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THE FORMATION OF THE MYCENAEAN PALACE

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Par définition, le palais est exclusivement le domicile du Wanax, c'est-à-dire le bâtiment dont les dimensions sont supérieures à celles des constructions typiques des habitats. Le palais avec ses bâtiments adjoints – sa complexité structural – figure comme résidence royale. (Kilian 1987a: 203)

AN ARGUMENT FOR THE ORIGINS OF MONUMENTAL ARCHITECTURE

Any discussion of the origins and formation of the Mycenaean palaces must begin with the insightful studies of Klaus Kilian, especially his contribution to the Strasbourg Colloquium of 1985 (Kilian 1984; 1987a, b, c, d; 1988a, b; 1990). He pointed the way for understanding the palace in the context of the evolving socio-political structure of the Mycenaean state with appropriate attention to the role of the *wanax* and, presciently, to influences from Crete (Kilian 1988b). His argument is based on the notion that the core plan of the palace, the so-called 'megaron' (Darcque 1990), though ultimately derived from the plan of the typical MH residence, is elaborated in size, architectural details, decorations, and furnishings that reflect the '... mode de vie, des fonctions économiques, religieuses, administratives et politiques ...' (Kilian 1987a: 203–5; 1984). The palace he asserts is at the top of the hierarchy, the central seat of religion and political power, the centre of military and economic activities, and the primary node of exchange in the territory of the polity (Kilian 1987a: 204–5; see also Carlier 1987). His argument, however, does not give us licence to presume a virtual straight line of development from the free-standing rectangular house of the MH period to the so-called 'megaron' of the palaces (see Kilian 1988c: fig. 11; Schaar 1990; Hiesel 1990: 239–46). Although such a development may seem apparent from an examination of the formal properties of the plans of the Mycenaean palaces, the process that led to the uniform plan was neither orderly nor direct. When we assemble the evidence for the formation of palatial structures from region to region, we see that it

differs from one to another and was not coordinated; only in the latest period (about LH III A2) was the planning of the palaces sufficiently uniform as to indicate the kind of homology that is posited in Renfrew's peer polity model (Renfrew 1975: 13–21; 1986). Nor was the architectural form of the Mycenaean palaces independent of Mycenaean social structure, for it emerged from the social matrix of an evolving society on the mainland of Greece that was influenced by its contacts with the more highly organised societies of the Minoan palaces and the entrepôts of the Cycladic islands. Principles of social organisation (family structure, kinship, rules of marriage and descent), however, are social rules, not rules for architecture. They only become articulated and visible in architecture through repetition and through the accumulation of social and political value, and these are processes that do not develop uniformly, but vary according to local circumstances and traditions (from a sociological perspective this is the argument of Giddens 1984: 16–40, 83–92, 132–58, 163–206 and Bourdieu 1980: 52–65).

In studying the formation of any monumental architecture, it is necessary to examine the multiple strands that lead to the selection of a particular plan and a particular form. The problem here is to explain how it is that the so-called 'megaron' came to be the core plan of the palace.¹ This happened despite the evident engagement of mainland elites during the late Middle and early Late Bronze Ages with the cosmopolitan islanders at Ayia Irini, Phylakopi, Akrotiri, and elsewhere, and with the nobility of the Minoan centres, both of which provided other models for monumental architecture. But the mainland did not exist during this time as a cultural whole, and the agents from its various regions had different modes and levels of contacts with the many possible entities elsewhere in the Aegean. It is, then, perhaps remarkable how widely the axial 'megaron' plan occurs in developed Mycenaean society – in palaces, mansions,² houses (Darcque forthcoming; Hiesel 1990: 3–84, 244–6) and sacred structures (Whittaker 1996, 1997: 120–38; Albers 1994, 2001). How this happened is the subject of the following essay.

Let us begin with the familiar outline of development. We have good reason from the remains at many settlements (e.g. Eutresis: Goldman 1931: 31–62; Asine: Nordquist 1987: 69–90) to think that the rectangular buildings were family houses (Kilian 1987a: 204–13). In the LH I succession of houses at Tsoungiza (Figure 1.1a) we can see a choice to build a core rectangular structure with central hearth

1 On the term 'megaron' see, Darcque 1990; with regard to the megaron as the core of the palace plan, Graham (1960) saw a very strong Minoan influence in the architecture of the Mycenaean palaces, something acknowledged by Dickinson (1994: 153–7) who, however, also recognised a distinctive Mycenaean adaptation of Minoan elements to suit Mycenaean preferences. This matter is examined in detail in the recent dissertation of M. Nelson (2001); see also Rutter forthcoming; Schaar 1990.

2 By axial 'megara' I include Hiesel's *oikos* 1 and 2 and the *Antenhaus* types (Hiesel 1990: 5, 203–4). By mansions I mean the elaborate residences and industrial centres such as the House of the Sphinxes, the House of the Oil Merchant; see Darcque forthcoming.

and post and then to add additional rooms at the side and end (Wright 1990: 347–53). This is in fact an old habit observable throughout the MH in the reservation of the back room of an apsidal or rectangular structure for storage, which can be entered either from within the house or from outside it (Lerna: Zerner 1978: 35–8; Eutresis: Goldman 1931, houses C and D; Korakou: Blegen 1921: 76–8, house F). That the core room has a special purpose is often witnessed by the placement of a built central hearth. The placement of a post or posts centred in the room establishes a relationship between hearth and column, and that invites elaboration as demonstrated by the subsequent monumentalisation of the hearth, the columns around it, and the opening in the roof through which smoke ascends to the sky. Here the integrative potential for function, form and meaning to come together is ripe, but unfortunately we lack evidence to know what, if any, meaning was attached to these features during the late Middle and earliest Late Bronze Ages.

We can broaden our view at this time by looking at Malthi, (Figure 1.1b) and there see in the apparently precocious settlement plan a centripetal principle at work in (a) the encircling fortification wall, (b) the interior terrace, (c) the open space in front of the main room 1, with its (d) column and (e) central hearth (Valmin 1938: pl. III). Although we may think this plan foreshadows the organising principle behind the plan of the citadels with their palaces (Wright 1994: 49–60; see now Cavanagh 2001), there is no justification in seeing in this the germ of the citadel and palace plan. Rather I argue that we are looking at the material remnant of a particular social behaviour that is tied to the emergence of a form of leadership that grows out of communities where lineages predominate. At Malthi we may have the instance of a village where one lineage group was ascendant and where its headman and his family lived in the main house, which was also a place of socio-political gathering. The nearby evidence of a suite of rooms for probable craft activities may indicate the desire of the headman to have some immediate control over important craft production (Valmin 1938: 102–5, 368–9). Whether or not we would find the same plan and organisation elsewhere depends upon the extent to which other places had achieved the same level and kind of socio-political integration as at Malthi. For example, at Peristeria the plan (Figure 1.1c) is similar in the existence of an early encircling fortification wall but different in the apparent lack of a dense series of residences within it (Marinatos 1964: 206–9; 1965: 169–74; 1966; 1967a, 1967b; Korres 1977: 296–352). Significantly, the fortification encloses monumental burials, exemplified by the elaborate tholos with cut ashlar facade bearing incised double axe and branch signs (Marinatos 1964: pl. 159a; Nelson 2001: 132, 186). At Epano Englianos during late MH the site grew to nearly 5.5 ha, achieving dominance over much of the landscape, and here too architectural remnants indicate a growing settlement (Davis et al. 1997: 427–30; Nelson 2001: 209–12). By LH I substantial architectural remains indicate the establishment of monumental structures and a formal gateway, which in the next period (LH

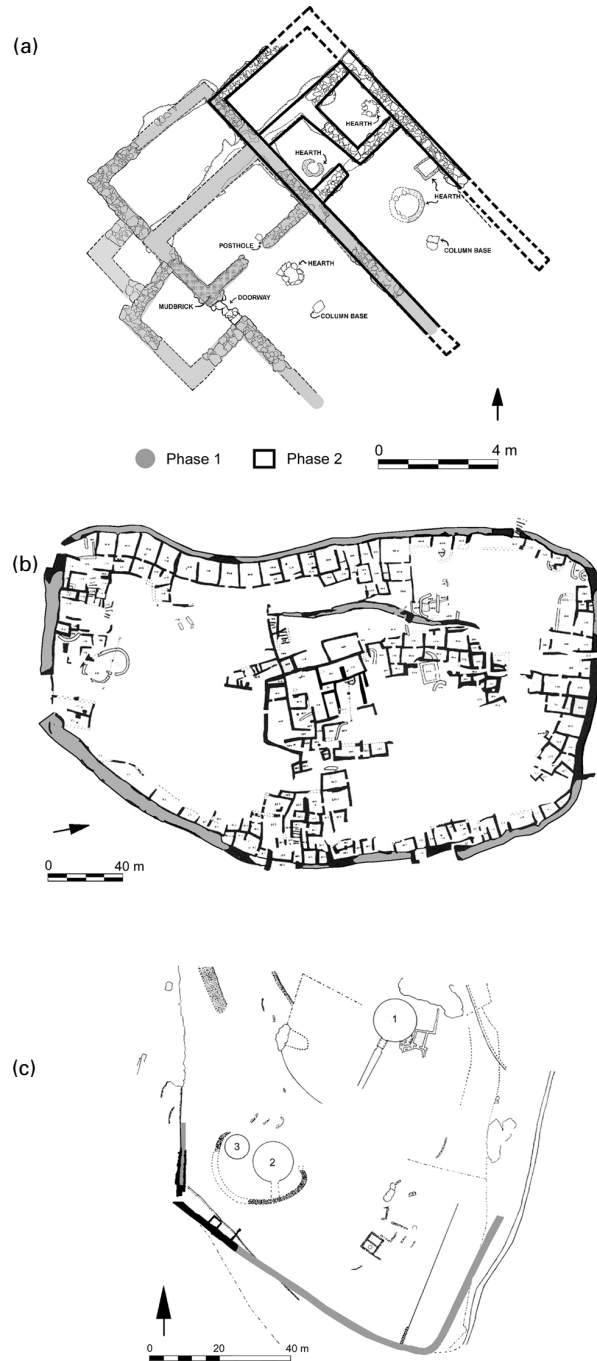


Figure 1.1a Plan of the LH I houses at Tsoungiza, EU 7, drawing by the author.
1.1b Plan of Malthi, level III, adapted from Valmin 1938, pl. 3. *1.1c* Plan of Peristeria,
 adapted from Korres 1977

II) aligned with a monumental tholos tomb (IV) established at the eastern limits of the site of habitation.³

This disposition in Messenia towards centralised defensible and planned settlement that incorporates monumentalised burials signifies that ascendant lineages were consolidating their dominance at strategic locations. (Malthi is an exception with the tholos tomb placed on a hillock some half kilometer from the settlement: Valmin 1938: 206–25). The defensive nature of these indicates conflict among communities as they contested, probably, for territorial power. Habitation throughout the wider region was dynamic as settlements rose and fell in size and patterns of settlement adjusted to shifts in power, as Shelmerdine has observed (2001: 125–6) when speaking about the situation in Messenia between late MH and LH IIIA. This phenomenon seems to have been widespread (Hiesel 1990: 249–50). In Attica, Kiafa Thiti and probably Brauron, were fortified acropolis type settlements (Lauter 1989: 146–9; Papadimitriou 1956: 79–80, said to be MH in date). Conditions were no doubt similar in the Argolid, for at Mycenae there seems to have been an early circuit (Rowe 1954) although Mylonas (1966: 168–9) did not think this wall was MH in date because he found LH IIIB sherds in the fill behind it. At Argos on the Aspis buildings were constructed within a defensive circle as at Malthi (Touchais 1996: 1321–3; 1998, 1999).

At Tiryns MH remains document extensive settlement, including atop the Oberburg, although we can no longer accept Müller's (1930: 15–6) argument for a massive, MH terrace wall around the Oberburg (see Kilian 1990: 104). In Lakonia at the Menelaion a settlement was perched atop the naturally defensible outcrop overlooking the upper Eurotas Plain; by MH III this site was the dominant one of the region and apparently had begun to build monumental structures, judging from the evidence of a dressed block of *poros* limestone incorporated into Mansion I (Figure 1.2a).⁴

THE STIMULI AND SOURCES OF MONUMENTAL ARCHITECTURE

There is no reason to argue that these developments were uniform or coordinated. They arose due to the competition among different elites who were consolidating their position within their own territories and were developing

3 Nelson 2001: 213–18. Nelson (p. 213) suggests that the gateway and the tholos were built contemporaneously, but Dickinson (1977: 62–3) places the tholos later in LH IIA. This chronological problem notwithstanding, it is no doubt significant, as Nelson argues, that the two are in alignment as I pointed out in 1984 (1984: 26).

4 Barber 1992: 1 and n. 6; Darcque (forthcoming) does not believe this block was used for a wall, but rather may have been intended as a base or anta; this view conforms with Nelson's observations (2001: 186) about this masonry being transitional from his pseudo-ashlar to orthostate styles. He misquotes Barber (Nelson 2001: 67, n. 165) concerning the block; it was found built into the remains of the first mansion, not the last.

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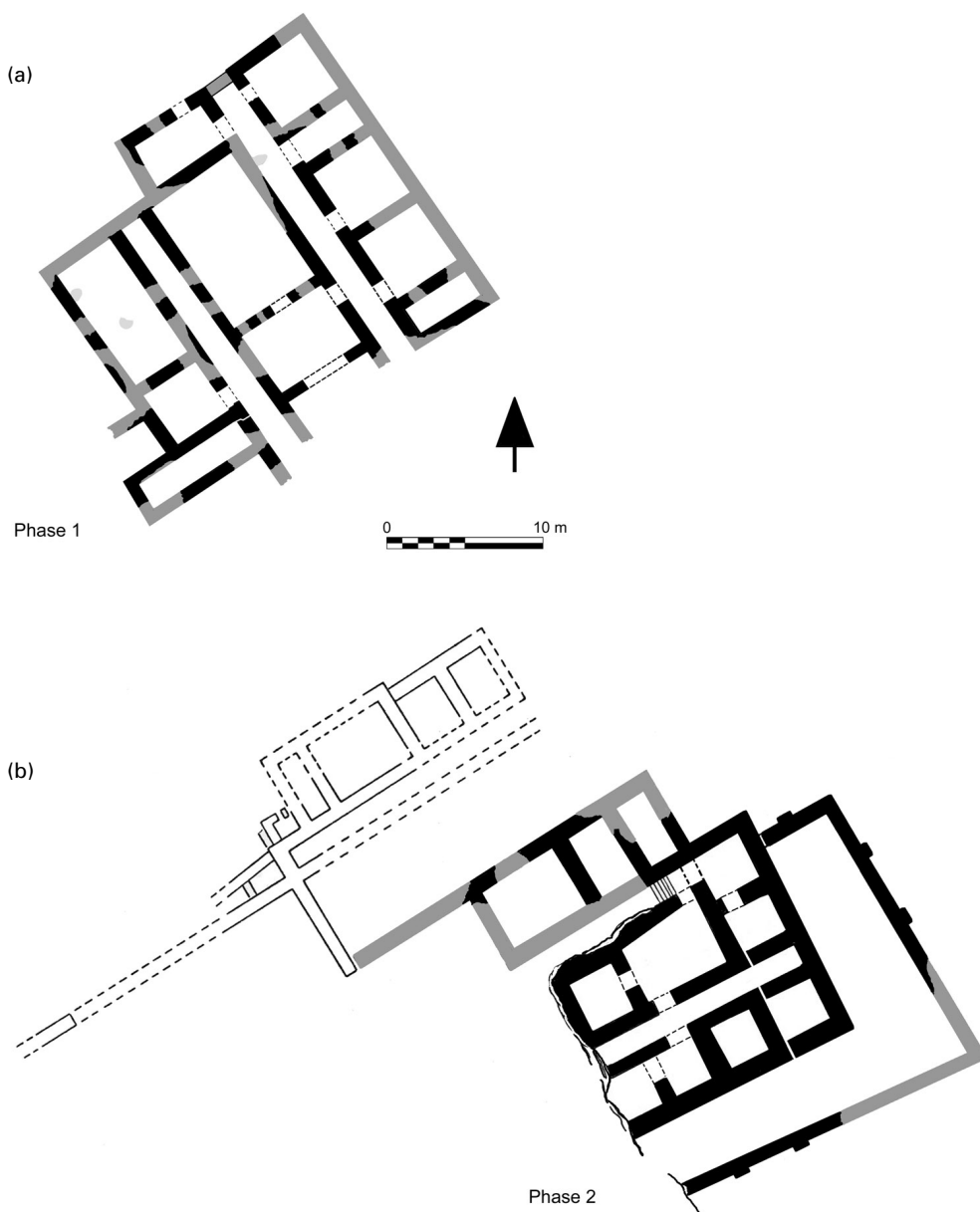


Figure 1.2a Plan of Mansion I at the Menelaion, adapted by the author from Catling 1974–1975, fig. 17. *1.2b* Later building at the Menelaion, adapted from Catling 1974–1975, fig. 17

relations with external sources, certainly in the islands and on Crete, and possibly elsewhere. For some these relations were well established, going back even to the Early Bronze Age, as argued by Rutter and Zerner for different areas of the Peloponnesos and by Hägg for Messenia (Rutter and Zerner 1983; Korres 1984; Hägg 1982, 1983; Kilian-Dirlmeier 1997: 113). We lack sufficient evidence of the form and plan of settlements and their buildings to generalise and thus may neither view Malthi as representative nor think that subsequent developments would be convergent. In fact, as the political evolution of Mycenaean society continued in the succeeding periods (roughly LH II–IIIA), the nature of competition changed. Whereas formerly elites struggled for ascendancy within their community and throughout their immediate region, now they began to compete in areas more widespread: with other elites in their larger region, among nascent polities as conflict arose along territorial boundaries, and presumably also in the wider arena of Aegean relations. At this time architecture assumed a new importance for it was a natural display of the ability of a leader to command many resources: labour for construction, the specialised labour of crafts persons, and local and exotic materials. The last two are significant since they are also symbolic of access to highly restricted resources, both the services of craftspersons (masons, carpenters, plasterers, fresco painters) and materials such as timber, perhaps special wood for details, lime-plaster, and good quality limestone. In this sense the construction of monumental architecture, whether as palace or tomb, is the same kind of aggrandising display as that of wealth deposited in high-status tombs (shaft graves, tholos and chamber tombs). Furthermore, as a place for meeting, whether to conduct business, carry out community obligations and rituals, or for religious worship, these structures assumed an increasingly central role in the life of the community and also acted as theatres of display. The immediate sources for crafts persons and materials are Crete and the islands (Darcque 2001: 106–7; Kilian 1987d: 21), but we cannot discount other places, such as Anatolia, the Near East and Egypt, as recently advanced by Mühlenbruch (2003; cf. Kilian 1987d: 35–6).

