THE SCULPTURED COLUMNS OF THE TEMPLE OF DIANA AT EPHESUS.*

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THE last occasion on which the sculptured columns of the Temple of Diana at Ephesus were discussed at the Institute was, so far as my knowledge goes, in 1883, when the late James Fergusson † gave you his views on the matter. These views he supported mainly by reference to the remains of the columns in the British Museum; and if the long period of twelve years has been allowed to elapse without any steps being taken on our part to confirm or modify his opinions, that has not been due to any unwillingness of mine, but rather to the fact that other operations in my department of the Museum seemed more urgent. At last we have been able to overtake this task also, with a result which varies in several particulars from that arrived at by Fergusson.

On one of his visits to our workshops Fergusson had been informed that each of the stones now worked into square, sculptured pedestals had on its top surface a segment of a circular bed which showed that four of these stones, set back to back, had been intended to serve as a pedestal, apparently for a column, and that the only sculptured drum which we possess, retaining its lower torus, fitted exactly on to this bed [fig. 5]. Proceeding, however, to work out his restoration, he found it necessary to interject between the sculptured drum and the square pedestal an imaginary base, which ought at least to have preserved the same diameter on its upper as on its lower bed. We have dispensed with this or any other intervening base, and have been led to do so not only by the fact that the sculptured drum fits exactly on to the square pedestals, but more particularly because the bed on the top of the pedestals has been eased off on the outer edge for a width of about two inches, apparently for the express purpose of taking the weight off the torus. For the sake of argument, it could be supposed that the circular bed had been prepared for an ordinary Ionic base of one of the fluted columns, so as to yield a sculptured pedestal under an ordinary Ionic column, not unlike what we see in the portico of the great altar at Pergamon. But the one Ionic base which we possess, though suitable as regards diameter, has its bed eased off to twice the width of the bed on the sculptured pedestals, as it properly ought to have, considering the greater projection and thinness of its lowest member. So far as I can see, there is no escape, much as it may be desired, from bringing the sculptured drums directly down upon the sculptured pedestals, as we have done in the Museum. The

* The headpiece to this Paper represents (full size) on the left a coin of Hadrian, and on the right one of Antoninus Pius, both in the collections of the British Museum.

† In the *Antiquities of Ionia* (Society of Dilettanti, 1881), Pt. IV., p. 12, he speaks of a contribution to the Institute in 1877 founded on the Papers of Mr. Wood. See TRANSACTIONS 1876–77, page 77: "On the Temple of "Diana at Ephesus, and the Hypæthrum of the Greeks."

effect may seem strange, but it must be remembered that in such instances of sculptured columns as those of Trajan in Rome and of Theodosius in Constantinople the shaft is separated from the pedestal mainly by an enriched torus; and, possibly enough, it was from Ephesus that the idea of these sculptured columns took its origin. We possess in the Museum two cylindrical bases sculptured all round in relief, and in a later manner than that of Ephesus. Both of them come from Halicarnassus, which was within easy reach of Ephesus. The better preserved of the two has the figures standing on a projecting flat band, beneath which is a scotia and a torus moulding. But although the influence of Ephesus is undeniable in these two bases, I see no way of utilising them for our purpose. They had, apparently, served as bases for small monuments. For myself, I do not so much regret the absence of any intervening member between the drums and pedestals of the front row. It is when we come to the second row of sculptured columns that I feel the difficulty of not having under them some form of base which would range with the Ionic bases along the sides of the temple. On the square pedestals the relief is very high, as compared with that of the drums. And what is more interesting is the fact that the angles in every case had been occupied by figures sculptured with great prominence, which must have taken off all appearance of squareness in the die of the pedestals, thereby mitigating any sense of conflict that might exist between the pedestals and the sculptured drums.

Here I may state that our reconstruction of the remains in the Museum does not go beyond showing that the sculptured drums rested directly on square pedestals, and that these pedestals were sculptured on all four sides. To this latter point I will return presently; but meantime you will expect me to give some reason for thinking that these pedestals had stood on a lower platform at the two ends of the temple, as shown in the elevation [fig. 1] which has been worked out with so much talent by our young friend Mr. Cromar Watt.

According to Wood, the temple was raised on a platform 9 feet 5½ inches high, measured, as he says, from the pavement of the peristyle down to the pavement beyond the platform (*Discoveries at Ephesus*, pp. 264 *et seq.*). He found the lowermost step of the platform in position on the north side for a stretch of 100 feet, and he found, also in its original place, the base of one of the Ionic columns on the stylobate, so that his measurement of the height of the platform may be taken as correct, except in one particular. He treats as a square plinth under the base what can only have been a stone of the stylobate on which the column rested [fig. 3]. That stone retains only one worked face; all the rest is broken more or less. Yet it is not so much broken but that we can easily perceive on two sides that it had been originally fashioned so as to key into adjoining stones, which could not have been the case in a plinth. More than that, the base itself, directly above the joggles, as our masons call them, has been, in a careful and finished manner, cut into, as if to receive a metal railing extending from column to column.

Wood leads us to suppose that this base belonged to the inner row of columns, in which case the inner row would have stood on a raised step. But as a metal railing along the inner row would serve no purpose, I cannot help thinking that there is some confusion between this and the other base which he found in position on the outer edge of the stylobate, where the railing would be of excellent service. On this view of the matter we must accept his plinth as a top stone of the stylobate.

It was natural enough for Wood and Fergusson to assume that an Ionic column in Asia Minor would have a square plinth. But there are instances, such as the Nereid monument from Xanthus in Lycia, to prove that there was no rule in the matter in Asia Minor. Again, there is the fact that Vitruvius (iv. 1, 7), when speaking of the Ephesians as having been the first to introduce bases under the columns of the Temple of Diana, compares these bases to a shoe, from which comparison it would seem as if he had been thinking of a square plinth as

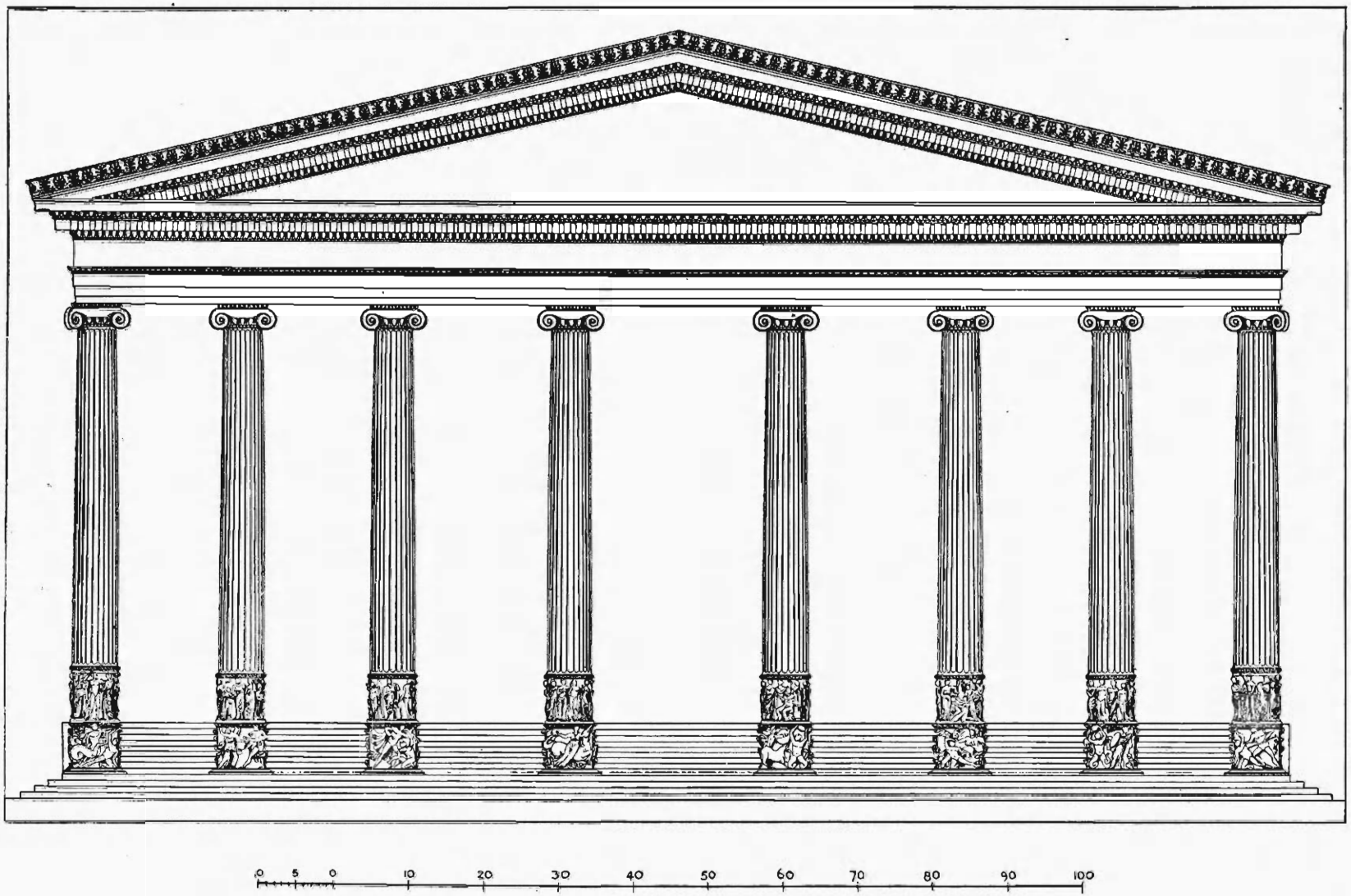


FIG. 1.—CONJECTURAL RESTORATION: ELEVATION OF THE TEMPLE OF DIANA AT EPHESUS.

