

Notes on the Megaron

Nobuo KOMITA

Abstract

The primitive megaron originated in the cold regions of the Balkan Peninsula and Anatolia as a simple isolated rectangular house with a circular hearth inside. The oldest example is seen at Nea Nikomedeia in Macedonia. However, with the coming of the Proto-Indo-Europeans originating from the Pontic steppe in the first half of the fourth millennium B.C., the Old European civilization was devastated and the indigenous people were subjugated. The Kurgan people dominated the regions as the warrior superstratum enclosing their site by massive fortification walls. The early distinguished example is seen at the stronghold of Troy. The Kurgan people accepted the megaron as the chieftain's dwelling; henceforth, the megaron functioned as the most important part of the royal palace. In the Late Helladic period, the megaron fully developed. We can see the magnificent megara at Mycenae, Pylos, and Tiryns affected by Minoan culture. Nevertheless, the traditional features of the megaron still persisted. Thus, the megaron represents the amalgamated strata of the Kurgan culture and the Old European civilization.

Introduction

In the Mycenaean Age, the megaron (*μέγαρον*) was one of the most distinguished architectural features of the Mycenaean royal palaces. The megaron was the place where the Mycenaean king greeted his guests and for large gatherings. The general type of the megaron is the rectangular room, that is, a room with four walls having two different lengths. Moreover, a characteristic feature of the rectangular room is the position of the entrance which is usually in one of the shorter walls; consequently, the depth of the room is longer than its width. The megaron has a porch (*αἶθουσα*) with an entrance in the middle of the wall. An anteroom or vestibule (*πρόδομος*) often appears between the porch and the main room. The main room has a fixed hearth inside. The megaron is always isolated from surrounding rooms and the courtyard is connected with the megaron. The megaron reached its highest splendor in the Mycenaean Age, and in the stages of its development, various elements seem to have been added.

Neolithic Greece

The Early Neolithic period is noteworthy concerning the early stage of Greek architecture. The oldest settlement so far we know in Greece is Nea Nikomedeia in Macedonia. According to the pottery found there, a radiocarbon 14 date indicates that it was used

around 6200 B.C.¹ The first phase of the site shows that four rectangular houses, which are about from 8 m. by 8 m. to 8 m. by 11 m., were grouped around a little larger central building. The circular hearths occurred built up of mud. The central structure measured 12 m. by 12 m., and was divided into three parts by parallel rows. The size and the position of the central structure bespeak a special importance and function by the objects found within it. They include plump clay female figurines, which are supposed to be the "Mother Goddess", flint blades, clay axes, oversized serpentine axes, and a special type of gourd-shaped vessel (askos)². Consequently, the central building is considered to be a cult place, namely a shrine, and also a chieftain's dwelling.

Clay figurines together with anthropomorphic vessels found in Macedonia, Thessaly, and the Balkans around 6000 B.C. denote close affinities with those from in Mesopotamia, and this implies the underlying uniformity together with a similar architectural tradition in Macedonia, Thessaly, Anatolia and the eastern Mediterranean region, because the "Old European" civilization flourished in southeastern Europe around 7000 B.C. onwards having a continuous cultural exchange and trade with Anatolia, the Aegean and central and eastern Mediterranean regions³. The architectural tradition includes interconnected rectangular houses, some with buttresses, and stone foundations, and the megaron plan. As for the megaron, some might think Anatolia for the origin, but we see the primitive megaron plan already in Neolithic Greece; therefore, it is reasonable to understand that the megaron appeared in the Blakan area and also in Anatolia.

At Nea Makri, on the coast of Attica, pit huts were found. One is 5 m. long and 4 m. wide, and almost rectangular, and a hearth at the center. Also in the upper Early Neolithic level at this site, stone foundations are observed for rectangular houses of mud brick. Such stone foundations also appear at Lerna. These rectangular houses with stone foundations indicate one of the features of the Old European and Anatolian civilizations.

In the latter part of the sixth millenium B.C., a new culture known "Sesklo" emerged in Thessaly as the oldest Neolithic civilization in Greece. At Otzaki, new types of rectangular mud-brick houses with stone foundations and internal buttresses appeared⁴. This kind of one-room rectangular houses were common at Sesklo as well as at many other sites in Thessaly. In addition, the recent discovery revealed the same type of houses at Can Hasan in the Konya plain of Anatolia. The similarity between Greece (i.e. Old Europe) and Anatolia is explained as we have seen that there was a continuous cultural exchange at that time. This one-room house is regarded as the so-called "original type" of the megaron: the simplest type of the megaron complex. Later in the Sesklo phase, houses with the typical megaron plan occur. They have a rectangular main room with a porch. In the latter part of the Sesklo period, at Servia of western Macedonia, there are remains of houses of mud brick on stone foundations. They are rectangular and circular hearths are observed inside; therefore, these houses are also regarded as the "original type" of the megaron, that is to say, a simple isolated rectangle⁵. As we have seen, in the Middle Neolithic period, new features are recognized in the architecture. They are the houses with internal buttresses and later in the period, the megaron with a porch, though the original type still continued at

Servia.

