# AMERICAN JOURNAL OF ARCHAEOLOGY

THE JOURNAL OF THE ARCHAEOLOGICAL INSTITUTE OF AMERICA

Volume 110 • No. 1

January 2006

*THE AMERICAN JOURNAL OF ARCHAEOLOGY,* the journal of the Archaeological Institute of America, was founded in 1885; the second series was begun in 1897. Indices have been published for volumes 1–11 (1885–1896), for the second series, volumes 1–10 (1897–1906) and volumes 11–70 (1907–1966). The *Journal* is indexed in the *Humanities Index*, the ABS *International Guide to Classical Studies*, *Current Contents*, the *Book Review Index*, the *Avery Index to Architectural Periodicals*, *Anthropological Literature: An Index to Periodical Articles and Essays*, the *Art Index,* and the *Wilson Web*.

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*THE AMERICAN JOURNAL OF ARCHAEOLOGY* (ISSN 0002-9114) is published four times a year in January, April, July, and October by the Archaeological Institute of America, located at Boston University, 656 Beacon Street, Boston, Massachusetts 02215-2006, tel. 617-353-9361, fax 617-353-6550, email aia@aia.bu.edu. Subscriptions to the *American Journal of Archaeology* may be addressed to the Institute headquarters. A subscription request form can also be downloaded from the *AJA* Web site (www.ajaonline.org). An annual subscription is $75 (international, $95); the institutional rate is $250 (international, $290). Membership in the AIA, including a subscription to *AJA*, is $125 per year (C$192). Student membership is $73 (C$118.50); proof of full-time status is required. International subscriptions and memberships must be paid in U.S. dollars, by a check drawn on a bank in the U.S., by money order, or by credit card. Subscriptions are due 30 days prior to issue date. No replacement for nonreceipt of any issue of *AJA* will be honored after 90 days (180 days for international subscriptions) from the date of issuance of the fascicle in question. When corresponding about memberships or subscriptions, always give the account number, as shown on the mailing label or invoice. A microfilm edition of the *AJA*, beginning with volume 53 (1949), is issued after the completion of each printed volume. Subscriptions to the microfilm edition, which are available only to subscribers to the printed *AJA,* should be sent to ProQuest Information and Learning (formerly Bell & Howell Information and Learning), 300 North Zeeb Road, Ann Arbor, Michigan 48106. Back issues of *AJA* and the *Index 1907–1966* may be ordered from the Archaeological Institute of America. Back issues of the *AJA* from 2000–present are available in nonprintable pdf format on the *AJA* Web site. Exchanged periodicals and correspondence relating to exchanges should be directed to the Archaeological Institute of America in Boston. Periodicals postage paid at Boston, Massachusetts, and additional mailing offices. Postmaster: send address changes to the *American Journal of Archaeology*, Archaeological Institute of America, located at Boston University, 656 Beacon Street, Boston, Massachusetts 02215-2006.



The *American Journal of Archaeology* is composed in ITC New Baskerville
at the offices of the Archaeological Institute of America, located at Boston University.

The paper in this journal is acid-free and meets the guidelines for permanence and durability of the Committee on Production Guidelines for Book Longevity of the Council on Library Resources.

# Social Strategies and Spatial Dynamics in Neopalatial Crete: An Analysis of the North-Central Area

ELLEN ADAMS

*Abstract*

Neopalatial Crete possessed a high degree of homogeneity in its material culture, leading many to interpret political and social unification under the capital of Knossos. Recent studies on the regionalism of particular types of data have questioned this appraisal. This article builds upon such work with an interdisciplinary approach to north-central Crete, which includes the palatial sites of Knossos, Malia, and Galatas, other large and small settlements, ports, and ritual sites. The spatial distribution patterns of a wide range of data are analyzed, with specific reference to the formalized practices and conspicuous consumption resulting from elite social strategies. It is argued that early state-level societies, such as Minoan Crete, were not necessarily formed of well-demarcated territorial "states" possessing a single central place analogous with modern nation-states. Instead, the different types and scales of centralization are explored, with the separation of the ideological, political, and economic spheres. It is concluded that the intense ideological centralization around Knossos is coupled with a high degree of sociopolitical competition among the surrounding elites, leading to a wide spatial distribution of elite features. In contrast, Malia sits in a void of other large and elaborate settlements and ritual sites, but this centralization (if not monopolization) indicates the presence of far weaker power relations on the regional scale.*

## THE ARCHAEOLOGY OF SOCIAL STRATEGIES IN EARLY COMPLEX SOCIETIES

Neopalatial Crete (ca. 1700–1450 B.C.)[1] was a complex society, with large urban centers, a high degree of elaboration in both architecture and the arts, and a writing system. The writing, Linear A, remains undeciphered, so we are faced with high social complexity without written sources to define its nature. We cannot be sure that monarchs lived in the so-called palaces.[2] Knappett has charted the shift from the use of the term "civilization" to that of "state" in Minoan studies.[3] It is undeniable that Neopalatial Crete was a state-level society, but it is pertinent to explore the methodological issues raised when attempting to define particular "states."

### *The Notion of the "State"*

Interest in states is often linked to evolutionary approaches to social change, which have been widely criticized for the tendency to set the term up as a unified entity in chronological opposition to "chiefdom."[4] Here, we are more concerned with defining the nature of a state in a synchronic analysis; in this case, states must be defined in spatial opposition to one another, necessitating the drawing of boundaries.

The state is a concept that demands further qualification, and both anthropologists and archaeologists recognize this. Cherry lists scholars who have talked of states as being "pristine, secondary, archaic, feudal, tribal, voluntary, segmentary, primitive, formative, conditional, theocratic, secular, militaristic, expansionist, pre-industrial, etc., and have referred to the nascent-state, the proto-state, the early state module, the city-state, the empire-state, and so on."[5] Furthermore, types of state are often defined in opposition to one another for heuristic purposes. For example, Trigger has suggested a distinction between city-states (a network of adjacent but independent

*I would like to thank John Bennet, Polly Low, Martin Millet, Laura Preston, and Peter Warren who have read versions of this article. I am particularly grateful to Sofia Voutsaki for support throughout my work on the Ph.D. dissertation from which this paper was drawn. I also value highly the insights and comments made by the two anonymous reviewers. The responsibility for all errors lies with me. The original research was supported by the Arts and Humanities Research Board, the British School at Athens, the Faculty of Classics, Cambridge, and Pembroke College, Cambridge. This article was written while holding a Leverhulme Study Abroad Award based at the British School at Athens. I am grateful to the organizers of the Mycenaean Seminar for an invitation to present these conclusions and to receive invaluable feedback. I am likewise indebted to James Whitley, director of the British School at Athens, for allowing me to present this paper as part of the Upper House Seminar series.

[1] The ceramic phases of the Neopalatial period include Middle Minoan (MM) IIIB, Late Minoan (LM) IA, and LM IB.

[2] These large structures make up complexes surrounding central courts, often with a west court.

[3] Knappett 1999, 616.

[4] E.g., Hamilakis 2002a; Chapman 2003. It may be possible to retain these terms while avoiding the shortcomings of step typologies (Rothman 1994, 1). However, the argument that they serve cross-cultural comparisons has met some criticism (Yoffee 1993, 73).

[5] Cherry 1978, 413.

small polities, with urban core and hinterland) and territorial states (a hierarchical network of administrative centers under a ruler).[6] The term, therefore, has been heavily subdivided, allowing qualification.[7]

The focus on identifying and defining types of state, however, is problematic when "typological classification suffices as explanation."[8] In addition, there is a tendency to reify the concept.[9] The mechanisms of the modern state are such that it may appear to have a life of its own, but even this is a model, used to give shape to the complex networks of a large number of types and scales of governance. In prehistory, also, it serves as a heuristic tool, a model for social structure but not human agency.[10]

If the concept of state is a clarifying device, then its usefulness is limited by its overwhelming emphasis on the political and the economic.[11] Geertz outlines three etymological themes deriving from the term "state": (1) status/estate: sense of station, standing, rank, condition; (2) stateliness: pomp, splendor, display, dignity; and (3) statecraft: governance, regnancy, mastery.[12] Intriguingly, the third meaning was the last to arise but has come to dominate the term, leading to the narrow definition of state power as "the capacity to make decisions by which others are bound" by force.[13]

There has been considerable flexibility regarding treatments of the concept of state. The main concern with it here, in prehistoric contexts such as that of Neopalatial Crete, is how it can and has been employed by archaeologists, and whether the pursuit of it offers the best methodological approach.

*Prehistoric States and the Region as a Research Unit*

The most commonly cited criteria for the identification of the state are a high degree of political institutionalization, the presence of a political and administrative capital or "central place," indications (mainly by size) of at least three settlement tiers, and well-demarcated territories.[14] Archaeological correlates to this definition are that a polity will have a single central place, the largest in the region, that not only settlement but also administrative hierarchies can be detected from settlement size;[15] and that political boundaries were always as well-marked geographically as those of modern administrative units.

These assumptions are reflected in the models employed by archaeologists, and it is common to take the region, or polity, as a research unit,[16] although it is becoming increasingly clear that regional cultural variation does not necessarily reflect a political reality. Marcus comments on the two different ways to define a region: a mental concept on the part of inhabitants, and a reality that exists in space (geography).[17] Archaeologists favor the latter, generally out of necessity, and have applied certain models, such as central place theory[18] and Thiessen polygons.[19] However, even at the regional level, there can be

[6] Trigger 2003, 92–119; see also Charlton and Nichols 1997, 1. Maisels (1990) uses the terms "city-state" and "village-state" similarly. The first is nucleated and self-sustaining, with private property, monetized relations, and civic institutions. The second is identified by kinship linearity and conical hierarchy and is highly ceremonial and redistributive. See Marcus and Feinman (1998, 8–10) for a criticism of the term "city-state."

[7] To the extent that Blanton (1998, 148) notes that too many subdivisions have been made.

[8] Smith (2003, 81) replaces it with the term "early complex polity," which I believe does not fully avoid the problems associated with the term "state." Polities are, at times, perceived as mini-states.

[9] E.g., Stein (1994, 13) writes: "Instead of viewing states as all-powerful, homogeneous entities, it is probably more accurate to characterize them as organizations operating within a social environment that, for a variety of reasons, *they* only partially control" (my italics). The "they" of such statements actually obscures the human relations behind them. See de Montmollin (1989, 13) for similar criticisms concerning the reification of society.

[10] Blanton (1998, 140) describes the state as "the major social arena within which the competition for power is played out in society." Such a definition is undoubtedly preferable, but the more static and traditional meaning still holds sway in most discussions of the state.

[11] E.g., Cherry (1978, 411) describes it as "a specific form of permanently stratified, hierarchical sociopolitical organization characterized by a high degree of internal heterogeneity and the existence of economic and political special interest groups, notably a managerial elite enjoying the benefits of effective concentration of coercive force and maintained by negative reciprocity in commodity, energy and information flows." Hall (1986, 1) argues that "to discuss the state is to consider the political."

[12] Geertz 1980, 121.

[13] Geertz 1980, 134.

[14] E.g., Giddens 1984, 246–47; Gledhill 1988, 4–11; Blanton 1998, 140; Marcus and Feinman 1998, 6–7; Chapman 2003, 48–9.

[15] This has been questioned, however (Driessen 2001, 55; Hamilakis 2002b, 185).

[16] Relaki 2004. The increasing importance of intensive survey in Aegean archaeology both mirrors and promotes such approaches.

[17] Marcus 2000, 238.

[18] Some economic functionalism is detectable in central place theory due to the views and influence of Christaller, who introduced the concept (Wagstaff 1986).

[19] With regard to the Early Bronze Age of the southern Levant, Philip (2003, 111) points out that the employment of Thiessen polygons "imposes a notion of fixed boundaries characteristic of present-day nation states, rather than the far more fluid system of land-rights and multiple access which characterize many traditional societies." See also Tilley (1994, 9–10), Potter and King (1995, 21), and Smith (2003, 45) for further criticisms of such modeling.

multiple hierarchies.[20] In other words, particular settlements (or various groups within settlements) might have multiple allegiances and concerns that fail to translate into a straightforward, dendritic hierarchical model.

A more nuanced approach may be seen in the peer-polity interaction model, not least in its separation of the cultural ("civilization") from the political ("polity").[21] The model fragments cultures, again being the natural product of the trend toward intensive survey and regional studies. The term "peer" implies equality between the various centers and polities,[22] but its application to ancient Greece demonstrates how the internal organization of neighboring regions may differ in terms of the scale and intensity of centralization mechanisms.[23] However, even this model fails to explore fully the issue of the nature(s) of the central places studied, or the possibility that there were several types (e.g., regional, local, economic, or ceremonial) or indeed specialized sites (e.g., harbor/trade sites), which in their own way formed a focal point in the landscape.

The relationship of the central place and the surrounding region is also historically specific, varying in emphasis in the political, economic, and ritual spheres. It is not necessarily the case that central places own territories as such, although administration and a writing system alone might indicate the presence of a state (with the modern associations of territory and land ownership).[24] However, administration indicates targeted communication or control *over* space, and not always *of* space and land. Land ownership is a deeply embedded Western concept, but there are examples, such as Geertz's "Negara" or Stone's view of Mesopotamia, of complex societies where the emphasis was on controlling people's labor rather than the land.[25] It is important to make a distinction between economic catchment areas and political units.[26] Furthermore, while central places may need to have territories for agricultural exploitation, whether they have clearly defined boundaries is another issue.[27] It has long been recognized that the various boundaries do not necessarily coincide and that these boundaries are fluid.[28]

### *North-Central Neopalatial Crete: Type-Site and Types of Site*

Since Sir Arthur Evans began excavating at Knossos in 1900, the homogeneity in the material culture of the Neopalatial period across Crete has often been assumed to reflect political unity. Evans published the site in a format that became a synthesis of everything that was known about the Minoans at the time,[29] and Knossos remains the Minoan cultural type-site.[30] A problem arises when the terms "Knossian" and "Minoan" are used interchangeably. This can be seen in studies of craftsmanship[31] and politics. Some scholars suggest that over the Protopalatial and Neopalatial periods the island became increasingly centralized under Knossos,[32] and that

[20] Chapman 2003, 94.

[21] Cherry 1986; Renfrew 1986.

[22] As with central place theory and Thiessen polygons, the peer-polity model assumes that a single site was in control of each polity, for early states and chiefdoms at least (Cherry 1986, fig. 2.2; Renfrew 1986, figs 1.1, 1.2).

[23] Snodgrass 1986. Both ethne and poleis engaged in competitive strategies involving material culture, at times in a forum outside the polity itself, such as a panhellenic sanctuary.

[24] Smith (2003, 5–6) gives examples of political landscapes that are voiced in terms of ownership of territory.

[25] Geertz 1980; Trigger 1993, 45; Stone 1997, 16 (albeit with reference to "slash-and-burn" agriculture); Hudson 1999, 458–59; Van Dommelen 1999, 278. Even if land ownership existed as a concept in Neopalatial Crete, it is difficult to reconstruct who owned it (Schoep 2002a, 190).

[26] Smith 2003, 153.

[27] This is recognized by proponents of peer-polity interaction, e.g., Cherry (1986, 24), who states clearly that the marked boundaries are "hypothetical" (Cherry 1986, fig. 2.2).

[28] E.g., Barth 1969. Haselgrove (1986, 10) suggests that in certain cases, "it may well be that the boundary should be accorded a role more prominent than the central place," a view practically untestable with archaeological evidence, unless ritual sites can be demonstrated to be boundary markers (de Polignac 1995). See Donnan and Wilson (1999) and Stark (1998) for studies of boundaries.

[29] Evans 1921, 1928, 1930, 1935.

[30] When a type-site has been established, other sites are automatically compared with it, stressing similarities rather than differences (Lloyd 1990, 54; Jones 1997, 49).

[31] The assumption prevails from Evans' time that great works of Minoan art originated with the "School of Knossos" (e.g., Evans 1921, 542–44 [on the fish fresco from Phylakopi]; 1921, 721 [on the Mycenaean Shaft Graves]). See also Wiener 1990; Soles 1995. Betancourt (1985, 140) argues that either the "Special Palatial" ceramic tradition originated at Knossos or itinerant craftsmen based at Knossos traveled to other sites. Rehak and Younger (1998, 129) suggest that "as a leader and innovator in artistic production, Knossos was surely the most important Neopalatial center in Crete"; it is unclear whether this importance is meant as artistic or political. Knappett (2004, 257) points out that Knossos' role in Minoan studies is also based on the fact that it is the largest and most long-lived site on Crete, "yet the status of Knossos as *exemplar* is double-edged: on the one hand it epitomizes, and on the other it stands apart." I would certainly hesitate to belittle Knossos' role on Crete; my point relates more to the slippage between the cultural and the sociopolitical.

[32] E.g., Hallager and Hallager 1995; Warren 1999, 902. See Schoep (1999, 201–2; 2002b) for discussion and references.

Knossos was the "Capital of Crete" in the Neopalatial period.[33] It is still true that "most writing about Minoan archaeology is pitched at the level of the civilization as a whole, rather than of individual polities within it."[34]

However, new approaches have challenged the traditional view of political unity, such as Cherry's application of the peer-polity interaction model.[35] Bennet has argued that "in periods when a single [administrative] center has existed, such a system has been imposed from outside,"[36] or the system was "probably unstable."[37] The location of these polities' boundaries and the nature of intersite relations remain poorly understood. An explicit search for a Knossian state has recently been undertaken by Warren but with the subtle distinction made between natural, political, social, economic, cultural, and religious borders.[38] However, Cunningham and Driessen have lately argued that "locating a state on Bronze Age Crete has always had more to do with redefining the term 'state' than anything else. Can a centralized state be found in survey data?. . . the answer is no."[39] This article attempts to address the same question from excavated, settlement data.

Figure 1 presents a map of the study area with both ritual and settlement sites marked.[40] The study area corresponds roughly to the modern eparchies of Malevyzion (west of Knossos), Temenos (the area around Mount Juktas to the coast), Pediada (the coastal and inland area between Knossos and Malia), and Lasithi (the area around the high altitude plain south of Malia).[41] It is apparent that most of the evidence discussed here is located in the region around Knossos rather than around Malia. Since the Malian region has been examined in two intensive surveys (the Lasithi plain and the Malian hinterland), and archaeologists have investigated the area in extensive surveys as well, this discrepancy is due not solely to fieldwork bias. In particular, features such as ashlar masonry can be detected on the surface in favorable circumstances.[42]

The term "landscape" has recently been applauded for its ambiguous and flexible usage.[43] While the landscape setting is appreciated in this approach, it is not viewed as the locale of boundaries but, in its own right, as the setting of myriad social negotiations. However, an understanding of how people got from A to B is important when investigating intersite relations. "Distances are useless. Times alone matter," stated Pendlebury, and figure 2 illustrates his walking times.[44] The importance of viewing distance in terms of time rather than space is indicated by the fact that he took two and a half hours to reach Juktas from Knossos but only three hours to reach Arkalochori from Vitsila, a much greater distance as the bird flies. The significance of river valleys is evident; the quickest route to Rethemnon is inland via the River Gazanos and not along the coast. Known Minoan ports are marked.[45] Additional routes located or suggested by others are also depicted.

The study of settlement hierarchies implies the existence of settlement levels, and these tiers are often constructed on the basis of size and elaboration. Of the sites in the area under study here, Knossos, Malia,

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[33] Cadogan 1984, 13. See also Evans 1928, 1; Wiener 1990, 150. Hood (1983, 132) has suggested, based on the Egyptian model, that the ruler of Knossos owned other palaces and great houses elsewhere, and traveled between them.

[34] Cherry 1986, 27.

[35] Cherry 1986; 1999, 19; Palaima 1990, 87–9; Driessen 2001. See Cadogan (1994, 1995) for the detection of Protopalatial polities or states. The clearest criticism of the idea of a homogeneous Neopalatial culture came not from an archaeologist but from a historian, Moses Finley (1968, 17); see also Dewolf et al. 1963, 35.

[36] Bennet 1990, 193. This is known at least for historic periods.

[37] Bennet 1990, 209. He points out that during the Neopalatial period, "there is nothing in the archaeological record to prove that any one site was in control of the others, although connections among the polities were strong" (Bennet 1990, 199–200), and suggests that the regional polities were "clearly defined" (Bennet 1990, 198).

[38] Warren 2004.

[39] Cunningham and Driessen 2004, 106.

[40] For detailed descriptions of particular sites, see Driessen and Macdonald 1997.

[41] I am very grateful for permission to read the Cretan gazetteer (Wilson et al. n.d.). See also Warren (2004) for a summary of recently discovered sites. It is clear that the survey conducted by Panagiotakis (2004) will greatly enrich our knowledge of the Pediada when it is fully published. Only five sites from his survey have been named and are described as strongholds (entries 32, 35, 42, 43, and 44 in fig. 1). The other sites have not been marked. See Rehak and Younger (1998) for an overview of all of Neopalatial Crete (and later).

[42] See, e.g., the discussion on Skalani and Vitsila below.

[43] Gosden and Head 1994; Layton and Ucko 1999.

[44] Pendlebury 1939, 7. See also Evans (1928, 60–92), Sakellarakis and Sapouna-Sakellaraki (1997, 71–3), and Panagiotakis (2004) for further Minoan routes.

