, all along the southern part of the Acropolis, was so lofty in itself, that no higher parapet was needed, even for defensive purposes. If the wall of the Acropolis required only a low parapet, the retaining walls of the terrace of the Parthenon certainly needed parapet walls no higher, for high parapets would tend to hide the Parthenon from all points of view beyond the terrace of the temple (except from the northeast corner of the terrace where the rock of the Acropolis rose even above the level of the terrace, as at A, Fig. 34).

We see, then, that in Periclean times the Parthenon was placed upon a terrace of its own. It was not an uncommon practice for Greek temples to be raised upon artificial terraces; the temples at Aegina and Sunium may be cited as examples. Such platforms added dignity to the temples.

WHAT WAS PLACED UPON THE TERRACE

The Parthenon, of course, was the *raison d'être* of the terrace, and, consequently, great care was exercised in locating the temple correctly upon its platform. Ictinus found on the site a well constructed foundation of poros, built for an earlier Parthenon.⁸² This foundation had neither the exact width nor the exact length required for the Periclean Parthenon. Also the early foundation was not even to be centered under the temple which Ictinus had in mind. What did he do? He placed his temple so that a large portion of the western face of the early foundation was correctly located in relation to the new temple, and so that the terrace was equally wide at the west and at the northwest and southwest corners of the Parthenon (cf. Fig. 66, distances x , y , and z ; Fig. 34; and Fig. 36, 1). This arrangement necessarily brought an incorrect relation between the old foundation and the new temple, on the north, south, and east sides: on the north the old foundation had to be pieced out (cf. Fig. 36, 1, and Fig. 37), and on the south and east the old foundations protruded beyond the new temple for distances of about 1.50 m. and 4.50 m. respectively (cf. Figs. 34 and 38). Ictinus intended that there should be ample space at the east of the temple, perhaps more than the Older Parthenon was to have. Further, the new symmetrical arrangement of the west façade upon its terrace gave an orderly appearance to the west façade which, although the rear façade of the temple, was, as we have seen, the first façade approached by persons coming over the Processional Way from the Propylaea of the Acropolis.

The careful placing of the west façade of the Parthenon upon its terrace, the sight-lines, from the propylon, of the Parthenon and the broad flight of steps to the west of it (Fig. 4), and the dates which we have been able to assign to the various elements of the composition, so intimately associate temple, terrace, steps, forecourt,

⁸² B. H. Hill, "The Older Parthenon," *A.J.A.*, XVI, 1912, pp. 535 ff.

and propylon that we cannot but believe that one master mind, that of Ictinus, was responsible for their design as a whole.

If the terrace of the Parthenon had been flagged with stone, there would be traces today of the flagging either against the temple or on the terrace itself (at the northeast corner of the temple). Careful examination, however, shows that no such traces exist. We must, therefore, think of the terrace as unflagged. There was, probably, a gravel finish where fill was required, and a rock finish where the Acropolis rock had to be dressed down (at the northeast corner of the temple). On the south

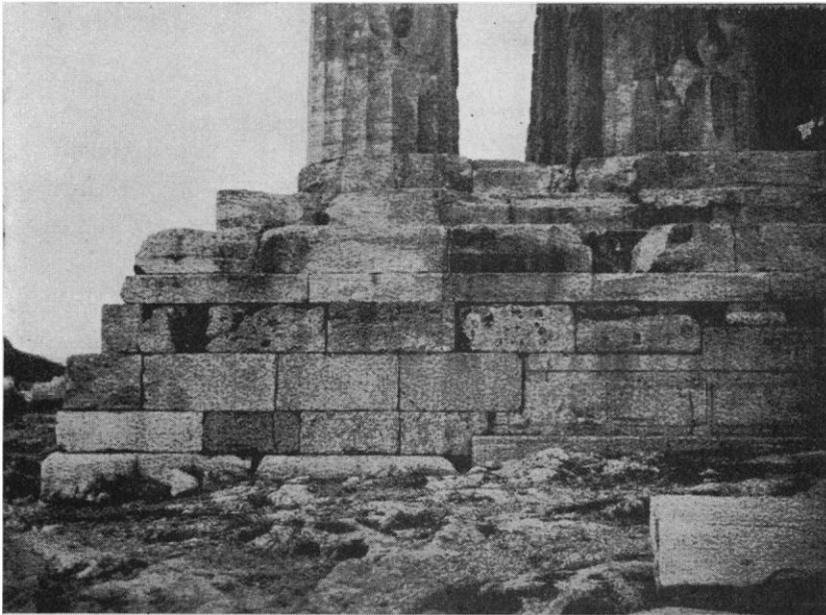


Fig. 37. The Northwest Corner of the Parthenon,
Viewed from the West

side of the temple the protruding foundation of the earlier Parthenon was treated like Acropolis rock which needed to be dressed down, that is, the top of the protruding foundation was cut down to the level of the terrace of the Periclean Parthenon.

In the study of what, in addition to the Parthenon, was placed upon the terrace, it will be convenient to begin with the area on the north side of the temple and then discuss the areas on the south, east, and west sides.

1) *North side of the Parthenon* (the area between the northeast and northwest corners of the temple). We have already noted that the rock of the Acropolis was dressed down to the level of the terrace in the eastern half of this area; and that it fell away in the western half, so that the terrace was there artificially made. Thus we would expect to find rock-cut traces for pedestals (had any existed) in the eastern half of the area, but not in the western portion. There are no traces for

pedestals in the entire area under consideration.³³ The area seems to have been unencumbered with monuments so that people might circulate over a terrace from which they could admire the temple and especially the beautiful Panathenaic frieze, which, it will be remembered, was carved along the top of the cella wall, and which could only be well seen from the terrace (cf. Figs. 4 and 43).³⁴

2) *South side of the Parthenon.* As there are no cuttings for monuments in the foundation of the earlier Parthenon, which projects 1.50 m. south of the Periclean Parthenon—more than half of the top course of the foundation is still *in situ*—we

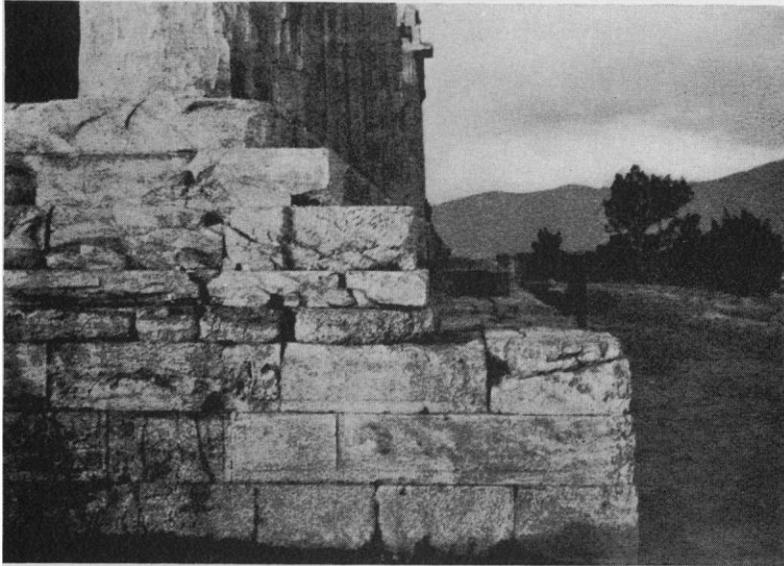


Fig. 38. The Southwest Corner of the Parthenon,
Viewed from the West

may infer that here, too, was an unencumbered space for the circulation of people. There is no way of telling if the space for circulation was wider than 1.50 m., as all traces of the rest of the terrace, which was artificially made, have disappeared.

3) *East side of the Parthenon.* Here we may gather considerable information. From Fig. 39 we see that there were steps of convenient height arranged on the axis of the temple. Fig. 40 shows how the steps can be restored from marks of weathering on the risers and treads of the big steps of the temple and from cuttings in the foundation of poros on the axis of the temple. The division into three equal

³³ There is a possible exception in the extremely rough cutting at 5, Fig. 32, but even here the cutting may be connected with some sort of pierced lid through which rain water entered the ancient rock-cut cistern directly north of the cutting.

³⁴ The five ancient wells and monuments in line with them (cf. Fig. 32) are north of the circulation in question.

blocks of the projecting platform at the bottom of the flight of steps is given by data obtained from the west façade where there was a similar flight of steps. North of the central steps at the east is a cutting in the foundation of poros for a monument (A, Fig. 39). As B, Fig. 39, is at a higher level than A, the north face of the monument must have been located over the block of poros now missing; in other words, the base was either square or slightly rectangular, with the bigger dimension running north and south. In either case, the base was suitable for a single statue, not for a group. Pausanias says as he emerges from the Parthenon “and at the entrance [κατὰ τὴν ἔσοδον] is a statue of Iphicrates, who did many marvelous deeds,”³⁵

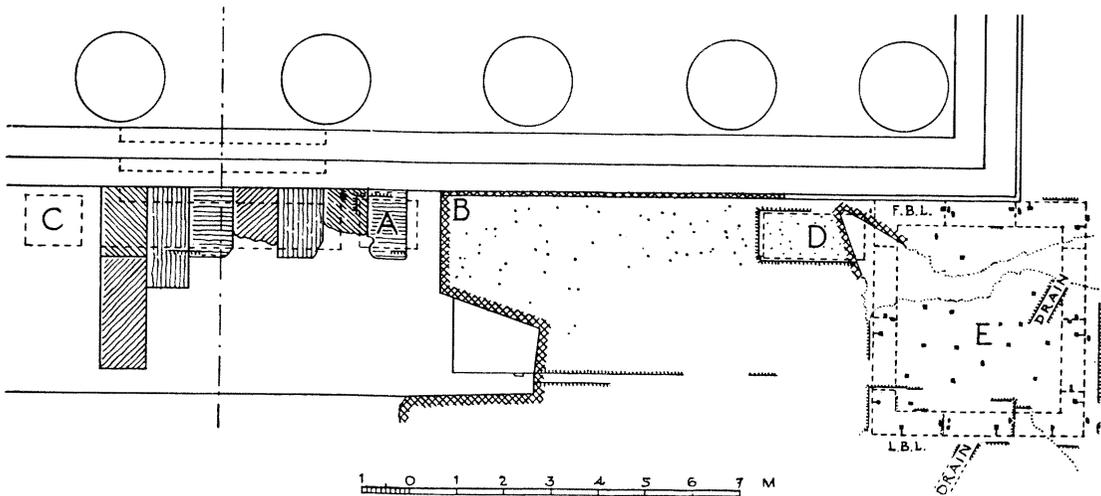


Fig. 39. Plan of the Area Immediately East of the Parthenon, from the Center of the Temple Northward. Present Condition

Very probably the statue stood either at A, Fig. 39, or at C (a symmetrical position to A); at C, unfortunately, the foundations of poros are lacking.³⁶ At D, Fig. 39, almost on the axis of the northernmost intercolumniation of the Parthenon, is a cutting in the Acropolis rock, which is considerably longer than it is wide—its original length may be estimated at about 2.00 m.: but monument E (a monument of Roman times to be discussed later) may have obliterated the northern end of the cutting for monument D, in which case monument D may have been longer than 2.00 m. It is probable, however, that monument D was kept in Roman times.

³⁵ Pausanias, I, 24, 7.

³⁶ J. G. Frazer in his *Pausanias's Description of Greece*, II, p. 320, gives the following information concerning the statue of Iphicrates. “This statue was of bronze (Demosthenes, XXIII. 130, p. 663): It was set up in 372/1 B.C. (Dionysius Halicarnassensis, *De Lysia iudicium*, 12). According to Aeschines (III. 243) the honours bestowed on Iphicrates were a reward for his services in cutting to pieces a Spartan regiment in 392 B.C. (see Xenophon, *Hellenica*, IV. 5. 10 sqq.). Iphicrates himself mentioned the statue in a fragment of a speech which is preserved by Aristotle (*Rhetoric*, II. 23, p. 1397 b).”

Cutting D, on account of the relation of its width to its length, is what we would expect to find for the base of a group of statues. The cuttings A and D, Fig. 39, are important, for they give, it seems to the writer, the scheme of embellishment in accordance with which votive monuments were placed from time to time against the east façade of the Parthenon. The scheme called for a single statue on either side of the central flight of steps and a group at each extremity of the Parthenon. We shall see that this arrangement was echoed to a certain extent in the case of the west façade of the Parthenon.

Monument E, Fig. 39, was carefully anchored to the Acropolis rock by means of dowels sealed with lead poured through horizontal channels cut in the Acropolis rock.

