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Review of Aegean Prehistory III: Crete from Earliest Prehistory through the Protopalatial Period

L. VANCE WATROUS

Dedicated to Sinclair Hood

INTRODUCTION

This article has three aims: 1) to present the basic framework of Minoan archaeology from earliest prehistory through the Middle Minoan II period, 2) to highlight recent work done on these periods, and 3) to discuss some of the broader issues raised by this

Publication of this review and of the previous two reviews in this series was made possible by a generous grant to *AJA* by the Institute for Aegean Prehistory. The editors and I are grateful for this support.

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This article, written during the fall and winter of the 1993/1994 academic year during my tenure as a Whitehead Visiting Professor at the American School of Classical Studies at Athens, would definitely have not been possible without the library and staff of the School. Because this article is a summary account, I have been unable to include all of the research done by colleagues working on Crete; to those whose work I have omitted, I offer my apologies. H. Blitzer edited the manuscript and, additionally, endured me while I was writing it.

material.¹ One of the main obstacles in understanding pre- and protopalatial Crete is that a high proportion of the published material is from unstratified and poorly dated tomb groups excavated early in this century. For this reason I have given first priority to setting out the primary evidence in correct chronological sequence. In this respect, this

The following abbreviations are used in this article:

Andreou	S. Andreou, <i>Pottery Groups of the Old Palace Period in Crete</i> (Diss. Univ. of Cincinnati 1978).
Branigan	K. Branigan, <i>Aegean Metalwork of the Early and Middle Bronze Age</i> (Oxford 1974).
<i>Chronology</i>	P. Warren and V. Hankey, <i>Aegean Bronze Age Chronology</i> (Bristol 1989).
Ehrich	R. Ehrich ed., <i>Chronologies in Old World Archaeology</i> ³ I–II (Chicago 1992).
<i>Festòs</i>	D. Levi, <i>Festòs e la civiltà minoica I–II</i> (<i>Incunabula Graeca</i> 60, 77, Rome 1976, 1988).
<i>Function</i>	R. Hägg and N. Marinatos eds., <i>The Function of the Minoan Palaces</i> (<i>SkrAth</i> 4, 35, Stockholm 1987).
<i>Levant</i>	P. Gerstenblith, <i>The Levant at the Beginning of the Middle Bronze Age</i> (ASOR Dissertation Series 5, Philadelphia 1983).
<i>Mochlos</i>	R. Seager, <i>Explorations in the Island of Mochlos</i> (Boston 1912).
<i>MSV</i>	P. Warren, <i>Minoan Stone Vases</i> (Cambridge 1969).
<i>Myrtos</i>	P. Warren, <i>Myrtos: An Early Bronze Age Settlement in Crete</i> (London 1972).
<i>Pepragmena</i> 1981	<i>Πεπραγμένα του Δ' Διεθνούς Κρητολογικού Συνεδρίου</i> (Athens 1981).
<i>Pepragmena</i> 1990	<i>Πεπραγμένα του ΣΤ' Διεθνούς Κρητολογικού Συνεδρίου</i> (Chania 1990).
<i>Society</i>	O. Krzyszkowska and L. Nixon eds., <i>Minoan Society</i> (Bristol 1983).
Soles	J. Soles, <i>The Prepalatial Cemeteries at Mochlos and Gournia and the House Tombs of Bronze Age Crete</i> (<i>Hesperia</i> Suppl. 24, Princeton 1992).
<i>Thalassocracy</i>	R. Hägg and N. Marinatos eds., <i>The Minoan Thalassocracy: Myth and Reality</i> (<i>SkrAth</i> 4, 32, Stockholm 1984).

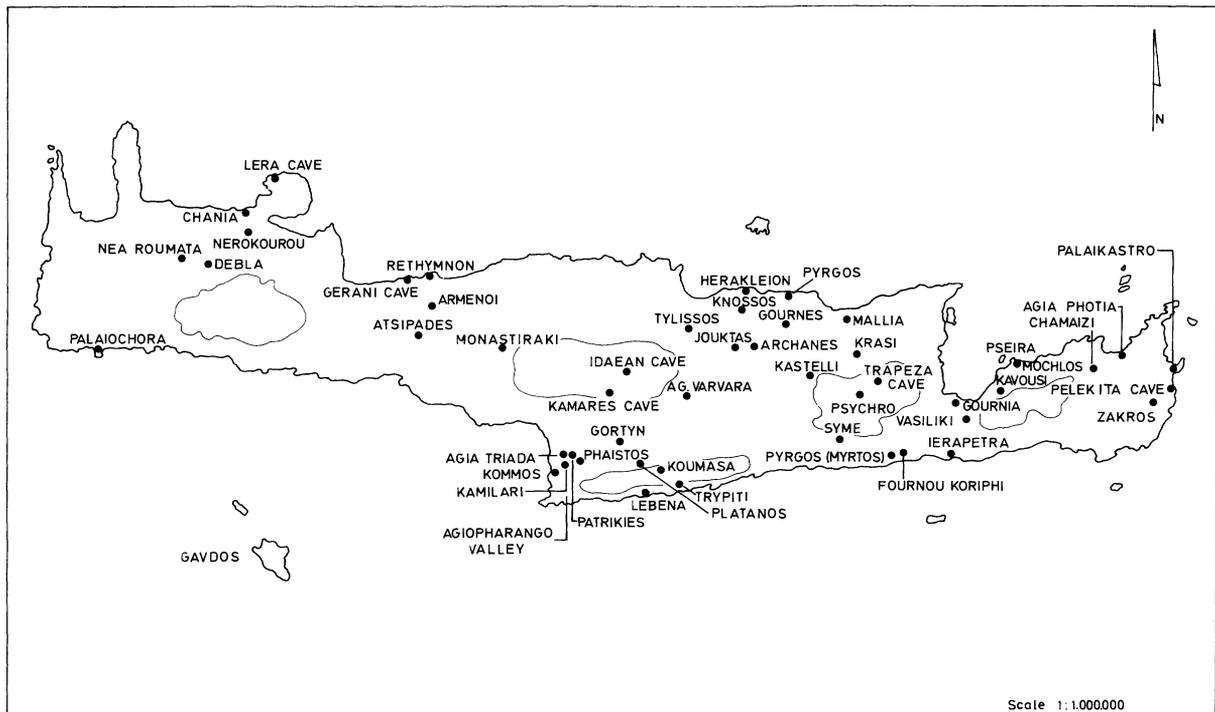


Fig. 1. Map of Crete with principal sites mentioned in the text

study differs from the first two articles in this series,² which focused primarily on recently recovered evidence. As will be seen below, the format adopted here follows from the current state of archaeological research on Crete. The article begins with a review of the history of Minoan archaeology because it is this history more than anything else that has determined the nature of the discipline today. Due to limitations of time and space, some of the broader interpretative problems arising from the archaeological material cannot be treated here.

This article is not intended to be a complete report on all of the archaeological work being carried out on Crete. That service is provided by *Archaeological Reports (AR)*, *Bulletin de correspondance hellénique (BCH)*, *Κρητικά Χρονικά (CretChron)*, *Αμάλθεια* (Historical-Ethnographic Society of

Lasithi), and *Κρητική Εστία* (Historical, Ethnographic and Archaeological Society of Crete, Chania). The official Greek publications of all Greek excavations, which greatly outnumber foreign projects, are *Αρχαιολογικόν Δελτίον (ArchDelt)*, *Το Έργον*, and *Πρακτικά της εν Αθήναις Αρχαιολογικής Εταιρείας (Prakt)*. Since the *Deltion*, whose reports include the many Service rescue excavations, is at present six years behind schedule, I have contacted a number of Greek archaeologists directly in an effort to present as up-to-date a discussion as possible.

HISTORY OF RESEARCH

Since the beginning of this century the British, Italian, French, and American archaeological schools have undertaken a continuing and systematic series of excavations on Crete (fig. 1).³ As a con-

van Effenterre H. van Effenterre, *Le palais de Mallia et la cité minoenne: Étude de synthèse I-II (Incunabula Graeca 76, Rome 1980)*.

VTM S. Xanthoudides, *The Vaulted Tombs of Mesara* (London 1924).

Yule P. Yule, *Early Cretan Seals: A Study of Chronology (Marburger Studien zur Vor- und Frühgeschichte 4, Mainz 1981)*.

² J. Davis, "Review of Aegean Prehistory I: The Islands of the Aegean," *AJA* 96 (1992) 699–756 and J. Rutter, "Re-

view of Aegean Prehistory II: The Prepalatial Bronze Age of the Southern and Central Greek Mainland," *AJA* 97 (1993) 745–97.

³ The Italian and French Schools have published valuable retrospectives of their work on Crete. See A. Di Vita, V. La Rosa, and M. Rizzo eds., *Creta antica* (Rome 1984), which gives an overview of Italian archaeological investigations from 1894 to 1984. For French excavations on Crete, see C. Tiré and H. van Effenterre, *Guide des fouilles françaises en Crète* (Paris 1978) and O. Pelon, *Guide de Malia* (Paris 1992).

sequence, our knowledge of certain sites, notably Mallia, Phaistos, and Knossos, has become quite detailed. For Mallia alone the French excavators have published 20 volumes. Crete also has a long and singular tradition of Ephors who were both active excavators as well as distinguished scholars of prehistory, such as Xanthoudides, Marinatos, Platon, Alexiou, Davaras, and Sakellarakis.

Systematic excavation on Crete began at the turn of this century. This early (1900–1940) period saw excavation at a large number of important settlements, e.g., Agia Triada, Amnissos, Chamaizi, Gournia, Kavousi, Knossos, Mallia, Mochlos, Palaikastro, Phaistos, Pseira, Tylissos, Vathypetro, Vasiliki, and Vrokastro, as well as at sanctuaries (Arkalochori, Mt. Jouktas, Kamares Cave, Petsophas, Psychro Cave) and numerous tombs on the north coast and in the Mesara. These excavations were often massive in scale, exposing whole palaces and their dependencies, urban blocks of houses, and large deposits from caves and tombs. After World War II the pace of Greek and foreign excavation began to increase rapidly. At present there are more prehistoric excavations on Crete than in any other region of Greece, in part because of the richness and complexity of the Minoan archaeological record. Since 1950 there have been major Bronze Age excavations on Crete at Agia Photia, Agia Triada, Archanes, Armenoi, Atsipades, Chania, Gerani Cave, Herakleion, Idaean Cave, Jouktas, Kamilari, Karphi, Kato Syme, Kavousi, Knossos, Kommos, Lebena, Lera Cave, Makriyalos, Mallia, Mochlos, Monasteraki, Myrtos, Palaikastro, Patrikies, Petras, Pseira, Trypeti, Vasiliki, and Zakros (fig. 1). The number of smaller excavations in that period was enormous. Archaeological survey on the island also had an early beginning, due largely to the work of John Pendlebury.⁴ Following Pendlebury's example, surveys in the Amari Valley, around Rethymnon, Palaiochora, Viannos, and in the eparchy of Agios Vasilios were undertaken by Sinclair Hood and other British archaeologists.⁵

⁴ J. Pendlebury walked from one end of the island to the other recording sites. See his remarks in *The Archaeology of Crete: An Introduction* (London 1939) 8–9 on his experience, as well as the still valuable lists of sites compiled in his book.

⁵ T. Dunbabin, "Antiquities of Amari," *BSA* 42 (1947) 184–93; S. Hood, P. Warren, and G. Cadogan, "Travels in Crete, 1962," *BSA* 59 (1964) 50–99; Hood, "Minoan Sites in the Far West of Crete," *BSA* 60 (1965) 99–113; S. Hood and P. Warren, "Ancient Sites in the Province of Ayios Vasilios," *BSA* 61 (1966) 163–91; Hood and Warren, "Some

During the pre-World War II years, general works such as Arthur Evans's *Palace of Minos* and Pendlebury's *Archaeology of Crete* dominated the field of Minoan archaeology.⁶ All of this changed after the 1950s with an explosion of specialized studies on many aspects of Minoan civilization, a trend that has continued (and accelerated) to the present day. Some idea of the vastness of this bibliography can be grasped by reading Hiller's bibliography on Minoan studies, which lists 443 articles and books for the 12 years between 1965 and 1977. It is impossible even to summarize these studies here, but mention should be made of the variety of subjects covered: administration, architecture, chronology, cult, economy, fresco painting, funerary customs, iconography, international connections, ivories, metalwork, palaeobotany and palaeozoology, physical anthropology, politics, sculpture, seals, society, stone vases, tools, toponymy, trade, vase painting, and writing. These studies have given us a much clearer and more objective picture of Minoan civilization than was possible even 25 years ago.

One basic study must be discussed. The recent publication of Warren and Hankey, *Aegean Bronze Age Chronology* (Bristol 1989), has provided prehistorians with a useful reference that brings together in painstaking detail the evidence for relative and absolute Aegean chronology. The frequency with which it is cited below is a testimony to its value. With the new ¹⁴C dates for the Early Minoan period, we can now see that the traditional sequence for Early Bronze Age Crete was too short. Instead of beginning at ca. 2900 B.C. and carrying through to 2500 B.C., EM I is now estimated to span 3500–2900 B.C. Similarly, the previous dates for EM II of 2500–2200 B.C. have been stretched to 2900–2300/2150 B.C. As a result, it is evident that the EM II civilization took much longer to develop than previously envisioned, a fact that has consequences for earlier interpretations of prepalatial Crete (see below). The date for the end of the protopalatial period, however, remains more controversial, be-

Ancient Sites in South-West Crete," *BSA* 62 (1967) 47–56.

⁶ In the early 1960s two general books on Minoan Crete, R. Hutchinson, *Prehistoric Crete* (London 1962) and F. Schachermeyr, *Die minoische Kultur des alten Kreta* (Stuttgart 1964), appeared. Both systematized the work done up until the 1950s, especially that of Evans. S. Hiller's *Das minoische Kreta nach den Ausgrabungen des letzten Jahrzehntes* (Vienna 1977) summarizes archaeological work on Minoan Crete from 1965 to 1977; see 17–39 for bibliography.

cause it is affected by the current disagreement over the "high" ^{14}C dates from Thera.⁷ Warren and Hankey, who reject the new Thera dates, date the protopalatial period to 1900–1700/1650 B.C. This is unlikely. Kemp and Merrillees have shown that MM II pottery (e.g., the Qubbet el-Hawa vase) appears in Egypt by "the first part of the Twelfth Dynasty," i.e., between 1990 and 1890 B.C., which would give us an end date for MM II of no later than ca. 1800 B.C.⁸ This fits exactly with the higher dates of MM III and LM IA required by the new Thera ^{14}C dates.

Anthropological thinking, especially in the areas of cultural evolution, systems theory, and ecology, over the last 20 years has affected Minoan archaeology in subtle but important ways.⁹ The means by which archaeologists conceptualize ancient culture have matured, especially in the areas of social organization, cultural change, and the environment. This intellectual self-appraisal has had certain practical effects on recent fieldwork in Crete. A number of new excavations have been smaller, more precise in the recording of their finds, and have focused on specific problems. Excavators have adopted a broader approach to the past, with a new emphasis

on interdisciplinary methods, borrowing from geology, soil studies, physical anthropology, ethnography, palaeozoology, and palaeobotany, and employing scientific methods of dating and determining the provenance of pottery and metals. One of the greatest benefits of this approach is that it has encouraged some (but not all) excavators working on Crete to be more rigorous in the interpretations of their finds.

Since 1970 archaeologists have begun to ask new questions about Minoan population, land use, and the political organization of regions on the island, questions that have led to an even greater emphasis on survey. Intensive regional surveys have covered or are under way in the Lasithi Plain, Akrotiri peninsula of Chania, Western Mesara Plain, Istron/Mesaleri area (East Crete), Sphakia, the island of Pseira, and the areas of Kavousi, Mallia, Atsipades, Gournia, and Praesos.¹⁰ Less systematic surveys have been carried out in the areas of the Agiopharango Valley/South Coast, Gavdos Island, Knossos, Kommos, Mochlos, Palaikastro, Siteia, and Zakros/Ziro.¹¹ As a consequence, we now have a good deal of detailed evidence for the patterns of settlement on Crete.

⁷ See the recent non-partisan summary by S. Manning, "The Thera Eruption: The Third Congress and the Problem of the Date," *Archaeometry* 32 (1990) 91–100.

⁸ B. Kemp and R. Merrillees, *Minoan Pottery in Second Millennium Egypt* (Mainz 1980) 255–56. See G. Cadogan, "Early Minoan and Middle Minoan Chronology," *AJA* 87 (1983) 516 for the MM II date of the Qubbet el-Hawa vase.

⁹ A good survey of the intellectual history of archaeology over the last two decades appears in B. Trigger, *A History of Archaeological Thought* (Cambridge 1989) 289–411.

¹⁰ Lasithi: V. Watrous, *Lasithi* (*Hesperia* Suppl. 18, Princeton 1982). Chania area: J. Moody, *The Environmental and Cultural Prehistory of the Chania Region of West Crete: Neolithic–Late Minoan III* (Diss. Univ. of Minnesota 1987). Western Mesara: V. Watrous et al., "A Survey of the Western Mesara Plain in Crete: Preliminary Report of the 1984, 1986, and 1987 Field Seasons," *Hesperia* 62 (1993) 191–248. Istron area: B. Hayden, J. Moody, and O. Rackham, "The Vrokastro Survey Project, 1986–1989: Research Design and Preliminary Results," *Hesperia* 61 (1992) 293–353. Pseira: R. Hope Simpson and P. Betancourt, "Intensive Survey of Pseira Island, Crete," *AJA* 94 (1990) 322–23 (abstract). Kavousi: D. Haggis, *The Kavousi-Thripti Survey: An Analysis of the Settlement Patterns in an Area of Eastern Crete in the Bronze Age and the Early Iron Age* (Diss. Univ. of Minnesota 1992). Mallia: S. Müller, "Routes minoennes en relation avec le site de Malia," *BCH* 115 (1991) 545–60; Müller, "Prospection de la plaine de Malia," *BCH* 116 (1992) 742–53, with earlier references. Praesos: *AR* 39 (1992–1993) 77–79. Gournia: L.V. Watrous, "Gournia Again Focus of Exploration," *Newsletter of*

the American School of Classical Studies at Athens 32 (1993) 1, 3. The survey in the valley around Atsipades is continuing under the direction of A. Peatfield.

¹¹ Agiopharango Valley/South Coast: D. Blackman and K. Branigan, "An Archaeological Survey of the South Coast of Crete, between the Agiopharango and Christostomos," *BSA* 70 (1975) 17–36; Blackman and Branigan, "An Archaeological Survey of the Lower Catchment of the Agiopharango Valley," *BSA* 72 (1977) 13–84; and Vasilakis 1989 (infra n. 22). Knossos: S. Hood and D. Smyth, *Archaeological Survey of the Knossos Area*² (Oxford 1981). Kommos: R. Hope Simpson, V. Watrous, and J. Shaw, "The Archaeological Survey," in *Kommos I* (Princeton, in press). Mochlos: J. Soles and C. Davaras, "Excavations at Mochlos, 1989," *Hesperia* 61 (1992) 413–16 and fig. 1. Palaikastro: J. Driessen and A. MacGillivray, "The Neopalatial Period in East Crete," in R. Laffineur ed., *Transition: Le monde égéen du Bronze moyen au Bronze récent* (*Aegaeum* 3, Liège 1989) 99–112. Sphakia: L. Nixon et al., "Archaeological Survey in Sphakia, Crete," *EchCl* 7 (1988) 159–73; 8 (1989) 201–15; 9 (1990) 213–20. Siteia: M. Tsipopoulou, *Archaeological Survey at Aghia Photia, Siteia* (Partille 1989). Zakros: N. Schlager, "Untersuchungen zur prähistorischen Topographie im aussersten südosten Kretas: Zakros bis Xerokampos," in W. Schiering ed., *Ágais-Kolloquium IX* (Mannheim 1987) 64–82. See also I. Tzedakis et al., "Les routes minoennes: rapport préliminaire, défense de la circulation ou circulation de la défense?" *BCH* 113 (1989) 43–75. The island of Gavdos is being surveyed by K. Kopaka (University of Crete). New surveys in 1994 are planned for the areas of Sisi near Mallia and Ziros in East Crete.

The result of the research outlined above is that today the Minoan archaeologist faces an archaeological record of breadth and depth that is unique in the prehistoric Aegean. This level of published detail calls for a synthesis as well as a consideration of how perceptions of these data have changed during the last generation.

Finally, one should mention that the archaeological museums on Crete have been transformed in the last decade. New museums have opened in Rethymnon and Archanes within the last three years and a new museum at Kastelli Kissamou is under construction at present. The new collection at Rethymnon is now stunningly displayed in a modern setting housed inside the Venetian Fortezza of the city. In addition, the collections at Chania, Siteia, and Ierapetra have been reorganized and greatly augmented in handsome new quarters.

EARLIEST PREHISTORY—NEOLITHIC

When does the human prehistory of Crete begin? For many years the conventional answer was the beginning of the seventh millennium B.C., when the site at Knossos (stratum X) was founded.¹² But recently there has been a spate of publications suggesting that the extinction of Pleistocene animals on Crete was caused by human visitors to the island prior to the Neolithic period.¹³ Because Pleistocene animals are absent from early settlement contexts, it is believed that many, such as pygmy hippopotamus, pygmy elephant, and deer (*Candiacervus cretensis*), apparently do not survive to the time of the earliest known settlement of the island. The only dated find of these Pleistocene animals is a hippopotamus bone from the upland plain of Katharo, dated by radiocarbon to $12,135 \pm 485$ B.P.¹⁴ Lax and Strasser have argued that it was the Neolithic inhabitants of Crete who caused the extinction of many Pleistocene ani-

mals through their destruction of these animals' environments (by means of their farming, pastoralism, and the introduction of new animal species). This is probably true for certain early animals, such as the endemic mouse and shrew, since they occur in Neolithic contexts and then disappear from the later archaeological record. But some Pleistocene species do not appear in Neolithic habitation levels, which may mean that the earliest settlers predate the Neolithic period. What has changed our perception of this question is the recent discovery and excavation of the site of Aetokremnos on Cyprus.¹⁵ This small kill-site produced deposits of shells, and pygmy hippopotamus and elephant bones, with a range of dates extending from the 10th through the 12th millennium B.C. Aetokremnos shows that hunter-gatherer groups from the Asian mainland had begun to visit the island during the 12th millennium B.C. One suspects that similar events took place on Crete and it is only a matter of time before such a site is found.¹⁶

The earliest known permanent settlement of an Aegean island took place on Crete, at Knossos. Strasser and Broodbank's recent discussion of the Knossos colonization stresses that this was neither an accidental discovery nor one example of many such colonization attempts on the Aegean islands.¹⁷ Rather, the colonization of Crete was a unique, long-range, deliberately planned effort by a group of agriculturalists, probably motivated by Crete's advantageous environment. The first settlers arrived on the island with a well-developed continental economy based on their former environment (probably the Anatolian coast, since Knossian bread wheats are known in Anatolia but not in the earliest mainland Greek Neolithic sites). The material culture of the first settlers shows some changes in the Early Neolithic II–Middle Neolithic period,¹⁸ but

¹² See Moody (supra n. 10). For the date of the Knossos basal level, see Coleman (infra n. 36) I, 263 and II, 211, table 1.

¹³ J. Cherry, "The First Colonization of the Mediterranean Islands: A Review of Recent Research," *JMA* 3 (1990) 145–221. Most recently discussed by E. Lax and T. Strasser, "Early Holocene Extinctions on Crete: The Search for the Cause," *JMA* 5 (1992) 203–24. For the domesticated livestock of the Neolithic settlers, see C. Groves, "Feral Mammals of the Mediterranean Islands: Documents of Early Domestication," in J. Clutton-Brock ed., *The Walking Larder* (London 1990) 46–58.

¹⁴ F. Bachmayer and H. Zapfe, "Ein absolutes Altersdatum für den fossilen Zwergflusspferde der Insel Kreta," *AnzWien, Mathematisch-Naturwissenschaftliche Klasse* 8 (1985) 165–66.

¹⁵ A. Simmons, "Preliminary Report on the Excavations

at Akrotiri-Aetokremnos (Site E): 1987, 1988, 1990," *RDAC* 1989, 7–14.

¹⁶ The process described for sixth-millennium B.C. settlement on Cyprus (N. Stanley-Price, "Khirokitia and the Initial Settlement of Cyprus," *Levant* 9 [1977] 66–89, esp. 78–86) was probably similar to that on pre-Neolithic Crete.

