

ALBERT RECKITT ARCHAEOLOGICAL LECTURE

BRONZE AGE ARCHITECTURE
OF ANATOLIA

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A NUMBER of months have elapsed since I was honoured by an invitation from the Academy to give this lecture: and more recently, when I came to prepare it, I found myself considering the scope of the title which I had chosen with a certain apprehension. I need hardly say that it is by no means my intention this evening to present you with a complete review of architectural practices in Hittite and pre-Hittite Anatolia. That, as you know, has been done most adequately in an impressive work by my colleague of the German Archaeological Institute, Professor Rudolph Naumann: and indeed, it would require a great deal more time than the single hour which is conventionally permitted on these occasions. What, on the contrary, I had in mind, was to offer my own reflections on certain archaeological discoveries which have been made since Professor Naumann's book was written—to suggest how they amplify our knowledge of the subject, and to submit for your consideration two moderately important conclusions—one which is only surprising because it has not been accepted sooner; another which is perhaps too novel in character to be accepted at all without further authentication.

But in order to provide a firm foundation for the arguments which I hope to put forward, I should also like to be allowed to extend the scope of my subject backwards in time beyond the chronological limit which I had originally set. I should like in fact to go back to the earliest genesis of architectural ideas, within the boundaries of the land which its present inhabitants call Anatolia. I should perhaps also remind you how recently it has become known that it is in all probability among the Neolithic inhabitants of that country that we should now look for the first germs of architectural invention. With the possible exception of an isolated building at Jericho, James Mellaart's little township

now being excavated at Çatal Hüyük near Konya¹ provides us with the earliest known example, if not strictly of architecture, at least of dwelling-houses formally planned and grouped together.

And this may lead us, parenthetically, to consider at what point it becomes technically justifiable to employ the term architecture, as opposed to mere building. Many of us no doubt remember the aphorism (of unexceptionable simplicity) with which Professor Pevsner begins the opening paragraph of his work on European architecture: 'A bicycle shed', he says, 'is a building. Lincoln Cathedral is architecture.' He goes on most ingeniously to define the four principles—structural, functional, spatial, and formal—which a builder must consciously consider in order to promote himself to the status of an architect. To turn then to the extraordinary group of dwellings which Mr. Mellaart has reconstructed² (buildings of the Middle Neolithic phase at Çatal Hüyük)—it would be hard to pretend that more than two of Professor Pevsner's principles have as yet been seriously considered. About the structural soundness of these houses there can be little doubt. Each is a self-contained unit without party walls and it is built of *pisé* clay with a clay-covered timber roof, watertight and strong enough to walk on. But where their function is concerned, we should first perhaps consider what were the actual contemporary requirements. We should remember how recently such permanent housing had become necessary to the newly settled farming communities. These houses were a novel substitute for the caves and branch-shelters of food-gathering days. What were the primitive requirements which dictated their shape? Clearly the most elementary requirement was to enclose and protect the space in which certain domestic functions regularly took place. The most important of these, eating and sleeping, can, as modern analogy shows, be performed in a compartment of almost any shape. But at Çatal Hüyük, I think the impulse towards mutual protection may have suggested the cellular form which one sees; a form in which the components could be multiplied and still present a communally defensive façade to the outside world.

And here the Çatal Hüyük houses present a new functional peculiarity, again obviously connected with security. No house has a doorway in its outer wall. The unique means of access to

¹ Plans in *Anatolian Studies*, vol. xii, 1962, figs. 3 ff.

² Reconstructed in the *Illustrated London News*, 2 Feb. 1963, p. 160, figs. 1 and 2.

them was by means of ladders, easily removable, leading from outside to the expanse of terraced roofs, and so by other ladders (whose remains have actually been found) into their small entrance vestibules.

But now, I think, to be strictly accurate, there is as yet no attempt in these buildings at functional expression, as Professor Pevsner suggested that we should define it. It would hardly be fair to cite as an example the considered arrangement of Mr. Mellaart's cult-chambers, with their extraordinary decoration of hunting trophies and animal symbolism. I think that, for what we are seeking, we must progress one short step forward in time, to his late Neolithic settlement at the site called Hacilar and examine the houses there.¹ Here there is something new. The primary element of each house is a wide rectangular chamber. The door is invariably in the centre of one of the long sides; and facing it against the opposite wall, consciously placed upon the central axis of the room, is a rather elaborate structure of domestic hearth and baking-oven. Also, for the first time, an architectural device is employed to draw attention to this feature in the room. In one case it is framed in a deep wall-recess, and in another it is flanked by wall niches symmetrically placed on either side of it. Even the posts supporting the roof are tidily arranged in pairs. It would perhaps not be over-imaginative to suggest that this is the first symptom of a desire to observe the functional principle in designing a building.

If at Hacilar we once more progress forward in time to the Early Chalcolithic settlement which crowns the summit of the little mound, we can observe an entirely different phenomenon.² It has now become necessary to fortify the village, and the excavated houses in Level I are heavily built and grouped together to protect its periphery. They are at first puzzling, because the individual chambers are unconnected by doorways. But these are storage-chambers and, as it were, vaults, supporting a lightly built upper story, probably largely of timber, in which the family lived and from which they were once more accessible by ladders. The residential upper floors were themselves directly accessible from the high-level ground inside the village, where a small earlier settlement had once stood.³

And now once more it seems to have occurred to our Chalcolithic builders that the function of such a fortification could be

¹ *Anatolian Studies*, vol. xi, 1961, p. 42, fig. 2.

² *Ibid.*, vol. x, 1960, p. 95, fig. 4.

³ *Loc. cit.*, p. 98, fig. 5.

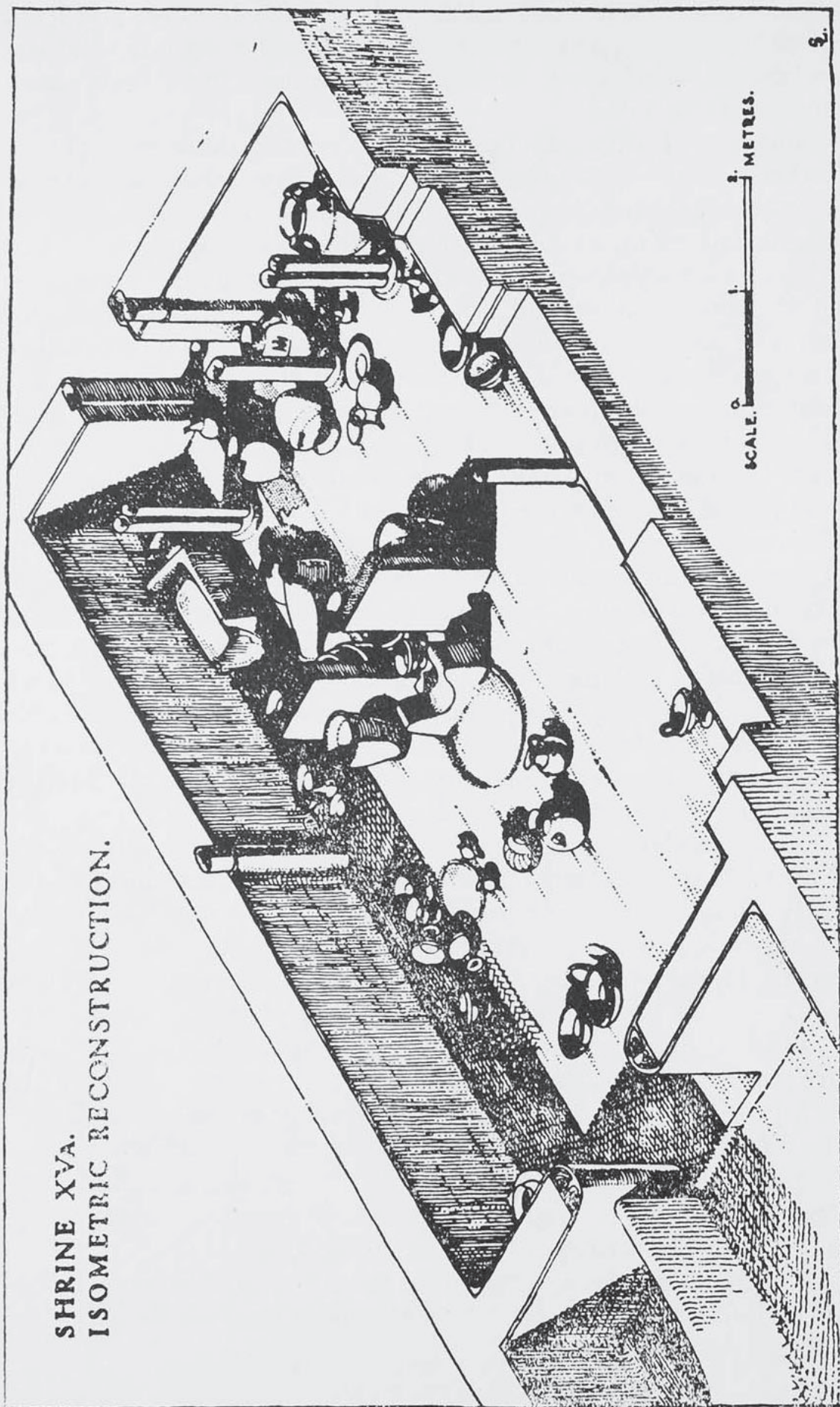


FIG. 1. Early Bronze Age Shrine at Beycesultan.