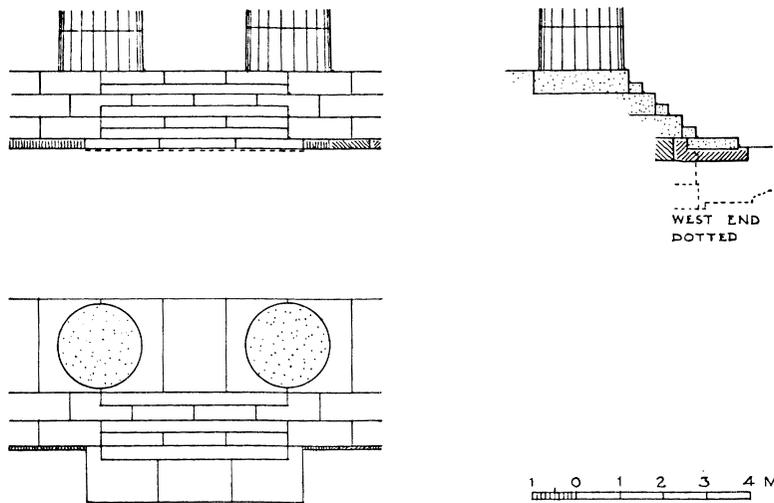


Fig. 40. Flight of Steps on the Axis of the East Façade of the Parthenon. Restoration

As dowels with horizontal pour channels did not come into general use until about the middle of the second century before Christ, the monument cannot be earlier than about 150 B.C. The monument and the round Temple of Roma may even have been built at the same time, that is, in the latter part of the first century before Christ. Ictinus would hardly have approved of the site of monument E, for the latter was placed directly across the north approach to the open space in front of the main entrance to the temple (Fig. 1). The inappropriate choice of site undoubtedly reflects the taste of the age. The monument could not have been a propylon, for the Acropolis rock is greatly worn to the northeast of the monument, showing that for many years the circulation was forced to avoid the monument. The rock cutting for the bottom outside course of the monument is especially well done. The blocks of the course were of some fine grained stone, probably marble, for the dowels were placed too near the vertical faces of the blocks for a friable stone such as, for example, poros. The dowels, all of which have

disappeared, were perhaps of bronze (not the usual wrought iron), for the cross section (obtained from a well-preserved hole in the lead which was run in about the dowel) is unusually small, measuring 0.03 m. by 0.01 m.; the total height of the dowel must have been about 0.06 m. The rock cuttings for the corner blocks show that the latter were "elbow" blocks (cf. Fig. 39). The location of all the vertical joints of the blocks can be determined by studying the dowels and pry holes (cf. Fig. 39); the dowels and the pry holes also show that the southwest angle block was the first of this series of blocks to be laid, and that the southeast angle block was the last. The space enclosed within the outside blocks was solidly filled with blocks doweled to the Acropolis rock. No special rock-cut beds, however, were made for these blocks. The disposition of the dowels shows that the jointing was not perfectly regular (cf. Fig. 39). This portion of the foundation was probably of poros, and similar to the foundation to be seen today in the nearby Temple of Roma.

The only other Roman monument of importance that we are sure once adorned the area to the east of the Parthenon was the Temple of Roma; it has already been discussed—briefly, it is true—in connection with the retaining walls of the terrace of the Parthenon.

The space between the Temple of Roma and the monuments immediately in front of the Parthenon appears to have been void of structures of any kind from the time of Pericles on, if we may judge by the fact that there are no cuttings in the Acropolis rock where the latter was dressed down to form a terrace for the temple (cf. Fig. 34).

4) *West side of the Parthenon.* On the axis of the temple was, as at the east, a flight of steps of convenient height leading to the peristyle of the temple. The flight of steps was a replica of the one at the east (cf. Figs. 39 and 40); the Acropolis rock was dressed to receive the foundation of the platform of the western flight. There are clear indications on the euthynteria of the Parthenon that the platform was divided into three equal blocks. Near the northwest corner of the Parthenon there are two horizontal dowels on the top course of the foundation and traces of weathering on the steps of the Parthenon itself, which show that, possibly only in Roman times, a monument at least as long as monument D, Fig. 39, here came in contact with the foundation and steps of the temple (cf. Fig. 49).³⁷ As the monument had no rock cuttings below it, horizontal dowels were necessary to attach it to the Parthenon—in other words, to prevent unsightly settlement of the monument. Thus, for the west façade of the temple we have certainly a central flight of steps and perhaps a long monument near the

³⁷ A long monument similar to monument D calls for two more dowel cuttings in the poros block south of the dowel cuttings shown in Fig. 49. Only the back portion of this poros block is in place today. That the front portion of the block had the necessary two dowel cuttings is, however, possible. The traces of weathering on the steps of the Parthenon may belong, in part, to church or even later times, for there is evidence on the columns and steps of the Parthenon that there was an entrance here in post-classic days.

northwest corner of the temple. Can we not believe that the scheme for placing votive monuments against the west façade of the temple was similar to that for the east façade? The Frontispiece was drawn in accordance with this belief.

In Section III, p. 24, reference was made to the so-called temple of Athena Ergane. Pausanias mentions the monument, but his text is defective.⁸⁸ He may have seen any sort of an object which could be used in connection with the worship of the goddess, such as an image, an altar, etc., in addition to a temple. Under the circum-

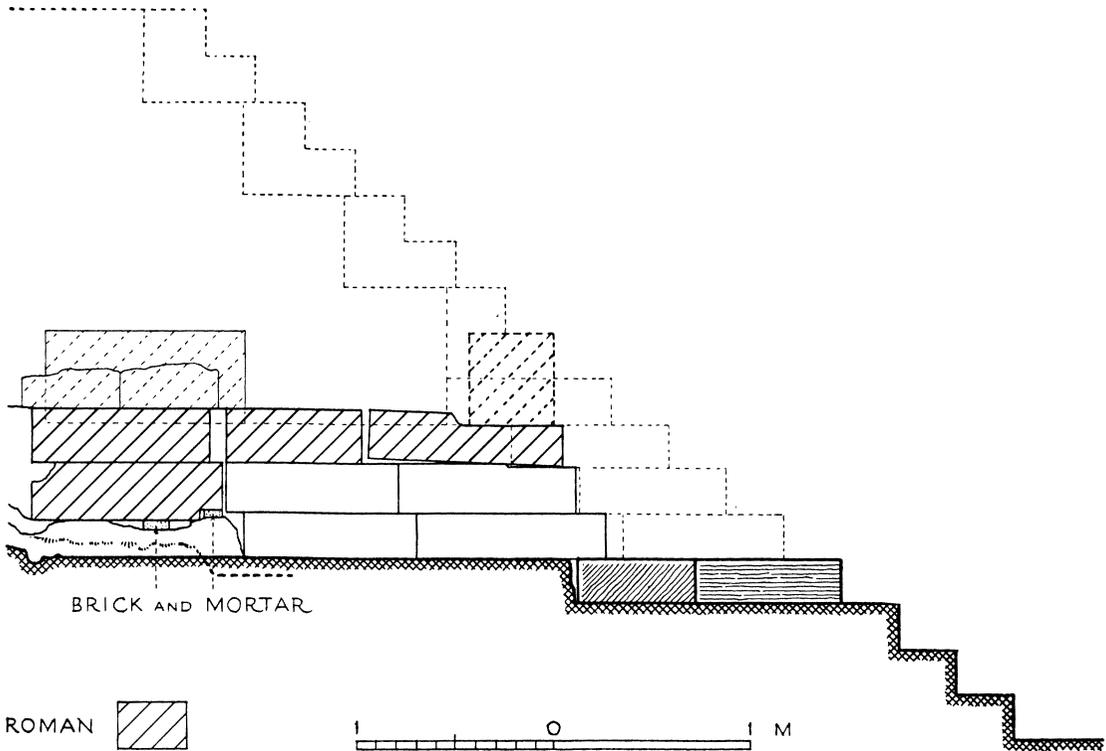


Fig. 41. North Elevation of the Foundation of the Monument of Athena Ergane (?).
Present Condition

stances we prefer to call what he saw “a monument to Athena Ergane.” He refers to the goddess after he has mentioned the Bull of the Areopagus and before he has spoken of the statue of Ge. Therefore, the most likely position for the monument of Athena Ergane was on the terrace of the Parthenon, somewhere between the Bull and Ge. In the northern part of the broad flight of steps to the west of the Parthenon is a foundation of considerable size, composed of blocks of poros (Figs. 6 and 20, D, and Fig. 41). Certain rock cuttings may be associated with the foundation (Fig. 20, E, F, G), and also the poros block at H, Fig. 20. Upon

⁸⁸ Pausanias, I, 24, 3.

investigation the blocks of the top course of the foundation at D and some of the other blocks of the foundation (cf. Fig. 41) are not found to be *in situ*; these blocks belong to a Roman period of construction. As already said, the blocks represented in Fig. 28 may also have belonged to the monument. Since the rock cutting at C, Fig. 20, is in the correct position for a foundation of the broad flight of steps, there can be little doubt but that the flight of steps was carried originally completely across the foundation. The situation, then, is this: When Pausanias reaches the neighbourhood of this foundation, he mentions a monument to Athena Ergane. Is it not possible that the original Greek monument to the goddess was a small affair, resting on, or near, the rock of the Acropolis just east of the broad flight of steps; that, when the terrace of the Parthenon was constructed, the monument was raised so that it rested upon the terrace, and, finally, that in Roman times the worship of the goddess became so popular that the shrine was enlarged, thus accounting for the encroachment upon the broad flight of steps? The monument interfered but little with circulation on the terrace (cf. Fig. 1).

The evidence gathered from the rock-cut portion of the terrace of the Parthenon, which in area is approximately only one quarter of the exposed portion of the entire terrace, tends to show, as has already been intimated, that at least there the terrace was not encumbered with monuments (Figs. 32 and 34). Further, the southern terrace certainly had no monuments over the protruding foundations (where preserved) of the Older Parthenon. This does not exclude the possibility, however, that, in the remaining exposed portions of the terrace, which were artificially made, there may have been some kind of planting. High trees would be out of keeping. Why erect an expensive temple and then hide it? But low, formal and restrained planting, such as we know existed at the sides and rear of the Theseum, would act as an agreeable foil to the Parthenon without in any way detracting from its beauty (cf. Frontispiece).³⁹

VI. DECORATION OF THE PARTHENON

Scholars and art critics agree that the architectural portions of the Parthenon were designed by Ictinus, and that the colossal chryselephantine statue of Athena within the temple came from the hand of Phidias. There is no such certainty, however, as to the authorship of the pediments, metopes, and Panathenaic frieze. One man could not have executed all these, and, as a matter of fact, examination of the different sculptures shows that many men had a hand in the actual carving. But the subjects, treatment, and scale of the sculptures show that there was one guiding genius. There is, therefore, little reason to doubt but that Phidias, the leading sculptor of his day, had general supervision of all the sculptures.

³⁹ Dorothy Burr Thompson, "The Garden of Hephaistos," *Hesperia*, VI, 1937, p. 396.

The work of Phidias and the artists who collaborated with him must be carefully distinguished from that of later artists. It should be remembered that the Parthenon continued to be a shrine of Athena for some seven or eight hundred years. From time to time, during all those centuries, votive monuments and decorative features of various kinds were added, here and there, to the temple, until the latter became fairly overloaded. Presumably these additional decorations were done by the best artists of the day, but some of the decorations, particularly the late ones, must have made Phidias and Ictinus turn over in their graves with disgust. The sculptures of the pediments and metopes, the Panathenaic frieze, the architectural sculptures such as the acroteria and antefixes, and the colour scheme of the temple as a whole—these were the marvelous decorative features which issued from the fertile brains of the two great artists, Phidias and Ictinus. There must have been the closest collaboration between the two artists in the designing of these embellishments. As the latter have been studied and restudied by many eminent scholars, they will be referred to here only briefly.

THE ORIGINAL DECORATION

1) *Pediments.* The eastern pediment over the main entrance, representing the birth of Athena, is undoubtedly the nobler of the two pediments both in interpretation of subject and in composition. The groups are among the finest examples of sculpture ever executed. The contest between Athena and Poseidon for possession of Attica occupied the western pediment (cf. Frontispiece). Prof. Rhys Carpenter has recently given an excellent interpretation of this pediment.⁴⁰ He centered his attention chiefly on the southern half of the pediment, his most important contribution being a new figure—the third from the southern angle of the pediment. In the northern half of the pediment there is evidence that the left hand of the second figure from the north was not raised as usually represented, but rested on the floor of the pediment.⁴¹ New details for the third and fourth figures from the north were published by Lethaby in 1930.⁴² He called attention to two facts: the third figure from the north had a serpent's tail coiled under it, thus positively identifying the figure as that of Kekrops; the fourth figure from the north (a female figure probably depicting either Kekrops' wife or his daughter Agraulos) had its left hand raised in the air, and the upper part of the arm was braced against the body with a bit of mantle. These various new features are to be seen combined, for the first time, in the Frontispiece.

2) *Metopes.* The subjects of the four sides are known. East side, over the main entrance of the temple, battle scenes of gods against giants; west side, battle scenes

⁴⁰ "New Material for the West Pediment of the Parthenon," *Hesperia*, I, 1932, pp. 1-30.

⁴¹ *Ath. Mitt.*, XXXV, 1910, p. 77.

⁴² "The West Pediment of the Parthenon," *J.H.S.*, L, 1930, pp. 4-19.

between Amazons and Athenians; north side, scenes of the taking of Troy; south side, battle scenes of Lapiths and Athenians against Centaurs. Many metopes are missing. Of those still *in situ* some are badly injured. For example, on the west side the sixth metope from the north is now so battered and broken that no idea of the composition can be made out (Fig. 19). The metope south of this sixth metope is also in a deplorable condition; but, with careful study, at a time when the sun casts its longest shadows on the west façade, the general composition of the metope can be distinguished; a man, with his back to the spectator, is seizing the bridle of a prancing horse (Fig. 42). As the metopes of the west represented battle scenes between Athenians and Amazons, the warrior was an Athenian and the rider an Amazon.

A French scholar, Charles Picard, has recently published an excellent discussion of the metopes of the north.⁴³

3) *Panathenaic frieze*. That this remarkably beautiful embellishment was designed to be seen from the platform upon which the Parthenon was placed is a clear

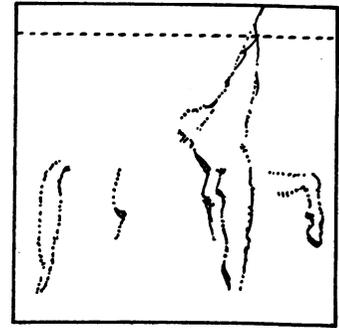


Fig. 42. Seventh Metope of the West Façade, Counting from the North. Present Condition



Fig. 43. Panathenaic Frieze Viewed from the West Terrace of the Parthenon

indication of where Ictinus and Phidias intended people to gather. Probably antiquity does not present a better example of collaboration between architect and sculptor than in the happy solution of this problem (Figs. 4 and 43).