¹⁷ C. Broodbank and T. Strasser, "Migrant Farmers and the Neolithic Colonization of Crete," *Antiquity* 65 (1991) 233–45.

¹⁸ See C. Broodbank, "The Neolithic Labyrinth: Social Change at Knossos before the Bronze Age," *JMA* 5 (1992) 39–75. Because of his assumptions, Broodbank fails to provide a convincing explanation for the changes he demonstrates. See also T. Whitelaw, "Lost in the Labyrinth? Comments on Broodbank's 'Social Change at Knossos before the Bronze Age'," *JMA* 5 (1992) 225–38.

the subsistence base seems not to have been modified in response to the local environment or indigenous domestication. Apparently because of their small population and isolation, the early settlers did not adapt to the Cretan environment in ways that would have encouraged population growth and expansion.

Early Neolithic sites have rarely been recognized on Crete and only three—Knossos, Gerani Cave, and Lera Cave—are known in any detail.¹⁹ Intensive surveys on Crete have shown that Neolithic settlement on all parts of the island continued to be sparse until the Final Neolithic period. Only then did settlements begin to spread over the many different ecological zones of Crete. On the Akrotiri peninsula of Chania, for example, Moody's survey records an increase in the number and types of sites in the FN period.²⁰ In Sphakia in West Crete, upland areas are first settled in this period.²¹ In the Western Mesara, one possible MN site, at Kannia, is succeeded by nine new FN settlements. These sites include open settlements and caves on the Mesara coasts, in the central plain, in the Asterousia Mountains, and on Mt. Ida.²² In the coastal plain of Kavousi, the earliest sites date to the FN period.²³ Further west, in the Istron area, three FN settlements are established on the coast and the island of Pseira was first inhabited at this time.²⁴ Caves and open

sites in the plain of Lasithi, high in the DICTAEAN mountain range, are first occupied in the FN-EM I period.²⁵ All of these new sites may be partly interpreted as seasonal and complementary dwellings of a relatively small overall population, but their large numbers and the expansion of the settlement at Knossos from 3 ha in EN to perhaps 5 ha by the FN period indicate a real increase in the Final Neolithic population.²⁶

Vagnetti's publication has provided us with a better understanding of FN Phaistos.²⁷ The Italian excavators report finding FN pottery and walls in their trenches across the Phaistos ridgetop, indicating that the FN settlement was perhaps 5.6 ha in size. Rectangular house walls with beaten mud floors and hearths are similar to those at FN Knossos, but a circular house, 2.5 m in diameter, has its closest parallels in Neolithic II Cyprus.²⁸ Our knowledge of religion on Crete in this period is dependent on the few known figurines, usually found in secondary domestic contexts. A female figurine from Phaistos may have served a religious function, as it was found with a piece of meteoritic iron, and a red-painted Triton shell.²⁹ Larger (up to 14 cm) three-dimensional clay female figurines may have been a feature of domestic cult, as in Cyprus and Anatolia, while the smaller schematic stone examples were probably worn as amulets.³⁰ Final Neo-

¹⁹ For Knossos, see J. Evans, "Neolithic Knossos: The Growth of a Settlement," *PPS* 37 (1971) 95–117, with earlier bibliography. The Lera Cave, overlooking the Bay of Stavros on the northwestern tip of the Akrotiri peninsula of Chania, was a settlement from EN to EM I. The excavators noted numerous parallels between the EN pottery of Lera and Knossos. For Gerani Cave, see brief reports only by I. Tzedakis in *ArchDelt* 25 (1970) Chronika 474–76; 26 (1971) 508. For Lera Cave, see A. Guest-Papamanolis and A. Lambraki, "Les grottes de Lera et de l'Arkoudia en Crète occidentale aux époques préhistoriques," *ArchDelt* 31A (1976) 178–293.

For various aspects of Neolithic Crete see A. Zois, *Κρήτη—Εποχή του λίθου* (Athens 1973); I. Sakellarakis, "Neolithic Crete," in D. Theodoridis, *Neolithic Greece* (Athens 1973) 131–46; and T. Strasser, *Neolithic Settlement and Land-Use on Crete* (Diss. Indiana Univ. 1992).

²⁰ Moody (supra n. 10) 292–94.

²¹ Nixon et al. (supra n. 11) 171.

²² For Kannia, see L. Vagnetti, "Tracce di due insediamenti neolitici nel territorio dell'antica Gortina," *AnlCr* 1 (1973) 1–9. For the Mesara, see Watrous et al. (supra n. 10) 223. Asterousias: A. Taramelli, "Cretan Expedition VIII: The Prehistoric Grotto at Miamu," *AJA* 1 (1897) 287–312; Blackman and Branigan 1977 (supra n. 11) 67 and fig. 34; A. Vasilakis, "Προϊστορικές θέσεις στη Μονή Οδηγήτριας," *Κρητική Εστία* 3 (1989) 70. Two of these sites have now been excavated. Traces of FN pottery are reported under the tholos tomb at Agia Kyriaki, D. Blackman and K. Branigan, "The Excavation of an Early Minoan Tholos

Tomb at Ayia Kyriaki, Ayiopharango, Southern Crete," *BSA* 77 (1982) 44. A. Vasilakis excavated and published an FN house near Kaloi Limenes, "Ανασκαφή νεολιθικού σπιτιού στους Καλούς Λιμένες της Νότιας Κρήτης," in *Ελλάπινη* (Herakleion 1987) 45–53.

²³ Haggis (supra n. 10) 270.

²⁴ Hayden et al. (supra n. 10) 320 and 322, fig. 15. For Pseira, *Κρητική Εστία* 3 (1989/1990) 296.

²⁵ Watrous (supra n. 10) 9–10 and map 4.

²⁶ See Evans (supra n. 19).

²⁷ L. Vagnetti, "L'insediamento neolitico di Festòs," *ASAtene* 34/35 (1972/1973) 7–138.

²⁸ Circular house, Vagnetti (supra n. 27) 27–29, figs. 17–18. V. Karageorghis, *Cyprus* (London 1982) 26–30 for an introduction to the sites of Vrysi, Sotira, and Philia-Drakos A.

²⁹ Vagnetti (supra n. 27) 90, fig. 78.24. Pernier's excavations produced a similar context: a female figurine, miniature pots, and seashells. See L. Pernier, *Il palazzo minoico di Festòs I* (Rome 1935) 105, fig. 48.

³⁰ For the Phaistos figurines: Vagnetti (supra n. 27) 90, fig. 78.24–25. This interpretation is suggested by Cypriot and Minoan figurines. Cypriot cult figurines: E. Peltenburg, "Chalcolithic Figurine from Lemba, Cyprus," *Antiquity* 51 (1977) 140–43 argues that Cypriot figurines were probably pendants based on the existence of larger cult statuettes, such as the example from Lemba. In his excavations in Anatolia, at Çatal Hüyük and Hacilar, J. Mellaart likewise distinguished two types of figurines, larger clay statuettes found in shrines and in deposits of stored

lithic burials have rarely been identified, as they were probably simple inhumations within settlements, rock shelters, or caves.³¹

The material record of Final Neolithic Crete exhibits increased signs of widespread Aegean contacts. The FN pottery at Phaistos (and Knossos) has extensive parallels overseas, especially with the eastern Aegean.³² The FN pottery from Nerokourou near Chania has now been published and shows affinities with the eastern Aegean, the Peloponnese, and the "Attic-Kephala" culture.³³ Copper and obsidian at FN Phaistos also point to international contacts.³⁴ Davaras's recent excavation in the Pelekita Cave on the east coast of the island likewise produced FN pottery and a phallic-shaped idol with Cypriot parallels.³⁵ These new signs of Cretan overseas contacts are part of a wider pattern of internationalism that occurs throughout the Aegean and the Near East at this time.³⁶

EARLY MINOAN I

Early Minoan I is the period par excellence of settlement expansion on Bronze Age Crete. Intensive surveys have documented the distribution and density of new settlement on the island. In the Western Mesara, the number of sites doubles in the EM

I period.³⁷ To the south in the Agiopharango Valley, the increase is even more dramatic, from two FN sites to at least 11 EM I sites.³⁸ In other areas of the island, it is clear that many new settlements are established along the coast and in the interior.³⁹ By this time most (but not all) caves occupied in FN are no longer inhabited. Settlement hierarchy changes in EM I. In the Mesara virtually all of the FN settlements are small sites (farmsteads or camps?) except for Phaistos, but in EM I hamlet-sized settlements make their appearance. Located in the mountains south of Chania, Debla (phase 1), the only published EM I settlement on the island, fits this category, for it was probably a seasonal farmstead.⁴⁰ Interdisciplinary survey work in the Mesara has shown that this spread of new settlements brought in its wake a period of widespread erosion probably caused by the settlers' stripping of the vegetation cover from the land.⁴¹

We rely chiefly on burials for what we know about EM I Crete.⁴² Inhumation in caves or rock shelters continues to occur.⁴³ For this period the most important recent discovery is the EM I-II cemetery excavated by Davaras at Agia Photia on the north coast near Siteia.⁴⁴ This necropolis consists of 252 tombs (an estimated 50 more tombs having been de-

food or granaries and a smaller schematic "ex-voto" (based on the former type) found in houses: "Excavations at Çatal Hüyük, 1962," *AnatSt* 13 (1963) 82, and "Excavations at Çatal Hüyük, 1963," *AnatSt* 14 (1964) 40–81, esp. 95 and ns. 42–44. Cypriot figurine as a pendant amulet: V. Karageorghis, *The Civilization of Prehistoric Cyprus* (Athens 1976) pl. 25. Cretan figurine as a pendant amulet: B. Rutkowski, *Petsophas* (Warsaw 1991) pl. X.4.

³¹ See L. Vagnetti and P. Belli, "Characteristics and Problems of the Final Neolithic in Crete," *SMEA* 19 (1978) 150 and 142, table 1. The excavation at the Ayia Kyriaki tholos showed that, although FN pottery occurred at the site, the tomb was constructed in EM I: Blackman and Branigan 1982 (supra n. 22) 44–46.

³² Vagnetti (supra n. 27) 126–28, who includes Knossos parallels.

³³ L. Vagnetti et al., *Scavi greco-italiani a Nerokourou (Kydonias I, Rome 1989) 11–97.*

³⁴ Vagnetti (supra n. 27) fig. 133.4. A. Evans's excavation at FN Knossos produced a copper ax, *PM* II, 14, fig. 3f. Only two other metal examples are known from FN Crete: a silver/lead bead from Agios Nikolaos (N. Tod, "Excavations at Palaikastro, II," *BSA* 9 [1902/1903] 336–43) and from Mochlos (*Mochlos* 93, fig. 48). For obsidian from Phaistos, see Vagnetti (supra n. 27) 115, fig. 127.

³⁵ C. Davaras, *ArchDelt* 34 (1979) Chronika 402–404, and pl. 215c. Cf. P. Dikaios, *Khirokitia* (Oxford 1953) pl. 95.194.

³⁶ J. Coleman, "Greece, the Aegean and Cyprus," in Ehrich I, 255–64; J. Mellaart, *The Chalcolithic and Early Bronze Age in the Near East and Anatolia* (Beirut 1966) 114–17.

³⁷ Watrous et al. (supra n. 10) 223 n. 60. Because of extensive alluviation in the Mesara, the number of EM I and II sites discovered by the survey is much smaller than must have existed, pp. 197–204.

³⁸ Blackman and Branigan 1977 (supra n. 11) 67–68; Vasilakis 1989 (supra n. 22) 71–74.

³⁹ Because of the difficulty of distinguishing LN from EM I pottery, several surveys have treated the two ceramic phases as one period, e.g., Watrous (supra n. 10) 9, 67–68; Hayden et al. (supra n. 10) 320–21.

⁴⁰ P. Warren and I. Tzedakis, "Debla: An Early Minoan Settlement in Western Crete," *BSA* 69 (1974) 299–342.

⁴¹ See K. Pope's important report on the geology and soils of the Western Mesara in Watrous et al. (supra n. 10) 197–204.

⁴² There is relatively little detailed knowledge about the EM I phase at Minoan settlements because, in many cases, it is the basal stratum sealed or destroyed by later Minoan remains. *Chronology* 13–14 lists 10 useful EM I deposits, of which three (either small or unpublished) come from settlements.

⁴³ Burials: Kyparissi, S. Alexiou, "Πρωτομινωικά ταφικά παρά το Κανλί Καστέλλι Ηρακλείου," *CretChron* 5 (1951) 275–94. Pyrgos: S. Xanthoudides, *ArchDelt* 4 (1918) 136–70. The upper level at Pyrgos contained larnakes and so probably dates to MM I. Partira: C. Mortzos, "Πάρτιρα: Μία πρώιμος μινωική κεραμεική ομάδα," *Επετηρίς Επιστημονικών Ερευνών* 3 (1972) 386–421.

⁴⁴ C. Davaras, "Πρωτομινωικών νεκροταφείων Αγίας Φωτιάς Σητείας," *AAA* 4 (1971) 392–97; Davaras, *ArchDelt* 27, Chronika (1972) 648–50. See *Chronology* 14.



Fig. 2. Tomb 195, cemetery of Agia Photia. (After C. Davaras, *AAA* 4 [1971] 394, fig. 7)

stroyed), most of which are simple oval chambers dug into the shallow bedrock with a small doorway (facing north and out to sea) plugged with an upright slab (fig. 2). Often a single vase, usually a Pyrgos ware chalice, stood on the small paved floor of the antechamber in front of the door. The inhumation lay in the interior chamber, on a floor strewn with sea pebbles. Finds included vases (fig. 3), bronze daggers, a sword, knives, a socketed spearhead, fishhooks, chisels, masses of obsidian blades, stone axes, two animal-shaped amulets of lead, and a few stone vases.

Davaras drew attention to the similarity of form between the Agia Photia tombs and those in the Cyc-

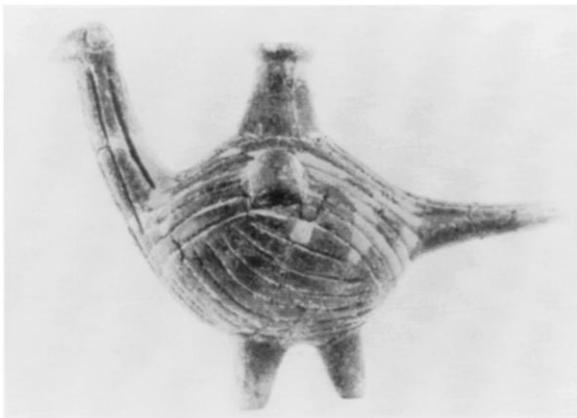


Fig. 3. Bird vase from cemetery of Agia Photia. (After C. Davaras, *Guide to Cretan Antiquities* [Athens 1976] 130, fig. 76)

⁴⁵ K. Branigan, *Pre-Palatial. The Foundations of Palatial Crete: A Survey of Crete in the Early Bronze Age*² (Amsterdam



Fig. 4. Incised pan from cemetery of Agia Photia. (After C. Davaras, *Guide to Cretan Antiquities* [Athens 1976] 131, fig. 77)

lades, especially on the island of Ano Kouphonisi. The pottery at Agia Photia—pans (fig. 4), pyxides, incised bottles (fig. 5), fruitstands, and jugs (some of which may be imports)—is similar to the Kampos Group in the Cyclades. A large proportion of the ca. 2,000 unpublished vases are said to be of Cycladic type. Crucibles from the cemetery are of a type known from Syros and Thermi.⁴⁵ Recent analyses of



Fig. 5. Incised bottle from cemetery of Agia Photia. (After C. Davaras, *Haghios Nikolaos Museum* [Athens, n.d.] fig. 6)

1988) 239.

the bronze objects from Agia Photia indicate a Cycladic source for the metal.⁴⁶ Another EM I cemetery has been reported at Nea Roumata southwest of Chania where a small, circular built tomb with a slab floor has been compared to similar tombs from Syros.⁴⁷ Most Early Minoan burials in North Crete were made in caves (often in caves inhabited in the Neolithic period) or rock shelters and are accompanied by stone idols, a few vases, obsidian blades, and perhaps an occasional copper tool or dagger.⁴⁸ At least five types of idols, all schematic variations of the Cycladic Pebble form (*Brettidolen*), are known from EM I burials.⁴⁹ The tholos tomb at Krasi, built in EM I, remains a unique type at this time in the north. Its basal level, usually dated to EM I but perhaps actually EM I–IIA, is said to have produced a lead amulet(?), gold foil, bronze knives, needles, silver jewelry, a foot amulet, and a clay spindle whorl.⁵⁰ The earliest Cretan seals, e.g., that from Krasi, may date to EM I, but more probably are EM IIA.⁵¹

In southern Crete, EM I is the great era of settlement foundation and tholos tomb construction. Branigan's newly revised book on the Mesara tombs lists 25 tholos tombs built in this period.⁵² It is only in this period that burials receive special preparations: individuals are now buried in built tombs, with a few personal belongings, and are given offerings. Unfortunately, almost all of the tholoi discovered in the last quarter century have been robbed, and are known only from short reports of rescue excavations published by the Archaeological Service.⁵³ The single exception is the publication of the British excavation at the (robbed) tomb of Agia Kyriaki in the Ayiopharango Valley on the south

coast.⁵⁴ A typical burial offering at Ayia Kyriaki consisted of a jug, three cups, and a bowl or jar. A bowl and fruitstand were used in a ceremony held in front of the tomb.

In his fundamental survey of Aegean metalwork, Branigan describes EM I Crete as one of the leading metallurgical centers in the Aegean.⁵⁵ Recent research requires a modification of this view. The EM I tomb deposits in Crete (at Pyrgos, Kyparissi, and perhaps Krasi) containing metal objects (bronze daggers, awls, chisels cast in open molds, and gold foil jewelry) are now recognized to span the EM I–IIA period: thus, the early date for the beginnings of Cretan metallurgy is less certain. The earliest Cretan crucibles, from Agia Photia, are of a Cycladic type; the EM round-heeled dagger is also probably a foreign type, as it is known earlier in the Near East.⁵⁶ Gale's lead isotope analyses of metal objects from the Mesara tholoi show that the composition of the Cretan artifacts there is consistent with an ore source on the island of Kythnos.⁵⁷ Early Minoan metalworkers seem to have been dependent on Cycladic sources for their copper (as well as silver and probably gold), rather than having significant indigenous sources as Branigan believed. Certainly the amounts of imported obsidian and pottery evident in EM I contexts point to regular Cycladic-Cretan connections. The above evidence suggests that the Cycladic contribution to Early Minoan metallurgy has probably been underrated.

The dramatic rise in the number of FN–EM I settlements has generally been explained either through immigration or population growth.⁵⁸ The most likely candidate for a foreign settlement on

⁴⁶ N. Gale, "The Provenance of Metals for Early Bronze Age Crete—Local or Cycladic?" *Pepragmena* 1990 I, 299–316.

⁴⁷ I. Tzedakis, "Le passage en Minoen ancien en Crète occidentale," in C. Nicolet ed., *Aux l'origines de l'hellénisme* (Paris 1984) 3–7; H. Catling, "Archaeology in Greece, 1984–1985," *AR* 31 (1984/1985) 67.

⁴⁸ See supra n. 43.

⁴⁹ K. Branigan, "Cycladic Figurines and Their Derivatives in Crete," *BSA* 66 (1971) 57–78 and fig. 1, nos. 1–4 and 8.

⁵⁰ S. Marinatos, *ArchDelt* 12 (1929) 102–41. In his report Marinatos clearly distinguishes a lower level with EM I pottery and the finds noted in the text. This level may have continued into EM IIA, for the low pedestaled goblet (pl. 4.2) resembles EM IIA examples at Knossos; cf. D. Wilson, "The Pottery and Architecture of the Early Minoan IIA West Court House at Knossos," *BSA* 80 (1985) 300–302, figs. 10–11, P 29–34, 43–46. I am indebted to D. Wilson for these parallels.

⁵¹ One seal comes from the lower level (EM I/II?) at Krasi, Marinatos (supra n. 50) 122, fig. 15, no. 56, 123, fig. 16; and *CMS* II.1, nos. 195–203 from the middle level at Lebena Tomb II, which produced EM I pottery but may

be mixed since seal *CMS* II.1, no. 201 is later.

⁵² K. Branigan, *Dancing with Death* (Amsterdam 1993) 143–48, plus eight additional possible tombs.

⁵³ Much of the material from the robbed tholoi can be seen in private collections. See, e.g., L. Marangou ed., *Minoan and Greek Civilization from the Mitsotakis Collection* (Athens 1992).

⁵⁴ The robbed Agia Kyriaki tholos was excavated and published by Blackman and Branigan 1982 (supra n. 22) 1–57. It is a measure of our ignorance that Blackman and Branigan's report presents the fullest published collection of painted EM I–II pottery from the Mesara. When published, Alexiou's excavation of the unrobbed tholoi at Lebena will be an extremely important contribution to our knowledge of EM Crete.

⁵⁵ Branigan 101–105.

⁵⁶ For the dagger at fourth-millennium B.C. Byblos: M. Dunand, *Fouilles de Byblos I* (Paris 1937) pl. 189, nos. 6773 and 6776, cited by Branigan 101.

⁵⁷ Gale (supra n. 46) 301 and fig. 1.

⁵⁸ See the discussion in P. Warren, "Crete 300–1400 B.C.: Immigration and the Archaeological Evidence," in R. Crossland and A. Birchall eds., *Bronze Age Migrations in the Aegean* (London 1973) 41–50.

Crete is the habitation site (probably now covered by the nearby village) associated with the cemetery at Agia Photia. Certainly the high proportion of foreign features there relative to other cemeteries, such as that at Pyrgos (also on the north coast), must be significant in this regard.⁵⁹ The evidence from Agia Photia, however, is unique. Does this mean that foreign settlement was rare in Crete at this time? Final Neolithic settlements established in defensive locations, especially in marginal environments, can also be suspected as intrusive. Examples of such settlements include Katalimata (Ierapetra), Trapeza (near Kamilari village), Gortyn acropolis, and Pseira.⁶⁰ In the Western Mesara, there are some possible signs of newcomers.⁶¹ On the other hand, new EM I sites founded in areas adjacent to older settlements probably do represent a growth in local population. Such patterns are relatively common in Crete and have been noted in Lasithi, the Mesara, and the Agiopharango Valley.⁶² The implication seems to be that the EM I population expansion throughout Crete was to a great extent the result of local population growth. During the FN–EM I period this mixing of indigenous settlers with newcomers in Crete creates the regional character of the succeeding Minoan population.

A new explanation for FN–EM I population growth focuses on changes in local subsistence.⁶³ With the introduction of certain new technologies—

the ability to plow heavier soils and to make cheese out of milk—and of new crops, mainly olives and grapes, the settlers were for the first time able to take advantage of vast tracts of virgin land. On Crete it may be possible to recognize two phases in this transition: 1) a greatly increased focus on pastoralism with some agricultural changes, and 2) a balance reached between fully developed agriculture and herding. The first phase (FN–EM I) is represented by the widespread occupation of caves and open sites. The location of and finds from these new sites in the interior of the island, many of them caves (such as Miamou and Psychro), indicate that the inhabitants were small groups relying heavily on pastoralism supplemented by seasonal agriculture.⁶⁴ The appearance of EM I seasonal sites such as Debla where the inhabitants grew and processed emmer wheat, barley, and oats and kept herds of sheep/goat mainly for their secondary products (viz., milk/cheese, wool, and hides) is an archaeological manifestation of this new subsistence strategy. During the second phase (EM I–IIA) new crops may have been introduced and large open settlements established, primarily near arable land. The small faunal assemblage from the EM II occupation in the Sedoni Cave (630 masl) near Zoniana (Rethymnon) offers some evidence for diversified animal husbandry since sheep, goat, cow, and pig as well as deer are present.⁶⁵

⁵⁹ Moreover, the results of Tsipopoulou's survey (supra n. 11) make it difficult to believe that the cemetery of ca. 300 tombs at Agia Photia served a population entirely descended from the inhabitants of the only nearby Neolithic site, the Kouphota Cave.

⁶⁰ For FN at Katalimata, see W. Coulson and M. Tsipopoulou, "Preliminary Investigations at Chalasmeno, Crete, 1992–1993," *Aegean Archaeology* 1 (in press). I am indebted to K. Nowicki for this reference.

⁶¹ The circular house at Phaistos and certain pottery motifs in the Mesara resemble features of the Erimi culture on Cyprus. Cf. S. Alexiou, "New Light on Minoan Dating: Early Minoan Tombs at Lebena," *ILN* 1960, 227, figs. 14, 15, and 20 and Blackman and Branigan (supra n. 22) figs. 7, 10, and 11 with P. Dikaios and J. Stewart, *The Stone Age and the Early Bronze Age in Cyprus (SwCyprusExp IV:1A*, Lund 1962) figs. 37 and 42; I. Todd, "Vasilikos Valley Project, 1977–1978," *RDAC* 1979, 13–68, pls. 4–5.