[45] Gazi (Evans 1928, 231; Pendlebury et al. 1932–1933, 92; Hazzidakis 1934, 73); unnamed port at the mouth of the Giophyros River, leading to Vitsila (Evans 1928, 74–5, 231–32); Poros (Evans 1921, 298–99; 1928, 229–39; Schäfer 1991, 112–13; Dimopoulou-Rethemiotaki 2004); Amnissos (Schäfer 1991); Agios Theodoros, near Nirou Chani (Marinatos 1925–1926; Shaw 1990, 425–26); Malia (Guest-Papamanoli 1980; Psychoyos 1988; Raban 1991; see also Van Effenterre 1980, 75–9 for a more cautious view). It should be noted that shallow-hulled vessels could have been beached in a wider variety of places. A problem with such studies is the changes in coastal levels (Pirazzoli 1988; Rackham and Moody 1996, 15, 195). No Minoan traces

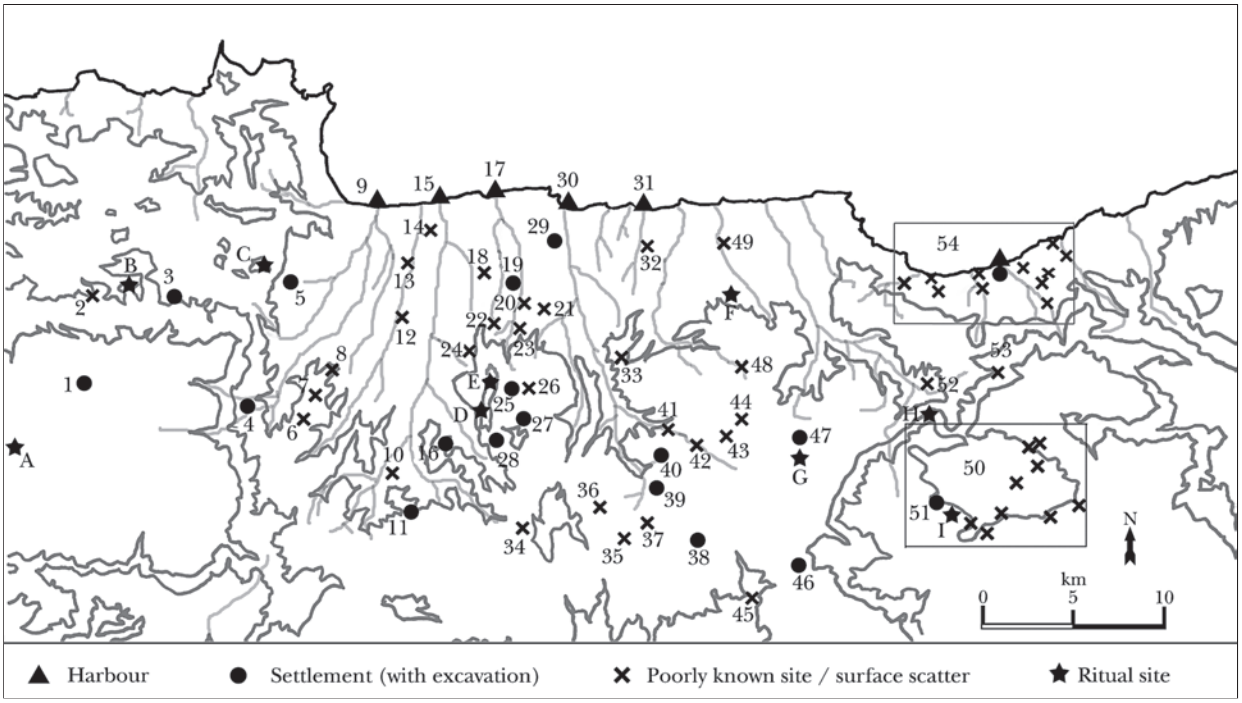


Fig. 1. Map of settlements and ports (*1–54*) and ritual sites (*a–h*): *1*, Zominthos; *2*, Gonies Lepria; *3*, Sklavokampos; *4*, Kroussonas; *5*, Tylissos; *6*, Pyrgou; *7*, Ayios Myron; *8*, Petrokephalo; *9*, Gazi; *10*, Pyrgos; *11*, Galeni; *12*, Athanati; *13*, Geophyrakia; *14*, Stavromenos; *15*, unnamed port (surface evidence from Evans [1928, 231]); *16*, Vitsila; *17*, Poros; *18*, Fortetsa; *19*, Knossos; *20*, Spilia; *21*, Skalani; *22*, Silamos; *23*, Karidaki; *24*, Ayios Silias; *25*, Archanes; *26*, Chomatolakkos; *27*, Xeri Kara; *28*, Vathypetro; *29*, Prasa; *30*, Amnissos; *31*, Nirou Chani; *32*, Anopoli-Kephali; *33*, Episkopi; *34*, Partheni; *35*, Patsideros-Mylos/Phytemata; *36*, Alagni; *37*, Choumeri; *38*, Arkolochori; *39*, Galatas; *40*, Voni; *41*, Saba; *42*, Zophoroi-Mylos; *43*, Apostoloi-Vatos; *44*, Apostoloi-Kores; *45*, Avli; *46*, Nipiditos; *47*, Kastelli; *48*, Smari; *49*, Gouves; *50*, Lasithi survey (Watrous 1982, maps 7 and 8: 10 MM III "main" sites marked only; not all continue in use in LM I); *51*, Plati; *52*, Avdou; *53*, Krasi; *54*, Malia (settlement and port?: preliminary results for the survey by Müller [1996, 1998]); *a*, Idaean cave; *b*, Gonies Philioremos; *c*, Pyrgos Tylissos (cave and peak sanctuary); *d*, Chosto Nero; *e*, Juktas; *f*, Skotino; *g*, Kefala-Liliano; *h*, Ayios Phaneromeni; *i*, Psychro.

and Galatas would occupy the (wide-ranging) top tier, followed by others of roughly 5 to 10 ha, such as Archanes,[46] Amnissos, Poros, Kastelli, and Tylissos.[47] This approach has the advantage of being able to incorporate survey data with excavated remains, but doubts have been raised concerning our ability to estimate population size from such a method.[48]

Many sites in north-central Crete could be classed as "central places," which is a broad group (Knossos, Malia, Galatas, Archanes, Tylissos, Nirou Chani, Kastelli, and possibly Vitsila).[49] These are large sites that managed to generate substantial resources and invest in elite modes of expression. All have revealed a central building (Tylissos has two), but only three have palaces (Knossos, Malia, and Galatas).[50] The quantity (and diversity) of potential central or focal sites in this area poses many questions. Can we distinguish between regional and local centers? Are only

that I am aware of have been reported at the mouth of the river valley that leads to Kastelli, although the area has not been intensively surveyed. No reports have as yet been published for the region around Chersonissos.

[46] As far as we are able to assess from excavated "windows."

[47] Branigan 2001, table 3.1; Whitelaw 2001a, 27. Of sites in the study area, Branigan (2001) lists Knossos (75 ha), Malia (50 ha), Galatas (25 ha), Archanes (8 ha), Amnissos (8 ha), Poros (8 ha), Kastelli (8 ha), and Tylissos (4 ha). Whitelaw (2004a) suggests a population of 14,000–18,000 for Neopalatial Knossos.

[48] See Van de Mieroop (1997, 94–7), with reference to the Mesopotamian case.

[49] Sites such as Vitsila (Evans 1928, 71–4; Marinatos 1955) have produced ashlar masonry and a density of surface ceramics, but lack of information concerning other correlates discussed in this article renders their incorporation problematic.

[50] The site of Archanes lies under the modern town, and the areas excavated so far have not revealed secure evidence for the palatial form. There is, however, a court, with an "exedra" (Sakellarakis and Sapouna-Sakellaraki 1997, 102–4), which has been partly excavated. It is the overall architectural elaboration and sheer size of the walls at Archanes-Tourkoyeitonia that renders feasible the hypothesis that this was a palace (though this is unproven).

palatial sites regional centers?[51] What is the relationship between these central places, and is each one fully autonomous?

The nonpalatial central buildings traditionally have been classified as "villas," which is another problematic term due to the diversity in their location, elaboration, and function, although they share a tendency to be constructed with ashlar masonry.[52] A distinction should be made between urban mansions and "country houses." Vathypetro is generally categorized as a villa but not a central place because of its proximity to Archanes, although its size and ceremonial and economic activities would otherwise make it a contender for the latter title.[53] The fact that central places are so difficult to identify—or to tell what they were central places of—suggests that power relations were much more complex in the Minoan world than modeling, such as central place theory, allows.

Intersite relationships have often been voiced in terms of either political dependency or autonomy. Evans suggested that Archanes was a "summer palace . . . of the Priest-Kings," presumably of Knossos, whereas the most recent excavators of the site have been keen to stress its independent nature,[54] referring to it as a palace. Cunningham and Driessen have argued that Archanes is "too rich, too large and too close to Knossos to function as a second-tier center distributing power from and sourcing goods to Knossos,"[55] but it must be stressed that nowhere on Crete is there anything as rich or as large as Knossos. To bring all sites to the same level would be to distort the evidence. However, "interdependency" (rather than dependency versus independence) and a "relational understanding of power" are here the preferred terms.[56] Power relations arise from social interaction rather than existing as a precondition of action.

A relational approach to power creates further problems for the demarcation of territories and boundaries. Whitelaw has suggested palatial territories and agricultural catchment areas for the main Neopalatial sites (fig. 3). While territories are depicted as bounded, there is some overlap among agricultural catchment areas, especially in the Knossos area. Knossos and Galatas are separated, which runs contrary to the excavator's interpretation, but particularly problematic is the relationship between Knossos and the possibly palatial Archanes. To draw a boundary line between them would result in Knossos being separated from the ritual site of Juktas. Given that there are strong reasons for supposing a close relation between Knossos and Juktas, this is unfeasible. It is, therefore, suggested that different spheres should be considered separately—those of ideology, the economy, and sociopolitics.[57] For example, Knossos has been perceived as the ceremonial, or cosmological, center of the island,[58] which emphasizes the noneconomic and nonpolitical aspects of control and/or influence. Currently, most agree that Knossos had cultural, ideological, and possibly religious influence over a broad area, if not the entire island, but it is becoming increasingly questioned whether this was political.[59]

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[51] We know from the case of Ayia Triada, outside the study area, that central places need not comprise palatial settlements.

[52] Hägg 1997. Further villas located in north-central Crete (excluding possible central places previously mentioned) include Amnissos, Prasa, Xeri Kara, and Vathypetro (all in the Temenos area surrounding the Juktas massif), Galeni, and possibly Zominthos, Sklavokampos, Kroussonas, Voni, and Nipiditos. McEnroe (1979, 1982) has explored Neopalatial houses in detail. His typology rests on "types of rooms, arrangements of rooms, constructional details, and size" (McEnroe 1982, 3). While this work is a useful reference point, the broad scope of the study means that the chronological and spatial resolutions are so wide that the contextual understanding of "villas" is weakened. E.g., all "Type 1" villas in tables 1 and 2 (McEnroe 1982) are found in north-central Crete, an observation that demands explanation. Achladia in the east is designated as Type 2 on the island-wide scheme, but in a more local context may have been perceived as Type 1. A relational approach to such buildings defies the construction of a single definition, but, methodologically, I prefer to consider aspects of elaborate construction (e.g., ashlar masonry and gypsum) and the presence of certain specialized forms (e.g., lustral basins) than function. Attempts have been made to allocate specific functions to certain sites. Nirou Chani has been interpreted as the residence of a religious functionary (Xanthoudidis 1922, 16), a private residence (Graham 1987, 58–9), the seat of a local ruler (Xanthoudidis 1922, 1; Cadogan 1976, 139–42), and a trade distribution center of ritual artifacts (Evans 1928, 284–85). Amnissos has been described as "a sort of royal bathing resort" (Marinatos 1960, 66). The specificity of these labels is misleading.

[53] Marinatos 1951; 1955; Driessen and Sakellarakis 1997.

[54] Evans 1928, 64; Sakellarakis and Sapouna-Sakellaraki 1997, 27. Warren (2002, 202) speaks of a hierarchical dependency between first-order sites and others, although he argues that "hierarchy and dependency do not necessarily imply control."

[55] Cunningham and Driessen 2004, 108.

[56] Schoep and Knappett (2004) ask whether complexity needs to imply the existence of a central authority, stressing the bottom-up and self-regulating processes in place that produce given kinds of social structure.

[57] Yoffee 1993, 69–71; see also Knappett 1999.

[58] Soles 1995. See also Geertz (1980) for a description of the 19th-century Balinese theater state as promoting the "myth of the exemplary center," where Klungkung's "orienting image of order was refracted through a series of lesser centers, modelled on it as it had been on Majapakit" (Geertz 1980, 16), although in no way did it reveal "overall domination by a 'single-centered apparatus state' under an absolute despot" (Geertz 1980, 24). See Pilali-Papasteriou (2004) for a recent discussion of Knossos and theocracy.

[59] Knappett and Schoep (2000) and Schoep (2002b) have suggested that Knossos' cultural dominance was also ideologi-

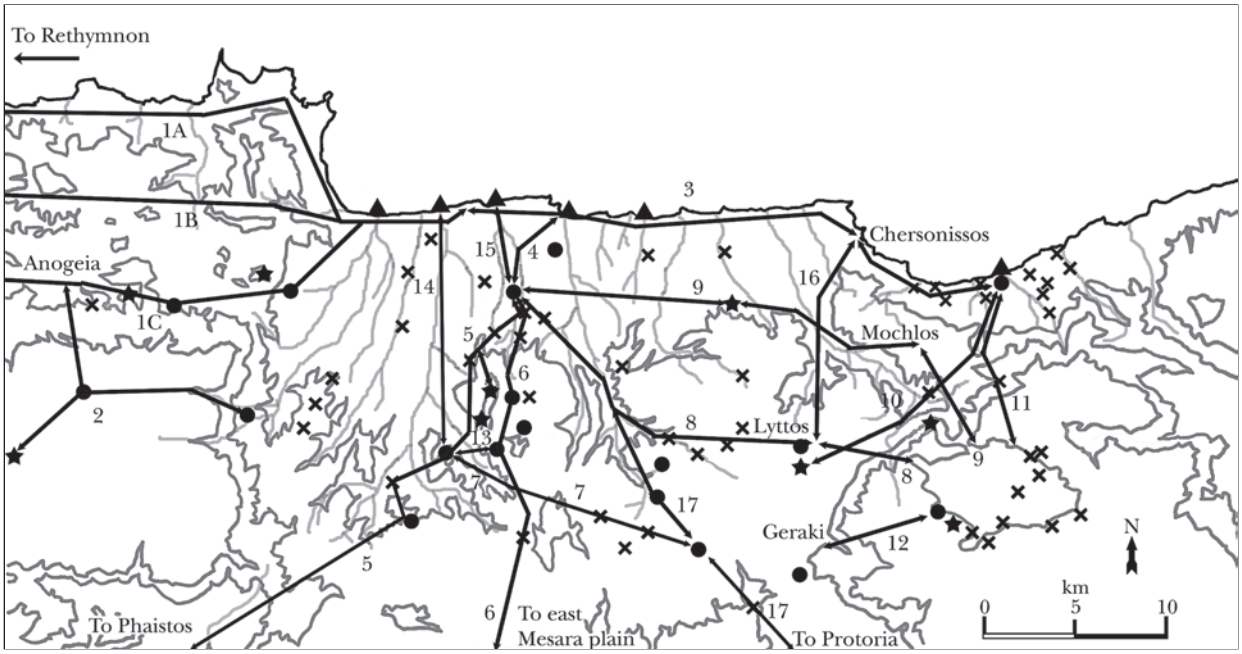


Fig. 2. Selected routes in north-central Crete, with Pendlebury's (1939) walking times (unless otherwise noted): *1A*, Heraklion to Rethymnon, 18 hrs.; *1B*, Heraklion to Rethymnon, 15 hrs.; *1C*, Heraklion to Rethymnon, 14 hrs.; *2*, Idaean cave to Anogeia, 4.5 hrs., Idaean cave to Kroussonas, 4.5 hrs.; *3*, Heraklion to Chersonissos, 4.5 hrs., Chersonissos to Malia, 1.5 hrs.; *4*, Schäfer's (1991) route from Amnissos to Knossos; *5*, Evans' (1928) Great Road south from Knossos to Phaistos, 12 hrs. (Pendlebury), Knossos to Juktas, 2.5 hrs. (Pendlebury); *6*, Knossos to Archanes, 1+ hr., Archanes to Mesara plain, 5 hrs.; *7*, Vitsila to Arkalochori, 3 hrs.; *8*, Knossos to Lyttos, 5 hrs., Lyttos to Lasithi, 4 hrs.; *9*, Knossos to Skotino, 3 hrs., Skotino to Mochos, 3.5 hrs., Mochos from Lasithi, 2.5 hrs.; *10*, Rethemiotakis (1990) route from Malia to Liliano; *11*, Malia to the Lasithi plain, Malia from Krasi, 3.5 hrs.; *12*, Plati to Geraki, 2.75 hrs.; *13*, approach to Vathypetro from the west (Driessen and Sakellarakis 1997); *14*, Evans' (1928) route from Vitsila to the coast; *15*, Knossos to Poros, 50 mins.; *16*, Lyttos to Chersonissos, 3.5 hrs.; *17*, association of the hoard at Arkalochori with Galatas (Rethemiotakis 1999a) and route to Protoria (Warren 2004).

*Social Complexity and Social Strategies*

The original intention of this study was to undertake a regional comparison of the Knossian and Malian areas. It became clear, however, that to compare neighboring regions, it was necessary to demarcate these units. That this was impossible encouraged the adoption of a more flexible starting point. In the Neopalatial case, we appear to have a state-level, hierarchical society, but I shall not attempt to define the regional boundaries of states. A new methodological tactic is needed, and the term "early complex society" is advocated here. The word "complexity" has certain overtones—for example, Cohen has articulated "the myth of simplicity and the 'face-to-face' society"[60]—but it also has strengths.

"Social complexity" avoids the overtly political implications of the state.[61] I endorse a wider understanding of power, which incorporates all social strategies and dynamics, not only the ability to make (political) decisions and mobilize resources. "Strategies are, according to Bourdieu, the ongoing result of the interaction between the dispositions of the habitus and the constraints and possibilities which are the reality of any given social fact—whether it be cultural consumption, landholding, education or whatever."[62] The term "social strategies" as used here recognizes

cal, and so held a significant political component. In this article, ideological control is taken to be distinct from the political, which too often has connotations of top-down physical or military control or force. It is argued here that active participation with (high) cultural forms and practices indicates more of a two-way process.

[60] Cohen 1985, 28–33. But see Chapman (2003, 4–8) for a defense of the term.

[61] Smith's (2003, 103–4) definition of "complex" is weighted toward the political: "Inequality in access to resources, variability in social roles, differentiation of decision-making bodies, permanence of institutions, and the distribution and flow of symbols, meanings and practices." A more all-encompassing characterization is advocated here.

[62] Jenkins 1992, 83. See Bourdieu (1977) for the concept of habitus.

that practices may incorporate a variety of aspirations and intentions, depending on the make-up of the social groups involved and the situations in which they are participating. It also acknowledges that intentions and strategies may not be successful.

The relationship between power and wealth is also not clear-cut; the presence of a decision-making body cannot necessarily be assumed from demonstrations of economic wealth or elaborate display. The trappings of elite material culture may be expected to be more widely distributed than (the spatial residence of) the actual elite body because of emulation; if this is the case, it would be incorrect to assume that a wide distribution of elite artifacts necessarily reflects heterarchy or factions.[63]

*Methodology*

For this investigation, first, an analysis of spatial distribution patterns is made; second, a more contextualized discussion of palatial and ritual sites is undertaken. As in many parts of the world, synthetic approaches to Minoan archaeology are hindered by too much or too little data.[64] This contradictory position fades in significance when the sheer volume of unpublished data is considered. However, much has been published; it is a well-known point, but still worth reiterating, that earlier excavation techniques do not provide the type and quantity of data required for more recent research questions. The present synthesis is an attempt to incorporate highly variable data with the understanding that many adjustments will be required with further excavations (or publications).

Drawing distinct categories of the actual material culture in line with the separate spheres mentioned above (e.g., the economy and ideology) is highly problematic. In particular, the distinction between the ritual and the secular fails to hold for certain types; for example, rhyta have both domestic and ritual functions.[65] Furthermore, the ritual status of figurines is confirmed by their presence on ritual sites in the landscape, but the basic clay objects should not be identified as wealth artifacts like those made from prestige materials.[66] The confusion between "ritual" and "prestige" artifacts is particularly acute in settlement contexts.

Previous work on Neopalatial regionalism has tended to focus on one type of data in isolation, for example, administration or architecture. My approach builds on such work and involves the distribution patterns of a variety of elite features of conspicuous consumption[67] and certain functions; furthermore, I examine how these patterns correlate. This combination of features consists of (1) the ostentation of elite paraphernalia (architectural elaboration [e.g., presence of ashlar, gypsum, frescoes], nonadministrative uses of Linear A, prestige artifacts); (2) control networks (administrative uses of Linear A, organization of craft production, storage of agricultural goods); and (3) the performance of formalized ceremonies (presence of halls, lustral basins or pillar crypts, and ritual artifacts). Because of the patchy nature of Neopalatial burial evidence, cemeteries are not discussed here.[68] Since the publication of *The Troubled Island*,[69] island-wide changes within the Neopalatial period are impossible to ignore, but here we focus on the spatial synthesis.[70]

## ANALYSIS BY FEATURE OF NORTH-CENTRAL NEOPALATIAL CRETE

*Building Size and Architectural Elaboration*

The buildings have been grouped by size (fig. 4).[71] The palaces at Knossos (ca. 13,000 m$^2$) and Malia (ca. 9000 m$^2$)[72] are too large for the scale, and that at Galatas is not yet fully excavated.[73] The fall-off in

[63] Chase and Chase 1992a, 7.

[64] Bennet 2002, 218.

[65] Koehl 1981. The distinction between (nonfunctional) ritual and (practical) secular is arguably a product of post-Enlightenment rationalism (Brück 1999).

[66] There are no published reports of basic clay figurines at Knossos, but there are very elaborate examples, such as the famous Snake Goddesses from the palace. However, the abundance of figurines recovered from the peak sanctuary at Juktas (connected to Knossos) testifies that the practice of depositing simple figurines was performed in the landscape (Zeimbeki 2004).

[67] See Wolpert (2004) for the importance of qualifying this term.

[68] We look forward to the full publication of the Neopalatial cemetery at Poros (Muhly 1992; Dimopoulou 1999; Dimopoulou-Rethemiotaki 2004). At Knossos itself, cemeteries were usually established in LM II after something of a lull in mortuary activity (Alberti 2004, 127; Preston 2004, 138). One important exception is the Mavro Spelio cemetery, in which a gold signet ring and a silver pin were found, both inscribed with Linear A (Forsdyke 1926–1927; Godart and Olivier 1982). Isolated finds of burials, e.g., at Petrokephalo, Agios Myron, and Stavromenos (see Pendlebury et al. 1932–1933), have nonetheless been marked on fig. 1, since they may well indicate a nearby settlement. See Rehak and Younger (1998, 110–11) for a summary of Neopalatial burial.

[69] Driessen and Macdonald 1997.

[70] Adams (unpublished) provides an attempt to deal with temporality.

[71] Areas after Whitelaw 2001b.

[72] Lloyd (1990, 124, 293 n. 100) notes that calculations for the Palace at Malia range from 8,000 m$^2$ to over 10,000 m$^2$.

[73] The central buildings at Archanes and Kastelli are not depicted either. The MM III–LM IA building at Galeni (on the route from Knossos to the Mesara) also belongs to this group, but the site is so poorly known and preliminarily published that it is not included here (Banou and Serpetsidaki 2001).