⁴³ C. Picard, *Rev. Ét. Gr.*, 1937, pp. 175-205.

4) *Architectural sculpture*. In the Acropolis Museum are many fragments of the central acroterion, from which its general design and dimensions can be determined (Fig. 44).⁴⁴

It is known that there were acroteria at the four angles of the temple from the sinkages in which they were set (Fig. 45). The angle acroteria were probably of the floral type, in keeping with that of the central acroteria; many parallels from other ancient temples might be cited (cf. Frontispiece).

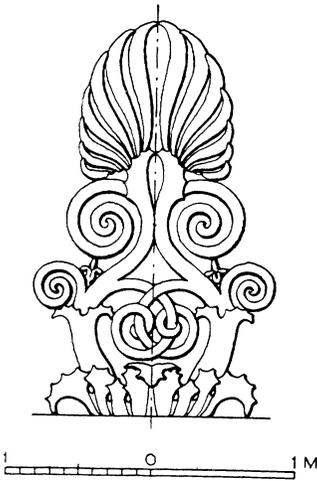


Fig. 44. Central Acroterion of the Parthenon. Restoration

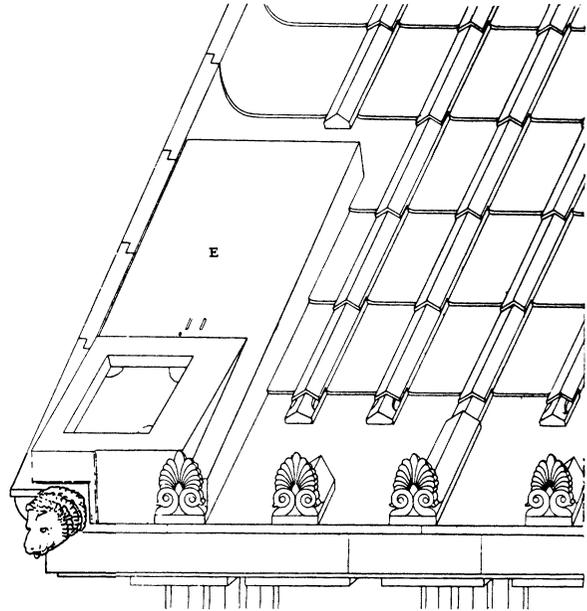


Fig. 45. Sinkage in Which an Angle Acroterion of the Parthenon Was Set (F. C. Penrose, *The Principles of Athenian Architecture*, pl. 17)

The lion heads beneath the angle acroteria are particularly well handled in location, mass, and execution (Frontispiece and Fig. 45). They are not rainspouts—their original *raison d'être*. They are necessary, however, as a proper terminal to the long row of antefixes. Ictinus preferred beauty to functionalism.

Many of the antefixes are preserved. Their spacing is known, both from weather marks and from the dowel cuttings used in holding them in place. They are an excellent example of architectural ornament (Fig. 46).

5) *Colour*. A casual glance at the Parthenon today gives no idea of its original colour scheme. Careful study, however, reveals the fact that traces of colour are abundant, especially on the architectural members. The cyma over the raking cornice

⁴⁴ C. Praschnicker, "Die Akroterien des Parthenon," *Jahreshefte*, XIII, 1910, pp. 5-40.

was decorated with a painted honeysuckle pattern, not a carved one (cf. Frontispiece). In general, colour was employed with great discretion. It was used extensively in the upper portions of the building and most frequently on those members which were in deep shadow (cf. F. C. Penrose, *The Principles of Athenian Architecture*, pl. I,



Fig. 46. Antefix of the Parthenon
(Acropolis Museum, Athens)

and L. Fenger, *Dorische Polychromie*, pl. 2). A good idea of the use of colour as applied to the exterior of a building can be had by looking at the Academy of Sciences in Athens. Compare the Academy with its neighbours, and note how much more life there is in its shadows than in those of the surrounding buildings.

The sculptural portions of the Parthenon show fewer traces of colour than the architectural portions, but here and there remains of colour are to be found, as in

the irises of the central figure of a slab from the Panathenaic frieze, now in the Acropolis Museum (Cat. No. 860).

The traces of metal attachments in connection with the sculptural parts are not uncommon: for example, many of the horses in the Panathenaic frieze were supplied with metal bridles and reins (probably originally covered with gold leaf).

THE POST-PHIDIAN DECORATIONS

1) *The single monuments in front of the east and west façades.* As these were discussed at some length on pp. 52-57, only a few words need be added here. The monuments stood immediately in front of the bottom step of the Parthenon, thus

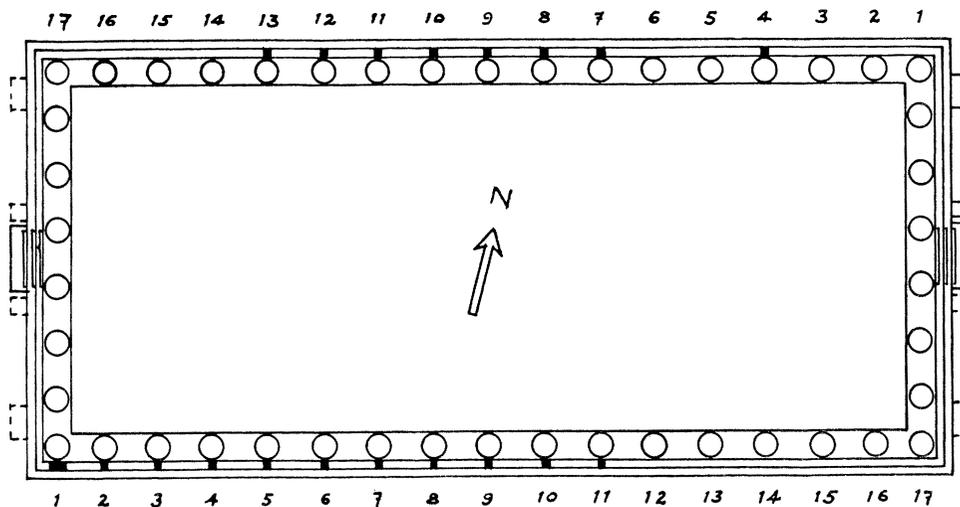


Fig. 47. Traces of Pedestals on the Middle Step of the Parthenon. Plan

forming an integral part of the decoration of the temple—monuments and temple could not be seen separately. The rock cuttings for the bases of these monuments at the east end of the temple seem to be of good fourth-century work, and this accords with what we know about the statue of Iphicrates (cf. p. 53, note 36). The traces of the large monument at the northeast corner of the temple are later—they date, as has been said, from the first or second century before Christ.

2) *Monuments on the middle step of the Parthenon.* Figure 47 shows where traces may be seen today of bases for these monuments. They occur only along the north and south sides of the temple. There were probably more traces than indicated in Fig. 47, but the wear and tear of time has obliterated them. The traces which are preserved show that the bases varied in size, from which it may be inferred that the monuments were not alike. The bases we are sure of were slightly rectangular

in plan (with but one exception, noted below), the long dimension being parallel, in each case, to the step; the monuments supported by the bases were thus probably votive statues. The traces at the southwest corner of the temple measure 1.46 m. \times 0.596 m., which means that this base supported, in all likelihood, a group. Some traces (Fig. 47, nos. 11 S, 10 N, 11 N) show that the pedestals were turned at a small angle to the step, a possible indication that the bases supported statues which looked better than originally planned by slightly revolving the bases and their statues. One base (No. 10 N, Fig. 47) has two sets of weather lines, one parallel to the steps, the other turned somewhat at an angle to the first set, indicating that the base stood for a long time in one position and then in the other. The height of another base (No. 5 S, Fig. 47) can be determined from a weather line on the top riser of the Parthenon back of it; it was 0.21 m. high.

The traces of the bases are so deep in places that the weathering must have gone on for centuries. Furthermore, the care taken to relieve the pressure at the angles of some of the pedestals is indicative of a fairly early date for the pedestals themselves (Fig. 48). We may, therefore, imagine that the monuments along the north and south sides of the temple began to be put in place soon after the temple was finished, and that the practice was continued over a period of many years.

There are no traces of bases on the middle step at either end of the temple. But, as the east and west façades were probably adorned with statues and groups placed in close proximity to the steps, we would hardly expect that such monuments would have other monuments immediately behind them (cf. Fig. 47).

As the northwest corner of the Parthenon was turned toward the propylon leading into the court west of the temple, the corner was particularly conspicuous. Here is found a special set of cuttings on the middle step of the Parthenon (cf. Fig. 49). The three sinkages, indicated 1, 2, and 3 in the figure, were undoubtedly intended to receive the lugs which are often found protruding from the bottom of stelae. The weather line at 4 was caused by the southeast edge of the stele, and shows that the sides of the stele were slightly inclined toward the axis of the stele; it also gives us a means of calculating the original width of the stele, as lugs are placed under the centers of stelae. The weathering at 3 furnishes us with the thickness of the stele.

There are a number of cuttings in the steps of the Parthenon (some of them on

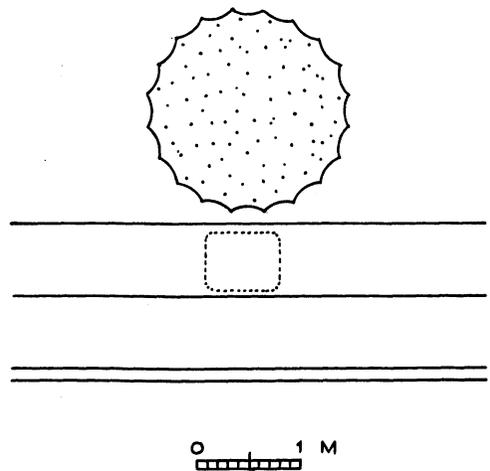


Fig. 48. Trace of a Pedestal on the Middle Step of the Parthenon (at 9 North, Fig. 47)

the middle step) which date from Christian and Turkish times. They will not be considered here.

4) *The decorations applied upon the architraves.*⁴⁵ There are evident traces on the architraves that shields were once attached to them, upon all four sides of the temple. The traces consist of large horizontal dowels at the center of the shields, pin attachments at the rims of the shields, and circular weather marks (on the archi-

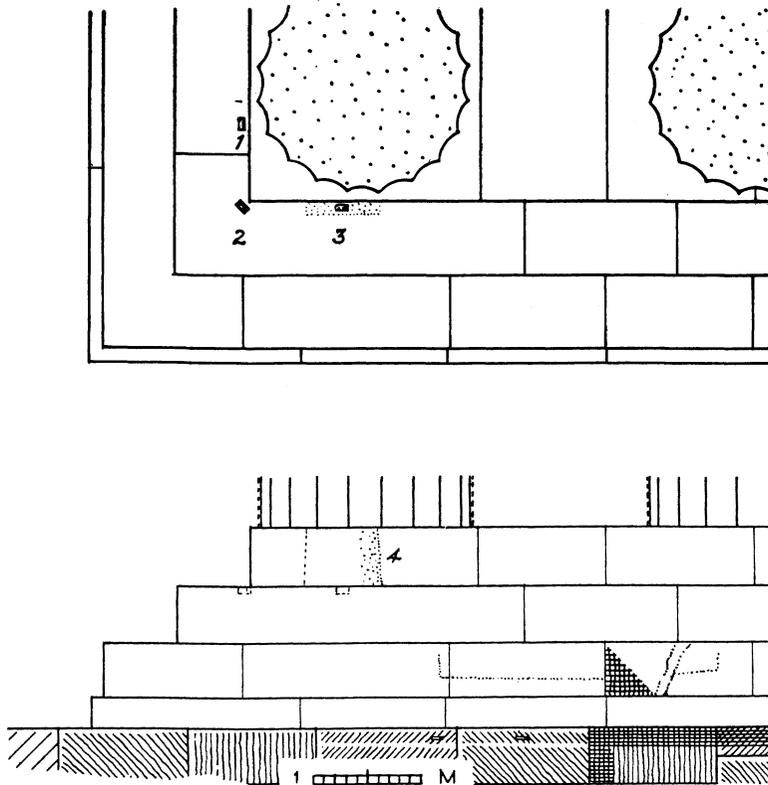


Fig. 49. Cuttings for Stelae in the Middle Step of the Parthenon at the Northwest Corner of the Temple

traves) of the rims of a number of the shields. The traces can be divided into three distinct classes, according to the method of attachment of the shields, as follows. (i) The central dowel attachment only (Fig. 50, 1, and Fig. 51). An apparent exception is the attachment of the south shield of the west façade (Fig. 50, 1, A, and Fig. 51), where pins were used at the rim. But, as all the other shields whose positions are given in Figure 50, 1, have central dowels only, it seems likely that this particular shield, which was in an exposed position near the angle of the temple, worked itself

⁴⁵ There were thirty-two architrave blocks originally; twenty-six are now in place, some of which have been recently restored by Mr. N. Balanos; five blocks are missing on the south side, and one on the north side.

loose in the wind and needed to be fastened down at the rim with a number of pins. Moreover, all the shields of the two following series had but three pins each at the rim (Fig. 50, 2 and 3, and Fig. 51). (ii) The central dowel accompanied by a three-