EXTERNAL RELATIONS AND LOCAL CUSTOMS

We do not have direct evidence of the relationships forged between elites at one centre on the mainland with the established leading orders in the islands and on Crete and places farther afield. Dickinson has famously argued for a ‘special relationship’ between Mycenae and Crete (Dickinson 1977: 54–6, esp. 55), and this is quantifiable when taking into account the uneven distribution of wealth at mainland centres as evidenced by the wealth in the Shaft Graves and many chamber tombs at Mycenae in comparison to elsewhere (see Wright 1995, pl. XXVIII; and Shelton 1993 for an assessment of the total number of chamber tombs around Mycenae). There are also differences in the kinds of artefacts found at different

sites, for example at Mycenae, Vapheio and Dendra,⁵ and these may be evidence of the guest-friendship established between peer elites at different places. In architecture, such special relations should also be manifest. At Pylos for example, Nelson has carefully documented the many phases of construction atop the ridge at Epano Englianos and brilliantly argued that the early phases of the palace (dating between LH II and LH IIIA) are heavily influenced by the tradition of Minoan masonry and probably Minoan architectural planning, as witnessed by the 'ashlar' phase of LH IIIA that consists of buildings likely clustered around an open court (Figure 1.3; Nelson 2001: 180–205). Similar evidence of Minoan influence is not apparent at the citadels in the northeastern Peloponnesos, although Nelson (2001: 130–1, 142) cites the orthostate in the megaron Room IV at Tiryns, nor in central Greece, although often suggested for the House of Kadmos (Dakouri-Hild 2001: 105–6; Keramopoulos 1930: 89–90), and we should probably see in these differences some reflection of the special relationships maintained by different centres. Aside from the postulated Mycenae-Crete relationship, there are others. Broodbank, Kyriatzi and Rutter have argued that Kythera mediated the relationship between Lakonia and Messenia and Crete (Rutter forthcoming; Broodbank, Kyriatzi and Rutter forthcoming). In the north-eastern Peloponnesos Aigina may have played a similar role both as a centre by itself and in directing access to the Aegean, specifically to the islands of the Cyclades and the 'western string' (Kilian-Dirlmeier 1997: 22, also 86–8; Caskey 1971: 378–81 [Tomb 40 now renumbered as Tomb 28]). Ayia Irini on Keos long had a special relationship with central Greece (Overbeck 1982).

Throughout the Mycenaean period the evidence from all categories of artefacts informs us that mainlanders were eclectic in their appropriation of foreign styles and preferred to adapt them to their own ends (e.g. Andreou forthcoming). In fact this propensity is apparent early in the MH period as Kilian-Dirlmeier has convincingly pointed out (Kilian-Dirlmeier 1997: 122). She argues that the archaeological record indicates that throughout Central and southern Greece there was a fairly uniform access to external sources of wealth but emphasises that it was neither synchronous in all areas nor uniform in the selection of objects (Kilian-Dirlmeier 1997: 114–21). The archaeological indications of the appearance of aggrandising elites in different communities shows a process at work that is highly variable from place to place and subject to no rule other than that which produces effective display of prestige within the community that forms the audience.

Let us consider the state of affairs from the middle of MH through LH II, a long period of at least two hundred years that covers the transformation from a thinly populated landscape with few signs of central settlements and economic activity to one of dense settlement clustered around central places vitally engaged

⁵ Mycenae, Grave Circle A, Grave IV: the silver stag of Anatolian origin (Koehl 1995; Vermeule 1975: 15); Vapheio: the bronze 'Syrian' axe head (Kilian-Dirlmeier 1987: 203–4); Dendra: the octopus cup (Hurwit 1979) and the wishbone-handled cup with bucrania like that from Enkomi (Matthäus 1985: 120–3; in general see Cline 1991).

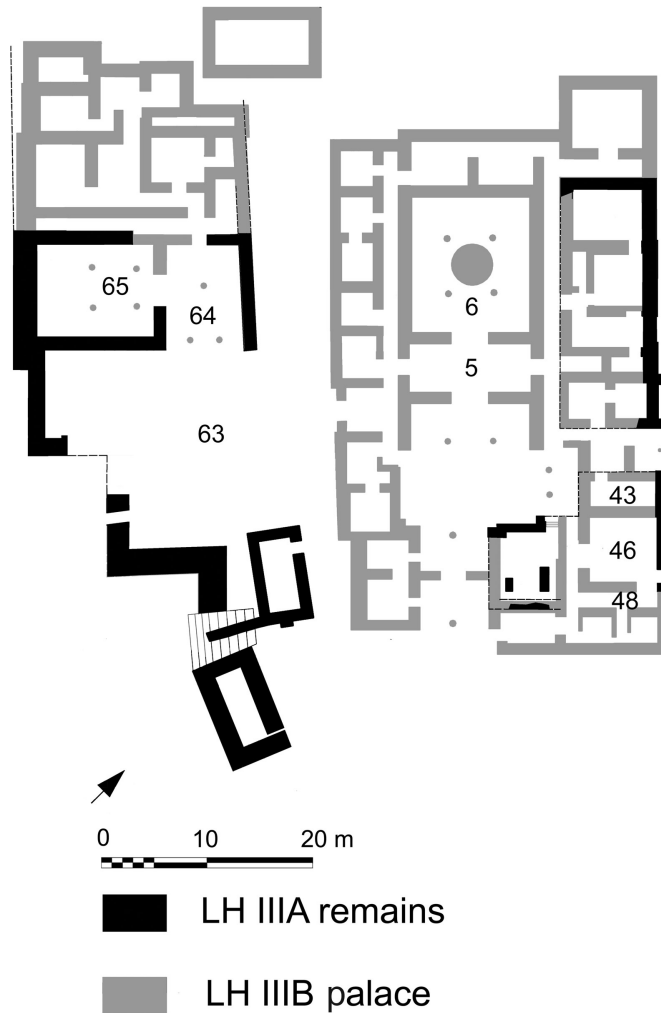


Figure 1.3 Plan of Palace at Pylos, drawing by author with reference to Nelson 2001, fig. 81

in economic activity. One of the things that has bedevilled the study of this period is the sense we gain of a pattern amid what is in fact much variation. So as much as we might want to assert the appearance of formal types, they are not susceptible of quantifiable proof. There are several reasons for this. First, this is a period of socio-political formation. There were no rules, rather there was much competition, which encourages variation within the boundaries of comprehensible symbolic display. Architecture, as much as if not more so than other categories of culturally constructed objects, is a form of display. As Kilian-Dirlmeier observes, competing groups acquired luxuries at many different centres of production or ownership scattered throughout the Aegean (Kilian-Dirlmeier 1997: 114–21),

and even further abroad. They also commanded the producers of luxuries to manufacture items they commissioned (Kilian-Dirlmeier 1997: 122; Vermeule 1975; Davis 1974, 1977; Matthäus 1980: 339–43). But the extent to which these rising elites were able to do this varied dramatically from place to place; that is why there is such a disparity in the distribution of luxury items among such premier places at Mycenae, Vapheio, and Peristeria, to name only a few. This disparity, however, was governed by the need to communicate in a vocabulary known to the intended audience (Clark and Blake 1994: 25–6), and this rule explains not only variation from community to community but also the adaptation of foreign styles for local purposes.

MORTUARY ARCHITECTURE AND LOCAL BUILDING TRADITIONS

A good example of display through a local vocabulary of expression, and one which is of signal importance for the study of the formation of an architectural style, is the architecture of burial receptacles. Since a death provides the opportunity for the kin and lineage to affirm their common bonds, display their status, claim their relation to ancestors and consolidate existing coalitions while building new ones, the act of burial is charged with symbolism and is an especially important stage for display (Parker-Pearson 1999: 45–71). In this practice the elaboration of architecture was tied to local custom. Burying groups began to magnify traditional burial facilities by differentiating them from other burials. Examples are the cist grave and tumulus, for which increasing variability in the architecture is characteristic: the various forms of tumuli, large built cist tombs, grave circles, and shaft graves (Müller 1989; Kilian-Dirlmeier 1997: 83–106; Cavanagh and Mee, *Private Place: passim*). Once the chamber and tholos tombs are invented, they too begin to be elaborated. Chamber tomb cemeteries begin in LH I and proliferate throughout the Mycenaean era, becoming the primary burial form for Mycenaean communities. In many instances they take on architectural forms, for example in the rectangular shape of the chamber with a gabled roof, in the addition of benches as interior furnishings, and in elaboration of the entrance, where the door and façade sometimes show architectural details adopted from palace architecture e.g. the chamber tomb cemeteries at Ellenika, Messenia (Koumouzelis 1996: 1222, n. 5), Aidonia (Krystalli-Votsi 1996: 23); and the painted tomb at Thebes (Spyropoulos 1971). The tholos tomb perhaps best reflects the mainlanders' propensity to adapt and elaborate rather than merely to borrow. Introduced first in Messenia, the tholos tomb appears in contexts that indicate its strong relationship to the tumulus, for example at Koryphasion and Voïdokoilia in Messenia and at Thorikos in Attica (Korres 1979, 1981; Lolos 1989; Servais and Servais-Soyez 1984: 45–6, 60, 66–7; Cremasco and Laffineur 1999; and on the importance of the tholos as an expression of local communities, see Bennet 1999: 15). Granted that Messenian-Minoan relations were early on sufficiently well developed for us to acknowledge an impetus for this monumen-

tal tomb form from the age-old tradition of above-ground 'tholoi' in Crete, the Mycenaean tholos is a purely mainland invention (Cavanagh and Mee, *Private Place*: 45–7). As it evolves and is adopted throughout the Peloponnese and central Greece during LH II–III its architectural form, size and embellishment is developed using a purely Mycenaean vocabulary (Mee and Cavanagh 1984).

Nowhere is this more apparent than at Mycenae, where, as long ago observed by Wace (1921–23: 283–402), there is a strong local development in the use of materials and their placement in the tholoi. Beginning with a tradition of building in rubble, the tombs are progressively monumentalised by the placement first of ashlar *poros* masonry and second of dressed conglomerate placed in strategically visible locations (Figure 1.4; Wright 1987: 177–82). Although the introduction of ashlar masonry is a widespread phenomenon beginning perhaps as early as late MH and in Messenia directly attributable to the influence of Minoan masonry (with the probable active participation of Minoan masons: Nelson 2001: 187–91; Barber 1992: 1, n. 6; and see Vermeule 1964: 41, fig. 6; Sakellarakis 1967: 277, 287–8; Pelon 1976: 208, n. 5), because of the widespread availability of *poros* limestone, it becomes part of a Mycenaean style. With it comes the introduction of stucco, sometimes painted, as in the Berbati tholos (Pelon 1976: 178; see also Tiryns, Pelon 1976: 181, fig. 3). In the environs of Mycenae, the availability of conglomerate offered the opportunity for local masons to develop a very distinctive style, and this process can be followed in detail in the tholos tombs and subsequently in the architecture of the citadel

TOMB	POSITION							TECHNIQUE	
	Chamber	Lintel	Stomion	Façade	Dromos base at façade only	Entire base of dromos	Entire dromos	Hammered	Sawn
Cyclopean									
Epano Phournos									
Aegisthus 1st		●							
Panagia		●	●		●				
Aegisthus 2nd		●		●	●				
Kato Phournos		●	●	●				●	
Lion		●	●	●				●	
Genii	●	●	●	●	●	●		●	
Atreus	●	●	●	●	●	●	●	●	●
Klytemnestra	●	●	●	●	●	●	●	●	●

Figure 1.4 Diagram of stones used in the tholoi at Mycenae

(Wright 1987: 179–82; Küpper 1996: 115–19; Nelson 2001). At first roughly shaped conglomerate is employed to span the lintels of tholos tombs, then it is introduced as an orthostate course in the chambers (Figure 1.4). After a while it replaces or is used in combination with *poros* in the *stomion*, and then spreads to the *dromos*. Finally, at the beginning of LH IIIB (Hope Simpson and Dickinson 1979: 36), it is used throughout the tomb and technically elaborate means of dressing it are introduced (Wright 1982; 1987; Küpper 1996: 8, 14). It is at this time that this masonry style is employed as the key visual element in a 'royal' building program that extended from the bridge at Ayios Giorgos to the Atreus tholos (and its external terrace), the Klytemnestra tholos, the Lion Gate entrance and its flanking bastions, and in the details of thresholds, column bases and antae throughout the palace (see also Küpper 1996: 115–18; Maran 2003: 275).

The importance of recognising the local evolution of these architectural practices cannot be underestimated. As I have argued elsewhere, they were powerful visual markers of the ascendance of the ruling power at Mycenae (Wright 1987: 183–4; 1995: 74; Küpper 1996: 122 and fig. 220). It is especially noteworthy that this special style appeared at key locations in neighbouring citadels: at Tiryns in the primary entrance gate, the 'Steintor' and employed also throughout the palace for details and at Argos in an unknown structure that may have graced the Larissa. In these places, the display of conglomerate surely marked a very close relationship (if not subordination) of these places with Mycenae. Finally, this style continued to have a strong influence during the Iron Age, as evident in the massive terrace built at the Argive Heraion during the late eighth and early seventh centuries BC (Wright 1982; Antonaccio 1992: 91–6; 1994: 95–6).

This example illustrates the importance of tracing the evolution of local traditions in the craft of architecture and of recognising the power of an architectural style that on the one hand reflects local tastes and preferences and on the other represents an evolving component of Mycenaean stylistic identity. This argument admits for variation in this evolution from region to region while also pointing to an increasing standardisation as emerging palatial centres interacted and became interdependent. This process of standardisation is also apparent in many other craft traditions, for example in the proliferation of the chamber tomb, in the use of plaster and frescoes and in the production of pottery.

PALACE FORMATION

We can now return to the problem of the formation of the palaces. Evidence today permits a much more detailed understanding of the architectural formation of the palaces than in the past. Thanks to recent excavations at Tiryns we now have a sequence of buildings atop the Oberburg that begins in LH I, continues in LH II–III A1, and then reaches its culmination in the buildings of LH III A2 and LH IIIB (Figure 1.5). Kilian and Maran argue that these document the formation of a palace at Tiryns, replete with formal stepped entrance and deco-

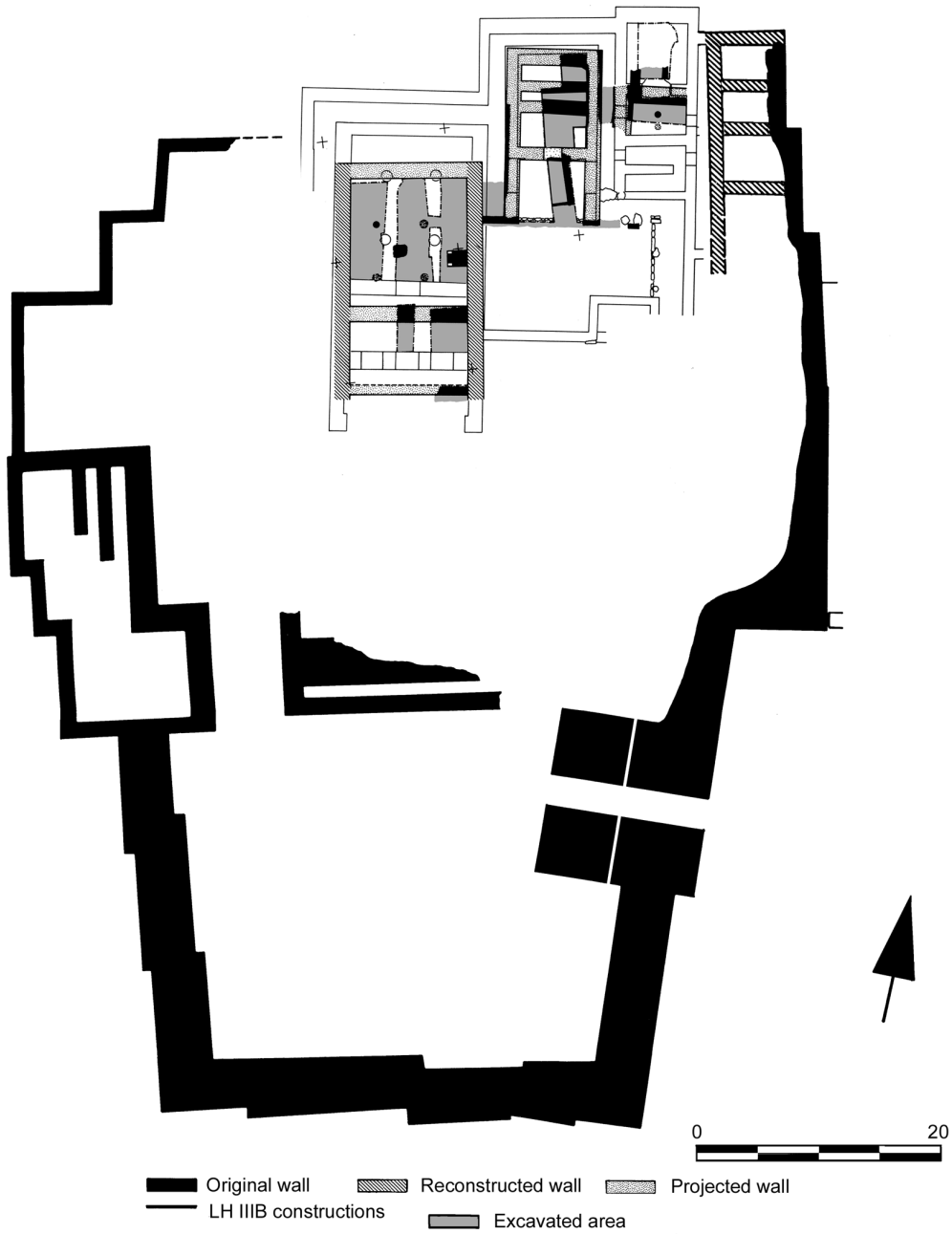


Figure 1.5 Plan of citadel at Tiryns during LH IIIA, adapted from Kilian 1987a, fig. 7; 1989, pl. Δ

rative fresco (Kilian 1987a: 209, fig. 6; 1987b, 1988b; Maran 2001a). On the basis of the most recent research Kilian's notion of a Doppelpalast seems indisputable, even as his evaluation of the dates is now understood to have been somewhat early. It seems certain that a similar process occurred at Mycenae, and likely at other citadel centres where such evidence is no longer preserved (Wace 1921–1923: 181–6, 203–4; 1949: 81; Kilian 1987c), but that is not to say that developments were uniform. Only at the Menelaion does the evidence support an argument for a linear development in the local architecture from LH II through LH III (Figure 1.2).⁶ The plan of the Mansion with the large rectangular room at the core flanked by corridors and secondary rooms at the sides looks like a logical step from the rectilinear plans of the West and East Buildings at Tsoungiza (Figure 1.1a). LH IIIA marks the rebuilding and reorientation of the mansion in order to enlarge it (Figure 1.2b), and this is followed by a larger complex following a similar plan in IIIB (Catling 1974–1975: 12–5; 1975–1976: 13–15; 1976; Barber 1992). This seems a natural evolution towards the formalisation of the plan that Hiesel named the 'corridor type house', but at present it is unclear how widespread this development was, particularly as Hiesel's classification and Darcque's analysis indicate that there was widespread variation in vernacular plan throughout the Mycenaean period (Hiesel 1990: 111–44, 240–50; Darcque forthcoming, chapter 2). Kilian maintains, however, that such a building exists at Kakovatos dating to LH II, which he reports consisted of a rectangular colonnaded hall with flanking corridor (Kilian 1987a: 212, fig. 8; 1987d: 33).