forming the sole of the shoe. But Pliny (xxxvi. 179), referring obviously to the same tradition, is more guarded in his expression, or possibly more ignorant. He is content to say that the Ephesians had been the first to put bases under their columns. I quite allow that the Ionic base which we possess is extremely slight in its lowest member, and so far suggests a square plinth under it, but it is not in fact slighter than the bases of the Nereid monument, which undoubtedly have no plinths. Besides, the evidence furnished by the square stone which we possess seems to me conclusive against its having been a plinth.

If, then, we regard Wood's plinth as a top stone of the stylobate, we must proportionately increase the height of the platform, which will now reach 10 feet 10½ inches. His measurements of the area of the temple, taken on the lowermost step, are 418 feet 1½ inch × 239 feet 4½ inches, which is not far from the 425 feet × 220 feet given by Pliny for what he calls the *universum templum*—doubtless the lowermost step of the platform. On the top of the stylobate or what little remained of it, Wood's measurements are 342 feet 6½ inches × 163 feet 9½ inches (*Discoveries at Ephesus*), which, as you will observe, leaves an immense space to be accounted for. For the ascent to the stylobate he proposed a flight of fourteen steps all round the temple, each with a tread of 19 inches; but as this left an enormous projection of stylobate outside the columns, and as the rise and tread of the steps seemed to be correctly ascertained, Fergusson felt himself driven to assume a sub-platform of three steps, on which platform he placed a series of wide, projecting piers, which he supposed to have been richly sculptured, and on this account to have been the chief glory of the temple.

As some such arrangement was absolutely necessary in view of Wood's measurements, I have taken advantage of Fergusson's platform for the two ends of the temple, and have placed on it the sculptured pedestals, in room of the projecting piers, which he introduced without any trace of evidence among the remains. We have preserved the graduated intercolumniations, as given by Wood, no doubt from data which he has not chosen to communicate, and as accepted by Fergusson. The temple having been dipteros octastyle, as Vitruvius says, and having at the same time had thirty-six of its columns sculptured, it seemed a simple and natural arrangement to dispose these thirty-six columns in this way: two between the antæ, without bases or plinths; a row of eight, also without bases or plinths, resting on the top of the steps; and a front row of eight, raised on square, sculptured pedestals to the level of the stylobate, and entirely in front of the steps. For a long time I thought, or rather wished, that the steps should rise up the sides of these pedestals and be engaged in them. But there is no trace of that visible. On the contrary, as I hope to show, the pedestals were sculptured on all four sides.

Wood ascertained that at the angles of the temple the intercolumniations from centre to centre of column, both on front and side, were 19 feet 4 inches; and as this was the smallest of his intercolumniations, it seemed reasonable to adopt this measurement for the distance between the two rows of columns on the fronts, from centre to centre. The next question was how to arrange the necessary steps within this space. Wood, as I have said, found a considerable stretch of the lowermost step of all, and gives its rise as "barely 8 inches" on p. 238 (*Discoveries at Ephesus*), but as "little more than 8 inches" on p. 264; its tread as 19 inches. We cannot, however, reconcile these statements with the stones which he sent home, which yield a rise of 8⅝ inches and a tread of 22 inches. In this difficulty we have adopted for the lower platform three steps corresponding to the actual stones now in the Museum, while for the upper platform we have introduced the slightly different dimensions of the great altar at Pergamon, a neighbouring but somewhat later monument.

As regards the sides of the temple, the existence of a metal railing from column to column, to which I have already referred, seems to be a sufficient defence for leaving them to descend vertically to the lower platform. That these sides were sculptured in the manner of the

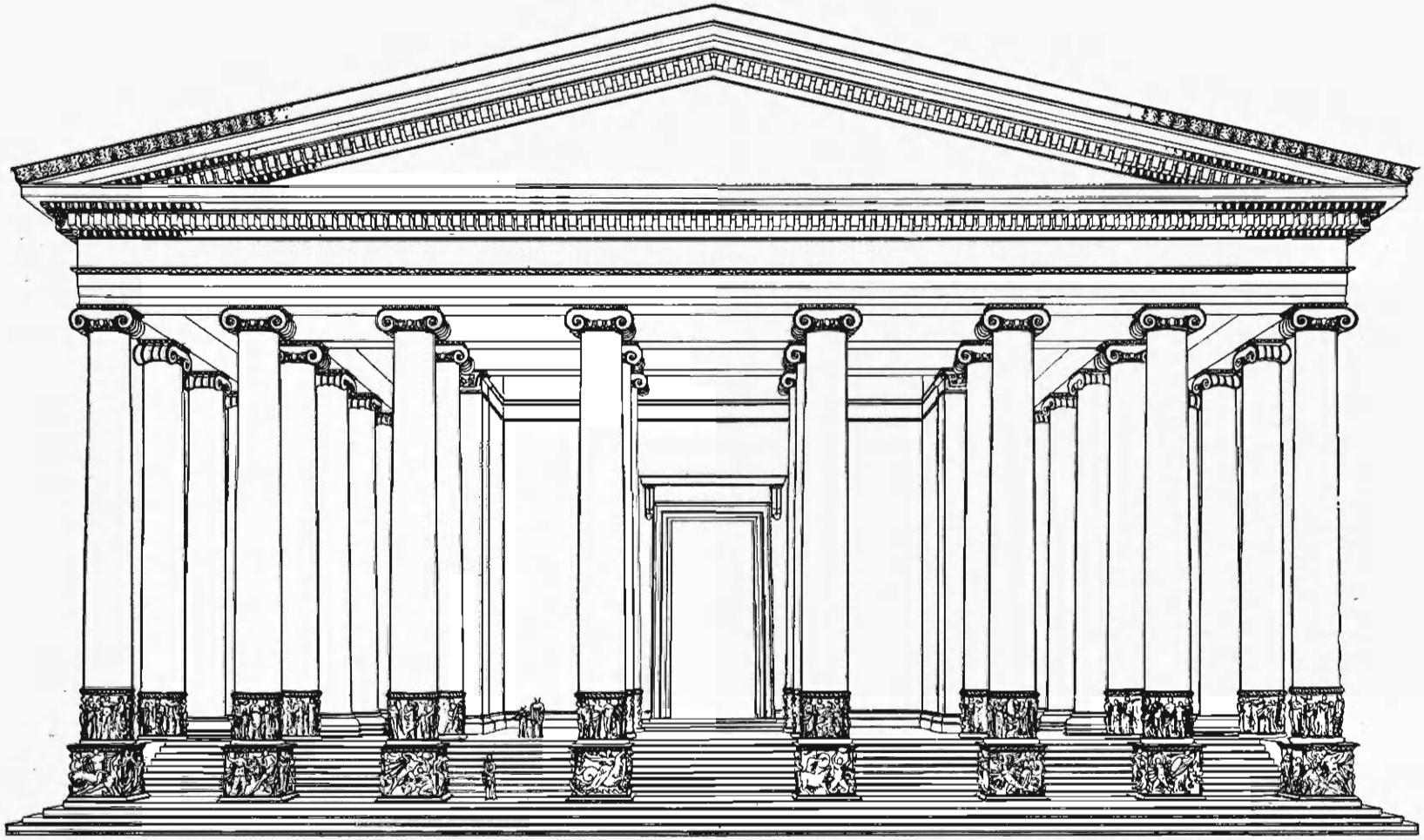


FIG. 2.—CONJECTURAL RESTORATION: PERSPECTIVE VIEW OF THE TEMPLE OF DIANA AT EPHESUS.

colonnades round the great altar at Pergamon seems to me much open to doubt, though Fergusson made a strong point of this comparison.

