

The Palace of Knossos and its Dependencies in the Light of Recent Discoveries and Reconstitutions

(Résumé of Communication)

BY SIR ARTHUR J. EVANS, D.LITT., M.A., F.R.S., F.S.A. [*Hon. A.*].

(*Read before the Royal Institute of British Architects on Monday, 19 November 1928*).

IT is not too much to say that in the last few years the site of Knossos has renewed its life. Not only have supplementary researches done much to complete the plan both of the upper and lower storeys of the great Palace itself, but our knowledge of its entrance system and approaches has been altogether revolutionised. New houses have been brought to light, some of them going back to Late Neolithic times, while in others, belonging to the acme of Minoan culture, new and interesting arrangements have been brought out together with a wealth of naturalistic fresco decoration.

Our knowledge of the town itself has been much extended and linked with that of the harbour town, so that the epic epithet of "broad Knossos" is seen to be nothing more than a just description. West of the stream, walls have come out of exceptional massiveness, and on the rocky steep above a series of chamber tombs, going back for the first time to the earlier age of the Palace.

I have endeavoured to set forth many of these results in the successive instalments of my work on the "Palace of Minos" that have already

appeared, and am by now well advanced with another volume, but it is naturally on the present occasion impossible to give more than a brief retrospect of some outstanding features.

Of all the developments of recent years perhaps none have been more astonishing than those that have for the first time revealed the southern entrance system of the Palace. From the indications supplied by these, moreover, it was possible to follow the traces of a main southern road of approach leading right across the central ranges of the island to a more distant harbour town on the shore of the Libyan Sea, the natural port of arrival from Egypt. The point where this "Great South Road" reached the crest of the ravine, separating it on that side from the Palace, was marked by a building of an entirely new character. It was in fact a caravanserai or "hostel," offering shelter both for man and beast, and here came to light the remarkable little refectory with its frieze of partridges and hoopoes, together with its adjoining foot-washing basin and exquisite little spring chamber, later used as a shrine. Immediately beyond this—one of the great surprises of the excavation—were uncovered the lower parts of

huge piers that had supported the viaduct by which the South Road reached the point where the earlier course of a small torrent was spanned by a Minoan bridge (Fig. 1). Splayed blocks among the

portico which, after taking a turn to the right, ascended again to the left to what had been an important South-West Porch in the earlier period of the building (Fig. 2). The data now recovered



FIG. 1.—LOWER PART OF SECTION OF VIADUCT. By Piet De Jong

ruined remains of this and others from the viaduct beyond pointed to the use of corbelled arches.

From the point where the bridge had abutted on the Palace side of the slope three causeways had diverged. One of these stepped up to the south-west corner of the Palace under a rising

showed that the use of this, as of the adjoining South Corridor, was cut short by a great seismic overthrow towards the close of the third Middle Minoan Period—early, that is, in the sixteenth century, before our era.

It was, therefore, of special interest from the

chronological point of view that in the area of this South-West Porch, as among the remains of the

with those from the façade of the "Atreus" or "Agamemnon" Tomb at Mycenae should be found.