Rutter has recently proposed that the corridor type plan evolved in the north-eastern Peloponnesos (Rutter forthcoming; Hiesel 1990: 249). As we have just seen, the evidence is yet unclear to confirm this, but it is useful to think about this probability in comparison with the earlier appropriation of the tholos tomb from Messenia during LH II (Mee and Cavanagh 1984; Cavanagh and Mee, *Private Place*: 44–8; Dickinson 1977: 62–3; note that the early tholoi at Thorikos [LH I] demonstrate the spread of this type outside Messenia earlier than into the Argolid). Along with the invention of the tholos in Messenia is the strong evidence at Peristeria of Minoan influence in the incised Minoan 'masons' marks' in the *poros* limestone ashlar blocks that face the *stomion* of Tholos 1 (Marinatos 1964: pl. 159a; Vermeule 1964: 41, fig. 6). This early appearance of ashlar masonry is matched by the evidence for it at Pylos (Nelson 2001: 187–91). One may venture the suggestion that while both the tholos and ashlar masonry were introduced into the Argolid from Messenia, contemporaneously (LH II–III A1) local preferences at Tiryns and Mycenae led to the formation of the megaron and corridor plan, similar to (and perhaps in concert with) that at the Menelaion

6 Barber 1992; it is perhaps also a building during LH I given the dressed limestone block that was built into the LH II 'mansion'. We must, however, take note of the substantial free-standing rectangular buildings of LH II date in the Unterstadt at Tiryns in Trench F (Gercke and Hiesel 1971: 6–8, Beilagen 3, 4, 6) and the remarkable LH IIIA building 49, west of the citadel, with its pebble mosaic (Podzuweit 1977).

(compare also the LH II–III A1 buildings in the Understadt at Tiryns; Gercke and Hiesel 1971). At Pylos, in contrast, the first monumental edifice is marked by the use of orthostates during LH II (including the substantial building X), the plan of which does not appear to resemble the megaron corridor plan (Nelson 2001: 221, 226, fig. 80). In LH IIIA a formal plan appears (Figure 1.3), and this represents an increase in size and elaboration beyond the core plan laid down by its predecessor. It includes the well-known ashlar constructed northeast façade (Figure 1.3), the central room complex of rooms 64 and 65, and a formal stepped entrance flanked by massive walls at the southwest (Nelson 2001: 218, fig. 81). It is unclear if this complex contained a central megaron. In any event the changes in architectural form at Pylos between LH I and LH IIIA imply an evolving plan and stronger relations with Crete than we suspect elsewhere.

The LH IIIA1 megaron at Tiryns sets the stage for the elaborate and typical Mycenaean palace plan known so well from LH IIIB. If this plan was established at this time also at Mycenae and at Thebes (Dakouri-Hild 2001: 105, who thinks the House of Kadmos is of the corridor plan, and who suggests a date around LH III A2), it may be that it was introduced at other places as they fell under Mycenaean domination (Hiesel 1990: 250). For example, at Phylakopi Renfrew's team demonstrated that the megaron and corridor complex there was constructed in LH IIIA (Figure 1.6a).⁷ On Crete there is a long history of scholarship that argues for Mycenaean architecture being implanted during LM III (Oelmann 1912; Hayden 1981, 1987; Cucuzza 1997; La Rosa 1985, 1997; Hallager 1997). At least four buildings stand out for consideration here: at Ayia Triada buildings A-B-C-D and P; at Plati building B; at Gournia building He 31–8 (Figure 1.6b).⁸ As Hayden and Cucuzza have observed these structures in plan resemble Hiesel's corridor house (Shear's type D1 house), but the same cannot be said for the much larger A-B-C-D structure at Ayia Triada (the remains of which are very incomplete and which Nelson has compared in its ashlar masonry to the LH IIIA ashlar building at Pylos (Cucuzza 1997: 74 n. 9; 2001: 169–71; Hayden 1987: 213–16; Nelson 2001: 189). At Plati building A is of less interest to us than its successor, building B, which also reflects the corridor house plan (Hayden 1987: 211–13). The date of the construction of the buildings at Ayia Triada is now fixed in LM III A2, and this coincides with the evidence from the new excavations at Khania for the Mycenaean settlement (Hallager 1997: 178–80). At Gournia building He was dated by Furumark to LM IIIB (Hayden 1987: 210, n. 52). These dates reflect

7 Renfrew 1982: 40–1, fig. 4.1; interestingly the megaron is almost the same size and plan of the similarly oriented main building of the Phylakopi III period (LBA I–II; Renfrew 1982: 39), thus raising the probability of there being continuity between the two.

8 Oelmann 1912; Hayden 1987: 210–16; Cucuzza 1997: 74–5, 79; La Rosa 1992, 1997: 355–64; in addition to these Hayden (1981, 1987) considers one-, two- and three-room structures and La Rosa (1992, 1997) and Cucuzza (1997) discuss the *sacello* and the Northwest Building, while Hallager (1997: 178–9) argues that the planning of the architecture at Khania undergoes a radical transformation with the reconstruction of the settlement during LM III A2/B1.

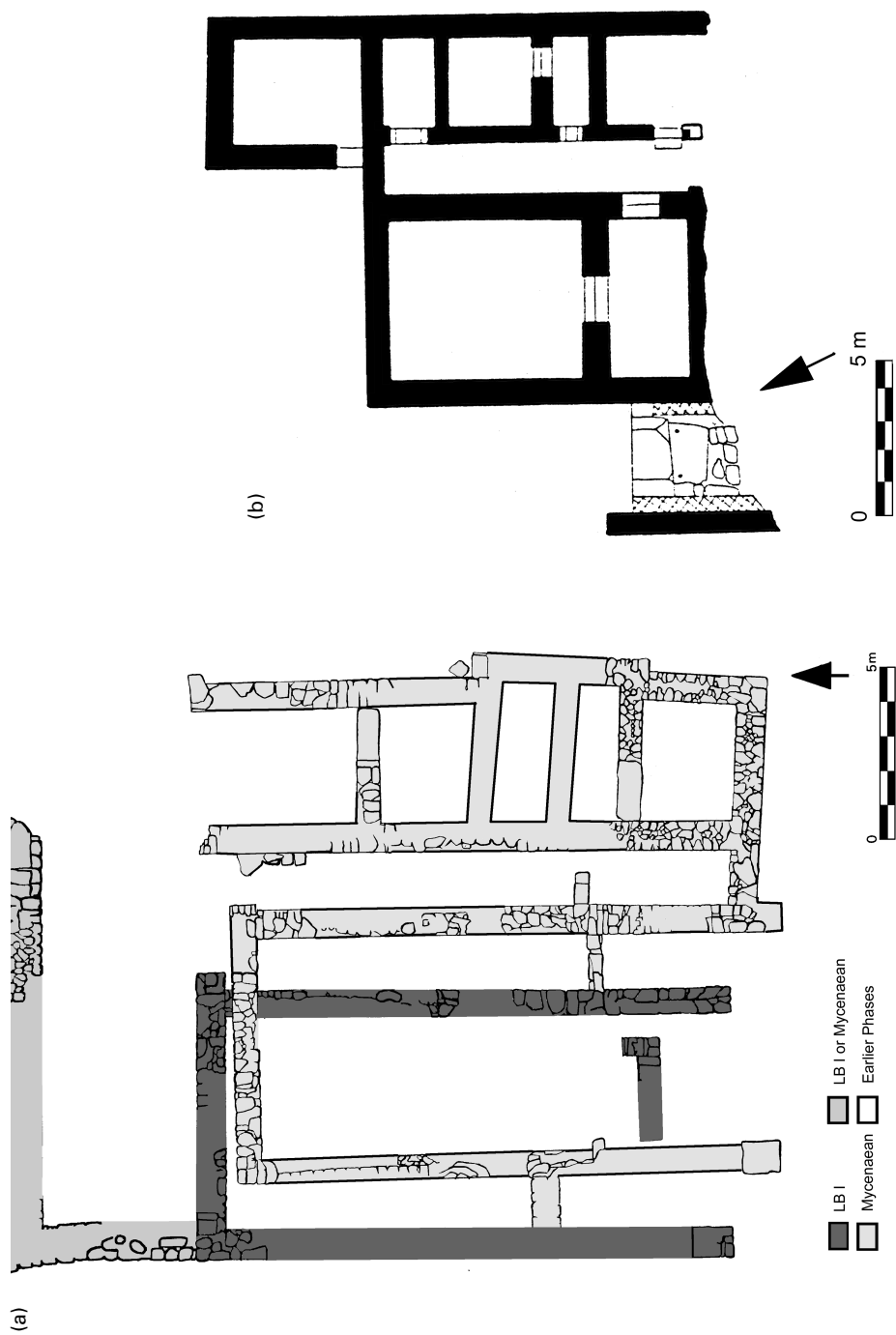


Figure 1.6a Plan of Megaron complex at Phylakopi, adapted from Renfrew and Gamble 1982, fig. 4.1. 1.6b. Plan of building HE at Gournia, adapted from Hayden 1987, fig. 34

the diffusion of this type of building by Mycenaeans during the period when they were expanding their control over the islands and Crete; a period presumably of consolidation of the palace centres.

Building during LH IIIA1 is marked by the widespread appearance of monumental plans, elaborate architectural craftsmanship, and the beginning of decorative programs. At Mycenae and at Thebes ('House of Kadmos') we are not well enough informed to know if the palace complexes were initially constructed in LH IIIA and are uncertain about their plans.⁹ Mycenaean fresco painting also flourishes at this time when programmatic scenes are first applied in the palaces, many borrowing heavily from Minoan traditions (Lang 1969: 221–4; Immerwahr 1990: 106–13, 110–11; Shaw 1980, 1996, 1997). As we have seen, similar developments are traceable at Tiryns, where in addition, Müller argues the citadel was first fortified and provided a monumental gate (Figure 1.5; Müller 1930; Kilian 1987a: fig. 7; Wright 1978; Küpper 1996:34). At this time on the outskirts of the palaces and within their territories there appeared second- and third-tier architecture that emulates palace forms. In the territory of Pylos these are represented by the construction of the two sequential buildings of LH II and of LH III A1 at Nichoria (IV-4C and IV-4A). At Mycenae (Figure 1.7) the Ramp House, Tsountas House, Petsas House, and the Houses Outside the Citadel, appear between LH IIIA and early LH IIIB (Nichoria: *Nichoria II*, 433–43; Mycenae: Darcque forthcoming). The special nature of some of these structures is now well understood and includes workshops for producing perfumed oils, carving of ivory, and possibly storage of pottery (Shelmerdine 1997; Tournavitou 1995; 1997a, 1997b).

LH IIIA marks the emergence of a mainland-based culture as a series of recognisable and repeated forms and styles that follow distinguishing organising principles unique to what we term 'Mycenaean' culture.¹⁰ Beginning in LH IIIA Mycenaean pottery achieves a high degree of uniformity (Furumark 1941: 101–8, 504–5, 511, 521; Mountjoy 1986: 11–18, 63, 169). It is the period in Crete when Mycenaean influence is strongly felt, for example in the palace at Knossos, in its administrative documents, in burial practices, and in pottery (Rehak and Younger 2001: 440–54, esp. 442 and 471–2 for a thorough summary of current views; for general discussion, see *La Crète Mycénienne*), and also at Khandia and at Ayia Triada. During LH IIIA territories first appear to be consolidated around palaces, as evidence from recent surveys makes clear (Wright 2004a: 126–8;

9 Kilian (1987a: 207 and fig. 3) adapts the plan of the 'House of Kadmos' published by Symeonoglou (1973: pl. 4) and heavily restores it: there is no evidence for the megaron unit, and as Rutter pointed out (Rutter 1974) the building could date to LH IIIB or as argued by Dakouri Hild (2001: 95–106) not earlier than LH III A2.

10 Kilian (1987d: 33–6) reviewed the question of the indigenous nature of the Mycenaean palaces in comparison to Crete and the Near East; Mühlenbruch's (2003) attempt to find principles of planning and organisation of the Mycenaean palaces in Near Eastern ones is unconvincing; see also Darcque 2001.

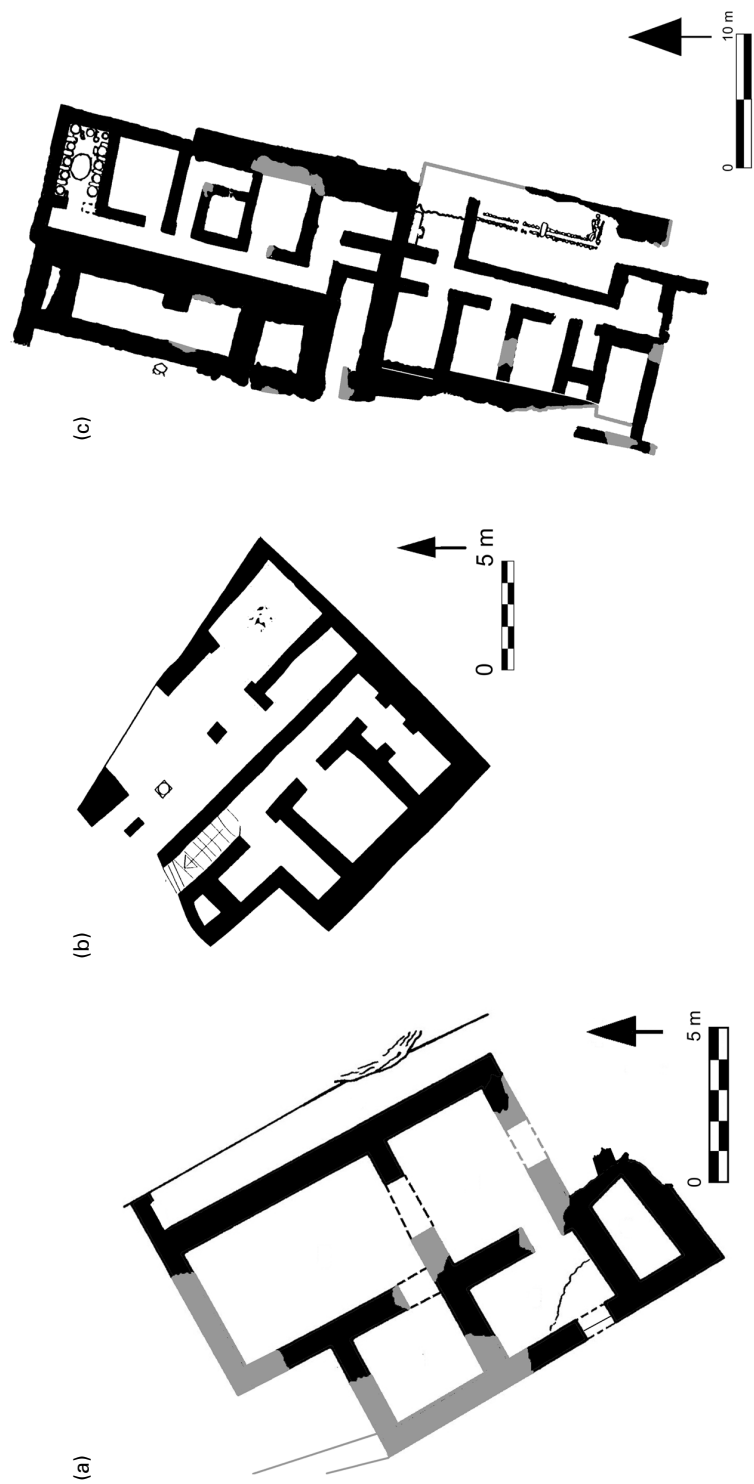


Figure 1.7a The Ramp House, Mycenae, adapted from Wace 1921–23, pl. 1. *1.7b* Tsountas House, Mycenae, adapted from Hiesel 1990. *1.7c* Houses Outside the Citadel, drawing by author

Mycenae: Davis and Cherry 2001: 154–6; Schallin 1996: 170–3; Messenia: Davis et al. 1997: 420–1; Bennet 1999). The achievement of this level of socio-political integration marks the emergence of the first state-level polities on the Mainland, yet the evidence of continuing regional variation highlights the extent to which these peer polities of the Mainland, while sharing salient cultural traits, also competed with each other in their display. (This formation is repeated in the historic period with the evolution of city-states and ethnos-states, which also shared ethnic markers: language, religion, iconography, architectural forms [Doric and Ionic], etc., see Hansen 2000: 17–19, 141–87, 599–602). What follows at probably all the palace sites are architectural phases that correspond largely to the familiar plan of the palace (Nelson 2001: 201). In the planning of architecture the concept of centripetal organisation is consciously applied, whereby the approach to the central ‘megaron’ is organised by processing inwards through a series concentric rings pierced by gates that open onto courts (Cavanagh 2001). This is best illustrated in the organisation of the palace at Tiryns (Figure 1.5).

THE MYCENAEAN PALACES IN LH IIIB

In architectural arrangements and renovations of LH IIIB these principles are elaborated. The iconic form of the palace that we can only begin to recognise during LH IIIA now comes to dominate the architectural tradition, probably both as a conscious implantation by the rulers of the palaces and as an emulation by others building at secondary and tertiary locations throughout the territories. At this time Hiesel’s ‘corridor-type house’ becomes a recognisable type (Figures 1.7–8) with widespread application and distribution (Hiesel 1990: 111–45 *passim*). It appears in administrative-craft complexes, such as the ‘Houses Outside the Citadel’ at Mycenae, the buildings within the West Extension of the citadel wall, and the buildings in the Unterburg at Tiryns, to name a few (Figure 1.8; Hiesel 1990: 111–57). At the level of domestic architecture, the houses of the Panagia Complex at Mycenae well illustrate the pervasiveness of this plan (Shear 1986; Darcque forthcoming; Hiesel 1990: 149–53). Elsewhere at Mycenae we see it in the extensive complex sheltered within the extension of the west wall (including the Cult Center) and at Tiryns it appears in the structures of the Unterburg (Figure 1.8; buildings V, VI; Kilian 1979: 400–4; Kilian, Podzuweit and Weisshaar 1981: 178–80; Kilian, Hiesel and Weisshaar 1982: 400–3). The type is represented elsewhere, for example at Zygouries, the Menelaion, Pylos, Mouriatadha, and Thebes (Hiesel 1990; Darcque forthcoming: chapter 2B.4.1).