gone wrong. An ethnical upheaval of some sort appears to have taken place; and it is as though the ascending star of civilization is temporarily eclipsed. In our deep sounding at Beycesultan, where this period was well represented, there were signs of a return to the primitive living-conditions of much earlier times. In fact, in the sounding of which I am speaking, no formal building of any sort was found up to an occupation level which must correspond to the very end of the Chalcolithic period in about 3000 B.C. Yet, when a formally planned house of this sort *did* appear, the form which it took was undoubtedly intriguing: for here was a tiny but very perfect replica of the plan of a Greek *megaron*, complete with hall, porch, benches, and 'sleeping-platforms'.¹ Not that there was any adequate reason why one should have been particularly surprised at this. When Heinrich Schliemann dug his famous North Trench across the centre of the Hissarlik mound at Troy, almost the only remains he did find directly upon the virgin rock in the level now known as Troy I was the recognizable remains of a *megaron*.² And this can hardly fail to start one on a particular train of thought: for in spite of this discovery on the mainland of Anatolia, the *megaron* (which came eventually to provide the primary element of a Greek temple) continued to be thought of as having a Greek, or at least an Aegean, origin.³ The discovery that, on the contrary, it is a basically Anatolian architectural convention of extreme antiquity has only in comparatively recent years been finally demonstrated.

We shall incidentally make this point clear if we continue our observation of the successive stages in the development of Anatolian architecture at Beycesultan. Soon after the construction of our minute Chalcolithic *megaron* there began to be symptoms of a general improvement in local building technique. Throughout the first and second phases of the Early Bronze Age the area covered by our sounding was largely occupied by the pairs of religious shrines, which have recently been published in detail in the first volume of our final publication⁴ (fig. 1). These have at least the rudiments of serious architecture. Timber

¹ S. Lloyd and J. Mellaart, *Beycesultan*, vol. i, fig. 6 (Level XXIV) and pl. V.

² C. W. Blegen, *Troy*, vol. i, pt. 2, figs. 418-19.

³ The whole *ad hoc* argument is to be found in W. B. Dinsmoor, *The Architecture of Ancient Greece*, chap. i, and is discussed at great length in H. L. Lorimer, *Homer and the Monuments*, chap. viii.

⁴ *Beycesultan*, vol. i, pp. 29 ff.

elements now strengthen the mud-brick walls. Internally, wall-faces are finely plastered, and one finds for the first time sophisticated devices such as wooden door-jamb and thresholds. In the interior also, wooden posts, set against the walls to support

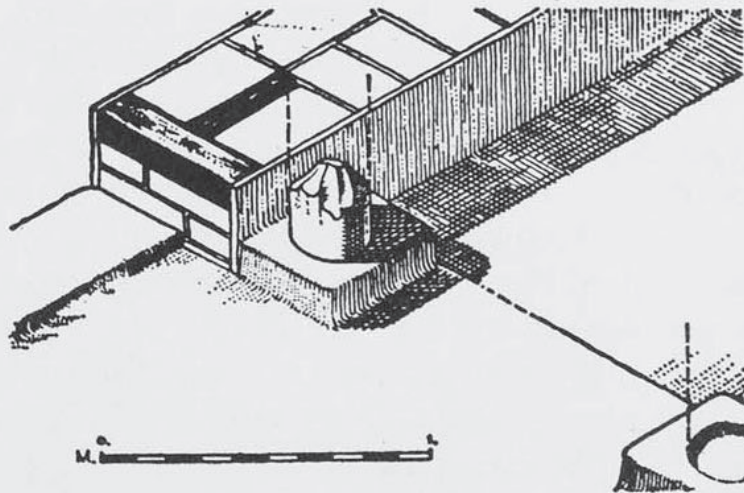
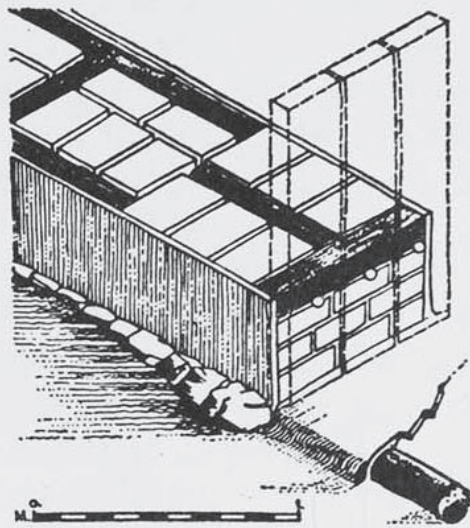


FIG. 3. Wing-wall Treatment in *Megara* at Beycesultan.

beams above, are carefully concealed by plaster, while other posts, formally arranged in pairs, support screens of woven reeds.¹ Planning, on the other hand, continues to be fairly rudimentary.² One might see in these long rectangular chambers, with their shapeless vestibules and an altar where the domestic hearth should occur, a resemblance to the *megaron* plan. But there is no need to force this comparison, since the evidence in

¹ Op. cit., fig. 16.

² Op. cit., fig. 8.

this connexion, to be found in the next and final Early Bronze Age phase, is quite unequivocal.

Here the excavated remains in the sounding are sufficient to show what we are dealing with¹ (fig. 2). It is a town of dwelling-houses, set side by side, each one consisting of a single *megaron* unit, complete in all its details. Here is the main hall with its central hearth, clay benches all round, and what in Greece are called 'sleeping-platforms' near the entrance.² Outside the main doorway is the porch, already having two wooden columns to support the lintel across its opening. And here also, to our surprise, we found evidence to show that a definite architectural treatment had been given to the ends of the wing-walls, at a point where in later days the *antae* of a Greek temple occurred³ (fig. 3). Wooden plates had been built into the wall-ends, against which wooden pilasters must have been set to improve the appearance of the portico façade. If a further Anatolian parallel is needed for this treatment, we need look no further than the Second Settlement at Troy, where Schliemann recorded on the wing-walls of the great *megaron* similar wooden facings which he called *parastades*.⁴

These great *megara* at Troy itself now also deserve some further thought. The single example in this plan of Level IIg has a beam span of almost twenty feet and is more than sixty feet long (fig. 4). It has never been easy to agree with Dorpfeld in thinking of it as a 'royal palace' since it is a bleak, barn-like affair without residential dependencies. Surely this is something more in the nature of a council chamber or place of assembly; and for this purpose the most ancient Anatolian architectural form has simply been adopted and enlarged to the required scale.⁵ It is also interesting to note that, in the tangle of private dwellings which surround this great public building, the hall-and-porch form is one which continually repeats itself. Recently, in a journal article,⁶ J. Mellaart made an interesting study of the recurrent appearance of this form in the domestic architecture of the period. In a sense this did little more than establish the already known links between the Anatolian mainland and the

¹ Op. cit., fig. 22.

² Cf. C. W. Blegen, op. cit., p. 94.

³ *Beycesultan*, vol. i, figs. 23 and 24. Similar treatment of the 'wing' walls has been observed in *megara* of the Late Bronze Age at the same site (cf. *Anatolian Studies*, vol. vi, 1956, p. 104), and will be published in detail in *Beycesultan*, vol. iii.

⁴ H. Schliemann, *Troja*, London, 1884, p. 80, no. 27.

⁵ This subject also is discussed at length in H. L. Lorimer, op. cit., chap. vii.

⁶ *Anatolian Studies*, vol. ix, 1959, pp. 131 ff.