In the Late Neolithic period, the site of Dhimini in Thessaly is remarkable for its architectural complex. The settlement was defended by a series of walls, and there are houses inside the fortification walls. Originally, the three inner walls were built, and later, the outer walls were added. One of the houses is an oblong house which is backed by the curved town-wall. The main room contains a hearth placed not in the center, and the width is 6.35 m., and the length varies from 4.20 m. to 5.50 m⁶. There is a shallow porch in front of the main room formed by prolongation of the side walls; in the back room, a cooking oven occurs. Two posts appear in the porch, and other two posts in the main room are understood to support the roof-timbers in relation to a smoke-hole since a hearth was there, and this megaron is supposed to be the dwelling of the chieftain who ruled the walled Dhimini.

In the first half of the fourth millennium B.C., the so-called Kurgan people infiltrated into the Balkan area, and this movement disintegrated the Old European civilization in this region⁷. Defenseless villages were burnt down and overlaid by a foreign culture in Thessaly. Dhimini was fortified by a series of walls and contained a chieftain's house (i.e. the megaron), and living quarters for the ruling class. Since early Indo-European society was divided into the warrior nobility and laboring, the features of this site represent the warrior element. Thus it is very likely that Dhimini was invaded and dominated by the Kurgan III people from the Pontic steppe. The links of the Dhimini culture both with Anatolia and Old Europe are pointed out, and the connection with Anatolia is regarded as the result of the Kurgan expansion into Anatolia and the Danube basin down to Macedonia; furthermore, the Balkan parallels with Dhimini are found from Yugoslavia to South Russia. Therefore, the Old European, Anatolian, and Kurgan cultures encountered and amalgamated at Dhimini.

At Sesklo in Thessaly, the megaron complex consists of a porch, a main room measuring 8.25 m. by 8.50 m. with three posts irregularly placed around the hearth, and a back room; a polygonal apse is regarded as a later addition.⁸ The site appeared to be fortified. The plans of Dhimini and Sesklo show the initial stage of development. Here the megaron unit consists of a main room with a fixed hearth surrounded by posts, a porch with two columns, and a back room frequently with an oven. Occasionally the form of the megaron is more or less distorted rectangular. In comparison with the megaron unit of the Mycenaean Age, these two megara have no anteroom; nevertheless, they appear to have had almost the general type of the megaron complex in the Late Neolithic period on the Greek mainland; the megaron houses were used for the chieftain and the royal families.

The Early Helladic Period

In the Early Helladic period, one of the most illustrated types of the megaron is seen at Troy. The Troy I period lasted from ca. 3000 to 2500 B.C. with its three subperiods and ten consecutive phases of building, and it is highly probable that the site was fortified from the beginning. Inside the fortification wall, several houses stood including the megaron type

houses; it is presumable that these houses faced west preceded by a courtyard. House 103 of phase Ia was the hall-and-porch type; however, the building had an apsidal end. On the other hand, House 102 of Troy Ib was also the megaron type, and it measures 18.75 m. long and 7.0 m. wide; by prolongation of the side walls, one end formed a porch which is 3.16 m. long with a partition.⁹ The rest of the structure was a single room measuring 12.50 m. by 5.50 m. The room contains a stone paved hearth in the center, a smaller cooking hearth against the back wall, and a pit, a shelf, and a bin beside the cooking hearth. Two raised platforms for beds are also seen at the sides. From the plan of House 102, we can understand that the house was built for leaders.

Contemporary with the Troy I phase, at Thermi in Lesbos, the similar house type with Troy is seen. The site was also surrounded by a defensive wall probably fortified in the Thermi III period;¹⁰ here the houses are narrow rectangular structures, not more than 5 m. wide and contain a large hall with a closed anteroom. They have circular hearths likewise, and contain many *bothroi* used for the storage of grain. All the houses are blocked in groups and laid out side by side; most houses seem to have a court in front.

