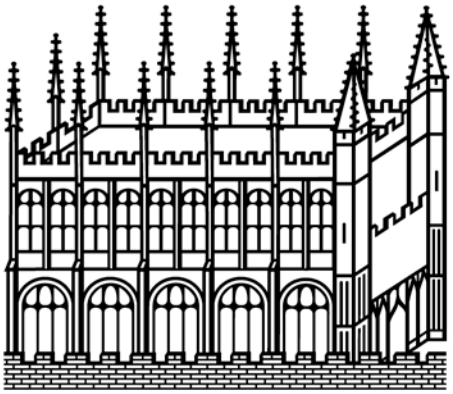

ON THE HYPÆTHRON OF GREEK TEMPLES.

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OF

GREEK TEMPLES;

A PAPER READ BEFORE THE ARCHÆOLOGICAL SOCIETY OF BERLIN.

TOGETHER WITH

SOME OBSERVATIONS IN REPLY TO THE REVIEWERS

OF

"DÆDALUS."

BY

EDWARD FALKENER.

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A REPLY,

&c.

THE Reviews of "Dædalus," with but one or two exceptions, have been written in so friendly a spirit, that it would ill become me not to express my gratitude to the various writers; the more so as it must necessarily be a delicate task to review a book written by one whose name was comparatively unknown, and in which the opinions of eminent living artists are sometimes controverted, and their works criticized. Whenever, therefore, under such circumstances, my Reviewers have agreed with me, I have felt indebted to them for that generous independence which has prompted them, despite of names, however celebrated, to adopt opinions which were likely to be contested by those who are justly regarded as the authorities of the day. These expressions of approval, coming from writers of experience, have had the effect of confirming me in my previous

judgment, and of leading me to conclude that I had not too rashly or too ignorantly expressed opinions on subjects which I should rather have left to be treated on by the professional writer. It cannot be expected however that the Reviewer should always agree with such opinions, nor indeed can it be expected that the Reviewer should be equally acquainted with every subject on which he is called upon to pronounce his verdict. Frequently it may happen that the author's meaning is not clearly understood, or that the author not being at hand to answer some question, the Reviewer is led to adopt an adverse theory, and this theory being delivered *ex cathedra* is looked upon as conclusive by a large mass of readers. It is possible that these objections and criticisms may be confined to one journal; and yet if the author answers any reviews he is expected to answer this, although the so doing may appear quite unnecessary to his other readers. It might be thought sufficient, in answer to such random objections, to refer the writer to contrary opinions expressed by other journals; but such a course is calculated rather to protect the reputation than to elicit truth, to shelter oneself behind the opinions of others rather than to produce the evidences of truth itself. I will therefore proceed to answer shortly some of the objections which have been incidentally raised by those who have reviewed my work.

As I could not expect all my readers to agree with me in my restoration of the Parthenon with a circular ceiling, especially when I put forward that restoration only as an hypothetical solution of the difficulty of placing a pedestal and statue fifty feet high inside of a temple which had only fifty-five feet, I have nothing to complain of when I find some objecting to it; on the contrary, I feel more than gratified in finding that there are others who accept the theory. One writer, however, remarks that the figures shown in my Restoration are too small. This criticism is not correct, and the reader may easily satisfy himself on the subject by remembering that the figure of Victory is six feet high, or the size of the human figure; and if after viewing this figure the reader looks down on the priests and singers below he will find that the scale of the building is scrupulously observed.

The first objection which is brought against me is that I seem to believe in Dædalus as a real personage. If I had passed by all the fables of Dædalus, because I had no facts to adduce, I should have had nothing to say about him, and my critic would then have censured me for calling my book by a name which I did not once refer to in the work itself. I felt it necessary, therefore, by reason of the title of my book, to omit no myth which had reference to the supposed father of sculpture.

One writer goes with me in my arguments about

the antiquity of the arch,* but when he finds that I imagine the ceiling of the Parthenon to have been of wood, he describes the reasoning as an anti-climax. The argument is, however, very simple. I contend that the ceilings of Greek temples were of wood, and not of stone, and therefore not imitative of the forms of trabeated masonry: I then show how I have been forced to employ a curved form from the necessities of the case; but anticipating the objection that the Greeks would not have employed a curved form of ceiling unless they were conversant with the arch, I go on to show that the Greeks were necessarily well acquainted with the arch, as it was extensively made use of by the Egyptians and Assyrians.

Another writer accuses me of presumption in putting forward a drawing designed by myself as a frontispiece to the work, but the critic should have considered that the object of this frontispiece

* Mr. Layard's evidence, proving the antiquity and use of the arch in Assyria, is confirmed by Mr. Loftus, who says, "That the Assyrians used the arch has been fully proved at Khorsabad, where magnificent arches of sun-dried bricks still rest on the massive backs of the colossal bulls which guard the great gateways leading into the city, and show that not only did the Assyrians understand the construction of an arch, but also its use as a decorative feature. Mr. Loftus then refers to other evidences showing that the Assyrian mode of vaulting was very similar to that still practised at Mosul."—W. Kennett Loftus, F.G.S., *Travels and Researches in Chaldæa and Susiana*, 8vo., Lond., 1857, p. 182.

is not to exhibit my ideas of the interior of the Parthenon, but to show the wonderful effect of the chryselephantine statues of the ancients, filling all the temple, and being, by their varied colour, in harmony with the polychromic architecture of the temple which surrounded them. I regret that it is impossible to express in a small photograph this effect of colour, which can only be observable in a coloured drawing.