As Darcque has pointed out, the most elaborate of these structures are not properly classifiable as domestic, for they display many features of palatial architecture: use of massive rubble masonry that evokes Cyclopean terraces and walls, systematic employment of half-timbering, internal built staircases, cut stone elements (bases, antae, thresholds), and frescoes (Darcque forthcoming: chapter 3). They also are both production centres and record-keeping centres with

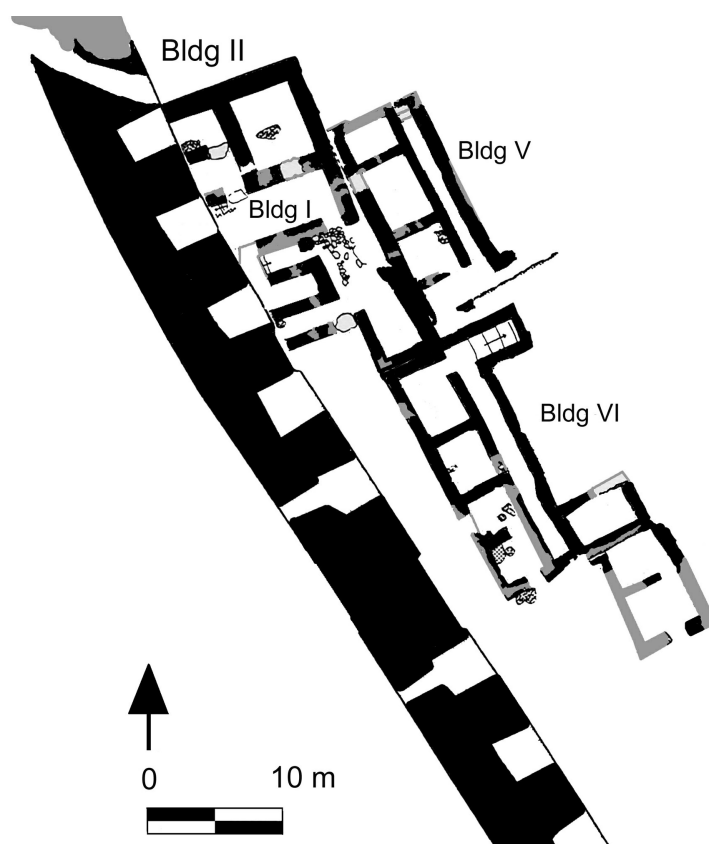


Figure 1.8 Buildings V and VI in the Unterburg, Tiryns, adapted from Kilian 1983, fig. 23

Linear B tablets and sealings (Shelmerdine 1997; Tournavitou 1997a, b). In these respects they are like McEnroe's type 1 and 2a 'villa's' on Crete (McEnroe 1982), and their purpose is no doubt similar – to carry out in the vicinity of the palace and throughout its region administrative activities that can no longer be handled by the palace alone.¹¹ These are likely the places where functionaries worked and lived, and all kinds of specialised activities may have taken place within them. The specialised administrators of these complexes had a vested interest in the maintenance of the socio-political hierarchy, as it insured their proximate position to power, and it was natural for them to emulate the ruling elite and thereby reify their position in terms of social gesture and material display (see Elias 1978: 110, and Burns 1999: 64–83; Carlier 1987: 271–3; Palaima 2004: 102–6; and Shelmerdine 1997). Of course the clearest indication of the formation of spe-

¹¹ I do not think, however, that this similarity in any way implies a similarly organised political structure, since it is my contention that the Minoan palaces and their territories are corporate in form while the Mycenaean ones are organised on an executive model (Blanton 1998: 149–70).

cialised architectural forms at a secondary centre for economic activities is at Gla (Iakovides 1989, 1998, 2001). Here a striking contrast is evident in the emulation of the palace plan in the primary residential-administrative quarters, whose plan and organisation is followed in the administrative units of the storage and industrial areas in the lower quarter (Figure 1.9). More than any other location, Gla displays the extent to which principles of formal planning in Mycenaean architecture have been adopted. In the employment and replication of the megaron,

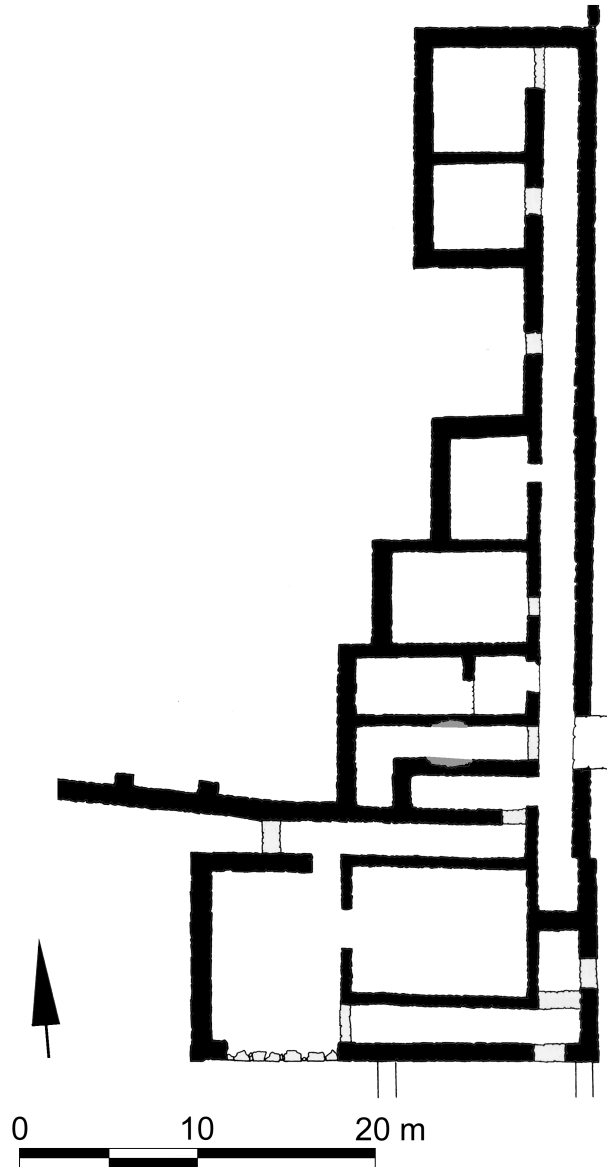


Figure 1.9 Buildings E and Z at Gla, adapted from Iakovides 2001, plan 19

the corridor, and the two-room suite, the logic and hierarchy of Mycenaean administration, as well as no doubt elite social order, is displayed (Iakovides 1989: 220–3, 306–7; 2001: 80–4; Kilian 1987d: 28–32).

INNOVATION AND VARIATION

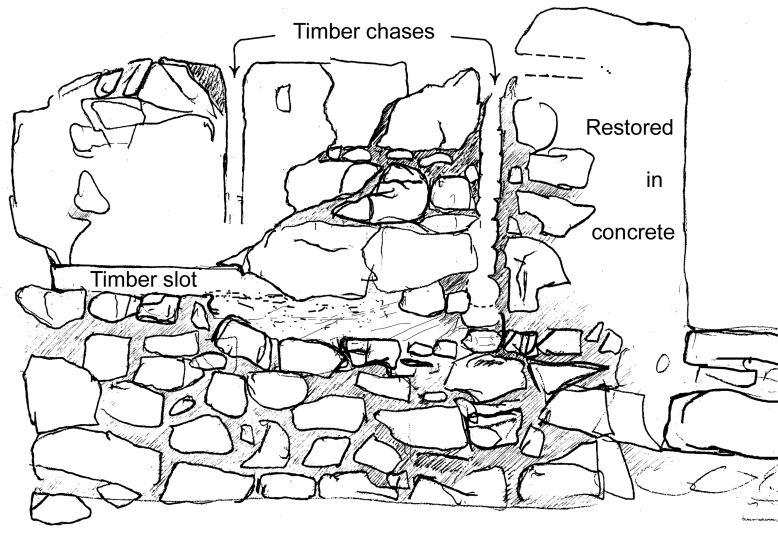
LH IIIB was also a time of innovation, largely through elaboration of existing forms. At most locations palaces and fortifications were rebuilt and expanded, and in these constructions we can detect – but only with difficulty – the influence of external craftsmanship and style. These are apparent in the techniques of wall construction, of cutting and preparing hard stones for decorative elements, and in details of Cyclopean construction. Most of these can be related to Hittite architecture, although it is difficult to document the nature of the relationship between Hittite and Mycenaean architecture (Küpper 1996: 118–19; Neve 1989: 404–6; Loader 1998: 123–51; Maran 2003: 266–75).

WALL CONSTRUCTION

In his examination of wall construction at Pylos, Nelson has demonstrated that the presence of wooden chases in the walls is not the evidence of a timber framework constructed to hold the wall in place, as is the function of Minoan timbering (Nelson 2001: 73–98; Shaw 1973: 139–57; Blegen 1965: 117–20). Instead he argues convincingly that at Pylos the timbers formed frames for moulds for pouring the wall in sections that consist of rubble and a mortar mix; then the frames were removed and the interstices between each section were filled with a lime mortar (Nelson 2001: 158–9, 166). This technique creates walls as a series of pillars rather than the customary process of building in courses. According to Nelson the timbers were removed for use in the next section, but sometimes they were left in place, because they had become stuck in the wall. When the palace burned these timbers left impressions, and the mortar between the pillars left a crumbly slag-like fill that excavators thought they recognised as chases of a timber framework. Dörpfeld originally recognised these traces at Tiryns in the wall construction of room XLIII, although he, as others who followed him, did not understand them (Müller 1930: 180–2). Other examples are apparent at Mycenae, where it was first documented by K. Schaar, who thought it a variant of a timber support system (Schaar 1967: 46–8, 67–71). He documented the employment of this system in the House of the Columns basement, the basement of Tsountas' House (Figure 1.10), in the House of the Sphinxes, and in Petsas' House (Schaar 1967: 52–6). I have confirmed in my own investigation all of these instances except Petsas' House (but see Papadimitriou and Petsas 1950: 211–12) and additionally in the so-called Building of Artists and Artisans, the South House, the Granary, the south face of corridor 37 north of the Megaron Court, the House of the Shields, and the House of the Sphinxes. Nelson makes a strong case for this tech-

THE FORMATION OF THE MYCENAEAN PALACE

29



Sketch of basement wall Tsountas House
and reconstruction showing placement
of timbers

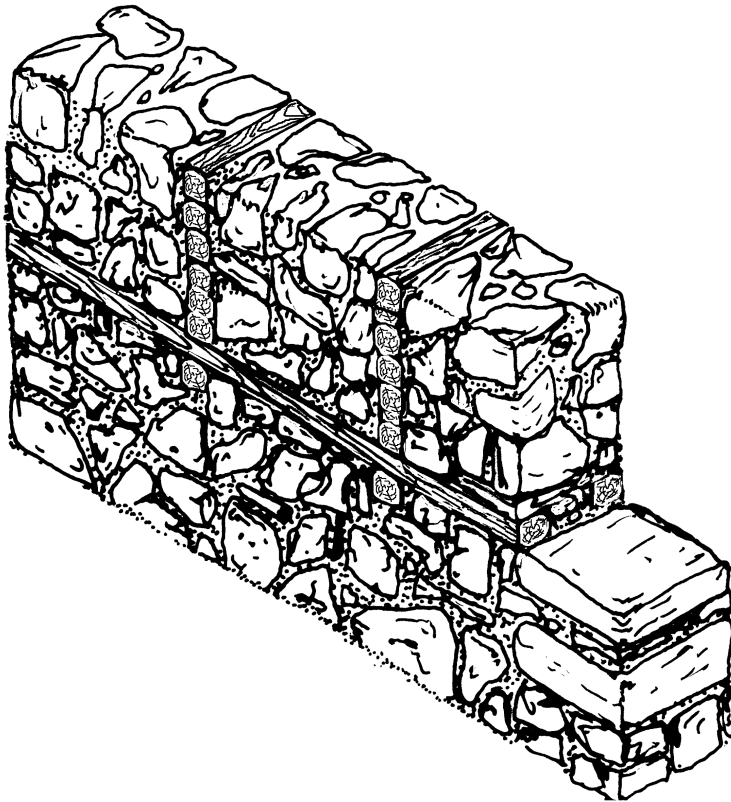


Figure 1.10 Timbered wall in Tsountas House, sketch by author

nique appearing only in the constructions of the LH IIIB period, and none of the other examples need date earlier than the beginning of that period. Since there are no predecessors of it in the Aegean, we must look elsewhere for models that the Mycenaeans may have drawn upon.

This technique has a long pedigree in Anatolia, although differently interpreted. Examples are known in much earlier contexts (late third through early second millennia) from Beycesultan and Kültepe in Turkey (Figure 1.11a; Naumann 1971: 101–12; Lloyd and Mellaart 1965: 21–2 and fig. 11; Özgüç 1959: 75, 83).¹² These show walls built of columns of mud brick with wood chases that run through the walls between the brick pillars in precisely the same manner as at much later Pylos. This system is also known from Boğazköy in buildings of the later Empire Period (14th–13th c. levels Büyükkale III a–c) where the supporting elements of the walls are pillars of mud brick (Naumann 1971: 96). Naumann singled out buildings A, E and Temple I as well-preserved examples (Figure 1.12; Naumann 1971: 95–6). He described the walls as built of an alternation of mud brick pillars and rubble filling within a wooden frame, and notably describes the fillings using terms that equally apply to the burnt remains at Pylos: ‘burnt limestone, partly powderised, partly a slag-like puffy mass . . . charcoal, white burnt limestone, red-burnt earth, gray ash with individual sherds . . . burnt fill of red earth, slag, small clumps of stones and lime, all burnt together.’¹³ He argues that a predecessor of this system can be seen at Kültepe IB in the Karum Kaneš, where a building is constructed of stacked mud bricks alternating with shaped stone pillars (Özgüç 1959: 75). Other examples are cited from buildings A and E on Büyükkale (Figure 1.12a) and Tarsus, and Naumann ventures that this system was widespread during the Empire Period (Naumann 1971: 96 and fig. 92). He does not classify this system of wall construction as one of ‘half-timbering’ but instead as a ‘wiederholter Rost’ – a repeating gridded-framework – which could hold together the rubble filling mixed with mortar (Naumann 1971: 98–9). Neve subsequently published numerous examples from Büyükkale and the Oberstadt (Figure 1.12; on Büyükkale notably Buildings A, B, D, E, F, K: Neve 1982: 92–3, 134, 95–6 [Bldg F], 98–9 [Bldg D], 104–7 [Bldg A], 107–11 [Bldg K], 111–13 [Bldg B], and in the Oberstadt notably Temples 7, 15, and 17: Neve 1999: 40–2 [Temple

12 Naumann (1971: 102 and 106–8) viewed this system as an aberration, since elsewhere at Kültepe the normal practice seems to have been the placement of upright posts between mudbrick pillars: Özgüç 1950: 127 and pl. II. See, however, the publication of houses from level II at Kültepe, where at least in one instance a wall was constructed with horizontal stacked timbers running through the width of the wall (Özgüç 1959: 19, 83, fig. 21).

13 Naumann 1971: 95: ‘Kalkstein; verbrannte, teils pulvrige, teils blasig schlackige Masse . . . Holzkohle, weiß gebrannter Kalkstein, rötlich gebrannte Erde, graue Asche. Vereinzelt Tafeln, Scherben . . . Kohle, Brandschutt, gerötete Erde, Schlacken, kleine Steinchen und zu Kalk gewordene Steinklumpen, alles fest zusammengebacken.’ Compare Neve 1982: 93: ‘Die durch eine verheerende Feuersbrunst zu einer homogenen Masse verbackenen Wände bestanden aus Lehmziegelblöcken und einer kalkig bis schlackig-blasig verbrannten Substanz aus Lehm und Steinen, die die Lücken zwischen den einzelnen “Ziegelpfeilern” sowie die Mauerecken und Kreuzungspunkte ausfüllte.’