⁶² Lasithi: Watrous (supra n. 10) 9–10. Mesara: Watrous et al. (supra n. 10) 223–24. This is based on the identification of these sites as permanent settlements, an assumption that rests on the fact that the sites are substantial, equal in size, and similar in their catchment areas. Agiopharango: Blackman and Branigan 1975 (supra n. 11) 67 and fig. 34.

⁶³ The "secondary products revolution" discussed in A.

Sherratt, "Plough and Pastoralism: Aspects of the Secondary Products Revolution," in I. Hodder, G. Isaac, and N. Hammond eds., *Pattern of the Past: Studies in Honour of David Clarke* (Cambridge 1981) 261–306.

⁶⁴ See, e.g., the evidence from Magasa, R. Dawkins, "Excavations at Palaikastro IV," *BSA* 11 (1904/1905) 260–68. The olive apparently first appears in Middle to Late Neolithic levels in pollen cores from West Crete, Moody (supra n. 10) 285–86. Ovicaprids show a marked increase in FN levels at Knossos; see the discussion in P. Halstead, "Counting Sheep in Neolithic and Bronze Age Greece," in Hodder et al. (supra n. 63) esp. 324–31.

⁶⁵ Direct evidence for subsistence during EM I–IIA is scant. The tripod cooking pot, known in Chalcolithic levels from western Anatolia and the Near East, first appears in Crete in EM I. The Cretan adoption of this shape may have been accompanied by dietary introductions as well. The faunal remains from the Sedoni Cave, excavated by E. Gavrilaki for the Greek Archaeological Service, will be published by I. Hamilakis, "Στοιχεία για την Πρωτομινωική κτηνοτροφία: Ζωοαρχαιολογικές μαρτυρίες από το Σπήλαιο Σεντόνι Ζονιανών," *Ανθρωπος και Σπηλαιοπεριβάλλον* (Athens, in press). Hamilakis cautions that more large, properly collected assemblages are needed to prove his hypothesis concerning diversification.



Fig. 6. View of Trypeti, from the northeast. (After A. Vasilakis, *Αρχαιολογία* 30 [1989] 53, fig. 2)

EARLY MINOAN II

Intensive surveys have documented that settlement expansion continues in Early Minoan II but at a demonstrably slower pace. In the Lasithi Plain, five relatively large EM II settlements at the edge of the plain replace the more numerous FN–EM I campsites high on the mountain slopes.⁶⁶ In the area around Phaistos, the number of settlements drops slightly (perhaps a sign of urban nucleation), in contrast to the continuing growth in the Agiopharango Valley to the south.⁶⁷ In the Chania area, settlements grow in number and size.⁶⁸ In the Isthmus of Ierapetra settlement dispersion apparently does not take place until EM II, since the Gournia hill, Vasiliki, Fournou Koriphi, and Myrtos/Pyrgos are all founded at this time. While new sites are established in all parts of Crete, settlement hierarchy does not change, but continues as in EM I. In the Western Mesara, the EM II settlement hierarchy, that is, one village-sized settlement (Phaistos), a few hamlet-

sized (50–100+ m in length) communities, and many smaller sites, probably single farmsteads, is the same as in EM I. While growth occurs at the lower levels of the hierarchy, large settlements, such as Knossos and Phaistos, do not reveal any increase in size during EM I–II.⁶⁹

Despite recent work at several EM II settlements, our knowledge of EM II Crete is still dangerously dependent on cemeteries. The one splendid exception is Peter Warren's excavation and publication of the site of Myrtos (Fournou Koriphi), which has provided new and vivid documentation of an EM II hamlet.⁷⁰ Established in EM IIA on a steep, arid hill overlooking the sea, Fournou Koriphi was a small community in EM IIB, consisting of five or six households (perhaps 25–30 persons in total).⁷¹ Irregular, one-story houses of stone and mudbrick with flat roofs had plastered walls (at times painted red) and packed earth floors. The settlement was protected by an outer wall and a tower at its southern, seaward entrance. Houses were entered

⁶⁶ Watrous (supra n. 10) 11 and map 5.

⁶⁷ Blackman and Branigan 1977 (supra n. 11) 68.

⁶⁸ Moody (supra n. 10) 298–99.

⁶⁹ Knossos: Whitelaw (supra n. 18) 227–28. Phaistos: T. Whitelaw, "The Settlement at Fournou Korifi, Myrtos and Aspects of Early Minoan Social Organization," in *Society* 338–39 to which EM deposits under the Italian store-rooms should be added.

⁷⁰ Myrtos.

⁷¹ As reinterpreted by Whitelaw, in *Society* (supra n. 69) 323–46. The cultural assumptions and formalistic method of C. Tenwolde, in "Myrtos Revisited: The Role of Relative Function Ceramic Typologies in Bronze Age Settlement Analysis," *OJA* 11 (1992) 1–24 make his study unconvincing.



Fig. 7. Plan of the site of Trypeti. (Courtesy A. Vasilakis)

through doorways with wooden doors set on stone pivots; some rooms were entered from the roof. Rooms were fitted with benches, working platforms, cupboards, and hearths or cooking holes. Each house had a cooking area, storage places for food and vases, and work areas. One completely preserved house plan (rooms 72–74, 79–82, 88) is similar to those at Trypeti and Agia Triada. This house was entered through a corridor, into a line of outer workrooms where weaving, milking, and grinding of grain may have taken place. The central room had a roof support, cupboard, and storage vases lined along the south wall. A narrow room to the east held vases and perhaps a ladder to the roof. A narrow room to the west had a hearth and cooking ware and thus can be identified as the kitchen.

The Myrtos community practiced mixed farming, of barley, wheat, grapes, and olives, and animal husbandry involving cattle, pig, and especially sheep and goat. Domestic industries included textile and

perhaps pottery manufacture. Perforated stone weights may have been used on fishing nets; two clay balls may have been sling bullets. Stone stamp seals were used and one stamped clay sealing probably sealed a container. Two stone “kernoi,” perhaps gameboards, were found in situ set at the edge of the open central court of the settlement. The original publication suggested that evidence for external relations at the site was limited to obsidian, a copper chisel, and possibly some Vasiliki vases (but see below).

Recent excavations have revealed an EM II settlement at Trypeti on the south coast.⁷² Trypeti was founded in EM I on a small, steep hilltop on a cove (fig. 6). Preliminary reports indicate a community of perhaps eight houses built on either side of a wide central street (fig. 7). Two architectural phases have been observed in the houses. Pottery of the EM I–MM I periods is reported. The one-story houses often have a large central rectangular room with

⁷² A. Vasilakis, “Ο Πρωτομινωικός οικισμός Τρυπητής,” *Αρχαιολογία* 30 (1989) 52–56; “Τρυπητή,” *Κρητική Εστία* 2 (1988) 331–32; 3 (1989/1990) 287; and “Πρωτοανακτο-

ρικός οικισμός Τρυπητής στη Νότια Κρήτη,” *Πεπραγμένα του 9^{ου} Διεθνούς Κρητολογικού Συνεδρίου*, in press.



Fig. 8. Aerial view of Vasiliki. (W. and E. Myers and G. Cadogan, *The Aerial Atlas of Ancient Crete* [Berkeley 1992] fig. 41.2, courtesy W. and E. Myers)

narrower side rooms used as storerooms entered from above. The central room could possess a bench, cupboard, and a shallow hearth in the floor. Carbonized wheat, barley, peas, vetch, figs, bones of cattle, sheep/goat, pig, hare, and bird, seashells (Triton, snails, murex, limpets, clams), and fishbones were present in many of the rooms. Stone tools, including querns, handstones, axes, hammers, pestles, and weights, occurred most commonly in the lowest stratum but also in later levels. Bone tools as well as obsidian and chert blades, cores, points, and knapping debris were found. A clay sealing, stamped twice, and a “kernos” set in a house floor are reported. Imports to the hamlet included obsidian, a copper pin, and (in the nearby tholos tomb) two silver beads.

Two prepalatial houses at Hagia Triada have recently been uncovered ca. 100 m southeast of Tholos A.⁷³ The EM II settlement at Hagia Triada may thus have consisted of two adjacent communi-

ties, east and west of the tholos tombs A and B. The West House had a large storeroom, with a pi-shaped central roof support (as at Myrtos) and contained Agios Onouphrios and dark-ground vases, five pithoi, a stool, tripod cooking (?) tray, and many obsidian blades. The narrow north room is similar to examples at Myrtos and Trypeti. Built over part of the West House, the East House had a large room, with central support, which consisted of a storage area, with pithoi, a stone pestle, and obsidian, and a work area, with a quern, stone pounder, and small vases. A wall added on the east enclosed an apsidal space. Both houses were provided with benches along their exteriors. The houses were abandoned in EM IIB.

The patient excavations (1970–present) of A. Zois at Vasiliki have greatly improved our understanding of this complicated and important site (figs. 8–9).⁷⁴ Founded in EM IIA, the settlement consisted of at least four houses, Θ and Ξ on the north edge

⁷³ C. Laviosa, “Saggi di scavo ad Hagia Triada,” *ASAtene* 31/32 (1969/1970) 407–15; “L’abitato prepalaziale di Hagia Triada,” *ASAtene* 50/51 (1972/1973) 350–53.

⁷⁴ A. Zois, annual reports in *Prakt* 1972 through 1982. A short but useful summary appears in W. and E. Myers

and G. Cadogan, *The Aerial Atlas of Ancient Crete* (Berkeley 1992) 276–81. A. Zois and C. Mortzos will republish the vases saved from Seager’s excavation in the volume *Βασιλική II*.



Fig. 9. Plan of the site of Vasiliki, sector OP. (Courtesy A. Zois)

of the hilltop and two on the south. The remains of Θ and Ξ consist of regular cells, filled in with packing, to create a foundation for the houses.⁷⁵ House Θ was entered from the north from a paved area. The floor packing of the houses contained Koumasa ware, obsidian blades and knapping debris, ground stone tools, a ceramic jug, bronze tweezers, and caprid bones. Structure Π may have been a separate house or a work area for Θ ; it produced obsidian. Structures Θ , Π , and Ξ were destroyed in EM IIA.

Zois's investigations have shown that the great "House on the Hilltop" reconstructed by Seager was

a conflation of houses of different dates.⁷⁶ The actual architectural sequence was more complicated. In the first phase of EM IIB the hilltop was reorganized. A large structure (Zois's Red House) was built on the southern half of the hilltop. A large paved court was laid out west and to the north of the Red House. The structure almost certainly had two stories, with red-painted walls and floors, a mudbrick and pisé superstructure, and a flat roof made with beams, reeds, and plaster. There were entrances from the north court, on the south (room 16), and from room 13. There are two groups of small rooms (15, 16, 28, 33, and 36–38) used as basement maga-

⁷⁵ For Minoan architectural foundations, see A. Zois, "Pour un schéma évolutif de l'architecture minoenne. Les fondations: Techniques et morphologie," in P. Darcque

and R. Treuil eds., *Ehahitat égéen préhistorique* (BCH Suppl. 19, Paris 1990) 75–93.

⁷⁶ A. Zois, *Βασιλική I* (Athens 1976) 34–35.

zines on the south slope at a lower level. Seager found many jugs and cups in room 42, which may have served as a pantry. Room 39 was supplied with an 8-m-deep well. Many pithoi were found south of room 43. Certain details make it probable that the Red House structure is in fact two houses: first, the doorway in room 13/34 that opens out onto a space (3.50 m in width) between rooms 13 and 39, and second, the presence of two separate paved courts and two complexes of rooms, with large ones on the north (1–3, 6, 13, and 39–42) and smaller rooms (storage annexes?) on the south.⁷⁷ Two broken bronze axes and a knife, much obsidian, and many whole vases were found in the Red House.⁷⁸ Zois's new finds include a steatite seal and a large vase, stamped with a seal motif typical of EM II.⁷⁹ A Koumasa-type marble figurine with folded arms (FAF) was found in the packing of the east wall of the structure. Probably out of context, the find is nevertheless important because it indicates that Cretan folded-arm figurines were made for use by the living, not just for burials.⁸⁰ Amphoras and loom-weights were found between the two houses that comprise the Red House.

During EM IIB, two new houses (Zois's West House and the Southwest House) were built on top of the paved court next to the Red House. The West House consists of a large central room (5) around which were added storage annexes and other rooms. The new excavations found over 70 loom-weights placed in room 27a of the Southwest House. The Red and West Houses met their end by fiery destruction in EM IIB. The Southwest House produced no floor deposits (except for some pithoi)

and contained no signs of fallen roofing, so it may have been abandoned rather than destroyed.

The EM IIA–B settlement at Vasiliki apparently consisted of two to four houses.⁸¹ Zois's excavations on the southeast slope (area P) revealed fragments of scrappy walls that may belong to a continuation of the EM IIB settlement, or to the EM III–MM I period. Excavations in 1991 under the paved floor of structure PBb produced a carbonized olive stone of EM IIB date.⁸² EM II Vasiliki was thus a hamlet, ca. 80 × 40 m in extent,⁸³ whose inhabitants farmed, kept livestock, wove textiles, and made bronze tools in molds.⁸⁴ They had access to foreign materials, copper and obsidian, perhaps via two large EM II settlements on the north coast of the Isthmus.⁸⁵ Close to two excellent clay sources (north and south of the present-day village of Vasiliki), the inhabitants of EM II Vasiliki may have produced pottery for export.

Our limited knowledge of major Early Minoan II settlements comes from small soundings.⁸⁶ Trial trenches dug at Mallia in the last 15 years have revealed traces of irregular EM II house walls under the palace and its immediate surroundings, indicating that the site reached village size in EM II.⁸⁷ Recent trenches at Knossos revealed the basement of a single house (West Court House).⁸⁸ Imported pottery in this house included Agios Onouphrios vases from the Mesara, pithoi, and EC II sauceboats. EM IIA levels found in the palace area and along the Royal Road indicate that building and extensive terracing took place at Knossos in EM IIA, including the construction of an EM IIA or IIB stone-paved ramp leading to the top of the tell where the north-

⁷⁷ That the "Red House" is actually two houses is also suggested by the fact that the west wing is surrounded by a double wall, a construction usually found on external walls.

⁷⁸ The most complete account of Seager's excavations appears in Zois (supra n. 76).

⁷⁹ A stray find, the seal is published in *CMS* V.1, no. 27. The vase is mentioned in *Prakt* 1979, 326.

⁸⁰ As R. Barber and J. Davis have suggested for Cycladic figurines, cf. L. Fitton ed., *Cycladica* (London 1984) 10–23.

⁸¹ According to Seager, his trials on the lower slopes of the hill produced no signs of EM settlement. R. Seager, "Excavations at Vasiliki, Crete, in 1906," *Transactions of the Free Museum of Science and Art* 2 (1907) 113. The same is true for Zois's investigations.

⁸² I am grateful to the excavator for showing me his unpublished reports of the 1990–1993 excavations from which this summary is drawn.

⁸³ New excavations to the north and south may well reveal more EM II structures. The local topography sug-

gests that most of the settlement is already revealed.

⁸⁴ The EM II bronze bivalve mold for a double ax from Vasiliki indicates that metallurgical activity was carried out in the settlement. See K. Mavriyannaki, "Μινωική μεταλλική μήτρα από την Βασιλική της Ιεράπετρας," *Κρητολογία* 9 (1984) 140–76.

⁸⁵ These sites were discovered in 1992 and 1993 by the Gournia Survey under the direction of myself and C. Davaras.

⁸⁶ Fragmentary house remains have been uncovered at Phaistos, Knossos, and Mallia. See *Chronology* 15 for bibliography.

⁸⁷ See van Effenterre I, 82–92. Reports on the more recent sondages have appeared in the *BCH* Chronique sections: 110 (1986) 814 and 817; 113 (1989) 770–85; 114 (1990) 908–10 and 921; 115 (1991) 735.

⁸⁸ Wilson (supra n. 50) 281–364. Wilson has recently reconstructed an adjacent mudbrick upper story using the basement roof as a veranda overlooking a terraced area to the west (where the later West Court was). There is no evidence for this reconstruction.



Fig. 10. Aerial view of the tholos tombs at Moni Odigitria. (W. and E. Myers and G. Cadogan, *The Aerial Atlas of Ancient Crete* [Berkeley 1992] fig. 30.4, courtesy W. and E. Myers)

west corner of the later palace was located.⁸⁹ Walls of two houses are known at Phaistos.⁹⁰ All of these buildings at the later Minoan centers are no more advanced than the architecture at Vasiliki. The only possible exception is at Palaikastro where fragments of large walls were recorded, although nothing else is known about them.⁹¹

The burials of EM II Crete are of two main types, the tholos tombs of the Mesara and the house tombs of the north coast. Despite Branigan's excellent study of the tholoi,⁹² our ability to understand these tombs fully is hindered by the fact that the only excavations of unrobbed tombs are either unpub-

lished or were carried out early in this century (and are therefore incomplete by present-day standards). Meanwhile the list of plundered tholoi grows longer each year.⁹³ It is a sad fact that Blackman and Branigan's publication of their (re)excavation of the robbed Agia Kyriaki tholos provides our most complete picture of the range of vases offered at an EM II tholos.⁹⁴ Many of the tholoi had additional structures built next to or around them. The best-preserved outer complex of a tholos comes from the recently excavated tombs at Moni Odigitria where a paved and enclosed court, with an entrance and auxiliary rooms, can be seen (fig. 10).⁹⁵

⁸⁹ D. Wilson, "Early Minoan Knossos: An Overview," in N. Momigliano and D. Evely eds., *Knossos: A Labyrinth of History. Papers Presented in Honour of Sinclair Hood* (Oxford, in press).

⁹⁰ Pernier (supra n. 29) 117, 119; and D. Levi, "L'archivo di cretule a Festòs," *ASAtene* 19/20 (1957/1958) 168–69, figs. 348–49.

⁹¹ Dawkins (supra n. 64) pl. X.

⁹² Branigan (supra n. 52), a fully revised version of his earlier *Tombs of Mesara*, London 1970.

⁹³ See the finds, including pottery, stone vases, Koumasa-type figurine, gold and stone jewelry, bone seals, bronze weapons, and stone tools in Marangou (supra n. 53).

⁹⁴ Blackman and Branigan 1982 (supra n. 22).

⁹⁵ The Greek Archaeological Service excavation (undertaken by A. Vasilakis) of the looted tombs yielded 275 vases, 20 stone vases, 11 necklaces, 3 gold diadems, a gold bracelet, 5 bronze objects, and stone tools, including obsidian blades; the excavation remains unpublished.

Only two Mesara tombs, Platanos A and Lebena IIa, have stratified EM II levels. The EM II level at Platanos Tholos A was poor in finds; Xanthoudides mentions 14 triangular daggers, a few gold beads, a diadem attachment, and an electrum pendant.⁹⁶ Tholos A at Agia Triada produced pottery, 13 seals,⁹⁷ at least one stone vase,⁹⁸ and probably most (but not necessarily all) of the 35 short bronze daggers from the tomb, and a few pieces of gold jewelry.⁹⁹ The unrobbed tombs at Lebena are unfortunately still unpublished, but preliminary reports indicate that EM II burial levels contained clay vases, including a rhyton, two stone spouted bowls, a bronze dagger, stone figurines, seals, amulets, a gold diadem, necklaces of clay and steatite beads, and obsidian blades.¹⁰⁰ Outside the Mesara to the north, at Archanes, Tholos E had an EM II basal level that produced bone and steatite seals, a few clay and stone vases, a Koumasa-type figurine, jewelry (many steatite and bone pendants and beads, a gold bead, a bronze ring, and bits of gold), obsidian blades, and animal bones.¹⁰¹ Branigan's new study of the Mesara tholos tombs describes the local EM II burial customs.¹⁰² The deceased were buried with their daily possessions, which included clay vases (jug, cups, bowls), jewelry (necklace, pendants, gold diadems), a sealstone, a bronze toilet article, tool, or weapon, and perhaps a stone figurine. Reviewing the evidence from newer excavations, Branigan comes to the conclusion, surely correct, that the tholoi were fully vaulted in stone.¹⁰³

New excavations and Soles's study of house tombs have helped clarify the dates and architectural details of the prepalatial tombs on the north coast.¹⁰⁴ Much of Soles's work has focused on Mochlos. There, the cemetery consists of three large wealthy tombs on the upper West Terrace and smaller tombs

on the South Slope. The only tomb at Mochlos with a secure, pure EM II deposit is Tomb I, which produced clay vases, stone bowls, jugs, a triangular bronze dagger and cutter, a necklace of electrum, gold, amethyst, and crystal beads, and a Syrian cylinder seal.¹⁰⁵ The deposits in the other tombs spanned longer periods (e.g., EM II–MM I). The range of EM II grave goods at Mochlos seems to include clay vases, stone vases (bowls, ladles, pyxides, jars, and teapots), steatite and bone seals, and jewelry (clay, bone, stone and gold pendants, gold diadems, floral sprays, bands, appliqués, rings, necklaces of clay, steatite, and crystal and gold beads). Occasionally a tomb might contain a bronze dagger, a knife and toilet articles, obsidian blades, and rarely, a stone figurine. A cache of EM IIB gold jewelry placed in a silver vase was found next to Tomb VI in 1971.¹⁰⁶

Evidence of extensive Cretan trade with the Cyclades and the mainland in EB II has continued to build. A Minoan settlement was established on the island of Kythera in EM II. The site has close ceramic ties with West Crete but since no associated architecture was found, it has been suggested that it may have been seasonally occupied.¹⁰⁷ Various explanations for the colonization of Kythera—trade with the mainland, fishing opportunities, population pressure—have been suggested. Imports into Crete in EM II include masses of obsidian, invariably found on every EM II site (especially along the north coast), metals, clay and stone vases, marble figurines, and jewelry.¹⁰⁸ Signs of Cycladic influence have been observed in EM II ceramic shapes and bronze weapon and tool types, jewelry, figurines, and grave (cist) forms.¹⁰⁹ In contrast, the list of EM II exports (a few clay vases and perhaps a dagger) in the Aegean is relatively short.¹¹⁰ Undoubtedly the

⁹⁶ In *VTM* 89, Xanthoudides explained the poverty of the EM II level relative to the upper stratum by suggesting that it had been robbed. But if so, why were the 14 daggers of valuable bronze not taken?

⁹⁷ The Agia Triada seals: *CMS* I.2, 11–14, 32, 35, 46, 49, 61, 75, 76, 87, 91.

⁹⁸ Stone vase: L. Banti, "La grande tomba a tholos di Haghia Triada," *ASAtene* 13/14 (1930/1931) no. 78.

⁹⁹ E.g., the gold pendant, Banti (supra n. 98) 194, fig. 63, no. 164.

¹⁰⁰ Lebena tombs: Myers et al. (supra n. 74) 164–67 with bibliography. The finds—pottery, stone vases, bronze objects, jewelry, seals—made by the Greek Archaeological Service rescue excavations, mentioned in *ArchDelt*, remain otherwise unpublished.

¹⁰¹ I. Sakellarakis, *Prakt* 1975, 292–307.

¹⁰² Branigan (supra n. 52) 67–80, 119–41.

¹⁰³ Branigan (supra n. 52) 41–56.

¹⁰⁴ Soles.

¹⁰⁵ *Mochlos* 18–22; Soles 50.

¹⁰⁶ C. Davaras, "Early Minoan Jewellery from Mochlos," *BSA* 70 (1975) 101–14; Soles 58–62; Higgins (infra n. 137) 54–55.

¹⁰⁷ Excavation: J. Coldstream and G. Huxley, *Kythera* (London 1972) 83–91 and 272–74; Coldstream and Huxley, "The Minoans of Kythera," *Thalassocracy* 108. J. Rutter and C. Zerner, "Early Hellado-Minoan Contacts," in *Thalassocracy* 75–76 and n. 5 suggest the EM II settlement may have been seasonal.

¹⁰⁸ For Cretan imports, see Branigan (supra n. 45) 185–86; 245–47. I. Sakellarakis, "The Cyclades and Crete," in J. Thimme ed., *Art and Culture of the Cyclades* (Karlsruhe 1977) 145–53.

¹⁰⁹ Branigan (supra n. 49) 60; Branigan, "A Transitional Phase in Minoan Metallurgy," *AJA* 72 (1968) 219–22; S. Stucynski, "Cycladic Imports in Crete: A Brief Survey," *TUAS* 7 (1982) 50–59.