Aegean in this respect, for he found that precisely the same principle of domestic planning was adopted in the settlement contemporary with Troy II at Poliochni in Lemnos. Mellaart selected for comparison elements from the planning of both settlements, and pointed out how practically every house con-

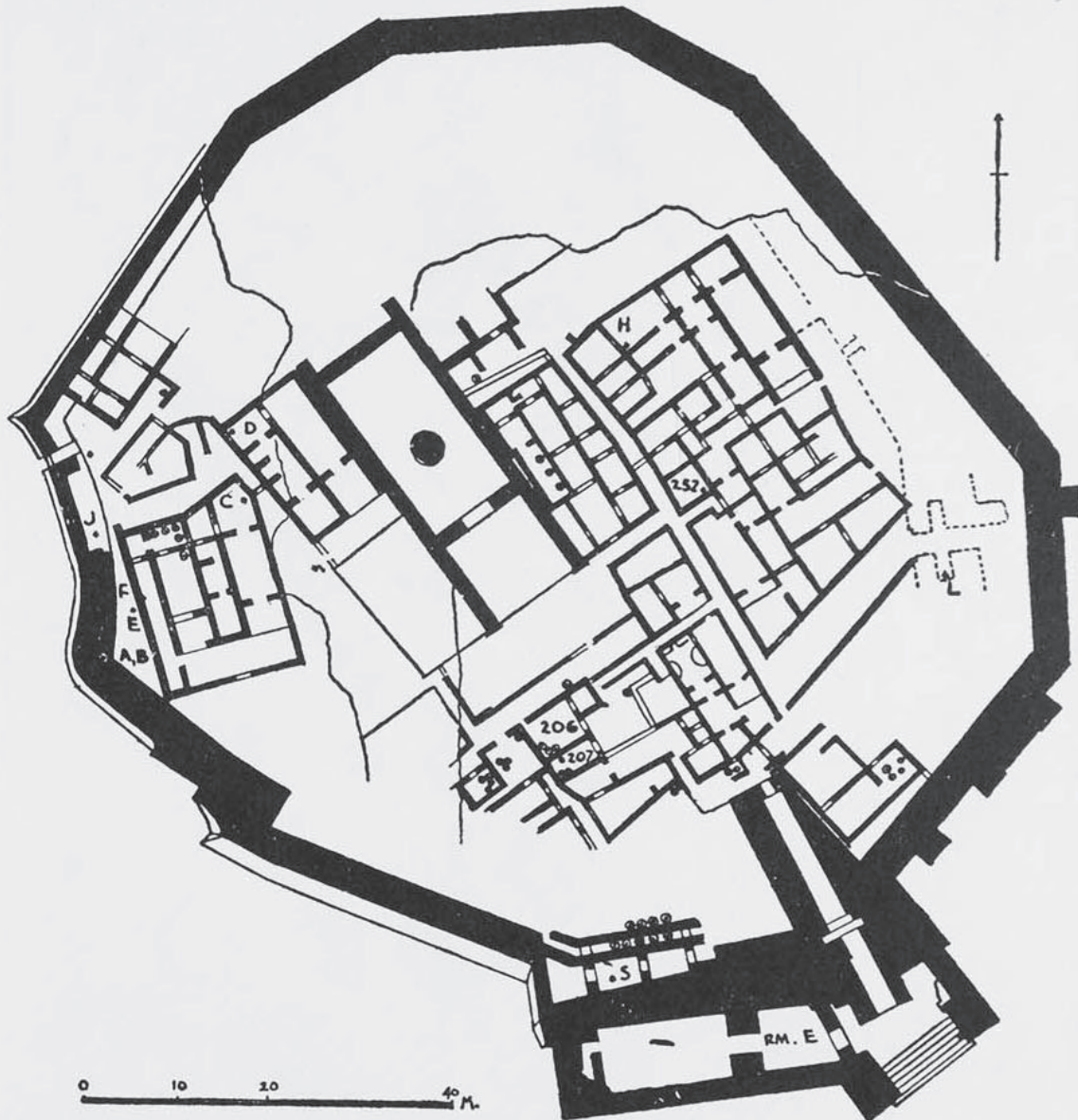


FIG. 4. Plan of Troy IIg, showing *Megaron*.

sists of a central hall-and-porch unit with dependent chambers grouped on one or both sides.¹

But I cannot for the moment leave the Anatolian Early Bronze Age without referring to one discovery which is perhaps the most sensational of all in this respect. In the glossary of Dinsmoor's *Architecture of Ancient Greece*, he defines the term *megaron* as 'The principal or men's hall in the Mycenaean

¹ Loc. cit., p. 161, fig. 13.

palace or house.'¹ Where Mycenaean palaces are concerned, he is clearly referring to the huge central halls with their great circular hearths and four pillars, for instance in the palaces at Tiryns and Pylos, which must be considered the standard

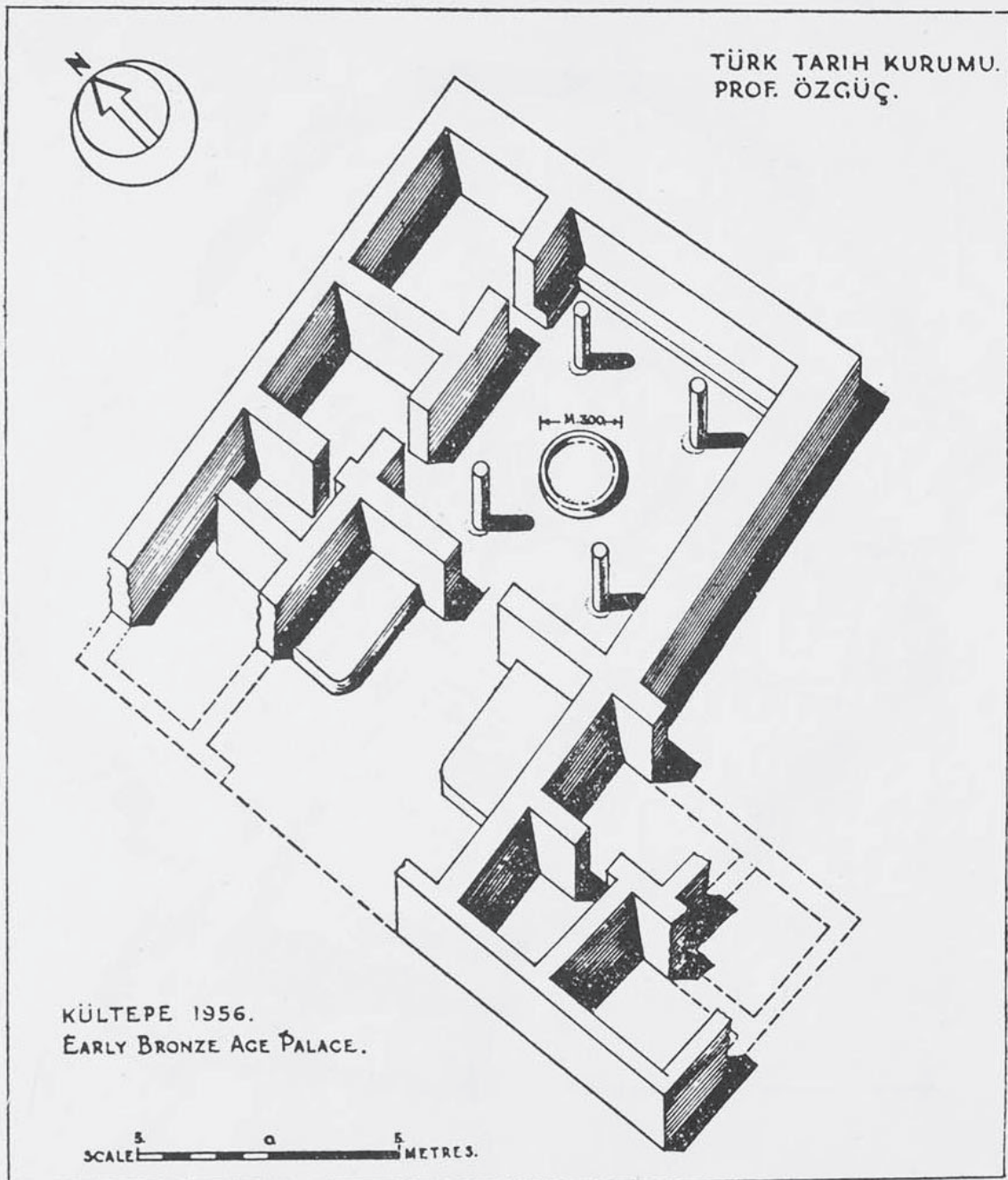


FIG. 5. Early Bronze Age *Megaron* Hall at Kültepe.

nuclear element of these buildings. But now, to compare with this, we must direct our attention to the sketch-plan of another such building (or part of a building) almost a thousand miles to the east of Mycenae in central Cappadocia (Fig. 5). At first glance one might be forgiven for thinking, 'Yes. A faint echo of

¹ W. B. Dinsmoor, *op. cit.*, p. 392.

Mycenaean architecture in remote Anatolia and on a much smaller scale.' But the facts are otherwise. This is part of a royal palace found by Professor Tahsin Özgüç in the ruins of Kanesh, the modern Kültepe. The span of the main hall is almost forty feet and the circular hearth has a diameter of nine feet. The building belongs to a phase of the Early Bronze Age which should be dated to about 2300 B.C., or one thousand years earlier than the Mycenaean palaces.