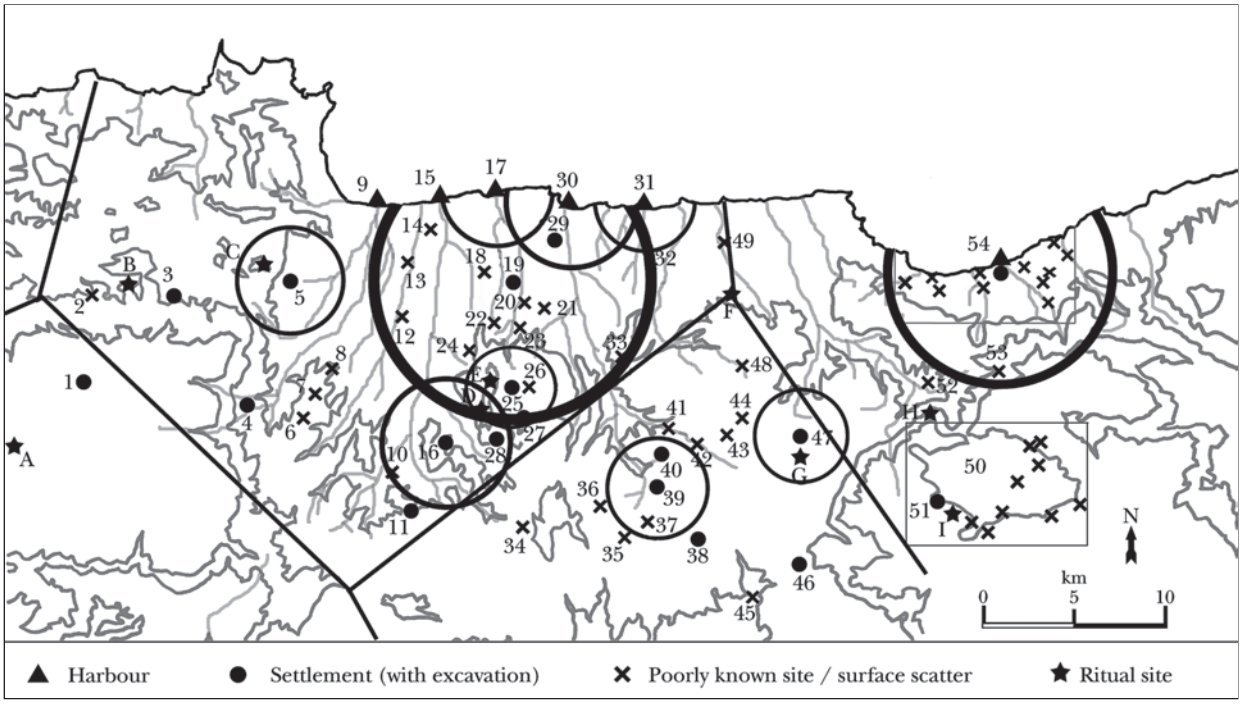


Fig. 3. Estimated palatial territories and agricultural catchments for major Neopalatial sites in north-central Crete, with Kastelli and Nirou Chani added (see fig. 1 for key to sites) (after Whitelaw 2004a, fig. 10.6).

building sizes is gradual, but certain groupings emerge. So far, one very large building has been excavated at both Knossos (the Little Palace, with its annex, the Unexplored Mansion)[74] and Malia (Maison Epsilon), whereas the central buildings at Zominthos[75] and Vathypetro form the focal point of otherwise small settlements. The next suggested grouping (ca. 300–600 m$^2$) includes two Malian buildings and seven central buildings in nonpalatial settlements.[76] The remaining buildings are too slight in variation to group, but there is a notable cluster of Knossian and Malian urban buildings.[77]

All of the (excavated) central buildings of larger settlements have courts (Knossos, Malia, Archanes, Galatas, and Nirou Chani), while Kastelli has evidence for the formalized use of outside space with a "processional way."[78] The West Building at Vathypetro also has an open space, between the covered porch and tripartite shrine[79] and a courtyard to the west.[80] The palaces at Knossos and Malia have both central and western courts, while Galatas has a central court (the area to the west is poorly understood).[81] The other courts are also associated with ritual elements: horns of consecration were found in the courts at Nirou Chani[82] and Vathypetro,[83] while ritual use has been suggested for the exedra in the court at Archanes.[84]

In terms of construction techniques, we focus here on ashlar masonry and the use of gypsum (fig. 5).

[74] Poblome and Dumon 1987–1988; Hitchcock and Preziosi 1997.

[75] Zominthos lies on route to the Idaean cave from Sklavokampos, at the crossroads leading to Kroussonas. Very little of the LM IA building, with well-preserved walls of roughly hewn blocks, has been excavated to date, although further work is in progress (Sakellarakis 1983; 2004; Driessen and Macdonald 1997, 126). See also reports in Mylonas (1987, 139–41) and Petrakos (1989, 165–72).

[76] The Unexplored Mansion (counted as part of the Little Palace) and the Northwest Treasury (probably an annex to the palace) at Knossos also belong to this group, if regarded as self-sufficient.

[77] See Adams 2004a.

[78] Rethemiotakis 1997, 37–40, fig. 6. See also Whitley (2003, 79) for a "processional way" running along the west facade of the Palace at Galatas. Sites such as Tylissos and Amnissos have not been excavated extensively enough for comment.

[79] Shaw 1978a, 442–46; Driessen and Sakellarakis 1997.

[80] Driessen and Sakellarakis 1997, 69.

[81] For discussions of palatial courts, see, e.g., Davis 1987; Marinatos 1987; Palyvou 2002; Driessen 2004.

[82] By a structure that was either an altar or the entrance to another building (Driessen and Macdonald 1997, 179).

[83] Between the tripartite shrine and the columned porch.

[84] Sakellarakis and Sapouna-Sakellaraki 1997, 120–29. Furthermore, the Theatral Area at Archanes has been associated with the central building, although they lie some distance apart. A stepped altar and horns of consecration were recovered from the Theatral Area.

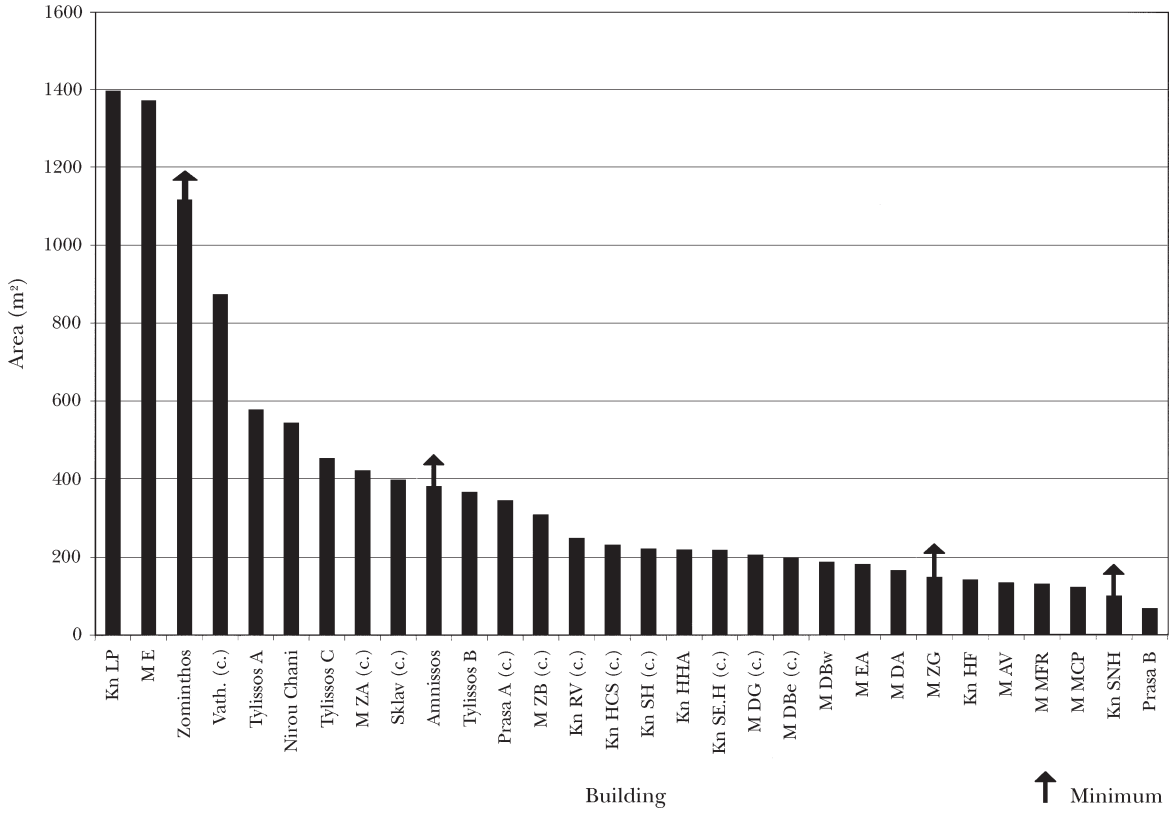


Fig. 4. Building areas in north-central Crete: *Kn LP*: Knossos, Little Palace and the Unexplored Mansion; *M E*: Malia, Maison Epsilon; *Vath*: Vathypetro; *M ZA*: Malia, Maison Zeta Alpha; *Sklav*: Sklavokampos; *M ZB*: Malia, Maison Zeta Beta; *Kn RV*: Knossos, Royal Villa; *Kn HCS*: Knossos, House of the Chancel Screen; *Kn SH*: Knossos, South House; *Kn HHA*: Knossos, Hogarth's House A; *Kn SE.H*: Knossos, Southeast House; *M DG*: Malia, Maison Delta Gamma; *M DBe*: Malia, Maison Delta Beta East; *M DBw*: Malia, Maison Delta Beta West: *M EA*: Malia, Maison Epsilon Alpha; *M DA*: Malia, Maison Delta Alpha; *M ZG*: Malia, Maison Zeta Gamma; *Kn HF*: Knossos, House of the Frescoes; *M AV*: Malia, house at Ayia Varvara; *M MFR*: Malia, Maison de la Façade à Redans; *M MCP*: Malia, Maison de la Cave au Pilier; *Kn SNH*: Knossos, Stratigraphical Excavations North House (after Whitelaw 2001b).

There is a dense concentration of sites with ashlar in the Temenos region (around Juktas), namely Knossos, Amnissos, Prasa,[85] Skalani,[86] Archanes, Xeri Kara,[87] Vathypetro, Vitsila, and Galeni. Farther afield, Nirou Chani, Kastelli, Tylissos, and Sklavokampos have ashlar masonry,[88] while Malia sits in a region apparently otherwise empty of the use of ashlar. While ashlar masonry was employed widely across the landscape, there are gradations of use. For example, the ashlar doorjambs at Sklavokampos clearly do not reflect a level of investment as seen in the north wing at Galatas, which itself pales in comparison with the situation at Knossos.

The import and use of gypsum is more selective; only Knossos, Nirou Chani, Archanes, Galatas, and Amnissos in north-central Crete used it. Again, there are gradations; the Villa of the Lilies at Amnissos utilized gypsum mainly for doorjambs, whereas Knossos and Nirou Chani used it throughout.[89] Given that gypsum is likely to have originated from Gypsades Hill, Knossos, its presence at other sites may indicate a special relationship with Knossos.[90] It is vital not to

[85] Platon 1951; Driessen and Macdonald 1997, 137–38. Two buildings have been (partly) excavated.

[86] Sakellarakis and Sapouna-Sakellaraki (1997, 68), reporting on Evans' finds of surface scatter and "dressed blocks of poros incised with mason's marks."

[87] Platon 1958, 467; Chrysoulaki 1987; Driessen and Macdonald 1997, 175–76. The remains of this building are fragmentary, but they appear to reflect two phases, both belonging to the LM IA period.

[88] It is unclear whether the buildings in the settlement at Poros incorporated ashlar; such houses are noted by Dimopoulou (1997, 437), but this is unclear from the images provided.

[89] Shaw 1971, 20–3; Chlouveraki 2002.

[90] Chlouveraki (2002, 29) states that the use of gypsum in architecture was a Knossian fashion, "which expanded to sites that were more closely related to the palatial center of Knossos."

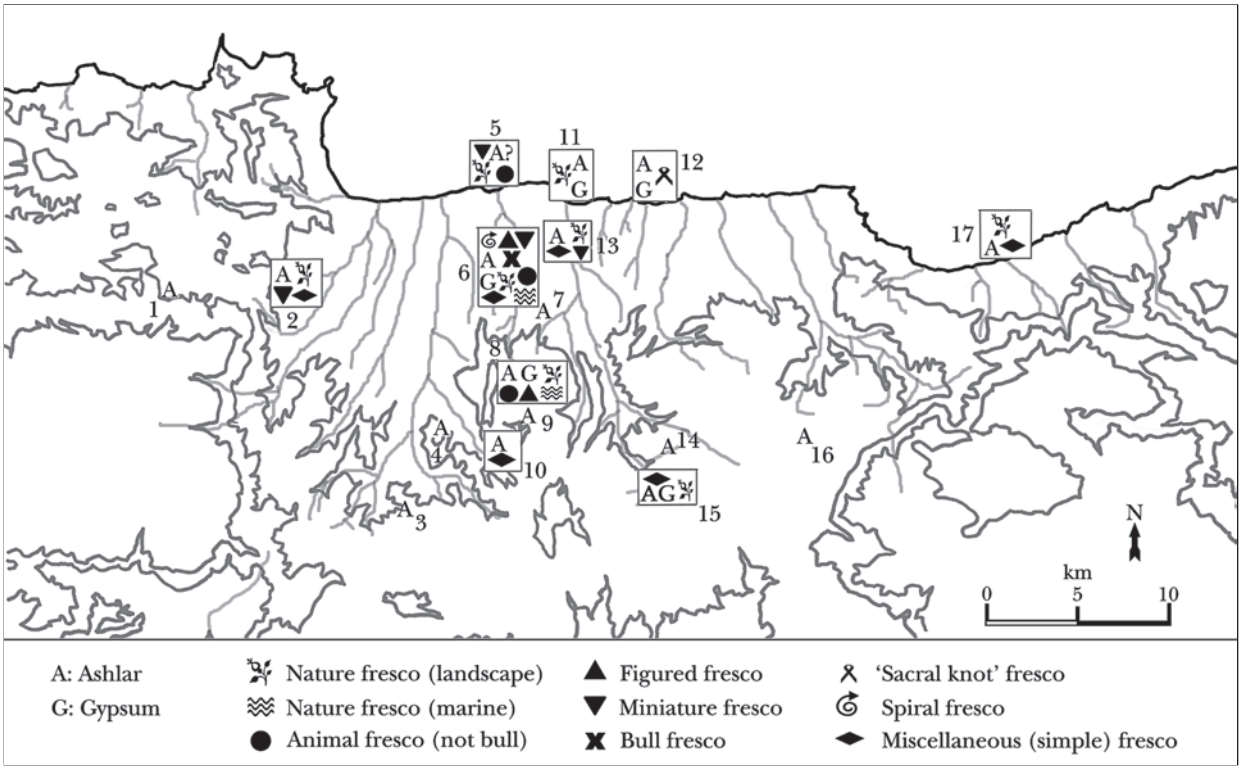


Fig. 5. Distribution map of architectural elaboration: *1*, Sklavokampos; *2*, Tylissos; *3*, Galeni; *4*, Vitsila; *5*, Poros; *6*, Knossos; *7*, Skalani; *8*, Archanes; *9*, Xeri Kara; *10*, Vathypetro; *11*, Amnissos; *12*, Nirou Chani; *13*, Prasa; *14*, Voni; *15*, Galatas; *16*, Kastelli; *17*, Malia.

take an overly simplistic view of this relationship. To imply that one site controlled another because it provided it with raw materials is an undemonstrated assumption.[91] Certain absences of the use of gypsum, such as at Malia, may be due purely to the distance from quarries.

Wall painting is the final feature of this category of architectural elaboration (see fig. 5).[92] Although such evidence is extremely fragmentary, variation in the choices of image may be discerned, from simple bands to complex figurative iconography. Poros has revealed frescoes of flying birds and floral designs;[93] thus the Knossian harbor enjoyed certain luxuries apparently not shared by the Palace at Malia. The Villa of the Lilies at Amnissos is named after its floral frescoes.[94] Nirou Chani had the unique program of sacral knot depictions,[95] and the inhabitants of the Tourkoyeitonia building at Archanes commissioned a wide variety of motifs.[96] Miniature figurative frescoes have been found at Tylissos,[97] but the fresco pro-

[91] Paton and Schneider (1999, 296) discuss the later, Roman case of colored marble imported to Cretan cities in order for them to transform "their own urban surroundings more and more into a Roman landscape." Architectural stone could, therefore, be used in this manner. However, the motivation for the transportation of Minoan gypsum (export on the part of Knossos, import on the initiative of Galatas) is far from clear. A further example of the transportation of architectural stone is that by the "palatial" elite at Gournia from Mochlos. Soles (2002, 128) asks: "What was the relationship of Mochlos to Gournia? It must have been close, the two sites sharing a common source of sandstone and using it in identical ways, and producing pottery with very similar decoration." His answer is a relationship of interdependence, of different social strategies that met in mutual (perhaps economic) interests. There is no reason to assume political control of one elite by another—and the material record has yet to demonstrate that for Knossos and Galatas, from architectural materials and ceramics at least.

[92] Cameron 1974; Immerwahr 1990; Hood 2000a; 2000b.

[93] The birds were found in an MM III–LM I building in the Anemomylia area (Shaw 1978b). Two additional buildings with decorative frescoes were found at the Psychoyoudakis plot, in the workshop area (Dimopoulou-Rethemiotaki 1998, 451).

[94] See Cameron 1978.

[95] Evans 1928, 284. An ivory example of the sacral knot was found north of the pillar crypt in the Southeast House, Knossos (Evans 1921, 430–35).

[96] E.g., a woman wearing a flounced skirt, animals, and plants (Sakellarakis and Sapouna-Sakellaraki 1997, 82, 488–502).

[97] Shaw 1972.

gram from the Palace at Knossos is unique.[98] There is a clear concentration of wall paintings in and around Knossos, which matches the use of gypsum fairly closely.[99]

In summary, there is a gathering of certain aspects of architectural elaboration around the Juktas massif. Exceptions to this are the central buildings of large settlements, such as Malia, Tylissos, and Kastelli.

*Ceremonial Features: Formalization and Idiosyncrasies*

The construction of halls and other "ritual" architectural features implies the formalization, if not necessarily the ritualization, of (elite?) practices.[100] It is, therefore, a rather different category from architectural elaboration, which may simply reflect economic wealth. However, this is a tenuous assumption, demonstrating the need to work from multilayered data sets.

The Minoan hall represents a highly formalized unit that became particularly popular in the earlier part of the Neopalatial period.[101] It constitutes three sections: hall, forehall, and light well; these are separated by pillars or pier-and-door partitions, which allow maximum flexibility in terms of access, light, and air (fig. 6). Not only is this type of hall commonly found throughout the sites of Knossos and Malia,[102] but it is also widely distributed across north-central Crete. In the case of Amnissos (Villa of the Lilies), it forms the only type of hall found so far. Those at Tylissos (Buildings A and C), Amnissos, and Vathypetro[103] are set back from the entrance, whereas they served as entrance halls at Nirou Chani and Archanes-Tourkoyeitonia. Both the latter Minoan halls faced onto courts (which acted as light wells). This system provided an ostentatious entry into these nonpalatial buildings (both of which also used gypsum).

There are other kinds of halls. The chancel screen hall is a specifically Knossian feature, found only in the Royal Villa, the House of the Chancel Screen, and the House of the High Priest (fig. 7).[104] In contrast, impluvium halls similar to the so-called Palaikastro hall have been found in Maison Epsilon at Malia, the Palace at Galatas, Vathypetro, and possibly Sklavokampos.[105] Again, there is variation concerning the proximity of the impluvium halls to entrances; at Vathypetro and Sklavokampos they were entrance halls. Benched halls, such as Hall 10 at Archanes[106] and Hall 12 at Nirou Chani,[107] are also fairly common. Sklavokampos and Xeri Kara have halls of nonstandardized kinds (fig. 8).[108]

Lustral basins are sunken rooms, entered by a dog-legged or L-shaped series of steps (fig. 9).[109] The coupling of Minoan hall and lustral basin is common in the Neopalatial period, occuring at Knossos, Malia, Tylissos, Amnissos, possibly Vathypetro,[110] Nirou Chani,[111] and Archanes.[112] With the exceptions of

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[98] See Immerwahr 1990. The dating of the Knossian frescoes is highly problematic. E.g., the "procession fresco" that leads into the palace from the west entrance probably postdates the Neopalatial period, but there is a Neopalatial procession fresco in the grand staircase area (Cameron 1978, 587–89). The palace is also notable for its bull imagery. The only type not noted at Knossos is that of the sacral knot as found at Nirou Chani. However, this is found on the LM II–LM IIIA *La Parisienne* fresco, in her hair (Evans 1935, 385).

[99] E.g., Poros and Tylissos had wall paintings only.

[100] I use the term "formalization" rather than "institutionalization," since the latter has connotations that lean strongly toward the political.

[101] Driessen 1982; Marinatos and Hägg 1986; Nordfelt 1987; Palyvou 1987; Hitchcock 2000. Driessen (1982, 30) notes the tendency for Minoan halls to be located in central Crete.

[102] See Adams 2004a, figs. 3 and 7.

[103] This example is uncertain (Driessen and Sakellarakis 1997, 70).

[104] See Gesell (1985, 20–1) for a description of this architectural type; its distinguishing feature is a niche or altar with balustrade at the back of the hall. Ritual artifacts have been found only in the House of the High Priest (Evans 1935, 202–15), but they all clearly served as a ceremonial focal point of some kind. The nature of the hall at Kastelli is unclear, and it is not fully excavated. The excavator has noted a feature reminiscent of the Knossian chancel screen hall (Rethemiotakis 1997). It is here categorized as "other hall." Similarly, Hall 10 at Archanes has a raised dais in the center of the north wall (Sakellarakis and Sapouna-Sakellaraki 1997, 101), but it is not directly comparable; it is marked as "other hall" on fig. 8.

[105] Driessen 1989–1990, 14. This consists of a space with at least four columns in the center and a depression in the ground to collect rainwater (Maison Epsilon) or for a hearth (Galatas). There was no depression in the example at Vathypetro. The hall at Sklavokampos is unusual in that its northeastern pillar is replaced by the southwestern corner of Room 9; this has been marked with a "?" on fig. 8.

[106] Sakellarakis and Sapouna-Sakellaraki 1997, 98–102.

[107] Xanthoudidis 1922, 7.

[108] The hall in the northeastern quarter of Sklavokampos was entered via ashlar pier-and-door doorjambs, but the normal layout in Minoan halls is the subdivision by pier-and-door partitions. This is a good example of the idiosyncratic interpretation of a standardized form.

[109] Platon 1967; Alexiou 1972. Evans (1935, 937) suggested, on the basis of "oil flasks," that the function of these rooms was ritual anointing. Graham (1977) argued that they were used for bathing as well, but the absence of drains makes this interpretation unlikely.

[110] Driessen and Sakellarakis 1997, 70.

[111] Space 7: McEnroe 1982, 5 (who queried its status as a full lustral basin); Gesell 1985, 116–17; Driessen and Macdonald 1997, 59–61. However, Fotou (1997, 43) argues that the partition wall never existed. This is the space that Xanthoudidis (1922, 13) believed to be a bronzesmith's workshop, although the evidence for this is very weak.

[112] This lustral basin is not fully excavated (Sakellarakis and Sapouna-Sakellaraki 1997, 100–1). It is not marked on fig. 8.

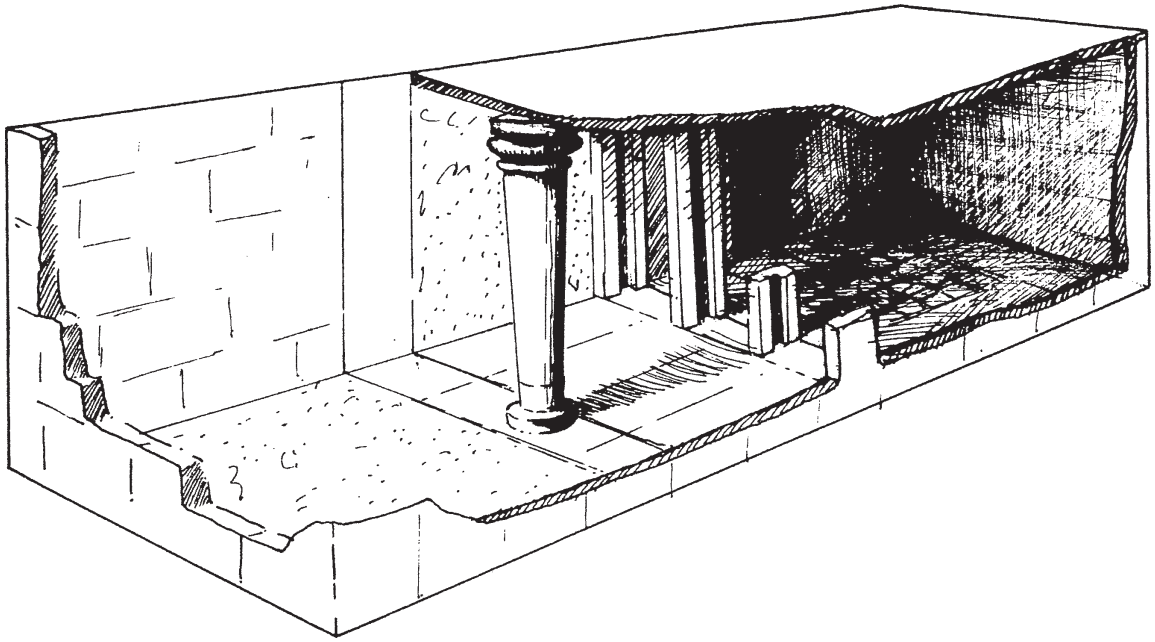

Fig. 6. Reconstruction of a Minoan hall (Driessen 1982, fig. 1).