¹¹⁰ Branigan (supra n. 49) 76–78; Rutter and Zerner (supra n. 107) 81; *Chronology* 17.

most significant contribution to the question of EM II external relations has been made by the Oxford program of lead isotope analysis of metal objects from Agia Photia and seven Mesara tholos tombs.¹¹¹ The analyses have shown the Agia Photia metal to be from the Cyclades and the Mesara copper to be primarily from Kythnos, but also Lavrion, and perhaps Cyprus (with two examples from a local Cretan source). Early Minoan lead objects analyzed from Archanes and Mochlos have compositions consistent with origins at Lavrion and Siphnos.¹¹² Cretan contact with areas outside the Aegean seems to have been slight. A silver cylinder seal from Mochlos, now identified as being of mid-third-millennium Syrian manufacture, and a hippopotamus bone at Knossos are the only Near Eastern imports known.¹¹³ Possible Egyptian finds in Crete are limited to two stone bowl fragments from Knossos.¹¹⁴

Recent research indicates that the intensive trade of EM II Crete was not confined to coastal sites such as Mochlos, but was carried out among regions within the island.¹¹⁵ This study of the Early Minoan wares at Knossos, using stylistic analysis, thin-section petrography, and scanning electron microscopy, has shown that several sizable ware groups (fine painted bowls, fine gray ware goblets and pyxides) were imported from the Mesara to Knossos in EM IB and EM IIA. These imports at Knossos mark the earliest known range of specialized pottery types that were distributed between regions in Crete. Analyses of Knossian fabrics indicate that standardization of clays in ceramic production also increases, especially after EM IIA, in EM IIB and

EM III.¹¹⁶ Mesara imports at Knossos seem to cease in EM IIB and other contacts develop with East Crete. As at Knossos, pottery from the Mesara was also imported to Fournou Korifi in EM IIA. Petrographic and stylistic study of the larger EM IIB assemblage at Myrtos indicates that over half of the pottery was imported to the site. Possible changes in the scale of ceramic distribution and transport are indicated by many amphoras and other large vessels as well as Vasiliki ware, the famous "Goddess of Myrtos," and cooking pots imported from the Isthmus of Ierapetra.¹¹⁷ A few small vases at Fournou Korifi may still be Mesara imports as in EM IIA. Other finds point to the same pattern: the well-known type of stone pyxis lid surmounted by a dog, surely the product of a single workshop, is known at Mochlos, Agia Triada, and Zakros.¹¹⁸ The contents of the Mesara tombs—obsidian, copper, marble vases, and gold and silver jewelry—all indicate intensive trade relations between the Mesara and the North Coast.¹¹⁹ The excavators of the tholos tomb at Agia Kyriaki on the south coast were able to distinguish 35 pieces of Vasiliki ware imported from East Crete.¹²⁰

During the last 20 years discussion concerning EM II Crete has been dominated by the question of its social organization and complexity. Some have argued that EM II Crete had reached a level of sociopolitical ranking implying wealthy elites.¹²¹ These elite families would have had some form of authority and power within their communities, which could then be seen as antecedent to later palatial organization. Other scholars have been more skeptical.¹²²

¹¹¹ Gale (supra n. 46).

¹¹² Z. Stos-Gale and C. MacDonald, "Sources of Metals and Trade in the Bronze Age Aegean," in N. Gale ed., *Bronze Age Trade in the Mediterranean* (SIMA 90, Jonsered 1991) 249–88.

¹¹³ J. Aruz, "The Silver Cylinder Seal from Mochlos," *Kadmos* 23 (1984) 186–87. O. Krzyszkowska, "Wealth and Prosperity in Pre-palatial Crete: The Case of Ivory," *Society* 166 and n. 7 where the date is given as "likely" EM II.

¹¹⁴ *Chronology* 125. Such finds are possible (since Egyptian stone vases were traded as far north as Ebla in EB II) but their uniqueness, as well as Warren's methodology for dating Egyptian imports to Crete (see below), raises suspicions. In addition, one of the vases comes from a mixed context.

¹¹⁵ D. Wilson and P. Day, "Ceramic Regionalism in Pre-palatial Crete: The Mesara Imports from EM I to EM IIA Knossos," *BSA* 89 (in press), with a contribution by V. Kilikoglou.

¹¹⁶ P. Day, V. Kilikoglou, and D. Wilson, "Technological and Cultural Change in Early Bronze Age Knossos: A Multi-disciplinary Approach to the Ceramic Record," pre-

sented at the Second European Meeting on Ancient Ceramics, Barcelona, November 1993.

¹¹⁷ P. Day et al., "Pottery Importation in Early Minoan IIB Myrtos Fournou Korifi, Crete: A Reassessment," Proceedings of the 29th International Symposium on Archaeometry, Ankara, forthcoming.

¹¹⁸ P. Warren, "The First Minoan Stone Vases and Early Minoan Chronology," *CretChron* 19 (1965) 13.

¹¹⁹ *VTM*, passim; Branigan 1970 (supra n. 92) 56–85.

¹²⁰ Blackman and Branigan 1982 (supra n. 22) 39–41.

¹²¹ K. Branigan, "Early Minoan Society: The Evidence of the Mesara Tholoi Reviewed," in Nicolet (supra n. 47) 29–37; J. Evans, "The Early Minoan Occupation of Knossos: A Note on Some New Evidence," *AnatSt* 22 (1972) 115–28; J. Soles, "Social Ranking in Prepalatial Cemeteries," in E. French and K. Wardle, *Problems in Greek Prehistory* (Bristol 1988) 49–62; Whitelaw, in *Society* (supra n. 69); P. Warren, "The Genesis of the Minoan Palace," in *Function* 47–56.

¹²² J. Cherry, "Evolution, Revolution, and the Origins of Complex Society in Minoan Crete," in *Society* 33–46; V. Watrous, "The Role of the Near East in the Rise of the

The main claims for an EM II ranked society are as follows:

1) There are architectural forerunners of the palaces in EM II Crete that signal social ranking and the existence of local chiefs.¹²³ The principal evidence for this argument used to be the large "House on the Hill" at Vasiliki. Zois's investigations at the site have shown that there is no large, single house, however, but several small ones.¹²⁴ Nor was there a paved central court since there is no evidence for EM II structures on the west side of the hilltop. In addition, storage facilities at Vasiliki are not centralized, but probably occur as annexes to each individual house. Sporadic excavations of EM II levels at regional centers, e.g., Knossos, Phaistos, and Chania, where one would expect such architecture, have only produced fragments of small houses. Nothing approaching the size or planned complexity of the Greek mainland EH II corridor house is known on Crete. There does not seem to exist any sign of the kind of social stratification visible in the MM II architecture at Quartier Mu at Mallia or the complex administration of the sealings from MM II Monasteraki.

2) The prepalatial cemeteries at Mochlos, Gournia, and Mallia show signs of social and economic ranking.¹²⁵ More recent work at Mochlos has shown that the differences between Soles's larger "elite" tombs on the West Terrace and those on the South Slope are minimal. Soles's careful investigations at Mochlos have indicated that in EM II the West Terrace tombs are smaller than previously thought (I/II and IV/VI, rooms III and V being later additions).¹²⁶ Moreover, excavation on the South Slope has uncovered a tomb (L) as large as the West Terrace examples.¹²⁷ In addition, the architectural elaborateness of the tombs does not necessarily cor-

respond to the wealth of their contents.¹²⁸ "Ivory" objects and gold and silver jewelry are hard to accept as signs of social ranking because examples of such objects occur in both parts of the Mochlos cemetery.¹²⁹ Not surprisingly the tomb contents do show some variation in wealth, but any evidence for deliberate or ascribed social or political hierarchy is missing.

The danger in inferring social rank from differing burial data is illustrated by the situation at Gournia. The argument that the Gournia house tombs and the separate Sphoungaras rock shelter burials were indicative of a local social ranking has been thrown into doubt by the discovery in 1992 of a separate and sizable EM II settlement on the hill above Sphoungaras.¹³⁰ This find implies that the two cemeteries belong to two different settlements, rather than to different classes of the same community. The same situation exists in the Mesara where the cemetery of Phaistos at Ieroditis consists of individual inhumations, while those at Agia Triada are buried in tholos tombs.¹³¹

3) Early Minoan technology shows a steady and incremental growth leading up to (and thus explaining) the material achievements of the protopalatial period. This argument is an outgrowth of the basic studies made of Minoan metal objects, seals, and stone vases. In order to evaluate this claim we must consider these studies in some detail. The question of the ceramic sequence is discussed separately below (see below, Early Minoan III).

In his first general study of Minoan metalwork,¹³² Branigan grouped the metal objects, mostly from the Mesara tombs, by typology and then dated them to the Early Minoan period. Subsequent studies have shown that the Mesara tomb deposits continue

Cretan Palaces," in *Function* 65–70; J. Cherry, "The Emergence of the State in the Prehistoric Aegean," *PCPS* 1984, 18–48.

¹²³ *Myrtos* 260–61; Branigan (supra n. 45) 48–49, 118–23.

¹²⁴ A. Zois's review of this issue in prepalatial architecture, "Gibt es Vorläufer der minoischen Paläste auf Kreta? Ergebnisse neuer Untersuchungen," in D. Papenfuss and V. Strocka eds., *Paläste und Hütte* (Mainz 1982) 207–15, found no evidence of any kind for ranking. If future excavation at Vasiliki shows that the walls in area P belonged to small, poorly built EM II houses, that might constitute evidence for social ranking.

¹²⁵ Soles (supra n. 121).

¹²⁶ Soles 43–60.

¹²⁷ J. Soles and C. Davaras, "Excavations at Mochlos, 1989," *Hesperia* 61 (1992) 420–24 and fig. 4.

¹²⁸ Soles 71 notes, for instance, that Tomb XIX is mod-

est in construction, but one of the richest in contents. Nor can the "orthostate" construction of the West Terrace tombs be cited as an elite feature, since it does not use real orthostates nor occur outside the tombs (where it would have been visible).

¹²⁹ South Slope tombs with "elite" material: gold jewelry in Tombs IX, XIX–XXIII (Soles 84 for Tomb IX); silver in Tomb XX; "ivory" in Tomb XVIII. Moreover, any comparison of the West Terrace and South Slope tombs must also take into account the much higher proportion of robbed tombs on the South Slope.

¹³⁰ These sites were found in 1993 by the Gournia Survey, under the direction of C. Davaras and myself.

¹³¹ Watrous et al. (supra n. 10) 224. The tombs at Mallia mentioned by Soles are almost entirely protopalatial.

¹³² K. Branigan, *Copper and Bronzeworking in Early Bronze Age Crete* (Lund 1968).

well into the protopalatial period.¹³³ Many studies of the Mesara tholoi, however, have continued to treat them as Early Minoan monuments.¹³⁴ While it is true that most of the circular tombs were originally built in EM I (or EM II), the final form of these complexes consisted of the original tholos and many later annexes whose total contents were mostly MM I in date. For example, Tholos A at Agia Triada for which we have a relatively full (if select) publication spans the EM I–MM II period.¹³⁵ The pottery, which is the most numerous and precisely dated class of artifact in Tholos A, may give us a rough idea of which finds date to each chronological period. Banti published 159 vases from the complex. Of these, 28 can be dated to EM I–II; 37 to EM III–MM IA, and 94 to MM IB–II. The implications of this chronological sequence have not been thoroughly appreciated. Most of the metal objects, for instance, almost certainly date not to the Early Minoan period, but to MM IA–II (see below).

In a subsequent study of metalworking of the Early and Middle Bronze Age Aegean,¹³⁶ Branigan defined new artifact types and metallurgical techniques for EM II Crete and laid out the chronological contexts for Minoan metal artifacts, again largely from the Mesara. Very few of these objects are from pure EM II levels; most are from EM II–MM I/II contexts. The Early Minoan dates he assigns to many of the objects, especially the weapons and tools from unstratified contexts, are too early, since one cannot assume, as he does, that these objects are contemporary with EBA parallels in the northern

Aegean.¹³⁷ He also overestimates the advanced state of Early Minoan metallurgy.¹³⁸ Finally, by considering all of the artifacts of the EM III, MM IA, MM IB, and MM II periods together in one section, he infers that the history of Minoan metallurgy from EM II to MM II was one of uninterrupted continuity.¹³⁹ This argument is circular.

The seals of the EM II–MM II period have recently been admirably organized into stylistic groups and dated by Yule.¹⁴⁰ Yule identified two main prepalatial groups of seals, the Parading Lions/Spiral and Border/Leaf complexes, which he dates to EM III–MM IA and EM II–MM IA(?), respectively.¹⁴¹ His dating of these groups is unlikely, however, since it would mean that the manufacture of seals in the Mesara virtually ceased in the MM IB–II period. Subsequent reviews of Yule's study by Hood and Younger have pointed out that these dates are too early.¹⁴² As Younger has shown, the Border/Leaf group is a chronological extension of the Parading Lions/Spiral group. Since the Border/Leaf group uses both ivory/bone and stone and overlaps with the MM II Phaistos sealings, it is dated by Younger to the MM IA–II period. Younger thus dates the Parading Lions/Spiral group predominantly within the MM IA period.¹⁴³

Yule compares the EM II and EM III–MM IA groups of seals. While EM II seals come in diverse shapes (conoids, discs, L-shaped, foot-seals, rings, hammerhead signets, and plate signets), they are most commonly decorated with random or cross-hatched lines. EM III–MM IA seals assume a more

¹³³ K. Branigan, "The Mesara Tholoi and Middle Minoan Chronology," *SMEA* 5 (1968) 7–23; G. Walberg, *Provincial Middle Minoan Pottery* (Mainz 1983) 90–137.

¹³⁴ Branigan's book (supra n. 52), for example, features the subtitle "Life and Death in Southern Crete, c. 3000–2000 B.C." The correct dates are ca. 3500–1800 B.C.

¹³⁵ Banti (supra n. 98). Any bias in Banti's list of pottery is likely to favor the earlier periods, as she specifically mentions, on p. 178, "numerossime" MM I vases from the annex of which she only publishes representative examples.

¹³⁶ Branigan.

¹³⁷ See R. Higgins, *Greek and Roman Jewellery* (Berkeley 1980) 53, for the same conclusions. Branigan's conclusion that the Mesara was a leading center of metalworking in the Aegean during the EM I–MM II period is based on assumptions not generally accepted, i.e., that the number of bronzes in the tombs relative to other parts of the Aegean is not accidental, that Mesara bronzeworking was based mainly on local ore sources, and that the use of deliberate arsenical and tin alloys in the Mesara was in advance of practices elsewhere.

¹³⁸ Branigan 106–108. Contra Branigan: the only spear from a certain EM context is that from Agia Photia, and it may be Cycladic in origin. The Mochlos arrowhead, the

only possible example known from Crete before MM IB, comes from Tomb XIX. Seager (*Mochlos* 71) dates the arrowhead to MM I, later than the main "EM II–III" contents of the tomb. The tomb should probably be dated EM II and MM I and the arrowhead to MM I (see below). There are no type I saws from an EM II context; the only type I from a secure context dates to MM IB (Branigan 168). There are no known EM II tin bronzes. Gale (supra n. 46) 301 suggests that the earliest tin bronzes in Crete date to MM I. The only "short sword" from an EM context is that from Agia Photia, so again it may be an Early Cycladic product; the only other example (Branigan 164) from a good context is MM I–II.

¹³⁹ Branigan 114; and K. Branigan, *The Foundations of Palatial Crete* (London 1970) 78–83.

¹⁴⁰ Yule. See also I. Pini, "Ein Beitrag zur chronologischen Ordnung der frühkretischen Siegel," *Pepragmena* 1981 I, 421–35; and "Eine frühkretische Siegelwerkstatt?" *Pepragmena* 1990 I, 115–27.

¹⁴¹ Yule 208–10.

¹⁴² S. Hood, *Antiquity* 58 (1984) 70–71; and J. Younger, in *GGA* 240 (1988) 188–224.

¹⁴³ Younger (supra n. 142) and personal communication.

regular repertoire of shapes, i.e., gables, half-ovals, zoomorphs, and three-sided prisms. The most frequently occurring motifs include leaves, loops, hatched triangles, and crosshatching. Using the list of securely dated prepalatial seals in Pini's 1981 study, we can form a more precise idea of EM II–MM IA seal development.¹⁴⁴ For the EM II period there are 20 securely dated seals and one sealing.¹⁴⁵ The shapes represented are cones (4), plate signets (2), rings (2), feet (2), pyramids (2), zoomorphs (2), a disc, hemisphere, pyramid, hammer-head signet, stump signet, and a rod. The motifs on the 19 seals and the one sealing are crosshatched lines (12), random lines (4), chip carving/lines, crossed lines, and a cross.

For the EM III–MM IA period the seal shapes represented are stamp cylinders (9), cones (6), discoids (5), three-sided prisms (2), step pyramids (2), plate, half-cylinder, triangle, button, zoomorph, wand, scarab, and fly. Decorations consist of spirals (7), rosettes (6), leaves or petals (4), crosshatched lines (4), vases (3), double axes (3), ?deer (3), loops (2), men (2), goats, meander, zigzags, lions, random lines, drill holes, leg, hand, fish, and chip cuts. Two important conclusions emerge from this comparison: EM II seal carving is relatively simple compared with that in EM III–MM IA and there is minimal overlap in seal shape and motif between the two periods.

In his study *Minoan Stone Vases (MSV)*, Warren concluded that many vessels (vase types 1, 3, 4, 7, 8, 10, 17, 20, 22, 28, 29, 31, 36, 37, and 41) were manufactured uninterruptedly from EM IIB through MM II and onward.¹⁴⁶ These "transitional" vases are dated from their contexts (mainly mixed) and on the basis that they show the same technique (incision) and material (steatite) as EM II examples. From this he inferred that the bulk manufacture of Minoan stone vases began in ca. 2300 B.C., i.e., in EM III or late EM II.

Let us consider the evidence for the dating of this transitional group. Warren's alabastron type IA is dated EM III–MM I. It is a Mesara form with a

precise 12th-Dynasty parallel, noted by Warren, which suggests a date of late MM IA (table 1); all three secure contexts are MM I.¹⁴⁷ The "bird's nest" bowl (type 3) occurs primarily in MM I–II contexts in the Mesara.¹⁴⁸ None are found in EM II contexts. This vase shape occurs only in harder stone material and thus should date to MM IB and later. Block vases (type 4) are also not found in any secure Early Minoan context. The earliest example is from Lebena Tomb IIa dated to MM IA.¹⁴⁹ Of the 37 block vases with find contexts, all examples of type 4 vases are in MM IA, MM IA–II, or LM I contexts; most are in MM IA–II contexts.¹⁵⁰ Bowl type 7 is dated to EM III–MM I. The earliest (numerous) certain contexts are MM I–II.¹⁵¹ The earliest secure contexts for Warren's bowl type 8 are MM I; other find contexts are EM II–MM I, LM I, and LM III.¹⁵² Not one of the 50 examples of Warren's cup type 17A occurs in a secure EM II context. As Warren notes, the large numbers found in the Mesara tombs indicate their popularity in MM I.¹⁵³ The tumbler (type 20) is typical.¹⁵⁴ It occurs at Mochlos in Tomb VII, where the only clay vases published by Seager are EM II, and in the Mesara tombs. Warren thus dates the type to EM III–MM I. The vase, however, must be MM IA–II as the earliest safe contexts are MM IB–II and as the Eastern parallels (see below) show. The same situation obtains with jug type 22D. In *MSV* it is noted that vase type 22D is found primarily in secure MM IB–II contexts, except for Mochlos Tombs I and VI, for which Seager only published "EM II" vases. Thus in *MSV* the shape is dated to EM II–MM I.¹⁵⁵ Both of the Mochlos tombs have later MM material in them, however, and so this vase type is clearly protopalatial. Miniature amphoras (type 28) dated EM III–MM I/II come only from secure MM I and MM II contexts.¹⁵⁶ Miniature goblets (type 29A) come exclusively from mixed EM II–MM I tomb contexts. Two examples (P 372 and 377 in *MSV*) imitate MM IA eggcups.¹⁵⁷ Bowl type 31 comes from mixed EM II–MM I tomb contents and secure MM I–II settlement contexts at Knossos, Phaistos, and Chamaizi.¹⁵⁸

¹⁴⁴ Pini 422–23.

¹⁴⁵ Omitted are the five considered transitional EM II/III from Maronia and Mochlos and *CMS* II.1 196, whose date Yule 191 doubts.

¹⁴⁶ *MSV* 182–84. Warren's early dating for his transitional vases is also dependent on the dates given to the Mochlos tombs by Seager. These dates are discussed below.

¹⁴⁷ *MSV* 4–5.

¹⁴⁸ *MSV* 7–11.

¹⁴⁹ *MSV* 11–14. The Lebena vase is on p. 12.

¹⁵⁰ See P. Muhly, *Minoan Libation Tables* (Diss. Univ. of

Minnesota 1981) 242–52.

¹⁵¹ *MSV* 20–21.

¹⁵² *MSV* 21–24.

¹⁵³ *MSV* 38–39.

¹⁵⁴ *MSV* 44–45.

¹⁵⁵ Jug type 22D is discussed in *MSV* 47. MM objects in the Mochlos tombs: Tomb I, "MM III sherds" as well as the carnelian seal (I s); Tomb VI, cup (VI 6), the breccia jug (VI 4), seal (VI 26).

¹⁵⁶ *MSV* 71–72.

¹⁵⁷ *MSV* 72–73.

¹⁵⁸ *MSV* 76–78.

Table 1. Chronology for Sites and Areas in Crete and the East

	Knossos	Phaistos	Mallia	Gournia	Vasiliki	Mochlos	Pyrgos (Myrtos)	Egypt	Anatolia	Levant
2200 BC										
EM III	Upper East Well		E.C. XVIII, 51-56		Period IV (Pits I, II)		Gap	F. I. P.	EB III B	EB IV
2100 BC										
MM IA	West Court Houses		Premier Charnier	North	Seager's Well	Material from Tombs II-VII, IX-XI, XIII, XV-XX, XXII		XI Dynasty	Tarsus EB III B Kultepe Level 11	Ras Shamra III A3 (Ugarit Moyen I) Byblos JI-II
2000 BC										
MM IA	R. Road S Baset, Lower		South Houses	Trench	House B	House D	Pyrgos II a-b	1963 BC		MB I Byblos "Dépôts des offrandes"
1900 BC										
MM IB-II	Early West Magazines Trial KV: Village	Festos Ia Festos Ib-II	Town Group Quartier Mu	Early Gournia: Houses Aa, Ek	House A	Hesperia 61 (1992) 428.	Pyrgos II c-d	XII Dynasty	Karum Kanish II Karum Kanish Ib	Ugarit Moyen II Byblos Royal Tombs I-III
1800 BC										

This leaves the following EM II vase types: 10A, 29B, 37B, and 41. How often do these vases continue to be made after EM IIB? Bowl type 10A is a North Coast type found in EM II and EM II–MM I contexts; of the 49 examples cited in *MSV*, one (from Kamilari) is from a secure MM I context.¹⁵⁹ EM II miniature goblets (29B) differ completely from the MM I forms (29A).¹⁶⁰ Spouted bowl 37B is an EM II type; three examples have been found in MM I–II contexts.¹⁶¹ The teapot, type 41, is important because it closely imitates the ceramic form, which in turn can be closely dated.¹⁶² Type 41A mimics the EM II clay shape; type 41D imitates the MM IA carinated teapot. Type 41B copies the MM IA/B Patrikies form and type 41C the MM IB–II shape.

From the analyses above we can conclude that 1) there are relatively few EM II stone vase types; 2) very few stone vase types actually continue from EM II into MM I; 3) there is an explosion in the number and range of new vase types, especially small ones, in MM I (as discussed below, a good many of these new shapes have Egyptian parallels); and 4) many stone vases come from EM II–MM I (e.g., Mochlos) or EM II–MM II (Mesara tombs) contexts. These vases should be dated to MM IA–II (see below).

Does Early Minoan technology show a continuous development from EM II to MM I as claimed above? While it is difficult to trace the technical development of Early Minoan metal objects because they often cannot be precisely dated, it does seem that some of the Early Minoan dates assigned by Branigan to metal objects are too early. On the other hand, EM II and EM III–MM IA seals and stone vases do not show a continuous development but rather tend to cluster into two separate groups.¹⁶³ Prepalatial artifacts therefore do not illustrate a clear tradition of continuous development from EM II to MM I and cannot be used to infer such a development for prepalatial Crete.