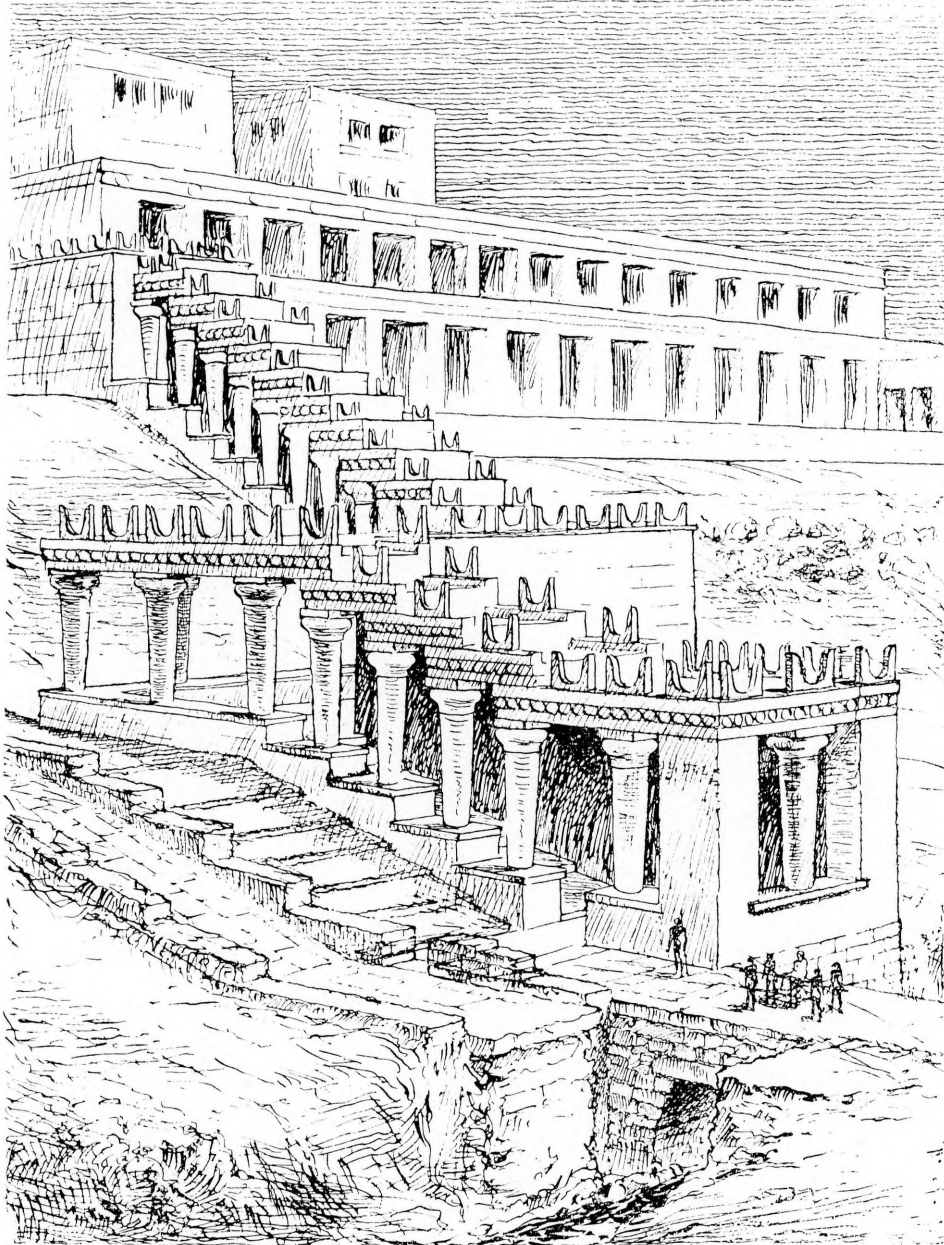


FIG. 2—RESTORED SKETCH OF STEPPED PORTICO SOUTH WEST OF PALACE
By F. G. Newton. Completed by Theodore Fyfe

earlier South Propylæum also overthrown at this time, remains of rosette reliefs and "half-rosette" friezes executed in hard stone and exactly corresponding

Further remains of similar friezes—the mark of great portals—had fallen into two basement spaces near the north-west corner of the building, and

these, in connection with other phenomena, had made it possible to recognise at that angle an entrance that had hitherto been overlooked. A flight of steps leading to it had brought this entrance into direct connection with the "Theatral Area" a little below it, which indeed seems to have been less of an actual theatre than an area for official receptions. It communicated in turn with the paved Minoan way running west towards the Little Palace.

This "Theatral Area" has itself been proved by recent investigations to have had a long antecedent history, two principal earlier levels revealing themselves. There was clearly a larger paved space here according to the earlier arrangements, which may more have resembled the West Court at Phaestos.

A branch line of the causeway, that starting from this area, served the stepped entrance at the north-west Palace angle led south across the West Court to the well-preserved remains of the West Porch. On this side, again, recent researches have thrown quite a revolutionary light on the early history of the building. A row of base slabs visible in the pavement of the court some three metres out from the later façade clearly marked a time when the original line of frontage here ran somewhat west of its later course. These early base blocks, moreover, curved in on their southern extremity, and it was found that at this point a line of causeway running due east could actually be traced beneath the later wall. It became evident, therefore, that the earlier entrance on the west side instead of finding its way south, as it does from the later West Porch, and then turning left by a detour to the South Propylæum, had entered the Palace in an eastward direction. The entrance piers of a row of magazines, marked by the cross-paté sign in the interior of the building running from west to east, belong apparently to this earlier system. We have thus at Knossos a nearer anticipation of the *decumanus maior* of Roman castra than had at first been recognisable.

Of the west porch, with its wall-paintings of bull-grappling scenes belonging to the latest age of the Palace, it is possible to make an almost complete restoration, including the recently recovered plan of a warder's lodge in addition to the central State chamber. The interior corridor into which it led is well known from the remains of the "Procession Fresco," found in parts still

adhering to its walls. Further exploration, however, has now shown that this entrance corridor was in fact preceded by an earlier and slightly narrower passage in which lay much smoke-damaged fragments of frescoes resembling that of the "Ladies in Blue" from the east quarter, and belonging to the beginning of the Third Middle Minoan Period.

The further course of the corridor of the "Procession" can be traced turning abruptly from the south-west Palace angle and running thence to the South Propylæum and beyond it to an upper South-North Corridor leading to the southern entrance. A series of new discoveries has made it possible to recover both the earlier and the later plan of the South Propylæum, which in its original shape may have been the actual prototype of that of Tiryns. The processional decoration of the entrance corridor was continued here in the later of the two Propylæum halls. A part of this has been reconstituted, with one of its imposing anterior columns and a section of its roof, in order to protect a restored replica of the Cupbearer fresco (Fig. 3), replaced on the left wall in the position from which it had fallen. A similar replica of the painted relief of the priest-king with the lily crown—executed, like the other, by Monsieur Gilliéron fils—has been set up in its original position in the upper South-North Corridor near the point where it abutted on the Central Court.

A good deal of the upper floor, representing the *piano nobile* of the west quarter of the Palace, approached from the Propylæum by a broad flight of steps, has been restored in ferro-concrete. It has been possible thus to set again firmly in their original positions various elements belonging to the upper floor found somewhat sunken, including door jambs and piers, and, in particular, to restore to their original places the fallen column bases of the principal "Tricolumnar Hall." Beyond this, moreover, blocks in position showing the cuttings for stair slabs and the fallen remains of some of the gypsum stairs themselves, have supplied the elements for the reconstitution of the first flight of the central staircase on this side, rising from above the stepped porch leading from the Central Court (*Frontispiece*).