Malia and Tylissos, these sites lie in the modern Temenos eparchy. At Knossos and Malia, they occur in both the palaces and other urban buildings. No building has revealed a lustral basin without a Minoan hall,[113] but the central building at Galatas has not yet yielded a lustral basin.[114] This site lies outside, but in view of, the immediate area of the Juktas massif.

The pillar crypt[115] appears to be a particularly Knossian phenomenon, although one has been identified in the Palace at Malia,[116] and this interpretation has been suggested for rooms at Tylissos and Vathypetro.[117] This is a problematic category, since many of the Knossian examples were reused at a later date, and it is unclear whether the pillar per se was the focal point. It has been argued that pillared rooms were storerooms; cultic use has generally been ascribed on the basis of mason's marks on the pillars or vats in the floor (for libations) (fig. 10).[118] Knossos appears to have adopted the pillar crypt (and its accompanying practices) in the Neopalatial period,[119] and its concentration at the site suggests that it served as a marker of Knossian identity.[120] As we have seen,

[113] With the exception of the Malian Maison Epsilon.

[114] All such observations regarding the Palace at Galatas must remain preliminary pending further excavation and publication; in particular, the north wing will shed much light on the nature of the complex (Whitley 2004, 78–9).

[115] This category is probably the most problematic discussed in the article. Evans excavated what appears to be ritual pillar crypts (with upper pillared rooms) in the Palace at Knossos, Southeast House, South House, Royal Villa, and Hogarth's House B, but it is highly debatable whether the feature is "architecturally distinctive" as Gesell (1985, 26) believes (although she also states that the presence of a double axe is of particular importance). E.g., the pillared rooms in the Little Palace are unlikely to have been ritual (Hatzaki 1996, 36, contra Gesell 1985, 27, 94). Many pillared rooms were probably used for storage (Begg 1975, 29; Rehak and Younger 1998, 109).

[116] Gesell 1985, 105. This varies from the general Knossian type; e.g., there are two pillars rather than one.

[117] Gesell (1985, 135) has ascribed Room 3 in Tylissos Building A as a pillar crypt. This identification appears to be based on a double-axe base and a bronze figurine (fallen from above). The presence of animal bones need not imply ritual use (pace Platon 1954, 451). Hazzidakis (1934, 14–15) notes that there are no mason's marks on the pillar, which are common in Knossian pillar crypts, and identifies the room as a storeroom. Since he also dated some of the pithoi to MM III, it was probably used as a storeroom until the (LM IB) destruction. Gesell (1985, 136; see also Platon 1954, 450–51) also identified Room 2 in Building C as a pillar crypt. Some ritual activity may have occurred here (horns of consecration were found in the adjacent Room 3), but features such as the throne base and temenos wall are ambiguous. This is marked as "Other ritual space" on fig. 8 as a compromise. Gesell's identifications are somewhat surprising given that similar spaces elsewhere are not identified as pillar crypts. E.g., Driessen and Sakellarakis (1997, 70) suggest that Room 40 at Vathypetro "may have served as some kind of pillar crypt" before being used as a production area, but this does not appear in Gesell's catalogue. Neither example is marked on fig. 8.

[118] Gesell 1985, 26–9.

[119] There are very few examples from the Protopalatial period (Gesell 1985, 10).

[120] Pillar crypts, or ritual areas with pillars in them, occur in the palace, the Royal Villa, the Southeast House, the House of the Chancel Screen, the South House, and Hogarth's House B.

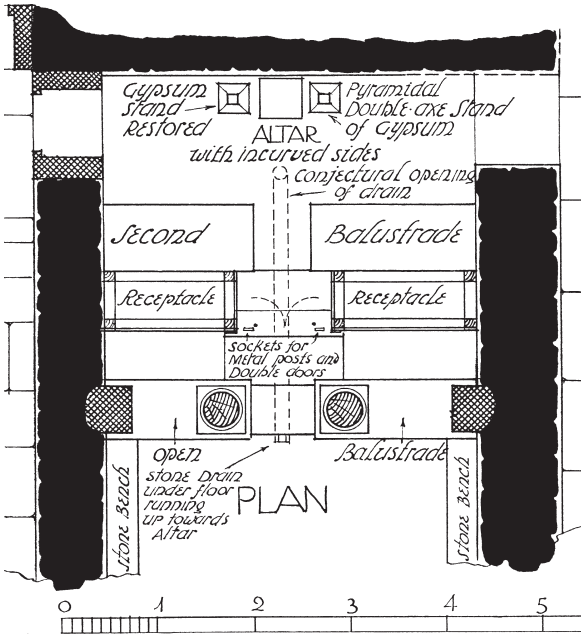


Fig. 7. Plan of the chancel screen hall from the High Priest's House (Evans 1935, fig. 159; © The Arthur Evans Trust, reproduced by permission of Paterson Marsh Ltd.).

lustral basins are not as geographically restricted, and the earliest known example comes from Quartier Mu at Malia.[121] Architectural ceremonial areas also include rarer types, such as the tripartite shrine at Vathypetro (and reconstructed on the west side of the central court at Knossos).[122]

Broad categories of formalized architectural units can be depicted in the material record, although they defy strict boundaries and interpretations. The most frequently found type of hall is the Minoan hall, but the wide variety of other kinds demonstrates more idiosyncratic tastes of those commissioning them. Knossos, Tylissos, Amnissos, Malia, and possibly Vathypetro have buildings that incorporated both Minoan halls and lustral basins. Pillar crypts are found at Knossos—the single exception being Malia, which again sits in a void. Malia is the main omission to the geographical concentration of elites who adopted these formalized units in the Temenos area, although Sklavokampos, Tylissos, Nirou Chani, Galatas, and Kastelli form a medium-distance halo around Knossos.

*Ceremonial and Prestige Assemblages*

Overall, this analysis is weighed toward architecture rather than movable artifacts, which are likely to be looted or taken away by those abandoning the site. Movable artifacts make up the most problematic category in terms of unpublished material. Recent work on the cultural biographies of artifacts is fascinating, but it also highlights the difficulties of interpretation, such as the simple distinctions between storage, mid use, and deliberate deposition, as well as between a single-owner artifact and an heirloom.[123]

Here, we focus on assemblages of ceremonial and prestige artifacts rather than attempt quantitative, or even qualitative, analyses of set types. A detailed discussion of the diversity within types (e.g., the wide range of stone vases) is not included.[124] Instead, we consider cultic assemblages that are not associated with formalized architecture, which might elucidate certain practices, and assemblages of prestige artifacts, which might shed light on wealth and status. However, a broad-brush outline is given of the presence and absence of various types of artifacts in table 1. The artifacts begin at the upper part of table with the more "ritual" and descend toward "prestige" materials.

There is a close correlation between the diversity of types of artifacts found in settlements and the size of the site.[125] Some central buildings within sites are surprisingly empty. Galatas has produced a few ritual artifacts scattered throughout, but there is a remarkable lack of prestige materials contemporary with the life of the palace.[126] However, the possibility remains that the hoard at Arkalochori should be linked to Galatas.[127]

Artifact types that are commonly found at ritual sites have been discussed elsewhere.[128] The deposition of (unusual) figurines was exclusive to the Pal-

[121] The Palace at Phaistos (outside this study area) possesses five Neopalatial lustral basins, although a MM III pillar crypt has been found here as well (Gesell 1985, 128–30).

[122] Shaw 1978a. A tripartite construction has been discovered in the north wing of the Palace at Galatas, across the north entrance (Whitley 2003, 80).

[123] Appadurai 1986; Gosden and Marshall 1999.

[124] Warren 1969. Stone vases are the most common prestige goods throughout Knossos and Malia (Adams 2004a), but this distribution reflects their range in quality rather than their overall low value.

[125] The usual caveats must follow: some sites are little excavated (e.g., Amnissos), and some site sizes are unclear (e.g., Nirou Chani). Poros has not been included in table 1 because of the preliminary nature of the publications. However, a wide range of prestige artifacts has been reported from the cemetery (Dimopoulou 1999, 28–9).

[126] The libation table and gold marked in table 1 refers to Building 2, which postdates the palace (Blackman 2000, 130; 2002, 106).

[127] Rethemiotakis 1999a.

[128] Adams 2004b.

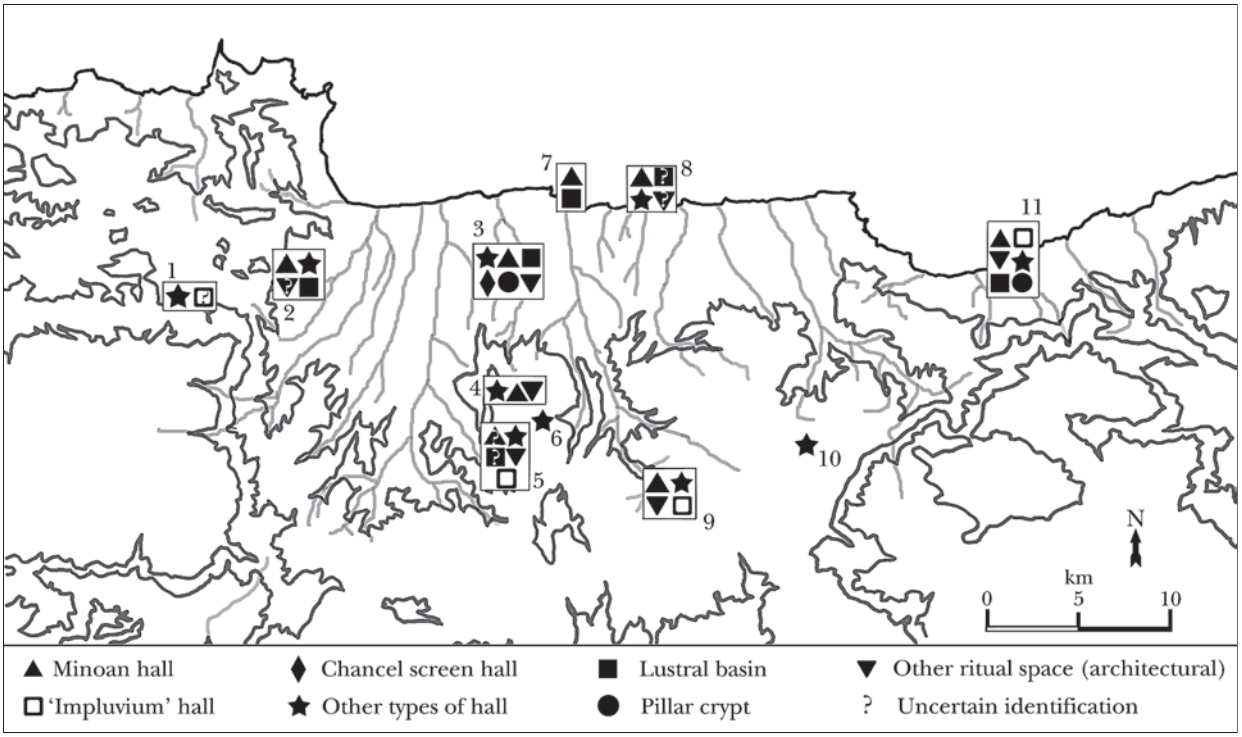


Fig. 8. Distribution map of formalized (or ceremonial) architecture: *1*, Sklavokampos; *2*, Tylissos; *3*, Knossos; *4*, Archanes; *5*, Vathypetro; *6*, Xeri Kara; *7*, Amnissos; *8*, Nirou Chani; *9*, Galatas; *10*, Kastelli; *11*, Malia.

ace at Knossos, but those common to ritual sites were more widely distributed at Malia; they have also been found fairly widely across different types of sites.[129] Libation tables, double axes (or stands), horns of consecration, and altars are usually found throughout large settlements, with libation tables being the most widely distributed on an intrasite level and altars being the least (concentrated in the central building). Bronze artifacts are the most common type of prestige material, although these are mostly tools rather than fine artifacts.

Ceremonial practices at Knossos and Malia vary in the formalization and idiosyncrasy of the rituals.[130] At Knossos, the most elite urban buildings possessed formalized architectural assemblages of Minoan hall, lustral basin, and/or pillar crypt, which are not matched by similar formalization in the assemblages.[131] Other, less elaborate urban buildings held much more idiosyncratic activities, including apparent child sacrifice and cannibalism.[132] In contrast, Malian elite urban houses did not generally emulate and perpetuate a particular form of architectural assemblage; the exceptions are Maisons Delta Alpha and Zeta Alpha, which conform to the Knossian pattern. Maison Epsilon, for example, had a lustral basin without also having a Minoan hall, and an unusual assemblage.[133]

The building at Archanes-Tourkoyeitonia has produced an overwhelming number and variety of prestige materials.[134] The density of ritual artifacts is also striking.[135] Animal and human figurines were found throughout, as were many libation tables. Large

[129] E.g., Rethemiotakis (1997, 48–9) describes fragments of animal figurines and cult vessels in a deposit to the east of the central building at Kastelli.

[130] Adams 2004a.

[131] Some, not all, of these buildings were occupied in later periods, which hinders such analyses.

[132] In the Stratigraphical Excavation North Building (Wall et al. 1986). Hogarth's House B possessed a probable pillar crypt with inverted conical cups (Evans 1928, 548; Gesell 1985, 98). It has been suggested (Adams 2004a, 210) that this individualism indicates groups excluded from the ability to conform to more elite modes of expression.

[133] Space 38 contained a basin set in the floor, with ash, gold, and bone mixed under a thickness of earth, fallen from above. Gesell (1985, 108) states that the room "is suitable for a preparation room for ceremonies in the court or sanctuary."

[134] E.g., Area 4 produced ivory, faience, and jasper; Area 10, a marble vase and ivory rings; Area 16, gold sheet; and from above Area 17 fell a silver earring, a marble sword hilt, and stone vases (Sakellarakis and Sapouna-Sakellaraki 1997, 86–9, 98–102, 106–10).

[135] Area 4, figurine; Area 10, horns of consecration; Area 16, figurines; Area 17, chryselephantine figurines.

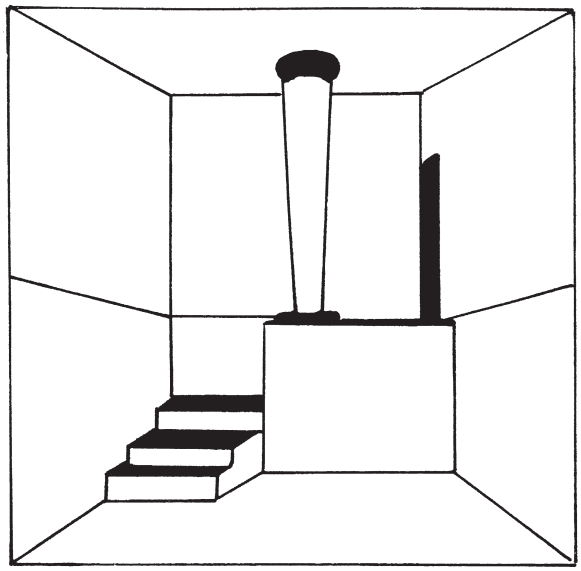

Fig. 9. Reconstruction of a lustral basin (Driessen 1982, fig. 2).

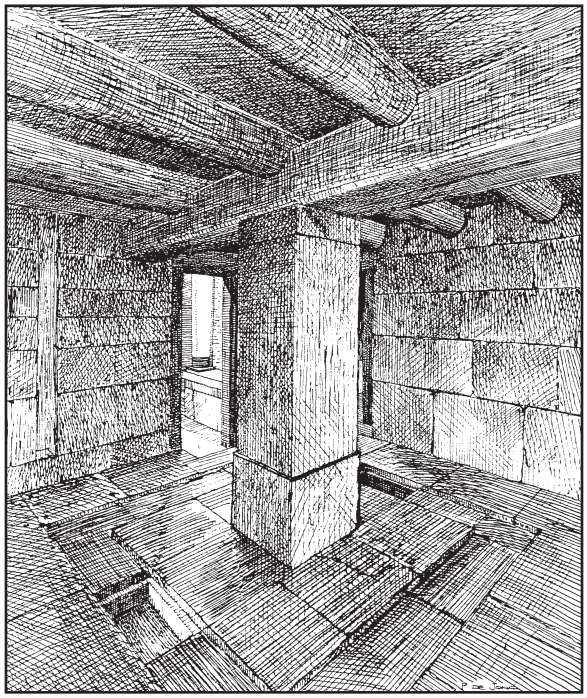

Fig. 10. Interior of the pillar crypt of the Knossian Royal Villa with wooden beams reconstructed (Evans 1928, fig. 235; © The Arthur Evans Trust, reproduced by permission of Paterson Marsh Ltd.).

quantities of figurines are rarely found in settlement contexts, even in buildings where a fair number of movable goods have been discovered. When they are revealed, they tend to be isolated examples.[136] It is impossible not to think that Archanes' proximity to Juktas is responsible for this abundance of figurines, although unraveling the organization of the production of figurines deposited there is complex.[137]

Nirou Chani has yielded a particular concentration of ritual artifacts, such as libation tables and large bronze axes, stacked together for use elsewhere. In having large numbers of libation tables it is similar to Archanes, and structural similarities between the two buildings are mentioned above. However, neither figurine nor ritual site is reported from Nirou Chani.[138] Furthermore, whereas Archanes has yielded many prestige artifacts, Nirou Chani has produced some stone vases, but no gold, silver, or ivory. The explanation for this density of ritual artifacts is more difficult to assess and explains the variety of roles given this building.[139]

The mansions at Sklavokampos and Vathypetro do not have definite examples of a Minoan hall or lustral basin, but they do have other kinds of halls and ritual areas and assemblages that indicate ritual use. Area 8 at Sklavokampos contained inverted incense burners, miniature kotyles, and conical cups on a 4 cm deep charcoal layer, leading Marinatos and Gesell to suggest that this was a ritual space.[140] Similarly, Area 2 in Vathypetro had a stone bench surrounding a pit. Gesell interprets this as ritually filled, with inverted cups at the lowest layer, above which were layers of earth, lime, and pottery and a basin.[141]

We can conclude that there are wider ranges of prestige/ritual or ceremonial artifacts in the larger and more elaborate sites with formalized architectural units. At less elaborate sites, we see more idiosyncratic and/or experimental architecture and practices. There is generally a close link between elaboration and formalization.

*The Uses of Linear A and Administration*

Administrative evidence is also problematic. Linear A tablets and other inscribed administrative documents have been found at just four sites in the region: Knossos, Malia, Archanes, and Tylissos (fig. 11).[142] Nirou Chani and Vathypetro have not produced evi-

[136] E.g., Tylissos Building A yielded a single bronze male figurine, but a considerable number of prestige movable artifacts were preserved, including bronze cauldrons, gold foil, and an ivory box (Hazzidakis 1934). Sklavokampos yielded only a terracotta human foot and a clay ox head (Marinatos 1948).

[137] Zeimbeki 2004.

[138] Skotino lies some distance to the southeast.

[139] See supra n. 52.

[140] Marinatos 1948, 74, 78–9; Gesell 1985, 135. Likewise, the cups in Hogarth's House B were inverted (supra n. 132).

[141] Gesell 1985, 136. Its ritual use has been questioned, however (Driessen and Sakellarakis 1997, 70–1).

[142] Schoep 1999. See also Schoep (2002a) for a detailed account of Neopalatial administration.

dence for the administrative use of Linear A, but such negative evidence may always be due to preservation factors.[143] Galatas produced a pithos with a brief Linear A inscription from the LM IB Building 2 (after the palace had fallen out of use).[144] The socioeconomic information Linear A offers is limited. Schoep comments that "although it is clear that the main commodities in the Linear A tablets are agricultural commodities, there are few indications about the direction in which these were moving, whether incoming and/or outgoing."[145]

These four sites with administrative uses of Linear A also show evidence of nonadministrative uses of it, such as inscribed libation tables, as does Prasa House B (and Poros in a mortuary context).[146] At Knossos, the administrative evidence is centralized in the palace, but nonadministrative uses of Linear A are distributed throughout the site.[147] The other sites with nonadministrative uses of Linear A in the north-central region of Crete are ritual sites (Juktas, Psychro, and Arkalochori, if the latter can be called ritual). Most of the sites that engaged with nonadministrative uses of Linear A have also yielded libation formulas, the set formations of characters that occur across the island, especially at ritual sites.[148] This supports the argument that there was "un lien entre l'écrit et le sacré," a link between writing and ritual.[149] Examples of all six known formulas have been found at Juktas, whereas two have been found at Psychro. Three were uncovered on the single Troullos vessel from Archanes.[150] Samples have also occurred at Knossos, Malia, and Arkalochori. The distribution of these libation formulas is a strong indication of the strong religious affinity that existed on the island (and possibly beyond).

The use of seals and sealings is much more widespread throughout the landscape.[151] The deposit of sealings from Sklavokampos (on the upper floor of the entrance leading to the Northeastern Hall)[152] includes representations similar to those found at other sites on Crete. These have been interpreted as reflecting Knossian control, the presence of peer-polities, or general intersite communication; I prefer the latter reading because of the lack of comparable evidence from Knossos.[153] Again, seals are of limited use in throwing light on social structure: "we cannot begin to guess whether they were confined to a particular social group or class. Nor do we really know how far down the social spectrum seal ownership extended."[154]

The sites that have produced Linear A are those that have revealed the highest level of architectural elaboration (e.g., the widest range of frescoes) and the highest concentration of ceremonial areas and artifacts. Unfortunately, this category has limited use in elucidating social structure because of equifinality[155] and because so little is preserved.

*Production Management*

Consumption patterns are focused on here more than evidence for production, but ultimately the two are interlinked. Work areas for the production of prestige artifacts occur at Knossos, Malia, Poros, Archanes, and possibly Xeri Kara (table 2). Poros in particular has revealed evidence for widespread metal-working, as well as seal engraving and jewel and ornament making, and there is no doubt that ivory

[143] The building at Nirou Chani did burn down, which would be conducive to preserving clay tablets. The stacks of artifacts (particularly libation tables) might otherwise suggest a role in trade.

[144] Blackman 2001, 127.

[145] Schoep 2002a, 178. More than a quarter of all tablets found at Ayia Triada (outside the study area) refer to people (Schoep 2002a, 185). With one possible exception, and in contrast to Linear B, "there are no extant inventories of raw materials and/or finished objects" (Schoep 2002a, 188), despite the fact there is archaeological evidence for palatial interest and control in craft production.