4) Given the probable size of the EM II settlements at Knossos, Phaistos, and Mallia, cross-cultural parallels would suggest that they had reached some form of social hierarchy.¹⁶⁴ As Soles has pointed out, this is not necessarily true, for there exist many examples in anthropological literature of large, relatively egalitarian communities.¹⁶⁵ One cannot prove or disprove the above assertion; one can only state that the evidence on Crete does not at present support such an inference.

Thus, there is at present no archaeological evidence for a ranked society in EM II Crete that can be seen as an antecedent to palatial organization.

EARLY MINOAN III

The end of the EM IIB period was marked by the abandonment and destruction of many sites on Crete. Traces of destruction by fire have been found at Vasiliki, Fournou Koriphi, Pyrgos/Myrtos, and Mallia.¹⁶⁶ It is becoming clear from recent excavations that for the period immediately following EM IIB, that is, EM III, evidence for occupation on large sites is extremely limited, and many smaller sites were abandoned during this period. The excavators at Pyrgos/Myrtos have recognized a gap in occupation, between period I (EM II) and period II (MM IA). The earliest post-EM II architecture at the site is defined by deposits containing polychrome pottery (i.e., MM IA).¹⁶⁷ At Phaistos there is little published evidence for EM III. A deposit over the EM II house under cortile LXX produced pottery stylistically assignable to MM IA, but some could be earlier.¹⁶⁸ Excavations at Kommos have found very little evidence of occupation at the site during the EM III–early MM IA period.¹⁶⁹ Palaikastro may have been abandoned at this time, perhaps for the nearby peak of Kastri.¹⁷⁰ Knossos is one of the few sites at which EM III stratigraphic levels have been identified. A terrace wall running under the west

¹⁵⁹ *MSV* 76–77. Bowl types 10B and 10C come from MM I–LM I contexts and are a different shape from type 10A. Cf. *MSV* P 150–60 and P 161–73.

¹⁶⁰ Cf. *MSV* P 388–91 and P 369–87.

¹⁶¹ *MSV* 94–95.

¹⁶² *MSV* 98–99.

¹⁶³ See Yule 226–29 on the “discontinuous development” of early Cretan seals.

¹⁶⁴ Whitelaw, in *Society* (supra n. 69) 337–40.

¹⁶⁵ Soles 50 and n. 1 with bibliography.

¹⁶⁶ For Mallia, see the report of a burnt level with whole EM IIB vases in Amouretti (infra n. 174).

¹⁶⁷ See Cadogan (infra n. 229) 71.

¹⁶⁸ D. Levi, “Gli scavi a Festòs nel 1956 e 1957,” *ASAtene* 35/36 (1957/1958) 169–78.

¹⁶⁹ P. Betancourt, *Kommos II* (Princeton 1990) 62–64.

¹⁷⁰ Relevant stratigraphy at Palaikastro is given for one area, d32: an upper MM IB level is characterized by the

types of cups shown in R. Dawkins, “Excavations at Palaikastro,” *BSA* 9 (1902/1903) 302, fig. 2, nos. 1–2. For no. 1, cf. *ArchEph* 1972, *Chronika*, pl. Ca; for no. 1a, cf. Walberg (supra n. 133) 133; nos. 2 and 2a are carinated cups. The next lower level (0.50 m) consists of a few sherds shown on p. 199, fig. 2, whose decoration closely resembles that of Gournia North Trench examples, for which an MM IA date has been argued. At 1.00 m below, a thickly packed stratum of EM II vases (Dawkins, *BSA* 10 [1903/1904] 201, fig. 3b) was encountered, *separated by 0.50 m of deposition from the earlier, MM IA level*, suggesting a passage of time between the two levels. The settlement at the nearby citadel of Kastri has produced MM IA vases: L. Sackett et al., *BSA* 60 (1965) pl. 72b–c. In addition to the above information, the earliest published evidence of the post-EM II reoccupation of Palaikastro is the MM IA and MM IB vases in Sackett et al. (supra) pl. 72d–e.

facade of the first palace and at the northwest angle of the palace has been dated variously to EM III and MM IA.¹⁷¹ If EM III, this wall may have formed a platform for prepalatial structures; if MM IA, it may have been associated with the construction of the first palace. Four other deposits said to be EM III have been uncovered in various parts of the site.¹⁷² More recently the British excavators at Knossos have redated the three houses (A, B, and C) and a well found beneath the West Court to EM III.¹⁷³ At Mallia a small deposit stratified over an EM II destruction level is probably EM III (table 1).¹⁷⁴

Recent surveys also indicate that the countryside was largely deserted during the EM III period. The 1992–1993 survey of Gournia and the northern Isthmus of Ierapetra has shown that following the EM II period, the rural landscape is first resettled in the MM IA period. Similarly, the Western Mesara Survey found minimal evidence of settlement outside of Phaistos during the EM III–MM IA period.¹⁷⁵ Virtually no EM III–MM IA material was found in the Agiopharango Valley in southern Crete.¹⁷⁶

Many tombs show the same discontinuity of use. A minimal list of tombs with a gap between EM II and MM IA includes Agia Eirene; Agios Onouphrios; Agia Triada B; Archanes Tholos A and Building 6; Lebena Tombs I, IB, II, IIa, and III; Mallia, Western Ossuary; Mochlos Tomb XXII; Palaikastro Tomb II; and Platanos Tholoi A and Γ.¹⁷⁷ As will be argued below, this list can be lengthened considerably.

¹⁷¹ Wilson (supra n. 89).

¹⁷² Wilson (supra n. 89).

¹⁷³ G. Cadogan et al., "Early Minoan and Middle Minoan Pottery Groups at Knossos," *BSA* 88 (1993) 21–28 have placed several deposits from Knossos in a relative ceramic sequence and labeled them with conventional terms, e.g., EM III, MM IA. While the sequence may well be correct, there is no evidence that permits these groups to be assigned conventional chronological labels (viz., EM III, which is dated ca. 2300–2200 B.C.). Specifically, the deposits labeled "EM III" may be earlier than the Royal Road South Fill (called "MM IA"), but both groups may in fact date to the chronological span conventionally assigned to MM IA (ca. 2100–1900 B.C.). The time to assign these unpublished deposits conventional chronological terms is when they are fully published, with their Cretan and Aegean correlations. There is no basis for the assumption that a continuous ceramic sequence can be translated into a chronologically uniform development.

¹⁷⁴ M.-C. Amouretti, *Fouilles exécutées à Mallia: Le centre politique II* (*EtCret* 18, Paris 1970) 51–54 and fig. 5.

¹⁷⁵ Watrous et al. (supra n. 10) 68.

¹⁷⁶ Blackman and Branigan 1977 (supra n. 11) 68.

¹⁷⁷ See the lists in *MSV* 193–97 and Soles 201.

Signs of Cretan foreign contact with the Cyclades, the Greek mainland, or the Near East during this period are absent.¹⁷⁸

Our understanding of developments during this period is clouded by problems of chronological and stylistic definition at the beginning and end of EM III. Early Minoan III has been defined as a ceramic style, but not stratigraphically.¹⁷⁹ Seager created an impression of cultural continuity between EM II and EM III, still accepted today, by describing many of the vases and "deposits" at Mochlos as "EM II/III" or "EM III."¹⁸⁰ In 1971, excavation next to Tomb VI at Mochlos uncovered a deposit of pottery that was described as EM II/III.¹⁸¹ The pottery from the deposit consisted of Vasiliki ware (68%), "white-on-black" EM III styles (15%), dark-burnished fabrics (7%), and polished buff and Koumasa style (3%). Given the apparent homogeneity of the deposit, there seems little reason not to call it EM IIB. The excavators' decision to use the term "EM II/III" was based on caution, dictated by our relative ignorance of EM IIB and EM III pottery and the lack of deposits of EM III stratified over EM IIB. The only meaningful stratified EM II and EM III deposits are known at Knossos.¹⁸² There EM IIB is described as being mainly dark-on-light and red- or black-slipped wares, with lesser amounts of dark-on-light and Vasiliki wares. Thus, from a stylistic perspective, much of the pottery traditionally identified as EM II/III or EM III could be either chronologically EM IIB or MM IA.

¹⁷⁸ Cyclades, A. MacGillivray, "The Relative Chronology of Early Cycladic III," in A. MacGillivray and R. Barber eds., *The Prehistoric Cyclades* (Edinburgh 1984) 73–74. Mainland: Rutter and Zerner (supra n. 107) 76–77.

¹⁷⁹ A. Zois, "Υπάρχει ΠΜ ΙΙΙ Εποχή;" *Πεπραγμένα του Β' Διεθνούς Κρητολογικού Συνεδρίου* (Athens 1968) 141–56. Walberg's (supra n. 133) identifications of EM III and MM IA pottery (Walberg phase 1) are of limited value because they are not based on stratified settlement deposits, but are rearrangements of published pottery according to her own stylistic criteria. One cannot assume, as Walberg does, that vases from different regions of Crete with shared morphological features are contemporary (circular argument) nor that individual vases identified stylistically as part of groups ("EM III" or phase 1) can actually be dated to conventional chronological periods. The amount of chronological variation found within her vase "shapes" indicates this.

¹⁸⁰ *Mochlos*, Tombs I–XII, XIII, XV, XVI–XVIII, XIX–XXII, XXIII.

¹⁸¹ Davaras (supra n. 106); Soles 58–59.

¹⁸² See Cadogan et al. (supra n. 173) and esp. Wilson (supra n. 89).

The end of the EM III period is also poorly defined. The clearest sign of this is the controversy surrounding the EM III–MM IA ceramic sequence in East Crete. All agree that EM III–MM IA is a long period, usually assigned 300 years, but with no chronological fixed points.¹⁸³ Thus, the phases of this period have been dated stylistically, i.e., by the appearance of certain shapes and decoration and the use of polychromy, but such a ceramic sequence can only be relative. We have no idea when polychromy¹⁸⁴ actually appears within the chronological period conventionally assigned to EM III–MM IA. Moreover, the decision to use the appearance of polychromy to mark the beginning of MM IA and to date this to ca. 2100 B.C., as is usually done, is arbitrary and without supporting evidence.¹⁸⁵ As conventionally dated, East Cretan “EM III” style is the most advanced regional style on the island. A priori, there seems little reason for East Cretan ceramics to be stylistically ahead of those of Central Crete. What is known about monumental architecture and overseas contacts (discussed below) all indicates that Central Crete was the most advanced region of the island in MM IA.

Zois, who studied this problem extensively, observed that the only Minoan site in East Crete with evidence for EM III stratified over EM II and under MM IA was Vasiliki.¹⁸⁶ The EM IIB houses on the site were destroyed, apparently by fire. The following phase of occupation (Seager’s period IV) was extremely meager, and only in MM IA is the site extensively reoccupied. Seager, in his 1904 excavation report, noted that the period IV inhabitants of the settlement “built their hovels only over the southeast corner, as there are no signs of their ware on any other part of the hill.”¹⁸⁷ In his 1907 excavation report Seager writes, “The area in which the sherds of period IV were found was small, measuring about eight by ten metres. . . . The settlement is even less extensive than that of the preceding pe-

riod (Period III or EM II) and seems to have consisted of poorly built hovels huddled against the massive outer walls of the big house of Period III, already in ruins.”¹⁸⁸

At the time that Vasiliki was being dug, Edith Hall excavated the classic source for East Cretan EM III ware, the Gournia North Trench.¹⁸⁹ Harriet Boyd, the director of the excavation, described the North Trench deposit as containing “thousands upon thousands of sherds” with “a very large proportion” of the decorated sherds being “Light on Dark pieces” and “many” similarly decorated fragments of “Dark on Light,” as well as “a considerable number” of “local proto-naturalistic style of Class IV” (Boyd’s designation for Kamares style), with only “a few pieces” of Vasiliki and Koumasa styles.¹⁹⁰ Hall, who excavated and published the North Trench group, also specifically notes the absence of Vasiliki and red-on-buff (Koumasa style) wares in the deposit.¹⁹¹ She does not identify the deposit as immediately succeeding EM II (that is, EM III), but carefully distinguishes it as later than the stratified sequence of period IV at Vasiliki (pits I and II) where three strata were observed. These strata contained the following wares (starting from the top and proceeding to the bottom): 1) white-on-dark and Vasiliki ware; 2) Vasiliki ware and red-on-buff geometric style (Koumasa style); and, finally, 3) only Vasiliki ware.¹⁹² The two lower strata must date to EM IIB. The top level is either late EM IIB or EM III. In the end, Hall viewed the Gournia North Trench deposit as contemporary with Knossian MM IA, which is almost certainly correct (table 1). In the EM IIB deposits at Fournou Koriphi, Vasiliki ware is extremely common,¹⁹³ but in the North Trench deposit it is virtually absent. In addition, the main shapes of the North Trench—cups, jugs, and bridge-spouted jugs—and their decoration are new and unrelated to EM IIB antecedents.¹⁹⁴ There must therefore be a considerable chronological gap

¹⁸³ See *Chronology* 169; Cadogan (supra n. 8) 517.

¹⁸⁴ Pace P. Betancourt, *The History of Minoan Pottery* (Princeton 1985) 53–63.

¹⁸⁵ N. Momigliano, “MM IA Pottery from Evans’ Excavations at Knossos: A Reassessment,” *BSA* 86 (1991) 219 has pointed out that in MM IA polychromy is much less common than usually believed.

¹⁸⁶ See Zois’s comments in Myers et al. (supra n. 74) 276.

¹⁸⁷ R. Seager, “Excavations at Vasiliki, 1904,” *Transactions of the Department of Archaeology, University of Pennsylvania* I (Philadelphia 1905) 218.

¹⁸⁸ Seager (supra n. 81) 118.

¹⁸⁹ E. Hall, “Early Painted Pottery from Gournia,” in *Transactions of the Department of Archaeology, University of*

Pennsylvania I.3 (Philadelphia 1904) 191–206.

¹⁹⁰ H. Boyd, “Gournia,” in *Transactions* (supra n. 189) 186.

¹⁹¹ Hall (supra n. 189) 193.

¹⁹² Seager (supra n. 81) 118. Hall (supra n. 189) 193.

¹⁹³ *Myrtos* 93–94.

¹⁹⁴ For cups, cf. *Myrtos* figs. 64–65 with Hall (supra n. 189) pl. XXVI and Andreou fig. 6. For jugs, cf. *Myrtos* figs. 68–73 with Hall (supra n. 189) pl. XXXI and Andreou fig. 6. For bridge-spouted jars, cf. *Myrtos* figs. 85–88 with Hall (supra n. 189) pls. XXIX–XXX and Andreou fig. 7. This scheme makes the spiraliform style of the North Trench overlap the second phase (defined by the presence of spirals) of MM IA at Knossos, as S. Hood in *CretChron* 15/16 (1961/1962) 94.

between EM IIB deposits at Fournou Koriphi and the Gournia North Trench deposit.

This reconstruction agrees with Seager's description of the "EM III" well deposit from Vasiliki, which he dates later than the strata in the EM II–III pits.¹⁹⁵ As Seager noted, the well contents were not a gradual accumulation, but were dumped in all at once. Seager distinguished two levels in the major construction (Houses A and B) at Vasiliki in his period V. These can now be securely dated to MM IA/B and MM IB/II.¹⁹⁶ By the process of elimination, the evidence above suggests that Seager's well group is MM IA (in Knossian terms) material dumped into the well, probably at the start of reconstruction at Vasiliki. More recent study by Andreou has shown that some of Seager's "EM III" deposits at Mochlos are also later. The deposit under House D, dated EM III/MM I, is contemporary with Vasiliki House B, Pyrgos/Myrtyos II, and Knossian MM IA (table 1).¹⁹⁷ The excavators at Mochlos acknowledge a gap in prepalatial occupation of the site,¹⁹⁸ which they date to MM IA. This is unlikely, given the fact that 14 of the Mochlos tombs contain MM IA pottery.¹⁹⁹ Since MM IA is a well-documented period²⁰⁰ of occupation for the Mochlos settlement, this gap then probably occurs in the EM III chronological (not stylistic) period.

A Middle Bronze date for the "EM III" East Cretan style can also be derived independently, by means of ceramic parallels from outside of Crete. The kantharos from House D at Mochlos, for example, is an Anatolian shape characteristic of MB I,²⁰¹ decorated in typical MB I Syro-Cilician style.²⁰² From the same deposit at Vasiliki comes a Cycladicizing jug with parallels from Phylakopi Iii.²⁰³ The decoration of early Barbotine ware follows

Anatolian fashion.²⁰⁴ Amiran has pointed out that the deep rounded cups characteristic of "EM III" deposits in Crete also have close parallels, including the same vestigial handles, in the MB I Levant.²⁰⁵ The MB I phase in the Levant is dated ca. 2000–1900 B.C. and thus corresponds to MM IA.²⁰⁶

The scheme proposed here has the advantage of offering a solution for some of the problems of the old chronology, namely, that 1) the tombs at Mochlos and Archanes were full of costly materials imported from the Cyclades at a time when the Cyclades were experiencing depopulation and turbulence; 2) excavations at Mochlos, Gournia, and Vasiliki, showed that "EM III" was a period of prosperity for the first two sites and one of extreme poverty for nearby Vasiliki; and 3) East Cretan "EM III" pottery is supposed to represent a chronological period but it has not been isolated stratigraphically (and it is found in the same deposits as Central Cretan MM IA at Mallia, Mochlos, Pyrgos, and Palaikastro).

One hesitates to step into the whirlpool of Early Cycladic chronology, but it may be significant that the "gap" noticed on many Cretan sites in EM III corresponds closely in time to late EC III when at least some Cycladic sites (e.g., Agia Eirene on Kea) are deserted, and that the spread of new settlements on Crete early in MM IA also seems to correspond to the time when Phylakopi Iii is established.

MIDDLE MINOAN IA

Excavation of MM IA levels at major settlements on Crete is extremely limited. In addition, recognition of MM IA deposits has been hampered by problems of ceramic definition.²⁰⁷ Several houses (A, B, and C) from the Knossos West Court, however, have

¹⁹⁵ Seager (supra n. 81) 119: "Moreover, scattered sherds of the mottled (Vasiliki) ware were found in almost every metre, but in much smaller numbers than was the case in the pits where the cruder light on dark ware, identical with the sherds from the Gournia dump, was found side by side with the mottled ware which at first retained its old popularity. Thus we must suppose that the contents of the well are of a slightly later date and represent Period IV at its highest stage of development."

¹⁹⁶ Andreou 73–75, 102–103, and 172.

¹⁹⁷ Andreou 71–73.

¹⁹⁸ Soles and Davaras (supra n. 11) 417.

¹⁹⁹ See the list of MM IA tombs in Soles 201.

²⁰⁰ See R. Seager, "Excavations on the Island of Mochlos, Crete, in 1908," *AJA* 13 (1909) figs. 6–8 and 13.1, 3–5, and 7.

²⁰¹ Cf. the Mochlos kantharos (Seager [supra n. 200] 292, fig. 13, upper right) to Anatolian examples (S. Lloyd and J. Mellaart, *Beycesultan* II [London 1965] passim).

²⁰² *Levant* 68–70, fig. 23, nos. 1–4, 21–23.

²⁰³ Cf. the Mochlos jug (Seager [supra n. 200] 292, fig.

13, lower left) with examples from Phylakopi (T. Atkinson, *Phylakopi* [London 1904] pl. 9).

²⁰⁴ V. Watrous, "The Anatolian Origin of Minoan Barbotine Decoration," *Proceedings of the Tenth Congress of the Turkish Historical Society* (Ankara 1990) 133–37.

²⁰⁵ E.g., Mochlos fig. 49, nos. 58–60; R. Amiran, "The Middle Bronze I and the Early Minoan III," *CretChron* 23 (1971) 52–57, esp. 55–56, and cf. fig. 1, nos. 1–5 and pl. IA'.

²⁰⁶ *Levant* 101–108 and table 9 for the chronology of MB I in the Near East.

²⁰⁷ Three recent ceramic studies, based on stratigraphic deposits, have redefined MM IA and MM IB–II pottery. In all cases, the authors have shown that pottery assigned by Evans to MM IA should be dated MM IB or MM II: Andreou; Momigliano (supra n. 185) 149–272; and A. MacGillivray, *Pottery of the Old Palace Period at Knossos and Its Implications* (Diss. Univ. of Edinburgh 1986). Thus Hood's "EM III" deposit at Knossos has been dated later because the Helladic import in the deposit has been dated to MH I. See Coleman (supra n. 36) 270.

been identified as dating to MM IA.²⁰⁸ The deposits from these houses have produced loomweights, vases for food processing, several large pithoi, and numerous Cycladic-looking vases.²⁰⁹ The early hypogaeum underneath the South Porch of the palace cannot be dated precisely, but Momigliano's recent restudy of the associated pottery shows it is mostly MM IA.²¹⁰ A clay jar stopper, stamped with two different seals (one from the MM I Parading Lions group), was found on the floor of an "EM III/MM IA" house near the south front of the palace.²¹¹ Nevertheless, Knossos seems to have grown considerably in this period, since MM IA pottery has been found widely beyond the edge of the earlier Early Minoan settlement. According to Hood's survey of the Knossos area, MM IA was a period of rapid expansion for Knossos, and the site may have been fortified in that period.²¹² Evidence for the size of MM IA Phaistos is more fragmentary but it does appear that the settlement grew, perhaps substantially, during this period.²¹³

MM IA Mallia is a large settlement, as scattered finds from south, west, and north of the later palace area indicate.²¹⁴ At this time a wall of immense limestone boulders, probably for purposes of fortification, was constructed north of area A and between the north edge of the town of Mallia and the coast.²¹⁵ At Palaikastro numerous deposits, including some with MM IA eggcups, indicate that the settlement was also sizable in this period.²¹⁶ On the hilltop of Vasiliki, Seager's Houses A and B as well as Zois's

Houses Γ, Φ, and X were built.²¹⁷ On the south slope of the hill, Zois's 1990–1993 excavations have revealed two massive walls (PA 1 and PAb), separated by a corridor, that probably date to this period. Wall PAb ends at the northeast in a rectangular mass, which resembles a tower. If so, these walls may be part of an early fortification. Remains of well-built structures have also been found on the central hilltop (E-50), and on the south slope (PB 1).²¹⁸

At Mochlos substantial deposits of MM IA vases were found in blocks A and C and under House D.²¹⁹ Excavations there in 1993 revealed an MM IA building.²²⁰ Gournia produced a very large deposit of MM IA pottery (North Trench Deposit) that had been dumped over the north edge of a massive wall.²²¹ Thus, Gournia may have been fortified in MM IA.

Smaller excavated sites of this period are few in number: Chamaizi, Agia Photia, Pyrgos/Myrtos, and Patrikies (fig. 1). In the mountains southwest of Siteia, the oval-shaped structure built (over an EM settlement) on a hilltop near the village of Chamaizi has been called an MM IA peak sanctuary, because of the offering table and figurines discovered there.²²² Davaras's reinvestigation of this building has revealed new details that suggest its domestic character.²²³ Ten rooms, with household pottery, pithoi (one inscribed with the Linear A sign for wine), loomweights, and stone tools, face out onto a small paved court with a cistern.²²⁴ Axes, an adz, a chisel, and a sickle (as well as a spearhead) recov-

²⁰⁸ Momigliano (supra n. 185) 206–36 and 185–95.

²⁰⁹ Momigliano's reexamination of these deposits suggests that they are mixed, containing prepalatial and MM II vases (supra n. 185) 167–77, 206–35. For the Cycladic-looking examples: pyxides (*PM* I, 166–68, fig. 118b); askos (*PM* IV, 79–80); and other vases (H. and J. Pendlebury, "Two Protopalatial Houses at Knossos," *BSA* 30 [1928/1930] 60, fig. 5.8, and pl. 12a.10. As the parallels for the Cycladic imports are with Phylakopi Iii (cf. the Knossos askos and Phylakopi, pl. IX.11, and other examples in MacGillivray [supra n. 178] 73), which is in turn connected with MH I contexts at Lerna and other mainland sites (see Coleman [supra n. 36] 268 for references), these Cycladicizing vases, and the prepalatial groups they are a part of, are better referred to as Middle Bronze I (MM IA) than earlier, *pace* Wilson (supra n. 89). MacGillivray [supra n. 178] 74 states that the evidence for Cycladic contacts is far more plentiful in Crete in MM IA than during the EB II period.

²¹⁰ Momigliano (supra n. 185) 195–98.