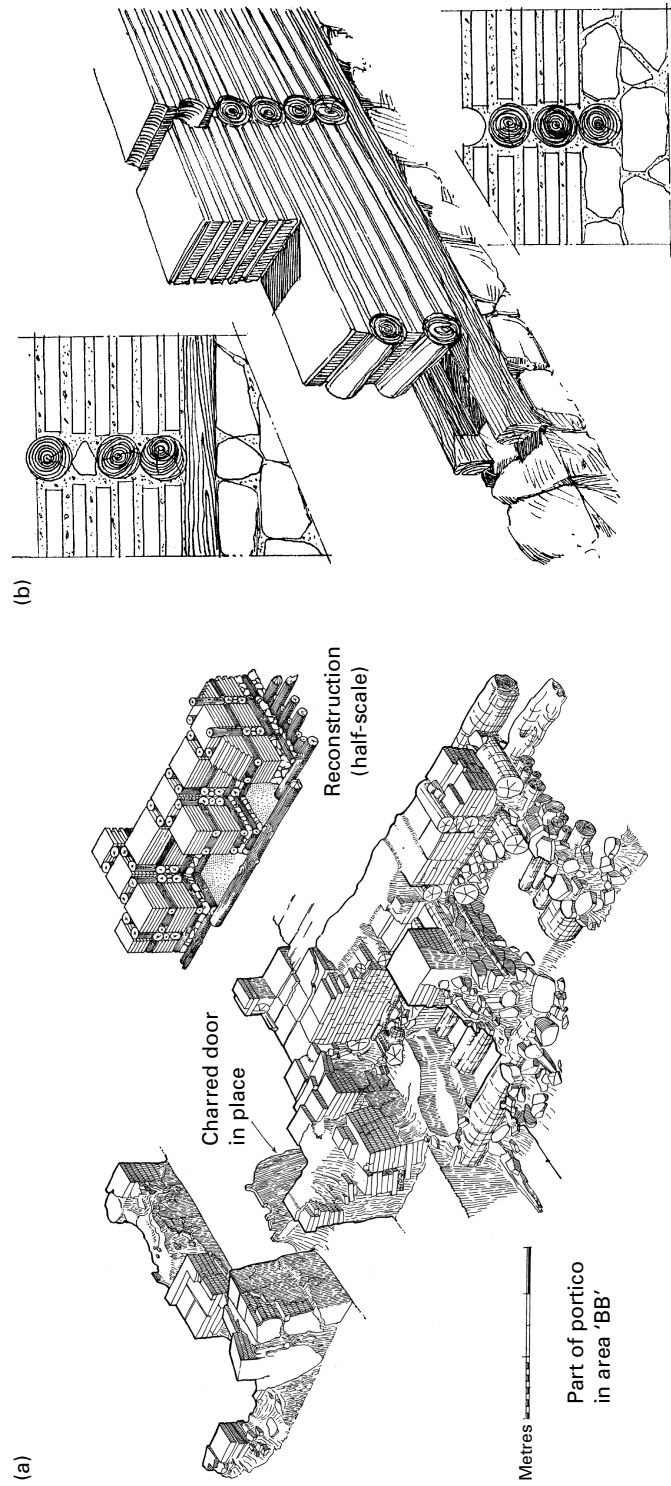


Figure 1.11a Timbered wall at Kültepe, level II, adapted from Özgüç 1959, fig. 21. Figure 1.11b Timbered wall at Beycesultan, Room 32 of 'Burnt Palace', after Lloyd and Mellaart 1965, fig. A11

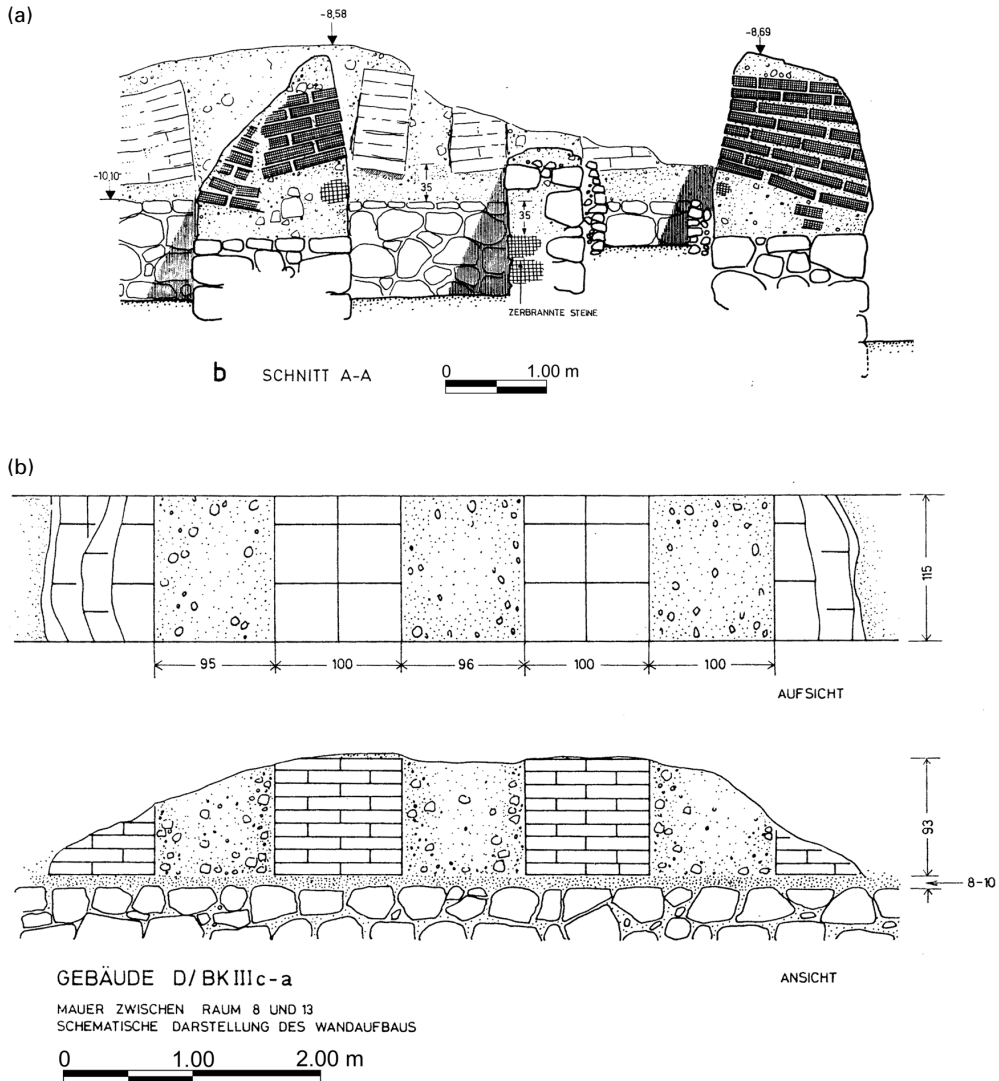


Figure 1.12a Bogazköy building E, adapted from Neve 1982, fig. 39a. 1.12b Bogazköy building D, adapted from Neve 1982, fig. 43

7], 68 [Temple 15], 85–6 [Temple 17]). In these examples the piers are of stacked mudbrick or rubble, which Neve thinks was held together by large wooden beams (between 42 and 50 cm in size) that were placed both vertically and horizontally. He interprets the wooden frame as the primary support system and the mudbrick and rubble to be only fill for the wall (Neve 1982: 93). Despite this interpretation it is hard to think that the filling of walls would have had no structural purpose; this is especially so in the laid rubble fill in some of the temples. Differences of interpretation notwithstanding, the structural similarities between this old

Anatolian system and that employed in the latest phases of the Mycenaean palaces are surely owed to some exchange of technology, probably accomplished through the exchange of craftsmen (Zaccagnini 1983). (Other Anatolian examples are known from a third Hittite palace at Maşat [Özgüç 1978: 52–9, pl. 5] and Acemhöyük [Neve 1982: 93], the last of which I have personally examined; they consist of massive rounded wooden beams that run through the walls between stacked piers of mudbrick).

TECHNICAL APPLICATIONS

When we turn to the cutting and preparation of hard stones for decorative elements, we again are faced with innovations. Some of these began in LH IIIA but they are most strongly represented in the final installations of LH IIIB (Küpper 1996: 115–18). Hard limestone and conglomerate are used for antae, column bases, thresholds, jambs, and lintels. They are cut by saws to produce smooth faces and drilled to receive circular dowels. The tools used for these treatments are different from those employed on soft limestone. Circular dowel holes were drilled using cylindrical bronze tube-drills using sand (or emery) and water as an abrasive.¹⁴ Küpper argues that this technique was introduced as early as LH IIIA1 (in the early throne foundation at Tiryns), although for the production of stone vases it had been known since the Early Bronze Age (Küpper 1996: 13–14, and n. 117; 118–19). The earliest known instances of these in masonry are in blocks from the Chrysolakkos mortuary complex at Mallia, dating as early as MM IB (Shaw 1973: 70 and figs 62–3). They are otherwise unknown in Cretan architecture and not probably related to the Mycenaean practice. Dowel holes drilled in this technique are known in Hittite architecture, notably at Boğazköy, where they are cut into the upper faces of orthostates (Naumann 1971: 111–14). Küpper cautiously does not attribute the Mycenaean technique to the Hittites, which would necessitate a transfer as early as 1400 BC (Küpper 1996: 14, 118–19; see also Naumann 1971: 114, n. 97; cf. Maran 2003: 270). Nonetheless, the technique of using a cylindrical drill, presumably of bronze, that creates holes between about 2.5 and 5.0 cm in diameter (with notable numbers at 2.8, 3.2 and 3.6 cm) finds its closest comparative data in the Empire period constructions at Boğazköy (Küpper 1996: 11 and chart 12, figs. 100–8; Naumann 1971: 111–14; Neve 1989: 400 and pl. 29). Perhaps the transfer went in the opposite direction, from the Mycenaeans to the Hittites, just as it did in the Archaic period when Ionian masons worked at Pasargadae in Persia (Nylander 1970).

This possibility was suggested by Neve in his study of the evidence for saws and their use in Hittite architecture (Neve 1989: 402–6). He observed that the largest

14 Küpper 1996: 9–11; Dörpfeld 1886; and Petrie 1910: 73 (cited in Casson 1933: 28) suggested emery; J. Shaw (1973: 70 and n. 3) thought these were reed or bamboo because of the difference in sizes, and this idea is supported by Evelyn (1993: 77–85).

collection of bronze saws come from Crete (Knossos, Ayia Triada, Mallia, and Zakros) and are much earlier than any known in the Anatolia and the Near East (Neve 1989: 402; for a complete list see, Evelyn 1993: 26–40, esp. 34–5). He noted that the spread of the techniques of using drills and saws to cut hard stones throughout the Hittite Empire (at Alaca Hüyük, Maşat and Tarsus) coincided with the time of intensive contacts with peoples living in the West, which could have stimulated the exchange of technology and craftspersons – an idea that has received considerable support with the results of the new excavations at Miletus (Neve 1989: 406; Niemeier 1997, 1998a, 1998b, 1999; Niemeier and Niemeier 1997; Maran 2003: 271–2; on craftspersons see Zaccagnini 1983). This theory is advanced by taking into account the use of the pendulum saw, probably the most technologically advanced device used in architecture during the second millennium. This machine, as brilliantly deduced by Küpper from the evidence of many blocks at Tiryns (Figure 1.13), was used for cutting anta blocks and thresholds at Tiryns, Mycenae and Gla, and also for special purposes, as in the Atreus and Klytemnestra tholoi (Küpper 1996: 16–21, 22–4). Schwandner, who first proposed this device, also records its use at Boğazköy (Schwandner 1990: 221–2, figs 9–10). Here again the majority of evidence is from Mycenaean palaces, so the technology may be recognised as a Mycenaean invention, but its appearance at Boğazköy further strengthens the suggestion of a technological interchange between the two cultures during the late fourteenth and throughout the thirteenth centuries BC.

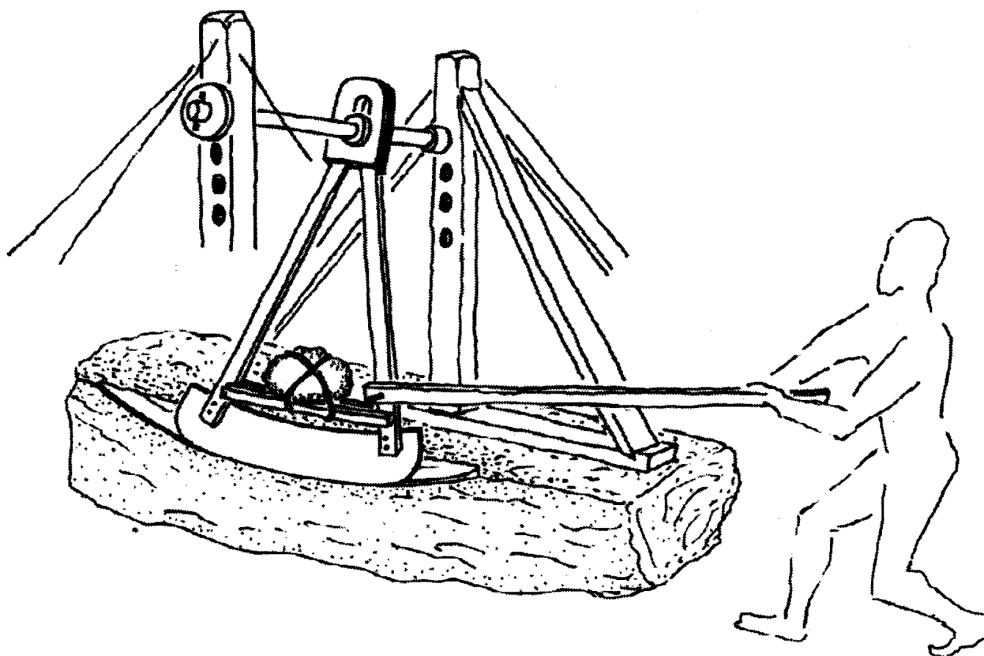


Figure 1.13 Pendulum stone saw, after Schwandner 1990, fig. 8

CYCLOPEAN WALLS

The use of corbelling in the Cyclopean masonry of the Mycenaean palaces is a distinctive technique, widely and diversely employed at Tiryns in the fortification walls (for entrances, stairways, and interior corridors and galleries, e.g. Figure 1.14) but found also at Mycenae in its walls and in the underground 'Perseia' springhouse (Küpper 1996: 35–8; Maran 2003: 261–4). Although the earliest instance of this technique in the Aegean is the underground springhouse in the fortifications at Ayia Irini on Keos dating to LM I (Caskey 1971: 365–7), there are no comparable examples except in Anatolia and north Syria. There it appears in the postern beneath the Postern Wall of the Old Hittite period (Büyükkale IVC) in the sixteenth to fifteenth centuries BC at Boğazköy and at Alışar in its underground passage beneath the fortification (Neve 1982: 39–45), and later examples are known from Boğazköy, Alaça Hüyük, Gavurkale, and Ras Shamra that belong in the thirteenth century (Naumann 1971: 124–31, 302–4). Naumann and Neve also relate this to the monumental 'arched' gates in the fortifications of Boğazköy built during the reign of Tudhaliyas IV (1237–1209 BC). Neve examines this technique in the Totenkult of Suppiluliumas I, built by Suppiluliumas II at the end of the century (post 1207 BC: Naumann 1971: 130–1; Neve 1990: 161–5; dates from Bryce 1998: xiii). He argues that the long history of corbelled construction in Anatolia demonstrates its Hittite origins, and he goes so far as to claim that the Hittites even invented the true arch (Neve 1990: 164–5; rightly disputed by Küpper 1996: 119). Küpper states that the clearest example of technical similarity between Hittite and Mycenaean wall constructions is in the construction of the corbelled vaulted galleries. In contrast he thinks that the Cyclopean masonry itself is quite dissimilar to that of the Hittite fortifications, and cites the penchant at Boğazköy for polygonal masonry as opposed to the rougher Cyclopean of the Mycenaean citadels. He also points out that the pseudo-ashlar facing of conglomerate employed at Mycenae has no parallels in the East. As I have argued above, this technique is local to Mycenae, and there seems to me no reason to think that the Mycenaeans would have copied or imitated Hittite wall construction once they had developed their own styles, and in fact, the masonry styles of most of the Mycenaean fortifications are distinctive, in part owing to the use of local materials, but surely also a reflection of the preferences and traditions of local masons.¹⁵ We should not, however, discard the notion that the

¹⁵ This also accounts for the observed technical differences between Mycenaean and Hittite corbelling, since the Mycenaeans were familiar with this technique from their long tradition of using it in tholos tombs; see for this Naumann 1971: 304; Wright 1978: 220–8, where it is observed, contra Maran 2003: 268, that in Mycenaean corbelling the apex can be covered by a slab or have a kind of key block inserted. Of note here is that at Tiryns the doors of the eastern gallery chambers have key blocks while those of the southern gallery chambers do not, e.g. Müller 1930: fig. 23, pl. 15. The difference is accounted for by noting that the vault of the east gallery is formed by one course and a wedge while the southern gallery chambers are formed of two courses, the last one with the facing closing blocks – cf. Müller's comments, (1930: 34) that the explanation of the differences is to be sought in the selections of blocks.

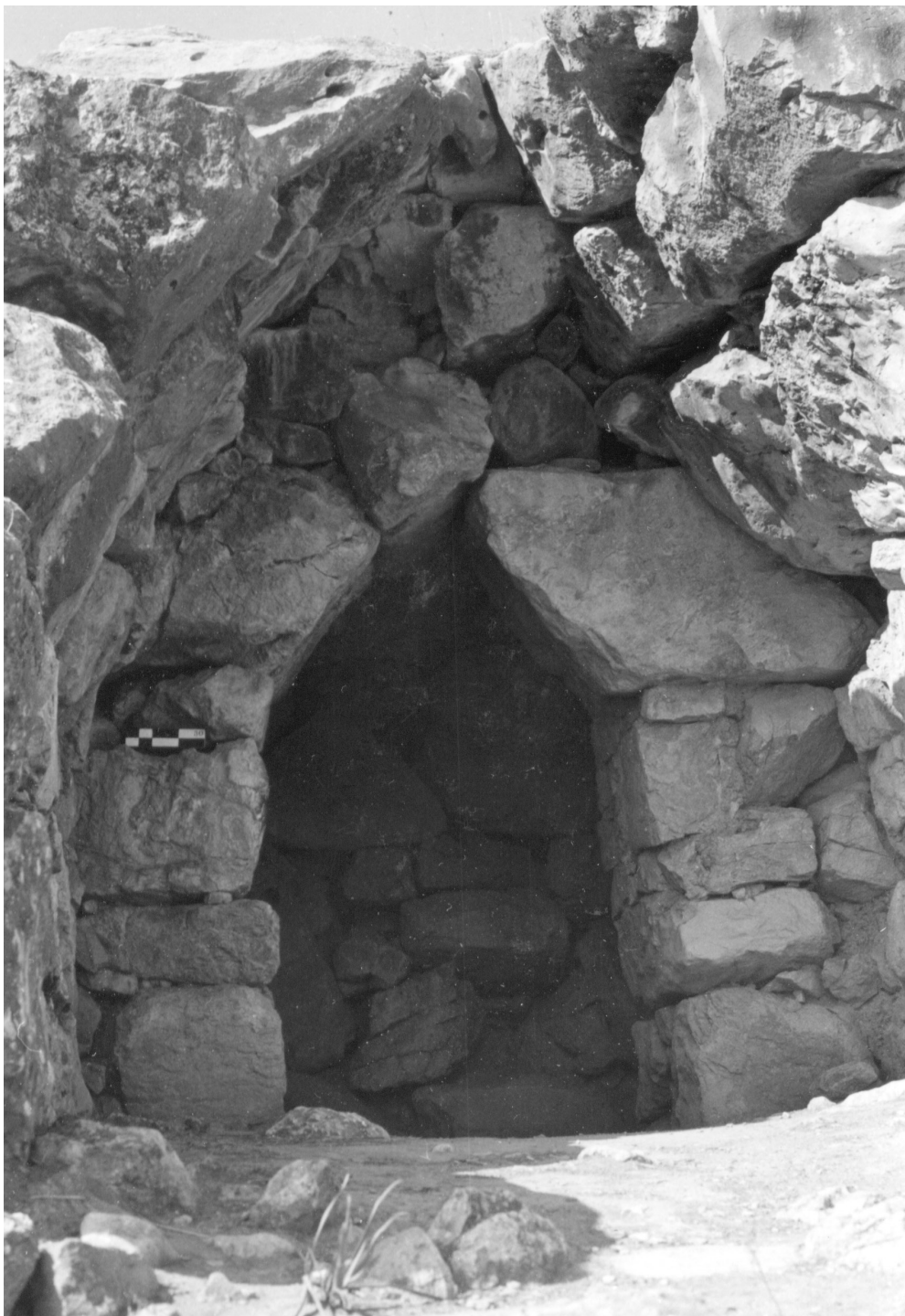


Figure 1.14 Corbelling at Tiryns, photograph by the author

Mycenaeans learned from the Hittites about this form of construction. That the Mycenaeans adapted techniques and technology to their own ends is hardly surprising, since that seems to be one of the outstanding characteristics of Mycenaean culture.