From the cumulative evidence derived from the examination of a whole series of deposits immediately superposed by the later structures, it has been possible to establish the fact that the

Palace, as restored and remodelled in its later form, dates largely from an epoch approaching the end of M.M.III, and is to be referred on other evidence to the first decades of the sixteenth century B.C. That this was the result of a great seismic catastrophe is most clearly shown by some phenomena

A characteristic feature of the west quarter of the Palace as restored after this catastrophe was the widening out of its east façade about three metres in that direction, thus providing room for a series of porticoes and verandahs on the outside of the Central Court. In a bay between two sections of

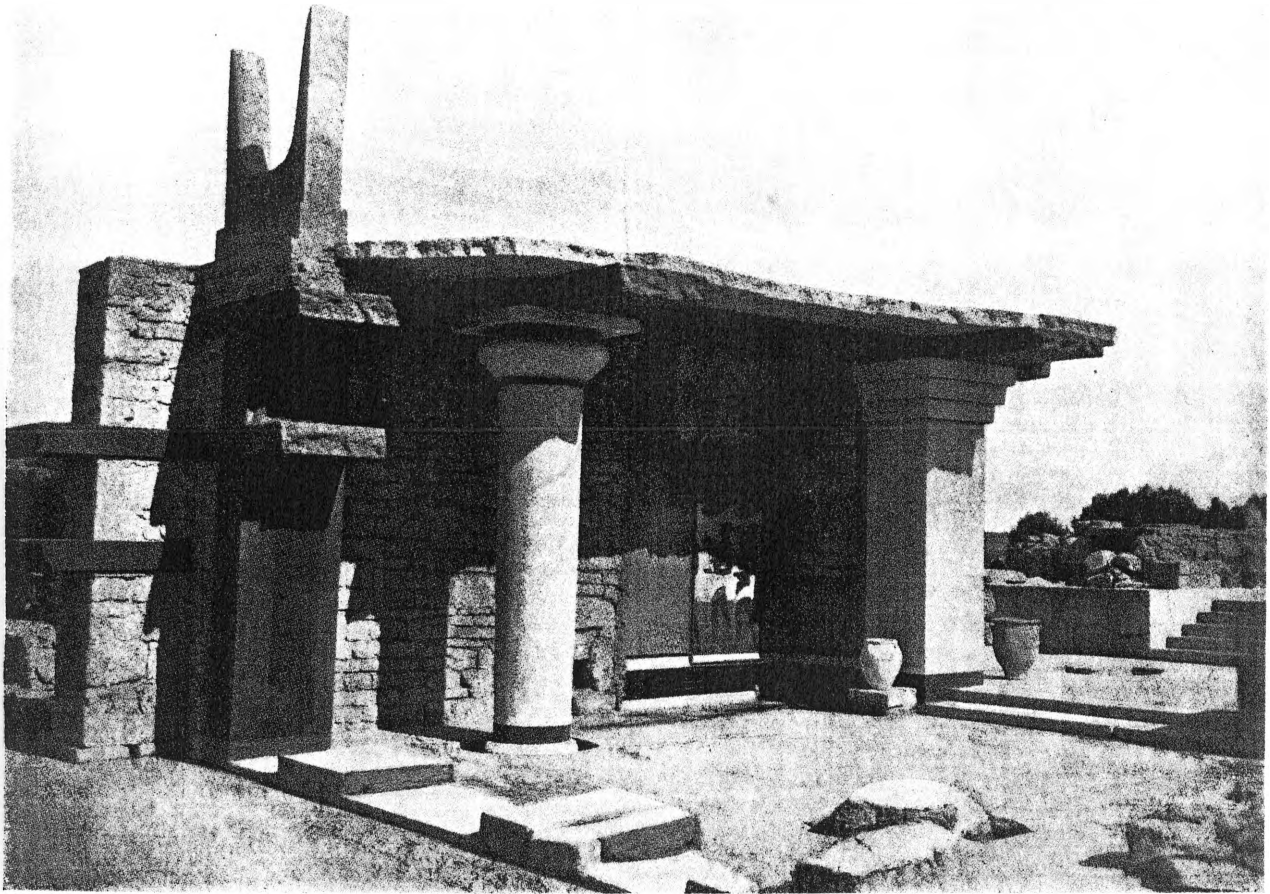


FIG. 3.—RESTORED SECTION OF SOUTH PROPYLÆUM
Showing replica of Cup Bearer Fresco, as set in original position

brought to light outside the north-east Palace angle. The original structures here—which in this case were never restored—had been in part precipitated into the deep underlying vaults due to mining operations, apparently unknown to the builders, in part hurled outside the corner walls on to some M.M.III houses lying near them, and which were found crushed beneath the great Palace blocks.

these was built a little columnar shrine, an illustration of which was submitted by me to the Institute some years back. An elevation of the west façade, the general features of which are well ascertained, and incorporating this feature, was executed for me by the late Mr. F. G. Newton (Fig. 4).

Before proceeding to a consideration of the new developments in the east quarter of the Palace it

is necessary to say something of the works of reconstitution and restoration which have in this case been absolutely imposed on the excavator to an extent unparalleled in any ancient building.

The root fact in the matter is that we had largely to deal with upper elements, in some cases even belonging to a third storey, originally supported

wells. Mixed in turn with the dissolved gypsum from the slabs that had originally coated the upper walls and slabs, and with other materials, this had become a solid mass of great supporting power. But, this once removed in the course of excavation to reach the ground floors, it is obvious that the remains of the superstructures would be