I am anxious to correct a slight misunderstanding of a friendly critic, who says that I am "not favourable to large public collections of works of art as a means of producing skilful artists." What I observed, however, is that "it is in vain that we add galleries to our museums if we do not study and instruct ourselves in the works which they contain."—(p. 30.)

One journal appears to think that no one can speak in favour of ancient art without having an intense disgust of mediæval art; and as it cannot find any open expression of this feeling in my book, it endeavours to fasten it upon me by referring to my observations relative to the sculptures of Wells Cathedral. Let any one after looking at these sculptures, of which Mr. Digby Wyatt said, that though they looked well in their places they "could not be put up in the Mediæval Court at the Crystal Palace without considerable modification," say whether they partake of the "conventional character

of the art of the period," (*Dœdalus*, p. 243,) or whether, as the critic would wish us to imagine,

(*From a photograph.*)

they exhibit the same wonderful genius, the same symmetrical beauty, the same exquisite finish, the same accuracy of perception, and the same knowledge of perspective, which are observable in the works of Phidias. Is there anything in the disproportion of these figures at all analogous with the delicate alteration of form observable in Greek architecture, the difference of which was so minute as only to be discovered by the able mathematician? I might say more upon this subject, upon the in-

justice of trying to make out a case against an author upon a false conception of some isolated fact, and at variance it may be, and as in the present case it is, with the opinions and feelings of the author.

While one critic is thus angry with me for refusing to place the statues of Wells Cathedral in the same rank as the works of Phidias, another, in one of last month's serials, says, " Mr. Falkener affects to despise the sculptures at Wells, Lincoln, and Salisbury. Has he ever seen them? From the manner in which he mentions them we can almost for certain say *No* to each of these questions." I would beg to remind my conscientious critic that I do not once refer to the sculptures of either Lincoln or Salisbury. Again, the same *urban e* critic accuses me of backing up my theory of a curved ceiling from " representations of temples on Roman coins, taken from the excellent work of Professor D.;" omitting to tell his readers, that if they refer to the work in question, they will not find the three coins given in my " Dædalus:" one, indeed, a coin of Samos, is there found, but so differently treated that it would not be recognizable: besides, it so happens that the learned professor's theory and my own on this subject are so much at variance, that there could be no opportunity, as there could be no inducement, to copy from him. Nothing can be more absurd or more unjusti-

fiable, than to charge all future writers on any subject with plagiarism, because the reviewer happens to have heard that one A. B., C. or D. once wrote a book bearing on the same subject. My examples were taken from coins in the medal-room of the British Museum. There is something iniquitous in anonymous writers thus launching unmerited insinuations, and often direct accusations, against an author who has been labouring to perform his duty, sheltering themselves all the while under the ægis of some

Fresco Painting of Pygmies engaged in SYLVAN *Sports.*
*From the Sub-*URBAN *Villa—Pompeii.*

venerated name. When we contrast "Notices" of this description with the articles which appear in our leading Reviews and Journals, articles written by men who include in their ranks the first writers of the age, men whose names are known and celebrated

by their own writings, and whose works display thought and genius in every line, we must lament that some of these writers do not give us an article on the modern system of reviewing, just as it would now be desirable to appoint a Royal commission to investigate the abuses arising from high-paid commissionerships.

I have been accused by the advocate of the Wells Cathedral sculpture of worshipping the Venus de' Medici. It so happens that I have not said one word about this statue. I have quoted an expression of Bernini's, and inserted some lines by Byron, thinking that poetry would be considered as a kind of embellishment to the book; but all the time I reproached myself that I had inserted a photograph of the statue as a kind of pendant to the Apollo Belvedere, as these two statues are so generally placed together, without having occasion to make any remarks about it. In the same breath I am accused of ignoring the Theseus and the Illyssus, the Venus of Milo, the Venus of Capua, the Discobuli, and other masterpieces of ancient art. I did so for a very good reason; simply that they did not come within the scope of my work. I was not writing a descriptive catalogue of all the museums of Europe, neither was I writing a history of the art of sculpture, not even a general essay on Greek sculpture, but simply an Essay on the Causes and Principles of the Excellence of Greek Sculpture.

Will my objectors tell me what cause or principle of success any of these statues exhibit? I am sorry to place them on the horns of a dilemma; but they must either acknowledge they have no cause or principle of success to point out, of which these statues furnish an example; or if they have any, then they strengthen my position by furnishing me with additional examples in support of my arguments. Can they discover in them any intentional alteration of proportion, as in the Apollo Belvedere,—any corrective for optical perspective, as in the Bacchus of the Choragic monument of Thrasyllus,—any idealic character marked by extraordinary departure from the real and natural, as in the Laocöon,—any poetic transmutation of deformity into beauty, as in the Parcæ of the Parthenon pediment; or can they, in fine, discover any other peculiarity in form or treatment, by means of which the ancient artists succeeded in producing these incomparable works? They must not be content to praise them, for that we all do; we all acknowledge them to be transcendently beautiful; but they must point out under what chapter in my book I should have placed them, and then, should their remarks be just, and my book reach a second edition, I will not fail to record their discovery with gratitude and satisfaction.