[146] An inscribed gold ring from Poros and a silver pin and gold ring are known from Mavro Spelio, Knossos, but mortuary data lie outside the scope of this article.

[147] E.g., inscribed libation tables, mostly of uncertain context, have been found in the House of the Frescoes, north of the palace, in the "lower town," and in the Villa Ariadne.

[148] Godart and Olivier 1982; Karetsou et al. 1985; Schoep 1994.

[149] Karetsou et al. 1985, 144.

[150] An inscribed ladle was also found at the Agios Georgios peak sanctuary on Kythera (Sakellarakis and Sapouna-Sakellaraki 1997, 335).

[151] E.g., at Archanes (Sakellarakis and Sapouna-Sakellaraki 1997, 695–97). There is evidence for seal engraving at Poros (Dimopoulou 1997, 2000).

[152] A terracotta human foot was found fallen from a similar area. The close association between ritual artifacts and administration occurs in the temple repositories at Knossos, and at Tylissos A, a similar juxtaposition exists between prestige artifacts and administration.

[153] Betts 1967; Schoep 1999, 213–17. It has been argued that there was more than one ring of a given type (replicas), but Krzyszkowska (2005, 189) states categorically that there was no such thing as a "replica" ring and the term should be abandoned. In any case, Krzyszkowska (2005, 189) points out that "even if most high-quality signet rings were produced in a Knossian workshop—and for this there is no proof—it does *not* follow that they were used exclusively by Knossian administrators" (author's italics).

[154] Krzyszkowska 2005, 154. The "black hole" of LM IB Knossos further causes problems (Krzyszkowska 2005, 189).

[155] The situation whereby more than one process or action could be responsible for the outcome (or data) as it is apparent, in this case, in the archaeological record (Hodder and Orton 1976, 239–40).

Table 1. Ceremonial and Prestige Artifacts and Materials in Settlement Sites.

| | Knossos | Archanes | Malia | Tylissos | Nirou Chani | Galates | Vathypetro | Kastelli | Sklavokampos | Zominthos | Prasa | Kroussonas | Voni | Amnissos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Figurine [a] | x | x | x | x | – | x | x | x | x | x | – | x | – | – |
| Libation table | x | x | x | x | x | x | – | – | – | – | x | – | x | – |
| Double axe (or "stand") | x | x | ? | x | x | – | – | – | – | – | – | – | – | – |
| Horns of consecration | x | x | x | x | x | x | x | – | – | – | – | – | – | – |
| Altar | x | x | x | – | ? | x | – | ? | – | – | – | – | – | – |
| Stone vase | x | x | x | x | x | x | x | – | x | – | x | – | – | – |
| Gold | x | x | x | x | – | x | x | – | – | – | – | – | – | – |
| Silver | x | x | x | – | – | – | – | – | – | – | – | – | – | – |
| Bronze | x | x | x | x | x | x | x | x | x | x | – | x | – | ? |
| Ivory | x | x | x | x | – | – | – | x | – | – | – | – | – | ? |
| Other material [b] | x | x | x | x | – | – | – | x | – | – | – | – | – | – |

[a] bronze or clay, animal or human
[b] e.g., faience

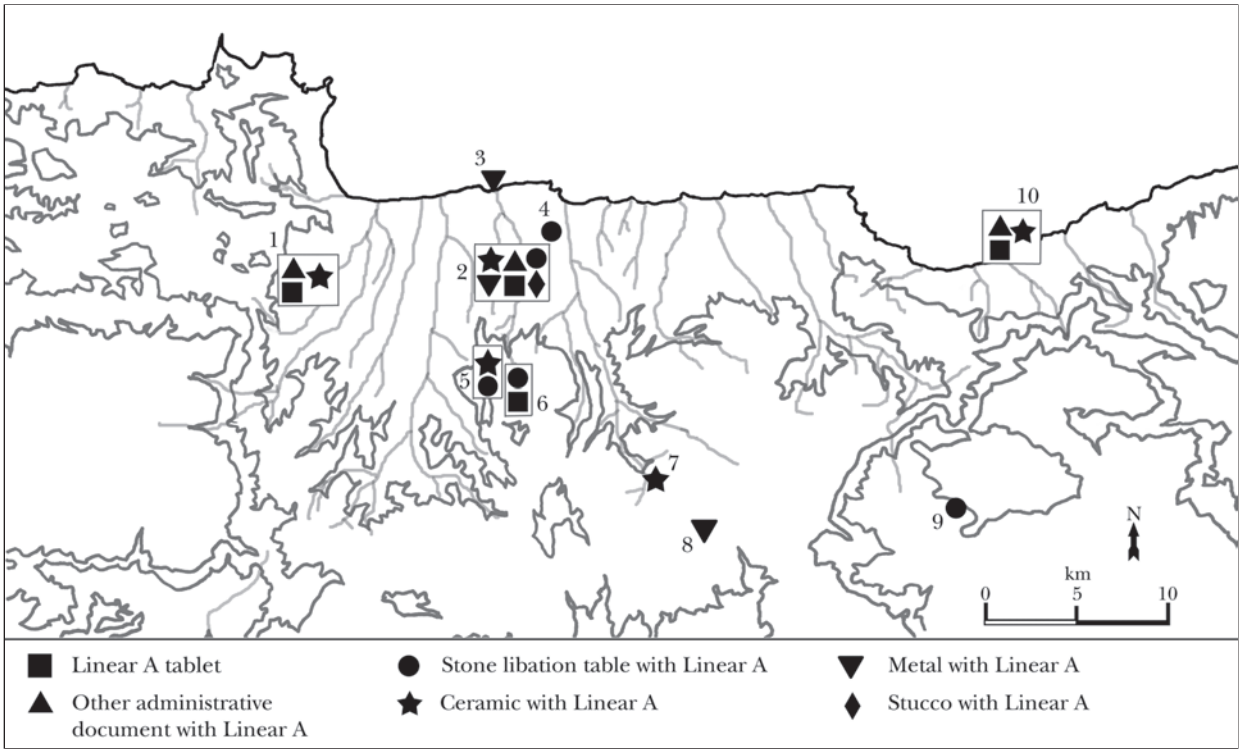


Fig. 11. Distribution map of Linear A: *1*, Tylissos; *2*, Knossos; *3*, Poros; *4*, Prasa; *5*, Juktas; *6*, Archanes; *7*, Galatas; *8*, Arkalochori; *9*, Psychro; *10*, Malia.

working was conducted in the Royal Road North Building at Knossos. It is less clear that the other examples represent production activity in the space itself where they were found rather than storage space for work conducted elsewhere.

Two possible interpretations exist for such a small number of sites to have yielded convincing evidence for production. First, manufacture was conducted in a less spatially defined manner than the concrete identification of "workshops" allows; this assumes that production occurred (only) in an indoor, or at least well-marked, space for a substantial length of time.[156] It is better to approach the evidence in terms of activity systems rather than to focus on identifying specific activities themselves.[157] Bronze-tool assemblages (presumably stored for use elsewhere) and hoards have been found at Knossos[158] and Malia.[159] They are widely spread throughout the landscape, one example being Tylissos Building A;[160] many of the bronze artifacts in table 1 are tools. Isolated tools are difficult to assess and would presumably be required for day-to-day use, as well as for craft production.

A secondary reason for the apparent spatial discrepancy between the production and the consumption of prestige artifacts could be that their production

[156] Evely (1988, 398–99) prefers the term "work area" to "workshop"; this term leaves open the question of how regular the activity was and does not assume that only one function was performed there.

[157] Rapoport 1990. Thus even the simple storage of items such as unfinished stone vases indicates some involvement in production.

[158] See Evans (1928, 627–33) and Georgiou (1979, 16–28) for the hoards of tools (and other vessels) at Knossos; most notable (in terms of tools) are the hoards in the Northwest House and the South House.

[159] See Georgiou (1979, 29–41) for deposits of tools. Most notable are the deposits from Maison Delta Beta, Room 25, Room 2 in the palace, and Room 15 in Maison Zeta Gamma (Deshayes and Dessenne 1959, 38, 68). Tools were found throughout the site, e.g., in Room 5 in Maison Zeta Beta, which is accessed only from the Minoan hall (Deshayes and Dessenne 1959, 16–17, 68). Possible MM III slag was found under the later northwest court of the palace (Evely 2000, 338).

[160] A few bronze tools, e.g., chisels, were found in Building A (Evely 1993, 8, 10), but their dating is unclear. A copper ingot found in Room 5 (Hazzidakis 1921, 56–7) indicates participation in the metals trade and involvement at some level in metalworking. Ingots were also found in the Arkalochori cave and Knossos (Evely 2000, 343–45). A copper ingot was found in a mixed LM I–LM III context at Poros (Dimopoulou 1997, 435; see also Blackman 2002, 109–10).

Table 2. Evidence of Work Areas for Craft Production.

| Building/Area | Presumed Activity | Evidence/Comments | Reference |
|---|---|---|---|
| Knossos: Royal Road North Building | ivory (and stone) working | ivories (100s), ivory chips (1000s), gold leaf, faience, bronze and stone tools, rock crystal | Evely 1993, 244 |
| Knossos: Royal Road North Building (nearby) | stone vase working | bore cores, manufacturing debris (?) (largely steatite) | Evely 1993, 181 |
| Malia: Palace IV 9–10 | ivory and bone working | finished items of bone and ivory, raw materials of teeth and bone | Evely 1993, 244–45 |
| Malia: Palace XVII 2 | stone vase working | 5 stone vases (2 unfinished), no tools or debris, not well lit, storage? | Evely 1993, 181 |
| Malia: Maison de la Cave au Pilier | stone (vase?) working | complete stone vases, bronze and stone tools, raw material (stalactite, rock crystal), no debris | Evely 1993, 181 |
| Poros settlement | bronze working | crucibles, crucible furnace, tuyeres, lead ingot, pieces of copper ingots, pot-bellows, clay molds, slag, raw material | Dimopoulou 1997, 2004 |
| Poros settlement | seal engraving | unfinished sealstones, bronze and stone tools, raw material, debris | Dimopoulou 1997, 2004 |
| Poros settlement | jewel and ornament making | fragments of semiprecious stones, weights, small gold sheet, stone molds for casting beads, clay molds, bronze and stone tools, paste, raw material, debris | Dimopoulou 1997, 2004 |
| Archaenes-Tourkoyeitonia: Area 24 | stone working | various pieces of unworked stone | Sakellarakis and Sapouna-Sakellaraki 1997, 90 |
| Xeri Kara (nearby) | rock crystal working | half-worked pieces of rock crystal | Sakellarakis and Sapouna-Sakellaraki 1997, 67 |

was more controlled than their consumption, with the finished products being widely distributed throughout the landscape. As yet, Poros has not yielded traces of the administrative use of Linear A, which would support the hypothesis of close (external) control of production.

*Agricultural Storage and "Redistribution"*

As in the case of bronze tools, pithoi are widely distributed.[161] Christakis has reassessed the commonly held view that palatial storage decreased substantially between the Protopalatial and Neopalatial periods, with an increase of storage in second-order centers.[162] Furthermore, Christakis points out that "whether these second-order centres functioned as administrative subcentres of the palaces or were independent regional centres is an open question."[163] Indeed, this question calls for a study of "redistribution," which, like "state," is a term that needs to be qualified further. What was being moved, by whom,

[161] Since Christakis will shortly produce a study of Neopalatial pithoi, all conclusions regarding agricultural storage must remain tentative.

[162] Christakis 1999a, contra Moody 1987. See also Christakis 1999b. Driessen and Macdonald (1997, 53) suggest that this change toward the decentralization of storage occurred in mature LM IA or LM IB, but as Christakis (1999a, 242) notes, it is methodologically unsound to generalize with this kind of data.

[163] Christakis 1999a, 239.

and to whom, and what was the relationship between the movement of staple and prestige goods? In addition, redistribution is not a purely economic transaction but is deeply embedded in social strategies.

This article limits itself to the observation of formalized or centralized agricultural storage at the intrasite level and examines survey evidence at a wider scale. The presence of architecturally recognizable storage areas (namely magazines) indicates a formalized economic system as opposed to self-sufficiency by a smaller group such as a household. Most sites have evidence for the storage of agricultural goods; those that do not are only partially excavated (e.g., Kastelli and Amnissos).[164] At Knossos, storage was centralized in the palace, but this is not the case at Malia.[165] The central buildings of other large, prosperous sites (Tylissos, Archanes, and Nirou Chani) have magazinelike facilities for agricultural storage in the central buildings.[166] The northwest storerooms at Sklavokampos were situated next to a veranda, which would have provided a covered, open area for the transactions of staple goods.[167]

Unfortunately, not enough is known of the surrounding settlements around these central buildings to assess the extent to which storage was centralized. However, standardized architecture, and the occasional preservation of administrative archives in storage areas, would support the hypothesis that the economic control of agricultural goods played a key role in maintaining the role of the elites in Minoan society.[168] The control of goods and the labor required to produce them is not necessarily indicative of land ownership.

It is pertinent at this stage to discuss the hinterland around Malia.[169] Müller's survey (covering 40 $km^2$ around the site) has revealed a considerable drop in sites from the Protopalatial to the Neopalatial period.[170] Further publication and excavation are required to ascertain the nature of these sites, and as Cunningham and Driessen have stated, "one has to wonder if there was not even some kind of coerced relocation of inhabitants—a forced depopulation of the largest and closest rival."[171]

It is extremely difficult to judge whether the Lasithi plain was Malian in the Neopalatial period, as has been argued for the Protopalatial.[172] The site of Plati may have served as a stopping point for those visiting Psychro.[173] There are signs of a drop in the number of sites in the Lasithi plain during the Neopalatial period from MM III to LM I, which Watrous attributes to emigration, namely to Knossos and Malia,[174] and suggests further that "the apparent evidence of emigration and the pattern of settlement suggest that the area was an active member in a larger economic system, centered at the palatial sites."[175] If this is the case, then there is no proof yet that ostentatious ashlar buildings were built in the area, comparable to Vathypetro or even Zominthos. The plain would indeed be a rich source of grain if exploited (but not of olives, since its altitude is too high).[176] Overall, "it is open to question, however, whether Malia controlled the Lasithi plain, although this is likely on the basis of cultural affinities and calculation of productive capacities."[177] This economic interdependency did not result in substantial levels of conspicuous consumption throughout the landscape, as seen farther to the west.

*Discussion: Patterns and Correlations*

There is no precise correlation between the size of the building and the presence of ceremonial features; the variety of functions (including space for agricultural storage) tended to determine size more than social status. For example, the standardized size of the otherwise impressive Knossian grand mansions is small in comparison to buildings such as that

[164] Rethemiotakis (1997, 56) notes some storage facilities at Kastelli but argues that this could not have been the main storage area of the building.

[165] Adams 2004a.

[166] Building B at Tylissos may have been constructed as a storage annex for Building A, but it yielded just three pithoi, whereas Building A has produced far more. The cistern at Archanes indicates centralized, or communal, water facilities (Evans 1928, 64–7).

[167] Marinatos 1948, 74–5; Christakis 1999a, 138.

[168] Most notably, Archanes has yielded convincing evidence for the administrative control of storage (Sakellarakis and Sapouna-Sakellaraki 1997, 132–35). There are also examples of Linear A inscriptions on pithoi (e.g., at Knossos and Galatas).

[169] Papoura apparently produced a Linear A tablet but is not discussed above since the site and context are unknown.

[170] Müller 1996, 922–23. See also Müller 1990, 1991, 1992, 1998.

[171] Cunningham and Driessen 2004, 106.

[172] Cadogan 1995. Dewolf et al. (1963) argue that the Lasithi plain was part of Malian territory in a study of agricultural production and consumption, as part of their general argument for an independent Malian state. See Watrous (1982, 16) for a critique of this methodology. It does not appear in the catchment area for Malia in fig. 3 (after Whitelaw 2004a).

[173] Dawkins 1914; Driessen 2001, 57.

[174] Watrous 1982, 14–15.

[175] Watrous 1982, 17.

[176] Watrous 1982, 8.

[177] Bennet 1990, 195. He notes that historically the Lasithi plain has been linked to both the easternmost nomos (modern period) and Herakleion (in the Venetian period). He suggests that the current situation is historically more unusual (Bennet 1990, 209).

at Zominthos, which so far has revealed none of the elite features examined here. This is one notable distinction between urban and nonurban villas. Overall, however, there is a close correlation between the other aspects of architectural elaboration and ceremonial features. For example, all sites with ashlar also have halls, except those that are known only from surface remains or are partly excavated. It is rare for a site to have fresco evidence without a hall,[178] or to have a hall without reported fresco evidence.[179]

The two main palatial sites have all features listed in table 3, with the exception of Malia, which lacks gypsum.[180] They are followed by other central places: Archanes, Tylissos, Galatas, and Nirou Chani. Of this group, Tylissos is the only settlement without a court. All of the sites have Minoan and other types of halls, and magazines for agricultural storage. The correlation between the evidence for formalized halls and magazines may indicate a sociopolitical role for feasting; these sites also have the most elaborate frescos (perhaps for propaganda purposes).[181]

Vathypetro and Sklavokampos also have a central building with the facilities for feasting. Both lie on important routes, but we cannot detect whether those hosted there were travelers or people from the site itself. Their liminal positions, on important routes between major focal centers rather than the centers themselves, explain the rather "mixed" correlation of high culture. For example, Vathypetro possesses the unique architectural example of a tripartite shrine. However, few ritual or prestige artifacts, and very little administrative evidence (e.g., no Linear A), have been found here.

There is a concentration of architectural elaboration, ceremonial architecture, prestige artifacts, and administration in sites around the Juktas massif and the Temenos area. This clustering appears to spiral toward the Palace at Knossos. The main exceptions are Malia, Tylissos, Galatas, and Kastelli. Malia lies in something of a void of ritual and settlement sites. There is, therefore, a clear distinction between the hinterlands of Knossos and Malia.

## ANALYSIS OF SPECIALIZED SITES IN NORTH-CENTRAL NEOPALATIAL CRETE

### *The Palatial Form: Intrasite Dynamics and Interpalatial Relations*

Palaces in north-central Crete occur at Knossos, Malia, and, briefly, Galatas. Knossos and Malia have been compared in detail elsewhere.[182] In addition, the brief life of the Palace at Galatas sheds light on the power dynamics in the region. In certain ways, the Palace at Galatas shares more similarities with its Malian than with its Knossian counterpart; Knossos is exceptionally monumental, whereas Galatas and Malia are less impressive in terms of size and scale or energy investment.[183]

The similarities between the western wings of the palaces at Knossos and Malia are striking and highlight the contrasting differences between the eastern wings.[184] Furthermore, there are certain functional discrepancies between the two palaces.[185] At Knossos, the palatial elite centralized administration and agricultural storage on the site scale; apparently the second-tier elite relied on the palace for short-term rations, if not necessarily all dining. However, the trappings of power are not unique to the palace, being visible throughout the site. The nonpalatial second-tier elite adopted a formalized set of ceremonial architecture: Minoan hall, lustral basin, and/or pillar crypt, suggesting competition among them and/or emulation of the palace. This points to the different uses of the term "elite," or the distinction between wealth and managerial control.

At Malia, the palace was much less elaborate, and its elite does not appear to have desired or managed to centralize agricultural storage, although it has provided the only evidence for Linear A administration.[186] Conspicuous consumption at Malia was less formalized and more idiosyncratic than at Knossos,

[178] E.g., Poros.

[179] E.g., Sklavokampos and Xeri Kara.

[180] The presence of prestige and ritual artifacts is not indicated (but see table 1).

[181] This combination occurs at Knossos, Palace; Knossos, Little Palace (?); Malia, Palace; Malia, Maison Epsilon; Malia, Maison Delta Alpha; Malia, Maison Delta Gamma (?); Malia, Maison Zeta Alpha; Malia, Maison Zeta Beta (?); Sklavokampos; Tylissos Building A; Tylissos Building B; Tylissos Building C; Archanes-Tourkoyeitonia; Vathypetro; Nirou Chani; Galatas, Palace. The numerous buildings with this correlation from Malia might support the idea that the second tier was composed of factions (Adams 2004a). The more modest buildings at Knossos evidence both storage and communal space, but these are not formalized. In older excavations, the ceramic and bioarchaeological information are lost for confirmation of this function.

[182] Adams 2004a. See also Driessen et al. (2002) for up-to-date summaries of the palaces.

[183] E.g., storage of agricultural goods was not centralized in Malia and Galatas to the same degree as at Knossos. However, the formal, structural, and historical differences between the palaces at Malia and Galatas should not be underestimated.

[184] Adams 2004a. The Palace at Knossos had an elaborate, multistory hall system in the east wing, whereas the Palace at Malia's east wing was used for storage. The existence of an upper story in the southeastern block at Malia is indicated by the presence of stairs, but the situation above the main storage area is unclear. While there was some storage on the lower floor of the east wing at Knossos (e.g., royal magazines), this constitutes a small proportion of the space.

[185] Adams 2004a.

[186] Adams 2004a.

and again widespread throughout the site. The second tier seems to have engaged in factional competition.[187] However, it is clear that the overall prosperity of the town was limited, and sherd coverage in the immediate area appears to have contracted or decreased from the Proto- to the Neopalatial period.[188] It also appears that the Neopalatial settlement shifted from the coast to concentrate around the palace.[189] The palatial elite at Malia carried the dignity of an aging lineage, without the intensity of the power relations we have seen at Knossos.

Malia's relationship with Knossos is far from clear. Poursat, in a critique of the argument that Malia became a vassal of Knossos as evidenced by possible Knossian imports, points out that scientific tests have not been conducted to demonstrate this provenance, and, in any case, this would not necessarily imply Knossian political dominance.[190] However, he does present certain criteria that suggest that Malia lost its autonomy during the Neopalatial period, such as the absence of marine activity. Only two of the buildings at Malia resemble those of the second tier at Knossos (Maisons Delta Alpha and Zeta Alpha), although the latter has magazines and is, therefore, somewhat larger. Further fieldwork is required at both sites to assess the nature (if any) of competition between urban elites at Knossos and Malia, but there remains the possibility that such strategies occurred.

At Galatas the construction methods are superior to those of the substantially mudbrick Palace at Malia, with the extensive use of ashlar and gypsum and the finely paved central court. There are certain differences between this palace and those that were established in the Protopalatial period.[191] While there are preservation problems, apparently the Palace at Galatas had neither the standardized west wing ground plan (with west magazines) nor certain palatial functions, such as administration and the storage of prestige goods.[192]

The ceramics were of local style in the Protopalatial period, while in the Neopalatial period they were Knossian in type.[193] Whether the Palace at Galatas was constructed "as the result of Knossian intervention" is debatable.[194] Aspects of material culture, such as ceramics and frescoes, indicate contact, not necessarily control; well-built mansions are culturally Minoan, not specific to Knossos.[195] The inhabitants of nearby farms or settlements at Alagni[196] and Voni[197] probably looked to Galatas as their center— again, it is a question of perspective.

The most remarkable aspect of the Palace at Galatas is its short-lived nature: built as a coherent unit in the MM IIIB/LM IA transition phase, it fell out of full use in mid LM IA.[198] If the palace had been a Knossian initiative, then this would make such brevity all the more notable. I suggest that an ambitious local elite established the structure but did not have the ability to maintain the complex; perhaps they did not have the full blessing of the elites at other sites, most notably Knossos, or perhaps they fell out of favor. Their aspirations to possess the most prestigious and traditional feature of social status backfired badly, and they went bankrupt (with or without Knossian involvement is impossible to say).[199] Galatas' elite's aspirations were never fully realized.