So far, we have ascertained that certain of the sculptured columns stood on square, sculptured pedestals; but we have not ascertained, and cannot now by any possibility ascertain how many of the thirty-six sculptured columns had such pedestals, or whether, indeed, all of them may not have been so enriched. At the same time, it must seem incredible that any one of these huge pedestals could ever have stood on the stylobate. Thus far we can surely go. But, again, it does not necessarily follow that because certain of the sculptured columns had stood on pedestals at a lower level, the whole of the eight front columns had so stood. My view of the matter, as shown in the elevation, may be only one among other possible views. All I would say is, that it is the simplest way which has occurred to me out of a great difficulty.

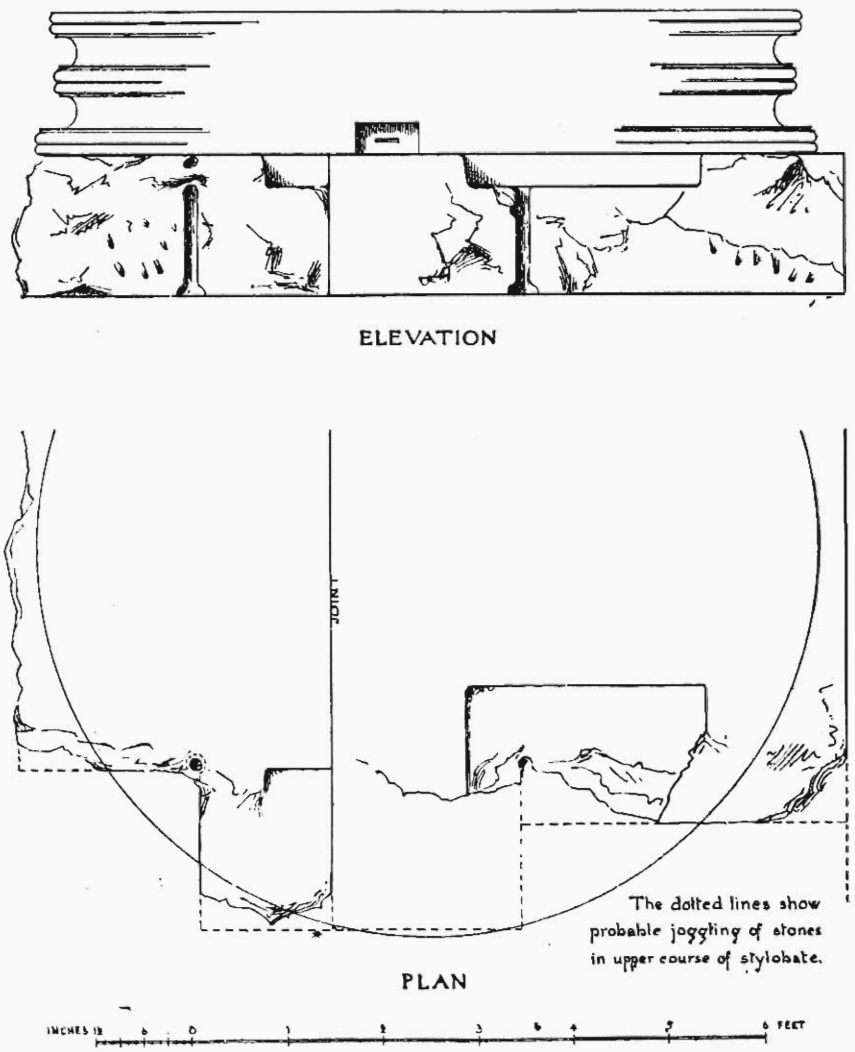


FIG. 3.—BASE WITH STONE OF STYLOBATE. TEMPLE OF DIANA AT EPHESUS.

At this stage we may take note of certain late Roman coins which profess to represent the façade of the temple at Ephesus. The best one (Hadrian) goes so far as to indicate quite clearly that the lowermost drums of the columns were sculptured [p. 41]. At the same time it crowds its columns together toward each angle, so as to leave an immense gap in the middle, through which the statue of the goddess may be seen, presumably through the open door of the temple. As a rule, these coins exhibit a continuous platform of steps along the front. The exception is an otherwise carefully struck coin of Antoninus Pius [p. 41], which, instead of steps, has a continuous vertical podium. That this was intended as a general indication of our sculptured pedestals I do not wish to say, but at least it may pass as a sign that there was some difficulty in rendering the steps. Had these coins been meant to be authentic witnesses, it is clear that they would not have clustered the

columns in two groups towards the angles, and would not have differed about the steps. In short, these late Roman coins are seldom reliable as to what they omit, though occasionally reliable as to what they retain.

I gladly accept the evidence of the coins so far as concerns the sculpturing of the lowermost drums of the columns; and this brings me to a question which has been much discussed. You will remember Pliny's statement that thirty-six of the columns were sculptured in relief—*cælatæ*; to which he adds the two words, *una scopa*, as they stand in his MSS. The general practice has been to alter these words into *una a Scopa*, meaning that one of the thirty-six was by the famous sculptor Scopas, notwithstanding that this sculptor had been dead and gone long before the building of the Temple. The latest writer on the subject, Professor Benndorf, of Vienna, suggests that one of the columns had been copied from a work of Scopas. He endeavours to trace a reminiscence of the hand of Scopas in the best-preserved of our drums. But this is the merest conjecture; the style of Scopas is sufficiently known to answer emphatically such vagaries. It is true that Pliny's MSS. assign the odd number of 127 columns to the temple, and that this odd number, if it really existed, would not unnaturally suggest that one of the columns had been more conspicuous than the rest, for some reason or other; but the easy mistake in a number offers no foundation for theories which run contrary to everything we know, including among those theories Fergusson's attempt to work in this odd number by means of nine columns in the back of the temple. Besides, it is incredible that Pliny would have described a later copy as the work of Scopas.

Long ago Winckelmann proposed to correct Pliny's text by reading *uno scapo*, one shaft; but this, though the first step in a right direction, left the text confused, since thirty-six columns could not be sculptured on one shaft. It seems to me that we must make what philologists would consider a reasonable alteration, and read *imo scapo*, meaning, in Vitruvian language, the lowermost part of the shaft. We should then confirm the coins and be in agreement with the existing remains, so far as we can judge in the present state of things.

You are aware that Wood found and sent home a large piece of a drum which exceeds the others in diameter by 3 inches, and is at the same time sculptured in much higher relief. He suggested that this particular drum had been placed higher up in the column. That, no doubt, might account for the higher relief; but surely it would not account for the increase of the diameter. That would be absurd. It seemed to me not unreasonable to assume that the angle columns had been increased in diameter, as in other known temples, and, accordingly, we have taken this larger drum as a type of the angle columns. Of course this 3-inch thicker drum at the angle implies a proportionate increase in height, which may or may not have been unsightly.

The height of the columns is given by Pliny at 60 feet; and as Wood ascertained this dimension to be very approximately correct, we have accepted it. We possess two capitals which differ in size, and have assumed that those of the smaller dimension had belonged to the inner row of columns. We have two pieces of the architrave to be guided by; but there is no trace of the frieze. Wood, as I may remind you, employed the square blocks which we have utilised for pedestals as parts of the frieze in his restoration. When told that there were more than four angle stones among them, while he only required four, his equanimity was not disturbed. The circular beds on the tops of those stones seemed to him only to prove that the stones had been originally prepared to serve as drums of columns! For the dentils we have no evidence beyond extreme probability. We have part of the cornice, showing its enrichment, and one lion's head. For the pediment we have two stones of the tympanum, which give the rake of the pediment. Lastly, we have a fragment of one of the acroteria.

I must now return to the sculptured pedestals. It is with them that we are chiefly concerned in the Museum. Such views as I have laid before you in regard to the general aspect of the temple may stand or fall; but the sculptured pedestals are on a different footing. First of all is the question, Were they sculptured on all four sides?