It is very likely that Troy I was fortified by immigrants from the north. During the Kurgan III period (ca. 3500-3000 B.C.), the Proto-Indo-Europeans expanded in eastern central Europe and the whole Balkan region destroying the Old European civilization, and they entered Transcaucasia, Anatolia and north Iran. The Balkan Chalcolithic culture of Vince C-D in Yugoslavia and the Gumelnita and Karanovo VI cultures in the East Balkans have entirely vanished, and replaced by the Kurgan cultures by the period of Troy I.¹¹ In this period, a series of heavy fortifications occurred at the Marica Plain in Bulgaria and extended into western and central Anatolia: Mikhalich, Kazanlyk in Bulgaria, Troy I, Thermi and Poliochni.¹² Consequently, it is apparent that Troy I was founded by the Kurgan III people crossing the Dardanelles. Common words for boat and oar (e.g. Greek *ῥαῦς*, Latin *remus*) indicate they knew ships and they sailed the Black Sea, the Aegean, and the Mediterranean. The responsibility for the abrupt end of the Ghassulian culture of Palestine is ascribed to the Kurgan invasion.¹³ The massive fortification of Troy I also represents one of the warrior features of the Kurgan culture.

After the burning of Troy I, the fortress was quickly rebuilt, namely Troy II. The earliest phase of Troy II (i.e. Troy IIa) also contains the megaron complex. Judging from the construction and position, the structure is apparently the main unit of the site. This Royal Residence consisted of two Great Halls side by side with a porch each; moreover, two narrow buildings with a main room and a back room each are laid along the two Great Halls. There is a courtyard in front of the Great Halls and the two narrow structures. This type of complex is normal in Troy II, but usually there is only one large hall in the complex. Troy II was also ravaged and the next phase, Troy IIb, marked some distinct changes in culture (ex. the introduction of potter's wheel); therefore, Troy IIa is considered as the last phase of Troy I. Along with the destruction of the last phase of Troy I, this destruction is understood in connection with the movement of the Indo-Europeans. As Gimbutas mentions,¹⁴ this period (ca. 2500-2200 B.C.) was the peak and final stage of the

Kurgan expansion. Unlike the Kurgan III infiltration, this expansion was carried with the immense destruction of the towns in the lower Danube, the Aegean area, Anatolia and in the eastern Mediterranean. We can see the successive destruction of Troy I and IIa, burning of Emporio on Chios, desertion of Thermi on Lesbos, Helvacoköy-Hüyücek on the western coast of Anatolia, and so on¹⁵. According to the trial of destruction, the Kurgan IV people appeared to have been seafarers as well as the Kurgan III people.

Troy IIc developed without any break from the previous phase. Troy IIc had two Royal Residences, and each complex consisted of a Great Hall and two lateral buildings; a courtyard and propylon in front.¹⁶ Both units seem to have been independent, and no entrance is observed between them. The plan indicates that the Eastern Residence (IIR) was constructed before the Western Complex (IIA), and it is also evident that the unit was used together with the western. The Eastern Residence which belongs to Troy IIc-1 was composed of a Great Hall (IIR) and two narrower structure of hall-and-porch type with two rooms each. Each building was built independently, and the whole unit was encircled by a wall with a courtyard; it is supposed to have had a propylon. The plan denotes the similar arrangement with that of the Troy IIa and IIb phases; namely, the Great Hall is put on one side and several megaron type subsidiary buildings are arranged side by side. The Western Residence belongs to Troy IIc-2 phase and consists of a Great Hall (IIA) which measures ca. 37 m. long and 14 m. wide with two subsidiary buildings: IIB and IIE. They have the same hall-and-porch plan which have two rooms each. The Great Hall, the buildings IIB and IIE had a back porch with *antae*, and the same structure is found in the building of the Eastern Complex. It is also reported that this type is discovered at Beycesultan in Anatolia dated from the Troy IV period (ca. 2200-2050 B.C.), and this fact indicates the infiltration of the Kurgan IV people likewise.¹⁷ The Royal Residence of Troy IIa to IIc-2 was composed of the hall-and-porch type, and formed a complex. Therefore, unlike the case of Troy I, the Great Hall is likely to have been used for public functions and a similar building facing the main courtyard found at Poliochni is regarded as the Town Hall.