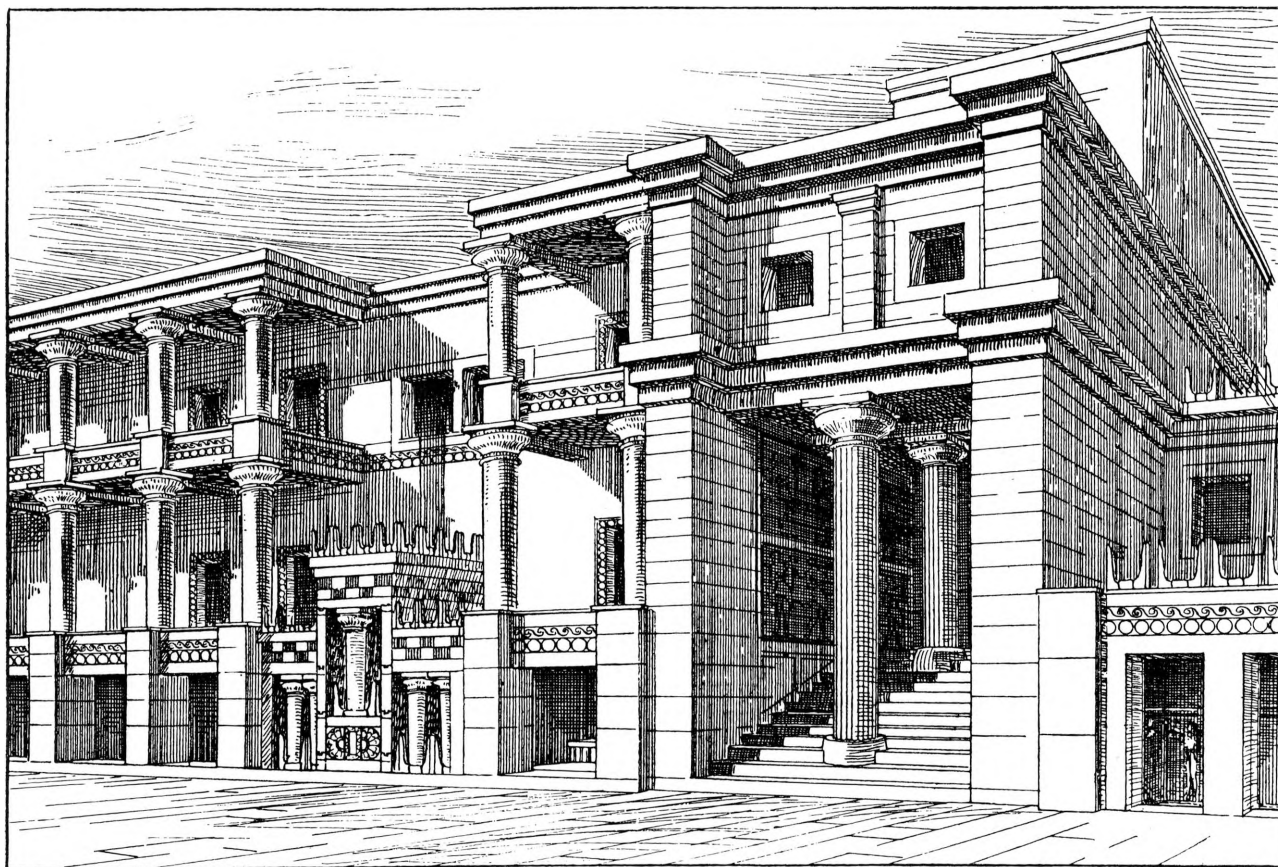


FIG. 4.—RESTORED VIEW OF SECTION OF WEST PALACE WING, FACING CENTRAL COURT
Showing columnar shrine and stepped porch. By F. G. Newton

for the most part by wooden beams and columns long since carbonised, but which, though often somewhat sunken, were found still at upper levels approximating to their original position. Among the special causes that had contributed to hold them up was the precipitation of the sunbaked bricks that seem to have been largely used for the uppermost part of the walls into the lower spaces, and the penetration of half-dissolved clayey matter under floor-levels owing to the system of light-

left in the air, and that, if they were not first re-supported in some manner, the whole fabric of the building that Time had spared would be reduced to an indistinguishable heap of ruins.

In the earlier part of the excavation an endeavour was made to grapple with the problem by means of solid stone piers and shafts of columns, supplemented by iron girders, but also by wooden posts and beams.

The colossal task before us presented itself in

its most extreme form in dealing with the grand staircase of the domestic quarter and its light area, the Hall of the Colonnades. Of the staircase itself remains of no fewer than five flights have been preserved. In the Hall of the Colonnades itself the balustrade on the north side was found as it were suspended almost at its original level, while the triple balustrade of the upper flight of stairs on the west side is seen to rest on a mass of clay and rubble, the supporting columns having been in both cases carbonised and disintegrated. It was necessary indeed to follow the downward course of the lower flight of stairs by means of a tunnel carried out with the aid of props and with all the precautions of mining operations.

These props made it possible to reconstruct, fitting them into the old sockets, columns built of stone and covered with plaster, subsequently coloured to reproduce the effect of the original Minoan columns as shown on the wall-paintings. The supporting beams were at the same time superimposed on these, in this case iron girders being supplemented by cement. The supporting wooden framework could then be removed and the staircase above left to rest securely on the restored beams and columns. Finally, the corner staircase column of the upper tier was also restored so as to make it possible—thanks to Mr. Christian Doll, and the practical knowledge of our foreman, Gregorios Antoniou—to set up at their original level the fallen stair-blocks above belonging to a fifth landing.

But the cutting out of stone shafts and capitals and the raising of stone piers involved a prohibitive amount of labour and expense. The iron girders brought to Candia by sea—some of them now lying at the bottom of the harbour—were both cumbersome and costly, and woodwork was found rapidly to rot owing to the violent alternations of the Cretan climate. It was only the adoption in recent years of the wholesale use of ferro-concrete that has made it possible to continue the work of conservation on a larger scale and in a more durable manner, and to rescue much that had been already done from the imminent danger caused by the rotting of the wooden supports. It has been thus possible to undertake a much more considerable work of reconstitution. The restoration of large areas of upper floors, incorporating at the same time the existing slabs and door jambs, has been much facilitated, and not only the wooden

posts and beams but the shafts and capitals of columns have been reproduced in concrete, the exact dimensions being in many cases indicated by the carbonised remains.