Finally I should like to venture even further afield, even beyond the frontiers of Anatolia, to northern Mesopotamia where some of the most striking religious architecture of the

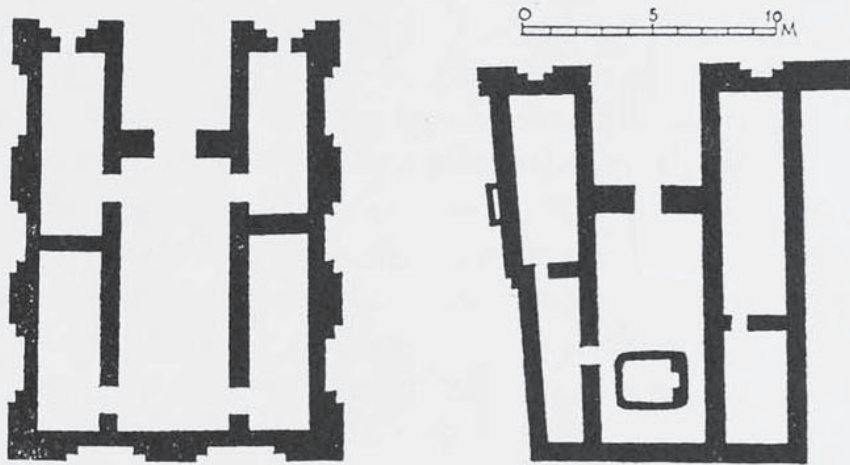


FIG 6. Two plans of Temples from Tepe Gawra: Level VIIIc.

Chalcolithic period was found in the mound called Tepe Gawra by the University Museum of Pennsylvania. It may be remembered that at this site almost the last occupation during the so-called Al'Ubaid period produced a great religious acropolis, with elaborately planned temples—three in all—which found parallels at Eridu in south Mesopotamia. Remembering the stratigraphy of this site as parallel with that of those in the south, one recollects that soon after these temples were destroyed the whole character of the occupation at Gawra underwent a complete change. The painted pottery people had been replaced by new immigrants of a different ethnic extraction. These newcomers, with their monochrome grey and red burnished pottery, were thought by the late Henri Frankfort and other scholars since his time to have had their origin in Anatolia. Here then is an interesting point, because these people too built temples. But the plans of these temples differed radically from those of their predecessors¹ (fig. 6). And now comes the rather novel proposal

¹ E. A. Speiser, *Excavations at Tepe Gawra*, vol. i, pl. xi.

which I wish to present for consideration. These so-called 'Gawra Period' temples have as a central unit in the plan the hall-and-open-porch element which has become so familiar in studying the Anatolian *megaron*. It is flanked on either side by minor chambers which create a broad façade with a deeply recessed portico in the centre and, in some cases, in the middle of the main hall there is what the excavators call a 'podium' which is really no more than the old domestic hearth. Dimly, behind this figure, one is reminded not only of the Anatolian *megara* generally, but of the particular examples at Poliochni and Troy of the developed plan with rooms on either side and a porch in the middle. I myself am prepared to accept this as evidence that the Gawra people (and, as a corollary, the enigmatic Uruk people of the south, who contributed much to the evolution of Sumerian civilization) had their origin in Anatolia and brought with them to Mesopotamia memories of architectural traditions in their own homeland.

I have then, up to now, formulated two propositions which can or need not be accepted: one regarding the Anatolian origin of the *megaron* form in architecture, another suggesting its identification with the so-called Uruk people who helped to initiate the Protoliterate period in Mesopotamia. I should like now to observe further the evolution of a regional building technique in Anatolia.

In the Middle Bronze Age levels at Beycesultan we come straight into the city's period of greatest prosperity. It is a time in the nineteenth and eighteenth centuries B.C. when, as all the evidence suggests, this place was a state-capital of the kingdom of Arzawa. Where architecture is concerned, our evidence is derived from three main sources. The first is a great residential palace on the eastern summit of the mound. The second is a group of administrative buildings on the western summit, revealed by a wide trench and suspected of having covered a very large area within its own protecting fortification. The third is a group of religious buildings on the north-western periphery. Let us first make some general comments on the site and planning of each.

First, then, the palace, about which a good deal has been written in preliminary reports during the past years.¹ At an early stage in its excavation some parallels were considered between its plan and that of the near-contemporary palaces of Minoan Crete. It was found, however, as the excavation

¹ *Anatolian Studies*, vols. v (1955) to x (1960), and *Beycesultan*, ii (in preparation).

developed, that little further evidence appeared to emphasize this similarity save for the confirmed existence of a central rectangular courtyard around which the various wings were grouped, the frequent use of light-wells, and the obvious importance

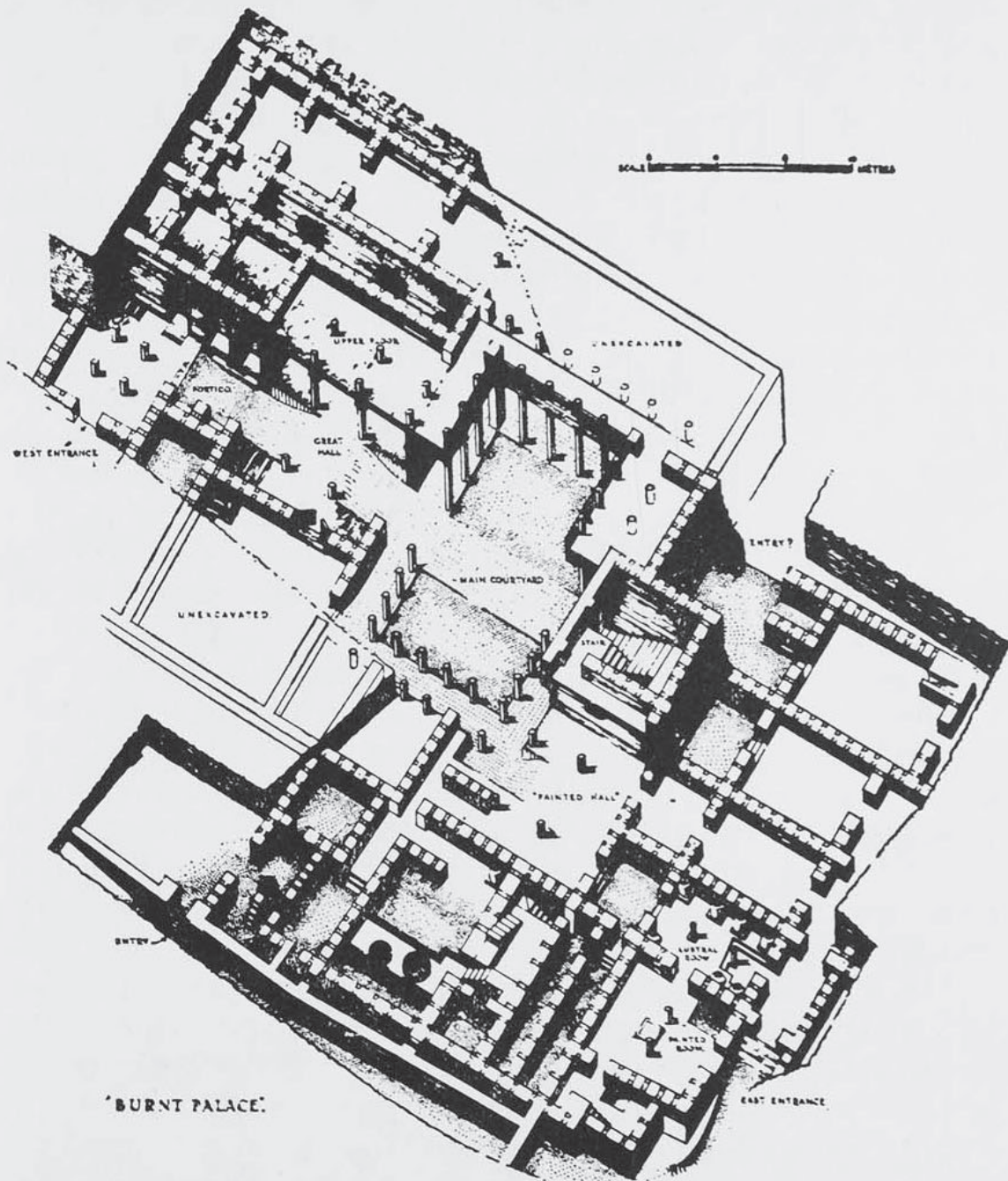


FIG. 7. Reconstruction of Beycesultan Palace.

attributed to apartments on the upper floor. For the rest, I think we must accept the fact that no comparable public building has yet been found in Anatolia or elsewhere. In our reconstruction (Fig. 7) we are looking at the building from the south-east corner. For convenience of description the plan groups itself into three distinct 'wings'; an east and west wing on either side of the central courtyard, and a group of buildings

including service quarters forming a south-east wing. The east and part of the south-east wings contain the main residential apartments, which have their own entry from outside through a doorway in the re-entrant angle of the outer façade. But the ceremonial entrance to the building is from the west, by way of a sloping street, which does not appear in the reconstruction; and it brought one through a vestibule which could not be excavated. One then passed through a columned hall and another vestibule with ceremonial niches, into a very large reception hall, partly open to the courtyard, to end in a monumental stairway leading to an upper story.