The three palaces within this study area alone demonstrate the wide variety of motivations and aspira-

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[187] Adams 2004a. The combination of formalized halls and magazines discussed supra n. 181 supports this.

[188] E.g., Müller (1990, 923) states that the Neopalatial period is less well represented in the Agia Varvara area than Protopalatial. However, the area north of Quartier Mu was rich in Neopalatial evidence, including fragments of stone vases (Müller 1991, 743).

[189] Poursat 1988, 80–1. See also Van Effenterre (1980, 77): "La ville de Mallia tourne le dos à la mer." Malia was a coastal site, and exploited the sea for fish, but was probably not a major port, at least in the Neopalatial period.

[190] Poursat 1988, 80.

[191] Namely, Knossos, Malia, and Phaistos.

[192] The possibility remains that the hoard at Arkalochori is to be associated with the palace (Rethemiotakis 1999a).

[193] The pottery has Knossian characteristics, but the provenance was probably from the Archanes area (Rethemiotakis 2002, 57). This forms part of the broader Knossian region, but it is unclear how this necessarily manifests Knossian influence.

[194] Rethemiotakis 1999b, 721.

[195] Warren (2004, 163) argues that the establishment of a palace marked Knossian advance of control over the Pediada, which may have transferred to Kastelli after the Palace at Galatas stopped functioning as such. He is probably right that the palace "surely could not have happened if Knossos had been opposed to it" (Warren 2004, 163), but Knossian political control does not necessarily have to be assumed from this. Panagiotakis (2004, 184) suggests that the destruction (rather than the construction) of the Palace at Galatas indicates "conflict within the Pediada or between Knossos and some Pediada sites" and that it was at this point that "Knossos extended its political domination over the Pediada."

[196] Ioannidou-Karetsou 1985; Warren 2004, 160.

[197] Rethemiotakis 1999c; Warren 2004, 160; Whitley 2004, 80.

[198] Rethemiotakis 2002, 57–8.

[199] It is clear from the north wing collapse that an earthquake (not human agency) destroyed the building, but buildings can be rebuilt or repaired. That it was not suggests that the elite was unable to continue meeting its high aspirations. As the ultimate insult, grinding occurred in the magnificent central court in the final phase of the palace, and the column hall (14) became a cooking area (Rethemiotakis 2002, 63–4).

Table 3. Distribution of Formalized Features and Functions in North-Central Crete.

| | Knossos | Archanes | Malia | Tylissos | Nirou Chani | Galates | Vathypetro | Kastelli | Sklavokampos | Prasa | Xeri Kara | Poros | Amnissos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ashlar | x | x | x | x | x | x | x | x | x | x | x | ? | x |
| Gypsum | x | x | – | – | x | x | – | – | – | – | – | – | x |
| Fresco | x | x | x | x | x | x | x | – | – | x | – | x | x |
| Court | x | x | x | – | x | x | x | ? | – | – | – | – | – |
| Minoan hall | x | x | x | x | x | x | ? | – | – | – | – | – | x |
| Other hall | x | x | x | x | x | x | x | x | x | – | x | – | – |
| Lustral basin | x | – | x | x | ? | – | ? | – | – | – | – | – | x |
| Pillar crypt | x | – | x | – | – | – | – | – | – | – | – | – | – |
| Other ceremonial area | x | x | x | ? | x | x | x | ? | ? | – | – | – | – |
| Linear A (admin.) | x | x | x | x | – | – | – | – | – | – | – | – | – |
| Linear A (nonadmin.) | x | x | * | * | – | * | – | – | – | x | – | x | – |
| Craft production | x | ? | x | ? | – | – | – | – | – | – | ? | x | – |
| Formalized storage of agriculture | x | x | x | x | x | x | ? | – | x | – | – | – | – |

*inscribed ceramics (difficult to categorize as administrative or not)

tions that lay behind the "standardized" palatial form. When each Minoan palace is considered in the light of tradition and emulation, and placed in its urban context where possible, it becomes clear that there was no single kind of Minoan palatial elite. The comparison of these three palaces also reveals a distinction between the successful articulation of and the sometimes unsuccessful aspiration to status.

*Ritual Sites*

The social strategies and political geography of north-central Crete cannot be understood without taking into account the known ritual sites, although they are plagued with chronological problems as well as being generally poorly published. At present, syntheses can take into account only location and types of finds reported; the provenance of the manufacture of artifacts is currently unconfirmed by petrology.

In the center of the study area lies Juktas, which towers over Knossos and the region in general. Not only is it the most monumental example of a peak sanctuary, but the central court at Knossos is aligned to face it directly (fig. 12).[200] These are the only two sites to have revealed massive horns of consecration, which suggests a ceremonial connection.[201] The Juktas massif can be seen from a wide area, including Tylissos to the west[202] and Galatas to the southeast. Indeed, if relations between Knossos and Juktas were as strong as is commonly believed,[203] then apparently Knossos was able to overlook its sphere of influence from its ritual site rather than from the settlement. The special relationship between Knossos and Juktas does not necessarily imply that Knossos monopolized activity at the ritual site; however, it did produce an excellent platform for the articulation of social differentiation strategies, as well as religious performance and the expression of a broader cultural identity. Indeed, Archanes appears to have capitalized on the wider importance of Juktas, although it is currently unclear what form this took (such as production of figurines or engagement in certain rituals associated with Juktas). Rather than being liminal (as Psychro and the Idaean cave were), Juktas is the focal point for the Knossian region.

Evidence for other Neopalatial use of peak sanctuaries is very preliminarily or is poorly published. However, Warren suggests that Gonies, Pyrgos, and Kastelli-Liliano were local to the communities of Gonies, Tylissos, and Kastelli, respectively.[204] Rethemiotakis has excavated an MM IIIA and early MM IIIB peak sanctuary at Kastelli-Liliano, and suggests that ritual activity transferred from the landscape to the central building at Kastelli.[205] In the west of the study area, the peak sanctuary at Tylissos-Pyrgos also has a building and Neopalatial ceramics sherds, but it needs further publication for further comment.[206] The situation with Gonies-Philioremos is even more unclear.[207]

The most common type of ritual site in the study area is composed of caves. It has been suggested elsewhere that there were three types of caves: "pan-Cretan," or regional, sanctuaries (Psychro[208] and the

[200] For Juktas, see Karetsou 1974, 228–39; 1975, 330–42; 1976, 408–18; 1977, 419–20; 1978, 232–58; 1981; 1984, 600–14. For discussions of peak sanctuaries, see Peatfield 1983, 1987, 1990; Cherry 1986; Rutkowski 1988, 1991; Nowicki 1994; Watrous 1995.

[201] D'Agata 1992.

[202] Hazzidakis 1934, 5.

[203] E.g., Karetsou 1981, 145. The "palatial" nature of the finds is unclear given the presence of such artifacts (e.g., inscribed stone libation tables) in nonpalatial sites. Several workshops of various degrees of centralization may have been making the clay figurines (Zeimbeki 2004).

[204] Warren 2004, 166.

[205] Whitley 2004, 79. Rethemiotakis (1997, 61) notes that the south facade of the central building at Kastelli faces the hill with the peak sanctuary.

[206] K. Nowicki and E. Kyriakidis, pers. comm. 2005. Peatfield also lists Gonies and Pyrgos as Neopalatial (e.g., 1987, 92; 1994, 23 n. 16). The presence of a building and horns of consecration has been used to indicate Neopalatial date (e.g., Driessen and Macdonald 1997, 128). Confusingly, preliminary reports only mention MM I(–II) ceramics (Alexiou 1963, 404–5; Faure 1963, 500–1; 1967, 125; Rutkowski 1988, 87–8). Rutkowski and Nowicki (1984, 184) state MM I and later (not specified). We look forward to the publication of the site by Kyriakidis.

[207] The preliminary references state that the building is MM I (Alexiou 1963, 406; 1966, 322; Faure 1967, 125–6; 1969, 184; Rutkowski 1986, 80; 1988, 81). There is a clear danger of circularity if buildings are dated on the basis of the argument that peak sanctuaries became more institutionalized over time (e.g., Peatfield 1987). Rutkowski (1986, 76) states: "It is thought that sacred buildings first appeared in the sanctuaries at a later stage in their development, that is in MM III, although it is quite possible that most buildings date from an earlier period." See also Rutkowski (1988, 76) with reference to both Pyrgos and Gonies.

[208] According to Watrous (1996, 97), "the sanctuary at Psychro may have been for Mallia at this time what Jouktas was for Knossos." However, he identifies certain vases as Knossian, suggesting that "Psychro had become a sanctuary of interregional status in the Neopalatial period." Clearly the site was visited by pilgrims from some distance, but closer analyses of the artifacts are required for clarifying which sites' inhabitants were involved. Fig. 2 indicates that it took Pendlebury nine hours to reach the Lasithi plain from Knossos, and three and a half hours from Malia to Krasi. However, it is then further to the Lasithi plain and Psychro from Krasi. Psychro is located at some distance from both Knossos and Malia. Nonetheless, the location suggests Lasithian, Malian, and Pediadan(?) activity, and quite possibly Knossian as well.

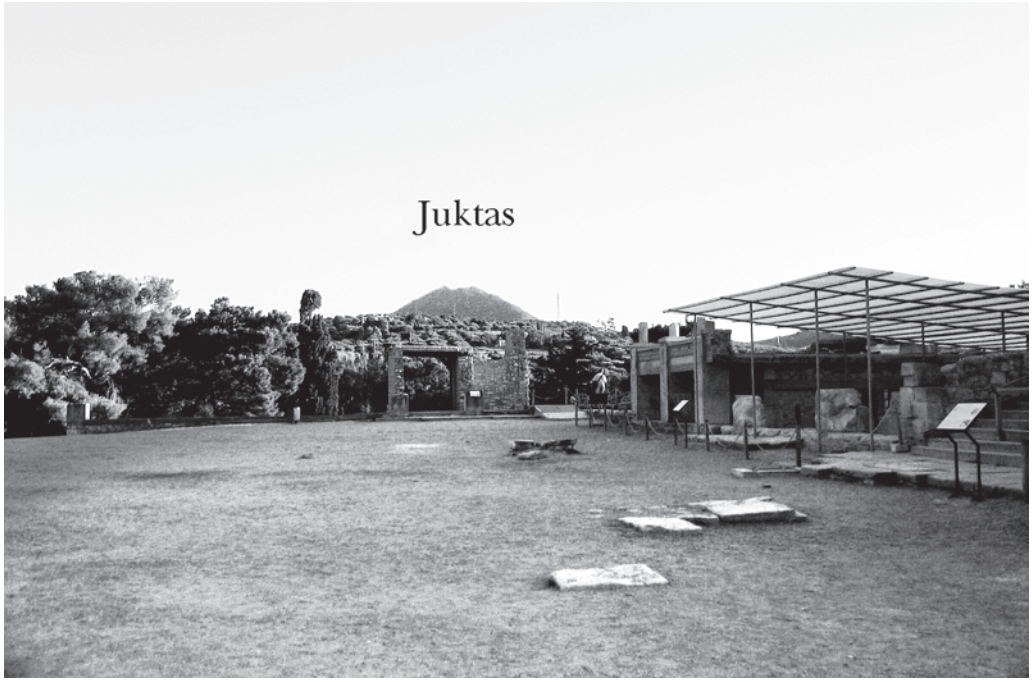


Fig. 12. The peak sanctuary of Juktas as seen from the central court at Knossos.

Idaean cave);[209] border sanctuaries, or those that lie on or above important routes (Skotino [210] and Ayia Phaneromeni);[211] and extraurban sanctuaries (Pyrgos-Tylissos and Chosto Nero).[212] Most Neopalatial caves that were used ritually are found in the wider area around Knossos, and Juktas takes a central position among these caves.

In contrast, there is a dearth of ritual sites in the immediate Malian region—despite the fact that they have been searched for, and ritual sites were being used in the vicinity in the Protopalatial period. Malians undoubtedly visited Psychro, but this is a substantial journey to make.[213] Such a distinct, high point, which lies away from any large settlement, provides a good environment for the articulation of social boundaries (but not necessarily political ones).

Neopalatial ritual caves are concentrated in the wider Knossian region, which appears to have suppressed or ceased peak sanctuary cults before or during this time, with the exception of monumental Juktas and Tylissos-Pyrgos. In contrast, Malia seems to have ceased ritual activity in the immediate area while Psychro lies at some distance.

### THE SPATIAL AND THE SOCIAL: DEFINING MODES OF CENTRALIZATION

We have examined the spatial distribution patterns of selected features throughout settlements in north-central Crete, noting a density around Juktas toward the coast (including Knossos), which contrasted with the void around Malia (which appears to have shifted from the coast). Combining these observations with the study of palatial and ritual sites, we are equipped to explore the social forces behind these patterns. The relationship between the spatial and the social is far from clear-cut. For example, Rehak and Younger, on the rise of the Minoan villa in Neopalatial Crete, state that while "this apparent decentralization could be

[209] Our Neopalatial understanding of the utilization of this site is limited due to extensive later use, but its isolation strongly suggests use by pilgrims from a wide area.

[210] We look forward to the full publication of this site by Tyree et al. (see, e.g., Whitley 2004, 78). The ritual site at Skotino overlooked the communication route between Knossos and Malia. Note that it lies in the area where the three palatial territories converge, as drawn by Whitelaw (2004a, fig. 10.6; fig. 3 here). Warren (2004, 166) suggests that the caves of Ida, Arkalochori, and Skotino "may also be seen marking western, southern and eastern limits of Knossian religious territory."

[211] Overlooking the route between Malia and the Pediada plain (Rethemiotakis 1990).

[212] Adams 2004b. For discussions of sacred caves, see Faure 1964; Tyree 1974; Rutkowski and Nowicki 1996; Watrous 1996. Note that Arkalochori is unlikely to be a sacred cave (Rethemiotakis 1999a).

[213] Ayios Phaneromeni is an extremely isolated and poorly understood site; I have come across no suggestion that it should be associated with Malia.

read as a sign that palatial control over outlying centers was weakening, it might signal the opposite: that the palaces were extending their control into distant regions."[214] The best approach is to explore the problem from the point of view of social dynamics rather than social structure. Thus we return to the discussion of the "state." I argue that the term is laden with so many assumptions that it is probably best to avoid it and use something like "social complexity" instead. Rather than the articulation of well-defined states, what we see in north-central Neopalatial Crete are different mechanisms of centralization.

A common distinction, following Southall, is made between pyramidal (segmentary) states and hierarchical (unitary) states,[215] but it has been pointed out that "segmentary" or "decentralized" states contradict the common understanding of the term "state."[216] Indeed, institutionalized centralization is commonly a key criterion of states. Recent literature has explored alternatives to such centralization, such as Blanton's corporate political economics. He views "as problematic the assumption that *political* centralization is the central process in the evolution of states" (my italics).[217] I agree but would like to see the term "centralization" qualified rather than the (political) centralization-decentralization polarity perpetuated. Here, centralization appears to be linked with hierarchy, and the role of hierarchy should not be underplayed for the Minoan world.[218] Just as hierarchies can be dynamic, the range of possible centralization mechanisms has not been sufficiently explored.

One question that arises is: why did the site (and the palace) at Knossos not absorb all of the wealth in the region, as is the case of the Mycenaean palaces?[219] Knossos (and its peak sanctuary at Juktas, towering over the landscape)[220] promoted investment in ideological ostentation and practices in the surrounding region. In this area, the distinction between "Knossian" and "Minoan," or the general cultural sphere, is somewhat blurred. Knappett's point (supra n. 31) concerning the ambiguous nature of Knossos as exemplar sheds light on how this confusion arises, although there are many idiosyncrasies over the area indicating that local choices and social strategies played a vital role in such power relations.

The strength of this influence does not form a perfect circle around Knossos, but there is a bias of elaborate sites with formalized features in the immediate surrounding area, which then fans out toward the coast.[221] The only known Minoan ports to have been used at this time cluster in the northern areas of Knossos, with the single exception of coastal Malia. External ("off-island") relations are beyond the scope of this article, but we can imagine that Knossos and its neighboring sites could and did draw upon the resources available from sea as well as land contacts.[222] In return, the Knossian elite endorsed the adoption and articulation of elite features by different local groups. Since the elites at other sites could never hope to match Knossos, they identified and reinforced Knossos' preeminence in the process. But Knossos was obliged, in turn, to increase the intensity of intrasite conspicuous consumption. The result of the sociopolitical emulation and competition by other elites is that the degree of the ideological centralization around Knossos is unclear from the spatial material record.[223] It is yet to be demonstrated that this centralization was po-

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[214] Rehak and Younger 1998, 105.

[215] E.g., de Montmollin 1989, 19–21.

[216] See Marcus and Feinman (1998, 7–8) and Hamilakis (2002a, 13) for a criticism of this term, but see Knappett (1999, 618, 635–36) for its use in Minoan Crete (he notes the common tendency to equate decentralized states with segmentary states, arguing that the term "decentralized" is more appropriate for the Minoan case). Similar to the perception of Knossos as a "cosmological centre" is Herzog's (1997, 6–7) use of the regal-ritual model, with strong ideological or ceremonial centers, weak political centralization, dispersed power groups, and minimal economic differentiation (see also Potter and King 1995, 22–3). It has been said of the Maya states, which had limited control of the economy or subsistence activities, that power was generated, not legitimized, by spectacle (Demarest et al. 2003, 141; see also Geertz 1980). Potter and King (1995, 21–2) follow Fox's description whereby the system is composed of equal segments, and is, therefore, decentralized. See also Renfrew (1984, 177), who defines segmentary organization as "the repetition of equivalent groups," which number 50 to 500 persons. Segmentary societies are, therefore, considerably smaller than states. Overall, the lack of coherence concerning what the model is might suggest that it is best avoided; see Chase and Chase (1992, 306–10) for a more detailed critique of the term.

[217] Blanton 1998, 138. See also Schoep 2002b, 21.

[218] Adams 2004a.

[219] Furthermore, few features (e.g., the more certain examples of pillar crypts, monumental horns of consecration, and the chancel screen hall) could be argued to be truly Knossian.

[220] Again, mainly ritual caves rather than peak sanctuaries surrounded Juktas in the wider Knossian area.

[221] The overlap between this sphere of influence, emulation, and competition is partly compatible, but not complete, with Whitelaw's agricultural catchment area (see fig. 3).

[222] Horden and Purcell (2000) rightly emphasize the role of the sea; this role is particularly pertinent in the Aegean context (e.g., Broodbank 2000). Other Aegean islands might be more easily accessible from the north-central part of Crete than from other areas of the island itself, especially given the dangers of hugging the northern coast (Rackham and Moody 1996, 194).

[223] Knappett (1999, 638) suggests that, in the case of Neopalatial Crete, there was "local autonomy in some (economic?) activities coexistent with an overarching (Knossian) control in other (ideological) spheres," but it is yet to be demonstrated that this control is island-wide.

litical, with its overtones of military might and coercion.[224]

Malia and environs contrast starkly with this picture. There is not only centralization of elite features on the regional level at Malia but also apparent monopolization. In spatial terms, Malia could be argued to be more successful in terms of the centralization of both power networks and the articulation of wealth. However, this straightforward reading of the distribution patterns is misleading. Malia's elite (or entire population) could have had a strong interest in the wider region, including even the Lasithi plain, for economic and agricultural reasons. However, the dearth of expressions of wealth and formalized practices in surrounding settlements, and also of nearby ritual sites, is striking. The palace and specific groups of the urban elite may have actively participated in the consumption-fest occurring farther to the west,[225] but it failed to magnetize the palatial institution on the site or regional level to the same degree. The precise reasons for this evade us, and since Malia was a flourishing Protopalatial site, such a scenario is perhaps surprising. But the example of Galatas mentioned above demonstrates how volatile Neopalatial social dynamics were.

There are also settlements, such as Tylissos and Kastelli, that engaged in Minoan conspicuous consumption but do not hug the Juktas massif or lie on the northern coast. It is not necessarily the case that Knossian influence fades over distance; the routes behaved as conduits for people, objects, and information, with local centers acting as nodes. The inhabitants of Tylissos made no attempt on current evidence to build a central court, but the nearby presence of a peak sanctuary is notable, especially since a ritual cave is located in the immediate vicinity of it. The ritual use of caves was a particularly north-central phenomenon, mainly introduced in this period, while peak sanctuaries such as Kastelli-Liliano fell out of use. The coupling at Tylissos is reminiscent of Juktas and Chosto Nero, and the local inhabitants appear to have attempted to reproduce the ritual practices of Knossos (and surrounding sites). Furthermore, since evidence for inhabitation exists at the mouth of the river valley, and Tylissos lies on the best route leading west, it was in a strong position to engage in trade activities as well. From the perspective of those living at Tylissos, this emulation allowed participation in similar practices on the local level. But these ritual sites appear (so far as we can tell at present) to have been tied to Tylissos specifically rather than acting as the forum for regional social strategies in which Knossos played the major role, as argued for Juktas.

Similarly, the Pediada plain was densely inhabited during the Neopalatial period along routes to the major palaces of Phaistos and Malia, and especially to Knossos, which Panagiotakis suggests reflects more intensive relations with Knossos.[226] The only evidence available at present to suggest that Kastelli felt the force of Knossos is the apparent reluctance of its inhabitants to exploit marine resources and contacts (i.e., the lack of a known port), but this is obviously an argument from silence. The agricultural land surrounding Kastelli would have provided a rich source of economic prosperity. These nodal sites demonstrate the ability to display wealth and are local focal points (and, by definition, centers) but are also caught up in a far wider Minoan cultural web of conspicuous consumption, as articulated by island-wide phenomena such as inscribed libation formulas, at which Knossos excelled.

## CONCLUSION

Partly because Crete is an island, there is a natural tendency to consider its political hierarchy on an island-wide level. However, the present systematic analysis of the data, with due appreciation of gradations and how the different types of evidence correlate, raises the question of whether such hierarchies can, or should, be reconstructed. My approach has not been to ignore central places (indeed, I have focused on the larger and more elaborate settlements) but to appreciate the diverse perceptions of them. There was a high degree of centralization in the Minoan world but of various kinds, levels, and scales. That social strategies in the diverse areas of north-central Crete should be enacted so differently is unsurprising, especially considering the range of sociopolitical trajectories that preceded the Neopalatial period.[227]

As well as different kinds of centralization, one must also consider the existence of administrative control and literacy, with all the sociopolitical impli-

[224] This interpretation refers more to Geertz's first and second definition of "state," rather than his third.

[225] Apart from the similarities between Maisons Delta Alpha and Zeta Alpha with Knossian mansions, there are certain formal similarities between Maison Zeta Alpha and the Tylissos buildings (particularly Building A) such as size, a broad distinction between living/ceremonial and service/storage areas, and the presence of a Minoan hall with lustral basin located nearby.

[226] Panagiotakis 2004, 182.

[227] Whitelaw 2004b. Here, the distinction between wealth based on agriculture and trade is made that would profitably be applied to the Neopalatial period.

cations that follow. However, it is not necessarily the case that a state-level society actually consists of "states" in the restricted sense that we most commonly use the term, with the assumption of a political and economic capital and well-defined boundaries. Attempts to apply spatial modeling do not seem to work, and I suspect that this is due to a different perception of "territory," "space," and "land," and the modern emphasis on the political nature of power relations.