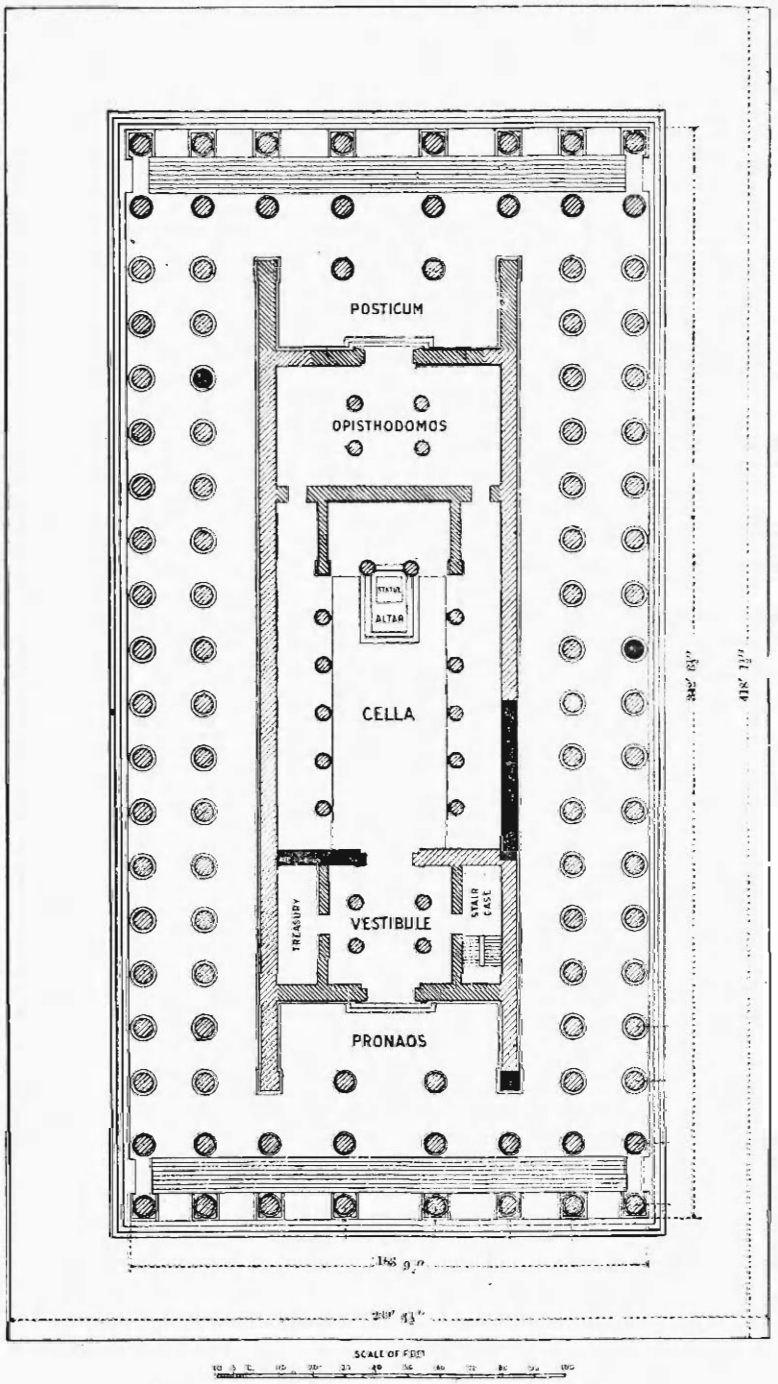


FIG. 4.—CONJECTURAL RESTORATION: PLAN OF THE TEMPLE OF DIANA AT EPHESUS.

In one of the pedestals we have put together [fig. 5] there are three separate stones, on each of which is part of a Nereid riding on a hippocamp. Enough of the joints of these stones remains to show that they had all belonged to one pedestal. The result is that we have on three of the faces a repetition of the same subject—a Nereid riding on a hippocamp. On the fourth side the sculpture has been entirely defaced. But that it also had been sculptured is in the highest degree probable, though it does not necessarily follow that this fourth side had again represented a Nereid on a hippocamp. That would, perhaps, be going too far in the direction of mere decoration; and under the influence of this feeling I was at one time tempted to suppose that on the fourth side had been Achilles receiving his armour, in which case there would be a definite subject for the whole pedestal, reminding us of the base by Praxiteles found some years ago at Mantineia, on which we have as a central subject the contest of Apollo with Marsyas, and on the sides groups of the Muses disposed in threes. On the other hand, it is quite clear from what remains of two of the Nereids that they

FIGS. 5 AND 6.—SCULPTURED PEDESTALS AND DRUMS FROM THE TEMPLE OF DIANA AT EPHESUS. NOW IN THE BRITISH MUSEUM.

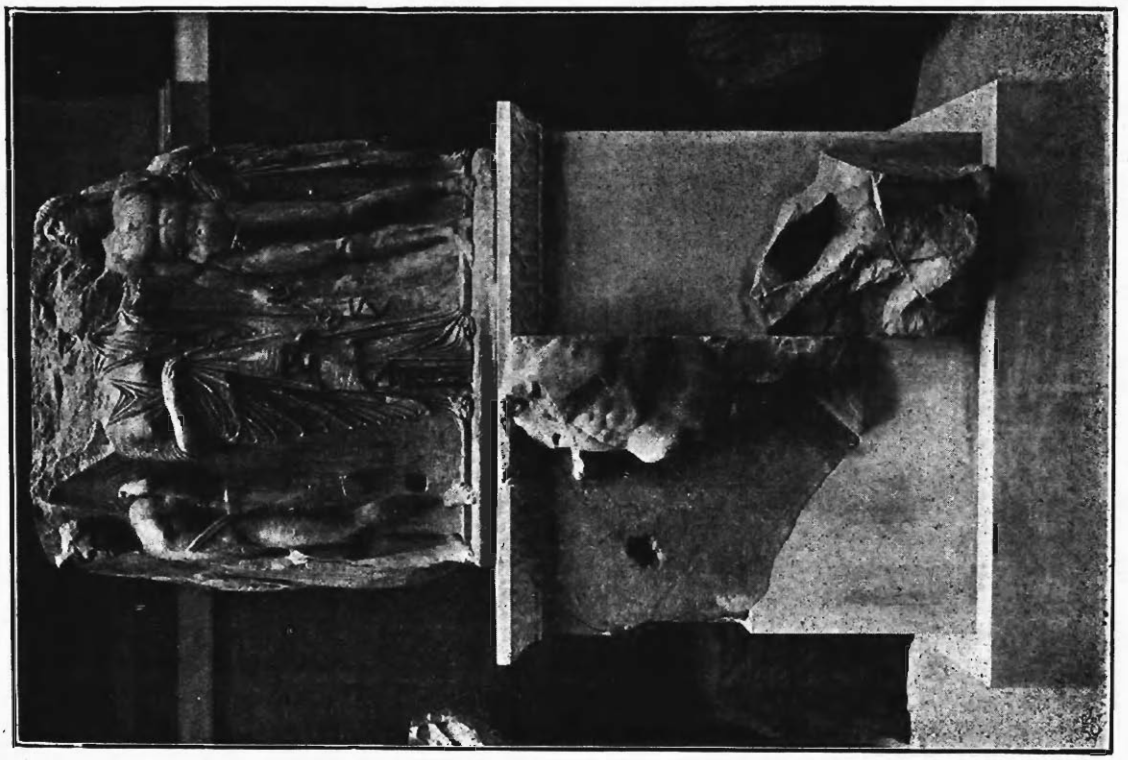
were not occupied in carrying armour for Achilles. On the contrary, they have the right hand raised, holding aloft their *himation*; while the third fragment shows that the left hand was clasped round the neck of the hippocamp, the whole action being such as we frequently see on engraved gems.

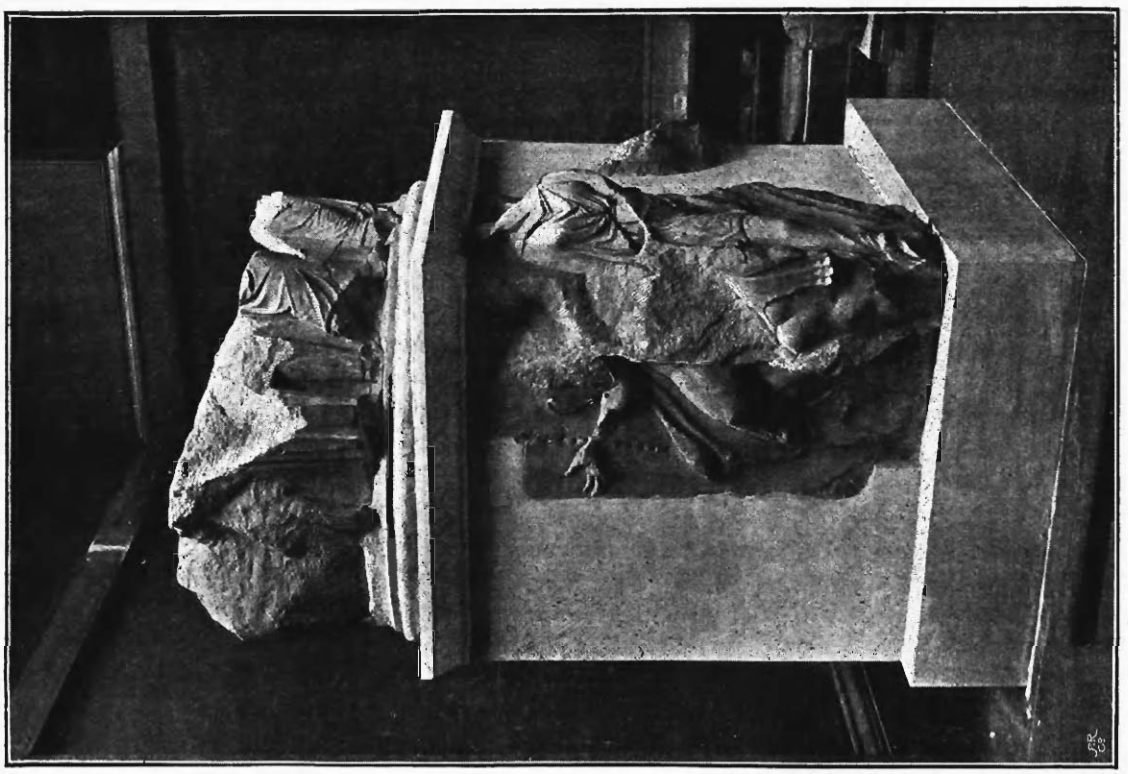
Failing Achilles, I cannot think of any other subject which would give unity and motive to the Nereids, and therefore feel myself driven to the conclusion that this pedestal had been treated in a purely decorative manner such as we are sufficiently familiar with in later bas-reliefs and on mosaics where Nereids on hippocamps are introduced for the purpose of pure decoration and without any binding motive. It is unfortunate that we cannot be quite certain on this interesting point. But the evidence seems to me chiefly in favour of a repetition of the same design on all four sides.