The buildings of Troy IIg represent many varieties of the hall-and-porch type.¹⁸ Some of them are rather normal and simple with the hall-and-porch unit: a courtyard in front, a row of subsidiary rooms on one side. Another type is the houses of the hall-and-porch unit with a courtyard, and on both sides and along the back several rows of subsidiary rooms. Some of them contained *piithoi*. More complicated large house also appear. For instance, House HS ("House of the City King") measures 19 m. long and 15 m. wide, and consists of two hall-and-porch units with subsidiary rooms preceded by a walled courtyard. This is the house where most of the Trojan treasures came. The North House has a series of subsidiary rooms on the western side of the megaron IIK. The same system of the position of the main room of the house and its inaccessibility from the main street actually occurred in the eastern house of Insula VIII at Poliochni. In this East House at Poliochni, a long courtyard is placed in front of the main hall and subsidiary rooms enclosed an entrance with propylon at its western end. It is obvious that there is the extreme

similarity of the arrangement between the two houses. This is not surprising because the Trojan culture shows a coastal and maritime distribution extending from the Troad to the Karaburun Peninsula, including the Thracian Chersonese and offshore islands: Lemnos, Lesbos, Chios, and Tenedos. The Trojan culture is peculiar to have fortifications and the hall-and-porch plan type houses. This suggests the superstratum of the Kurgan culture and the substratum of the autochthonous culture in these regions.

The Middle Helladic Period

In the Middle Helladic period, we can observe many houses of the megaron type in Greece. At Lerna in the Argolid, houses are built on stone foundations and there are narrow buildings with several rooms in a row.¹⁹ The ends of the houses are apsidal as we have seen in the Early Helladic period, or sometimes rectangular. In some houses, ovens are placed in the main room and almost every house has a little round hearth. The stores were kept on the back room with bins. At Asine in the Peloponnese, House D is made of two houses side by side divided by wall.²⁰ The house is the hall-and porch plan with two back rooms and the porch. At Korakou near Corinth, part of a house was partitioned lengthwise, and frequently the porch was formed by prolongation of the side walls.²¹ A hearth was also placed slightly to one side in the main room. Thus, the plan is the megaron type except for the apsidal back room, and this type is seen at Lerna and Olympia likewise. The settlement of Malthi²² in Messenia was surrounded by the walls late in the Middle Helladic period. Usually the houses comprised one or two rooms, though some of them had subsidiary rooms, and had a single post. The shape of the houses are rectangular and some of the buildings appear to have been the hall-and-porch type.

The Late Helladic Period

In the Late Helladic period, the megaron complex developed more completely. Though the Middle Helladic type still continued, replacing the apsidal houses, almost all houses may have become rectangular and the megaron type was restricted to palaces and houses for the royal families. Before we go through the large and elaborated megaron complex in the Mycenaean palaces, we will briefly look at some small palaces in this period. At Malthi some structures were added to the site of the previous phase.²³ A little "palace" stood within the fortification wall, and the rectangular room of the palace measures 4.40 m. wide and 5.60 m. long entered by a doorway in the center of the short wall, and the room contains bases for four wooden posts arranged in a rectangle around the hearth. A courtyard is observed in front of the megaron. Accordingly, this is the original type megaron as at Nea Nikomedeia, Nea Makri, Lerna and Servia. A rather small palace of Late Helladic III is seen at Phylakopi on the island of Melos.²⁴ The megaron complex comprised a deep porch, 4.60 m. by 6.0 m., and a main room with a rectangular hearth in the middle of the floor. On both sides of the main room, two corridors ran, which measured 1.50 m. wide, and they seem to have been used partly for storage. The island fortress of Gla in Lake Copais has a rather unusual plan and function.²⁵ The palace is situated along

the northwest side of the fortress and has two wings forming a right angle north and east; the total length is about 150 m., and the width varies from 12.20 m. to 15. 20 m. Here the megaron complex occupied most of the north wing with labyrinthine arrangement of rooms and corridors, and columns and hearths are not found in this place. Consequently, the palace is considered to be rather deviated from the typical megaron unit. The multiple doors and the arrangement of interconnected rooms and corridors denote strong Minoan influence since it is common to have such arrangement in Cretan palaces: Knossos, Mallia, and Phaistos.²⁶ The entrance is from the front and a corridor runs parallel. The arrangement also reminds of the megaron at Phylakopi.