And while we are describing the plan, some further discussion of the problem presented by this upper story cannot be avoided. Its existence was first proved during the excavation of the west wing, which was sufficiently well preserved to show how the upper floors had collapsed during the fire which destroyed the building and fallen almost intact into the chambers below. In this way we discovered that the great reception hall to the west of the courtyard had been duplicated at first-floor level by an equally or more impressive chamber, also supported on wooden columns. No evidence of this sort was found in the east wing (which was admittedly less well preserved), while in the south-east wing, large fragments of fallen ceiling, repeatedly replastered on their upper side to make them waterproof, suggested that we were dealing with buildings a single story high. It is only the west wing therefore which is conclusively proved to have stood more than one story high. But since here it is clear that the chambers on the upper floor were even more pretentious in size and character than those below, one is immediately reminded of the principle adopted in the Cretan palaces, of placing the more important suites of reception rooms on the upper floor, or *piano nobile*, as Evans called it, while the rooms beneath were merely store-rooms or passages. By contrast, in this Anatolian building both floors were obviously used for residential purposes; and this may well be explained by differences of climate, due to the altitude of the Anatolian plateau. The ground floor, with its possible provision for heating by means of air-ducts which we shall presently mention, was more suitable for use in winter, while the upper floor may well have consisted partly of 'balcony-type' chambers, open on one side to the air like the wooden upper stories of modern Turkish houses which one sees today. Such rooms are to be seen facing on to the gallery which surrounds the central courtyard.

This will perhaps suffice for a preliminary description of the palace from a planning point of view. If we now turn to the public buildings on the western summit, their plan is perhaps hardly worth much comment in this context. The remains excavated were too scanty to reveal more than a single distinctive feature. This was the entry to one building from a side street, where a vestibule made provision for ablutions, perhaps formal ablutions—at two successive building levels. More, on the other hand, is to be learnt from the religious buildings on the north-western edge of the city. They occupy a much less conspicuous position in a low-lying part of the site, chosen, as we suppose, on account of its proximity to the town-wall, and so to the open country beyond. In the case of the larger building¹ on the right, there is once more no criterion by which its plan can be judged, since in Anatolia it is the first relic of so early a period which can legitimately be described as a 'temple'. Its plan seems to be a synthesis of simple elements with ritual functions, about which we at present know extremely little. Only a suggestion of some votary cult can be distinguished in the two end rooms where offerings and sacrifices were made.

The smaller building² has at least a now recognizable architectural form—the old hall-and-portico arrangement which reappears in the design of religious sanctuaries in Greece a thousand years later. An altar covered with votive vessels takes the place of the hearth in the domestic *megara*. It is perhaps also worth mentioning that in the next level above, this shrine was rebuilt with lateral chambers, creating a façade which strikingly resembles those of the Gawra temples of a thousand years earlier.

We now come to the forms of construction used in these buildings, and in describing these we must logically start with the foundations. In the repertory of building materials used at Beycesultan timber played a very large part. Already, in the Early Bronze Age shrines which we have mentioned, tree-trunks were laid longitudinally beneath the mud-brick walls and held in position with stones. By the time of the Middle Bronze Age buildings which we are discussing, walls are up to three feet thick and require more substantial foundations. They now have a substructure of undressed stone, reinforced at intervals with timber. This in itself constitutes the foundation of the wall and, in ordinary circumstances, was not intended to rise above the ground-floor pavement level. In buildings of the same period,

¹ Reconstructed in *Anatolian Studies*, vol. ix, 1959, p. 37, fig. 1.

² Sketch-plan in *Anatolian Studies*, vol. viii, 1958, p. 109, fig. 6.

for instance at Kültepe in Cappadocia, the stone foundations go down three feet or more and the mud-brick construction begins at floor level. In the Beycesultan palace the practice is the same. But here an additional provision for stability (which has to our knowledge never been recognized before) is a bedding of tree-

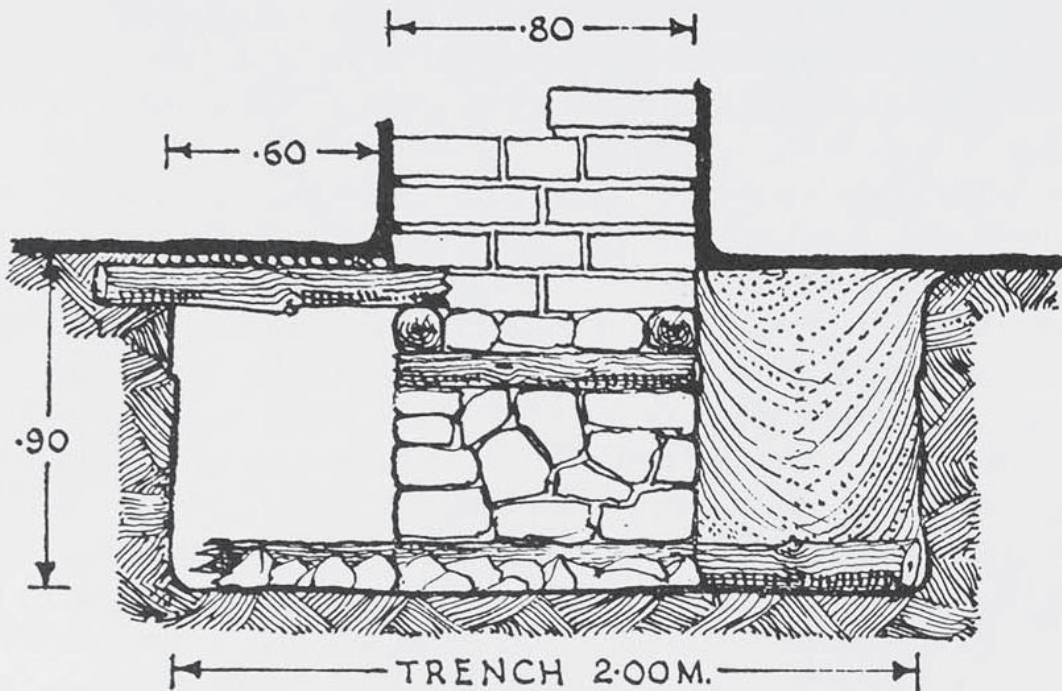


FIG. 8. Foundation Construction in Beycesultan Palace.

trunks laid transversely to the direction of the wall upon which the stone foundations in turn are laid.

And now comes the extreme peculiarity of the foundation arrangement, which seems to be common practice in the Beycesultan palace (Fig. 8). The logs projected two feet or more beyond the face of the wall and to accommodate them a foundation trench had to be cut almost three times the width of the wall itself. This meant that, after the wall was built, spaces about two feet wide remained open beside the foundations on either side. The normal remedy would have been to fill these with rubble up to the pavement level. But on the contrary, in most cases they were roofed over at pavement level with small joists and brushwood, creating small tunnels around the bases of the walls, and these communicated with one another beneath the lintels of the doors. One has almost hesitated to suggest a purpose for this contrivance, but one thinks immediately of either heating or ventilation (fig. 9).

Now in regard to the structure of the walls themselves: the habit of strengthening stone or mud-brick walls by inserting at regular intervals rows of runner-beams held in position by

cross-ties goes back at Beycesultan to a considerably earlier period. The elaboration of this system by means of vertical posts, extending from the foundation to the roof and thus creating a timber framework in the structure of the building, seems to have