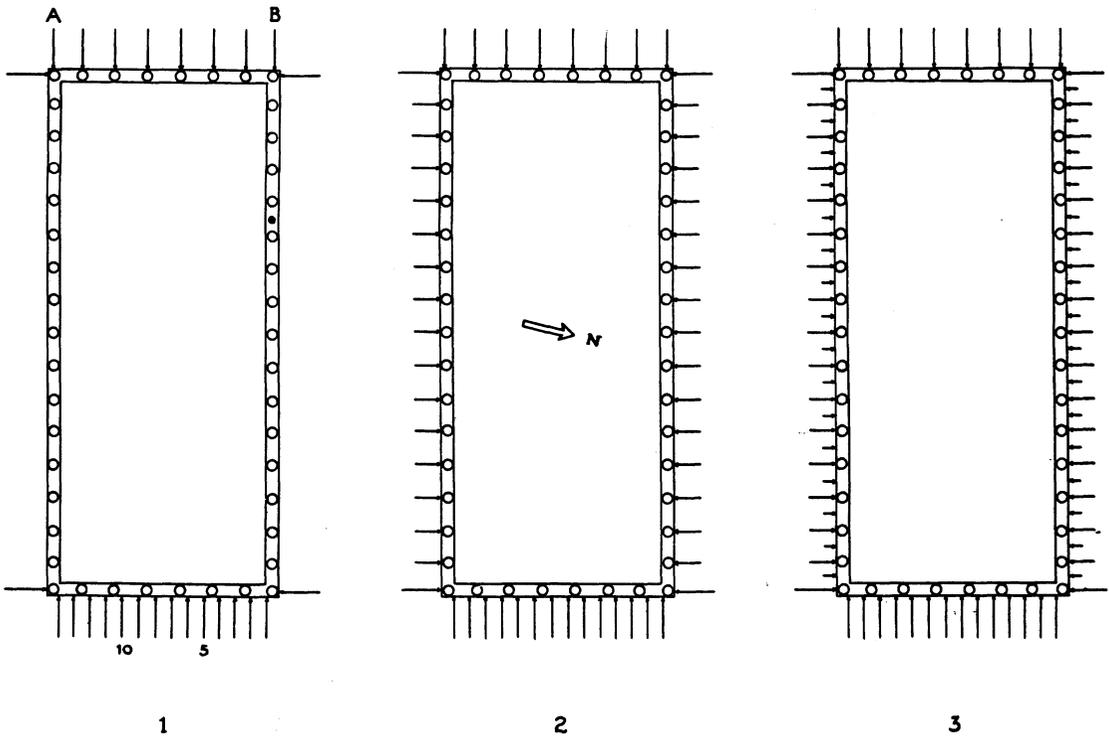


Fig. 50. Plan of the Architraves of the Parthenon, Showing Where Shields Were Attached

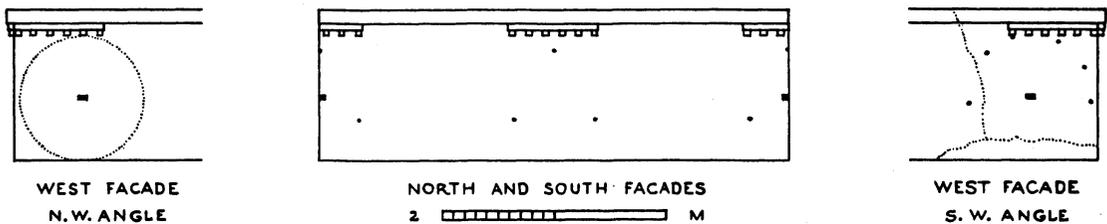


Fig. 51. Method of Attachment of Shields to the Architraves of the Parthenon

pin attachment of the rim (Fig. 50, 2, and Fig. 51). (iii) The attachment by only three pins at the rims (Fig. 50, 3, and Fig. 51).⁴⁶ It is likely that these three methods

⁴⁶ As this method of attachment had no large central dowel (cf. Fig. 51), there is a possibility that each three pins held a wreath, temporarily put in place on festive occasions. All the pin holes of this type have the form of an isosceles triangle with the apex up (except the pin holes in the fourth architrave block from the northeast corner on the north side of the temple, where the apex is down).

of attachment correspond to three different periods in the decoration of the architraves. Alexander the Great is said to have attached to the architraves of the Parthenon the gilt shields which he captured in the battle of Granikos in 334 B.C. The impious Lachares stole them in 298 B.C. It was not an uncommon practice to dedicate shields in shrines.⁴⁷ Herodotus states that the Lydian king Croesus dedicated a shield of gold in the temple of Pronaia at Delphi.⁴⁸ And, according to Pausanias, the Athenians placed shields of the same precious metal on the architrave of the temple of Apollo at Delphi to commemorate their victory at Marathon.⁴⁹ Croesus' single shield may well have been of solid gold, but those on the temple of Apollo and the Parthenon, if actually used in battle, were probably of some material (possibly bronze, like the bronze shield recently found in the Agora at Athens)⁵⁰ covered with gold leaf. The shields as they appeared after the second period of attachment are shown in the Frontispiece.

Between the shields of the east, except between the two northern shields, was an inscription of the time of Nero. The letters were of metal and held in place by metal pins, the location of which enabled an American scholar, E. Andrews, to decipher the inscription.⁵¹ It is possible that the date of the inscription coincided with that of the attachment of either the second or the third series of shields. In all three periods the decoration of the architraves was richest at the east, probably because the main entrance of the temple was located there (cf. Fig. 50, 1, 2, 3).

Before closing this section, a few remarks may be made about the general design of the Parthenon. Everyone will agree that Ictinus and Phidias must have acquired great experience in their respective professions by the time such an important building as the Parthenon was entrusted to them. Undoubtedly they were familiar with what had happened to the temples which were old in their day, and they could guess fairly well what was going to happen, as time went on, to the Parthenon. All that they could hope to do was to determine a good general scheme which future generations would be forced to follow as much as possible. Ictinus and Phidias seem, then, to have agreed upon the following features: that all four sides of the temple should be as beautiful as possible; that the building should be placed upon a terrace of its own from which the temple could be well seen; that there should be sufficient space before the main entrance for the gatherings which might reasonably be expected to take place there; that the approach from the Propylaea to the temple—necessarily from the rear, as has been shown—should be as dignified as possible. These features were so designed by the two great masters that the changing taste of time, try as it would, never spoiled the majesty of the ensemble.

⁴⁷ G. W. Elderkin, *A.J.A.*, XLII, 1938, pp. 227 ff.

⁴⁸ Herodotus, I, 92.

⁴⁹ Pausanias, X, 19, 3.

⁵⁰ T. Leslie Shear, *Hesperia*, VI, 1937, p. 347.

⁵¹ *I.G.*, II², 3277.

VII. CERTAIN FEATURES PERTAINING TO THE PRONAOS AND OPISTHODOMUS OF THE PARTHENON

It was explained, in connection with the sight-lines of the Parthenon from the propylon of the court west of the Parthenon, why the columns of the opisthodomus

were raised to a certain level, and why the bottom of the architrave of the opisthodomus was at a higher level than that of the architrave of the peristyle of the temple (cf. Figs. 4 and 5).

The stylobates of both pronaos and opisthodomus are curved upward in a convex manner, like the stylobates of the outside steps of the temple. The stylobates of the pronaos and opisthodomus have, also, a slight slope downward toward the outside of the temple.

The columns between the angle columns of both pronaos and opisthodomus appear to be vertical; the angle columns, to be slightly inclined toward the axis of the temple. The diameter of the columns of the west are 0.07 m. bigger than those of the east (1.71 m. and 1.64 m. respectively). Why was this? Did the treasury of the opisthodomus appear more secure with bigger columns? Did a greater space between the columns of the east seem desirable, either because more people would enter the cella than the west room, or because more light was needed in the cella than in the west room on account of the great depth of the

cella? Was one of the colonnades practically finished before the other was begun, and did Ictinus see that the proportions of the finished colonnade could be improved upon in the building of the second colonnade? One of these three suppositions, or any combination of them, may account for the difference in diameters of the columns.

The column on the north side of the central intercolumniation of the opisthodomus is somewhat broken at

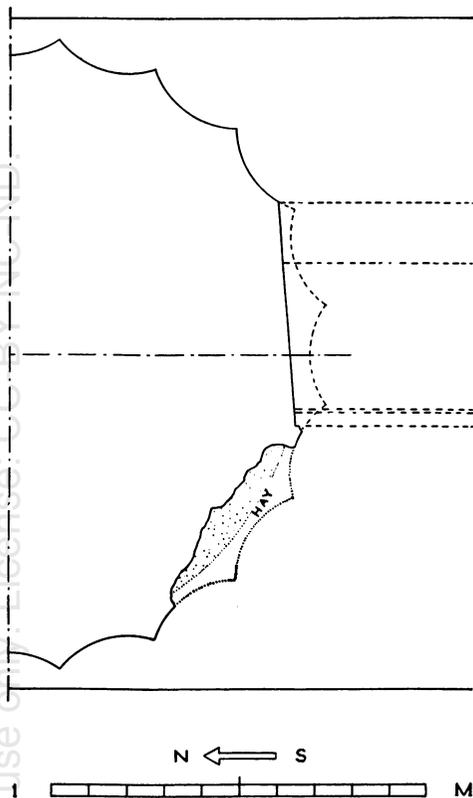


Fig. 52. Inscription beneath a Column of the Opisthodomus of the Parthenon



Fig. 53. The Inscription of Fig. 52, from a Rubbing (1:1)

the bottom. Beneath the break, an inscription, cut in the stylobate, is now visible (Figs. 52 and 53). The letters look like those of the fifth century before Christ. It is hard to see how they could have been cut after the break in the marble occurred, as the overlapping portions of the drum would make the cutting of the letters difficult, if not impossible. As the inscription seems to have been cut before the bottom drum of the column was put in place, it may be of considerable importance. Was it some sort of mason's mark? Its meaning is not clear.

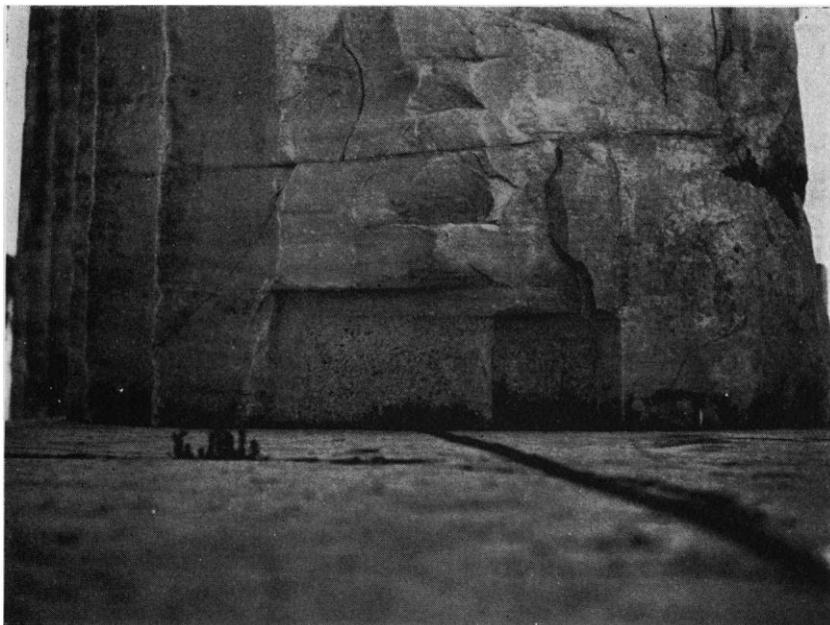


Fig. 55. Cutting for the Sill of the Grille in the Pronaos of the Parthenon (North Side of Second Column from South)

Traces of grilles between the columns of both pronaos and opisthodomus are abundant, especially in the opisthodomus, where all the columns and antae are still *in situ*, and where fire damage has not ruined the surface of the marble as much as in the case of the pronaos. The grille itself rested upon a marble sill provided with a raised rabbet against which the valves of the grille struck (Figs. 54, 55, 56). The sills were set to scratches on the stylobate. They were slightly wedge-shaped (Fig. 54). That they were slipped in place from the rear after the bottom drums were in place is shown by the traces of the chisel used in cutting out the drums, for the point of the chisel has left its marks upon the stylobate beneath the columns. The sills of the pronaos and opisthodomus were alike in cross section. There was a slight difference, however, in the manner in which the various sills were inserted. The excellent workmanship of the cuttings in the drums for the ends of the sills (cf. Fig. 55)