In the zenith of Mycenaean civilization, the megaron complex reached its climax of development. The megaron of Tiryns²⁷ was placed in the center of the megalithic citadel, and since the megaron unit is the largest structure, it was evidently the most important part of the palace. The megaron measures 9.80 m. wide and 11.80 m. long internally, and the circular hearth with four columns is 3.30 m. in diameter which is put in the center. The porch facing south is 12.50 m. wide with two columns and three entrances from the porch to the vestibule. The allocation of the entrance reflects the influence of Minoan civilization. From the west wall of the anteroom, a doorway led to the complicated westside of the fortification and it reminds of a Minoan palace. In its east side, two megaron units appeared with a porch and main room without vestibule; one of them is called the "Women's Megaron" or the "Little Megaron". Facing a courtyard, the Women's Megaron consists of a nearly square *aitthousa* and the main room. This unit is considered to be older than the great megaron unit, and together with the rooms, this unit was used for the domestic offices. In the great megaron, there was a plastered floor in alternate squares with a net pattern, an octopus, and a pair of dolphins; the king's throne was marked out by three bands of rosettes.

The megaron unit at Mycenae is a long rectangular complex.²⁸ The complex contains the *aitthousa* with two columns and large gypsum slabs imported from Crete were used to pave the floor and the walls were also covered with painted plaster. A great courtyard occurred in front of the *aitthousa*. The main room of the megaron complex measures 13.0 m. by 11.50 m. and the room was obviously paved in the same manner as the anteroom. The hearth is 3.70 m. in diameter; around it three bases of the four columns remain. Along the north side of the megaron and courtyard, an earlier corridor ran connected with rooms. The arrangement seems comparable with the "House of Columns" and "House of Oil Merchant" at Mycenae, and the palaces of Phylakopi and Gla.

The megaron at Pylos has a porch, an anteroom, and the main room measuring 12.90 m. by 11.20 m., and also contains a large hearth made of clay coated with stucco and the hearth measures 4.0 m. in diameter with four columns round. The position of the throne was accented by the painted octopuses on the floor.²⁹ On the right side of the throne, there is a carved channel that is regarded for the flow of libations. On the wall behind the throne, supernatural griffins guarding the king as at Knossos were painted in frescoes. Since the hearth occupied such a large area of the main room, it is reasonable to think that

it was employed not only for a domestic fireplace; accordingly, the megaron was also used as a cult place.³⁰ The same example is seen at Nea Nikomedeia in the Neolithic period. On either side of the megaron, there ran two corridors connected with many rooms which are regarded as storerooms, but no direct entrance is seen from the main room to the corridors. This indicates one of the main and fundamental features of the megaron, namely, the isolation of the main room. Pylos has another megaron unit called the "Queen's Hall". The shape is almost square and the size is nearly half of the large megaron. In the center of the Hall, a circular hearth appears and it is made of clay coated with stucco decorated with flame patterns, zigzags, and spirals. Evidently, the walls were decorated with the frescoes of griffins and lions or leopards. The main complex of the palace contains a number of rooms, porches, passages, and courts; the allocation of rooms around the megaron clearly represents Cretan influence.

In all these Mycenaean palaces, the hall with fluted columns, frescoed walls, painted floors and hearths, and the throne must have offered a splendid sight. The reminiscent of such splendor is sung in the epics of Homer:

φράζεο, Νεστορίδη, τῶ ἐμῶ κεχαρισμένε θυμῶ,
 χαλκοῦ τε στεροπὴν καὶ δώματα ἠχήμεντα,
 χρυσοῦ τ' ἠλέκτρον τε καὶ ἀργύρου ἠδ' ἐλέφαντος.
 Ζηνὸς που τοιήδε γ' Ὀλυμπίου ἔνδοθεν ἀυλή,
 ὅσσα τὰδ' ἄσπετα πολλὰ σέβας μ' ἔχει εἰσορόωντα. (*Od.*, 4, 71-75)

And these painted walls, plastered corridors, pillared walls, labyrinthine arrangement of rooms and corridors suggest the strong effect of Crete. These megara are almost the same size and the plans of them indicate the strong similarity of arrangement; they have a porch with two columns, an anteroom, the main room with a fixed hearth surrounded by four columns, and the throne. These aspects clearly show the persistence of the original megaron plan.

Conclusion

In the Mycenaean Age, the megaron complex became so brilliant together with the flourishing royal palaces; however, we can not disregard the fact that the essential elements of the megaron persisted. The primitive type may be seen at Nea Nikomedeia or at Nea Makri on the Greek mainland, and the megaron was used as the residence of the chieftain in the Late Neolithic period at Dhimini. The genuine type developed in Anatolia like House 102 within the citadel of Troy I. Along with the ring walls at Dhimini, the massive fortification wall of Troy I is regarded as the coming and predominance of the Kurgan people from the Pontic steppe in the fourth millennium B.C. They invaded in the Balkan area and demolished the Old European civilization, and subdued both the indigeneous people of Old Europe and the population in Anatolia. They enclosed their sites by heavy stone fortification walls, but they accepted the megaron as their palace. Thereafter, the structure functioned as the most important part of the royal palace. The megaron was originally a