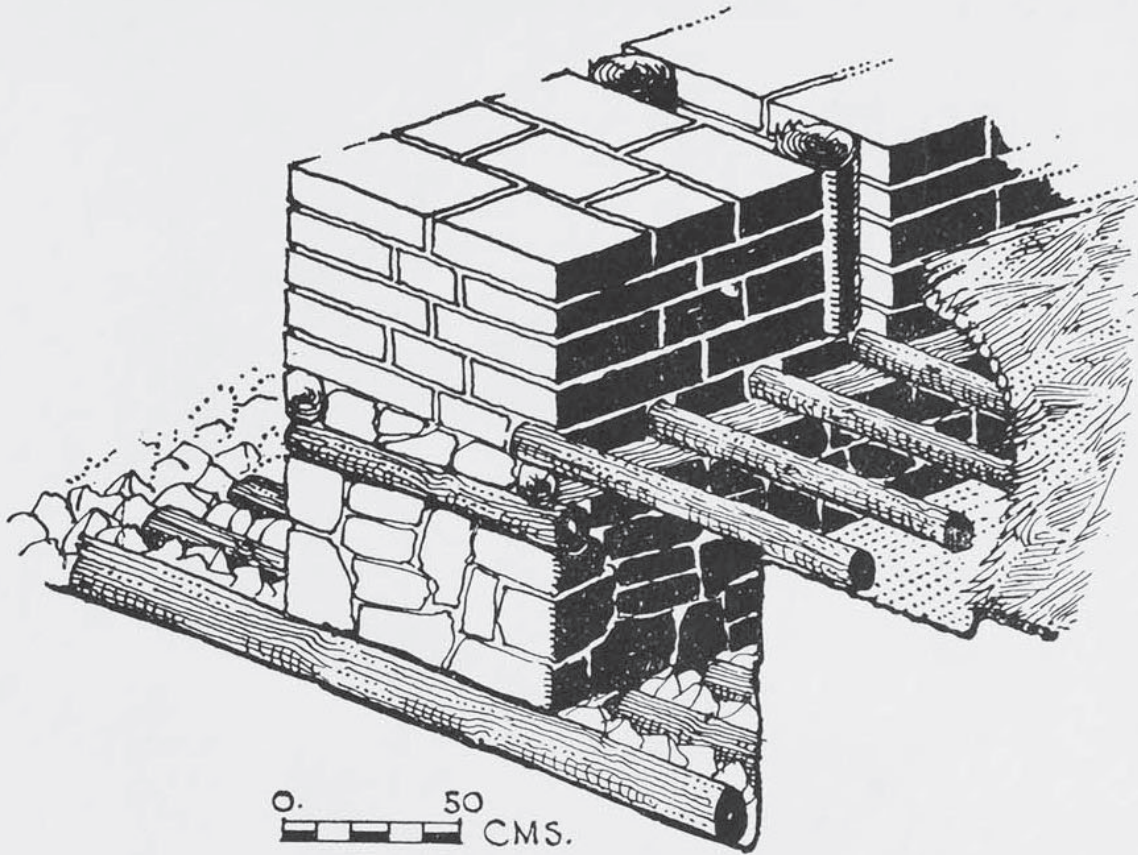


FIG. 9. 'Heating passage' in Beycesultan Palace.

been an innovation in the Middle Bronze Age times. It continued to be a normal practice in Anatolian architecture until the present day. There is no doubt in my mind (nor for that matter in those of the Turkish architects with whom I have discussed the matter) that this practice did not originally result exclusively from having a plentiful supply of timber at hand. It had a secondary purpose, which was to attain a certain elasticity in the structure of a building, of a sort which had been proved by experience to be resistant to the effects of earthquakes. It is only in comparatively recent times that increased rigidity has been given to the framework of such buildings by the introduction of diagonal timber struts into the rectangular panels of filling. Once this is done, the outward appearance of the walls comes exactly to resemble the 'half-timber' façades of medieval Tudor buildings in this country. In the Bronze Age examples the panels are still strictly rectangular. At Beycesultan, as elsewhere, the brick masses between the vertical posts are interrupted only

by the horizontal ties which occur at intervals of every few courses.

It need hardly be said that, even in buildings destroyed by fire (where the wood is preserved by carbonization), the vertical posts are seldom found to have survived *in situ*. In these circum-

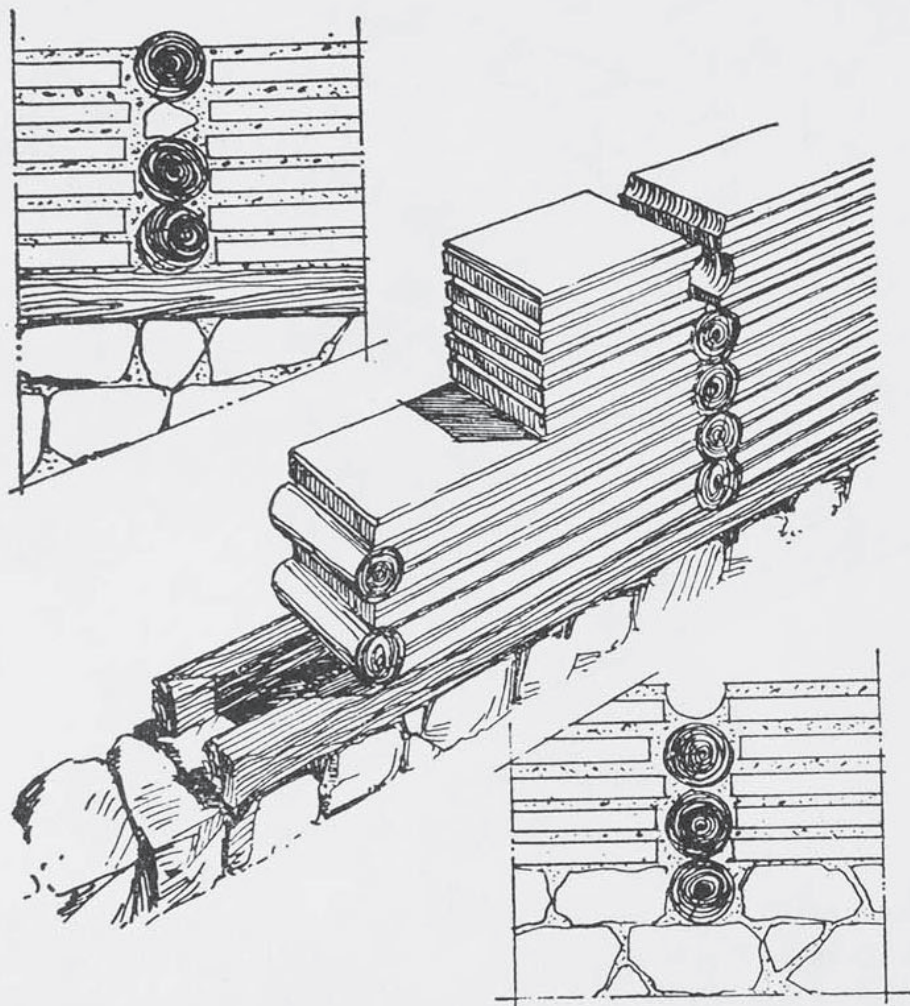


FIG. 10. Wall Construction at Kültepe.

stances, confusion has at times been caused by the discovery of horizontally placed logs in the interstices between the brick panels. Indeed, Professor Özgüç records instances where such logs are piled one upon the other from foundations to ceiling, and are apparently a substitute for vertical posts¹ (fig. 10). Yet elsewhere at the same site the posts themselves are so well attested that he can record details of the positions chosen for them and methods of fixing both at top and bottom.

Özgüç also speculates about the purpose of these posts; and he agrees with Naumann² that their combined strength is

¹ T. Özgüç, *Kültepe-Kanish*, Ankara, 1959, p. 22, fig. 21.

² R. Naumann, *Architektur Kleinasiens*, p. 332.

greater than would be necessary merely to support the weight of the roof. He concludes that their purpose is mainly to support an upper floor. And here an interesting point arises, for he also records the use of posts, not imbedded in the thickness of the wall, but free-standing against its inner face upon small stone

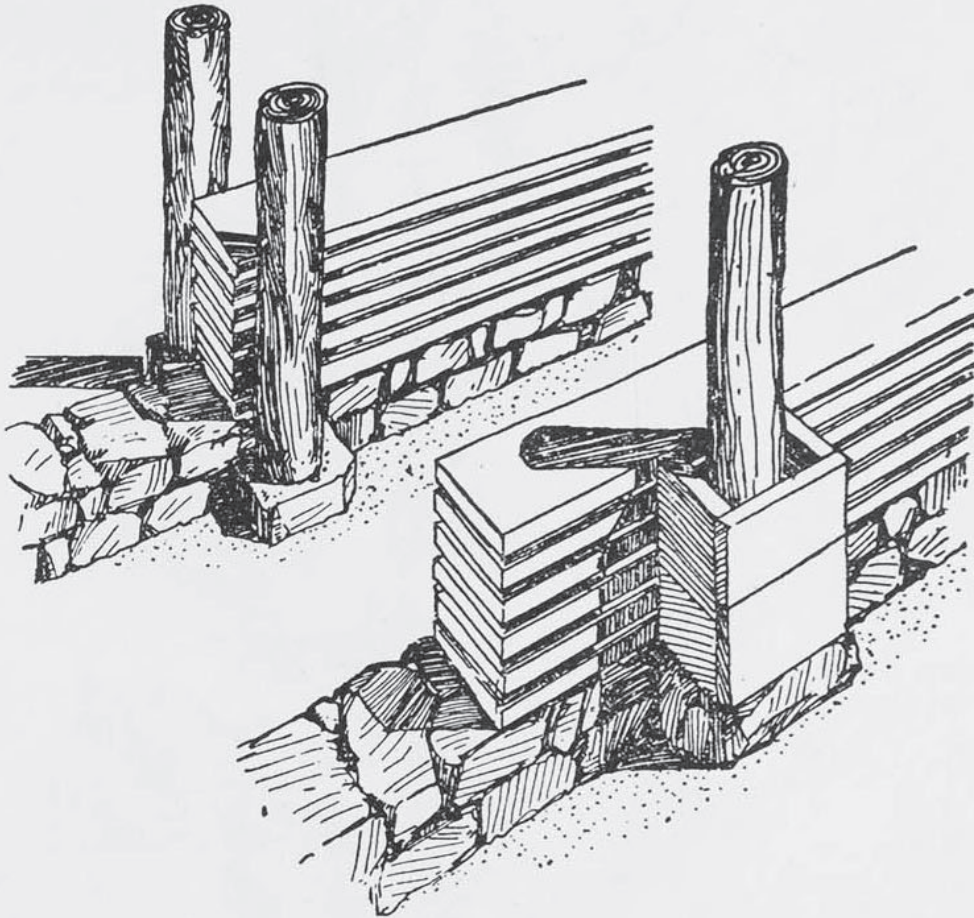


FIG. 11. Auxiliary Wooden Posts at Kültepe.