²¹¹ S. Hood and V. Kenna, "An Early Minoan Sealing from Knossos," *AntCr* 1 (1973) 103–106. As Weingarten (infra n. 329) 3–4 notes, if this sealing was stamped by two seal owners, it could be a sign of supra-household administration.

²¹² Hood and Smyth (supra n. 11) 8. Possible fortification wall at Knossos: S. Hood, "Archaeology in Greece,

1960–61," *AR* 1960–1961, 27.

²¹³ The Western Mesara Survey (see Watrous et al., supra n. 10) found MM IA pottery to the west of the hill of Ephendi Christou. The Italian excavations have revealed MM IA deposits in the area of the palace and in Chalara (*ASAtene* 19/20 [1957/1958] 170–77; 45/46 [1967/1968] 66; *Festòs* I, 288–94).

²¹⁴ van Effenterre 30–41 and map on 52. Müller 1992 (supra n. 10).

²¹⁵ van Effenterre 266–67. Only two stretches of this wall are known.

²¹⁶ *Chronology* 18 lists the deposits.

²¹⁷ Seager (supra n. 81) 123–29; and A. Zois, *Prakt* 1980, 331–36.

²¹⁸ A. Zois has kindly supplied me with this information from his unpublished 1992 report to the *Epyon*.

²¹⁹ Seager (supra n. 200) 273–303.

²²⁰ J. Soles and C. Davaras, "1993 Excavations at Mochlos," *AJA* 97 (1993) 45–46 (abstract).

²²¹ Hall (supra n. 189).

²²² N. Platon, "Το ιερόν Μαζά και τα Μινωϊκά ιερά κορυφής," *CretChron* 5 (1951) 122–24.

²²³ C. Davaras, "The Oval House at Chamaizi Reconsidered," *AAA* 5 (1972) 283–88.

²²⁴ Some of these objects come from the original excavation. See S. Xanthoudides, "Εκ Κρήτης," *ArchEph* 1906, 116–55.

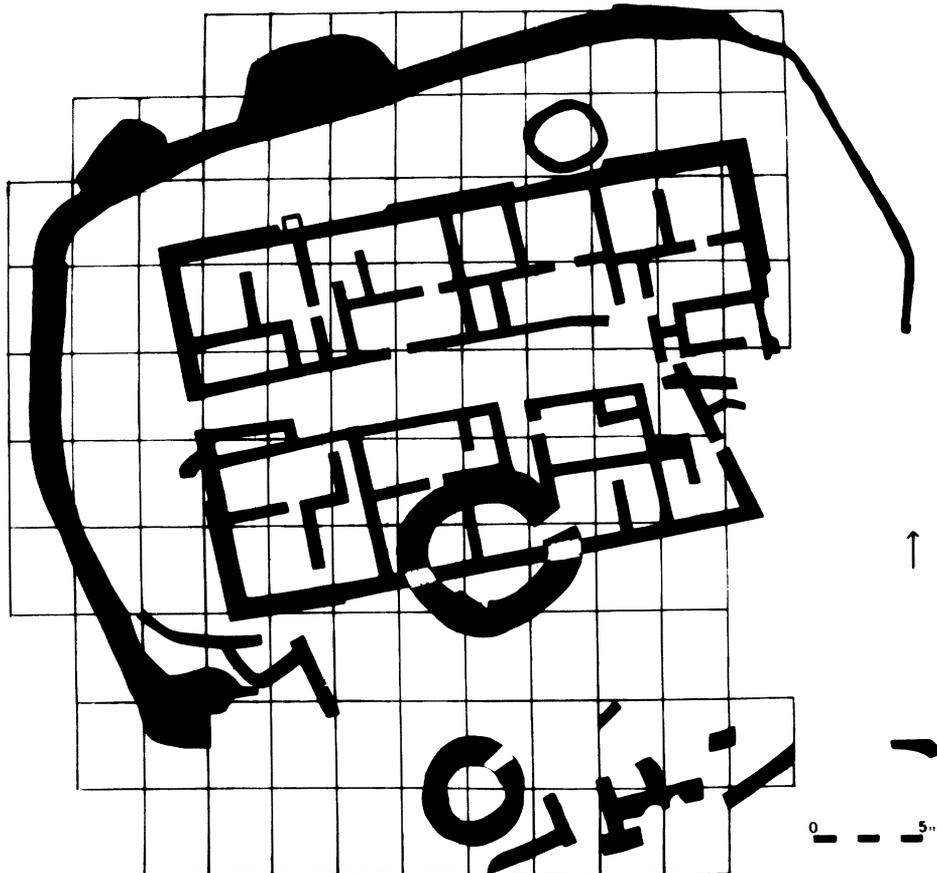


Fig. 11. Plan of building at Agia Photia. (After M. Tsipopoulou, in E. French and K. Wardle eds., *Problems in Greek Prehistory* [Bristol 1988] 32, fig. 1)

ered outside the house also may have been for domestic use. The large number of stone vessels, some of them duplicates, may indicate the presence of a workshop.²²⁵ The Chamaizi house may well have been built late in MM IA, since some of the pottery has parallels with Patrikies, but it must have continued into MM IB, since a number of the vases are protopalatial, including the “Chamaizi pots” whose MM IB–II workshop has been found at Mallia.²²⁶

Excavations in 1985–1986 at the headland of Agia Photia east of Siteia have revealed a large rectangular, one-story building that consists of groups of rooms (22 in total) opening onto an inner court, originally with a single entrance on the west (figs.

11–12).²²⁷ Located next to the building is a silo-like structure (*kouloura*) identified as a place for storage. A fortification wall with four apsidal towers is preserved around three sides of the building. Finds from the building, domestic pottery, numerous ground stone tools, many obsidian blades (as well as cores and debris), hearths, a bronze ax, and a loom-weight, indicate that it was used for living and working quarters. The published pottery from the building appears to span MM IA and MM IB. After the abandonment of the building, two additional *koulouras* were built on the site in MM II. The complex is distinctive for several reasons: its fortification walls, unparalleled architectural plan, and large

²²⁵ Xanthoudides (supra n. 224) pl. 11, nos. 2–3, 15–16. In addition, the stone object, pl. 9.10, looks like a mold for metal.

²²⁶ MM IA-style vases include Xanthoudides (supra n. 224) pl. 9.6–10. Cf. pl. 9.6 and the teapots in N. Bonacasa, “Patrikies—Una stazione medio-minoica fra Haghia Triada e Festòs,” *ASAtene* 45/46 (1967/1968) 7–54. MM IB–II

vases are shown in pl. 8.4 and pl. 9.1–3 (“Chamaizi vases”) and 11. The “Chamaizi vase” workshop at Mallia is published in H. and M. van Effenterre, *Fouilles exécutées à Mallia: Maisons IV (EtCret 22, Paris 1976) 66–84.*

²²⁷ M. Tsipopoulou, “Αγία Φωτία Σητείας: Το νέο εύρημα,” in French and Wardle (supra n. 121) 31–48; Myers et al. (supra n. 74) 66–69.

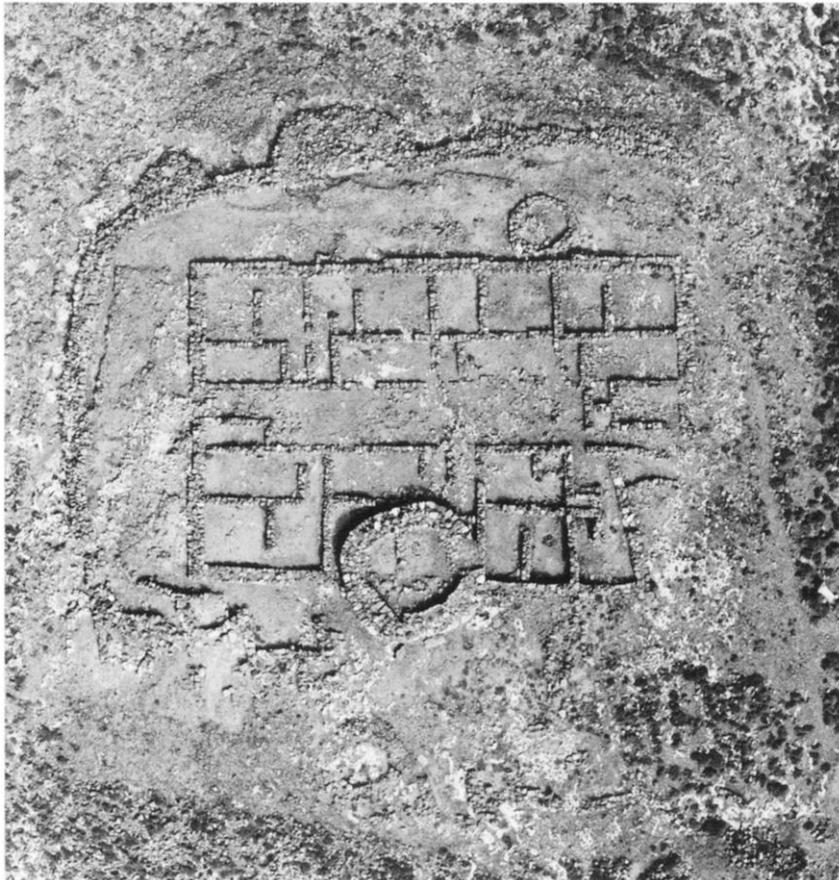


Fig. 12. Aerial view of Agia Photia. (W. and E. Myers and G. Cadogan, *The Aerial Atlas of Ancient Crete* [Berkeley 1992] fig. 6.2, courtesy W. and E. Myers)

number of ground stone tools. Its exposed position on the coast and the evidence for food processing and imports point to its involvement in maritime trade.

The site of Patrikies sits on the ridge that runs between Phaistos and Agia Triada. During excavations, six rooms of a larger complex (hamlet?) and a paved road were revealed.²²⁸ Large amounts of pottery were recovered, especially teapots. Because of the specialized nature of the pottery, Patrikies has been identified as the site of a ceramic workshop. At Pyrgos/Myrtos a settlement was established on the hilltop in MM IA.²²⁹ Small MM IA settlements share certain characteristics: they are new foundations, fortified or built on defensible locations, and they

show signs of specialized production and foreign contacts.²³⁰

Survey results also show that the countryside is tentatively resettled at this time. In the northern Isthmus of Ierapetra, survey in 1992–1993 revealed that, after the abandonment of many EM II sites, the region is first resettled, in small numbers, in MM IA. In the Western Mesara, the number of settlements drops sharply after EM II; moreover, half of the MM IA sites are new foundations.

Burials thus continue to provide the bulk of the artifactual information for MM IA Crete. The most impressive early second-millennium B.C. cemetery known on Crete is at Archanes, on the southern hilltop of Phourni. The cemetery appears to be

²²⁸ Bonacasa (supra n. 226); *Festòs* I, pl. 16 illustrates additional vases from the site.

²²⁹ G. Cadogan, "Pyrgos, Crete, 1970–7," *AR* 24 (1976–1977) 71–74.

²³⁰ S. Alexiou pointed to the defensive location of a

number of MM I sites—Chamaizi, Kastri (Palaikastro), Kastello (Tzermiado), Boubouli (Viannos), Volakas (Koumasa), and Vigla (Aposokari)—in "Τείχη και ακροπόλεις στη μυνωική Κρήτη," *Κρητολογία* 8 (1979) 41–56.



Fig. 13. Plan of the Phourni cemetery at Archanes, south sector. (After I. and E. Sakellarakis, *Archanes* [Athens 1991] 67, fig. 40)

grouped into four architectural complexes: Tholos E, Building 16 and perhaps 19; Tholos Γ, Buildings 5, 8, 9, 13, and 24–26; Tholos B and Building 7; and Building 6 (fig. 13).

²³¹ I. and E. Sakellarakis, *Prakt* 1975, 268–92.

²³² For the signet ring, see Higgins (*supra* n. 137) 68–69 for its late date. For the juglet, D. Levi, “La tomba a tholos di Kamilari presso a Festòs,” *ASAtene* 23/24 (1961/1962)



Fig. 14. Necklace of amethyst and sard from Tholos E, Phourni cemetery (Archanes). (After I. and E. Sakellarakis, *Prakt* 1975, pl. 240d)

Tholos E, the earliest structure at Phourni, was built in EM II (see above). In the upper level of the tholos were 56 MM IA burials, found in 29 larnakes, two pithoi, and in the earth between the containers. Burials consisted of skeletal remains, personal possessions, burnt animal offerings (caprid, cattle, bird, fish, and perhaps pig and hare), seashells, and pebbles. Possessions included bone/ivory and steatite seals, necklaces (fig. 14), pendants and a ring of bone/ivory, silver, faience, amethyst, sard, steatite, and bronze, obsidian blades, pottery, and a few stone mortars and vases.²³¹ The upper layer is dated to MM IA by the excavators, but several finds, e.g., a bronze ring of the signet type and a juglet, indicate that some of the burials there continued into the MM IB–II period.²³² Building 16 contained burials similar to those in the upper level of E, and may have served as an annex to the tholos.²³³ The small apsidal vaulted Building 19 also served to hold later

85, fig. 113c; *Festòs* II, pl. 38f.

²³³ I. and E. Sakellarakis (*supra* n. 231) 307–12; *Prakt* 1976, 392–98.

burials of the MM IB–III period.²³⁴ Larnax burials at Archanes apparently begin in MM IA; the occurrence of these burials alongside simple inhumations within Tholos E might be taken as a sign of increased wealth and social stratification. The finds recorded inside the larnakes, however, do not differ much from those accompanying inhumations.

A second tholos (Γ) was constructed north of E in MM IA.²³⁵ Tholos Γ, 3.60 m in diameter, was vaulted and buttressed by adjoining buildings. In the upper burial layer were 11 larnakes and a pithos. Except for animal bones in the pithos, there were no other finds in this level. Why those larnakes were found empty remains a mystery. Underneath the larnakes, a leveling course of stones had been laid on the bedrock over which earth had been spread. All of the rich finds (e.g., fig. 15) from Tholos Γ were found in the earth floor and among the stones and probably should be dated to the MM IA period.²³⁶ The 269 objects included 13 stone and two ivory figurines; 15 pendants of ivory, two of faience, and one of gold; an ivory, silver, and bronze pin; 38 beads of gold, two of rock crystal, and one of ivory; eight ivory seals; three bronze daggers (fig. 16); a few clay and stone vases; obsidian blades; animal bones; and seashells. Evidence of Cycladic contact,



Fig. 15. Finds from Tholos Γ, Phourni cemetery (Archanes). (After I. Sakellarakis in J. Thimme and P. Getz-Preziosi eds., *Art and Culture of the Cyclades* [Karlsruhe 1977] 153, fig. 148)

²³⁴ I. and E. Sakellarakis 1976 (supra n. 232) 351–85; *Prakt* 1977, 481. All the vases illustrated in I. Sakellarakis and E. Sapouna-Sakellarakis, *Archanes* (Athens 1991) 124, pl. 102 are MM IB or later. The cup, from the lower level of the tomb, in *Prakt* 1976, 377, fig. 13 is MM IB/II. The small larnax in *Prakt* 1976, 355, fig. 5 is MM III; cf. Betancourt (supra n. 169) figs. 31 and 40. See also C. Maggidis, “Tomb 19, Phourni (Archanes): Originality and Variety in the MM I Burial Architecture,” in *Πεπραγμένα* (supra n. 72).

²³⁵ I. and E. Sakellarakis, *Prakt* 1972, 327–51; 1973, 179–81.

²³⁶ The excavators group the two strata together and date them to EM III, *Prakt* 1972, 349 n. 2. Such an early dating may have been influenced by the Spedhos-type figurines in the deposit, which they regard as EC II (*Prakt* 1977, 148). All discussions of the Cycladic folded-arm figurines agree that the duration of their manufacture is uncertain. Renfrew concluded that they probably continued into the MBA: C. Renfrew, “The Development and Chronology of the Early Cycladic Figurines,” *AJA* 73 (1969) 26. More specifically, a Spedhos-type figurine (Atkinson [supra n. 203] pl. 30.2) comes from a First City context on Phylakopi, which is almost certainly MC I (Renfrew [supra] 25, Phyl. 2). The ceramic “EM III” parallels cited differ considerably in their shape, necks, and decorations from the Archanes examples. Closer parallels follow. The small jug (*Prakt* 1972, pl. 290b, middle) has single knobs on its belly, an early form of Barbotine typical of MM IA; cf. *BSA* 86 (1991) 27, no. 27 and pl. 31, no. 27. The globular body and short neck of the jug (*Prakt* 1972,

pl. 290b, right) have MM IA parallels; cf. A. Zois, *Προβλήματα χρονολογίας της Μινωικής κεραμικής* (Athens 1969) pl. 8, bottom, 10, no. 7022; 18, no. 7003, left. The miniature juglet (*Prakt* 1972, pl. 290b, left) has a good MM IB parallel at Kamilari: Levi (supra n. 232) 79, fig. 102, bottom left. Just outside the entrance of the tomb another burial produced two vases. The conical cup (*Prakt* 1973, pl. 177b) is an MM IA type (E. Fiandra, in *Πεπραγμένα του Γ' Διεθνούς Κρητολογικού Συνεδρίου* [Athens 1973] pl. 19a) that continues into early MM IB (Festòs I, pl. 16, l and p). The slender double jug (*Prakt* 1973, pl. 179a) is a common MM IB type (*ASAtene* 23/24 [1961/1962] 79, fig. 102a).

The evidence of strong Cycladic contacts in the deposits also makes an EM III date difficult to accept. The chronological sequence of Cycladic imports at Knossos is clear: imports occur in large numbers in EM IIA and begin again in MM IA. There are virtually no signs of Cycladic contact at Knossos in EM IIB and EM III: Wilson (supra n. 89) where Wilson and MacGillivray’s ongoing study of Cycladic imports at EM II–MM II Knossos is cited. The excavators at Archanes note that the distinctive stone-packed lower level in Tholos Γ is also found in the bottom level of the adjacent Building 13, which like Γ, is built on bedrock. This level of Building 13, which contains gold, obsidian, and ivory objects similar to those in Γ, is probably contemporary with the lower level in Γ. It is dated to MM IA in *Prakt* 1973, 186–87. All of the arguments above point strongly to an MM IA date for the lower level in Tholos Γ.

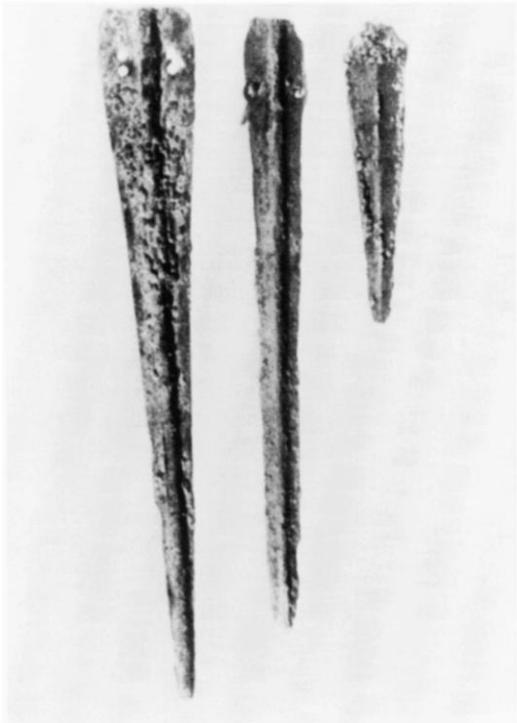


Fig. 16. Three bronze daggers from Tholos Γ , Phourni cemetery (Archanes). (After I. Sakellarakis in J. Thimme and P. Getz-Preziosi eds., *Art and Culture of the Cyclades* [Karlsruhe 1977] 147, fig. 135)

in the Spedhos-type figurines, metals, and obsidian, is pronounced.²³⁷

Built next to Tholos Γ , Building 13 may be contemporary with the lower level in Γ ; it produced child burials, jewelry, a human figurine, an animal horn, a gold bird-shaped pendant, and seashells.²³⁸ North of Tholos Γ , Building 7 was constructed in MM IA to hold burials. Despite being partly destroyed by Tholos B, which was erected over it, the building produced a rich series of burials, on the floor or in larnakes. Finds included personal possessions, clay vases (cup, juglet, bowl, conical cups, jug, jars), a bronze knife and tweezers, ivory and steatite seals, an Egyptian faience scarab (fig. 17, upper), jewelry (ivory and gold pendants, a gold band, and necklaces of crystal, sard, amethyst, steatite, and faience beads), and the remains of offerings, a

stamped sealing, a clay “sheepbell,” a steatite figurine of a male with his hands on his chest, a stone kernos and bird’s nest bowl, animal bones including a boar’s tusk, obsidian, and seashells.²³⁹

During the MM IA period, Tholos B was built over Building 7.²⁴⁰ During the protopalatial period five annexes were added around three sides of the tholos forming a large rectangular, two-story structure. Funerary finds indicate that these rooms were used continuously for burials until the LM IIIA period. Building 6, originally a single room, was constructed in MM IA at the highest part of the cemetery. The two eastern rooms contained 196 burials accompanied by jewelry (necklaces, pendants, and rings), 16 seals, and an Egyptian scarab (fig. 17, lower), as well as offerings such as stone and clay vases, “sheepbells,” and many seashells. Four of the seals bear hieroglyphic inscriptions, the earliest examples of literacy found on Crete (fig. 18). One extraordinary seal has 14 faces (fig. 19). Along the east



Fig. 17. Egyptian faience scarabs from Phourni cemetery (Archanes): upper, from Building 7; lower, from Building 6. (After I. and E. Sakellarakis, *Archanes* [Athens 1991] 97, fig. 69)

²³⁷ I. and E. Sakellarakis (supra n. 235) 349–51; I. Sakellarakis, “The Cyclades and Crete,” in J. Thimme and P. Getz-Preziosi eds., *Art and Culture of the Cyclades in the Third Millennium B.C.* (Karlsruhe 1977) 147–53.

²³⁸ I. and E. Sakellarakis, *Prakt* 1973, 186–87.

²³⁹ Building 7: I. and E. Sakellarakis, *Prakt* 1967, 153–57; 1971, 277–81. This level in Building 7 was not sealed from above and may have contained finds of a protopala-

tial or later date, since an LM III kylix was found in one larnax.

²⁴⁰ I. and E. Sakellarakis 1967 (supra n. 239) 153–57; 1971 (supra n. 239) 277–82. Tholos B was originally dated to the Old Palace period, *Prakt* 1966, 176. Only finds from its final LM IIIA use remained in the tholos chamber, but MM IA pottery (Lahanas, infra n. 241) resting against the south face of its retaining wall dates its construction.



Fig. 18. Hieroglyphic seal from Building 6 at Phourni cemetery (Archanes). (After I. and E. Sakellarakis, *Archanes* [Athens 1991] 102, fig. 75)

side of Building 6 a 3-m-high terrace raised it above the level of surrounding buildings and provided a paved area in front of its entrance. Many conical cups as well as other cups and a human figurine with its hand on its chest were found on the paved platform. Excavation below and to the east of the terrace revealed some 300 vases thrown down from the paved area above: the finds—kernoi, figurines, and many cups—seem to have come from some form of ceremony carried out in front of Building 6. The excavators date the building to MM IA, but the associated pottery is MM IA–II.²⁴¹

²⁴¹ Finds from the paved area: *Prakt* 1973, 174. Seals: *CMS* II.1, 391–94. None of the more than 70 vases from inside Building 6 have been published. The associated deposit below and to the east of Building 6 appears in I. and E. Sakellarakis, “Αποθέτης κεραμεικής της τελευταίας φάσεως των προανακτορικών χρόνων εις Αρχάνες,” *ArchEph* 1972, *Chronika*, 1–11. The deposit was dated to EM III–MM IA in *ArchDelt* 21 (1966) *Chronika* 411–12.