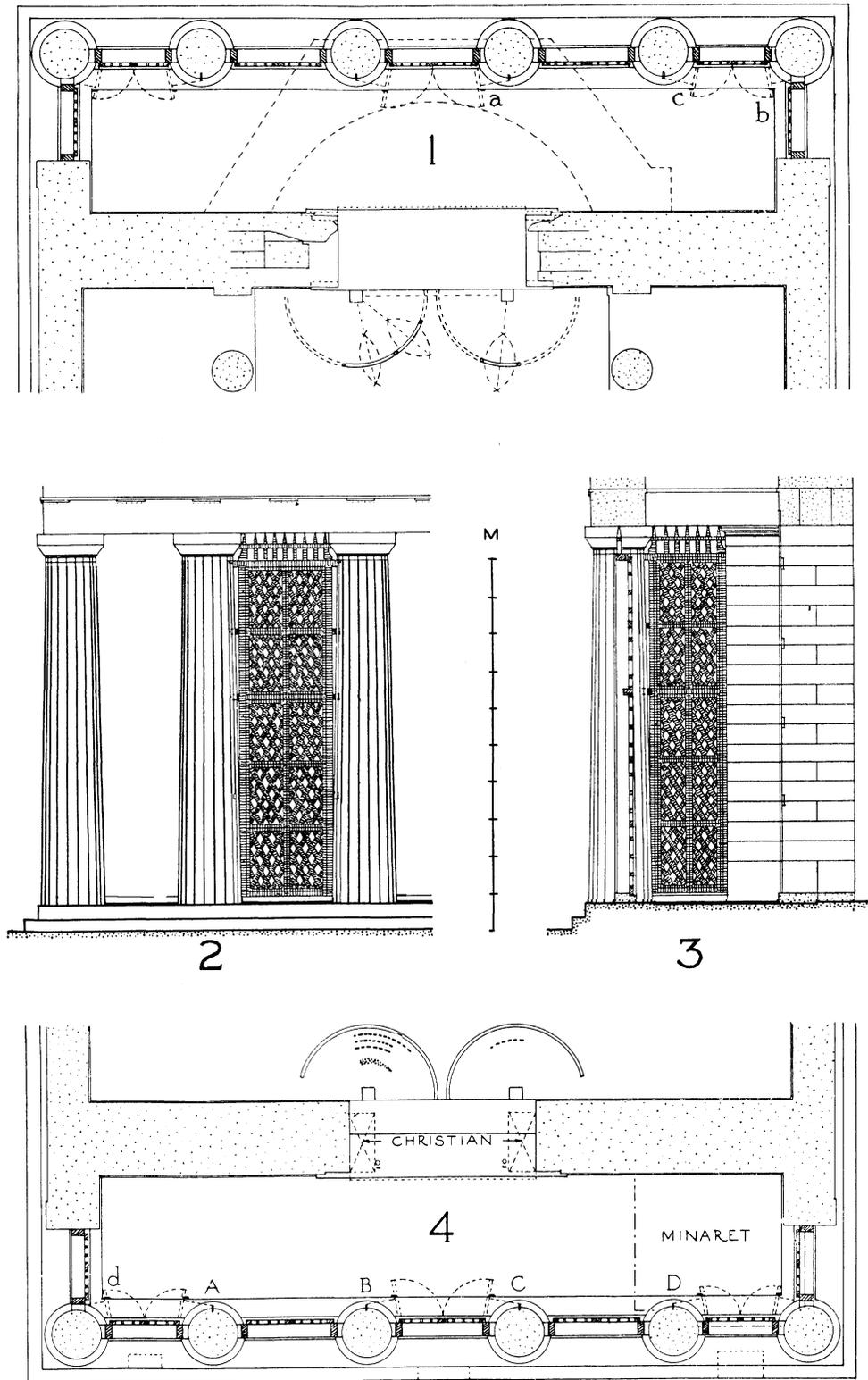


Fig. 56. Grilles of the Pronaos and Opisthodomus of the Parthenon. Restoration

shows that the sills, and consequently the grilles above them, formed part of the original design of the Parthenon. Furthermore, there is inscriptional evidence which clearly indicates that as early as 434 B.C. valuables were deposited in both pronaos and opisthodomus, and so implies the presence of grilles for their protection (*I.G.*, I², 91-92, and 232-255; for 91-92 see now Meritt, Wade-Gery, McGregor, *The Athenian Tribute Lists*, D 1-2).

The grilles completely filled no less than fourteen large openings. The width and especially the great height of the openings excluded the use of both marble and bronze for the grilles themselves. The material of the grilles, however, is revealed by the cuttings and their accompanying dowels at the neck of the columns (Fig. 54, A; Fig. 56, 2, 3; Fig. 57, A). Whatever abutted cutting A, Figure 57, had a cross section of 0.18 m. \times 0.335 m., which is a suitable section for a wooden member between the columns. As the wooden member had no proper bearing upon the columns and was doweled to the columns at the top of the member and not at the bottom (cf. Fig. 57, A), the member must have had a supporting jamb near the face of the column. There are unmistakable setting scratches for such jambs on the faces of the northwest, southwest, and southeast antae, and also at B, Figure 54, and in a corresponding place on the south side of the column next the southern column of the opisthodomus. We can understand now why the cutting A shown in Figure 57 had no depth—the jambs supported the lintel, and the dowels (in the columns) at the ends of the lintel prevented the wooden frame from swaying back and forth. Thus each grille probably had a wooden frame exactly like that of a modern door in which jambs and lintel have the same cross section.

Cutting B, Figure 57, occurs on both sides of the capital of the column to the south of the northern column of the opisthodomus: there were, probably, similar cuttings in the other capitals, but the latter are too badly damaged to show them. These cuttings held in place the portions of the grilles above the wooden lintels (cf. Fig. 56, 2, 3).

The wooden jambs were doweled to the columns at three places, as shown in Figure 56, 2. In studying these dowels, however, care had to be exercised to dis-

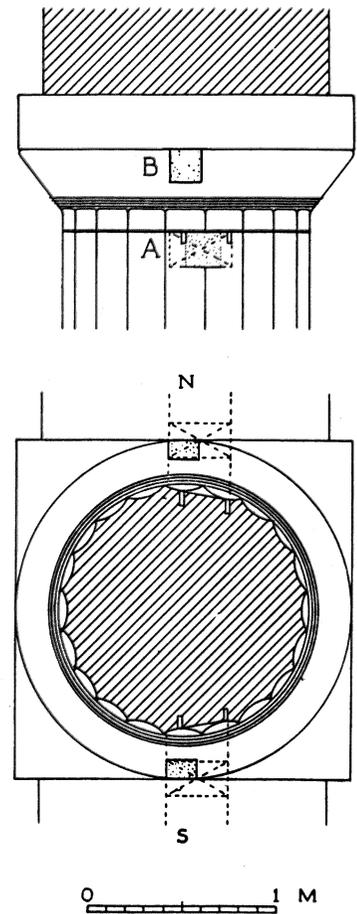


Fig. 57. Cuttings in the Necking of the Capitals of the Opisthodomus for a Wooden Lintel between the Columns

tinguish Greek dowels from those of later times, for the lower portions of the intercolumniations were filled with barriers of one kind or another in post-classic times.

If the frames were made of wood, the grilles were also. And have we not an inscription relating to the Erechtheum, in which the statement occurs that a certain sum of money was paid to a carpenter for making four grilles for intercolumniations of the west façade of the Erechtheum? ⁵² If the Erechtheum had wooden grilles from the beginning—and they were less wide and less high than those of the Parthenon—it is not astonishing that the grilles of the Parthenon were also made of wood. Moreover, there are other examples of similar wooden grilles—in the temple of Aegina, for instance. ⁵³

As distances CD and EF, Figure 54, are equal, it follows that the two respective frames and their grilles were undoubtedly alike (except that grille CD, an entrance, had movable valves, while grille AB, a fixed grille, had not, as will be shown later on).

There is only one circular trace on the pavement of the Parthenon for a bottom bolt of a valve. It is somewhat surprising that there should be such a trace, for all the valves were raised considerably above the floor (Fig. 54, G, and Fig. 56, 3). It occurs, however, in the case of what must have been a much-used grille, namely, the grille in front of the main entrance of the temple (Fig. 56, 1, *a*, and Fig. 54, 1). The trace indicates that the opening of the grille had two valves which swung inwards. The date of the trace antedates Christian times, for the apse of the church into which the Parthenon was changed covered the trace in question (cf. Fig. 56, 1).

There must have been some method of holding the valves in an open position, otherwise they would flap about in the wind. The usual Greek method is a combined bumper and fastener, sunk in the pavement at the desired spot. ⁵⁴ The Parthenon, however, seems to have had a bumper-fastener at the bottom and a bumper at the top of each valve as well. The positions of the bumper-fasteners are shown in Figure 56, 1 and 4. They were of bronze, held in place with lead: two are still *in situ*, but broken off flush with the pavement, (Fig. 56, 1, *a* and *b*, and Fig. 54, 1 and 2); the bottom part of another is preserved (Fig. 56, 1, *c*); all the others—except those under the minaret (cf. Fig. 56, 4), whose fate we do not know, and the one shown in Figure 56, 4, *d*, which is covered with modern cement—were removed at an unknown date by metal searchers. The depth of the marble cutting for the bumper-fasteners is 0.16 m. The position of the bumper-fasteners indicates that the valves of the grilles swung inward, and that only three of the seven grilles at each end of the temple opened (cf. Fig. 56, 1 and 4). The fact that the apse of the church was built over bumper-fastener *a*, Fig. 56, 1, shows, of course, that the bumper-fastener antedated the church:

⁵² Paton and Stevens, *The Erechtheum*, p. 64.

⁵³ Furtwängler, *Aegina*, pl. 64.

⁵⁴ Compare the bumper-fasteners of the Propylaea on the Acropolis of Athens (*Hesperia*, V, 1936, p. 451).

further, the good workmanship connected with all the bumper-fasteners indicates a date of the fifth century before Christ.

Ictinus devised a bumper for the top of the valves, for there are cuttings for metal bumpers in the rear of the columns and at a suitable height for the top of the valves (Fig. 54, I, J, K; Fig. 56, 4, A, B, C, D; Fig. 56, 3). That these were bumpers only, not bumper-fasteners, is suggested by their height above the pavement, for it would not be convenient to unfasten a catch at such a great height. As in the case of the bumper-fasteners at the bottom, the bumpers in the rear of the columns show that the valves of the grilles swung inward. The size of the cuttings for the bumpers is 0.02 m. \times 0.15 m. \times 0.16 m. deep. As the southern column of the pronaos and the northern column of the opisthodomus have no cuttings for bumpers (the same is probably true for the two other angle columns, but the fact cannot be verified today, because the drum in which that of the pronaos was probably placed cannot be identified, and the minaret conceals the presumable location of that of the opisthodomus), we may suppose that the bumpers here were attached to the frames of the side grilles, as suggested in Figure 56, 1 and 4.

The distance of the bumpers above the pavement gives the height of the valve of the grilles, and, as a corollary, the height of the fixed portion of the grilles (Fig. 56, 3). Further, the position of the bumpers probably shows that the grille itself was divided into five equal compartments from top to bottom (Fig. 56, 2 and 3).

The traces for the grilles at the east end of the temple are in all respects similar to those at the west end—fortunately, enough is left of the pronaos to be sure of this point.

There are no data for the grilles of lozenge-shape design shown in the Frontispiece and in Figure 56, 2 and 3. Pierced marble balustrades of lozenge-shape design are, however, often met with in classic times, and there is every reason to suppose that they were copied from wooden grilles. The good bracing of the compartments recommends the lozenge-shaped design for such work. Further, a requirement for the grilles of the Parthenon was that the sizes of the openings in the grilles must have been small enough to keep children out of the pronaos and opisthodomus.

In both pronaos and opisthodomus the columns and architraves were badly damaged by fire. The injury occurred on the inside of the members and near the big doors—proof that the heat and flames came through the doors, from the interior of the building. The burning of the wooden ceilings of the interior and of the timbers and boarding of the roof is sufficient to account for the heat which calcined the marble. Repairs were made by inserting wrought iron pins of 0.015 m. diameter in certain damaged places, and by applying some sort of plaster or cement composition into which the pins protruded. There are as many as twenty-three pinholes in one of the three capitals of the pronaos (all are now on the ground). There are about as many pinholes in that capital of the opisthodomus which is just north of the axis of the

temple. Six pinholes occur in the architrave north of the last-mentioned column. The pins were driven in place; they were not held in place with either lead or cement.

For the eastern doorway of the Parthenon we have today no information above the top of the orthostate. There is even no sill, only the blocks upon which it rested. The west doorway, on the other hand, is almost entirely preserved. The varying workmanship of the remains, the scratch lines to which some of the original blocks were set, the weathering, the dowel cuttings, the traces of certain good Greek clamps which were removed when repairs were made—these are the chief factors which enable us to present a fairly accurate account of the history of the doors.

We begin with the original doors (Fig. 56, 1, 3, 4). They were set in walls of the same thickness. The marble openings were of the same width; as a consequence, it follows that the lintels may be presumed to have been at the same height above the pavements in front of the doors. The rabbets for the outside trims had the same width and depth. The outside trims of both doors were secured to their rabbets with the usual Greek dowels; three of the four original Greek dowel cuttings in the north rabbet of the west door are preserved; also one in the south rabbet of this door, and one in the south rabbet of the east door. Four slots (cf. Fig. 56, 3), measuring 0.26 m. wide and 0.07 m. deep and spaced equally one from another, ran across the rabbets of the west door; the rabbets of the east door probably had similar slots, but none is preserved. The function of the slots was to assist in holding the trims (applied features, probably of bronze) in place. The two pivot holes of the west door are preserved, and also portions of those of the east door. Enough of the circular traces, made by the swinging valves of the east door upon the pavement of the east cella, is left, so that the centers of the pivot holes can be calculated: the distances between the centers of the pivot holes of both doors are thus found to be the same (cf. Fig. 56, 1 and 4). And the distances of the centers of the pivot holes from their sills were the same. The interior trim of the west door was applied directly to the wall (without a rabbet) and held in place with the customary Greek dowels. As all data for the original east interior trim are lacking, no positive statement can be made about it, but, judging from the similarity of the two doors in other respects, the chances are that the interior trims were also alike.

The two original doors differed, however, in some respects. Although the Greek sills of both doors are gone, the Greek cuttings at the bottom of the outside trims show that the east sill was 0.175 m. high and the west sill 0.302 m. high. It is possible that the east sill was made a convenient height to facilitate the entering of people into the cella. Furthermore, the east sill was countersunk 0.10 m., while the bottom of the west sill was flush with the pavement of the opisthodomus (cf. Fig. 56, 3).