From another of these pedestals (fig. 6) we possess an angle stone having on one face a Victory leading a cow or a bull, and on the other face a Victory leading a sheep. In both cases you may have to search for the Victory; but the evidence of her presence, though slight, is unmistakable. Then, again, we have a fragment consisting of the head of a sheep, which from every consideration we are entitled to claim for this same pedestal. But, apart from this fragment, the angle stone with its Victories leading animals to sacrifice on two sides seems to me to exclude every other possibility for the remaining two sides, except that of other Victories similarly engaged. The balustrade of the Temple of Victory at Athens is a case in point. There is no central motive there, but only a series of Victories leading animals, or otherwise engaged in the commemoration of a triumph. A Victory on two sides of our pedestals, and almost certainly also on the third side, invites the inference that there was also a Victory leading an animal on the fourth.

From a third of these pedestals (fig. 7) we again possess an angle stone. Seated on a rock projecting from the angle is a figure of Heracles. On one face of the stone his right arm is extended towards a missing figure; on the other face a woman drags at him backwards. Unless this is a representation of a legend which hitherto has been known only from literature, viz. Heracles between Virtue and Vice, a legend which had its origin in Asia Minor, I can find no explanation of the scene. During these twenty years no explanation of any kind has been offered, so far as I am aware. But from our present point of view it is more interesting to note that we possess a fragment of another angle stone on which has again been a figure of Heracles seated on a rock. If I am right in placing this fragment in the same pedestal, we have another suggestion of the principle of repeating a similar design on all four sides. And here I may mention that the rough, projecting rock on the angle and the huge body of Heracles above it show that the angles of the pedestals had originally presented an irregular, bossy appearance. In the Victory pedestal, the head of the ox and the rump of the sheep must have similarly produced a large irregular, projecting mass at the angle, while the breakages at the angles of the other pedestals clearly betray the same original effect.

In the fourth pedestal (fig. 8) we have two stones which are now placed in the position in which they were found. On one face is the combat between Heracles and Kyknos. On the other face has been a female figure and a deer. Only the right arm of the female figure remains. Her form had occupied the angle of the stone. Her hand is stretched out, as if to protect the deer. With one of the labours of Heracles on one side, and finding a deer on the other, we naturally expect it also to be a labour of Heracles—his capture of the Keryneian deer. We may even go a step further, and expect other labours of this hero on the other sides of the pedestals; and accordingly I have inserted in it a fragment of Heracles overpowering the Centaur. The only remaining fragment which we possess from these pedestals is part of a wrestling group, which may have been Heracles and Antæus. But I have not ventured





FIGS. 7 AND 8.—SCULPTURED PEDESTALS AND DRUMS FROM THE TEMPLE OF DIANA AT EPHESUS, NOW IN THE BRITISH MUSEUM.

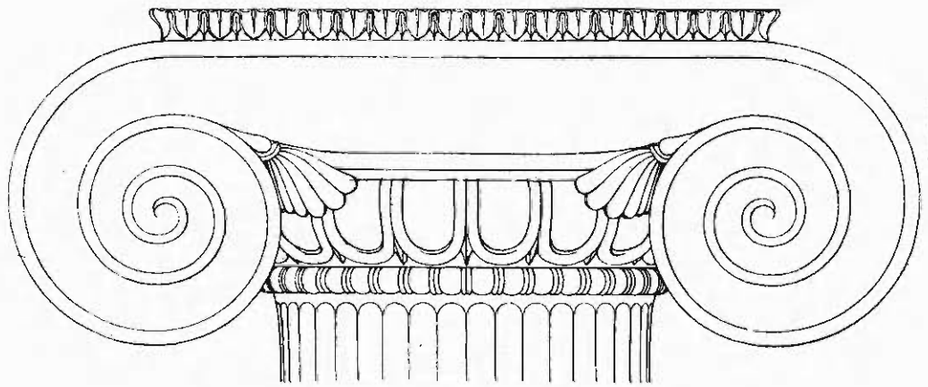
to insert that fragment. It is almost the only fragment which we have not utilised in these restorations.

The conclusion which I venture to draw from these various facts and probabilities is, first, that the pedestals were sculptured on all four sides; and, secondly, that the sculptures were in some cases an identical repetition of subject on all four sides, in others a series of incidents connected together in thought, but not united by an artistic motive.

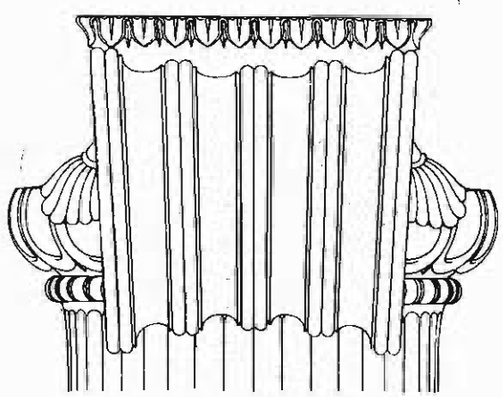
Previous to Wood's excavations there existed only the Roman coins, to which I have referred, to illustrate the passage of Pliny that certain of the columns of the Temple at Ephesus had been sculptured in relief. The arrival of the sculptured drums placed the matter beyond doubt. But the question still remained, What could have put it into the head of the architect to have parts of his columns sculptured? Was it a new and original idea? For a time it seemed so; but we shall see presently that what the architect did was simply to perpetuate in his new building what had existed in the older temple on the same site, not attempting in any way to retain the archaic style of the older sculptures, possibly even changing the subjects of them to meet the tastes of his own day, but aiming principally at reproducing the general effect of the older temple.

The temple of which we have been speaking till a minute or two ago was preceded, on the same spot, by another which was burnt down, as tradition says, on the night when Alexander the Great was born. That older temple had been erected about 560 B.C., the time when Crœsus with his wealth ruled the neighbouring kingdom of Lydia. We learn from Herodotus that Crœsus had contributed the cost of most of the columns of that temple; and Herodotus was likely to know the truth from his having lived in exile, in the island of Samos, almost within sight of the temple. Possibly enough he had seen the name of Crœsus inscribed on the columns as the donor. At all events, Wood, in the course of excavating the basement of the later temple, came upon a series of piers into which were built numerous fragments of the burnt temple, including several parts of a base moulding on which the name of Crœsus as the donor was inscribed. Some years ago I endeavoured to reconstruct out of these archaic fragments the base and lowermost drum of one of the older columns, with the purpose of showing that the later temple had obtained from the older one the idea of a sculptured drum at the foot. Since then we have found part of a very bold torus, enriched with a leaf pattern, which fits on to the top of the archaic drum. It shows exactly the flat treatment of the leaf pattern which we see on the contemporary altar of Pisistratus at Athens. But I call your attention specially to it because some similar member may have been introduced also into the later temple, though we have no remains of it.