In the course of a five months' campaign undertaken during the spring and summer of the present year, in which Mr. Piet de Jong, the architect of the British School at Athens, acted under my direction, it has been possible to carry out a very extensive scheme of reconstitution in the Domestic Quarter. The greatest of all the Palace halls—the "Hall of the Double Axes"—has in this way been entirely roofed over, the gypsum slabs of its floor and dadoes being thus permanently rescued from rapid disintegration due to exposure to the weather. The upper floor here, the original height of which had been somewhat miscalculated, has been restored at its original level, together with that of the adjoining spaces, so that the whole original plan of this level is actually rendered accessible.

In the walls above and below, the sockets left by the wooden skeleton of the fabric, and which in nearly all cases contained the carbonised remains of the wooden posts and beams, have been filled in with ferro-concrete, painted to show a conventional wood colour. The extent to which the wooden skeleton of these structures has been reproduced and perpetuated is well illustrated by the first covered section on the west side of the Hall of the Double Axes (Fig. 5).

The walls themselves have in this way recovered much of their original strength. At the same time in the light areas where their face was of ashlar masonry, the parts that it was necessary to restore have been supplied by blocks cast in wooden cases of the size of the original stone work.

On this side, too, the record of the painted stucco decoration has been preserved in its original position by careful replicas executed by Monsieur Gilliéron fils. The "Fish" fresco of the "Queen's Megaron" has been thus restored, and additional parts of the Spiral Frieze. Of special importance was the setting up on the back wall of the reconstituted lobby, opposite the second landing of the grand staircase, of a noble fresco of four large Minoan shields, the remains of which were found fallen into a neighbouring space. The shields appear on a broad spiral band answering to that which in the "Hall of the Double Axes" below runs above the gypsum dadoes. Here, on the wall of

the staircase lobby, we seem indeed to see the copy of an arrangement which was carried out in a more material form in the great Hall, the shields of Minoan warriors being in that case actually hung up on the line of the spiral frieze. This is in fact the arrangement of a Homeric "megaron."

before our eyes in a manner which can compare with what has been achieved at Pompeii.

It is my hope in the coming season to ensure the conservation of four of the best preserved magazines of the west quarter of the Palace by roofing them over, and to protect in the same way a con-

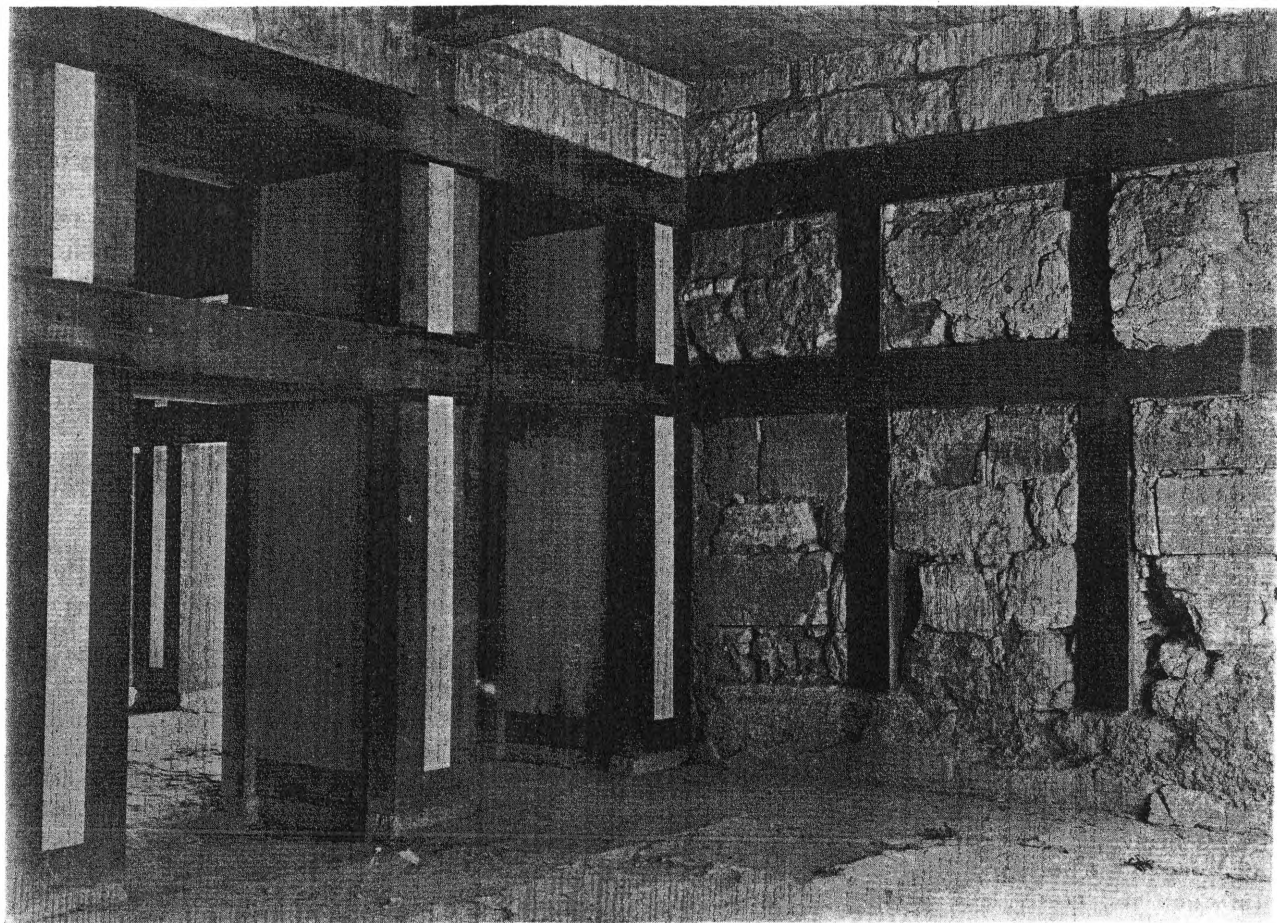


FIG. 5.—FIRST COVERED SECTION ON THE WEST SIDE OF THE HALL OF THE DOUBLE AXES AS RESTORED
Showing timbering of walls