Having omitted to say anything about the Venus de' Medici before, I must endeavour to make up for the deficiency by relating the following anecdote:—

When the museums of Europe were sacked by Napoleon, and their treasures of art abstracted, he sent one of his Field-Marshals to Florence for the Venus de' Medici, saying that he wanted it to give in marriage to the Apollo Belvedere. "Take it," said the keeper of the gallery, "but tell His Majesty that there will be no progeny;" meaning, as we have said above, that the mere possession of works of art will not make an artist.

There are many in the present day who still insist upon a strict adherence to nature, however uncouth or deformed that may be. I have, on the contrary, endeavoured to prove that the Greeks constantly sought and endeavoured to express the beautiful. The lines of the German poet illustrate the truth of this,—

> "Denn in der schönen Kunst
> Ist nur das Schöne schön."

An analogous and equally difficult subject to treat is that of costume. Though asserting the superior elegance of the ancient costume, I have admitted the necessity of sometimes exhibiting the costume of the period; but what I have endeavoured to show is, that neither classic costume nor modern costume is sufficient in itself. Ancient costume, however correct, will appear rude and vulgar when unskilfully treated; just as modern costume may appear elegant and classic when treated by a great master.

The drapery which we see on ancient sculpture is not exactly such as was worn in ancient times; and so modern costume should not be rendered with every little minutiæ, but should be treated with such largeness and such ideal character as to be conformable to the laws of taste. So that it may be said, according to its treatment by the artist, more than according to the date of its costume, that a statue is pure and classic, or rude and barbarous.

It is worthy of remark, as showing the opinion of foreigners on this subject, that the Emperor of the French has recently given orders to change the statue of Napoleon on the top of the column at the Place Vendome to a statue of the same emperor in an heroic costume; in other words, to change Bonaparte into Napoleon, the Bonaparte of the popular idea into the Napoleon of history and future ages.

In the chapter on Perspective I have given some examples of the distortion caused by the diminution of perpendicular lines and exaggeration of horizontal lines, when seen from below. A similar instance has been pointed out to me by M. Longperier, the Conservateur of the Louvre; it is the statue of Bossuet in Meaux Cathedral. The preacher extends his right arm, which, being horizontal, appears of a most extravagant proportion.

One journal suggests that the examples of modern art given in "Dædalus" are from inferior specimens, and therefore not fair representations of modern art;

but unfortunately they are specimens of our public sculpture, and if inferior, we have the greater reason to complain. Since the appearance of that work two other statues have been erected; and do we find

exhibited in them any greater attention to the laws and requirements of perspective? Owing to the nature of his material, an architect must judge of his intended building by anticipation of its effect when finished, being guided by the experience which he has attained in former works; but the sculptor has his large plaster model, by examination of which he can ascertain what will be the effect of the finished marble. Why should not the plaster model be exhibited in the place intended for the statue, so that the sculptor should have the benefit of examining it from every point of view,—an opportunity which is

denied him in the contracted limits of his studio? Even in architecture, I remember having seen, many years ago, at Trieste, an immense screen erected in the public place, covered with canvass, and painted by a scene-painter, to represent a triumphal arch which was intended to be erected after the designs of the Cav. Pietro Nobile. This gave opportunity, not only for the public to offer their criticisms, but which is still more important, for the artist himself to correct and modify his design. Had this advantage been accorded to our sculptors in the present instance, it is probable that more drapery would have been given in the one instance, and less in

the other. Had the drapery in the statue of Havelock been extended to the ground it would not have

hurt the effect of the statue in front, while it would have greatly improved it behind. Had there been less drapery used in the Guards' monument, the figure would have more resembled Honour, or a Victory in front, while it would be infinitely less ungraceful as seen in the rear.* As the statues now appear, in the one case we have a figure apparently without legs; in the other a figure apparently without a head.

But in answering the objections of others there are one or two points on which I must correct myself. In speaking of colossal sculpture I referred to the celebrated statue of Frederick the Great at Berlin as wanting in the characteristics of the colossal, from the want of subserviency in the size of the figures of the pedestal. Since writing these remarks I have again visited Berlin, and on beholding the statue, though I felt my observation to be quite true, I reproached myself for not speaking in such commendation of this statue as its merits deserve. I consider it the finest modern work in Europe.