Among the archaic remains were also several pieces of capitals, which much occupation has prevented us from attempting to put together till quite recently. I am glad to be able to exhibit a drawing of one of those capitals by the skilful hand of Mr. Watt [see illustration opposite]. The resemblance between it and the capital of the Temple of Hera, in Samos, is particularly striking, and, indeed, is peculiarly interesting when we remember that Rhœcus, the architect of the temple in Samos, was also the sculptor who executed certain works for the Temple at Ephesus; while his relative Theodorus, with whom he is associated in ancient literature, invented a new sort of concrete for the foundations of the Temple at Ephesus (Pausanias, x. 38, 5, and Diog. Laert. II. 103). In both capitals we have the same even number of four eggs on the front, instead of the usual odd number. Between the spiræ of the volutes the canalis, as it is called, has the same convex form instead of the usual concave. In our capital the eggs are extremely prominent in the centre, as would be expected in archaic work. Towards each volute they thin down, and as they pass round the sides they are flattened into mere reliefs, naturally enough. But what seems new is the circumstance that



FRONT



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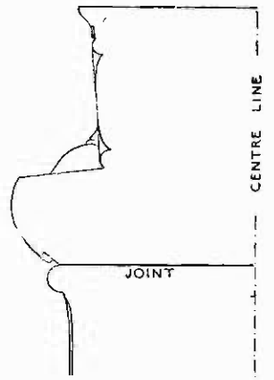

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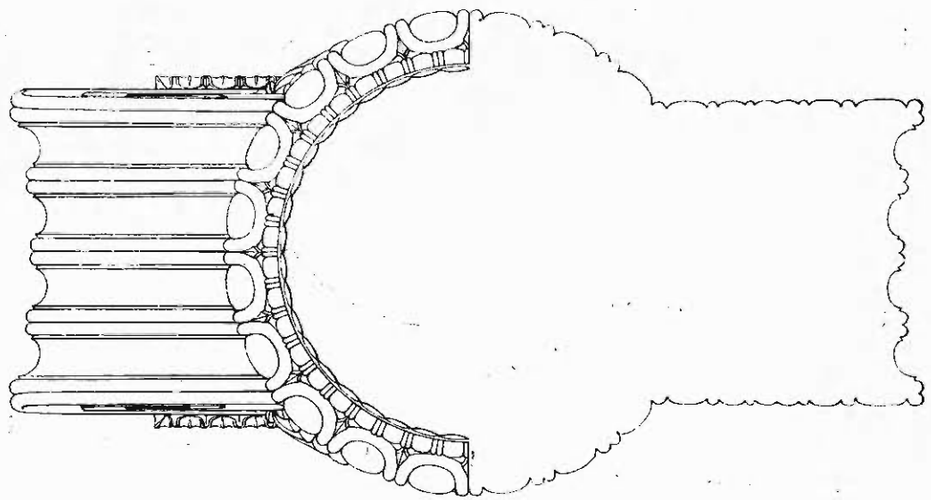


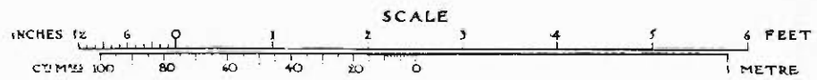
HALF PLAN LOOKING UPWARD

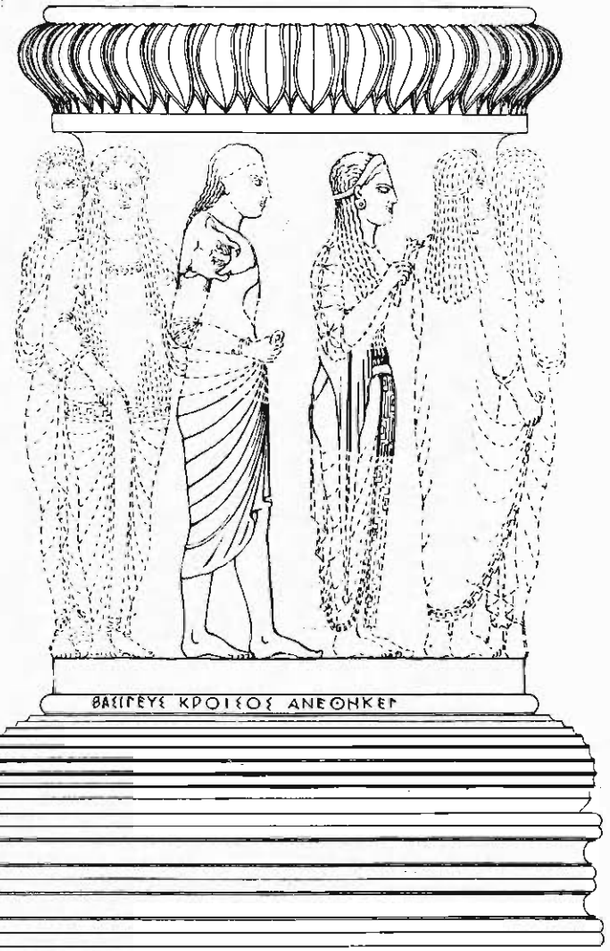
HALF PLAN THROUGH VOLUTE

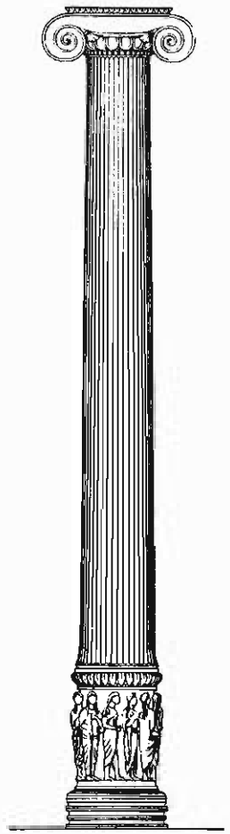
CAPITAL AND BASE

FROM THE

ARCHAIC TEMPLE OF DIANA AT EPHESUS







CONJECTURAL RESTORATION
OF COLUMN

the cord, or spira—if that is its name—which encircles the eggs is at the sides made to continue up over the cushion in two parallel lines, so as to suggest that this may have been the oldest manner of decorating the cushions of Ionic capitals. I noticed something similar last spring at Delphi on one of the very few archaic Ionic capitals found there by the French. At all events, we have here a simple and intelligible motive for the decoration of the cushion. The Samos capital has disappeared. We know it only from drawings (*Ant. of Ionia*, I. ch. 5, pl. 6), and we sympathise with Dr. Puchstein in his Memoir on the *Ionisches Capitell* (p. 28) when he says that "to find it again and to bring before our eyes the "style of Rhœcus, the old architect of the Heræon, would be a noble service." But there is

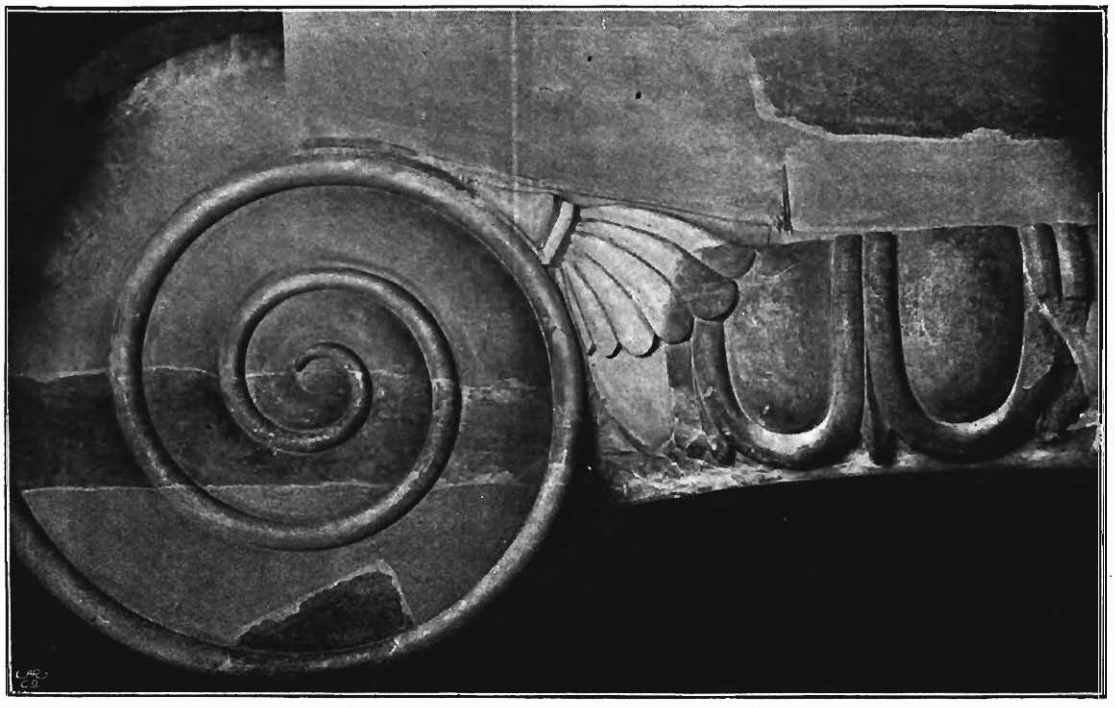


FIG. 9.—ARCHAIC EPHESIAN CAPITAL IN THE BRITISH MUSEUM.

some compensation, if I may say so, in our having recovered what may be called a twin brother to it in the archaic Ephesian capital.