The observer notes a great difference between the circular traces left by the two doors upon the pavement (cf. Fig. 56, 1 and 4). The west door has well-marked circular cuttings with a minimum width of 0.105 m. and, in the case of the north

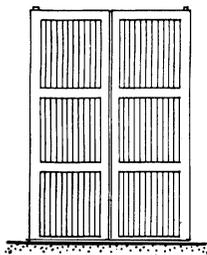
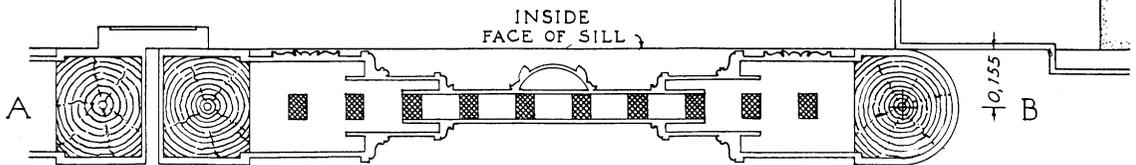
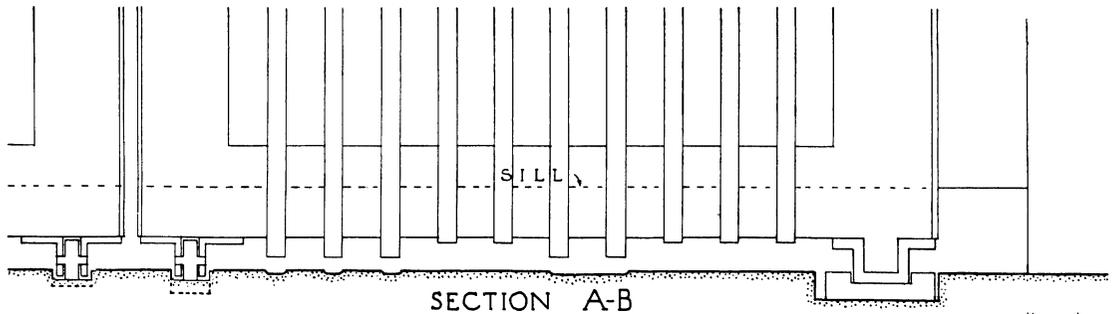
cutting, varying in depth from 0.03 m. at the sill to 0.065 m. under the valve when half open. The cuttings were evidently intended for wheels beneath the valves of the door. The corresponding circular traces of the east door are extremely shallow and only 0.05 m. in width. The extremities of all the traces, at the east as well as at the west, are smooth, but in between the extremities the ruts have been lowered with a pointed tool; their workmanship is rough and certainly later than that of the pivot holes. The indications are clear that originally the wheels were of metal and ran directly on the marble pavement (there are no attachments for metal tracks); further, it is clear that, as the doors settled and sagged, the marble path over which the wheels ran was lowered with a pointed tool and that, for some reason, more cutting was required for the wheels of the west door than for those of the east door. The greater sagging of the west door is possibly due to one of the two following reasons. (1) The door of the west room may have been used more frequently than that of the cella. (2) the valves of the door of the treasury were, perhaps, heavier than those of the cella.

There is another difference between the circular traces at the east and at the west, which is of considerable importance. The west has a number of shallow circular traces, *ca.* 0.06 m. wide and 0.155 m. center to center, between the deep cuttings for the wheels and the cuttings for the pivots; similar traces do not occur in connection with the east door (cf. Fig. 56, 1 and 4). The minor circular traces of the west door can only have been made by metal, not wood, for the traces are smooth at their extremities and worked with a pointed tool between the extremities, just as in the case of the ruts for the metal wheels. The traces indicate that the valves had a row of metal uprights which projected irregularly below the bottom of the door, and, further, that, as the door sagged, only the lowest of the metal bars scraped the pavement (cf. Fig. 58, 1). The main framework of the valves was of wood, for the distance from the center of the pivot to the inside vertical face of the sill (that the inside face of the sill lined with the inside face of the orthostate is shown by the trace of the sill on the blocks below it) is 0.155 m., making the thickness of the door 0.31 m. This is too great for a frame of iron. A restoration of the frames of the valves can, then, be attempted (cf. Fig. 58, 1 and 2).

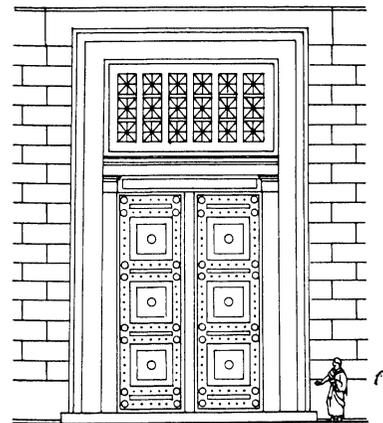
There is an inscription which states that a sheet of gold, which had become detached from one of the doors of the Parthenon, was in the treasury for safe keeping.⁸⁵ The sheet, being of gold, was probably not large; it was in all likelihood either a piece of inlay from a bronze door, or a portion of a small decoration applied to a bronze door. We may imagine, then, that the visible portion of the valves was composed of bronze panels and had decorations of either inlaid or applied gold (cf. Fig. 58, 1). From Figure 58, 1, we see that, if the bronze exterior of the door were removed by

⁸⁵ As a matter of fact there are three inscriptions, but they all refer to the same sheet of gold. They date from 370/69, 368/7, and 367/6 B.C. respectively. 'Αρχ. Δελτ., 1927-28, pp. 127-130, no. 2, col. I, lines 46-47; *I.G.*, II², 1425, col. I, lines 41-42; *ibid.*, 1428, col. II, line 118.

thieves, the stout metal bars back of the bronze work formed a second line of defence. Was the treasury purposely supplied with especially heavy doors, which, on that account, sagged more than the doors of the east? We have seen that the columns of



2



3

Fig. 58. Restored Details of West Door of Parthenon

the opisthodomus were 0.07 m. larger in diameter than those of the pronaos, and that the sill of the west door was higher than that of the east door, features which gave an appearance of greater solidity to the opisthodomus than to the pronaos. The

armored valves of the west door certainly added to the security of the treasury. It seems possible that Ictinus intended to discourage the idea of forcing an entrance into the treasury.

We now have sufficient data to present a restoration of the doors themselves. As the distance between the pivot holes is considerably less than the width of the marble opening of the doors, the general architectural treatment of the doors within the marblework was probably like that of the ancient door of the Pantheon at Rome, where bronze pilasters, capped with a bronze cornice, frame the valves of the door, while a generous grilled space in the upper portion of the stone opening admits light to the interior.⁵⁶ The advantage of such a treatment is that unusually wide doors, such as those of the Parthenon and Pantheon (*ca.* 5.00 m. and 6.00 m. respectively), can be provided with valves of convenient width and height. Niemann correctly restored the doors of the Parthenon in their main features.⁵⁷ Compare Figure 58, 3, where it will be seen that the opening had the classic proportion of being twice as high as it was wide.

Neither door had bumpers or fasteners in the pavement to show how far the valves opened. The circular traces of the north valve of the west door prove, however, that the valve originally revolved through an angle of almost 180°, and that, after the valve had sagged, it opened through an angle of only a little more than 90° (cf. Fig. 56, 4).

The two doors show abundant traces of damage by fire—certainly the same fire, or fires, already briefly referred to in connection with repairs to the columns of the pronaos and opisthodomus. The ceilings of both the cella and the treasury were undoubtedly of wood, and, moreover, the marble tiles of the roof were supported by good sized timbers. If this inflammable material caught fire, it would fall as a blazing mass to the pavement, and enough heat would surely pass through the doors to injure them. More fire damage seems to have been done to the east door than to the west door. The south reveal of the west door is strangely well preserved. The marble finish shows that this reveal was intended to be hidden by some kind of sheathing—perhaps the sheathing protected the marble back of it. Was the sheathing of bronze, which remained in place during the fire, or fires?

Both doors display unmistakable traces of repairs which antedate church times. We will start with the repairs to the outside of the east door. A new slip sill was inserted, which projected 0.06 m. further into the pronaos than its predecessor had (cf. Fig. 56, 1). The trim was made 0.49 m. wider and given a double rabbet (cf. Fig. 56, 1). As the outside trim of the west door was never widened, does the widening and double rabbeting of the trim of the east door signify that the east door was elaborately repaired because it was the main entrance of the temple? Was

⁵⁶ D'Espuy, *Fragments d'Architecture Antique*, I, pl. 72.

⁵⁷ F. B. Tarbell, *A History of Greek Art*, fig. 56.

the wider trim necessary to hide a greater amount of fire damage about the east door than about the west door? In making the changes in the east door two original clamp cuttings under the outside trims were removed, leaving the traces of the clamps. Further, the bottom of the south orthostate was pieced out under the door trim with a block of marble which had an important ancient inscription cut upon its under surface (Fig. 59).⁵⁸ The inscription dates from about 449 B.C. The poor workmanship of the recut portions of the block points to a late date for the repairs—perhaps as late as the time of Marcus Aurelius. On the west side of the door a new sill and a new trim (cf. Fig. 56, 1) were put in place; in making the cutting for the new trim a clamp of the best period was removed; the trace of the clamp may be seen today beneath what must have been the new north trim.

Turning to the west door, we find that the traces of repairs are not so abundant as in the case of the east door, probably due to the fact that the fire damage was less. The original sill consisted of two blocks (cf. Fig. 56, 3 and 4); the repairs copied closely the original arrangement of the two blocks, the only difference being, apparently, that the later sill projected 0.06 m. more into the opisthodomus (cf. Fig. 56, 4), just as the later sill of the east door projected more into the pronaos than its predecessor had. Three fairly large portions of the later sills of the west door are preserved. As already stated, the inside trim of the door was originally doweled, not rabbeted, to the wall (two cuttings for early dowels for the south trim are still preserved). There are no data today, however, to show whether or not the inside trim was repaired in Roman times. As the outside trim was carried across its lintel, as proved by a rabbet (cf. Fig. 56, 3), the inside trim, in all likelihood, did the same thing, but without a rabbet.

The marble lintel was composed of three blocks placed side by side (cf. Fig. 56, 3); with the exception of the west block, they are almost entirely hidden by recent repairs.

There are no traces of either bumpers or fasteners for the doors in Roman times.

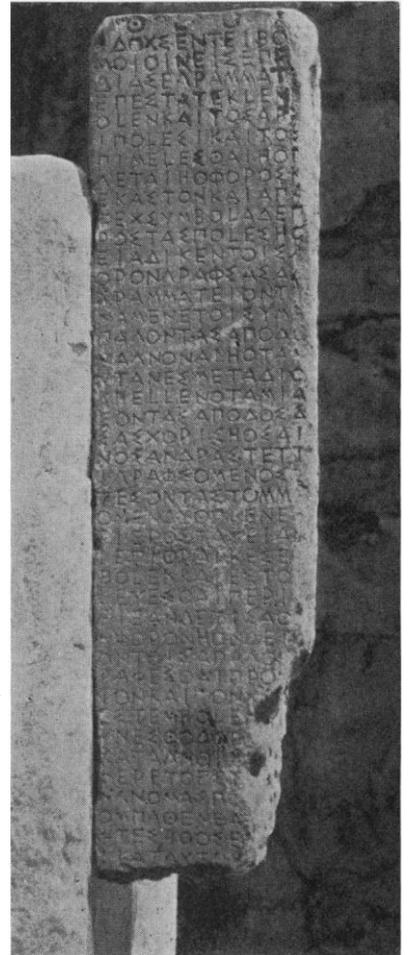


Fig. 59. Bottom of Marble Block Used to Repair East Door of Parthenon

⁵⁸ The inscription is to be published by Bert H. Hill and B. D. Meritt.

When the Parthenon was transformed into a church, the east cella was changed into a nave with side aisles and the west room into a narthex. The east door was replaced by an arch, and an apse was erected which protruded into the pronaos (cf. Fig. 56, 1). The work of alteration probably removed numerous vestiges, if not whole sections, of the original east door. The west door became the main entrance of the church. The reveals of the west door received a substantial lining of reused marble blocks (cf. Fig. 56, 4). The pivot holes for the valves of this period are shown in Fig. 56, 4; the valves folded back against the reveals of the door. Certain cuttings in the outside trim of the west door, near the pavement, are also to be associated with this period.

That there were three entrances in Christian times in the intercolumniations of the opisthodomus, where the Greek movable grilles had been, is clearly shown by the careless way the steps in these three intercolumniations were cut down to a convenient height for the use of people (Fig. 56, 4, dotted lines).

After the Turks captured Athens, a mosque was built in the cella of the temple. How much the east and west doorways suffered at this time is unknown—probably not very much.

In our own day the Greek Government, represented by Mr. Nicolaos Balanos, has made a careful restoration, where possible, of the Parthenon. Mr. Balanos left the east doorway as he found it, but he removed most of the late linings of the west doorway and consolidated its lintels with re-enforced concrete. The visitor now has an excellent idea of the generous proportions of the original doorway.

Writers in the past have often advanced the idea that the cella of the Parthenon was hypaethral—open to the sky. The theory is untenable, however, for there is no means of disposing of the rain water which would enter through the opening; the central aisle of the cella is sunk 0.04 m. below the side aisles, and, even if a drain had existed in the bottom of the sill (which is gone) of the doorway, the water passing through the drain would collect in the pronaos, for the stylobate of the columns of the pronaos is raised 0.065 m. above the pavement of the pronaos. If the cella were lighted from above, we must suppose either some sort of glazed skylight or a clearstory—doubtful arrangements. The light coming from the big main door was adequate.

VIII. PRECINCT OF ZEUS POLIEUS

Pausanias relates that he saw two statues of Zeus while going from the statue of Ge (Fig. 1, 12) to the east entrance of the Parthenon. He must have been somewhere in the vicinity of the northeast corner of the Parthenon when he made the observation. One statue he calls "Zeus Polieus," that is, "Zeus the Guardian of the City"; the other he says was a Zeus from the hand of Leochares.⁵⁹ On coins

⁵⁹ Pausanias, I, 24, 4.

of Athens there appear two figures of Zeus (cf. Imhoof-Blumer and Gardner, *Numismatic Commentary on Pausanias*, pp. 137 ff. and plate BB, i): the first is of archaic type (Fig. 60, I); the second, more modern in appearance (Fig. 60, II), represents him standing near an altar; the second is probably a votive offering to the first (the old original statue). It is likely that the two coins give an idea of the two statues seen by Pausanias, and that the altar of the second coin represents the altar of Zeus Polieus (also mentioned by Pausanias in the same passage).