The use of ferro-concrete has also secured interesting results in a series of private houses, including the South House (Fig. 6), the "House of the Chancel Screen," and notably the "Royal Villa," towards the re-exploration and reconstitution of which Mr. Theodore Fyfe was happily able to give his services last year, after too long an interval. The home life of the Minoans has thus been brought

siderable section of the Long Corridor. Mr. de Jong has also executed for me detailed plans for restoring the upper part of the north Lustral Area with its double flight of steps and colonnades. The need of protection here for the fine gypsum slabbing of the sunken basin and of other details is indeed most urgent, and the ritual structure here preserved is the earliest of its kind on the Palace site.

Something more, too, should if possible be done to restore at least some part of the upper elements of the adjoining North Entrance Passage, the most public and at the same time in many ways the grandest of the avenues of approach. Researches recently carried out in this area, and now embodied

as I have shown elsewhere, acquired a fresh interest from the evident parental relation in which they stand to two gypsum reliefs in the British Museum, obtained by Lord Elgin, as we now know, from the entrance of what was then called the "Tomb of Agamemnon" at

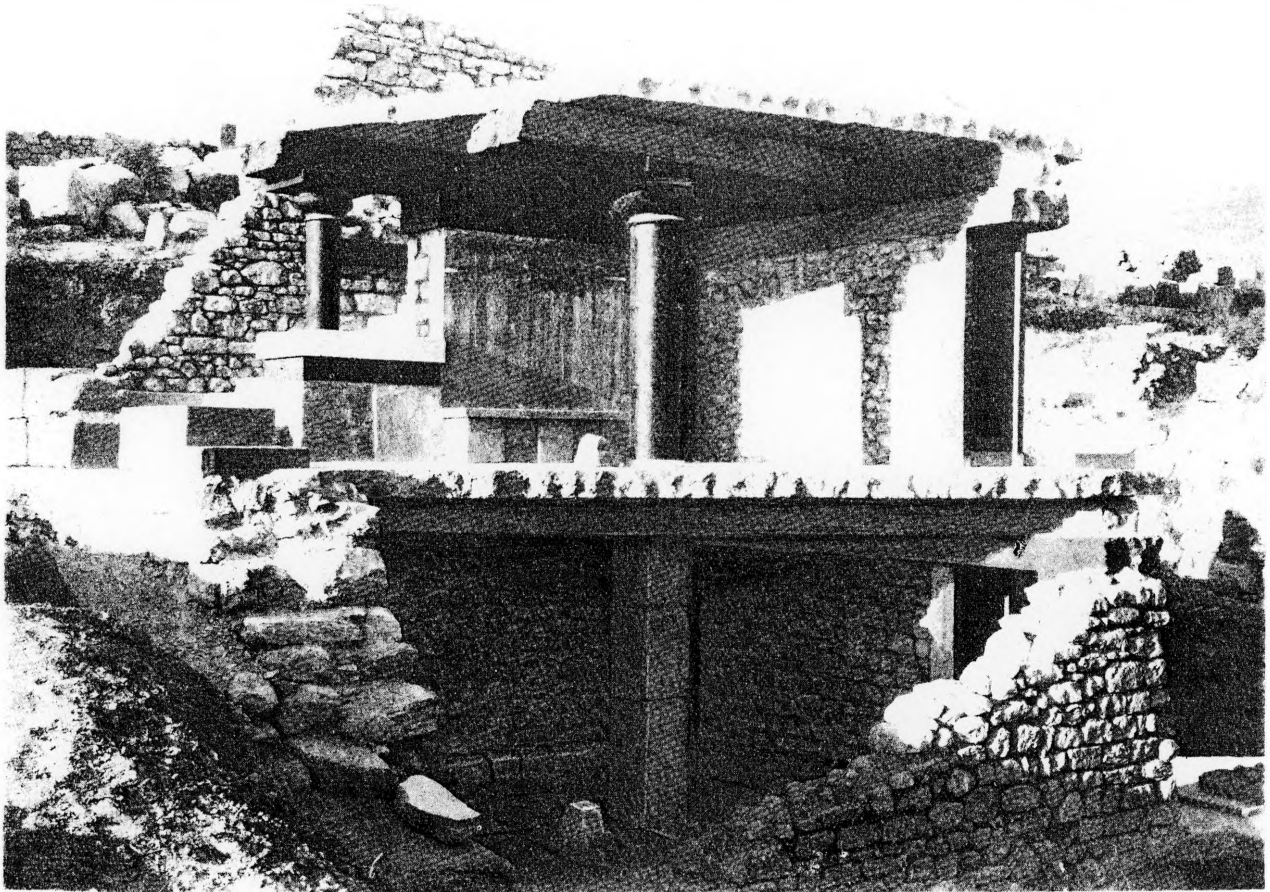


FIG. 6.—WEST SECTION OF SOUTH HOUSE RESTORED

in plans and elevations by Mr. de Jong, show that here above the triple bastions on either side ran porticoes backed by magnificent friezes of painted stucco reliefs of bull-hunting and bull-catching scenes resembling those shown in repoussé work on the Vapheio cups. These great compositions, representing the acme of Minoan art, have now,

Mycenæ. In other words, the sculptural composition that decorated the main entrance of the great Palace reappears on a lesser scale on either side of the entrance passage of a royal tomb on conquered territory, itself the mightiest sepulchral monument on European soil, and at the same time Knossian in all its decorative details.