Part of another capital having the same archaic character of convexity in the canalis of the volutes instead of concavity, as the name implies, was found several years ago at Locri, in Southern Italy.* There the eye of the volute takes the form of a rosette. I may mention also a small capital in the British Museum from the Temple of Artemis Eucleia at Athens (Inwood, *Erechtheion*, pl. 24), which, again, has the convex canalis, together with a rosette, in the eye of the volute. But this specimen seems to me rather archaistic than archaic.

In both the Samos and the Locri capitals the spiral of the volute starts away from the abacus at an abrupt, disagreeable angle, whereas in the Ephesus capital it moves in a continuous line; and this, perhaps, is evidence of a later date for the Ephesian capital.

We possess also part of an uppermost drum, with its astragal moulding and very shallow flutings, and a considerable part of another drum, from which the number of flutings for the

* This is published in the *Mittheilungen der Arch. Inst. Rom.* v. p. 196. It may be well to compare also the angle fragment from Selinus in Hittorff, *Arch. Ant. de la Sicile*, pl. 19, fig. 7.—A. S. M.

whole column may be reckoned. More curious, however, are several other archaic fragments which indicate different types of capitals on the same temple: in one instance the volute, instead of having spirals, is entirely occupied with a huge rosette, in striking contrast to the later Ionic, where only the eye of the volute is occupied by a small rosette. But there are two or three more of these fragments which remain a puzzle: one of them retains vivid red colouring. Among the fragments of Ionic bases from the archaic temple we have several types, differing from those of Samos (*Ant. of Ionia*, I. ch. v. pl. 2) and Locri (*Mittheilungen der Arch. Inst. Rom.* v. pp. 187, 188) in respect of the lower member, which in these latter instances consists of a cylindrical plinth, with slight convex mouldings, instead of deep scotiæ, as at Ephesus; and in respect also of the upper member, which at Ephesus varies considerably in the character of the flutings, in one instance being, indeed, ribbed instead of fluted horizontally. A small base in the British Museum, which was found at Naucratis, is probably the oldest Ionic base in existence, and it also is characterised by the cylindrical form of its lower member. Apparently the line of development had been from a simple cylindrical plinth to the deeply cut lower member of the later age. But whether I have been right in placing the archaic sculptured drum on one of these bases seems to me now open to doubt. It may equally, as in the later temple, have rested directly on a square, sculptured pedestal.

In this bare and brief statement you will, I trust, recognise that where I have indulged in speculation as to the general aspect of the temple, I have done so without any pretension to strictly architectural knowledge, but solely to convey to you the idea in my own mind, trusting implicitly to your indulgence. On the other hand, there are three points on which I firmly believe up to now: first, that the sculptured drums rested directly on the square sculptured pedestals as we have placed them in the Museum; secondly, that the pedestals were sculptured on all four sides; and, thirdly, that these sculptured pedestals could not have stood on the stylobate without producing an extremely disagreeable effect. In the second row of sculptured columns I would have liked to introduce Ionic bases which would range with the bases of the fluted columns along the sides; but that seemed more than questionable unless we were to do the same for the front row, which, in my judgment, is impossible. There I must leave the subject.

DISCUSSION OF DR. MURRAY'S PAPER.

PROFESSOR AITCHISON [*F.*], A.R.A., said that the question of the disposition of the carved circular bottoms to the columns and the square pedestals had been a problem of the greatest difficulty to architects. But of late years, at any rate since Fergusson's death, the restoration of the classic buildings of antiquity, one of which was now before the Meeting, had not engaged the attention of architects as of yore. It was a curious thing that so little contemporary description of this splendid temple, one of the seven wonders of the world, was known. There was the short account in Pliny; there were a few words in Pausanias, a few in Strabo, and a few in Vitruvius; and it certainly looked as if none of them had seen the temple, though it was impossible to say that they had not; but still it was spoken of, as if it were merely hearsay, that it was one of the most magnificent temples in the world. He had listened with great interest and admiration to the Paper, which showed the elaborate pains and attention that its author had given to the subject, and he had watched for years the extreme ingenuity Dr. Murray had displayed in fitting the various fragments of the archaic base together. He (the speaker) had not studied the subject, and it would be impossible, if not impertinent, for him to offer any further remarks. He should like to be permitted, however, to move a very hearty Vote of Thanks to Dr. Murray for what he had done, and for bringing the results of his labours before them.

PROFESSOR T. ROGER SMITH [*F.*] feared he could do very little more than thank Dr. Murray for the learned and extremely interesting Paper with which he had favoured them. It had always seemed to him (the speaker) that the recovery of the Temple at Ephesus which Mr. Wood had effected was a kind of triumph for British archæology, and one of which they ought to be extremely proud. The Germans and the French and the Italians had excavated in many places, but there

had been few things in which the acumen of the original investigator, and the pertinacity with which he pursued a scent that might very easily have led him astray, and the sagacity with which he avoided being led astray, had been so strongly marked as they were in his case. The Institute was greatly indebted to the Keeper of the Antiquities at the British Museum for the pains and care with which he had brought together the remains entrusted to his charge, and it was extremely interesting to find that Dr. Murray had been able to elucidate so many points that Mr. Wood had left unsettled, and which it was not possible for him to settle. One might hope that it was still reserved for an investigator at some future time to discover on the site further specimens; and if that should be the case he had very little doubt that in the main they would bear out the views that Dr. Murray had placed before them. It seemed quite certain that the circular shafts stood upon square pedestals, as had been shown, and it was extremely likely that they stood without the elaborate moulded bases which Fergusson desired to attribute to them.

Mr. R. PHENE SPIERS [*F.*], F.S.A., was afraid the observations he had to make would be rather of a negative character. Some five or six years ago, when he was called upon to revise Fergusson's *History*, he found himself placed in a very singular dilemma. The original account which Fergusson had given of the Temple of Diana was in the edition of 1875, and at that time the plan he had adopted did not differ very materially from that put forward by Wood—the only difference being, if he remembered rightly, that Fergusson placed four of the sculptured columns in the pronaos, whereas Wood placed two in the pronaos and two in the posticum. In 1883 Fergusson read another Paper before the Institute, in which he put forward such singular propositions that he (the speaker) felt it would be unsafe to put them before students as showing actually the arrangement of the temple. Fergusson happened, as he, in fact, stated in his Paper, to have hit upon the happy thought that 3 times 9 were 27; consequently if he placed three rows of columns—nine in each row at the back of the temple—he would arrive at the 127 which were quoted by Pliny. He was also very glad, he stated, to arrive at that idea, because it gave him the opportunity of lengthening the temple, and thereby of introducing two open courts through which he might light the temple. They were aware, of course, that a subject of great interest in his life was the way in which the Greek temples were lighted, and sometimes, as in the Parthenon, he put clerestory windows to the side; but whenever he could find the opportunity he preferred to have an hypæthrum. The lengthening of the temple enabled him to put one at each end of the cella. But the idea of nine columns at one end seemed to be so impossible that he (the speaker) thought it would not do to put it before students as a reasonable restoration. He therefore contented himself—and he thought discreetly—with reproducing all that Fergusson had said before, and referring the student to the Paper read in 1883. Dr. Murray had stated that he had no great claim to architectural knowledge, but it was quite certain that his claim in that respect was very much greater than Fergusson's in respect of the pedestals; for if they took the trouble to make an elevation of Fergusson's design, taking it from the plan, or even a longitudinal section through the rear portico, it would be seen at once how impossible it was to arrange the pedestals as Fergusson had shown them. In the rear of the temple Fergusson placed his square pedestals on two different levels—namely, at the foot of the steps and on the upper platform. In both cases he raised his sculptured drums on the top of the pedestals, so that he had to descend twice to get down to the level of the ordinary bases of his other columns. Possibly, foreseeing these difficulties, Fergusson had contented himself with giving a cross-section through the temple and the flights of steps on each side where neither the square pedestals nor the sculptured drums troubled him. In this cross-section of Fergusson's the cornice of the raised platform he suggested, and through which he carried his steps, runs at the same level as the upper mouldings of the square pedestals placed as Dr. Murray had shown them. The fact that the pedestals were sculptured on all four sides was the most important piece of information Dr. Murray had brought before them, and it was substantiated by the reasonable restoration he had made, in which the pedestals in front were of the same height as the platform or podium at the side. There remained, therefore, only a difference in height between the sculptured drums and an ordinary Ionic base; and he (the speaker) agreed that there was no necessity at all to put a base underneath the sculptured column.