THE PALACE AS PRESTIGE OBJECT AND THE ROLE OF RITUAL AND FEASTING

Only during LH IIIA2 and IIIB can we speak confidently of the emergence of peer polities. On the basis of the inscribed stirrup jar trade alone we know that these polities had considerable economic interaction, which must also signify close political and social interaction. The homologous nature of these polities can be logically understood as the product of the competitive interaction among those rising elite groups who were able to consolidate their control over different regions. But now they communicated with each other as ruling, potentially dynastic, peers. Part of the display they practised was in the erection of palaces and fortified citadels. There is much evidence that they shared craftsmen with each other. This is observed in the close similarity in plan and proportion of the palace 'megara', in their interior furnishings of throne, hearth, colonnade, and frescoes and in details such as the carved stone revetments from Tiryns, Thebes, Mycenae, and Gla; the stuccoed floor decoration including the preference for dolphins and octopuses at Pylos, Tiryns, Gla. Particularly telling is the close correspondence in the ashlar masonry at Mycenae and Thebes (Figure 1.15a, b), where the evidence strongly supports the notion of the work having been done by craft groups working in the same tradition. It seems also likely that fresco painters were shared among the palaces. These aspects of palatial architecture create the monumental prestige edifice that works as a complex structuring symbol of the world order of Mycenaean society as it was conceived and practised by the ruling order.

The last phase of monumental building on the citadels and at the capitals of the Mycenaean fledgling states illustrates the extent to which a cultural *koine* had been created for architectural forms. The close correspondence in the form, plan and organisation of the last palaces, and the apparent sharing of craftspersons for construction and detailing offer good evidence of peer polity interaction. Yet the distinctive features that seem to be evidence of technological exchange with the Hittites illustrates another dimension of this process, and that is the continuing search for novelty to introduce features that emphasise difference and superiority in architectural display. In different ways each Mycenaean capital achieved a distinctive architectural style.

In this form the palace is the focus of political, economic, social, ideological, historic and myth-historic practices and beliefs. In a real sense the palace is a cultural cloak that the ruling elite wrap around themselves, and in which they symbolically envelop their retinue, clients and commoners. But these structures were no mere symbols. They were used for activities that promoted the legitimacy of

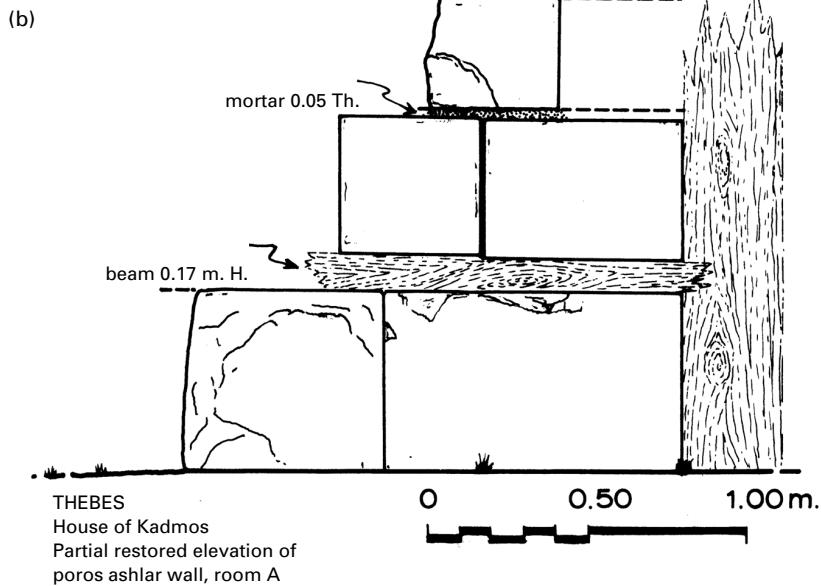
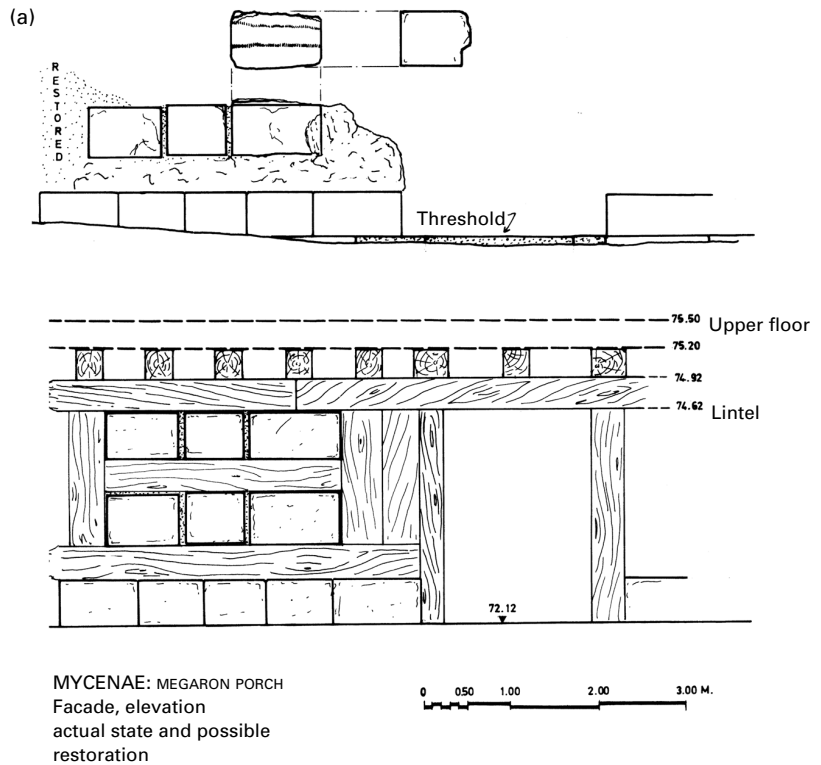


Figure 1.15a Ashlar masonry at Mycenae, drawing by the author. 1.15b Ashlar masonry at Thebes, drawing by the author

the rulers and consolidated an identity that we recognise as 'Mycenaean'. In two recent studies this issue has been examined in terms of the role of open spaces and courts in Mycenaean architecture (Cavanagh 2001; Davis and Bennet 1999; see also Kilian 1987d). Through a general analysis of open spaces Cavanagh has decisively demonstrated the hierarchical organisation of space in the Mycenaean palaces characterised by increasingly restricted access as one progresses inwards to the megaron (Cavanagh 2001: 130–2). Cavanagh importantly emphasises the lack of areas of public gathering, but points to the importance of procession (2001: 129–31; see also Küpper 1996: 122 and fig. 219)). In their study of the Southwestern Building at Pylos, its court and accompanying frescoes Davis and Bennet point out that the disposition of different frescoes in principal areas of the palace illustrates three themes (Figure 1.3): hunting, warfare, and feasting and sacrifice, respectively in the 'megaron' suite of rooms 5–6, in the court and 'megaron' of the Southwestern Building, rooms 63–5, and in the rooms above 43, 46 and 48. Of these 43, 46 and 6 also have paintings of griffins, signifying the special nature of these rooms. Rooms 46 and 6 of course are also central rooms with elaborate central hearths. There may be some reason for thinking that these distributions provide insight into the functional meaning of the Doppelpalast, and as Davis and Bennet note, Hiller has previously suggested Room 64 as a potential seat for the *lawagetas* (Hiller 1987; Kilian 1987d: 32). Of further significance is the faunal evidence recently published by Isaakidou, Halstead, Davis and Stocker that indicates that Court 63 was a major place for feasting (Isaakidou et al. 2002; Davis and Stocker 2004). It is important to recognise that one of the major activities which took place in the palaces, in their courts and perhaps also in the secondary 'megaron' complex was feasting (Wright 2004b: 9), primarily as the social accompaniment to a variety of ritual practices, of which processions were a major element. Public processions and public and private feasts are a powerful way to promote group solidarity, among a small elite peer group, between the ruling elite and their functionaries, and for the larger community of the palace town and its territory (for territories see Dabney, Halstead and Thomas 2004). These practices provide opportunities for the affirmation of identity, its hierarchical structure and the legitimacy and authority of the ruling order. In so far as these activities take place around the area of the palace as well as within it and in association with its iconic 'megaron' forms, their practise is conditioned by and focused upon the specific architectural form and setting of the palace and its courts.¹⁶

The practice of feasting in architectural settings, such as sitting around the hearth of a simple household and eating and drinking or feasting in the palaces, is also one that integrates social relations and social structure. At Tsoungiza the

¹⁶ The issue of the relationship of cult buildings to the palaces and their spatial and architectural organisation needs further analysis, especially in light of Cavanagh's (2001: 129–30) observations about Grave Circle A and processions and also the considerable discussion of this matter by Albers (2001) and Whittaker (1996, 1997).

LH I floor deposit associated with the main room with its built circular hearth and central column base consists of a set of dining and serving vessels. It is not difficult to imagine that the gold and silver vessels from the Shaft Graves at Mycenae were used similarly in the headmen's domiciles there. The age-old practice of feasting and drinking in such places no doubt gave deep meaning to the architectural form, especially the interior arrangement and proportion of the seats of power in Mycenaean Greece.

How powerful may be understood when we consider those buildings that date to the period LH IIIC, for many closely follow the core plan of the palaces, and their distribution bespeaks the continuing importance of maintaining the cultural order of the period of the recently destroyed palaces. 'Megara' (Hiesel's *oikos* 2 and Antenhäuser; Hiesel 1990: 38–83) were constructed at Tiryns, Ayios Kosmas, Mouriadha, Korakou, Midea, Asine, and Lefkandi (Figure 1.16). A number of these most likely were constructed as seats of authority (Midea, Tiryns and Mouriadha). Maran has argued convincingly that that was the case for Building T at Tiryns (Figure 1.16a), placed directly in the cleared-away remains of the great 'megaron' and respecting its altar, hearth and throne emplacement (Maran 2001a, b). If these late structures evoked the traditional order, they must also have served as the locus of ritual practices, especially commensal activity, which amplified the meaning of an enduring seat of political and religious authority. By respecting

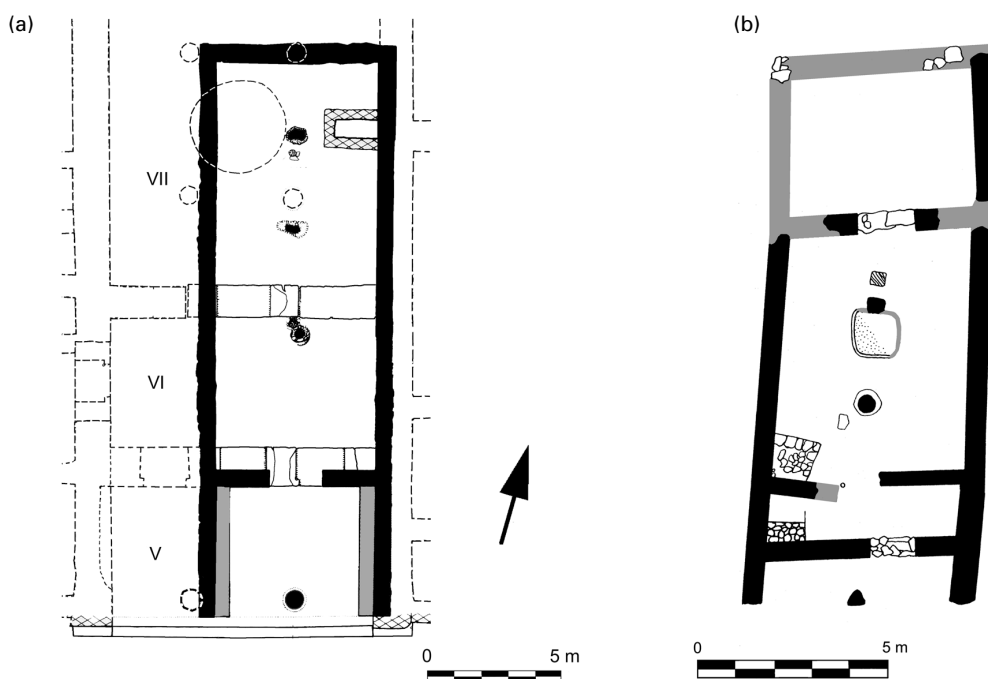


Figure 1.16a Building T at Tiryns, after Maran 2001a. 1.16b House L at Korakou, adapted from Blegen 1921, fig. 112

the interior furnishings of columns, hearth and throne, the builders reasserted the metaphorical coupling of fire and sky and ruler and deity within this now traditional architectural form.

This architectural form may now be understood as having achieved through the focus placed upon it by the ritual demands of the Mycenaean state the status of a powerful built and inhabitable symbol, the space and place of which was an *axis mundi* for anyone who identified with the culture we call Mycenaean. In its original form during the Middle Bronze Age as the residence of families it housed the nuclear family and its associates. Through social practices within it and through the repetition of furnishings and architectural form it is not difficult to envisage how this built space came to be associated with the head of household, who in the instance of primary lineages became a leader in the community. In this manner the house form can have begun to be also a place of political, economic, social and ideological power. What was practised in it over these many generations would have amplified and politicised this primarily domestic building. It should little surprise us, then, when the super-organic structure of Mycenaean society collapsed and decomposed, what remained was still the family and its lineage and the age-old practices that were performed in the household, especially the household of the head man. Thus in the 'megaron' architecture of LH IIIC and the reappearance of the apsidal architecture of the Protogeometric period we may see the architectural setting for these social practices reappearing, only to be elevated once again in the Late Geometric and Archaic periods to a monumental form, as Mazarakis-Ainian has argued (*Dwellings*).

CONCLUSION

This view of the formation of the Mycenaean palace plan argues that it must be understood as a product of the social and political formation of Mycenaean society. I contend that this formation occurred in three processes. The first is the interaction and competition of rising elites in different communities, which promoted the formation of local architectural expressions of power and prestige. Second are the consolidation of territories by elites at one centre and the construction of complex monumental structures that we recognise as palaces. Third is the formation of early states which are the product of peer polity interaction and which in architectural terms are manifest in a uniform Mycenaean architectural style.

Architecture organises space into places of cultural habitation (Tuan 1977: 101–17). Structures orient meaning and are places where meaning is performed (Tilley 1994: 202–8). Because of this dynamism we cannot simply 'read' architecture, as if its meaning were codified in a universal dictionary of architectural forms, not least because so much architecture, whether vernacular or monumental, undergoes many uses that extend over generations. Architecture is a

palimpsest and its historical meaning is protean (Preziosi 1979, 1983; Tuan 1977). This observation underscores a critical difficulty of the discipline of archaeology, since, lacking access to the informants who imbued architecture with meaning and who took meaning from it, in our desire to interpret is also the temptation to promote one moment in a building's history over others (Riegl 1982). All the more, then, are we obliged to survey in detail the broadest appropriate temporal and spatial horizons in order to construct an outline of meaning of the architecture of any archaeologically constructed and historically documented culture. We should try to understand the architecture not merely as a formal development of an object we seek to classify but rather as an evolving expression of Mycenaean society and especially as an instrument of the ruling order of the various palatial centres. Here we engage the problem of understanding the roles of elites and of the *wanax*. This office of the Linear B tablets, like the palaces, was created out of the social and political circumstances of the evolution of Mycenaean society, and as the needs of leadership changed, so did the needs of its architecture. The Mycenaean palace, then, is a mutable material representation of the symbolic, social, political, economic and religious roles that are subsumed under the authority and power of the *wanax*.

References

- Albers, G. (1994), *Spätmykenische Stadtheiligtümer: Systematische Analyse und vergleichende Auswertung der archäologischen Befunde*, BAR International Series 596, Oxford: Tempus Reparatum, Archaeological and Historical Associates Limited.
- Albers, G. (2001), 'Rethinking Mycenaean Sanctuaries', in *Potnia*, pp. 131–41.
- Andreou, S. (forthcoming), 'Η περιφέρεια του Μυκηναϊκού κόσμου,' in *Πρακτικά του 2ου διεπιστημονικού Συνεδρίου, Λαμία 1999*.
- Antonaccio, C. M. (1992), 'Terraces, tombs, and the early Argive Heraion', *Hesperia*, 61, pp. 85–105.
- Antonaccio, C. M. (1994), 'Placing the past: The Bronze Age in the cultic topography of early Greece', in *Placing the Gods*, pp. 79–104.
- Barber, R. (1992), 'The origins of the Mycenaean palace', in Sanders, J. M. (ed.), *Philolakon, Lakonian Studies in Honour of Hector Catling*, London: British School at Athens), pp. 11–23.
- Bennet, J. (1999), 'Pylos: The expansion of a Mycenaean palatial center', in Galaty, M. and Parkinson, W. (eds), *Rethinking Mycenaean Palaces: New Interpretations of an Old Idea*, Cotsen Institute of Archaeology, Monograph 41, Los Angeles: Cotsen Institute of Archaeology, pp. 9–18.
- Bennet, J. (2001), 'Agency and bureaucracy: thoughts on the nature and extent of administration in Bronze Age Pylos', in *Economy and Politics*, pp. 25–37.
- Blanton, R. (1998), 'Beyond centralization: steps toward a theory of egalitarian behavior in Archaic states', in Feinman, G. M. and Marcus, J. (eds), *Archaic States*, Santa Fe: School of American Research Press, pp. 135–72.
- Blegen, C. W. (1921), *Korakou, A Prehistoric Settlement near Corinth*, New York: American School of Classical Studies at Athens.