bases¹ (fig. 11). This is a phenomenon which occurs frequently and without obvious explanation at Beycesultan. We have already seen it in the Early Bronze Age shrines, where the posts were suspected of supporting beams or other internal structures; but it is also to be seen in the Middle Bronze Age 'temple' building. Now it may seem strange to seek a parallel for an architectural feature of this sort in a period so far removed in time as the Phrygian occupation of Anatolia in the eighth century B.C., but the extreme conservatism of Anatolian builders may make this worth while. I have seen at Gordium, in a building of the Phrygian period known as *Megaron* '3', how, in spite of the extreme thickness of the walls, wooden posts are set at regular intervals against their inner faces, as the excavators supposed, to support a wooden gallery, and I have also noted

¹ T. Özgüç, op. cit., p. 21, fig. 20.

Dr. Rodney Young's attempted explanation of this. He thinks that the Phrygian builders 'were accustomed to think of their monumental buildings as enclosers of space, to be subdivided inside quite independently of the outer construction'.¹ I would

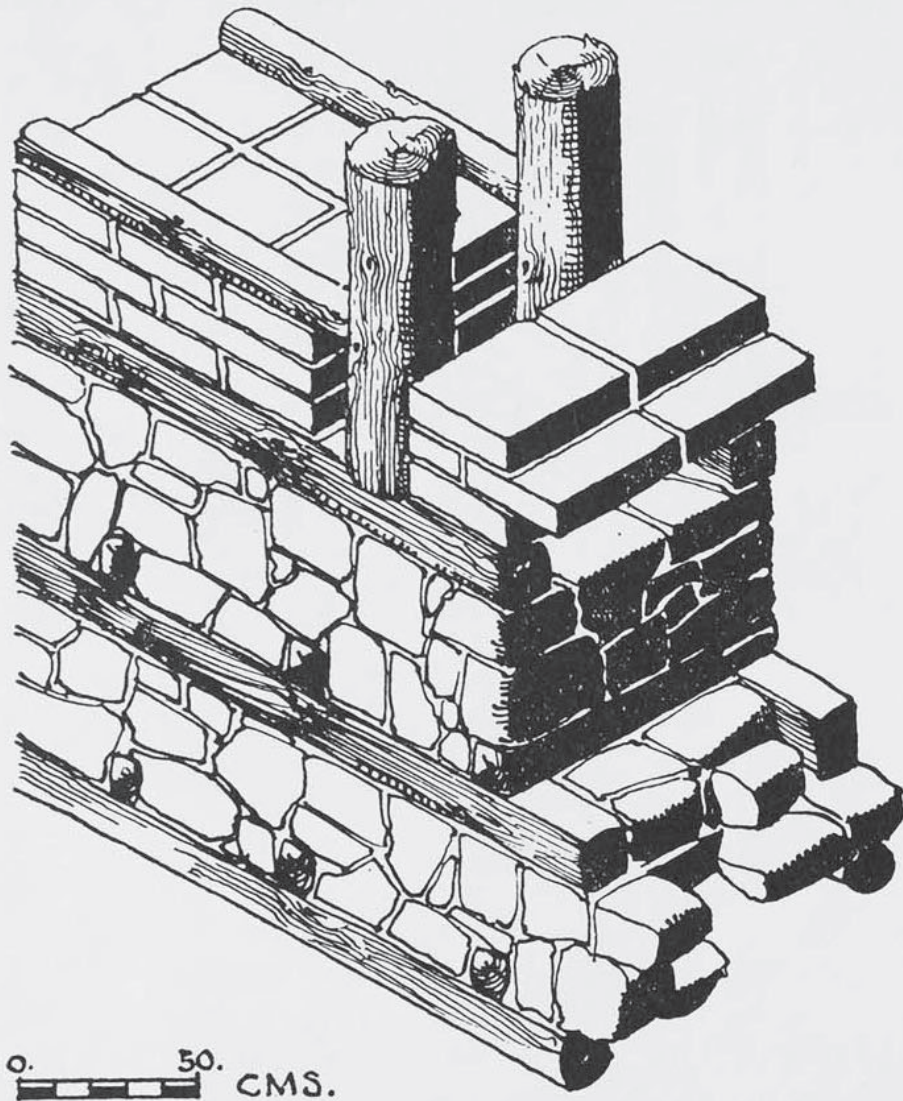


FIG. 12. Wall Construction in Beycesultan Palace.

myself go further and suggest that these internal wooden structures are the vestigial remains of traditional timber architecture, simply enclosed within the more substantial¹⁷ solid structures of later times.

Certainly in the Beycesultan palace the number and position of the posts was well attested, for in many places their carbonized stumps were well preserved. In one place there was even some indication of how their bases were attached to the horizontal members upon which they rested. A square peg or tenon was found still intact in a mortice made to fit it: and one was

¹ Cf. R. Young in *American Journal of Archaeology*, no. 64, 1960, pp. 238-9.

reminded that similarly at Gordium the horizontal foundation members were found to have 'a socket for a tongue at the lower end of the post'.¹ An overall picture of the standard form of wall construction at our own site with its vertical posts can be seen in Fig. 12. The walls of the public buildings on the west summit were constructed in the same way, except that the vertical posts appeared to be missing. Parallels for both methods are to be found at other sites, such as Boghazköy, Alaca Hüyük, and Troy, over a period which covers almost the whole of the second millennium B.C. And in point of fact they can equally easily be seen in the towns and villages of modern Turkey.

Nevertheless, it may be interesting to observe an aberration in the system during the Anatolian Iron Age. In buildings of the Syro-Hittite period, for instance at Malatya, and Taynat on the Orontes, one sees the proportion of timber to brickwork greatly increased. Naumann has collected illustrations of this, including one at Troy where the vertical posts seem to have disappeared, and their place is taken by superimposed cross-beams. In another from Zincirli, the timber is so plentiful that only small interstices remain to be filled with brick or stone.²

We now come to the treatment of doors and the possible use of windows. Already in the Early Bronze Age shrines at Beycesultan, doors are provided with wooden reveal-linings and thresholds. In one instance, which has an exact parallel, illustrated by Özgüç at Kültepe,³ added to the threshold beyond the line of the wall there is a wooden sill, on one end of which the door actually pivoted (fig. 13). Standing on the opposite end of this sill there is an upright post to act as a door-stop. In another shrine at Beycesultan split logs, with their flat sides against the jambs, act as door-linings. In the burnt palace there is a well-preserved threshold in the great reception hall composed of square timbers, and also relics of a panelled reveal with boss ornaments which were probably carved ornamentally.⁴ In this case the door pivot revolved in a bronze cup. The only actual door which survived seemed, rather surprisingly, to be composed of a single plank more than three feet wide.

Neither at Beycesultan nor at any contemporary site have the walls been found standing high enough for windows to be preserved. In the burnt palace windows doubtless existed,

¹ R. Young, loc. cit., p. 238.

² R. Naumann, loc. cit., figs. 80 and 83.

³ *Beycesultan*, vol. i, p. 50, fig. 18, and T. Özgüç, op. cit., p. 31, fig. 40.