Pausanias gives a short account of the elaborate sacrifice practiced in connection with the worship of the god. J. G. Frazer, in commenting upon the passage in Pausanias, says: "The ritual of this sacrifice, which bears the marks of great antiquity, is described more fully by Theophrastus, quoted by Porphyry (*De abstinentia*, ii. 29 sq.). His account is as follows. Cakes of ground barley --- and a mixture of meal, oil and honey --- were placed on a bronze table on the Acropolis. Oxen were then driven round the table, and the one which ate of the offerings on the table was sacrificed. Before the sacrifice the axe and knife were wetted with water brought by maidens called 'water carriers.' The weapons were then sharpened by men, and handed by another man to the two butchers, one of whom felled the ox with the axe and the other cut its throat with the knife. The ox was then skinned and all partook of its flesh. When this was done, they stuffed the hide with straw, stitched it together, set it up, and yoked a plough to it to make believe that the animal was ploughing. Next, all who had partaken in the sacrifice were put on their trial for murder. The maidens who had brought the water laid the blame on the men who had sharpened the axe and knife; the men who had sharpened the axe and knife laid the blame on the man who had handed the weapons to the butchers; he blamed the butcher who had cut the animal's throat, and the butcher blamed the knife, which was thrown into the sea. --- The sacrifice was called 'the murder of the ox' (bouphonia); the festival at which it took place was the Diipolia, *i. e.* the festival of Zeus Polieus. The day on which the sacrifice took place was the 14th of Skirophorion (June-July). --- As the date of the festival seems to correspond with the close of the threshing in Attica ---, the festival may have been a harvest celebration. The pains taken by all who had had any share in the sacrifice to shift the blame from their own shoulders, as well as the name of the sacrifice ('the murder of the ox'), point to the conclusion that the ox was originally a sacred animal, the slaughter of which was regarded as sacrilege."⁶⁰

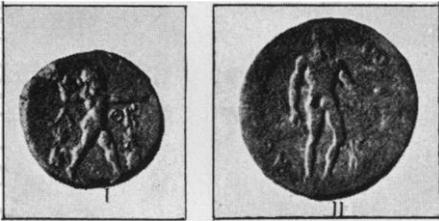


Fig. 60. Athenian Coins: Zeus Polieus (?)

⁶⁰ J. G. Frazer, *Pausanias's Description of Greece*, II, pp. 303-4.

The following remarks by that inspired scholar, Jane E. Harrison, are of considerable value for our argument. "How far back the worship of Zeus at Athens goes, it is impossible to say; Zeus the Rainy, Zeus the Portent-giver, may have been worshipped from the earliest days, like so many Baals on each mountain peak. What *is* certain is that very soon the worship of Athene obscured that of Zeus, that the Panathenaia were more, far more, to the Periclean Athenian than any Bouphonia. And yet Olympian Zeus was supreme in some other parts of Hellas; moreover, he was supreme in the Homeric system. The local cult of Athens, with its local Athene, had

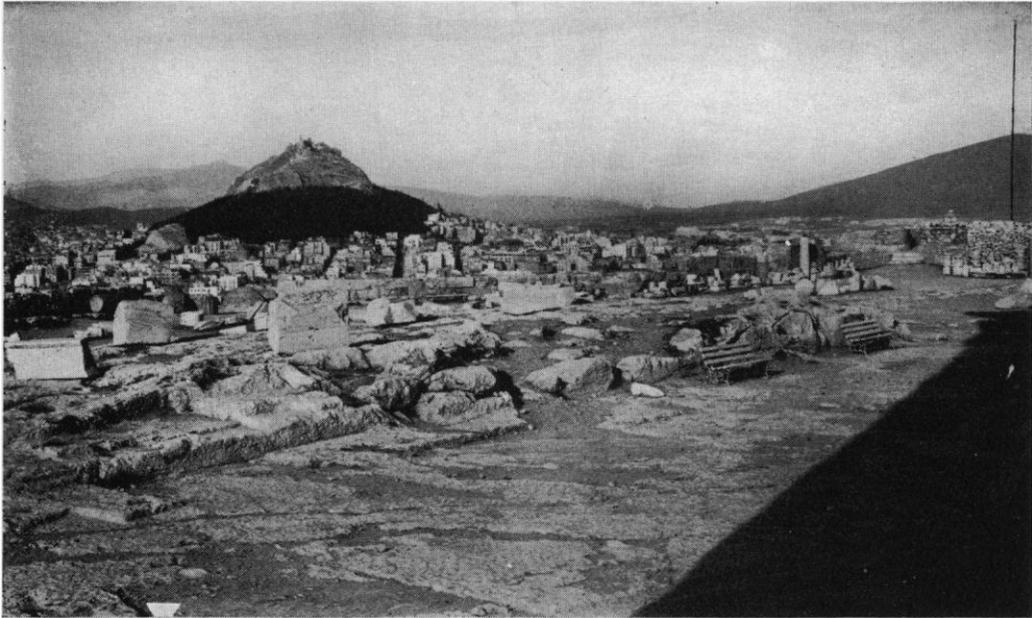


Fig. 61. Portion of the Rock-cut Platform East of the Parthenon, and the Rock-cut Bed for the South Wall of the Precinct of Zeus Polieus

its moments of uneasiness in the face of this Olympian supremacy. Zeus Polieus could not hold his own before the Polias, but the Athenians built for Zeus Olympios a splendid temple in their city below, and linked it with ancient traditions of Deucalion and honey cakes; and more than that, they tried to make Athene herself responsible for that repugnant Bouphonia. No blame to Zeus Polieus, for when Athene and Poseidon strove together, Athene vowed to Zeus Polieus a sacrifice should she prevail. And Athene won the day, and sacrificed the ox — — —.”⁶¹

We may infer from the three previous paragraphs that there were two statues of Zeus and an altar in the form of a bronze table; that many persons took part in the ceremony connected with the worship; that a number of oxen were driven at the same time around the altar. The requirements of the ritual call for a fair-sized precinct.

⁶¹ J. E. Harrison, *Mythology and Monuments of Ancient Athens*, pp. 427-8.

Near the northeast corner of the Parthenon, at the point where Pausanias speaks about Zeus Polieus, we find a primitive walled-in area suitable for such a precinct, and, significantly, the area lies exactly where the Acropolis rock reaches its highest level—precisely here is the spot we would select for the site of the precinct of Zeus Polieus (Fig. 34, A). The walls of the area antedate the Periclean Parthenon, because the rock-cut portion of the platform to the east of the Parthenon was cut up to the south wall of the area, leaving, however, the wall and the area north of it intact (Fig.

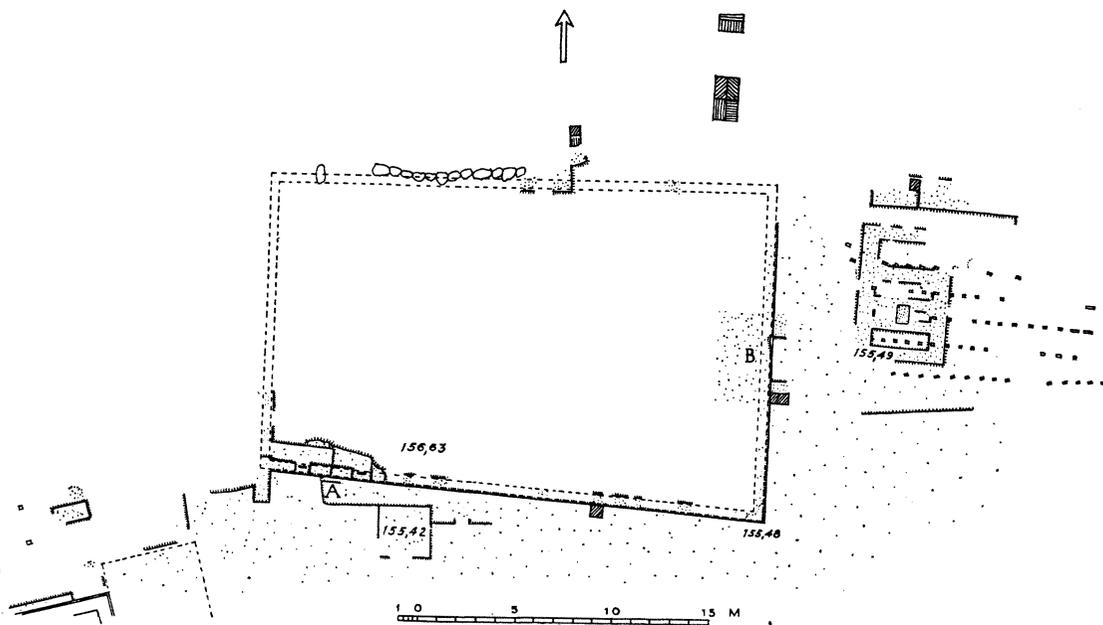


Fig. 62. Present Condition of the Precinct of Zeus Polieus. Plan

61). There was an entrance to the precinct at A, Figure 62. Apparently there was another entrance at B, where there is, just west of the precinct wall, a rock-cut platform 0.63 m. above the rock-cut area east of the precinct, and where, also, there is, east of the precinct wall, one block of poros *in situ*, with rock dressings north of it; these features suggest an entrance with either a flight of steps or a ramp. And there may have been other entrances, no traces of which remain today. The site is a choice one, but the three following statements will show that the worship of Zeus Polieus on the Acropolis was of considerable importance: (1) the priest of Zeus Polieus had a seat assigned to him in the Theatre of Dionysos;⁶² (2) a fragmentary inscription containing a dedication to Zeus Polieus has been found on the Acropolis;⁶³ (3) quantities of small bronze votive bulls, now preserved in the National Museum at Athens, came to light when the Acropolis was excavated by the Greek Government—the small bulls

⁶² *I.G.*, II², 5024.

⁶³ *Ἀρχ. Δελτ.*, 1890, p. 146.

were, perhaps, votive offerings to Zeus Polieus. It is thus highly probable that the area under consideration was none other than the precinct of Zeus Polieus—a belief which is shared by Dörpfeld and other scholars.

Were the sacred oxen which were driven around the altar of Zeus Polieus housed upon the Acropolis? Again, Jane Harrison comes to the rescue. She says: “It seems to me perfectly possible that the sacred ox, about whom so much ado was made, may have had a sort of shrine on the Acropolis, or that he may have lived in a shrine belonging to Zeus Polieus. Some such arrangement is suggested by a curious black-



Fig. 63. Hydria in Berlin: Ox in Shrine

figured vase-painting from a hydria — — —” (which I illustrate in Fig. 63 from Harrison, *Mythology and Monuments of Ancient Athens*, p. 428, fig. 37). “To the right, actually within a small Doric shrine, stands an ox; in front, a blazing altar; outside stands a woman, who must be a priestess; and to the left is seated Athene, with her helmet in her left hand, a phiale⁶⁴ in her right. Her sacred snake uprears himself in front of her. It might be said this merely represents the sacrifice of an ox to Athene — — It is, however, noticeable that the ox here is within the temple, and seems to be the object of reverent attention; the goddess is without: the ox is not bound, as usually for sacrifice, but free and stately. I cannot avoid the idea that this represents the sacred ox in his Boukoleion, whether it be the building below the Acropolis or some shrine of the Polieus, and that the goddess Athene is there to recognize his sanctity and pay some tribute, as on the occasion of her first sacrifice to Zeus.”⁶⁵

⁶⁴ This resembles a sacred cake more than a phiale. Is it the sacred cake the ox must eat before he is slain?

⁶⁵ J. E. Harrison, *op. cit.*, p. 428. One of the prohibitions of the inscription referred to on p. 42, note 24, is to the effect that dung may not be scattered over the area in question—a possible confirmation of the housing of the oxen of Zeus Polieus upon the Acropolis.

The rock-cut platform to the south of the precinct of Zeus Polieus extends around the east side of the precinct as well (cf. Fig. 34, B). Both sections of this area were probably cut at the same time, with the object of forming a generous platform east of the Parthenon. The whole rock-cut area is, then, in all likelihood,