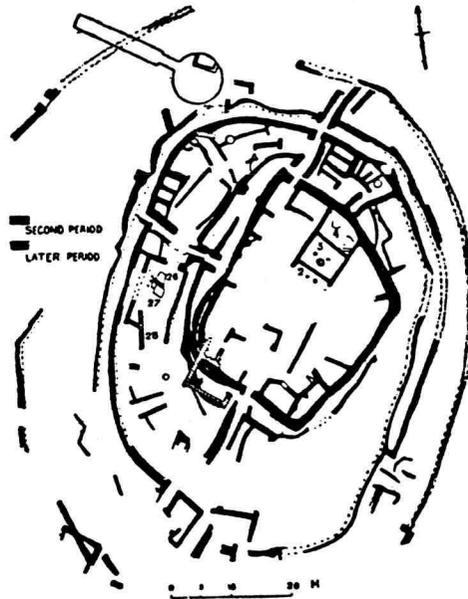


Fig. 1. V.G. Child, *The Dawn of European Civilization*, 6th ed. (London: Routledge & Kegan Paul, 1957), p. 63, Fig. 33.

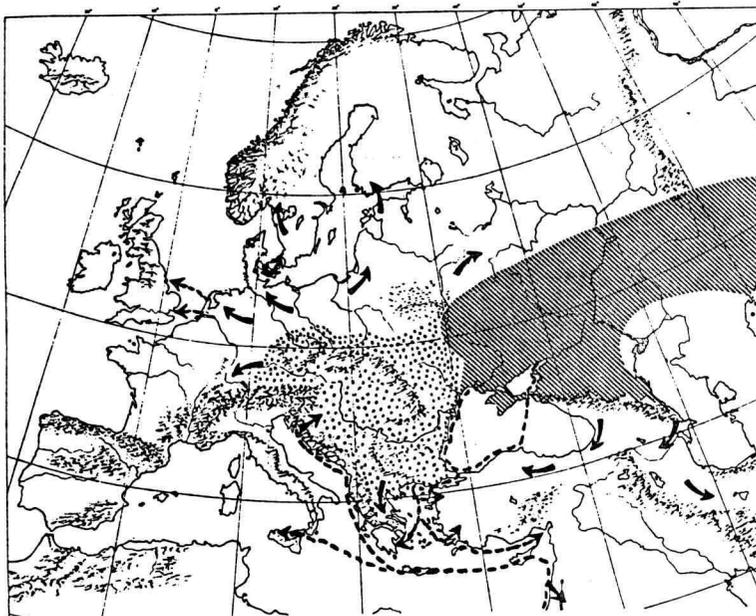


Fig. 2. M. Gimbutas, "Proto-Indo-European Culture: The Kurgan Culture during the Fifth, Fourth, and Third Millennia B.C.," in *Indo-European and Indo-Europeans*, ed. G. Cardona (Philadelphia: Univ. of Pennsylvania Press, 1970), p. 193, Fig. 27.

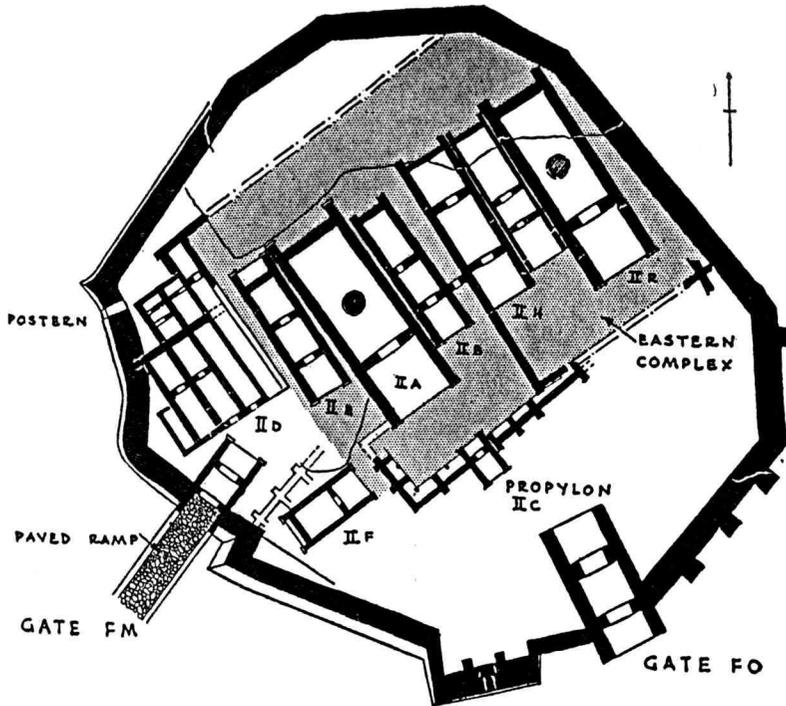


Fig. 3. J. Mellaart, "Notes on the Architectural Remains of Troy I and II", *Anatolian Studies*, 9 (1959), p. 143, Fig. 6.