- Blegen, C. W. (1965), 'Architectural notes from Pylos', in *Χαριστήριον εἰς Ἀναστάσιον Κ. Ὀρλάνδου*, Athens: Archaeological Society at Athens, pp. 117–25.
- Bourdieu, P. (1980), *The Logic of Practice*, Stanford: Stanford University Press.
- Broodbank, C., Kyriatzi, E. and Rutter J., (forthcoming), 'From pharaoh's feet to the slave-women of Pylos? The history and cultural dynamics of Kythera in the Third Palace period', in Dakouri-Hild, A. and Sherratt, S. (eds), *Ace High: Papers Presented to Oliver Dickinson on the Occasion of his Retirement*, Oxford: BAR.
- Bryce, T. (1998), *The Kingdom of the Hittites*, Oxford: Oxford University Press.
- Burns, B. (1999), Import Consumption in the Bronze Age Argolid (Greece): Effects of Mediterranean Trade on Mycenaean Society, Ph.D. dissertation, Ann Arbor: University of Michigan.
- Carlier, P. (1987), 'Palais et sanctuaries dans le monde Mycénien,' in Levy, E. (ed.), *Le Système Palatial en Orient, en Grèce et à Rome*, Leiden: E. J. Brill, pp. 254–82.
- Caskey, J. L. (1971), 'Investigations in Keos. Part I: Excavations and explorations, 1966–1970', *Hesperia*, 40, pp. 359–96.
- Casson, S. (1933), *The Technique of Early Greek Sculpture*, Oxford: Clarendon Press.
- Catling, H. W. (1974–1975), 'Archaeology in Greece 1974–75', *AR*, 21, pp. 3–28.
- Catling, H. W. (1975–1976), 'Archaeology in Greece', *AR*, 22, pp. 13–15.
- Catling, H. W. (1976), 'New excavations at the Menelaion, Sparta', in Jantzen, U. (ed.), *Neue Forschungen in griechischen Heiligtümern: Internationales Symposium in Olympia vom 10 bis 12 Oktober 1974, anlässlich der Hundertjahrfeier der Abteilung Athen und der deutschen Ausgrabungen in Olympia*, Tübingen: Ernst Wasmuth, pp. 77–90.
- Cavanagh, W. G. (1995), 'Development of the Mycenaean state in Laconia: evidence from the Laconia survey', in *Politeia*, pp. 81–8.
- Cavanagh, W. G. (2001), 'Empty space? Courts and squares in Mycenaean towns', in Branigan, K. (ed.), *Urbanism in the Aegean Bronze Age, Sheffield Studies in Archaeology*, Sheffield: Sheffield Academic Press, pp. 119–34.
- Clark, J. and Blake, M. (1994) 'The power of prestige: competitive generosity and the emergence of rank societies in lowland Mesoamerica', in Brumfiel, E. and Fox, J. (eds), *Factional Competition and Political Development in the New World*, New York: Cambridge University Press, pp. 17–30.
- Cline, E. (1991), 'Hittite objects in the Bronze Age Aegean', *Anatolian Studies*, 41, pp. 134–5.
- Cremasco, V. and Laffineur, R. (1999), 'The engineering of Mycenaean tholoi: the circular tomb at Thorikos revisited', in Betancourt, P., Karageorghis, V., Laffineur, R. and Niemeier, W.-D. (eds), *Meletemata: Studies in Aegean Archaeology Presented to Malcolm H. Wiener as He Enters His 65th Year, Vol. I*, Liège: Université de Liège, pp. 139–48.
- Cucuzza, N. (1997), 'The North Sector buildings of Haghia Triada', in *La Crète mycénienne*, pp. 73–84.
- Cucuzza, N. (2001), 'Religion and architecture: Early LM IIIA2 buildings in the southern area of Haghia Triada', in *Potnia*, pp. 169–74.
- Dabney, M., Halstead, P. and Thomas, P. (2004), 'Mycenaean feasting on Tsoungiza at Ancient Nemea', in Wright, J. (ed.), *The Mycenaean Feast*, Princeton: American School of Classical Studies at Athens, pp. 77–95.
- Dakouri-Hild, A. (2001), 'The House of Kadmos in Mycenaean Thebes reconsidered: architecture, chronology, and context', *BSA*, 96, pp. 81–122.
- Darcque, P. (1990), 'Pour l'abandon du terme "megaron"', in Darcque, P. and Treuil, R. (eds),

- L'habitat égéen préhistorique: Actes de la table ronde internationale, Athènes, 23–25 juin 1987*, Paris: Édition de Boccard, pp. 21–31.
- Darcque, P. (2001), 'Le développement du système palatial mycénien en Grèce continentale', *Ktema*, 26, pp. 101–8.
- Darcque, P. (forthcoming): *L'Habitat Mycénien, Bibliothèque des Écoles Françaises d'Athènes et de Rome, fascicule XXX*, Paris: Bibliothèque des Écoles Françaises d'Athènes et de Rome.
- Davis, E. N. (1977), *The Vapheio Cups and Aegean Gold and Silver Ware: Outstanding Dissertations in the Fine Arts, Second Series*, New York: Garland.
- Davis, E. N. (1974), 'The Vapheio cups: one Minoan and one Mycenaean?', *Art Bulletin*, 56, pp. 472–87.
- Davis, J. L., Alcock S. E., Bennet, J., Lolos, Y. G. and Shelmerdine, C. W. (1997), 'The Pylos regional archaeological project. Part I: Overview and the archaeological survey', *Hesperia*, 66, pp. 391–494.
- Davis, J. and Bennet, J. (1999), 'Making Mycenaeans: warfare, territorial expansion, and representations of the other in the Pylian Kingdom', in *Polemos*, pp. 105–20.
- Davis, J. L. and Cherry, J. F. (2001), 'Under the sceptre of Agamemnon: the view from the hinterlands of Mycenae', in Branigan, K. (ed.), *Urbanism in the Aegean Bronze Age, Sheffield Studies in Archaeology*, Sheffield: Sheffield Academic Press, pp. 141–59.
- Davis, J. L. and Stocker, S. (2004), 'Animal sacrifice, archives, and feasting in the Palace of Nestor', in Wright, J. (ed.), *The Mycenaean Feast*, Princeton: American School of Classical Studies, pp. 59–75.
- Dickinson, O. (1977), *The Origins of Mycenaean Civilisation*, Göteborg: Paul Åströms Förlag.
- Dickinson, O. (1994), *The Aegean Bronze Age*, New York: Cambridge University Press.
- Dörpfeld, W. (1886), 'Die Bauwerke von Tiryns', in Schliemann, H., *Tiryns*, Leipzig: F. A. Brockhaus, pp. 200–424.
- Elias, N. (1978), *The History of Manners*, New York: Urizen Books.
- Evely, R. D. G. (1993), *Minoan Crafts: Tools and Techniques, an Introduction*, Göteborg: Paul Åströms Förlag.
- Furumark, A. (1941), *The Mycenaean Pottery*. Stockholm: Kung. Vitterhets Historie och Antikvitets Akademien.
- Gercke, P. and Hiesel G. (1971), 'Grabungen in der Unterstadt von Tiryns von 1990 bis 1929', in Jantzen, U. (ed.) *Tiryns V, Forschungen und Berichte*, Mainz: Philipp von Zabern, pp. 1–19.
- Giddens, A. (1984), *The Constitution of Society*, Berkeley: University of California Press.
- Goldman, H. (1931), *Excavations at Eutresis in Boeotia*, Cambridge, MA: Harvard University Press.
- Graham, J. W. (1960), 'Mycenaean architecture', *Archaeology*, 13, pp. 46–54.
- Hägg, R. (1982), 'On the nature of the Minoan influence in early Mycenaean Messenia', *OpAth*, XIV, pp. 27–37.
- Hägg, R. (1983), 'Degrees and character of the Minoan influence on the Mainland', in Hägg, R. and Marinatos, N. (eds), *The Minoan Thalassocracy: Myth and Reality. Proceedings of the Third International Symposium at the Swedish Institute in Athens, 31 May–5 June, 1982*, Göteborg: Paul Åströms Förlag, pp. 119–22.
- Hallager, E. (1997), 'Architecture of the LM II/III settlement in Khania', in *La Crète mycénienne*, pp. 175–85.
- Hansen, M. H. (2000), 'The Hellenic polis', in Hansen, M. H. (ed.), *A Comparative Study of*

- Thirty City-State Cultures: An Investigation conducted by the Copenhagen Polis Centre*, Copenhagen: Kongelige Danske Videnskabernes Selskab, pp. 141–87.
- Hayden, B. J. (1981), *The Development of Cretan Architecture from the LM IIIA through the Geometric Periods*, Ph.D., dissertation Philadelphia: University of Pennsylvania.
- Hayden, B. J. (1987), 'Crete in transition: LM IIIA–IIIB architecture. A preliminary study', *SMEA*, 26, pp. 199–234.
- Hiesel, G. (1990), *Späthelladische Hausarchitektur: Studien zur Architekturgeschichte des griechischen Festlandes in der späten Bronzezeit*, Mainz am Rhein: Philipp von Zabern.
- Hiller, S. (1987), 'Palast und Tempel im Alten Orient und im minoischen Kreta', in Hägg, R. and Marinatos, N. (eds), *The Function of the Minoan Palaces: Proceedings of the Fourth International Symposium at the Swedish Institute in Athens, 10–16 June, 1984*, Stockholm: Swedish Institute in Athens, pp. 57–64.
- Hope Simpson, R. and Dickinson, O. T. P. K. (1979), *A Gazetteer of Aegean Civilization in the Bronze Age, Vol. 1: The Mainland and the Islands*, Göteborg: Paul Åströms Förlag.
- Hurwit, J. (1979), 'The Dendra octopus cup and the problem of style in the fifteenth century Aegean', *AJA*, 83, pp. 413–26.
- Iakovides, S. (1989), *Γλῶσσ I, 'Η ανασκαφή 1955–1961*, Athens: Archaeological Society of Athens.
- Iakovides, S. (1998), *Γλῶσσ II, 'Η ανασκαφή 1981–1991*, Athens: Archaeological Society of Athens.
- Iakovides, S. (2001), *Gla and the Kopais in the 13th Century BC*, Athens: Archaeological Society of Athens.
- Immerwahr, S. (1990), *Aegean Painting*. College Park, PA: Penn State Press.
- Isaakidou, V., Halstead, P., Davis, J. and Stocker, S. (2002), 'Burnt animal sacrifice at the Mycenaean "Palace of Nestor", Pylos', *Antiquity*, 76, pp. 86–92.
- Keramopoulos, A. (1930), 'Αἱ βιομηχανίαι καὶ τὸ ἐμπόριον τοῦ Κάδμου', *AE*, pp. 29–58.
- Kilian, K. (1979), 'Ausgrabungen in Tiryns 1977', *AA*, pp. 379–411.
- Kilian, K. (1983), 'Ausgrabungen in Tiryns 1981', *Archäologischer Anzeiger*, pp. 277–328.
- Kilian, K. (1984), 'Pylos-Funktionsanalyse einer Residenz der späten Palastzeit', *Archäologisches Korrespondenzblatt*, 14, pp. 37–48.
- Kilian, K. (1987a), 'L'Architecture des Résidences Mycéniennes: Origins et Extension d'une Structure du Pouvoir Politique Pendant l'Âge du Bronze Récent', in Levy, E. (ed.), *Le Système Palatial en Orient, en Grèce et à Rome*, Leiden: E. J. Brill, pp. 203–17.
- Kilian, K. (1987b), 'Ältere mykenische Residenzen', in Schiering, W. (ed.), *Kolloquium zur Ägäischen Vorgeschichte, Schriften des Deutschen Archäologen-Verbandes IX*, Mannheim: Deutschen Archäologen-Verbands e.V., pp. 120–4.
- Kilian K. (1987c), 'Der Hauptpalast von Mykene', *AM*, 102, pp. 99–113.
- Kilian, K. (1987d), 'Zur Funktion der mykenischen Residenzen auf dem griechischen Festland', in Hägg, R. and Marinatos, N. (eds), *The Function of the Minoan Palaces: Proceedings of the Fourth International Symposium at the Swedish Institute in Athens, 10–16 June, 1984*, Stockholm: Swedish Institute in Athens, pp. 21–38.
- Kilian, K. (1988a), 'Die "Thronfolge" in Tiryns', *AM*, 103, pp. 1–9.
- Kilian, K. (1988b), 'The emergence of *Wanax* ideology in the Mycenaean palaces', *OJA*, 7, pp. 291–302.
- Kilian, K. (1988c), 'Mycenaeans up to date: trends and changes in recent research', in *Problems in Prehistory*, pp. 115–52.

- Kilian, K. (1989), *Μυκηναϊκά Ανάκτορα της Αργολίδας Πρακτικά του Β' Τοπικού Συνεδρίου Αργολικών Σπουδών*, Αθηναι: Εταιρεία Πελοποννησιακών Σπουδών, pp. 3–40.
- Kilian, K. (1990), 'Mykenische Fundamentierungsweisen in Tiryns', in Darcque, P. and Treuil, R. (eds), *L'habitat égéen préhistorique: Actes de la table ronde internationale, Athènes, 23–25 juin 1987, BCH Supplément XIX*, Paris: Édition de Boccard, pp. 95–113.
- Kilian, K., Hiesel, G. and Weisshaar, H.-J. (1982), 'Ausgrabungen in Tiryns 1980', *AA*, pp. 247–76.
- Kilian, K., Podzuweit C. and Weisshaar, H.-J. (1981), 'Ausgrabungen in Tiryns 1978, 1979', *AA*, pp. 149–256.
- Kilian-Dirlmeier, I. (1987), 'Das Kuppelgrab von Vapheio: Die Begabenbestattung in der Steinkiste', *JRGZM*, 34, pp. 197–212.
- Kilian-Dirlmeier, I. (1997), *Alt-Ágina 4.3: Das mittelbronzezeitliche Schachtgrab von Ágina*, Mainz: Philipp von Zabern.
- Koehl, R. (1995), 'The silver staff "Bibru" from Mycenae', in *Ages of Homer*, pp. 61–6.
- Korres, G. S. (1977), 'Ανασκαφή ανά Πυλίων', *PAE*, pp. 296–356.
- Korres, G. S. (1979), 'Ανασκαφή Βοϊδοκοιλιάς', *PAE*, pp. 138–55.
- Korres, G. S. (1981), 'Ανασκαφή Βοϊδοκοιλιάς', *PAE*, pp. 194–240.
- Korres, G. S. (1984), 'The Relations between Crete and Messenia in the Late Middle Helladic and Early Late Helladic period', in Hägg, R. and Marinatos, N. (eds) *The Minoan Thalassocracy: Myth and Reality, Proceedings of the Third International Symposium at the Swedish Institute in Athens, 31 May–5 June, 1982*, Göteborg: Paul Åströms, pp. 141–52.
- Koumouzelis, M. (1996), 'A monumental chamber tomb at Ellenika', in De Miro, E., Godart, L. and Sacconi, A. (eds), *Atti e memorie del secondo Congresso internazionale di micenologia, Roma-Napoli, 14–20 ottobre 1991. Volume 3: Archeologia*, Rome: Gruppo editoriale internazionale, pp. 1221–8.
- Krystalli-Votsi, K. (1996), 'The excavation of the Mycenaean cemetery at Aidonia', in Demakopoulou, K. (ed.), *The Aidonia Treasure, Seals and Jewelry of the Aegean Late Bronze Age*, Athens: Ministry of Culture, pp. 21–31.
- Küpper, M. (1996), *Mykenische Architektur: Material, Bearbeitungstechnik, Konstruktion und Erscheinungsbild, Internationale Archäologie, Band 25*, Espelkamp: Verlag Marie Leidorf.
- La Rosa, V. (1985), 'La Nuove Indagini ad Haghia Triada', in Detorakis, Th. (ed.), *Πεπραγμένα του Ε' Διεθνούς Κρητολογικού Συνεδρίου*, Ηράκλειο: Εταιρεία Κρητικών Μελετών, pp. 190–8.
- La Rosa, V. (1992), 'Haghia Triada in età micenea', in *Mykenaiika*, pp. 617–620.
- La Rosa, V. (1997), 'Haghia Triada à l'époque mycénienne: l'utopie d'une ville capitale', in *La Crète mycénienne*, pp. 249–66.
- Lang, M. (1969), *The Palace of Nestor at Pylos in Western Messenia, Volume II: The Frescoes*, Princeton: Princeton University Press.
- Lauter, H. (1989), 'Die protomykenische Burg auf Kiapha Thiti in Attika', in Laffineur, R. (ed.) *Transition: Le monde égéen du Bronze moyen au Bronze récent. Actes de la deuxième Rencontre égéenne internationale de l'Université de Liège, 18–20 avril 1988*, Liège: Université de Liège, pp. 145–9.
- Lloyd, S. and Mellaart, J. (1965), *Beycesultan, Volume II: Middle Bronze Age Architecture and Pottery*, London: British Institute of Archaeology at Ankara.
- Loader, N. C. (1998), *Building in Cyclopean Masonry*, Jonsered: Åströms Förlag.