*Broader Perspectives and Future Work*

The geographical limitations leave several questions unanswered. For example, how do the prosperous sites of Zakros and the so-called Minoan triangle of Phaistos, Ayia Triada, and Kommos fit into this picture? Warren has recently emphasized the importance of the links between Knossos and the south of the island.[228] The social strategies of the Bay of Mirabello area and the far eastern part of the island also deserve a similar in-depth analysis. The results of this article should be set against developments in the southern Aegean as a whole. In particular, the relationship between Knossos and Kythera needs to be reexamined, but so too do the relations of the other sites involved with the "Minoan thalassocracy." In this sense, it is problematic to compare a given area, such as north-central Crete, and the localized sociopolitical trajectories within them without some awareness of the wider picture. These questions were beyond the analytical scope here, but they should not be totally neglected on this account. In the broader context, it is interesting to note that this period is precisely when mainland sites were generating the ability to mobilize resources and articulate power relations of a very different nature.

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## Works Cited

Adams, E. 2004a. "Power Relations in Minoan Palatial Towns: An Analysis of Neopalatial Knossos and Malia." *JMA* 17:191–22.
———. 2004b. "Power and Ritual in Neopalatial Crete: A Regional Comparison." *WorldArch* 36:26–42.
———. Unpublished. "Time and Chance: Reconstructing Temporality in North-Central Crete during the Neopalatial Period."
Alberti, L. 2004. "The Late Minoan II–IIIA1 Warrior Graves at Knossos: The Burial Assemblages." In *Knossos: Palace, City, State: Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 127–36. British School at Athens Studies 12. London: British School at Athens.
Alexiou, S. 1963. "Η Αρχαιολογική Κίνησις εν Κρήτη κατά το Έτος 1963." *CretChron* 17:401–12.
———. 1966. "Η Αρχαιολογική Κίνησις εν Κρήτη κατά το Έτος 1966." *CretChron* 20:319–26.
———. 1972. "Περί των Μινωικών 'δεξαμενών καθαρμού.'" *CretChron* 24:414–34.
Appadurai, A., ed. 1986. *The Social Life of Things: Commodities in Cultural Perspectives*. Cambridge: Cambridge University Press.
Banou, E., and I. Serpetsidaki. 2001. "Γαλένι." *ADelt* 51(1996):623–24.
Barth, F., ed. 1969. *Ethnic Groups and Boundaries: The Social Organization of Culture Difference*. London: Allen and Unwin.
Begg, D.J.I. 1975. "Minoan Storerooms in the Late Bronze Age." Ph.D. diss., University of Toronto.
Bennet, J. 1990. "Knossos in Context: Comparative Perspectives on the Linear B Administration of LM II–III Crete." *AJA* 94(2):193–211.
———. 2002. "Millennial Ambiguities." In *Labyrinth Revisited: Rethinking "Minoan" Archaeology*, edited by Y. Hamilakis, 214–25. Oxford: Oxbow Books.
Betancourt, P.P. 1985. *The History of Minoan Pottery*. Princeton: Princeton University Press.
Betts, J.H. 1967. "New Light on Minoan Bureaucracy: A Re-examination of Some Cretan Sealings." *Kadmos* 6:15–40.
Blackman, D. 2000. "Archaeology in Greece." *AR*:3–151.
———. 2001. "Archaeology in Greece." *AR*: 1–144.
———. 2002. "Archaeology in Greece." *AR*: 1–115.
Blanton, R.E. 1998. "Beyond Centralization: Steps Toward a Theory of Egalitarian Behavior in Archaic States." In *Archaic States*, edited by G.M. Feinman and J. Marcus, 135–72. Santa Fe, N.M.: School of American Research Press.
Bourdieu, P. 1977. *Outline of a Theory of Practice*. Translated by R. Nice. Cambridge: Cambridge University Press.
Branigan, K. 2001. "Aspects of Minoan Urbanism." In *Urbanism in the Aegean Bronze Age*, edited by K. Branigan, 38–50. Sheffield Studies in Aegean Archaeology 4. Sheffield: Sheffield Academic Press.
Broodbank, C. 2000. *An Island Archaeology of the Early Cyclades*. Cambridge: Cambridge University Press.
Brück, J. 1999. "Ritual and Rationality: Some Problems of Interpretation in European Archaeology." *EJA* 2:313–44.
Cadogan, G. 1976. *The Palaces of Minoan Crete*. London: Barrie and Jenkins.
———. 1984. "A Minoan Thalassocracy?" In *The Minoan Thalassocracy: Myth and Reality*, edited by R. Hägg and

[228] Warren 2004.

N. Marinatos, 13–5. *SkrAth* 4°, 32. Stockholm: Svenska Institutet i Athen.

———. 1994. "An Old Palace Period Knossos State?" In *Knossos: A Labyrinth of History. Papers Presented in Honour of Sinclair Hood*, edited by D. Evely, H. Hughes-Brock, and N. Momigliano, 57–68. London: The British School at Athens.

———. 1995. "Mallia and Lasithi: A Palace-State." *Πεπραγμένα του Διεθνούς Κρητολογικού Συνεδρίου* 7:97–104.

Cameron, M.A.S. 1974. "A General Study of Minoan Frescoes with Particular Reference to Unpublished Wall Paintings from Knossos." Ph.D. diss., University of Newcastle-upon-Tyne.

———. 1978. "Theoretical Interrelations among Theran, Cretan and Mainland Frescoes." In *Thera and the Aegean World I*, edited by C. Doumas, 579–92. London: The Thera Foundation.

Chapman, R. 2003. *Archaeologies of Complexity*. London and New York: Routledge.

Charlton, T.H., and D.L. Nichols. 1997. "The City-State Concept: Development and Applications." In *The Archaeology of City-States: Cross-Cultural Approaches*, edited by D.L. Nichols and T.H. Charlton, 1–14. Washington, D.C., and London: Smithsonian Institution Press.

Chase, A.F., and D.Z. Chase. 1992a. "Mesoamerican Elites: Assumptions, Definitions, and Models." In *Mesoamerican Elites: An Archaeological Assessment*, edited by D.Z. Chase and A.F. Chase, 3–17. Norman, Okla., and London: University of Oklahoma Press.

Chase, D.Z., and A.F. Chase. 1992b. "An Archaeological Assessment of Mesoamerican Elites." In *Mesoamerican Elites: An Archaeological Assessment*, edited by D.Z. Chase and A.F. Chase, 303–17. Norman, Okla., and London: University of Oklahoma Press.

Cherry, J.F. 1978. "Generalisation and the Archaeology of the State." In *Social Organisation and Settlement: Contributions from Anthropology, Archaeology and Geography*, edited by D. Green, C. Haselgrove, and M. Spriggs, 411–37. *BAR-IS* 47(ii). Oxford: British Archaeological Reports.

———. 1986. "Polities and Palaces: Some Problems in Minoan State Formation." In *Peer Polity Interaction and Socio-Political Change*, edited by C. Renfrew and J.F. Cherry, 19–45. Cambridge: Cambridge University Press.

———. 1999. "Introductory Reflections on Economies and Scale in Prehistoric Crete." In *From Minoan Farmers to Roman Traders: Sidelights on the Economy of Ancient Crete*, edited by A. Chaniotis, 17–23. Stuttgart: Franz Steiner Verlag.

Chlouveraki, S. 2002. "Exploitation of Gypsum in Minoan Crete." In *Interdisciplinary Studies on Ancient Stone: ASMOSIA VI. Proceedings of the Sixth International Conference, Venice, June 15–18, 2000*, edited by L. Lazzarini, 25–34. Padua: Bottega d'Erasmo Aldo Ausilio Editore.

Christakis, K. 1999a. "Minoan Storage Jars and Their Significance for the Household Subsistence Economy of Neopalatial Crete." Ph.D. diss., University of Bristol.

———. 1999b. "Pithoi and Food Storage in Neopalatial Crete: A Domestic Perspective." *WorldArch* 31:1–20.

Chrysoulaki, S. 1987. "Ξερή Καρά Αρχανών." In *ΕΙΛΑΠΙΝΗ· Τόμος Τιμητικός για τον Καθηγητή Νικόλαο Πλάτωνα*, edited by L. Kastrinaki, G. Orphanou, and N. Giannadakis, 283–90. Herakleion: Municipality of Herakleion.

Cohen, A.P. 1985. *The Symbolic Construction of Community*. London and New York: Routledge.

Cunningham, T., and J. Driessen. 2004. "Site by Site: Combining Survey and Excavation Data to Chart Patterns of Socio-Political Change in Bronze Age Crete." In *Side-by-Side Survey: Comparative Regional Studies in the Mediterranean World*, edited by S.E. Alcock and J.F. Cherry, 101–13. Oxford: Oxbow Books.

D'Agata, A.L. 1992. "Late Minoan Crete and Horns of Consecration: A Symbol in Action." In *EIKON. Aegean Bronze Age Iconography: Shaping a Methodology,* edited by R. Laffineur and J.L. Crowley, 247–56. *Aegaeum* 8. Liège: Université de Liège, Histoire de l'art et archéologie de la Grèce antique.

Davis, E. 1987. "The Knossos Miniature Frescoes and the Function of the Central Courts." In *The Function of the Minoan Palaces*, edited by R. Hägg and N. Marinatos, 157–61. *SkrAth* 4°, 35. Stockholm: Paul Åströms Förlag.

Dawkins, R.M. 1914. "Excavations at Plati in Lasithi, Crete." *BSA* 20:1–17.

Demarest, A., K. Morgan, C. Wolley, and H. Escobedo. 2003. "The Political Acquisition of Sacred Geography." In *Maya Palaces and Elite Residences: An Interdisciplinary Approach*, edited by J. Christie, 120–53. Austin: University of Texas Press.

De Montmollin, O. 1989. *The Archaeology of Political Structure: Settlement Analysis in a Classic Maya Polity*. Cambridge: Cambridge University Press.

De Polignac, F. 1995. *Cults, Territory, and the Origins of the Greek City-State*. Translated by J. Lloyd. Chicago and London: The University of Chicago Press.

Deshayes, J., and A. Dessenne. 1959. *Fouilles exécutées à Mallia. Exploration des maisons et quartiers d'habitation (1948–1954): Deuxième fascicule. ÉtCrét* 11. Paris: French School at Athens.

Dewolf, Y., F. Postel, and H. Van Effenterre. 1963. "Géographie préhistorique de la région de Mallia." In *Fouilles exécutées à Mallia: Étude du site (1956–1957) et exploration des nécropoles (1915–1928)*, edited by H. Van Effenterre and M. Van Effenterre, 28–53. *ÉtCrét* 13. Paris: Paul Geuthner.

Dimopoulou, N. 1997. "Workshops and Craftsmen in the Harbour-Town of Knossos at Poros-Katsambas." In *TEXNH: Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age*, edited by R. Laffineur and P.P. Betancourt, 433–38. *Aegaeum* 16. Liège and Austin: Université de Liège and University of Texas at Austin.

———. 1999. "The Neopalatial Cemetery of the Knossian Harbour-Town at Poros: Mortuary Behaviour and Social Ranking." In *Eliten in der Bronzezeit: Ergebnisse zweier Kolloquien in Mainz und Athen*, 27–36. Monographien des Römisch-Germanischen Zentralmuseums 43. Mainz: Verlag des Römisch-Germanisschen Zentralmuseums in Kommission bei Dr Rudolf Habelt GMBH.

———. 2000. "Seals and Scarabs from the Minoan Port Settlement at Poros-Katsambas." *Minoisch-Mykenische Glyptik. Stil, Ikonographie, Funktion*, edited by W. Müller, 27–38. *CMS* Beiheft 6. Berlin: Gebr. Mann Verlag.

Dimopoulou-Rethemiotaki, N. 1998. "Πόρος–Κατσαμπάς." *ADelt* 48(1993):450–59.

———. 2004. "Το επίνειο της Κνωσού στον Πόρο–Κατσαμπά." In *Knossos: Palace, City, State: Proceedings*

*of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 363–80. British School at Athens Studies 12. London: British School at Athens.

Donnan, H., and T.M. Wilson, eds. 1999. *Borders: Frontiers of Identity, Nation and State*. Oxford and New York: Berg.

Driessen, J. 1982. "The Minoan Hall in Domestic Architecture on Crete: To Be in Vogue in Late Minoan IA?" *ActaArchLov* 21:27–92.

———. 1989–1990. "The Proliferation of Minoan Palatial Architectural Style: (1) Crete." *ActaArchLov* 28–9:3–23.

———. 2001. "History and Hierarchy. Preliminary Observations on the Settlement Pattern of Minoan Crete." In *Urbanism in the Aegean Bronze Age*, edited by K. Branigan, 51–71. Sheffield Studies in Aegean Archaeology 4. Sheffield: Sheffield Academic Press.

———. 2004. "The Central Court of the Palace at Knossos." In *Knossos: Palace, City, State. Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistoric and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 75–82. British School at Athens Studies 12. London: The British School at Athens.

Driessen, J., and C.F. Macdonald. 1997. *The Troubled Island: Minoan Crete Before and After the Santorini Eruption. Aegaeum* 17. Liège and Austin: Université de Liège and University of Texas at Austin.

Driessen, J., and J. Sakellarakis. 1997. "The Vathypetro Complex—Some Observations on Its Architectural History and Function." In *The Function of the "Minoan Villa,"* edited by R. Hägg, 63–77. *SkrAth* 4°, 46. Stockholm: Svenska Institutet i Athen.

Driessen, J., I. Schoep, and R. Laffineur. 2002. *Monuments of Minos: Rethinking the Minoan Palaces. Aegaeum* 23. Liège and Austin: Université de Liège and University of Texas at Austin.

Evans, A.J. 1921. *The Palace of Minos at Knossos*. Vol. 1. London: Macmillan.

———. 1928. *The Palace of Minos at Knossos*. Vol. 2. London: Macmillan.

———. 1930. *The Palace of Minos at Knossos*. Vol. 3. London: Macmillan.

———. 1935. *The Palace of Minos at Knossos*. Vol. 4. London: Macmillan.

Evely, D. 1988. "Minoan Craftsmen: Problems of Recognition and Definition." In *Problems in Greek Prehistory: Papers Presented at the Centenary Conference of the British School of Archaeology at Athens, Manchester, April 1986*, edited by E.B. French and K.A. Wardle, 397–416. Bristol: Bristol Classical Press.

———. 1993. *Minoan Crafts: Tools and Techniques. An Introduction*. Vol. 1. *SIMA* 92.1. Göteborg: Paul Åströms Förlag.

———. 2000. *Minoan Crafts: Tools and Techniques. An Introduction*. Vol. 2. *SIMA* 92.2. Jonsered: Paul Åströms Förlag.

Faure, P. 1963. "Cultes de sommets et cultes de cavernes en Crète." *BCH* 87:493–508.

———. 1964. *Fonctions des cavernes Crétoises*. Paris: French School at Athens.

———. 1967. "Nouvelles recherches sur les trois sortes de sanctuaires Crétois." *BCH* 91:114–50.

———. 1969. "Sur trois sortes de sanctuaires Crétois." *BCH* 93:174–213.

Finley, M.I. 1968. *Aspects of Antiquity: Discoveries and Controversies*. London: Chatto and Windus.

Forsdyke, E.J. 1926–1927. "The Mavro Spelio Cemetery at Knossos." *BSA* 28:243–96.

Fotou, V. 1997. "Éléments d'analyse architecturale et la question des fonctions de trois bâtiments 'villas': la Royal Villa, le 'Mégaron' de Nirou et le 'Mégaron' de Sklavokampos." In *The Function of the "Minoan Villas,"* edited by R. Hägg, 33–50. *SkrAth* 4°, 46. Stockholm: Svenska Institutet i Athen.

Geertz, C. 1980. *Negara: The Theatre State in Nineteenth-Century Bali*. Princeton: Princeton University Press.

Georgiou, H. 1979. *The Late Minoan I Destruction of Crete: Metal Groups and Stratigraphic Considerations*. Los Angeles: Institute of Archaeology, University of California.

Gesell, G.C. 1985. *Town, Palace, and House Cult in Minoan Crete. SIMA* 67. Göteborg: Paul Åströms Förlag.

Giddens, A. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press.

Gledhill, J. 1988. "Introduction: The Comparative Analysis of Social and Political Transitions." In *State and Society: The Emergence and Development of Social Hierarchy and Political Centralization*, edited by J. Gledhill, B. Bender, and M.T. Larsen, 1–29. One World Archaeology 4. London: Routledge.

Godart, L., and J.-P. Olivier. 1982. *Recueil des Inscriptions en Linéaire A*. Vol. 4, *Autres Documents*. *ÉtCrét* 21(4). Paris: French School at Athens.

Gosden, C., and L. Head. 1994. "Landscape: A Usefully Ambiguous Concept." *Archaeology in Oceania* 29:113–16.

Gosden, C., and Y. Marshall. 1999. "The Cultural Biography of Objects." *WorldArch* 31:169–78.

Graham, J.W. 1977. "Bathrooms and Lustral Chambers." In *Greece and the Eastern Mediterranean in Ancient History and Prehistory: Studies Presented to F. Schachermeyr on the Occasion of His Eightieth Birthday*, edited by K.H. Kinzl, 110–25. Berlin and New York: Walter de Gruyter.

———. 1987. *The Palaces of Crete*. Rev. ed. Princeton: Princeton University Press.

Guest-Papamanoli, A. 1980. "Ανακάλυψη Σημαντικού Κτίσματος μέσα στη Θάλασσα στα Μάλια Κρήτης." *AAA* 13:99–101.

Hägg, R., ed. 1997. *The Function of the "Minoan Villa." SkrAth* 4°, 46. Stockholm: Svenska Institutet i Athen.

Hall, J.A. 1986. "Introduction." In *States in History*, edited by J.A. Hall, 1–21. Oxford: Blackwell.

Hallager, B., and E. Hallager. 1995. "The Knossian Bull: Political Propaganda in Neo-palatial Crete?" In *Politeia: Society and State in the Aegean Bronze Age*, edited by R. Laffineur and W.-D. Niemeier, 547–56. *Aegaeum* 12. Liège and Austin: Université de Liège and University of Texas at Austin.

Hamilakis, Y. 2002a. "What Future for the 'Minoan' Past? Rethinking Minoan Archaeology." In *Labyrinth Revisited: Rethinking "Minoan" Archaeology*, edited by Y. Hamilakis, 2–28. Oxford: Oxbow Books.

———. 2002b. "Too Many Chiefs?: Factional Competi-

tion in Neopalatial Crete." In *Monuments of Minos: Rethinking the Minoan Palaces*, edited by J. Driessen, I. Schoep, and R. Laffineur, 179–99. *Aegaeum* 23. Liège and Austin: Université de Liège and University of Texas at Austin.

Haselgrove, C. 1986. "Central Places in British Iron Age Studies: A Review and Some Problems." In *Central Places, Archaeology and History*, edited by E. Grant, 3–12. Sheffield: Department of Archaeology and Prehistory, University of Sheffield.

Hatzaki, E.M. 1996. "Was the Little Palace at Knossos the 'Little Palace' of Knossos?" In *Minotaur and Centaur: Studies in the Archaeology of Crete and Euboea Presented to Mervyn Popham*, edited by D. Evely, I.S. Lemos, and S. Sherratt, 34–45. *BAR-IS* 638. Oxford: British Archaeological Reports.

Hazzidakis, J. 1921. *Tylissos à l'Époque Minoenne*. Paris: Paul Geuthner.

———. 1934. *Les Villas Minoennes de Tylissos*. *ÉtCrét* 3. Paris: Paul Geuthner.

Herzog, Z. 1997. *Archaeology of the City: Urban Planning in Ancient Israel and its Social Implications*. Tel Aviv: Emery and Claire Yass Archaeological Press of the Institute of Archaeology, Tel Aviv University.

Hitchcock, L.A. 2000. *Minoan Architecture: A Contextual Analysis*. *SIMA* 155. Jonsered: Paul Åströms Förlag.

Hitchcock, L.A., and D. Preziosi. 1997. "The Knossos Unexplored Mansion and the 'Villa-Annex Complex.'" In *The Function of the "Minoan Villa,"* edited by R. Hägg, 51–62. *SkrAth* 4°, 46. Stockholm: Svenska Institute i Athen.

Hodder, I., and C. Orton. 1976. *Spatial Analysis in Archaeology*. Cambridge: Cambridge University Press.

Hood, S. 1983. "The 'Country House' and Minoan Society." In *Minoan Society: Proceedings of the Cambridge Colloquium 1981*, edited by O. Krzyszkowska and L. Nixon, 129–35. Bristol: Bristol Classical Press.

———. 2000a. "The Wall Paintings of Crete." In *The Wall Paintings of Thera*, edited by S. Sherratt, 21–32. Athens: Petros M. Nomikos and The Thera Foundation.

———. 2000b. "Cretan Fresco Dates." In *The Wall Paintings of Thera*, edited by S. Sherratt, 191–208. Athens: Petros M. Nomikos and The Thera Foundation.

Horden, P., and N. Purcell. 2000. *The Corrupting Sea: A Study of Mediterranean History*. Oxford: Blackwell.

Hudson, M. 1999. In "Methodology Discussion." In *Urbanization and Land Ownership in the Ancient Near East*, edited by M. Hudson and B.A. Levine, 457–80. Peabody Museum Bulletin 7. Cambridge, Mass.: Peabody Museum of Archaeology and Ethnology, Harvard University.

Immerwahr, S.A. 1990. *Aegean Painting in the Bronze Age*. University Park, Pa., and London: Pennsylvania State University Press.

Ioannidou-Karetsou, A. 1985. "Αλάγνι." *ADelt* 33 (1978):358–59.

Jenkins, R. 1992. *Pierre Bourdieu*. London and New York: Routledge.

Jones, S. 1997. *The Archaeology of Ethnicity: Constructing Identities in the Past and Present*. London and New York: Routledge.

Karetsou, A. 1974. "Το Ιερό Κορυφής Γιούχτα." *Prakt*:228–39.

———. 1975. "Το Ιερό Κορυφής του Γιούχτα." *Prakt*: 330–42.

———. 1976. "Το Ιερό Κορυφής Γιούχτα." *Prakt*:408–18.

———. 1977. "Το Ιερό Κορυφής Γιούχτα." *Prakt*:419–20.

———. 1978. "Το Ιερό Κορυφής Γιούχτα." *Prakt*:232–58.

———. 1981. "The Peak Sanctuary of Mount Juktas." In *Sanctuaries and Cults in the Aegean Bronze Age*, edited by R. Hägg and N. Marinatos, 137–53. *SkrAth* 4°, 28. Stockholm: Paul Åströms Förlag.

———. 1984. "Ιερό Κορυφής Γιούχτα." *Prakt*:600–14.

Karetsou, A., L. Godart, and J.-P. Olivier. 1985. "Inscriptions en linéaire A du sanctuaire de sommet du mont Iuktas." *Kadmos* 24:89–147.

Knappett, C. 1999. "Assessing a Polity in Protopalatial Crete: The Malia-Lasithi State." *AJA* 103(4):615–39.

———. 2004. "Technological Innovation and Social Diversity at Middle Minoan Knossos." In *Knossos: Palace, City, State: Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 257–65. British School at Athens Studies 12. London: British School at Athens.