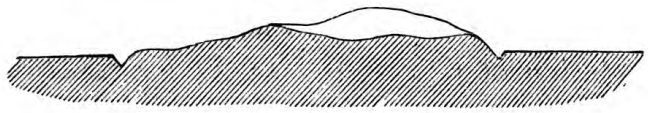
I noticed the harmonious effect of the granite pedestals of bronze statues in Stockholm as a peculiarity of that city; but I now find that the bronze

* The investing a figure of Honour or Victory with heavy drapery, to prevent its moving, proceeded, I presume, from the same principle with which the ancients represented her as *apteros*, to prevent her flying. Possibly some might prefer to see the goddess with wings, but with less drapery.

sculpture of Berlin also is invariably placed upon polished dark granite pedestals, frequently ornamented with bronze panels or sculpture, so that the harmony of the whole is still more apparent.

I have spoken of the dark colour of our bronze sculpture when first erected, and of the artificial bronze colouring which is sometimes applied to it, and which makes it in a very short time as black as lead. The bronze sculpture of Berlin and Munich when first cast is as bright as gold, and nothing is more beautiful. Nothing is done to colour it; and when its brightness does wear off, it is succeeded by a roseate hue which it would be vain to imitate.

Under the head of Perspective I observed that among other contrivances observable in the Halicarnassian marbles, in order to compensate for the great height of position, the artists resorted to the



expedient of sinking or indenting the outlines of the figures, so that the light side of the figures might have as clear a profile as the dark side. This expedient I have not observed in any other Greek sculptures, and it was therefore with considerable pleasure and surprise that I found, on my recent visit to Munich, that the eminent architect Von Klenze had resorted to this expedient in the bas-

reliefs of the new Propylæa, having been led to adopt it solely from his reflections on the means how he might best provide against the difficulties of the position.

Having now dismissed several minor points of criticism, I turn to one upon which I must speak at more length, as it relates to a theory which has been adopted by many writers, from the supposition that because it had not hitherto been refuted it was incontrovertible. One journal speaks of the "ingenious theory of an elevated clerestory with span roof on each side" as being more in accordance with the spirit of Greek architecture; while another journal says, "No reference—or if any, a very oblique one—is made to the most plausible hypothesis yet thrown out on the subject of hypæthral temples: that, namely, of a clerestory. . . . That suggestion has, so far as we know, never to this day been answered." I did refer to it obliquely, for I did not wish to enter into controversy: I had no object or desire to disprove the statements of others; I only had to prove my own position. Being forced to give my reasons, I must now endeavour to show that I was justified in referring to such theory in the following terms:—

"Some have supposed that the hypæthron consisted of a range of skylights on either side, ignorant of the sacred signification of an hypæthron." (*Dædalus*, p. 2.)

There is no portion of the Greek temple which is

so clearly described to us as the hypæthral opening, and yet there is no subject which has been so much controverted. This arises from our being unable, in our cold countries, to understand the requirements of warmer climates; and being inhabitants of a Christian country, to understand the usages of a heathen land. At one time it was supposed that all temples were dark, and that they were purposely made so from motives of religion. Stuart showed that at least the larger temples had an hypæthral opening; some then contended that the doorway was amply sufficient to light the temple, forgetting that the Egyptian temples are quite dark, notwithstanding that the sun is much more powerful in Egypt than in Greece; others then concluded that the cella of the Greek temple was entirely uncovered, thus leaving the statue without protection; others argued that Greek temples must have been provided with windows, because some few Roman temples have such openings; and others have insisted that the hypæthron had nothing to do with the temple, but that it was an open court in front of it; while, lastly, a new theory has been broached, which *must* be necessarily true, and all other theories necessarily false,—which is, that the Greek temple was very much like a Gothic cathedral, having a nave and two aisles, covered with higher and lower roofs, and lit by clerestory windows; that it was, in fact, lit as well as any modern building,

and that as we should light it so, therefore the ancients could not have done otherwise. It will be seen from these various arguments that the same array of proofs has had to be brought forward successively against each of these hypotheses. But the more truth is attacked, the brighter does it appear; and the more objections are brought against it, the more arguments is it able to adduce. Had Prof. Bötticher's Essay, "Der Hypäthral-tempel auf Grund des Vitruvischen Zeugnisses, gegen Prof. L. Ross," been more generally known, it is probable that the new theory, of lateral or clerestory openings, would not have appeared, though the learned Professor's arguments are chiefly against the upholders of no lights at all, and not against a theory which in the writer's time had not been broached. The object of the present essay therefore is, first, to show what the Hypæthron was, both from actual descriptions and from mythological arguments; and secondly, to show what it was not.

I begin then by maintaining that the hypæthral opening of Greek temples was vertical, and not as asserted by a recent writer upon art, lateral. Led away by the emphatic and attractive style of this writer, people have imagined that an hypæthral notch in the roof must have been ugly, and therefore could not have been permitted by the Greeks; that it must have been inconvenient, and therefore could not have existed; while, on the other hand,

that the side apertures could light the temple effectually, as well as protect the statue from rain or sunshine; and therefore that Greek temples must have had lateral apertures instead of vertical. It seems difficult to imagine how any doubt could have arisen on this subject. The very word itself, *hypæthron*, signifies *under heaven*. The terms by which it is explained by Roman writers, prove the same meaning. In describing the porticos at the back of the ancient theatre, Vitruvius says that the square enclosed by these porticos was open; in other words, that it was hypæthral. "Media vero spatia, quæ erant *sub divo* inter porticus, adornanda viridibus videntur; quod *hypæthræ ambulationes*," etc. (*De Arch.* v. 9.) Can any one, in the face of such a passage, pretend that the hypæthral walks of this viridarium, xystus, or paradisus, were lit by lateral openings? Again, in describing the hypæthral opening of temples, Vitruvius says, "*Medium* autem *sub divo* est *sine tecto*." (*De Arch.* iii. 1.) Can anything be clearer than this? An opening *sub divo* can only be a vertical opening.