(Discussion Overleaf.)

Discussion

THE PRESIDENT, MR. WALTER TAPPER, A.R.A., IN THE CHAIR.

Mr. R. BOSANQUET, F.S.A., in proposing the vote of thanks to Sir Arthur Evans, said :

Sir Arthur Evans has added new resources to the excavator's art, and it is alarming to reflect that he has immensely raised the standard of an excavator's duty. There was a time when a collector would visit an ancient monument, and pick out a pair of Assyrian bulls, for instance, just as a big game hunter takes a tusk or a pair of horns and leaves the carcase to rot. There then came a time when explorers, at any rate, took the pains to make reconstructions of whole monuments on paper. But Sir Arthur Evans has gone much further, and those who go to Knossos to-day can see that Bronze Age palace, at any rate typical portions of it, rising solid in three dimensions. It would have been possible for the explorers who spent a glorious picnic in extracting sculptured slabs from the ruins of Ægina, to re-erect the temple in much less than the twenty-eight years that Sir Arthur has spent at Knossos. His task was to deal with a congeries of perishable timber, blocks of gypsum, rubble walls, sun-dried bricks ; and yet out of that material, with infinite ingenuity and patient observation, and with the help of a team of young architects, he has produced the conclusive and convincing reconstitutions which we have seen.

Mr. THEODORE FYFE [F.], in seconding the vote of thanks, said : If one reflects, one can see it is a very high sense of the duty he owes to posterity that has made Sir Arthur Evans undertake these works ; because a little reflection will show that they have meant, as Mr. Bosanquet has said, a vast amount of patience and great attention to detail, as well as very much specialisation—though specialisation is really too narrow a word to include the reconstitutions which have been done by Sir Arthur. It is characteristic of his equipment and outlook that he has been an explorer all the time ; he has raised the whole art of excavation on to a higher plane. For the whole of the twenty-eight years since he began at Knossos he has gone on exploring, and he has made the reconstitutions an inseparable part of the explorations. The way he has travelled, despite his advancing years, from wood on to steel, and from the steel girder to ferro-concrete is very remarkable ; the Society for the Excavation and Restoration of Ancient Buildings could surely wish for nothing better. The President very well expressed at the beginning of the meeting our sense of how distinguished Sir Arthur is ; but it is the amazing constructive quality of his imagination and the width of his knowledge which have placed these things on a special plane, and made the whole Minoan civilisa-

tion in a peculiar sense alive to the whole civilised world. I do not think there is any excavation work which has been so splendid as this in its aliveness ; and that, as I say, is due to the quality of his imagination.

I am a firm believer in these re-constitutions. I know with what tolerance and sense of humour Sir Arthur has regarded certain criticisms, because it is possible to say that to interfere with an ancient site detracts from the sense of proportion which one derives from an untouched ruin or site. But Knossos is capable of holding its own undisturbed by these reconstructions of Sir Arthur's, and the intelligent tourist very much appreciates them, and is able to get far more out of the plan of the Palace because Sir Arthur has very largely restored the plan of it. He has shown us on the screen things which he has protected, but it is the plan elements which are now so much more alive. If one could imagine a ruin such as that of Tintern, containing unique elements and having a vault which had collapsed and was unique, it would be the least that an intelligent authority in this country could do to restore one bay of the vault, so that, properly protected from the weather, it would protect the nave below. It is something like that which Sir Arthur has done. But he has done much more, because he has put his own quality of imagination, by years of work, into reconstructing the Palace for us. Looked at broadly from that standpoint, he has preserved, let us hope for many years, portions of the Palace which would otherwise have fallen completely into decay.

Sir BANISTER FLETCHER [F.] : To architects, I think, the plan is the most interesting part of the wonderful palace, and when we realise that it was carried out about two thousand years before Christ, the degree of civilisation which had been attained is most remarkable. I think what remains most in one's memory is the Throne Room. You come down flights of steps, which are modern in character and excellently proportioned, and you find yourself in front of what is said to be the oldest throne in Europe. Another point is the complete system of drainage which I understand is still in use at the present time. I should have liked to see a completed plan of what Sir Arthur has done, for I think there must have been a wall around that Palace, and I have not seen, in any of his plans, that he has been able to find a surrounding wall. We know the Palace was not fortified ; there was no occasion for that, owing to the protection of a strong Minoan navy, but I should have thought there would have been an enclosing wall. To architects I think the most important feature one meets there are the

extraordinary columns. Why did they take that shape? In modern times we place the small diameter of the column at the top, and I have not yet heard any reasonable explanation advanced as to why they inverted their columns—as far as we understand that term.

Mr. CHRISTIAN DOLL: It is a long time since I was at Knossos, and what I have seen to-night on the screen has, in one sense, rather taken my breath away; and yet, in another sense, I can faithfully say that nothing at Knossos would surprise me, and nothing in Sir Arthur Evans' work would surprise me. The interest of Knossos is boundless. I was on one occasion there alone for thirteen months, and took parties round the site on an average twice a day, and I do not suppose that I ever went round the place without seeing something new. Every time that I had formed a definite idea as to the meaning of anything to do with the building, at the next visit I invariably found something fresh that totally upset that idea, and I had to start my deliberations all over again. Everywhere, for yards around, and close under the surface of the ground, there are antiquities. I dread to think what will happen when they come to excavate nearer to Sir Arthur Evans' house. I had the pleasure of building it, and it is built almost on the site of the classical Greek temple; I think the approach to the temple is outside Sir Arthur's kitchen.