Sir HENRY HOWORTH, K.C.I.E., M.P., said he had been much interested in the discussion and in the most admirable Paper which had been addressed to an audience nearly all of whom were specialists. He, as a Philistine, and representative of the few Philistines present, had been most delighted, not only with the fulness of matter, which they expected from Dr. Murray, but with the excessive modesty with which the whole had been presented. It was impossible for anybody to realise from the Paper the immense amount of pains, trouble, and care he had taken to elaborate the specific history of the temple which concerned his subject; and the same modesty was shown also in the conclusion. If he might for the moment forget himself, and adopt the attitude of a German professor who was obliged, by the very necessities of his position, to find some new theory

in order to justify his existence, he should like to say a few words. With reference to the Ionic column: in the earlier stage they had the very primitive column without any flutings; in the second they had it with very rude flutings, but still with distinct flutings. Now it was a remarkable fact that at that very time the introduction of flutings apparently into both the Ionic and Doric columns was already spread over the Greek world, and one was led to inquire, How came it and whence was it that that revolution took place in the history of that wonderful feature in Greek architecture? It seemed to him that a little side light might be thrown upon the problem of how those columns stood if the question were approached from the side of the Egyptian temple. He should have said that that would have been an immediate key—would probably have explained the matter completely—but for one or two difficulties which presented themselves to his mind. He thought that the subjects on the square pedestals were incongruous with the subjects on the round drums which were planted above them in the reconstruction in the British Museum. He could not see the smallest trace of a square base on the many coins that he had examined to try and make out the construction of the sculptured columns. They seemed to him to be circular right down to the ground, and it seemed to him also that the great Italian painters when they painted the Beautiful Gate of the temple designed it from their idea of what Pliny meant. It was really formed of those sculptured columns directly upon the ground, and not upon great, tall bases. They would, however, understand that it would be the greatest impertinence on his part to raise any issue with his friend Dr. Murray, except, of course, for the purpose of getting him on his feet.

MR. G. A. T. MIDDLETON [*A.*] said he had followed Dr. Murray with conviction, so far as the facts he had mentioned were concerned; but there were some few fragments in the British Museum which he had not mentioned, and one of those was of peculiar architectural interest, namely, the Corinthian capital on an elliptical base. He should like to ask Dr. Murray whether, in his very careful examination of these remains, he had been able to come to any conclusion as to where that Corinthian column was placed. It was unique, of course, in being upon such a peculiarly shaped base—elliptical and not circular. Another question he should like to ask—and fortunately he had been able to ask him privately when he happened to meet him in the Museum recently—was this: There were, as was well known, upon the uncut eyes of one of the volutes in the Museum certain centre points and scratchings: had these ever been really carefully worked out in the endeavour to discover how the volute was originally described? Dr. Murray had answered him in the affirmative as to their having been several times carefully drawn and worked, but in the negative as to the discovery of the manner in which the volute had really been struck. Now if that were the case, there was still an opportunity of comparing with another example, for in the British Museum there was another Ionic capital, with an uncut eye upon which centre-points were to be seen, and that he had had the pleasure of showing Dr. Murray. It was a small Ionic capital from the Propylæum of the Temenos of Athene Polias at Priene, now in the Mausoleum Room—quite a small thing—and the centre-points were themselves so small that they would escape casual observation; but his attention was first drawn to them under the powerful electric light, which, of course, threw a dark shadow into the hollows. Looking the second time in daylight, he had been able to find them without any delay. They were perfectly clear upon one of the eyes. They were not to be seen easily upon the other, but Dr. Murray said that in all probability he would be able to find them there on cleaning.

MR. H. HEATHCOTE STATHAM [*F.*] thought they might congratulate Dr. Murray on having brought before them a more probable and a more logical explanation of the part which the square sculptured pedestals played in the temple than had ever been offered before. For himself, ever since the late Sir Charles Newton showed him on the top of those square blocks the circular drip-mark of the torus, he had had the most absolute conviction on the subject, and he never had the slightest doubt that the square pedestals supported a column. Dr. Murray seemed to have found, by providing a lower platform near the bottom steps, a place for the square pedestals by which they could support a column of the same proportions as the inner row which would stand upon the upper step. It seemed to him (the speaker) by far the most probable solution that had yet been afforded them. There was one interesting point in the remains that they had never had an explanation of yet, and which Dr Murray had touched upon, and that was the one circular sculptured drum which was 3 inches thicker than the rest. It was a very curious consideration as to what part of the temple that could have belonged. Dr. Murray suggested that in consequence of its width they might imagine it to have a greater height. He also referred to it as being possibly at the angle of the temple. Of course, to put an increased width in a column at the angle of the temple was a perfectly natural and frequent device, though to go to the extent of 3 inches would be a great deal. But he should be rather inclined to think that the angle position was the explanation of that. At all events they could hardly imagine where that column could have come if they were to suppose it to be of a different height

from the rest. There was another point about that sculptured drum: if he remembered rightly, it showed signs of being a great deal more weather-worn than the rest. [Dr. Murray signified that such was the case.] That would be some indication of where it stood—at all events, an indication that it stood in a more exposed position. When those who were interested in the subject were able to see what was at present in the basement of the Museum, and which would be brought up eventually, they would find a most interesting object in that archaic Ionic capital from the older temple which had been referred to, which had differences of the most peculiar and unexpected nature from the normal Ionic capital: and he was quite sure that they would admire very much the ingenuity with which it had been put together from the very small actual remains which there were. The remains were pieced up with it, but they were so very small that it was really quite a feat to have put together the capital in the way that had been done. Dr. Murray, in passing, had used one expression which recalled to him an idea he had often had before. He spoke about the late Roman coins, and said they were more valuable in regard to what they showed than to what they omitted. Now, in looking at coins for the light they were able to throw upon ancient architecture, it was extremely important to remember that what the medallist put in was, in fact, all that was of any value; what he omitted need not be considered; for this reason: a man engraving a building upon a coin—for instance, a man putting the Temple of Ephesus on an Ephesian coin—desired to make it recognisable, and he did so as far as he could within the limits of his space, and the possibilities of engraving on a small scale. Therefore, whatever they found on the ancient coin they might be certain there was some reason for. What a man left out might be to save himself trouble. Any feature to be found in an ancient coin professing to represent a building of a certain city was almost overwhelming proof that something of that sort was there; because otherwise the man who made the coin would never have given himself the trouble to put it in. That, he thought, was sometimes a little forgotten in estimating the value of evidence from ancient coins. One other remark he wanted to make. It was not quite correct to say that Mr. Wood was never misled. Mr. Wood showed a great pertinacity and perseverance, and never knew when he was beaten; but the fact was that he looked for the temple for six years on the wrong side of the city, although the literary evidence that it was on the other side was quite accessible.

THE PRESIDENT said he had listened, as they had all done, with the greatest delight to the amount of information given in the Paper, and the extremely clear and admirable way in which Dr. Murray had expressed his views. He himself had not studied particularly the Temple at Ephesus. He had been in that city, but only for two or three hours. It enabled him, however, to demolish one of the grounds upon which Fergusson had offered to support his theory of the nine columns. He said that it was obvious that it might have had nine columns because on that side there was a hill which entirely intercepted the view of the temple. He did not remember his exact words, but that was the gist of his argument. Now, it so happened that there was no hill at all, or not enough to interfere with the view of the temple. There was, indeed, Mr. Wood's excavation hill, or spoil-bank it might be called, when one was down in the bottom of the diggings—down at the pond which now occupied the place of his later excavations, which hindered one looking from east to west—but there was nothing in the nature of a hill when the ground was all clear, so that the question of the nine columns could not rest in any way upon the nature of the situation. He thought that Professor Aitchison and those who had followed him had given some extremely suggestive points to reflect upon.

DR. MURRAY [*H.A.*], in responding to the Vote of Thanks, said that he valued very highly the opinion of architects, and indeed owed a great deal to them in the course of his official work—to old friends such as Professor Aitchison—for their advice and encouragement, and much also to some of the younger men, whom he saw now so frequently in the Museum. He thought a great change from older times was noticeable. If they went through the galleries on a Saturday afternoon they would find not a few of these younger men drawing and measuring there. He did not remember that sort of thing until within the last few years. That reminded him of the question Mr. Middleton had asked about the elliptical Corinthian capital. He had not attempted to utilise that capital, because he did not see that it belonged necessarily to the temple. He did not find the least evidence that it did. Mr. Wood found it on the site, it was true; but the building to which it belonged they could not at all guess. Sir Henry Howorth, he was afraid, he could not answer; but he was prepared to read his Paper over again to Sir Henry privately. What Mr. Statham had said about the coins was very true and very just; but it was possible also that a coin of Hadrian or of Antoninus Pius, showing the front of the Temple at Ephesus, and struck possibly in Rome or in Alexandria, or some great minting place, might have been taken, not directly from the temple by some one who knew it and drew it, but from one of those numerous shrines of Diana that were sold to pilgrims; so that the coins might represent in some respects a considerable change from the original temple.

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