Nor is this new theory of lateral openings conflicting only against the precise and matter-of-fact descriptions by Vitruvius, but it is equally opposed to the sacred meaning of an hypæthron. The temples of the inferior deities were covered; but those of the superior gods were generally hypæthral, to denote that though the statue was placed within the temple,

the deity could not be contained within walls, but had its habitation in the heavens. Thus, Vitruvius says, "Temples which are hypæthral, and unenclosed, are built to Jupiter Tonans, Cœlus, the Sun, and the Moon, because these divinities are certainly known to us by their presence night and day, and throughout all space." (i. 2.) In the same manner Josephus tells us that "the gateway of the Temple of Solomon had no doors, for it represented the universal visibility of the heavens, and that the deity cannot be excluded from any place." (Bell. v. 5, 4.) We read also that on account of the derivation of the name of the god Fidius the roof of his temple was pierced, in order that the heaven may be seen, "ut videatur divum, id est, cœlum." (Varro, *de Ling. Lat.* iv.) The god Terminus was also worshipped *sub divo*, (Serv. *ad Virg. Æn.* ix. 448,) and when it was required to pull down various temples to make room for the temple of Jupiter Capitolinus at Rome, the priests of the god Terminus asserted the impossibility of the god of boundaries giving way even for Jupiter; and the temple of Terminus was therefore enclosed within the walls of the temple of Jupiter, and an opening was constructed in the roof, immediately above his shrine.—(Ovid. *Fasti*, ii. 667.)

> "Nunc quoque, se supra nisi sidera cernat,
> Exiguum templi tecta foramen habent."

It was for this reason, as Varro expressly tells

us, that the temples of Jupiter were always perforated. That this was the object of the opening appears from several of the hexastyle temples, as those of Pæstum, Ægina, and Phigalia, having hypæthral arrangements, notwithstanding the necessarily restricted area of the cella, consequent upon an hexastyle disposition of plan, would render such arrangement unnecessary. Indeed, the temple at Ægina is so small that the width of the cella from column to column is only ten feet; and the width of the porticos, and galleries over, three feet one inch and a half from the columns to the wall.*

* But it has been objected by the author of "Keine Hypäthraltempel mehr" that if these hypæthrons really existed, we should have some trace of them in ancient monuments; and he adduces two examples where we might have expected them, the celebrated Zoega bas-reliefs, (ii. 99,) and a coin of Athens; in the first of which he sees the temple of Apollo at Delphi, and in the other the Parthenon. Professor Bötticher, however, shows that the Zoegan bas-relief cannot be the Delphian temple, as it has Corinthian columns, a Gorgon and Triton in the pediment, &c., which we know never existed; and as for the Parthenon, the temple shown on one coin published by Colonel Leake, has only two columns in the portico and four on the side; another coin represents two in front and six at the side; and another four in front and four at the side. How is it possible, then, that where so few columns are shown, and so many important parts omitted, so small a break in the roof as that of the hypæthron could be shown on so small a space? Thus, then, if objectors demur that we cannot show them the representation of an hypæthron on any ancient monument, we would reply that they must first show us the representations of such monuments. But Professor Bötticher directs attention to a tomb at Corneto, published by Gailhabaud,

This, then, was the opening, *opaion*, in the roof of the temple of Ceres, at Eleusis, described by Plutarch; (*in Peric.*) to afford connection between the statue of the goddess enshrined in the temple, and the celestial regions from whence she came; and not merely, as has been erroneously supposed by one writer, perforated lacunaria intended for the transmission of light; for the temples were purposely kept obscure, to give greater secrecy and mystery to the celebration of the ceremonies; and when light was required, it was not the light of day, unless the arrangement were hypæthral; but that afforded by the brilliant and magic effect of countless lamps artistically placed, rendered living by the undulating motion of the flambeaux of the company of sacred torch-bearers, and by the clouds of perfume rising in honour of the god. These suspended lamps are described to us by Pliny. (*Hist. Nat.* xxxiv. 3.) M. Quatremère de Quincy opposes this idea, on the ground that Pausanias describes many temples where only one lamp was kept burning; but

(*Monuments Anciens;* in which work, unfortunately, there are neither pages of text nor numbers of plates,) where he thinks he can discover the representation of the hypæthron of a temple. Another example occurs in an Etruscan sarcophagus in the Museum of Berlin, No. 539, in the form of a temple, having an hypæthral opening at the top. But, though both these examples are probable, they are far from certain; as in one case the tomb may represent a house rather than a temple, and the sinking in the sarcophagus may be for the purpose of attaching a bust or ornament.