The pottery illustrated from this deposit spans MM IA–MM II. Parallels follow. Carinated cup (*ArchEph* 1972, pls. Eb), cf. *Festòs* I, 738, no. 3313; *Festòs* II, pls. 130–34. Teapot (*ArchEph* 1972, pl. IAb), cf. *Festòs* II, pl. 30h. Tumbler (*ArchEph* 1972, pl. Ba, middle), cf. *Festòs* II, pl. 119d. Large cylindrical cup (*ArchEph* 1972, pl. Ea), cf. *Festòs* II, pls. 126a–d; 127f. Straight-sided cup (*ArchEph* 1972, pl. Da), cf. *BSA* 86 (1991) 170 no. 9. Eggcups (*ArchEph* 1972, pl. Ba, right, G) are not the MM IA type (*Pepragmena* 1990 I, 482, fig. 3) and also show developed, post-MM IA decoration. The spherical cup (*ArchEph* 1972, pl. Za, left) is a type that continues into MM II (*BSA* 86 [1990] 250–51, type 2). For the carinated cup (*ArchEph* 1972, pl. Fa) see the example from an MM IB context at Mallia, H. Chevalier et al., *Fouilles exécutées à Mallia: Sondages au Sud-Ouest du Palais* (*ECret* 20, Paris 1975) no. 6. The crinkled rim of the goblet in pl. 2, upper left, is an Anatolian metalli-



Fig. 19. Hieroglyphic seal from Building 6, Phourni cemetery (Archanes). (After I. and E. Sakellarakis, *ArchDelt* 21 [1966] pl. 441a)

cizing feature that is known there only after 1900, see E. Davis, “The Silver Kantharos from Gournia,” *TUAS* 4 (1979) 34–45. For the unique metallicizing kernos (*ArchEph* 1972, pl. IG) see T. and N. Özgüç, *Kültepe Kazısı Raporu 1949* (Ankara 1953) pl. 55, no. 528. Other examples from Kültepe II–Ib are on display in the Konya Museum.

After writing this article, I was shown the unpublished Ph.D. thesis of Alexandros Lahanas, *Ein Keramik Depot aus Archanes und seine Bedeutung für die Entwicklung der mittelminoischen Keramik* (Freiburg 1994) by I. Sakellarakis. Lahanas correctly dates, on stylistic grounds, the pottery from this deposit to the MM IA, MM IB, and MM II periods.

The Phourni cemetery provides us with important new information on chronology, burial customs, the appearance of literacy,²⁴² overseas contacts, and social organization. The Phourni deposits illustrate a chronological sequence of assemblages useful for defining certain aspects of cultural development in EM II–MM II Crete. The EM II deposit (Tholos E, lower stratum) consists of many objects of bone, obsidian, and steatite as well as lesser amounts of clay, gold, bronze, and local stone. Imports are probably limited to materials from the Aegean islands. Possessions and offerings (two stone vases and animal sacrifices) are relatively few and simple. In the upper, MM IA level of Tholos E there is a greater incidence of seals; likewise, there is a greater range of clay vases. Bronze and shell objects appear and jewelry comes in varied materials (sard, amethyst, alabaster, rock crystal, faience, and silver make their first appearance in the MM IA level). The use of bone, obsidian, flint, and steatite is less frequent than in EM II.

The basal level of Tholos Γ (MM IA) is similar in most respects to the upper stratum of E but is richer. The deposit contained many objects of ivory/bone, obsidian, marble, gold, and bronze. Imported materials (including lead) are more common and there is a greater variety in the materials and forms of jewelry (fig. 15). Building 7, also of MM IA date, produced a variety of new seal shapes and the first Egyptian object, a faience scarab (fig. 17, upper). From Building 13 came a human figurine and a gold bird-shaped pendant. Clay and stone vases remain a minor component of both EM II and MM IA deposits. The first bifacial seals, a clay figurine, “sheepbells,” and miniature pots appear in MM IA. Burials made in larnakes, pithoi, or jars are often accompanied by animal bones, seashells, and pebbles. Generally the MM IA deposits at Phourni are larger than the EM II deposit and are much more

numerous, suggesting a sharp rise in population at Archanes. Signs of greater wealth are unmistakable in the number of personal seals, foreign imports (from the Cyclades and perhaps lead from Lavrion), and particularly the more varied imported materials used in jewelry.

In 1972 I. and E. Sakellarakis suggested, on the basis of the finds from Tholos Γ at Archanes, that island peoples had settled there.²⁴³ There is now more evidence to suggest that not only Archanes but many north coast settlements received island and eastern immigrants at the beginning of the MM I period. Cist graves, a Cycladic form of burial, appear for the first time on Crete in MM IA, at many sites along the north coast, at Archanes (“enclosures”), Mallia, Pseira, Sphoungaras, and Zakros.²⁴⁴ Pithos burials, a type characteristic of western Anatolia (and rare in the Aegean), appear at this time along the whole north coast of Crete from Chania to Zakros.²⁴⁵ At MM IA Knossos Cycladic-style vases were produced in local clay.²⁴⁶ The suggestion that Cretan settlements grew in MM IA partly as a result of immigration fits the evidence from the Aegean islands and western Anatolia, which at this time show signs of unrest and population movement.²⁴⁷

MM IA burials at Mallia are numerous and of many types: burials in rock crevices, pithos or larnax burials, cist tombs, and house tombs. House tombs also varied in size. A well-preserved medium-sized example, the “House of the Dead” was a rectangular building with a stuccoed and painted atrium and seven inner rooms that contained inhumation, cist, and pithos burials continuing into the protopalatial period. Offerings included stone vases, an offering table, a teapot, lamps and juglets, and a clay imitation of an Egyptian stone vase.²⁴⁸

The first phase of the tomb at Chrysolakkos dates to MM IA.²⁴⁹ According to Soles’s new reconstruction, the paved terrace along the west facade of

²⁴² J.-P. Olivier, “The Relationship between Inscriptions on Hieroglyphic Seals and Inscriptions,” in T. Palaima ed., *Aegean Seals, Sealings and Administration* (Aegaeum 5, Liège 1990) 11–19 and the important article by J. Younger, “New Observations on Hieroglyphic Seals,” *SMEA* 28 (1990) 85–92 on the use of the hieroglyphic script on seals.

²⁴³ I. and E. Sakellarakis (supra n. 235) 350–51 and I. Sakellarakis, “Τά κυκλαδικά στοιχεία των Αρχανών,” *AAA* 10 (1977) 93–115. This view was criticized by C. Dumas, “Προϊστορικοί κυκλαδίτες στη Κρήτη,” *AAA* 9 (1976) 69–80.

²⁴⁴ I. Pini, *Beiträge zur minoischen Gräberfunde* (Wiesbaden 1968) 9.

²⁴⁵ Pini (supra n. 244) 11–13; T. Wheeler, “Early Bronze Age Burial Customs in Western Anatolia,” *AJA* 78 (1974)

415–25.

²⁴⁶ A. MacGillivray et al., “Dark-faced and Incised Pyxides and Lids from Knossos: Problems of Date and Origin,” in French and Wardle (supra n. 121) 91–93.

²⁴⁷ For the Aegean islands, see Coleman (supra n. 36) 266–69. Western Anatolia, M. Mellink, “The Early Bronze Age in West Anatolia,” in G. Cadogan ed., *The End of the Early Bronze Age* (Leiden 1986) 139–52.

²⁴⁸ Soles 173–76 with references. The Vapheio cups in H. and M. van Effenterre, *Fouilles exécutées à Mallia: Étude du site et exploration des nécropoles* (*EtCret* 13, Paris 1963) pl. 38 indicate use continued into the MM IB–II period.

²⁴⁹ The pottery from Chrysolakkos has been republished: V. Stürmer, “La céramique de Chrysolakkos,” *BCH* 117 (1993) 123–87.

Chrysolakkos was bounded by a rubble and mud-brick wall topped by a series of rounded capping stones that are unparalleled outside of Egypt.²⁵⁰ A long corridor, with alternating stone orthostates and niches, ran along the east facade and joined several other rooms that formed a shrine. These rooms were fitted with benches, a plaster bin, and a clay hearth. In front of the facade is a raised altar and a kernos set into the floor at its base. The corridor resembles the "corridor chapel" placed in front of the facade of Old Kingdom mastabas with its alternating niches set along the facade to receive wooden panels.²⁵¹ The interior of the great structure, mostly covered by the second building phase, contained rooms for burials. The pointed-bottomed cups offered there have no Minoan parallels, but are quite a common shape in Egypt.²⁵² It is at this time, in the late prepalatial period, when Chrysolakkos was built, that undeniable evidence for social ranking can be found in the Mallia cemeteries.

Ceramic studies enable us to identify much of the material in the "EM II Mochlos tombs" as actually dating to MM IA or MM IB. Iconography and style, now often neglected in archaeological studies, also allow us to appreciate more fully the extent of Cre-

tan overseas connections in this period. For example, Mochlos Tomb II, the richest in the cemetery, contains many MM IA objects. Two jugs date to this period.²⁵³ A clay bowl in Tomb II is unique.²⁵⁴ One of the two seals in the tomb is engraved with a design of antithetical cynocephalus apes, an Egyptian motif.²⁵⁵ Many of the stone vases from the Mochlos tombs have been dated too high. In *MSV*, Warren lists parallels for the vases in the Mochlos tombs and dates the parallels to EM II or EM III on the basis of the Mochlos examples. Warren's careful lists establish two things: 1) most of the parallels are from the unstratified Mesara tombs where the contexts are EM II–MM IB/II, and 2) in at least a dozen cases, vases called "Early Minoan" by Seager and Warren have secure and exclusive MM I–II contexts.²⁵⁶ At least five stone vases are imitations of Egyptian vase shapes and are not likely to be earlier than the 12th Dynasty (see below).²⁵⁷ Other finds from the tombs can be dated on the basis of associated artifacts to MM IA. They include one or perhaps two long daggers, a socketed arrowhead, two knives, and rhyta of a woman and a bull.²⁵⁸

In earlier studies, the gold jewelry from the Mochlos and Mesara tombs was taken as a sign of

²⁵⁰ Soles 163–66. Cf. P. Demargne, *Fouilles exécutées à Mallia: Exploration des nécropoles I* (*EtCret* 7, Paris 1945) pl. 53.3 and D. Arnold, *Building in Egypt* (Oxford 1991) 148 and n. 151.

²⁵¹ Cf. Demargne (supra n. 250) pl. 38.2 and W. Smith, *The Art and Architecture of Ancient Egypt* (Baltimore 1958) 35–38 and fig. 8.

²⁵² Cf. cups, Demargne (supra n. 250) pl. 39.3 and Stürmer (supra n. 249) 139–40, figs. 54–57. Cf. A. Kelley, *The Pottery of Ancient Egypt I* (Toronto 1976) pl. 21.1 and vol. II, pls. 36.1:27 and 37.5:173–93 and Dunand (supra n. 56) pl. 151, no. 4035.

²⁵³ Cf. *Mochlos*, fig. 3, IIb and Momigliano (supra n. 185) 254, fig. 33, types 5 and 6 (MM IA); *Mochlos*, fig. 3, IIr and *Festòs I*, pl. 94 (MM IB).

²⁵⁴ *Mochlos*, fig. 3, IIL. H. Frankfort took it as Near Eastern: *Studies in the Early Pottery of the Near East 2* (London 1927) 122. He cites Eastern parallels for the decoration: *Iraq* 15 (1953) 63, fig. 1; 66, fig. 4. The bowl shape is Minoan, but the metope and butterfly decoration is derived from the East where it is a hallmark of Syro-Cilician painted wares at the beginning of the MBA, at Mersin, Tarsus, Ugarit, and Alalakh. See *Levant* 68–70 and figs. 20.1; 23.1–14, 21–23. The vase dates to MB I in the Near East (ca. 2000–1900 B.C.) and thus is MM IA. See *Levant* 101–108 and table 9 for absolute dates of the MB I period in the Near East.

²⁵⁵ *PM I*, 83; Pendlebury (supra n. 4) 72; V. Kenna, *Cretan Seals* (Oxford 1960) 18. As Yule 33–35 observes, the shape of this early seal (type 3a–b) can be dated primarily to MM IA–II. Since this type of motif is entirely absent in EM II Crete, the seal should date no earlier than the be-

ginning of the Middle Kingdom when strong contacts between Crete and Egypt begin (see below).

²⁵⁶ All references are to Mochlos vases in *MSV*. Two bowls (types 8C and E) dated by Warren to EM II–MM I/II, from Mochlos Tombs II and XIX; secure contexts: MM IB–II at Mallia and MM II at Phaistos. A bowl (type 10) dated EM II–MM I by Warren, from Mochlos Tomb XVII; secure context: MM IB onward at Kamilari. Two jars (type 20) dated EM III–MM I by Warren, from Mochlos Tombs VII and XIX; secure contexts: MM IB onward at Kamilari (an imitation of the MM I clay tumbler!). Four jugs (type 22) dated EM II–MM I by Warren, from Mochlos Tombs I and VI; secure contexts: MM I–II at Chamaizi, Mallia, and Kamilari. Three miniature amphoras (type 28) dated EM II–MM I/II by Warren, from Mochlos Tombs II and V; secure contexts: MM I at Palaiakastro and MM II at Mallia. Since specific stone vase shapes change as rapidly as their ceramic counterparts (e.g., *MSV* 98–100), the Mochlos vases must be Middle Minoan (MM I–II) in date, not earlier.

²⁵⁷ *MSV* 71–72; 92 recognizes *Mochlos* fig. 7, nos. IIj, k, and o as Egyptianizing. Three others are also probably Egyptianizing: cf. *Mochlos* II d and A. Spencer, *Catalogue of the Egyptian Antiquities in the British Museum 5* (London 1980) pl. 20, nos. 216 and 218; *Mochlos* fig. 7, IIe to be compared to pl. 12.109 and pl. 14.135 and *Mochlos* fig. 18, IV.3 and F. Petrie, *Funerary Furniture and Stone and Metal Vases* (London 1937) pl. 27, no. 533, without a base.

²⁵⁸ Dagger, *Mochlos* fig. 44 XIX 27; second dagger, fig. 44 XXI 22; arrowhead, fig. 45 XIX 34; knives, fig. 45 XIII m and n; rhyta, figs. 28 II 14 and 32 XIIg.

the wealth and commercial status of EM II Crete. Branigan cites the diadems, for example, as an EM II development and compares the blossoming of Cretan goldworking to the jewelry from Troy IIg.²⁵⁹ This is problematic because there is only one EC II gold diadem from the Cyclades. There are no certain EM II examples from Crete, but there are 18 post-EM II examples as well as 51 "EM II–III/MM I" examples.²⁶⁰ Much of this Minoan jewelry should be compared to hoards of similar objects found in MB I contexts at Kültepe, Byblos, and Egypt.²⁶¹ Similarly, gold bracelets from Cretan tombs find precise parallels at MB I Kültepe and Byblos.²⁶² Distinctive gold discs, with two perforations, are known from tombs at Platanos and Kültepe Ib.²⁶³ Gold bosses from Mochlos also have parallels at Kültepe.²⁶⁴ Similar earrings are found at Mochlos and MB I Byblos.²⁶⁵ Additional gold diadems, beads, and pendants from the tombs at Platanos, Kalathiana, Koumasa, and Mochlos have now been dated to the MM IB–II period.²⁶⁶ Seager compared the necklace of gold tubular beads from Tomb III to the common Egyptian "mummy" beads.²⁶⁷ Precise Egyptian parallels exist.²⁶⁸ The gold leaf pendants from Mochlos Tombs II, IV, and XIX have an MM IB–II parallel from Mallia.²⁶⁹ It is evident that much of the gold jewelry from the Mochlos and Mesara

tombs is better dated to the beginning of the Middle Minoan period.

The rich finds from the Mesara tholoi are unstratified, but a few can be identified as MM IA in date on the basis of parallels stratified elsewhere. It has not been recognized that much of the Mesara material spans the MM IA–II period. Platanos produced an enormous number of stone vases; three imitate MM IA ceramic shapes.²⁷⁰ Many groups of vases, bird's nest bowls, bridge-spouted jars, calyx bowls, two-handled and spouted bowls, goblets, cups, and block vases probably begin to be produced in this period and certainly continue well into the protopalatial period.²⁷¹ Platanos produced many Egyptianizing stone vases: 11 tubular vases, eight pear-shaped alabastra, three cylindrical vases, 11 miniature alabastra, and 15 block vases that are MM IA–II in date.²⁷² A large number of the bronze daggers from Platanos also probably date to this period.²⁷³ Over half of the 78 published seals from Platanos belong to the late prepalatial period.²⁷⁴ Many are part of Yule's Parading Lions/Spiral group, and nearly all were imported from abroad.²⁷⁵ One figurine is of a type common at Phylakopi Iii.²⁷⁶ Gold beads, diadems, bosses, and rings similar to examples from Mochlos are found at Platanos but cannot be dated precisely. Gold pendants in the shape of a

²⁵⁹ Branigan 106 and 108. An inspection of Branigan's list of these diadems and their attachments on pp. 183–84 shows that there are no examples from a secure EM II context, but only from mixed or post-EM II deposits. The Cretan gold jewelry bears little resemblance to the Trojan IIg collection.

²⁶⁰ Branigan 183–84.

²⁶¹ Cf. the diadems (*Mochlos* II.1 in figs. 8 and 9 and *VTM* pl. 39b, no. 236) with T. Özgüç, *Kültepe-Kanesh II* (Ankara 1986) pls. 63.1–4, 64.1. Cf. the diadem (*Mochlos* II.7 in fig. 9) with the similarly decorated example in Özgüç (supra) 119 and fig. 23 dated to ca. 2000 B.C. See also the diadems from the MB I Tomb II at Byblos in P. Montet, *Byblos et l'Égypte* (Paris 1928) pl. 98, nos. 645–46. The peaked diadems from Crete are paralleled at MB I Kültepe. Cf. *Mochlos* II.4 and 6 in fig. 8 as well as the example from Lebena Tomb I in *ILN* 1960, 225, fig. 6 with Özgüç (supra) pl. 63.4 from level 1.

²⁶² Cf. *VTM* pl. 57, nos. 491, 493 and Özgüç (supra n. 261) pl. 63, nos. 6, 7, 10, 11, 13–16. *Mochlos* II.18f and h and Montet (supra n. 261) pl. 104, nos. 690–91.

²⁶³ Cf. *VTM* pl. 57, middle, and Özgüç (supra n. 261) pl. 65.8–15. The Kültepe discs are thought to have been used to cover the eyes of the deceased.

²⁶⁴ Cf. *Mochlos* II.12 in fig. 9 and Özgüç (supra n. 261) pl. 72.6–7.

²⁶⁵ Cf. *Mochlos* fig. 9, II.15 and Dunand (infra n. 305) pl. 189, no. 17,755.

²⁶⁶ Higgins (supra n. 137) 58–59.

²⁶⁷ *Mochlos* 78 and fig. 20, III.19.

²⁶⁸ Spencer (supra n. 257) pl. 20, no. 235 and also the MB I example from Byblos, Montet (supra n. 261) pl. 94, nos. 627–28.

²⁶⁹ *Mochlos* fig. 10, II.35; fig. 20, IV.14; fig. 43, XIX.23. Cf. van Effenterre 496, fig. 677.

²⁷⁰ *VTM* pl. 54, nos. 1673, 1886, and 1990.

²⁷¹ For these vases, see *VTM* 98–104.

²⁷² Pear-shaped alabastra: *VTM* 100, nos. 1690, 1691, 1682–84, 1689, 1966; cf. Petrie (supra n. 257) pl. 29, no. 605. Cylindrical jars: *VTM* 101, nos. 1637, 1640, 1904; cf. Petrie (supra n. 257) pl. 12, nos. 109–27 and comments in *MSV* 75–76. Miniature amphoras: *VTM* 100–101, nos. 1665, 1668, 1669, 1671, 1672, 1675, 1697, 1991, 2497; cf. *MSV* 71–72 and P 355–57. Block vases: *VTM* 99, nos. 1619, 1620, 1622–25, 1627–29, 1633, 1636; cf. F. Petrie, *Prehistoric Egypt* (London 1920) pl. 42, figs. 213–14 as well as Muhly (supra n. 150) 242–52. Tubular vases: *VTM* 101, nos. 1638–41, 1697, 1916, 1990, 2497, 2515, 2516; cf. Petrie (supra n. 257) pl. 27, nos. 551 and 595.

²⁷³ Branigan 8–10, types II–IV are MM IA, while types V and VI probably span MM IA–II.

²⁷⁴ See *VTM* 112–23 and Yule 208–10, with Younger's important review (supra n. 142).

²⁷⁵ O. Krzyszkowska, "Ivory in the Aegean Bronze Age," *BSA* 83 (1988) 229 identifies these seals as made from Egyptian hippopotamus tusk.

²⁷⁶ *VTM* pl. 58, no. 225; Branigan (supra n. 49) 64.

bee and a claw that imitate Egyptian types are MM IA–II.²⁷⁷ Tholos A at Agia Triada also produced MM IA finds: pottery, stone vases, 21 seals, some of the bronze weapons, figurines, and jewelry.²⁷⁸ The unpublished Lebena tombs have artifacts identified as coming from MM IA levels. These include seals and stone and clay vases.²⁷⁹ The two Egyptian scarabs are important finds because of their secure context: they establish the overlap of MM IA and the 12th Dynasty of the Middle Kingdom. The stone vases include an Egyptianizing miniature goblet and an Egyptianizing block vase (“kernos”).²⁸⁰ At Pyrgos/Myrtos a paved road was constructed south of the settlement leading to a small courtyard in front of a large house tomb with two ossuaries. Offerings there included a rhyton in the shape of a dove and cups.²⁸¹

There has much recent work on Minoan peak sanctuaries.²⁸² A. Karetsou’s excavations on Mt. Jouktas have produced masses of new evidence that modify Evans’s earlier views on the sanctuary.²⁸³ Present evidence indicates that the sanctuary at Jouktas began in MM IA.²⁸⁴ Excavation of the MM IA–II burnt level on bedrock has shown that the protopalatial sanctuary already covered an area of at least ca. 200 × 100 m. The neopalatial architectural features, the open court, terracing, and rooms presently visible on the site cover the fragmentary

remains of protopalatial walls, which suggests that the MM I–II shrine was an open area, perhaps terraced, but simpler in plan than in MM III–LM I.²⁸⁵ The stepped structure, built next to a deep (over 10 m) chasm in the bedrock, probably served as an altar in the MM IB–II period. Pottery from within the chasm dates to MM I–III, most of it being protopalatial.²⁸⁶ Next to the altar was found a large stone kernos (with ca. 100 cupules) and, in a depression in the bedrock, a cache of bronze double axes.²⁸⁷ The massive peribolos wall (over 700 m in length) encircling the mountaintop, dated by Evans to MM IA, has now been shown to be Late Minoan, probably LM IIIC, in date.²⁸⁸ MM I–II levels in the sanctuary have produced ash, animal bones, and shells and include large numbers of pots (conical cups, eggcups, tumblers, goblets, bridge-spouted jars, jugs, shallow bowls, miniature vases, cooking pots, pithoi); male figurines (which greatly outnumber the female figurines); clay representations of human heads, hands, and torsos; animal figurines (sheep/goat, pig, birds, snakes, and bucrania); clay balls; schematic representations of floral branches, women crouching in childbirth, and phallos; clay “offering tables”; miniature stone vases; fragments of gold foil; a gold pendant depicting a scorpion, insect, and snake; seals; and bronze votive double axes.²⁸⁹

²⁷⁷ Fly, *VTM* pl. 57, no. 487; cf. C. Aldred, *Jewels of the Pharaohs* (New York 1971) 189 and pl. 29. Claw, *VTM* pl. 57, no. 489; cf. J. Bourriau, *Pharaohs and Mortals: Egyptian Art in the Middle Kingdom* (Cambridge 1988) 149.

²⁷⁸ The 10 MM IA–II Egyptianizing shapes are listed below (infra n. 309). MM IA seals, *CMS* I.2, 20, 22, 25–28, 37–39, 52, 54, 55, 57, 59, 60, 62–65, 82, 89. Bronze weapon, i.e., Banti (supra n. 98) 207.

²⁷⁹ Seals, *CMS* II.1, 193, 205–209, and scarabs, nos. 180, 201, and 204. According to James Weinstein (personal communication), these three scarabs date to the 12th Dynasty. Stone vases, *MSV* 12, 27, 73, and 77. Pottery, Alexiou (supra n. 61) 227, fig. 19.

²⁸⁰ Block vase, *MSV* 12. Egyptianizing goblet, Alexiou (supra n. 61) 226, fig. 11, left.

²⁸¹ Cadogan (supra n. 229) 70–84.

²⁸² Aside from the excavations summarized here, mention should be made of B. Rutkowski’s (supra n. 30) republication of the finds from the peak sanctuary of Petsofas above Palaikastro. For the protopalatial period Rutkowski (p. 18, fig. 1) reconstructs the shrine as an open sacrificial area with terraces on one side. The volume provides a catalogue of the clay finds (except pottery): male and female figurines, votive torsos, arms and legs, animal figurines (cattle, sheep, goats, pigs, birds, agrimia, beetles, turtles, weasels), balls, models of fruit and grain, and miniature vases.