Knappett, C., and I. Schoep. 2000. "Continuity and Change in Minoan Palatial Power." *Antiquity* 74:365–71.

Koehl, R. 1981. "The Functions of Aegean Bronze Age Rhyta." In *Sanctuaries and Cults in the Aegean Bronze Age*, edited by R. Hägg and N. Marinatos, 179–88. *SkrAth* 4°, 28. Stockholm: Paul Åströms Förlag.

Krzyszkowska, O. 2005. *Aegean Seals: An Introduction*. *BICS* Suppl. 85. London: Institute of Classical Studies, University of London.

Layton, R., and P.J. Ucko. 1999. "Introduction: Gazing on the Landscape and Encountering the Environment." In *The Archaeology and Anthropology of Landscape: Shaping Your Landscape*, edited by P.J. Ucko and R. Layton, 1–20. One World Archaeology 30. London and New York: Routledge.

Lloyd, J.F. 1990. "Settlements, Dwellings, and Painted Pottery: A Contribution to the History of Minoan Crete in the Early Late Bronze Age." Ph.D. diss., New York University.

Maisels, C.K. 1990. *The Emergence of Civilization: From Hunting and Gathering to Agriculture, Cities, and the State in the Near East*. London and New York: Routledge.

Marcus, J. 2000. "Toward an Archaeology of Communities." In *The Archaeology of Communities: A New World Perspective*, edited by M.A. Canuto and J. Yaeger, 231–42. London and New York: Routledge.

Marcus, J., and G.M. Feinman. 1998. "Introduction." In *Archaic States*, edited by G.M. Feinman and J. Marcus, 3–13. Santa Fe, N.M.: School of American Research Press.

Marinatos, N. 1987. "Public Festivals in the West Courts of the Palaces." In *The Function of the Minoan Palaces*, edited by R. Hägg and N. Marinatos, 135–43. *SkrAth* 4°, 35. Stockholm: Paul Åströms Förlag.

Marinatos, N., and R. Hägg. 1986. "On the Ceremonial Function of the Minoan Polythyron." *OpAth* 16:57–73.

Marinatos, S. 1925–1926. "Ανασκαφαί Νίρου Χάνι Κρήτης." *Prakt*:141–47.

———. 1948. "Το Μινωικόν Μέγαρον Σκλαβοκάμπου." *Αρχαιολογική Εφημερίς* 1939–1941:69–96.
———. 1951. "Ανασκαφαί Μεγάρου Βαθύπετρου Κρήτης." *Prakt*:258–72.
———. 1955. "Ανασκαφαί εν Λυκάστω και Βαθύπετρω Κρήτης." *Prakt*:306–10.
———. 1960. *Crete and Mycenae*. Translated by J. Boardman. London: Thames and Hudson.
McEnroe, J.C. 1979. "Minoan House and Town Arrangement." Ph.D. diss., University of Toronto.
———. 1982. "A Typology of Minoan Neopalatial houses." *AJA* 86(1):3–19.
Moody, J. 1987. "The Minoan Palace as a Prestige Artifact." In *The Function of the Minoan Palaces*, edited by R. Hägg and N. Marinatos, 235–41. *SkrAth* 4°, 35. Stockholm: Svenska Institutet i Athen.
Muhly, P. 1992. *Μινωικός Λαξευτός Τάφος στον Πόρο Ηρακλείου (Ανασκαφής 1967)*. Athens: Athens Archaeological Service.
Müller, S. 1990. "Prospection de la plaine de Malia." *BCH* 114:921–30.
———. 1991. "Prospection de la plaine de Malia." *BCH* 115:741–49.
———. 1992. "Prospection de la plaine de Malia." *BCH* 116:742–53.
———. 1996. "Prospection archéologique de la plaine de Malia." *BCH* 120:921–28.
———. 1998. "Malia. Prospection archéologique de la plaine." *BCH* 122:548–52.
Mylonas, G.E. 1987. "Το Έργον της Αρχαιολογικής Εταιρείας Κατά το 1986." *Ergon* 1986:9–152.
Nordfeldt, A. 1987. "Residential Quarters and Lustral Basins." In *The Function of the Minoan Palaces*, edited by R. Hägg and N. Marinatos, 187–94. *SkrAth* 4°, 35. Stockholm: Svenska Institutet i Athen.
Nowicki, K. 1994. "Some Remarks on the Pre- and Protopalatial Peak Sanctuaries in Crete." *Aegean Archaeology* 1:31–48.
Palaima, T. 1990. "Origin, Development, Transition and Transformation: The Purposes and Techniques of Administration in Minoan and Mycenaean Society." In *Aegean Seals, Sealings and Administration*, edited by T. Palaima, 83–99. *Aegaeum* 5. Liège: Université de Liège.
Palyvou, C. 1987. "Circulatory Patterns in Minoan Architecture." In *The Function of the Minoan Palaces*, edited by R. Hägg and N. Marinatos, 195–203. *SkrAth* 4°, 35. Stockholm: Svenska Institutet i Athen.
———. 2002. "Central Courts: The Supremacy of the Void." In *Monuments of Minos: Rethinking the Minoan Palaces*, edited by J. Driessen, I. Schoep, and R. Laffineur, 167–78. *Aegaeum* 23. Liège and Austin: Université de Liège and University of Texas at Austin.
Panagiotakis, N. 2004. "Contacts Between Knossos and the Pediada Region in Central Crete." In *Knossos: Palace, City, State: Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 177–86. British School at Athens Studies 12. London: British School at Athens.
Paton, S., and R.M. Schneider. 1999. "Imperial Splendour in the Province: Imported Marble on Roman Crete." In *From Minoan Farmers to Roman Traders: Sidelights on the Economy of Ancient Crete*, edited by A. Chaniotis, 279–304. Stuttgart: Franz Steiner Verlag.
Peatfield, A. 1983. "The Topography of Minoan Peak Sanctuaries." *BSA* 78:273–79.
———. 1987. "Palace and Peak: The Political and Religious Relationship." In *The Function of the Minoan Palaces*, edited by R. Hägg and N. Marinatos, 89–93. *SkrAth* 4°, 35. Stockholm: Svenska Institutet i Athen.
———. 1990. "Minoan Peak Sanctuaries: History and Society." *OpAth* 18:117–31.
———. 1994. "After the 'Big Bang'—What? or Minoan symbols and Shrines beyond Palatial Collapse." In *Placing the Gods: Sanctuaries and Sacred Space in Ancient Greece*, edited by S.E. Alcock and R. Osborne, 19–36. Oxford: Clarendon Press.
Pendlebury, J.D.S. 1939. *The Archaeology of Crete: An Introduction*. London: Methuen.
Pendlebury, J.D.S., E. Eccles, and M.B. Money-Coutts. 1932–1933. "Journeys in Crete, 1934." *BSA* 33:80–100.
Petrakos, V.Ch. 1989. "Το Έργον της Αρχαιολογικής Εταιρείας Κατά το 1988." *Ergon* 1988:1–185.
Philip, G. 2003. "The Early Bronze Age of the Southern Levant: A Landscape Approach." *JMA* 16:103–32.
Pilali-Papasteriou, A. 2004. "Κνωσός και θεοκρατία." In *Knossos: Palace, City, State: Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 323–27. British School at Athens Studies 12. London: British School at Athens.
Pirazzoli, P.A. 1988. "Sea-Level Changes and Crustal Movements in the Hellenic Arc (Greece). The Contribution of Archaeological and Historical Data." In *Archaeology of Coastal Changes*, edited by A. Raban, 157–83. *BAR-IS* 404. Oxford: British Archaeological Reports.
Platon, N. 1951. "Ανασκαφή Μινωικών οικιών εις Πρασά Ηρακλείου." *Prakt*:246–57.
———. 1954. "Τα Μινωικά οικιακά ιερά." *CretChron* 8:428–83.
———. 1958. "Η Αρχαιολογική Κίνησις εν Κρήτη κατά το Έτος 1958." *CretChron* 12:459–83.
———. 1967. "Bathrooms and Lustral Basins in Minoan Dwellings." In *EUROPA: Studien zur Geschichte und Epigraphik der Frühen Aegaeis. Festschrift für Ernst Grumach*, edited by W.C. Brice, 236–45. Berlin: Walter de Gruyter.
Poblome, J., and C. Dumon. 1987–1988. "A Minoan Building Program? Some Comments on the Unexplored Mansion at Knossos." *ActaArchLov* 26–7:69–72.
Potter, D.R., and E.M. King. 1995. "A Heterarchical Approach to Lowland Maya Socioeconomies." In *Heterarchy and the Analysis of Complex Societies*, edited by R.M. Ehrenreich, C.L. Crumley, and J.E. Levy, 17–32. Archaeological Papers of the American Anthropological Association 6. Arlington, Va.: American Anthropological Association.
Poursat, J-C. 1988. "La ville Minoenne de Malia: Recherches et publications récentes." *RA*:61–82.
Preston, L. 2004. "Final Palatial Knossos and Postpalatial Crete: A Mortuary Perspective on Political Dynamics." In *Knossos: Palace, City, State: Proceedings of the Con-*

*ference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 137–45. British School at Athens Studies 12. London: British School at Athens.

Psychoyos, O. 1988. *Déplacements de la Ligne de Rivage et Sites Archéologiques dans les Régions Côtières de la Mer Égée, au Néolithique et à l'Age de Bronze. SIMA* 62. Jonsered: Paul Åströms Förlag.

Raban, A. 1991. "Minoan and Canaanite Harbours." In *Thalassa: L'Égée préhistorique et la mer*, edited by R. Laffineur and L. Basch, 129–46. *Aegaeum* 7. Liège: Université de Liège.

Rackham, O., and J. Moody. 1996. *The Making of the Cretan Landscape*. Manchester and New York: Manchester University Press.

Rapoport, A. 1990. "Systems of Activities and Systems of Settings." In *Domestic Architecture and the Use of Space: An Interdisciplinary Cross-Cultural Study*, edited by S. Kent, 9–20. Cambridge: Cambridge University Press.

Rehak, P., and J.G. Younger. 1998. "Review of Aegean Prehistory 7: Neopalatial, Final Palatial, and Postpalatial Crete." *AJA* 102(1):91–173.

Relaki, M. 2004. "Constructing a *Region*: The Contested Landscapes of Prepalatial Mesara." In *The Emergence of Civilisation Revisited*, edited by J.C. Barrett and P. Halstead, 170–88. Sheffield Studies in Aegean Archaeology 6. Oxford: Oxbow Books.

Renfrew, C. 1984. *Approaches to Social Archaeology*. Edinburgh: Edinburgh University Press.

———. 1986. "Introduction. Peer Polity Interaction and Socio-Political Change." In *Peer Polity Interaction and Socio-Political Change*, edited by C. Renfrew and J. F. Cherry, 1–18. Cambridge: Cambridge University Press.

Rethemiotakis, G. 1990. "Μάλια—Λύκτος. Ζητήματα αρχαιολογικής τοπογραφίας της επαρχίας Πεδιάδας." *Πεπραγμένα του Διεθνούς Κρητολογικού Συνεδρίου* 6:241–48.

———. 1997. "Το Μινωικό 'κεντρικό κτίριο' στο Καστέλλι Πεδιάδας." *ADelt* 47(1992):29–64.

———. 1999a. "Το Νέο Μινωικό Ανάκτορο στον Γαλατά Πεδιάδος και το 'Ιερό Σπήλαιο' Αρκαλοχωρίου." In *Κρήτες Θαλασσοδρόμοι*, edited by A. Karetsou, 91–111. Herakleion: Ministry of Culture.

———. 1999b. "The Hearths of the Minoan Palace at Galatas." In *Meletemata: Studies in Aegean Archaeology Presented to Malcolm H. Wiener as He Enters His 65th Year*, edited by P.P. Betancourt, V. Karageorghis, R. Laffineur, and W.-D. Niemeier, 721–27. *Aegaeum* 20. Liège and Austin: Université de Liège and University of Texas at Austin.

———. 1999c. "Βόνη." *Κρητική Εστία* 7:239–41.

———. 2002. "Evidence on Social and Economic Changes at Galatas and Pediada in the New-Palace Period." In *Monuments of Minos: Rethinking the Minoan Palaces*, edited by J. Driessen, I. Schoep, and R. Laffineur, 55–70. *Aegaeum* 23. Liège and Austin: Université de Liège and University of Texas at Austin.

Rothman, M.S. 1994. "Introduction Part 1: Evolutionary Typologies and Cultural Complexity." In *Chiefdoms and Early States in the Near East: The Organizational Dynamics of Complexity*, edited by G. Stein and M.S. Rothman, 1–10. Monographs in World Archaeology 18. Madison, Wis.: Prehistory Press.

Rutkowski, B. 1986. *The Cult Places of the Aegean*. New Haven and London: Yale University Press.

———. 1988. "Minoan Peak Sanctuaries: The Topography and Architecture." *Aegaeum* 2:71–99.

———. 1991. *Petsophas. A Cretan Peak Sanctuary*. Studies and Monographs in Mediterranean Archaeology and Cilvilization. Ser. 1. Vol. 1. Warsaw: Art and Archaeology.

Rutkowski, B., and K. Nowicki. 1984. "Report on Investigations in Greece 2. Studies in 1983." *Archeologia* 35:178–92.

———. 1996. *The Psychro Cave and Other Sacred Grottoes in Crete*. Studies and Monographs in Mediterranean Archaeology and Civilization. Ser. 2. Vol. 1. Warsaw: Art and Archaeology.

Sakellarakis, Y. 1983. "Δοκιμαστική Ανασκαφή Ζωμίνθου." *Prakt*:488–98.

———. 2004. "Ζώμινθος." *Ergon* 51:48–53.

Sakellarakis, Y., and E. Sapouna-Sakellaraki. 1997. *Archanes: Minoan Crete in a New Light*. Athens: Ammos.

Schäfer, J. 1991. "Amnisos: Harbour-town of Minos?" In *Thalassa: L'Égée préhistorique et la mer*, edited by R. Laffineur and L. Basch, 111–16. *Aegaeum* 7. Liège: Université de Liège.

Schoep, I. 1994. "Ritual, Politics and Script on Minoan Crete." *Aegean Archaeology* 1:7–25.

———. 1999. "Tablets and Territories? Reconstructing Late Minoan IB Political Geography through Undeciphered Documents." *AJA* 103(2):201–21.

———. 2002a. *The Administration of Neopalatial Crete: A Critical Assessment of the Linear A Tablets and Their Role in the Administrative Process*. Minos Suppl. 17. Salamanca: Ediciones Universidad de Salamanca.

———. 2002b. "The State of the Minoan Palaces or the Minoan Palace-State?" In *Monuments of Minos: Rethinking the Minoan Palaces*, edited by J. Driessen, I. Schoep, and R. Laffineur, 15–33. *Aegaeum* 23. Liège and Austin: Université de Liège and University of Texas at Austin.

Schoep, I., and C. Knappett. 2004. "Dual Emergence: Evolving Heterarchy, Exploding Hierarchy." In *The Emergence of Civilisation Revisited*, edited by J.C. Barrett and P. Halstead, 21–37. Sheffield Studies in Aegean Archaeology 6. Oxford: Oxbow Books.

Shaw, J.W. 1971. "Minoan Architecture: Materials and Techniques." *ASAtene* 49:1–256.

———. 1978a. "Evidence for the Minoan Tripartite Shrine." *AJA* 82(4):429–48.

———. 1990. "Bronze Age Aegean Harboursides." In *Thera and the Aegean World 3*. Vol. 1, *Archaeology*, edited by D.A. Hardy, C.G. Doumas, J.A. Sakellarakis, and P.M. Warren, 420–36. London: The Thera Foundation.

Shaw, M.C. 1972. "The Miniature Frescoes of Tylissos Reconsidered." *AA*:171–88.

———. 1978b. "A Minoan Fresco from Katsamba." *AJA* 82(1):27–34.

Smith, A.T. 2003. *The Political Landscape: Constellations of Authority in Early Complex Polities*. Berkeley, Los Angeles, and London: University of California Press.

Snodgrass, A. 1986. "Interaction by Design: The Greek City State." In *Peer Polity Interaction and Socio-Political Change*, edited by C. Renfrew and J.F. Cherry, 47–58. Cambridge: Cambridge University Press.

Soles, J.S. 1995. "The Functions of a Cosmological Center: Knossos in Palatial Crete." In *Politeia: Society and State in the Aegean Bronze Age*, edited by R. Laffineur and W.-D. Niemeier, 404–14. *Aegaeum* 12. Liège and Austin: Université de Liège and University of Texas at Austin.

———. 2002. "A Central Court at Gournia?" In *Monuments of Minos: Rethinking the Minoan Palaces*, edited by J. Driessen, I. Schoep, and R. Laffineur, 123–32. *Aegaeum* 23. Liège and Austin: Université de Liège and University of Texas at Austin.

Stark, M.T., ed. 1998. *The Archaeology of Social Boundaries*. Washington, D.C., and London: Smithsonian Institution Press.

Stein, G. 1994. "The Organizational Dynamics of Complexity in Greater Mesopotamia." In *Chiefdoms and Early States in the Near East: The Organizational Dynamics of Complexity*, edited by G. Stein and M.S. Rothman, 11–22. Monographs in World Archaeology 18. Madison, Wis.: Prehistory Press.

Stone, E. 1997. "City-States and Their Centers: The Mesopotamian Example." In *The Archaeology of City-states: Cross-Cultural Approaches*, edited by D.L. Nichols and T.H. Charlton, 15–26. Washington, D.C., and London: Smithsonian Institution Press.

Tilley, C. 1994. *A Phenomenology of Landscape: Places, Paths and Monuments*. Oxford and Providence, R.I.: Berg.

Trigger, B.G. 1993. *Early Civilizations: Ancient Egypt in Context*. Cairo: The American University in Cairo Press.

———. 2003. *Understanding Early Civilizations: A Comparative Study*. Cambridge: Cambridge University Press.

Tyree, E.L. 1974. "Cretan Sacred Caves: Archaeological Evidence." Ph.D. diss., University of Missouri, Columbia.

Van de Mieroop, M. 1997. *The Ancient Mesopotamian City*. Oxford: Clarendon Press.

Van Dommelen, P. 1999. "Exploring Everyday Places and Cosmologies." In *Archaeologies of Landscape: Contemporary Perspectives*, edited by W. Ashmore and A.B. Knapp, 277–85. Oxford: Blackwell.

Van Effenterre, H. 1980. *Le Palais de Mallia et la Cité Minoenne*. Incunabula Graeca 76. Rome: Edizioni dell'Ateneo.

Wagstaff, M. 1986. "What Christaller Really Said About Central Places." In *Central Places, Archaeology and History*, edited by E. Grant, 119–22. Sheffield: Department of Archaeology and Prehistory, University of Sheffield.

Wall, S.M., J.H. Musgrave, and P.M. Warren. 1986. "Human Bones from a Late Minoan IB House at Knossos." *BSA* 81:333–88.

Warren, P. 1969. *Minoan Stone Vases*. Cambridge: Cambridge University Press.

———. 1999. "LM IA: Knossos, Thera, Gournia." In *Meletemata: Studies in Aegean Archaeology Presented to Malcolm Wiener as He Enters His 65th Year*, edited by P.P. Betancourt, V. Karageorghis, R. Laffineur, and W.-D. Niemeier, 893–904. *Aegaeum* 20. Liège and Austin: Université de Liège and University of Texas at Austin.

———. 2002. "Political Structure in Neopalatial Crete." In *Monuments of Minos: Rethinking the Minoan Palaces*, edited by J. Driessen, I. Schoep, and R. Laffineur, 201–5. *Aegaeum* 23. Liège and Austin: Université de Liège and University of Texas at Austin.

———. 2004. "Terra Cognita? The Territory and Boundaries of the Early Neopalatial Knossian State." In *Knossos: Palace, City, State: Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 159–68. British School at Athens Studies 12. London: British School at Athens.

Watrous, L.V. 1982. *Lasithi: A History of Settlement on a Highland Plain in Crete*. Hesperia Suppl. 18. Princeton: American School of Classical Studies.

———. 1995. "Some Observations on Minoan Peak Sanctuaries." In *POLITEIA: Society and State in the Aegean Bronze Age*, edited by R. Laffineur and W.-D. Niemeier, 393–404. *Aegaeum* 12. Liège and Austin: Université de Liège and University of Texas at Austin.

———. 1996. *The Cave Sanctuary of Zeus at Psychro: A Study of Extra-Urban Sanctuaries in Minoan and Early Iron Age Crete*. *Aegaeum* 15. Liège and Austin: Université de Liège and University of Texas at Austin.

Whitelaw, T. 2001a. "From Sites to Communities: Defining the Human Dimensions of Minoan Urbanism." In *Urbanism in the Aegean Bronze Age*, edited by K. Branigan, 15–37. Sheffield Studies in Aegean Archaeology 4. Sheffield: Sheffield Academic Press.

———. 2001b. "The Floor Area of 207 Minoan Houses." In *Urbanism in the Aegean Bronze Age*, edited by K. Branigan, 174–79. Sheffield Studies in Aegean Archaeology 4. Sheffield: Sheffield Academic Press.

———. 2004a. "Estimating the Population of Neopalatial Knossos." In *Knossos: Palace, City, State: Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 147–58. British School at Athens Studies 12. London: British School at Athens.

———. 2004b. "Alternative Pathways to Complexity in the Southern Aegean." In *The Emergence of Civilisation Revisited*, edited by J.C. Barrett and P. Halstead, 232–56. Sheffield Studies in Aegean Archaeology 6. Oxford: Oxbow Books.

Whitley, J. 2003. "Archaeology in Greece 2002–2003." *AR*:1–88.

———. 2004. "Archaeology in Greece 2003–2004." *AR*: 1–92.

Wiener, M. 1990. "The Isles of Crete? The Minoan Thalassocracy Revisited." In *Thera and the Aegean World 3*. Vol. 1, *Archaeology. Proceedings of the Third International Congress, Santorini, Greece, 3–9 September 1989*, edited by D.A. Hardy, C.G. Doumas, J.A. Sakellarakis, and P.M. Warren, 128–61. London: The Thera Foundation.

Wilson, A.L, J.F. Cherry, and J. Bennet. n.d. *Gazetteer of Archaeological Sites on Crete*.

Wolpert, A.D. 2004. "Getting Past Consumption and Competition: Legitimacy and Consensus in the Shaft Graves." In *The Emergence of Civilisation Revisited*, edited by J.C. Barrett and P. Halstead, 127–44. Sheffield Studies in Aegean Archaeology 6. Oxford: Oxbow Books.

Xanthoudidis, S. 1922. "Μινωικόν μέγαρον Νίρου."

*Αρχαιολογική Εφημερίς* :1–25.

Yoffee, N. 1993. "Too Many Chiefs? (or, Safe Texts for the '90s)." In *Archaeological Theory: Who Sets the Agenda?*, edited by N. Yoffee and A. Sherratt, 60–78. Cambridge: Cambridge University Press.

Zeimbeki, M. 2004. "The Organization of Votive Production and Distribution in the Peak Sanctuaries of State Society Crete: A Perspective Offered by the Juktas Clay Animal Figures." In *Knossos: Palace, City, State: Proceedings of the Conference in Herakleion Organised by the British School at Athens and the 23rd Ephoreia of Prehistory and Classical Antiquities of Herakleion, in November 2000, for the Centenary of Sir Arthur Evans's Excavation at Knossos*, edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 351–61. British School at Athens Studies 12. London: British School at Athens.