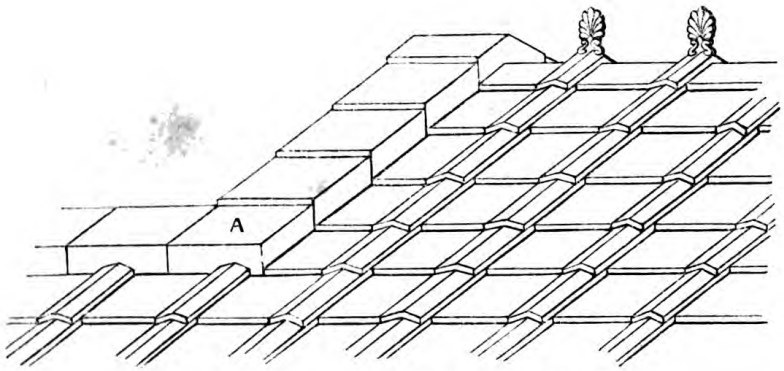
he omits to notice that in these instances a lamp was required to be kept *constantly* burning, from religious motives. In one of these instances, the temple of Juno at Argos, it is uncertain whether it is this sacred lamp or some other which is referred to. (Paus. ii. 17.) In the temple of Pan, in Arcadia, it is not a lamp, but a fire, *ignis pervigil*, which was never suffered to be extinguished. (Paus. viii. 37.) So also in the temple of Ceres, and in that of Proserpine in Mantinea, (Paus. viii. 9,) and of Diana on Mount Crathis, there was a fire which was kept constantly burning. In the temple of Minerva Polias there was a wonderful lamp constructed by Callimachus, which, according to Pausanias, (i. 26,) was capable of burning for a whole year without trimming; or, if we believe Strabo, it burnt perpetually. For further instances, see Dion. Chrys. *Orat.* 12; Plut. *de Liberis educ.* The office of torch-bearer was an important appendage to the heathen temples, and extraordinary effects of light and darkness were exhibited in the Eleusinian mysteries. In Apuleius we read of a terrible darkness being increased by a scene of brilliancy and beauty; and on another occasion, after reaching the confines of the dead, and placing his foot on Proserpine's abode, he suddenly saw the sun shining with a dazzling light, and found himself in the presence of the gods.

Thus, then, we see that it was by no means re-

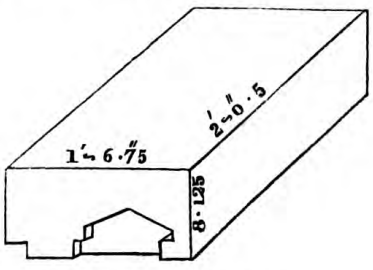
quisite that all the heathen temples should be lit by windows; while it was necessary that some temples, and more especially the greater ones, should be furnished with an hypæthral opening, as a religious requirement. One instance is given as showing the use of this hypæthron. It is by Justinus, (xxiv. 8,) who describes Apollo leaping down through the hypæthron of his temple at Delos: he uses the words, "*per aperta fastigia culminis.*" It is remarkable that Justinus should here use two words—*fastigium* and *culmen*—each of which signified the same thing—the ridge or uppermost summit of a building. The word *fastigium* is sometimes used for a pediment, and the hypæthral opening being on the ridge of a temple, there would appear a pedimental section at either end. Here again, then, there can be no reference to a lateral opening. With this want of reconcilement, therefore, with the descriptions by Vitruvius and others as to the actual construction, with this departure from the requirements of sacred usage, and in the absence of all evidence from actual remains, one is astounded at finding it said of this novel theory of lateral openings, that "it effects all that is required, and in the most beautiful manner; besides that it agrees with all the remains of Greek temples that now exist, as well as with all the descriptions that have been handed down to us from antiquity;" and again, speaking of this me-

thod as applied to the Parthenon in particular, that "it agrees perfectly with all the remains on the spot, as well as with all the accounts that we have of that celebrated temple."

It is scarcely necessary to say more in refutation of this theory; but in case its supporters will not be satisfied without actual proof to the contrary, and should contend that, as the roofs of all ancient temples are gone, it is impossible to refer to any existing instance of an hypæthron, I will now proceed to produce two examples discovered by Professor Cockerell, and published by him in his splen-



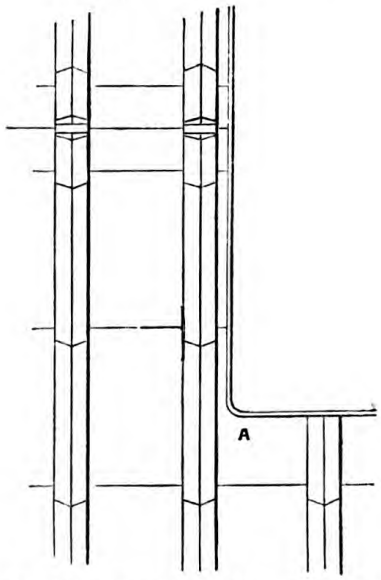
Hypæthral opening of the Temple at Ægina.