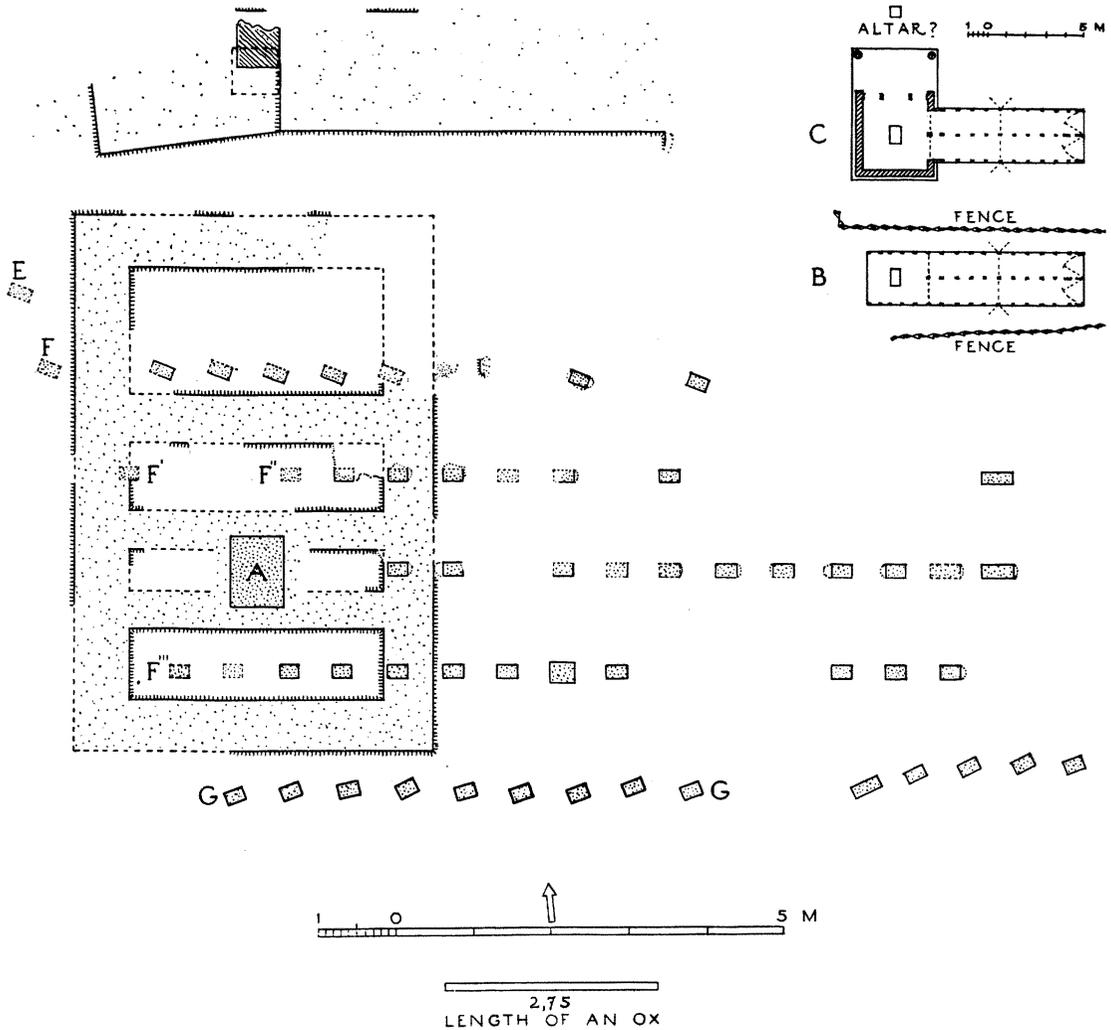


Fig. 64. Rock Cuttings for the Structure Which Probably Housed the Sacred Oxen of Zeus Polieus

approximately contemporary with the Parthenon. In the portion of the area which lies to the east of the precinct of Zeus Polieus there are several rows of small rectangular rock cuttings, and also certain shallow rock-cut trenches for the foundations of some structure (cf. Figs. 62 and 64). Note that the rectangular cuttings and the shallow trenches overlap each other. There were, probably, more of the small

cuttings than shown in the drawings. When the platform was cut, some undoubtedly disappeared. Others became the faintest of traces; for example, the traces at E and F, F', F'', F''', Figure 64, now have practically no depth, whereas originally they must have had the same depth as those at G-G, where the depth varies from 0.12 m. to 0.14 m. (the depth before the rock-cut platform was made may have been even greater). It is evident that the holes antedate the platform. There are, moreover, in several places where these rectangular cuttings occur, a number of depressions in the rock, now filled with earth, which, if cleaned out, would probably reveal more holes. As it is, the fifty-five holes visible today give us a good deal of interesting information. The cuttings are suitable in length, width, and depth to receive wooden posts. Those of the northern and southern rows are somewhat twisted and are not in a straight line with each other; the cuttings for the three middle rows of posts, on the other hand, align accurately (cf. Fig. 64). At A, Fig. 64, is a large rock cutting, 0.33 m. deep, the purpose of which seems to have been that of a water basin; it is on the axis of the central line of small rock cuttings. The irregularity of the northern and southern rows indicates an unusually strong fence of wattle work. The reason for twisting the posts was so that the branches needed to be bent but once in passing a post (cf. Fig. 65). There are similar fences today in the rural districts of Greece, and in many other parts of the world. The regularity of the cuttings of the three central rows suggests, on the other hand, a structure with wooden uprights. Obviously we are dealing with some sort of rustic building which had a strong fence to the north and south of it. The building faces the near-by precinct of Zeus Polieus. In fact, we have in all respects a structure suitable for the housing of the oxen used in the ceremony of the Bouphonia. The posts of the fence were large, but then oxen are heavy animals and require strong fences to pen them in. The large cutting at A, Figure 64, was perhaps their watering trough. The oxen were probably housed, at night and during inclement weather, in the eastern portion of the building. The floor may have been of beaten earth, but possibly there was a floor of wood with an air space between it and the Acropolis rock—a scheme which would provide better quarters. The "barn" may have been covered with either a flat roof of beams and clay or a hipped roof of thatch. Figure 64, B, is a restored plan of the "barn." Note that there are four stalls.

Some of the small rectangular cuttings, just discussed, disappeared when the

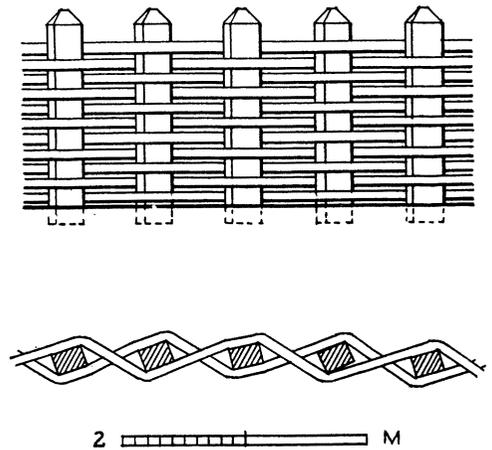


Fig. 65. Fence for the Structure of the First Period West of the Precinct of Zeus Polieus. Restoration

shallow rock-cut trenches were made (cf. Fig. 64), a sure indication that the shallow trenches are later in date than the small rectangular cuttings. As for the structure which originally arose above the shallow trenches a study of Figure 64 will show that: (1) the building was of stone; (2) it consisted of a cella (centered over basin A) and a pronaos; (3) the building faced north, not west, as the original building did; (4) the foundation of the cella had two interior cross walls, running east and west, which probably supported a stone floor. It seems likely that the oxen were driven into the precinct of Zeus Polieus through an entrance at B, Figure 62. Finally, about 2.00 m. north of the pronaos is a rock cutting and a foundation block of poros, above which there may have been an altar. The composition is beginning to display the characteristics of a shrine.

The fact that basin A is on the axis of both the earlier and later structures arouses the suspicion that the earlier structure did not entirely disappear in the reconstruction. Moreover, there must have been a "barn" in the second building period, because oxen continued to be used in the worship of Zeus Polieus until comparatively late times. The restored plan of the second period, then, takes the form shown at C, Fig. 64. The structure of the second period was probably built of poros, as marble is quite inappropriate for a "barn."

As it is not likely that there was at any time a long interruption in the housing facilities for the oxen, the second building period probably occurred when the cutting of the platform to the east of the Parthenon necessitated an alteration in the western portion of the early "barn." The restoration thus probably coincided with the general embellishment of the Acropolis under Pericles.

The permanent character of the second structure points to the probability that oxen were housed in a shrine upon the Acropolis, not brought to the Acropolis shortly before the Bouphonia; if this be so, then the earlier structure probably also served as a permanent abode for the sacred oxen. Further, it seems possible that Figure 63, reproducing a scene from a black-figured vase (which antedates the Parthenon), gives a vase painter's version of a ceremony in front of our very structure of the first period.

Some authorities place the great altar of Athena over the highest point of the Acropolis rock, precisely where the writer believes the precinct of Zeus Polieus was located. Other authorities, with Professor Dörpfeld among them, prefer to place the altar at 23, Figure 1, over a rock cutting which is more suitable for a large altar than any rock cuttings near the highest point of the Acropolis: these latter authorities believe that the altar of the Old Temple of Athena continued to be used after the erection of the Parthenon and Erechtheum, because it was conveniently placed between the two temples, and because there was ample space about it for the accommodation of large crowds. Their arguments seem sound to the writer.

Pausanias must have passed near the great altar of Athena (Fig. 1, 23), but he makes no mention of it.

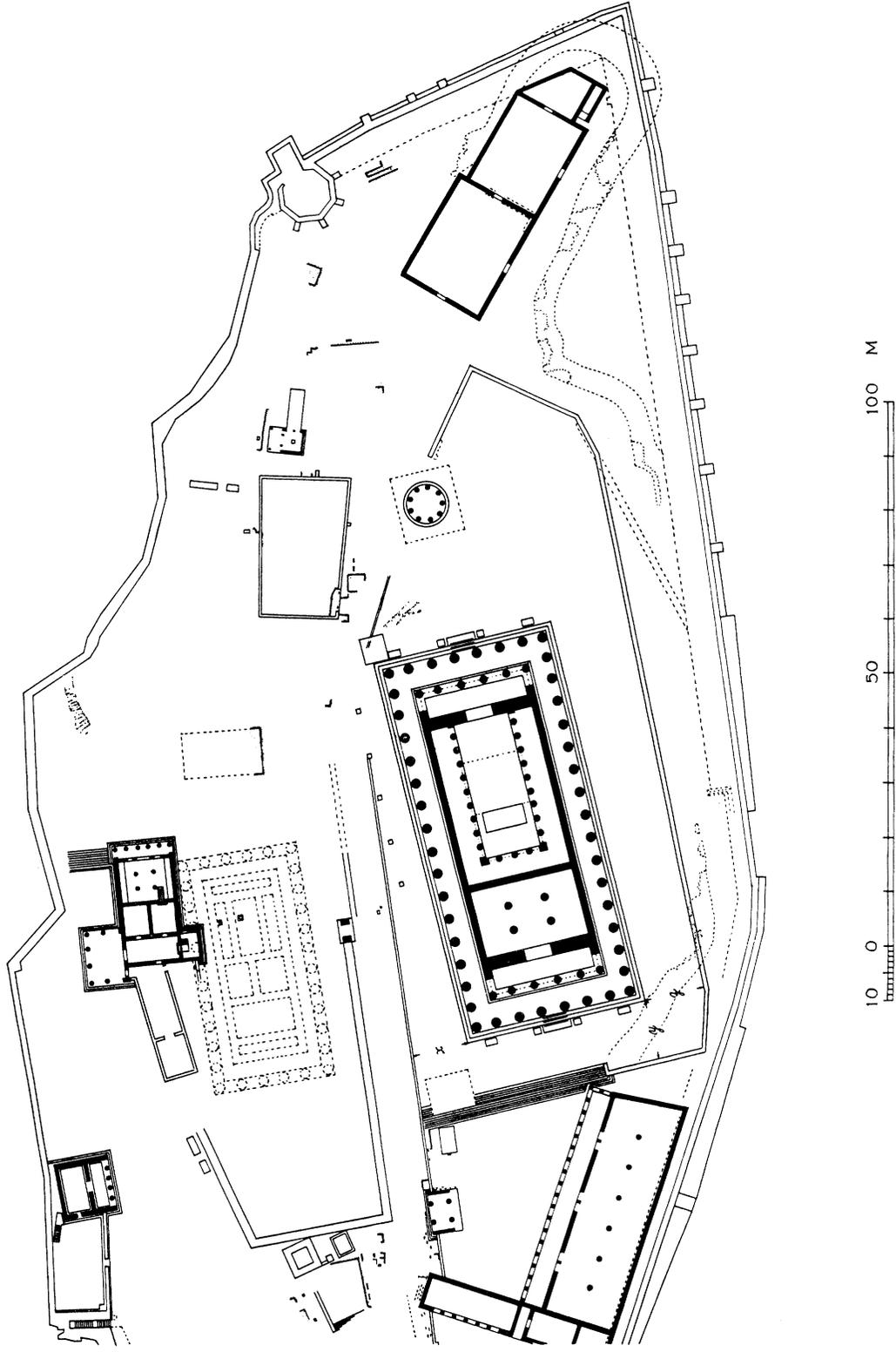


Fig. 66. Restored Plan of the Central and Eastern Portions of the Acropolis of Athens

CONCLUSION

In closing, it may not be inappropriate to attempt a summary of the chief points of this essay, not in writing, but in a drawing. The reader will remember that the Parthenon was designed to look well from the propylon, namely, from the point from which the ancient Greek obtained his first good view of the Parthenon; that the interest aroused at the propylon was not allowed to lag until the gold and ivory statue of Athena within the temple, the climax of the composition, was reached; that the excavations of the spring of 1938 furnished considerable information about the Chalkotheke and the two walls immediately east of it; that the Votive Bull of the Council of the Areopagus stood in the northeast corner of the court west of the Parthenon; that the temple was approached from the west—that is, from the rear—over a broad flight of steps; that the Parthenon had a terrace of its own; that the general design of the temple and its terrace called for a decorated building with a free space around it, from which the beautiful features of the temple could be well seen; that, as time went on, the temple was adorned with many and various votive offerings; that the pronaos and opisthodomus were provided from the first with wooden grilles; that some idea of the original appearance of the east and west doors of the Parthenon can be worked out; that there are considerable remains of the Precinct of Zeus Polieus. In attempting to sum up all these various features, a restored plan of the central and western portions of the Acropolis is far more eloquent than what would necessarily be a long written description (Fig. 66).

Many inspiring lessons may be learned from a study of Greek architecture of the best period. What marvellous relation between the buildings as a whole and all their parts! In friezes, metopes, and pediments we have the finest known adaptations of pure sculpture to buildings. Architectural ornament is distributed with sound judgment. Details are executed with extraordinary care. The apparently straight lines of the architecture are slightly curved, to add vigor and life to the ensemble. Indeed, the buildings seem to be carved out of a single block of living marble, so skilful is the handling and cutting of stone. And chief among the temples of the great period was the Parthenon, which, throughout antiquity, was considered the greatest architectural *chef d'œuvre* the world had seen, and which even in its present ruined condition excites the admiration of all who gaze upon it (Fig. 19). How true today the words of Plutarch, written in the second century after Christ, that is, about five and a half centuries after the Parthenon was completed: "There is a sort of bloom of newness upon the buildings erected by Pericles, which preserves them from the touch of time, as if they had some perennial spirit and undying vitality mingled in their composition."⁶⁶

⁶⁶ Plutarch, *Life of Pericles*, XII, 3.

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