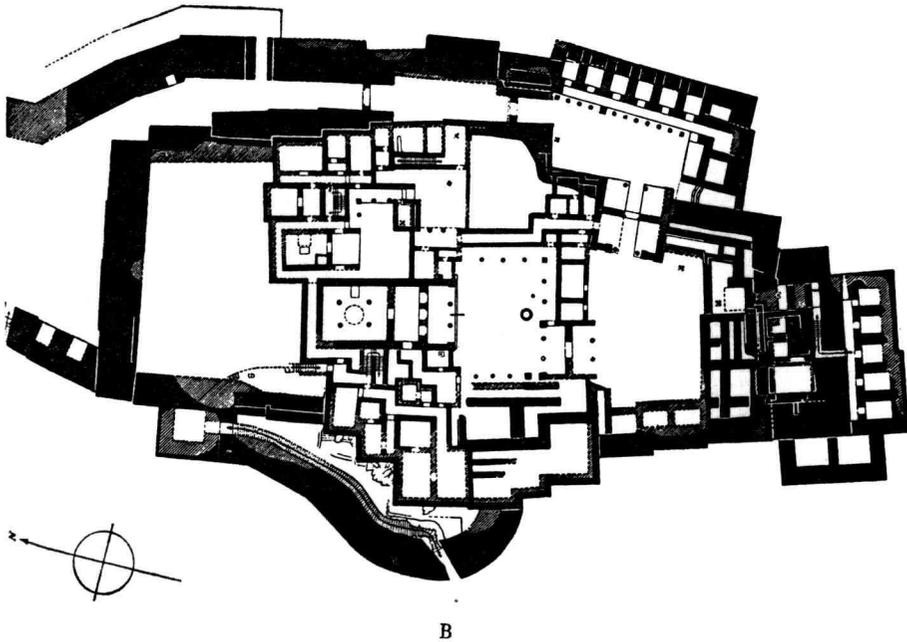


Fig. 4. E. Vermeule, *Greece in the Bronze Age* (Chicago: Univ. of Chicago Press, 1964), Plate XXIII.

simple rectangular house for the autochthonous people in the cold climate regions of Old Europe and Anatolia. During its development, some additions were made, and later, it was affected by Minoan civilization. Preserving its traditional features, the megaron was converted into the royal palace for the invaded Kurgan people both in Anatolia and Greece; thus the megaron bespeaks the manifold strata of the Kurgan culture and the Old European civilization.