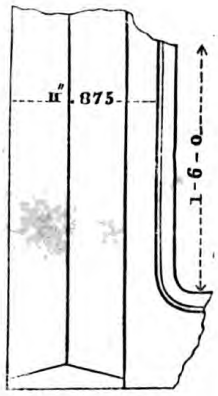
Coping-stone at A.

did work on the Temples of Phigalia and Ægina. One instance is afforded us by blocks of the marble coping of the hypæthral opening of the temple at Ægina.

The other is a fragment of the angle-tile of the Temple of Apollo, at Bassæ.



Hpycethral opening of the Temple at Bassæ.



Frayment of Tile at A.

These examples alone are sufficient to silence all future objections.

But though the theory of lateral openings agrees neither with the specifications of Vitruvius, nor with the sacred requirements of the hypæthral opening, the theory of lateral openings has found several supporters, because it more effectually provides for the lighting of the area. From what

has been already observed, however, I think it is evident that this abundance of light was not required. It must be recollected that the ancient temples were filled with paintings and statues. Now, there is no light so good for paintings as a vertical light. The more vertical a light is, the less likely is it to be reflected into the eye of the spectator. Again, nothing is so confusing in viewing works of art as cross lights. But more especially is this the case with sculpture; the lights and shades on which can never be so well seen as when the light comes from one spot. Artists are well aware of this; and it has always been considered a great privilege to see the statues of the Vatican by torchlight. Those who have seen the illuminated cross in the dome of St. Peter's (the last time it was exhibited was at the Revolution in 1849), will remember the scenic effect of light and shade in the nave, transept, and aisles of the cathedral; an effect somewhat resembling that now produced at St. Paul's by the corona of light in its dome. The advantage of a vertical light is shown, also, at the Pantheon, of which building it used to be said that the ladies of Rome loved to walk about its area, because the angle of the rays of light was considered most conducive to their beauty. But it must be remembered that although many works of art existed in the ancient temples, the statue itself of the divinity to whom the temple was erected

exceeded all the others in importance, and was placed in a central position opposite to the door, so as to be seen best by the spectator from the doorway. It was most important that this statue should have an abundance of light falling upon it at a right angle, while the rest of the temple, and the other statues, appeared in *comparative* gloom. A moment's reflection will convince every one of the necessity of this; and if this be so, a row of attic windows, dignified though they may be by the name of clerestory, will be found no more in accordance with what we may imagine to have been the mode of lighting ancient temples, than it is with the specifications of Vitruvius, or with the sacred requirements of heathen worship.

As connected with the sacred meaning of the hypæthron, we may conceive that the ancients imagined their deities ascended from their temples much in the same manner that painters represent the ascension of our Lord: but how are we to imagine that they could have ascended through one of these attic windows!*

Let us hear the conclusion of the accurate Stuart. Speaking of the hypæthral area of the temple of Jupiter Olympius, he says, "Hence, indeed, it is plain that the statue was under cover; nor can it be supposed that so magnificent and costly a work,

* *See woodcut at end of article.*

composed of ivory and gold, and delicately painted, was exposed to the open air, and to all varieties of weather. . . . . We must, therefore, allow that in temples of this kind, some effectual covering was contrived to shelter such statues from dust, sun, and rain; though we are nowhere told, nor is it easy to ascertain, the precise manner in which this was effected. It must be observed, however, that the peristyle, or inner colonnade, supported a roof which sheltered great part of the area of the cell, and seems to have projected over the statue; this, perhaps, was the roof which Strabo thought would have been in danger if Jupiter had risen from his seat. And may we not conjecture that the peplus of Minerva, in the Parthenon, and the parapetasma of Jupiter Olympius in Elis, mentioned by Pausanias in his description of that temple, were each of them suspended in their respective situations, so as to afford the requisite shade or shelter to those most celebrated statues?" (*Antiq. of Athens*, vol. ii. c. 1.)

But it is objected to the hypæthron that such an opening in the centre of a temple must have exposed the statue to the sun and dust in summer, and the rain in winter; the former might be provided against by a velarium or awning, such as were used in theatres and amphitheatres, and such as we find used at the present day at the Crystal Palace. In one of the temples at Philæ, I observed the

corona of the cornice all round the court pierced with holes, evidently for the purpose of attaching a velarium, and I have a drawing of the temple indicating these holes most clearly.