- Lolos, Y. (1989), 'The tholos tomb at Koryphasion: evidence for the transition from Middle to Late Helladic in Messenia', in Laffineur, R. (ed.) *Transition: Le monde égéen du Bronze moyen au Bronze récent. Actes de la deuxième Rencontre égéenne internationale de l'Université de Liège, 18–20 avril 1988. Aegaeum 3*, p. *Annales d'archéologie égéenne de l'Université de Liège*, Liège: Université de l'État à Liège, pp. 171–5.
- Maran, J. (2001a), 'Zur Frage des Vorgängers des ersten Doppelpalastes von Tiryns', in Böhm, S. and von Eickstedt, K.-V. (eds), *ITHAKI: Festschrift für Jörg Schäfer zum 75 Geburtstag am 25 April 2001*, Würzburg: Ergon, pp. 23–9.
- Maran, J. (2001b), 'Political and religious aspects of architectural change on the upper citadel of Tiryns. The case of Building T', in *Potnia*, pp. 113–22.
- Maran, J. (2003), 'Architektonische Innovation im spätmykenischen Tiryns-Lokale Bauprogramme und fremde Kultureinflüsse', in *Tagungsband Althellenische Technologie und Technik (21–23 März 2003 in Ohlstadt/Obb. Deutschland, Weilheim/Obb.: Verien zur Förderung der Aufarbeitung der Hellenischen Geschichte*, pp. 261–93.
- Marinatos, S. (1964), 'Ανασκαφαί εν Πύλῳ', *PAE*, pp. 195–209.
- Marinatos, S. (1965), 'Ανασκαφαί εν Πύλῳ', *PAE*, pp. 169–74.
- Marinatos, S. (1966), 'Ανασκαφαί εν Πύλῳ', *PAE*, pp. 90–8.
- Marinatos, S. (1967a), 'Problemi archeologici e filologici di Pilo', *SMEA*, 3, pp. 7–18.
- Marinatos, S. (1967b), 'Ανασκαφαί εν Πύλῳ', *PAE*, pp. 102–20.
- Matthäus, H. (1980), *Die Bronzegefäße der kretisch-mykenischen Kultur, Prähistorische Bronzefunde I*, München: C. H. Beck.
- Matthäus, H. (1985), *Metallgefäße und Gefäßuntersätze der Bronzezeit, der geometrischen und archaischen Periode auf Cypern: mit einem Anhang der bronzezeitlichen Schwertfunde auf Cypern, Prähistorische Bronzefunde II*, 8, München: C. H. Beck.
- McEnroe, J. (1982), 'A typology of Minoan Neopalatial houses', *AJA*, 86, pp. 3–19.
- Mee, C. B. and Cavanagh, W. G. (1984), 'Mycenaean tombs as evidence for social and political organisation', *OJA*, 3, pp. 45–64.
- Mountjoy, P. A. (1986), *Mycenaean Decorated Pottery: A Guide to Identification*, Göteborg: Paul Åströms Förlag.
- Mühlenbruch, T. (2003), 'Zu Vordernorientalischen Parallelen der Mykenischen Palastarchitektur', *Archäologisches Korrespondenzblatt*, 33, pp. 479–91.
- Müller, K. (1930), *Tiryns III: Die Architektur der Burg und des Palastes*, Augsburg: B. Filser Verlag.
- Müller, S. (1989), 'Les Tumuli Helladique: Ou? Quand? Comment?' *BCH*, 113, pp. 1–42.
- Mylonas, G. (1966), *Mycenae and the Mycenaean Age*, Princeton, Princeton University Press.
- Naumann, R. (1971), *Architektur Kleinasiens von ihren Anfängen bis zum Ende der hethitischen Zeit*, Tübingen, E. Wasmuth.
- Nelson, M. (2001), *The Architecture of Epiano Englianos, Greece*. Ph.D. dissertation, University of Toronto.
- Neve, P. (1982), *Büyükkale: Die Bauwerke. Boğazköy-Hattuša XII*, Berlin: Gebr. Mann.
- Neve, P. (1989), 'Eine hethitische Bronzesäge aus Hattusa-Boğazköy', *Istanbuler Mitteilungen*, 39, pp. 399–406.
- Neve, P. (1990), 'Hethitischer Gewölbebau', in Hoffmann, A., Schwandner, E. L., Hoepfner, W. and Brandes, G. (eds), *Bautechnik der Antike Internationales Kolloquium in Berlin vom 15–17 Februar 1990/veranstaltet vom Architekturreferat des DAI in Zusammenarbeit mit dem*

- Seminar für Klassische Archäologie der Freien Universität Berlin*, Mainz: P. von Zabern, pp. 161–5.
- Neve, P. (1999), *Die Oberstadt von Hattuša*, I. *Die Bauwerke*. Boğazköy-Hattuša XVI, Berlin: Gebr. Mann.
- Niemeier, W.-D. (1997), 'The Mycenaean potter's quarter at Miletus', in Laffineur, R. and Betancourt, P. P. (eds), *TEXNH: Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age: Proceedings of the 6th International Aegean Conference, Philadelphia, Temple University, 18–21 April 1996*, Liège: Université de Liège, pp. 347–52.
- Niemeier, W.-D. (1998a), 'The Minoans in the south-eastern Aegean and in Cyprus', in *Cyprus-Dodecanese-Crete*, pp. 29–47.
- Niemeier, W.-D. (1998b), 'The Mycenaean in Western Anatolia and the problem of the origins of the Sea Peoples', in *Mediterranean Peoples*, pp. 17–65.
- Niemeier, W.-D. (1999), 'Mycenaean and Hittites in war in western Asia Minor', in *Polemos*, pp. 141–55.
- Niemeier, B. and Niemeier, W.-D. (1997), 'Milet 1994–1995. Projekt Minoisch-mykenisches bis protogeometrisches Milet: Zielsetzung und Grabungen auf dem Stadionhügel und am Athenatempel', *AA*, pp. 189–248.
- Nordquist G. C. (1987) *A Middle Helladic Village: Asine in the Argolid*, Stockholm: Almqvist and Wiksell.
- Nylander, C. (1970), *Ionians in Pasargadae: Studies in Old Persian Architecture*, Uppsala: Uppsala University Press.
- Oelmann, F. (1912), 'Ein archaisches Herrenhaus auf Kreta', *AA*, pp. 38–51.
- Overbeck, J. C. (1982), 'The hub of commerce: Keos and Middle Helladic Greece', in Betancourt, P. (ed.), *Trade and Travel in the Cyclades during the Bronze Age*, Philadelphia: Temple University, pp. 38–49.
- Özgüç, T. (1950), *Kültepe kazisi raporu, 1948: Ausgrabungen in Kültepe; Bericht über die im Auftrage der türkischen historischen Gesellschaft, 1948 durchgeführten Ausgrabungen*, Ankara: Turk tarih kurumu basimevi.
- Özgüç, T. (1959), *Kültepe-Kanis: asur ticaret kolonilerinin merkezinde yapılan yeni arastirmalar, new researches at the center of the Assyrian trade colonies*, Ankara: Turk tarih kurumu basimevi.
- Özgüç, T. (1978), *Excavations at Maşat Höyük and Investigations in its Vicinity*, Ankara: Turk tarih kurumu basimevi.
- Palaima, T. (2004), 'Sacrificial feasting in the Linear B tablets', in Wright, J. (ed.) *The Mycenaean Feast*, Princeton: American School of Classical Studies at Athens, pp. 97–126.
- Papadimitriou, I. (1956), 'Ανασκαφαί εν Βραυρώνι', *PAE*, pp. 77–87.
- Papadimitriou, I. and Petsas Ph. (1950), 'Ανασκαφή εν Μυκήναις', *PAE*, pp. 203–33.
- Parker-Pearson, M. (1999), *The Archaeology of Death and Burial*, College Station, TX: Texas A&M Press.
- Pelon, O. (1976), *Tholoi, tumuli et cercles funéraires: recherches sur les monuments funéraires de plan circulaire dans l'Égée de l'âge du Bronze (IIIe et IIe millénaires av. J.-C.)*, Athens: École Française d'Athènes.
- Petrie, W. M. F. (1910), *The Arts and Crafts of Ancient Egypt*, London: Foulis.
- Podzuweit, C. (1977), 'Ein mykenischer Kieselmosaikfußboden aus Tiryns: Die Fundsituation und Datierung des Mosaiks', *AA*, pp. 123–34.

- Preziosi, D. (1979), *The Semiotics of the Built Environment: An Introduction to Architectonic Analysis*, Bloomington: Indiana University Press.
- Preziosi, D. (1983), *Minoan Architectural Design: Formation and Signification*, New York: Mouton.
- Rehak, P. and Younger, J. (2001), 'Review of Aegean prehistory VII: Neopalatial, Final Palatial, and Postpalatial Crete', in Cullen, T. (ed.), *Aegean Prehistory: A Review*, Boston: Archaeological Institute of America, pp. 383–473.
- Renfrew, C. (1975), 'Trade as action at a distance: questions of integration and communication', in Sabloff, J. A. and Lamberg-Karlovsky, C. C. (eds), *Ancient Civilization and Trade*, Albuquerque: University of New Mexico Press, pp. 3–59.
- Renfrew, C. (1982), 'Bronze Age Melos', in Renfrew, C. and Wagstaff, M. (eds), *An Island Polity: The Archaeology of Exploitation in Melos*, New York: Cambridge University Press, pp. 35–44.
- Renfrew, C. (1986), 'Introduction: peer polity interaction and socio-political change', in Renfrew, C. and Cherry, J. (eds), *Peer Polity Interaction and Socio-political Change*, New York: Cambridge University Press, pp. 1–18.
- Renfrew, C. and Wagstaff, M. (eds) (1982), *An Island Polity: The Archaeology of Exploitation in Melos*, Cambridge: Cambridge University Press.
- Riegl, A. (1982), 'The modern cult of monuments: its character and origin', Forster, K. and Ghirardo, D. (trans) *Oppositions*, 25, pp. 21–51.
- Rowe, K. (1954), 'A possible Middle Helladic fortification wall', *BSA*, 49, pp. 248–53.
- Rutter, J. B. (1974), 'Review of S. Symeonoglou, *Kadmeia I*, *AJA*, 78, pp. 88–9.
- Rutter, J. B. (forthcoming) 'Southern triangles revisited: Laconia, Messenia, and Crete in the 14th–12th centuries BC', in D'Agata, A. L. and Moody, J. (eds), *Ariadne's Threads: Connections between Crete and the Greek Mainland in the Post-palatial period (LM IIIA2 to SM)*, Athens: Scuola Archeologica Italiana di Atene.
- Rutter, J. B. and Zerner, C. W. (1983), 'Early Hellado-Minoan contacts', in Hägg, R. and Marinatos, N. (eds), *The Minoan Thalassocracy: Myth and Reality. Proceedings of the Third International Symposium at the Swedish Institute in Athens, 31 May–5 June, 1982*, Göteborg: Paul Åströms Förlag, pp. 75–83.
- Sakellarakis, J. (1967), 'Mason's marks from Arkhanes', in Brice, W. C. (ed.), *Europa: Studien zur Geschichte und Epigraphik der Frühen Aegaeis. Festschrift für Ernst Grumach*, Berlin: Walter de Gruyter, pp. 277–88.
- Schaar, K. W. (1967), *The Wall Remains of Certain Buildings at Mycenae: an Analysis of Construction*, Masters thesis, Uppsala: Uppsala University.
- Schaar, K. W. (1990), 'Aegean house form: a reflection of cultural behaviour', in Darcque, P. and Treuil, R. (eds), *L'habitat égéen préhistorique: Actes de la table ronde internationale, Athènes, 23–25 juin 1987, BCH Supplément XIX*, Paris: Éditions Boccard, pp. 173–82.
- Schallin, A.-L. (1996), 'The Berbati-Limnes archaeological survey: the Late Helladic period', in Wells, B. with Runnels, C. (eds), *The Berbati-Limnes Archaeological Survey 1988–1990*, Stockholm: Paul Åströms Förlag, pp. 123–75.
- Schwandner, E. L. (1990), 'Der Schnitt im Stein: Beobachtungen zum Gebrauch der Steinsäge in der Antike', in Hoffmann, A., Schwandner, E. L., Hoepfner, W. and Brandes, G. (eds), *Bautechnik der Antike Internationales Kolloquium in Berlin vom 15–17. Februar 1990/veranstaltet vom Architekturreferat des DAI in Zusammenarbeit mit dem Seminar für Klassische Archäologie der Freien Universität Berlin*, Mainz: P. von Zabern, pp. 216–23.

- Servais, J. and Servais-Soyes, B. (1984), 'La tholos 'oblique' (tombe IV) et le tumule (tombe V) sur le Vélaturri', in Mussche, H. (ed.), *Thorikos VIII, 1972/1976*, pp. 14–67.
- Shaw, J. W. (1973), *Minoan Architecture: Materials and Techniques*, *ASAtene* 49, n.s. 33.
- Shaw, M. (1980), 'Painted "ikria" at Mycenae?', *AJA*, 84, pp. 167–79.
- Shaw, M. (1996), 'The Bull-Leaping fresco from below the Ramp House at Mycenae: a study in iconography and artistic transmission', *BSA*, 91, pp. 167–90.
- Shaw, M., 1997: 'Aegean sponsors and artists: reflections on their roles in the patterns of distribution of themes and representational conventions in murals', in Laffineur, R. and Betancourt, P. (eds), *TEXNH: Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age (Proceedings of the 6th International Aegean Conference, Philadelphia)*, Liège: Université de Liège, pp. 481–503.
- Shear, I. M. (1986), 'The Panagia Houses at Mycenae and the "Potter's Shop" at Zygouries', *Φίλια έπη εις Γεώργιον Ε. Μυλωνάν, διά τα 60 έτη του ανασκαφικού του έργου*, Athens: Archaeological Society of Athens, pp. 85–98.
- Shelmerdine, C. W. (1985), *The Perfume Industry in Mycenaean Pylos*, Göteborg: Paul Åströms Förlag.
- Shelmerdine, C. W. (1997), 'Workshops and record keeping in the Mycenaean world', in Laffineur, R. and Betancourt, P. (eds), *TEXNH: Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age*, Liège: Université de Liège, pp. 387–96.
- Shelmerdine, C. W. (2001), 'The evolution of administration at Pylos', in *Economy and Politics*, pp. 113–28.
- Shelton, K. S. (1993), 'Tsountas' chamber tombs at Mycenae', *AE*, pp. 187–210.
- Spyropoulos, T. (1971), 'Μυκηναϊκά τοχογραφήματα εκ Θηβών', *AD*, A, 27, pp. 104–19.
- Symeonoglou, S. (1973), *Kadmeia I: Mycenaean Finds from Thebes, Greece, Excavation at 14 Oedipus St.*, Göteborg: P. Åströms Förlag.
- Tilley, C. (1994), *A Phenomenology of Landscape: Places, Paths, and Monuments*, Providence, RI: Berg.
- Touchais, G. (1996), 'Argos à l'âge du Bronze: État présent des recherches', in De Miro, E., Godart, L. and Sacconi, A. (eds), *Atti e memorie del secondo Congresso internazionale di micenologia, Roma-Napoli, 14–20 ottobre 1991, Vol. 3*, Roma: Gruppo editoriale internazionale, pp. 1319–26.
- Touchais, G. (1998), 'Argos à l'époque mésohelladique: un habitat ou des habitats?', in Pariente, A. and Touchais, G. (eds), *Argos kai Argolida: Topographia kai Poleodomia. Praktika Diethnous Synedriou. Athina-Argos 28/4–1/5/1990. Argos et l'Argolide. Topographie et Urbanisme. Actes de la Table Ronde Internationale. Athènes-Argos*, Paris: Diffusion de Boccard, pp. 71–8.
- Touchais, G. (1999), 'Le Bronze Moyen et le début du Bronze Récent dans le Péloponnèse, à la lumière des fouilles de l'Aspis d'Argos', (Abstract), in Renard, J. (ed.), *Le Péloponnèse: Archéologie et Histoire: Actes de la rencontre internationale de Lorient (12–15 mai 1998)*, Rennes: Presses Universitaires de Rennes, pp. 83–4.
- Tournavitou, I. (1995), 'The "Ivory Houses" at Mycenae', *BSA Supplement* 24, London: The British School at Athens.
- Tournavitou, I. (1997a), 'The social and economic position of artisans in the Mycenaean world', in Gillis, C., Risberg, C. and Sjöberg, B. (eds), *Trade and Production in Premonitory Greece: Production and the Craftsman, Proceedings of the 4th and 5th International Workshops, Athens 1994 and 1995*, Jonsered: Paul Åströms Förlag, pp. 29–41.

- Tournavitou, I. (1997b), 'Jewellers' moulds and jewellers' workshops in Mycenaean Greece: an archaeological utopia', in Gillis, C., Risberg, C. and Sjöberg, B. (eds), *Trade and Production in Premonitory Greece: Production and the Craftsman, Proceedings of the 4th and 5th International Workshops, Athens 1994 and 1995*, Jonsered: Paul Åströms, pp. 209–56.
- Tuan, Y.-F. (1977), *Space and Place: The Perspective of Experience*, Minneapolis: University of Minnesota Press.
- Valmin, N. (1938), *The Swedish Messenia Expedition*, Lund: Gleerup.
- Vermeule, E. (1964), *Greece in the Bronze Age*, Chicago: University of Chicago Press.
- Vermeule, E. T. (1975), *The Art of the Shaft Graves of Mycenae: Lectures in Memory of Louise Taft Semple, Series 3*, Cincinnati: University of Cincinnati.
- Wace, A. J. B. (1921–1923), 'Excavations at Mycenae, 1921–1923', *BSA*, 25.
- Wace, A. J. B. (1949), *Mycenae: an Archaeological History and Guide*, Princeton: Princeton University Press.
- Warren, P. (1969), *Minoan Stone Vases*, London: Cambridge University Press.
- Whittaker, H. (1996), 'The relationship between Mycenaean sacred and domestic architecture', in De Miro, E., Godart, L. and Sacconi, A. (eds), *Atti e memorie del secondo Congresso internazionale di micenologia, Roma-Napoli, 14–20 ottobre 1991, Vol. 3*, Roma: Gruppo editoriale internazionale, pp. 1627–35.
- Whittaker, H. (1997), *Mycenaean Cult Buildings: A Study of Their Architecture and Function in the Context of the Aegean and the eastern Mediterranean, Monographs from the Norwegian Institute at Athens 1*, Bergen: The Norwegian Institute at Athens.
- Wright, J. (1978), *Mycenaean Masonry Practices and Elements of Construction*, Ph.D. dissertation, Bryn Mawr, PA: Bryn Mawr College.
- Wright, J. (1982), 'The Old Temple terrace at the Argive Heraeum and the early cult of Hera in the Argolid', *JHS*, 102, pp. 186–201.
- Wright, J. (1984), 'Changes in form and function of the palace at Pylos', in Palaima, T. and Shelmerdine, C. (eds), *Pylos Comes Alive: Industry and Administration in the Palace at Pylos*, New York: Archaeological Institute of America, pp. 119–29.
- Wright, J. (1987), 'Death and Power at Mycenae', in Laffineur, R. (ed.), *Thanatos: les coutumes funéraires en Egée à l'âge du Bronze*, Liège: Université de l'Etat à Liège, pp. 171–84.
- Wright, J. (1990), 'An Early Mycenaean hamlet on Tsoungiza at ancient Nemea', in Darcque, P. and Treuil, R. (eds), *L'Habitat Égéen Préhistorique: Actes de la Table Ronde internationale organisée par le Centre National de la Recherche Scientifique, l'Université de Paris et l'École française d'Athènes, Athènes, 23–25 juin 1987*, Paris: Diffusion de Boccard, pp. 347–57.
- Wright, J. (1994), 'The spatial configuration of belief: the archaeology of Mycenaean religion', in *Placing the Gods*, pp. 37–78.
- Wright, J. (1995), 'From Chief to King in Mycenaean Greece', in *Role of the Ruler*, pp. 63–80.
- Wright, J. (2004a), 'Comparative settlement patterns during the Bronze Age in the northeastern Peloponnesos, Greece', in Alcock, S. E. and Cherry, J. F. (eds), *Side-by-Side Survey: Comparative Regional Studies in the Mediterranean World*, Oxford: Oxbow Books, pp. 114–31.
- Wright, J. (2004b), 'Introduction', in Wright, J. (ed.), *The Mycenaean Feast*, Princeton: American School of Classical Studies at Athens, pp. 1–12.
- Zaccagnini, C. (1983), 'Patterns of mobility among ancient Near Eastern craftsmen', *Journal of Near Eastern Studies*, 42, pp. 245–64.
- Zerner, C. (1978), 'The beginning of the Middle Helladic period at Lerna', Ph.D. dissertation, Cincinnati: University of Cincinnati.