Notes

1. Emily Vermeule, *Greece in the Bronze Age* (Chicago: Univ. of Chicago Press, 1964), p. 7; Colin Renfrew, *The Emergence of Civilization* (London: Methuen, 1972), p. 64.
2. S.S. Weinberg, "The Stone Age in the Aegean," *Cambridge Ancient History* (Cambridge: Cambridge Univ. Press, 1970), p. 578, p. 580.
3. Marija Gimbutas, "Old Europe c. 7000-3500 B.C.: The Earliest European Civilization Before the Infiltration of the Indo-European Peoples", *JIES*, 1 (1973), p. 3, Map 1; pp. 5-6.
4. Weinberg, p. 590, Fig. 45.
5. V. Müller, "Development of the Megaron in Prehistoric Greece," *AJA*, 48 (1944), p. 342; p. 343, Fig. 1-1.
6. Fig. 1; Vermeule, pp. 14-16; A.W. Lawrence, *Greek Architecture*, 3rd ed. (Harmondsworth: Penguin Books, 1973), p. 15; D.S. Robinson, *Greek and Roman Architecture*, 2nd ed. (Cambridge: Cambridge Univ. Press, 1969), p. 25.
7. Fig. 2; Gimbutas, "Proto-Indo-European Culture: The Kurgan Culture during the Fifth, Fourth, and Third Millennia B.C.," in *Indo-European and Indo-Europeans*, ed. G. Cardona (Philadelphia: Univ. of Pennsylvania Press, 1970), p. 180, p. 191.
8. Robertson, p. 25, Fig. 12; F.B. Smith, "The Megaron and its Roof", *AJA*, 46(1952), p. 107.
9. Lawrence, p. 7, Fig. 4; p. 8.
10. Renfrew, p. 127; p. 128, Fig. 8-4.
11. M.M. Winn, "Thoughts on the Question of Indo-European Movements into Anatolia and Iran", *JIES*, 2(1974), Map 1, p. 119; p. 120.
12. Gimbutas, *JIES*, 1 (1973), p. 15.
13. Gimbutas, "The destruction of Aegean and East Mediterranean urban civilization around 2300 B.C.," in *Bronze Age Migrations in the Aegean*, eds. R.A. Crossland and Ann Birchall (London: Duckworth, 1973), p. 131.
14. Gimbutas, *JIES*, 1 (1973), p. 16.
15. James Mellaart, "Anatolia, c. 4000-2300 B.C.," *Cambridge Ancient History*, vol. 1-2, p. 383.
16. Fig. 3.
17. Mellaart, "Notes on the Architectural Remains of Troy I and II", *Anatolian Studies*, 9 (1959), p. 145.
18. *Ibid.*, p. 161, Fig. 13.
19. Vermeule, p. 316, Fig. 52-d.
20. Smith, p. 110, Fig. 29.
21. Lawrence, p. 53; p. 54, Fig. 34.
22. *Ibid.*, p. 55, Fig. 36.
23. *Ibid.*, p. 55, Fig. 36: p. 67.
24. *Ibid.*, pp. 79-80; p. 80, Fig. 45.
25. G. Mylonas, *Mycenae and the Mycenaean Age* (Princeton: Princeton Univ. Press, 1966), Plates 74, 76.
26. J.W. Graham, *The Palaces of Crete* (Princeton: Princeton Univ. Press, 1962), Plates 2, 4, 6.
27. Fig. 4.
28. Mylonas, p. 60; p. 61, Fig. 15.
29. Vermeule, Plate XXV-B.
30. *Ibid.*, p. 176; J.T. Hooker, *Mycenaean Greece* (London: Routledge & Kegan Paul, 1976), p. 202.

References

- Gimbutas, Marija. "Proto-Indo-European Cultures: The Kurgan Culture during the Fifth, Fourth, and Third Millennia B.C." *Indo-European and Indo-Europeans*. Ed. G. Cardona. Philadelphia: Univ. of Pennsylvania Press, 1970.
- . "Old Europe c. 7000-3500 B.C.: The Earliest European Civilization before the Infiltration of the Indo-European Peoples". *JIES*, 1(1973), 1-20.
- . "The Destruction of Aegean and East Mediterranean urban civilization around 2300 B.C." *Bronze Age Migrations in the Aegean*. Eds. R.A. Crossland and Ann Birchall. London: Duckworth, 1973.
- Graham, James Walter. *The Palaces of Crete*. Princeton: Princeton Univ. Press, 1962.
- Hooker, J.T. *Mycenaean Greece*. London: Routledge & Kegan Paul, 1976.
- Lawrence, A.W. *Greek Architecture*. 3rd ed. Harmondsworth: Penguin Books, 1973.
- Mellaart, James. "Notes on the Architectural Remains of Troy I and II". *Anatolian Studies*, 9(1959), 131-162.
- . "Anatolia, c. 4000-23 B.C." *Cambridge Ancient History* vol. 1-2. Cambridge: Cambridge Univ. Press, 1971.
- Müller, Valentin. "Development of the Megaron in Prehistoric Greece". *AJA*, 48 (1944), 342-348.
- Mylonas, George. *Mycenae and the Mycenaean Age*. Princeton: Princeton Univ. Press, 1966.
- Renfrew, Colin. *The Emergence of Civilization*. London: Methuen, 1972.
- Robertson, D.S. *Greek and Roman Architecture*. 2nd ed. Cambridge: Cambridge Univ. Press, 1969.
- Smith, E.B. "The Megaron and its Roof." *AJA*, 46 (1942), 99-118.
- Vermeule, Emily. *Greece in the Bronze Age*. Chicago: Univ. of Chicago Press, 1964.
- Weinberg, S.S. "The Stone Age in the Aegean". *Cambridge Ancient History* vol. 1-1. Cambridge: Cambridge Univ. Press, 1970.
- Winn, M.M. "Thoughts on the Question of Indo-European Movements into Anatolia and Iran." *JIES*, 2 (1974), 117-142.