That the garden-courts of houses at Damascus and other cities of the east, are occasionally so covered is evident by the wooden framework which one sees around them. That the atria and peristylia of Roman houses were sometimes so covered is evident by the paintings of triclinia discovered in the house which I excavated at Pompeii in 1847, and published in the "Museum of Classical Antiquities." (vol. ii. pp. 62—65.) And lastly, that temples were so protected is evident from the velarium removed from the temple of Diana, by Hercules, and described to us in Euripides, (*Ion.* iv. 1,) where we find the moon on high in her meridian splendour, with the sun setting on one side, and Aurora rising on the other; while in the "Digests," as pointed out by Professor Bötticher, we read, (xxxiii. 7, 12 § 17,) "Vela autem Cilicia instrumenti esse ait Cassius; quæ ideo parantur *ne ædificia vento vel pluvio laborent.*" But, in addition to the vela, the temples were protected by the *parapetasma*, or curtain. That of Ephesus was raised up from the floor and extended to the roof; that of Jupiter Olympius was let down towards the floor; while in the temple of Isis, described by Apuleius, there were two curtains which were drawn aside by the

priests so as suddenly to reveal the goddess. These curtains, which were kept drawn excepting in times of sacrifice, would effectually protect the statue. It was a veil of this kind which we find described as belonging to the tabernacle. It was of fine twisted linen, of blue, and purple, and scarlet, and adorned with cherubims. Precisely similar was that of the temple of Solomon, which Josephus says was of Babylonian manufacture. (*Bell.* v. 5, 4.) And we find the use and meaning of this veil still kept up in the *iconastasis* of the eastern church.

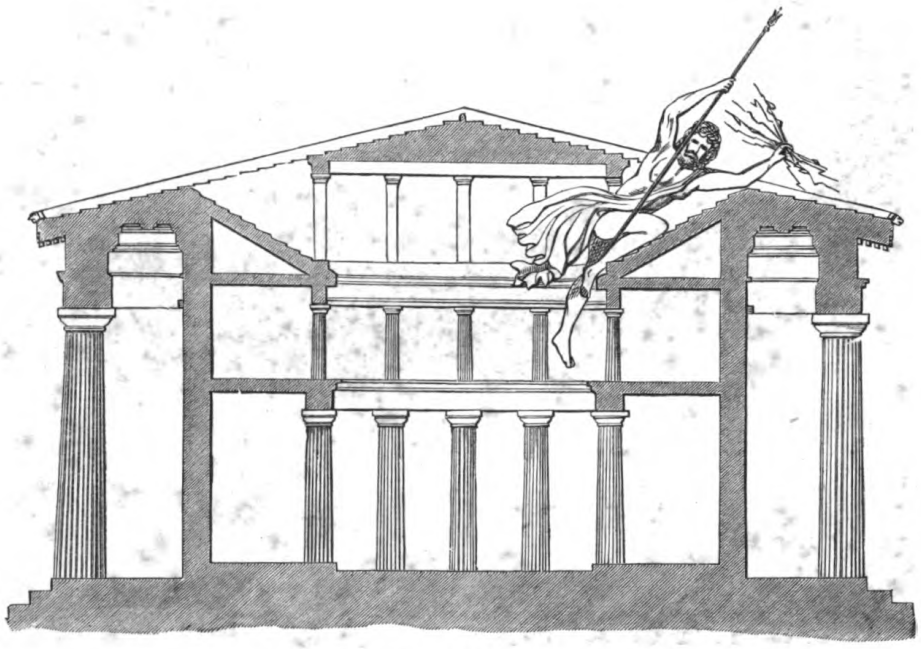
But it was not only by a velum and parapetasma that the temple was protected, Professor Bötticher also shows that the opening was closed in wet and cold weather by a *stratura* or hatchway-covering. This again is referred to in the "Digests" (L. 16, 242, § 4): "Straturam loci alicuius ex tabulis factis, quæ *æstate tollerentur et hieme ponerentur*, ædium ait esse Labeo; quoniam perpetui usus paratæ essent neque ad rem pertinere quod interim tollerentur." There is a passage in the Book of Maccabees, which throws great light upon this subject. We read, "When Antiochus Epiphanes was entered with a small company into the compass of the temple, (of Manea, in Syria,) they shut the temple as soon as he was come in, *and opening a privy door of the roof*, they threw stones like thunderbolts, and struck down the captain," &c. (2 Macc. i. 15, 16.)

But, notwithstanding these protections, the hy-

pæthron being generally open in summer weather, rain must occasionally have penetrated into the temple. To remedy this inconvenience, we find the central portion of the cella in the Parthenon depressed about three inches below the level of the remaining portion of the pavement, in order to convey away the water towards the door. This sinking is clearly perceptible in the section of the Parthenon given in page 18 of the introduction to "Dædalus," the general features of which are copied in the cut which illustrates these remarks. A similar sinking appears in the pavement of the temple at Phigalia. In the Pantheon at Rome, the pavement is inclined towards one point, so as to carry off the water; and according to Cavallari, drain-pipes for this purpose were found in more than one Sicilian temple: nor let it be thought that an occasional sprinkling of a few drops was looked upon as a great inconvenience in a hot climate, where the compluvium and impluvium formed ingredient portions of every private house.

The objections to the hypæthral arrangements being thus disposed of, how do we find these same objections affect the theory of lateral openings? In the hypæthral arrangement the opening is *displuviatum*, so that all the water of the roof is conveyed away *from* the opening; but a glance at the section showing the lateral openings, will prove that with such an arrangement all the water of the roofs *must*

be conveyed into the temple, without any possibility of excluding it; unless, indeed, we resort to English plate or German sheet-glass, revolving-shutters, eaves-gutters, valley-gutters, and rain-water-pipes.



(*See page* 33.)

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