I do not suppose there ever was a man with such a flair for this sort of work as Sir Arthur. Before you have half recovered some object, he will come to you and say "You will find so and so there," and every time it turns out to be so; he is never wrong. The one thing I am thankful for—and I have no doubt you are too—is that the work at Knossos came into his hands. If this place had been excavated by anyone less skilful, less patient, or less observant, I feel sure that we should not have learnt one-half of what we have learnt about it now. Sir Arthur has indeed made Knossos his life's work, and he has thrown himself into it heart and soul. Everything that he has undertaken there has been done with meticulous care, and no pains have been spared to see it through. I can safely say that no "find," however small, has escaped his notice or failed to receive its proper share of his consideration.

No doubt many of you object very much to restoration; I know that most antiquaries object to it; but it was impossible to avoid it at Knossos. If Sir Arthur Evans had not undertaken all this work of restoration and reconstitution, there would not have been much of the Palace left by now. Restoration has, in fact, been going on at Knossos ever since there was a building on the site, because the original materials were continually decaying, and means had

to be found of keeping them together. The first trouble at Knossos was due to the use of gypsum. It was used because it was so conveniently found—it came from a hill known as Gypsades, less than 200 yards distant from the site—and it was used for carrying all the weights in the Palace. The gypsum would not stand, and the Minoans had to cover it with plaster. Then the superstructure, which was half timber work, began to go, and that had to be covered with plaster as well. The Minoans took to representing on the plaster what was underneath the plaster, and so you get these representations of timber framework, and the wonderful spiral designs, and the big spaces filled up with ornamental groups in fresco.

Another thing in regard to Sir Arthur Evans' restorations is that we have been able to make practical use of a lot of the original elements in the Palace, for instance, all the drainage system. The water supply was carried by means of terra cotta pipes, but the drainage system consisted of built drains, large enough in places for a fair-sized boy to crawl along. Wherever in the restoration work we have had to deal with the surface water it has been diverted to the old Minoan drains, and taken off in the original way by them.

Another thing is that—certainly in the part I had to do with, the eastern quarter of the Palace—we were able to learn much about Minoan means of measurement. This is a matter which has not yet been published, but before long we shall be able to tell you something tangible about that. I happened one day to find an old Cretan carpenter doing some work outside a house, and as I stood and watched him I noticed that he had no metre rule amongst his tools but that he used his fingers in a certain way whenever he wanted to take a dimension or to space out a distance. I asked Sir Arthur Evans' factotum, Manolakis, who was with me, the meaning of this and I was able to learn that amongst the older workpeople in Crete to-day there still survived a regular system of measuring by means of the hands. The system involved a series of three dimensions which upon examination I found to have a relationship to one another, and I think that we shall be able to show that this series of dimensions can be referred back to a similar series in Minoan times.

Dr. GEORGE A. MACMILLAN: I have had nothing to do with the work at Knossos, though once I was fortunate enough to be shown over it by Sir Arthur Evans, more than twenty years ago. My greatest privilege has been that of being allowed to publish the results, and it is a privilege I value very highly. We are looking forward to the appearance of his third volume, which, I understand, is well on the way towards completion. That book is one which, in the whole period of my experience, I am most proud to have been connected with.

Mr. E. J. FORSDYKE, F.S.A.: I should like to say a word in regard to the protective work. What Sir Arthur Evans has done is to build up the ground-floor walls to their original height, and to put a ferro-concrete roof over the whole. Instead of putting a plain roof, he has treated the roof as the floor which has been lost, and has put back in position on it such elements of the upper storeys as he was able to recover in the excavation. There are, of course, several other palaces in Crete, of which we do not hear very much; that is, largely, because they are disappearing. There is, for instance, the great Palace at Phaistos, on the other side of the Island, which was dug by an Italian mission, soon after Sir Arthur Evans began at Knossos. Phaistos lies on the top of a hill, and is a more showy site than Knossos. It is very picturesque in its mouldering antiquity, but is becoming less and less intelligible. These pre-historic structures are sometimes built of ashlar masonry, though seldom. More often there is a veneer, largely made of gypsum. The latter is a stone which, under the influence of sun and water, behaves like wood. Pavements were also made of gypsum, and since they were uncovered, after being buried for more than 3,000 years, their slabs have buckled up in curves. And when the slabs are set in a vertical position, as a veneer on walls filled with rubble, they buckle away from the wall, and the rubble falls into a mass on the floor. This is what is happening at most of the other sites. Sir Arthur has

stopped the process of decay at Knossos, first by his solid constructions of ferro-concrete, and lastly by his recent act of liberal foresight, in handing over the Palace and his house at Knossos to the British School at Athens with an endowment, so that the conservation will be carried on, so far as can be seen, for ever.

Mr. J. PENOYRE, C.B.E., also thanked Sir Arthur Evans for his Paper.

Sir HERBERT BAKER [F.]: I should like to ask Sir Arthur Evans a question on the structural side; the same as Sir Banister Fletcher asked, about the idea of putting the wooden columns upside down. Was it because the sap ran that way, and so they lasted longer; or that they made the bearings of the lintels shorter? Also, has he an opinion on the origin of the timber framing, whether it was merely an old tradition or a bonding together against earthquakes? And will he tell us whether there are remains of timber where it has lasted four thousand years, and whether he knows what the timber was? [Sir Arthur Evans: Cypress.] Also, what was the roof made of? Were all the slabs we saw in the slides restoration, or were any of them the original stone floors?

Sir ARTHUR EVANS: They were gypsum and partly hard stone. We have remains of ceilings in hard stucco with reliefs, stucco on top of the wood.

Mr. FITZROY DOLL [F.] also spoke.

The PRESIDENT then put the vote of thanks, which was carried by acclamation.