⁴ *Anatolian Studies*, vol. x, 1960, pl. iva.

particularly where light-wells were provided to bring sunshine and warmth to inner chambers. But so many rooms appear to have had one side open on to a courtyard that the necessity for them must have been considerably reduced. Those that were

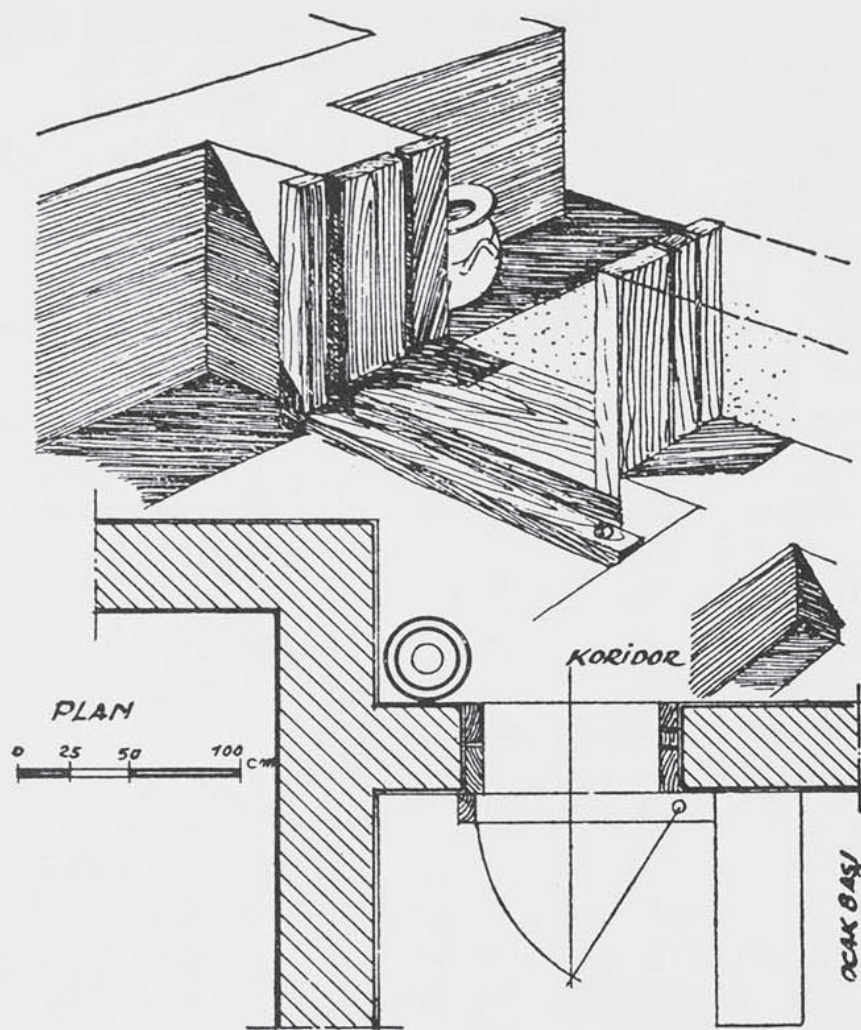


FIG. 13. Treatment of Doorway at Kültepe.

used must have been high up in the wall, as is the practice in most oriental buildings today. In Özgüç's square *megaron*, as also in the Beycesultan shrines, there was some indication that the principle of clerestory lighting was understood.

As regards wooden columns, there is no doubt as to the great number which were used to support ceilings and upper floors in the burnt palace. Fragments of three had survived, and of these one had left a clear impression of its shape and size in the hard ground. This showed it to have had a maximum diameter of two feet six inches and to have been sharply tapered. The wood could not be identified, but it seems unlikely to have been juniper, of which wall beams were made. Finally, there is the matter of internal decoration. In this respect the Arzawan

LEVELS I & II. ~ SCHEMATIC RESTORATION.

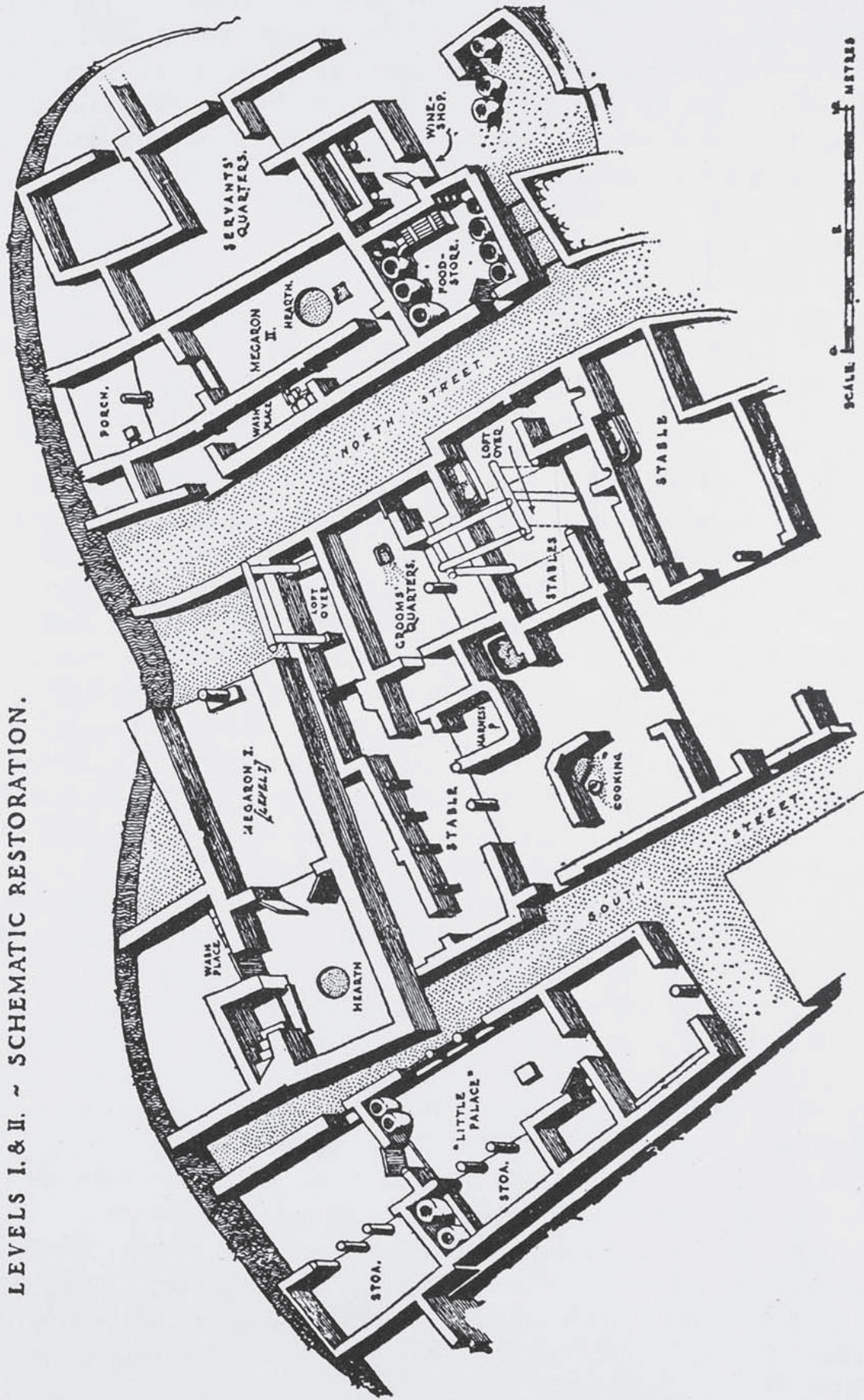


FIG. 14. Megara in Levels I and II at Beycesultan.

builders must have found themselves hampered by their lack of skill in stone-carving. Emphatically they were not stonemasons, for not only was there a total absence of dressed stone in the palace building, but no single mark of a mason's chisel on stone was found throughout the excavation. Carpenters and joiners they certainly were; and one must assume that most ornament in the building must have consisted of wood-carving of the sort which could not have survived the fire. Nor did we find any indication of ornamental pavements. The floors of the main living-rooms were strewn with bundles of rushes or straw, frequently renewed. But the public halls had no paving of any sort. And since in at least two cases the plastered walls were decorated in fresco, one is bound to assume also that the otherwise bare earthen floors must have been covered with some sort of woven fabric.

Having obtained what evidence we can from this remarkable Middle Bronze Age building at Beycesultan, it remains only to refer very briefly to the late Bronze Age occupation, which would have corresponded in time to the Mycenaean civilization in the Aegean. In the plan of the much smaller palace enclosure which was rebuilt at that time on the eastern summit, one sees surviving many of the architectural usages which we have observed in the earlier periods¹ (fig. 14). First there are two examples of the now ubiquitous *megaron*. Both have their complement of features—main hall with hearth and benches, open porch, and side-chambers which in one case included a washroom. But in the buildings on the west side a new unit of planning appears, for which it is hard to find a parallel elsewhere—a rectangular hall flanked by two side-chambers, one of which is only separated from it by a screen of columns. This unit is frequently repeated.

The last occupation of the site, before the palace was finally abandoned in about 1100 B.C., was represented by a single large *megaron*. It was a substantial building with various dependencies on the west side, and it serves to lay final emphasis on the indigenous character of the hall-and-porch convention.

And now I may perhaps hope that this lecture will not seem to have deteriorated into a mere catalogue of practices in Bronze Age architecture. In the architecture of ancient peoples there is so much to be apprehended regarding their character and predilections; and if, from this study, something new can be learnt about the early inhabitants of Anatolia, our time has not been altogether wasted.

¹ *Anatolian Studies*, vol. v, 1955, p. 105, fig. 2.