²⁸³ Karetsou’s excavations at Jouktas were carried out mainly between 1974 and 1985. Reports of her work ap-

pear in *Prakt* 1974, 228–39; 1975, 330–42; 1976, 408–18; 1977, 419–20; 1978, 232–58; 1979, 280–81; 1980, 337–53; 1981, 405–408; 1984, 600–14; 1985, 286–96. A summary of her research from 1974 to 1979 appeared in “The Peak Sanctuary of Mt. Jouktas,” in R. Hägg and N. Marinatos eds., *Sanctuaries and Cults in the Aegean Bronze Age* (Stockholm 1981) 137–53.

²⁸⁴ In January 1994 the excavator discussed her work and unpublished study at Jouktas with me and clarified several points. According to Karetsou, the shrine was probably established in MM IA and the few EM II sherds found on bedrock are unrelated to the later sanctuary. Her reasons are that 1) while there are a few EM II sherds on bedrock there is an enormous amount of MM IA in the lowest burnt levels, and 2) unlike the EM II sherds, the MM IA finds—conical cups, sheep bells, figurines, pithoi—have a ritual character. She also believes the small amount of white-on-dark wares in these levels is probably MM IA in date.

²⁸⁵ See the plan in *Prakt* 1985, opp. p. 289.

²⁸⁶ I am indebted to A. Karetsou for this information, which comes from E. Banou’s unpublished study in 1993 of the pottery from inside the chasm.

²⁸⁷ *Prakt* 1974, 233 and pl. 173a.

²⁸⁸ *Prakt* 1979, 280–81.

²⁸⁹ The list above is preliminary and, with future study, will undoubtedly grow. For MM I–II levels, *Prakt* 1974, 247–49; bronze axes, *Prakt* 1974, 232 and pl. 173a.



Fig. 20. View of the Agios Vasilios Valley and the peak sanctuary of Atsipades (center, background). (Courtesy A. Peatfield)

In 1989 Peatfield excavated a complete peak sanctuary at Atsipades in the inland valley of Agios Vasilios south of Rethymnon (fig. 20).²⁹⁰ This peak sanctuary was chosen for excavation because it was a small rural shrine, unlike the great urban sanctuaries at Jouktas and Petsofas. Finds at Atsipades were distributed over a limited area (less than 200 m²) on two terraces. No traces of architecture were found. Votive activity on the upper terrace was confined to a natural hollow in the bedrock at the east end. There waterworn pebbles brought from the river in the valley below were laid out to form a floor around an artificial earth platform, lined with schist-like stones, which apparently supported an (unknown) object that was the central feature of the shrine. Vase fragments (as well as two clay offering tables) were plentiful around the platform; especially numerous were vase forms connected with libations—rhyta and painted bridge-spouted jars. While cups, dishes, jars, lamps, and cooking pots were common at the site, signs of burning and animal bones were absent. On the lower terrace the votives as well as cups and dishes were concentrated in the rock clefts.²⁹¹ The pottery on the site is predominately protopalatial and the shrine appears not to have been used after MM II. It is claimed that EM I (but no EM II) pottery has also been identified at the site, but the relationship of that pottery with the later shrine is unclear. Animal (mostly bovine)



Fig. 21. Animal figurines from the Atsipades peak sanctuary. (Courtesy A. Peatfield)

²⁹⁰ The preliminary report of the excavation is A. Peatfield, "Rural Ritual in Bronze Age Crete: The Peak Sanctuary at Atsipades," *Cambridge Archaeological Journal*

2 (1992) 59–87. The excavator estimates that some 80% of the site was dug.

²⁹¹ Peatfield (supra n. 290) 67, fig. 7.



Fig. 22. Heads of male figurines, Atsipades peak sanctuary. (Courtesy A. Peatfield)

figurines (fig. 21), male and female human figurines (figs. 22–23), and clay phalloi (fig. 24) were numerous. Aside from its lack of neopalatial finds, the shrine differs from those at Jouktas and Petsofas in that the votives at Atsipades are limited to a few basic types.

The most recent excavation of a Minoan peak sanctuary has taken place at the peak of Agios Georgios on the island of Kythera.²⁹² Excavations at the shrine have produced an unprecedented number of bronze figurines (over 50), a votive hand and legs, model swords in bronze, an oxhide ingot fragment, melting debris, stone vases and offering tables (including unworked chunks of Peloponnesian antico rosso), seashells, sea pebbles, and MM I/II–LM IB pottery. Pottery and some fragments of relief ware with a plastic seashell, fish, and horns of consecration are said to be protopalatial. The large amounts of MM III–LM I bronze at the sanctuary indicate the settlers at Kastri had ready access to copper, which may explain why the Minoans chose to settle on Kythera.

Peatfield's researches have clarified many details about the nature of peak sanctuaries.²⁹³ Surveys have modified some of Peatfield's conclusions. There seems to have been a hierarchy of peak shrines: regional sanctuaries, e.g., Jouktas, Kophi-

nas, and Vysinas, as well as local examples belonging to one or several small communities, such as Agia Pelagia (Gournia), Ephendi Christos (Phaistos), Ieroditis (Agia Triada), Vigla (Pobia), Arolithia (Matala), and Aphrati (Kalamaki). The smaller peak sanctuaries do not necessarily exhibit the same range of finds recovered at regional peak shrines. This probably means that there exist many more peak sanctuaries than are currently acknowl-



Fig. 23. Heads of female figurines, Atsipades peak sanctuary. (Courtesy A. Peatfield)

²⁹² Accounts of the excavations have appeared in the Greek newspapers, e.g., *Ελευθεροτυπία* (12 October 1992), *Τα Νέα* (11 September 1993), and in an article, A. Elder, "Embarkation for Kythera," *The Athenian* 18 (1993) 20–24. The excavator graciously showed me his finds and

discussed them with me prior to publication.

²⁹³ A. Peatfield, "The Topography of Minoan Peak Sanctuaries," *BSA* 78 (1983) 273–79, and Peatfield, "Minoan Peak Sanctuaries: History and Society," *OpAth* 18 (1990) 117–31.



Fig. 24. Clay phalloi from the Atsipades peak sanctuary. (Courtesy A. Peatfield)

edged.²⁹⁴ Peatfield's study has shown that peak sanctuaries are thickly distributed across the center and east of the island.²⁹⁵ It is still uncertain whether the absence of such shrines in western Crete is merely the result of a lack of investigation or is an accurate

²⁹⁴ E.g., Peatfield (supra n. 290) 59, fig. 1. See L. V. Watrous, "Some Observations on Minoan Peak Sanctuaries," in W.-D. Niemeier and R. Laffineur eds., *Politeia (Aegaeum 9)*, in press).

²⁹⁵ Peatfield (supra n. 290).

²⁹⁶ At Atsipades hundreds of phalloi were dedicated; they are rare at Jouktas and Petsofas. Small animal figurines are numerous at Jouktas and Petsofas, but are said to be rare at Atsipades. Ash deposits and votive limbs are common at Petsofas and Kophinas but are few at Atsipades.

²⁹⁷ B. Rutkowski, *Cult Places of the Aegean* (New Haven 1986) 47–71.

²⁹⁸ The primary data are gathered in L. Tyree, *Cretan Sacred Caves: Archaeological Evidence* (Diss. Univ. of Missouri 1974). For the Idaean cave, see A. Vasilikis, "Μινωική κεραμική από το Ιδαίον Άντρον," *Pepragmena* 1990 I, 125–30. Votives different from normal funerary offerings, i.e., belonging to a sanctuary, only begin in neopalatial

reflection of the situation. Despite substantial variations in the offerings at the different peak sanctuaries, the impression gained is that a similar cult was practiced at all of these shrines.²⁹⁶

The most recent study of Aegean cult places dates the beginning of worship in caves to MM IA.²⁹⁷ While it is clear that the earliest artifacts date to MM IA in a number of caves, such as Kamares, Trapeza, the Idaean Cave, at Psychro, and at Agios Charalambos (Lasithi), in most cases burials have also been recognized in these caves and there is nothing to distinguish the cave assemblages from those found in tombs.²⁹⁸

Relatively little attention has been paid to MM I foreign connections or how they relate to contemporary events in the Near East. The EB III–MB I sequence in the Near East is important for Minoan (and Aegean) archaeology because it provides a context for understanding foreign imports and signs of influence in Crete. Several cities of Anatolia and Syro-Cilicia, e.g., Kültepe, Tarsus, Ebla, Ugarit, and Byblos, were destroyed by fire at the end of the Early Bronze period.²⁹⁹ Tarsus was destroyed at the end of EB III, ca. 2200 B.C.³⁰⁰ Ebla was destroyed twice, at ca. 2250/2200 and again ca. 2000 B.C. During this interim (level IIB2) the palace (G) was not rebuilt and the city is said to have entered a period of economic recession.³⁰¹ There are few signs of trade during this period (EB IV, ca. 2250–2000 B.C.) until after 2000 B.C. Imported goods or foreign ceramic influences at Kültepe after level 12 until Karum Kanish II are apparently few.³⁰² Trade began to revive at the end of this period and by ca. 1950 B.C. with the establishment of Assyrian merchants in Anatolia it had become extremely active. Texts relate that ca. 2000/1950 B.C. the MB I cities

times. Protopalatial cave offerings are discussed by Tyree (supra) 64–70. According to the excavator of the Idaean Cave, the first archaeological signs that the cave had become a shrine begin in MM III (personal communication).

²⁹⁹ Kültepe was burnt three times during the EB III period. T. Özgüç, "New Observations on the Relationship of Kültepe with Southeast Anatolia and North Syria during the Third Millennium," in J. Canby et al. eds., *Ancient Anatolia* (Madison 1986) 31–47.

³⁰⁰ Mellink (infra n. 302).

³⁰¹ P. Matthiae, *Ebla* (Turin 1977) 107–13.

³⁰² Özgüç (supra n. 261) and K. Emre, "The Pottery of the Assyrian Colony Period according to the Building Levels of the Kanış Karum," *Anatolia* 7 (1963) 87–99. M. Mellink, "Anatolian Chronology," in Ehrich 218. At Ugarit, for example, the "Plain Simple ware" of the nearby Amuq Plain and Ebla IIB2 is unknown. For a recent summary of Syria at this period, see G. Schwartz and H. Weiss, "Syria, ca. 10,000–2000 B.C.," in Ehrich I, 238–40.

at Kültepe and in Syro-Cilicia began a period of intense commerce in metals (silver, gold, and tin) and textiles. The MB I levels at these sites produce increased amounts of metal objects, imported pottery, and seals.

Relations between Egypt and Syria-Palestine follow the same pattern. With the fall of the Old Kingdom in Egypt, Egyptian trade with Syria-Palestine ceased until the Middle Kingdom. Egyptian objects are not found there in any number until the beginning of the 12th Dynasty when the expansion of trade began in Egypt and overseas. With the resumption of royal control over Egypt (and the royal monopoly on foreign trade) beginning in the 12th Dynasty (ca. 1963 B.C.), Egyptian objects begin to appear regularly at the coastal emporia of the Levant, at sites such as Byblos.³⁰³ Additionally, Egyptian material in the Levant formerly dated to the First Intermediate period is now generally regarded as beginning in the late 11th Dynasty and only becomes abundant in the 12th Dynasty.³⁰⁴ The mass of Egyptian and Egyptianizing objects at MB I-II Byblos includes miniature vases modeled on Egyptian funerary types (unguent jars). Many of these vases are similar to the Cretan examples.³⁰⁵ This situation in Egypt and Syria-Palestine has important implications for Cretan foreign relations and particularly for the date of Egyptian and Egyptianizing objects found on Crete.

The date and distribution of Egyptian objects in the Near East make it likely that the many Egyptian and/or Egyptianizing objects from "EM-MM" contexts on Crete were part of the same trade pattern and date no earlier than the beginning of the 12th Dynasty, ca. 1963 B.C., that is, late MM IA.

Signs of Minoan trade increase dramatically in MM IA. Within Crete interregional imports and similarities in regional ceramic styles indicate intensive internal trade.³⁰⁶ Within the Aegean MM IA pottery from Central and East Crete is exported in some quantity to Aegina and the Greek mainland.³⁰⁷ One MM IA dagger and two other MM I-II examples from Platanos have been shown to be made from Kythnian ore.³⁰⁸ The Mesara tholoi contain much evidence for foreign contact during this period. Tholos A at Agia Triada has one genuine Egyptian Old Kingdom stone vase and over a dozen Egyptianizing vases: carinated bowls, cylindrical jars, miniature amphoras, and alabaster.³⁰⁹ Two of the Platanos gold beads are decorated with granulation, a Near Eastern technique that first appears at Byblos ca. 2000 B.C. and is introduced into Crete shortly thereafter.³¹⁰ Pini has identified a large group (87 examples) of MM IA seals probably made by one workshop located in the Lebena-Kaloi Limes area of South Crete.³¹¹ These seals are marked

³⁰³ See Montet (supra n. 261). For the date of the 12th Dynasty see K. Kitchen, "Supplementary Notes on the Basics of Egyptian Chronology," in P. Åström ed., *High, Middle or Low?* Pt. 3 (SIMA-PB 80, Göteborg 1989) 152-62.

³⁰⁴ J. Weinstein, "Egyptian Relations with Palestine in the Middle Kingdom," *BASOR* 217 (1975) 1-16. Warren dates Egyptian and Egyptianizing vases in Crete as early as their wide range of parallels in Egypt allows. He then assumes that they arrived in Crete immediately after this early date. This practice is unconvincing in the extreme. Thus he takes the Old Kingdom vase in EM II-MM II Tholos A at Agia Triada as a sign of EB II trade (*Chronology* 125-26). W. Ward, *Egypt and the East Mediterranean World 2200-1900 B.C.* (Beirut 1971) 91-104, has criticized Warren's use of Egyptian parallels. In addition, the many Old and Middle Kingdom objects in later Cretan contexts indicate that Warren's assumption that Egyptian objects must have been traded soon after manufacture is invalid. See, for example, L. Pomerance, "The Possible Role of Tomb Robbers and Viziers of the 18th Dynasty in Confusing Minoan Chronology," in *Pepragmena* 1981, 447-53. Ward's dating of Egyptian material in the Levant is generally regarded as too high (see J. Weinstein, "The Chronology of Palestine in the Early Second Millennium B.C.E.," *BASOR* 288 [1992] 36-37). Ward has revised his dates somewhat in "Scarab Typology and Archaeological Context," *AJA* 91 (1987) 509-12. He now dates the Montet jar, with its potpourri of Egyptian and Egyptianizing finds, to ca. 1950-1900 B.C. (= late MM IA).

³⁰⁵ See M. Dunand, *Fouilles de Byblos II* (Paris 1950) pl. 203 and *VTM* pls. 53-54.

³⁰⁶ *Chronology* 17-20 for examples. Note the Cycladicizing pyxis (Knossian?) from Koumasa, *VTM* pl. 18, upper. Stylistic links are collected in Zois (supra n. 179) and Walberg (supra n. 133).

³⁰⁷ Rutter and Zerner (supra n. 107) 75-83. The first Minoan exports appear in Cyprus (H. Catling and V. Karageorghis, "Minoika in Cyprus," *BSA* 55 [1960] 109-10).

³⁰⁸ Gale (supra n. 46) 314, fig. 6, nos. 9382, 9384, and 9392.

³⁰⁹ Numbers are those in Banti (supra n. 98) 155-251. Carinated bowls (nos. 80, 87, 88, 90, 92): cf. Petrie (supra n. 257) pl. 23.386. Cylindrical jars (nos. 96, 98, 99, 103): cf. Petrie (supra n. 257) pl. 27.545 and Ward 1971 (supra n. 304) 105, fig. 19. Miniature amphoras (nos. 105, 106): cf. Ward 1971 (supra n. 304) 104-105. Alabaster (no. 108 and HM 373 in *MSV* 5): cf. Ward 1971 (supra n. 304) 104-105, fig. 19, no. 22 (12th Dynasty) and Petrie (supra n. 257) pl. 29.628 (12th Dynasty) and pl. 29.606-607 (12th Dynasty). The Old Kingdom parallels for the Cretan jars only indicate that material from the widely robbed Old Kingdom tombs was on the international market. The 12th Dynasty parallels provide a date for the Egyptian trade to Crete.

³¹⁰ Higgins (supra n. 137) 22-23; H. Maxwell-Hyslop, *Western Asiatic Jewellery* (London 1971) 36-37.

³¹¹ Pini 1990 (supra n. 140) 115-27.

by their material ("glazed steatite") and their high proportion of Egyptian details.

Near Eastern features begin to appear in Cretan metalwork in this period. Several daggers from Cretan tombs are either Eastern imports or Minoan imitations of Eastern forms.³¹² The Mochlos dagger, found in Tomb XI with MM IA pottery, has been called a Near Eastern type.³¹³ A second imported dagger, from the Trapeza Cave, may be as early.³¹⁴ Branigan pointed out that some of the Mesara daggers exhibit Syro-Cilician influence in their new shape and hafting details. A dagger from Koumasa, for example, has distinctive features found at Middle Bronze I Ugarit.³¹⁵ In MM IB-II Eastern imports and technological influence on Minoan metalworking become more substantial.³¹⁶

The first ceramic exchanges between Crete and the Near East also begin in the MM IA period.³¹⁷ Minoan vases with close Eastern parallels appear at this time.³¹⁸ Miniature stone and clay vases imitating Egyptian funerary vessels flood the cemeteries. One of the hallmarks of MM IA deposits in the Mesara is the handmade squared-off conical cup with two rim bands. This shape is probably an imitation of the common Early Dynastic cylindrical jar.³¹⁹ MM IA cemeteries also produce larnakes, a container new to the Aegean. The tub and chest forms of larnakes are known in Old Kingdom Egypt.³²⁰

In the early second millennium B.C. Crete enters the vastly expanded network of international trade in the Near East.

MIDDLE MINOAN IB-II

Throughout Crete, MM IB ushers in a period of tremendous population expansion. The Minoan town at Knossos reached its greatest size by MM IB: houses are known to extend onto Gypsades Hill south of the palace, to the foot of the Acropolis to the west, and for over a quarter of a mile north of the palace.³²¹ The extent of MM IB Knossos has been estimated at ca. 75–112 ha.³²² In the Western Mesara, Bronze Age settlement reached its greatest density in MM IB. Settlement hierarchy is clearly defined. Phaistos was a state center measuring at least 0.90 × 1.0 km in size. Fragmentary protopalatial houses are known from Agia Photini, Chalara, the palace west court, from near the tourist pavilion, and the Church of Agios Georgios by the current parking lot.³²³ Surrounding Phaistos were many village-sized settlements, around which were hamlets and farmsteads. Sites with specialized functions, e.g., ports (Kommos) and sanctuaries (Kophinas), appear. In the upland Plain of Lasithi, the number and size of settlements increase sharply.³²⁴ The Chania survey recorded an increase from 31 to 94 settlements within its area.³²⁵ A hierarchy of settlements develops, with many small sites growing up around larger centers. Rural farmsteads, sometimes called "villas" or "forts," agricultural terrace walls, and dams appear in MM II.³²⁶ One can appreciate the proportions of this growth by comparing the size of Cretan settlements to other Aegean centers:

³¹² See K. Branigan, "Byblite Daggers in Cyprus and Crete," *AJA* 70 (1966) 123–26. This should be read, however, with S. Dietz in "Aegean and Near-Eastern Metal Daggers in Early and Middle Bronze Age Greece," *ActaArch* 42 (1971) 1–22.

³¹³ Dietz (supra n. 312) 17 considers Mochlos XI.22 in fig. 45 an Eastern type and compares it with examples from Byblos.

³¹⁴ Dietz (supra n. 312) 20, who cites an EB IIIB parallel from Tarsus.

³¹⁵ K. Branigan, "Further Light on Prehistoric Relations between Crete and Byblos," *AJA* 71 (1967) 117–21.

³¹⁶ K. Branigan, "A Transitional Phase in Minoan Metallurgy," *BSA* 63 (1968) 185–203.

³¹⁷ E.g., an MM IA jar from Lapithos, Catling and Karageorghis, "Minoika in Cyprus," *BSA* 55 (1960) 109–10, fig. 2, and an EC III/MC I amphora imported to Knossos, H. Catling and J. MacGillivray, "An EC III Vase from the Palace at Knossos," *BSA* 78 (1983) 1–8.

³¹⁸ The number of generic similarities between Minoan and Eastern vases in this period is large. A selected list of close parallels follows: 1) the Mochlos teapot (*Mochlos* fig. 32, XIIIc) is a Near Eastern type, cf. H. Goldman, *Excavations at Gözli Kule, Tarsus II* (Princeton 1956) fig. 273, no. 571; R. Amiran, *Pottery of the Ancient Holy Land* (Jerusalem

1969) pl. 22.7; 2) the carinated teapot (*Mochlos* figs. 49, no. 75, and 50, nos. 90 and 92) is an Anatolian type, cf. Lloyd and Mellaart (supra n. 201) 226, fig. P59, no. 29; 3) the carinated pedestaled bowl (*Mochlos* fig. 32, XX I and *PM* I fig. 122, no. 12) is a Syro-Cilician type, cf. Goldman (supra) fig. 287; 4) the East Cretan rounded cup is an Eastern shape: see Amiran (supra n. 205).

³¹⁹ MM IA conical cup, Fiandra (supra n. 236) pl. 21d and g; pl. 22d. Cf. Ward 1971 (supra n. 304) 99, fig. 16.2 and 4 and Petrie (supra n. 257) pl. 7.18 and 29.

³²⁰ Pini (supra n. 244) 11, who believes the Cretan larnakes were derived from Egypt; see also B. Rutkowski, "The Origin of the Minoan Coffin," *BSA* 63 (1968) 219–28.

³²¹ Hood and Smyth (supra n. 11) 8.

³²² Hood and Smyth (supra n. 11) 10.

³²³ Watrous et al. (supra n. 10) 225.

³²⁴ Watrous (supra n. 10) 12.

³²⁵ Moody (supra n. 10) 302–304.

³²⁶ S. Marinatos excavated a lone house in the Mesara, whose earliest deposit was protopalatial, *ArchDelt* 9 (1924/1925) 57. A fort or farm complex in East Crete, containing domestic pottery and loomweights, and a nearby dam have been partly investigated and published, I. Tzedakis et al., "Les routes minoennes: Le poste de

Knossos, ca. 100 ha, Phaistos, ca. 90 ha, Phylakopi, 2 ha, and Agia Eirene, 1 ha.³²⁷

Recent studies have reevaluated Evans's reconstruction of the Old Palace at Knossos. There is scant architectural evidence, and thus the form of the Old Palace remains vague.³²⁸ Aside from the koulouras, much of the evidence is indirect, that is, protopalatial deposits under the west and east wings of the palace. By MM II there is evidence for a sophisticated literate bureaucracy within the palace.³²⁹ MacGillivray has also argued that the Old Palace at Knossos was originally constructed as a single unit including the west and east wings and central court³³⁰ rather than as separate blocks, or "insulae," around the central court as envisioned by Evans.³³¹ While MM II deposits in the west and east wings of the palace area indicate the presence of structures there, the architectural plan is in fact unknown. The existence of the west facade of Evans's MM IB-II palace has been called into question.³³² The massively walled Keep dated by Evans to EM III was apparently constructed in MM IB possibly to store produce and/or to support a tower alongside the north entrance passage.³³³ The Royal Road, traced for almost a kilometer to the west of the palace, was cut through the MM IA town. Almost certainly this creation of a centralized street system came at the same time as the construction of the first palace. Thus, a consensus of opinion presently exists that the Old Palace was built in late MM IA when the Royal Road was constructed and the tell at Knossos was leveled to form its foundation.³³⁴ What little evidence there is suggests that it was the first palace to be built in Crete. The absence of protopalatial ash-

lar orthostates at Knossos, the masonry technique used at the first palaces at Phaistos and Mallia, may also be due to its early date of construction. The territory of the Knossos palace has recently been estimated to include the area between Gournes and Agia Pelagia on the north and the Pediaia villages of Kastelli and Agia Varvara on the south (fig. 1).³³⁵

Poursat's excavation and ongoing publication of Quartier Mu have given us a clear example of wealthy business establishments of the MM II period.³³⁶ Quartier Mu consists presently of two large houses, built in early MM II. Next door are five small workshop establishments: that of a seal engraver, a potter, and perhaps two or maybe three metalworkers. These establishments had a second-floor workshop and living quarters downstairs, each entered separately. The seal engraver's workshop yielded 150 seals, worked material of steatite and rock crystal, broken and unfinished seals, and tools.³³⁷ A total of about 550 seals have been identified as belonging to this workshop, most of which are three-sided prisms of steatite.³³⁸ A second workshop produced pottery, ceramic reliefs, different types of shells (including Tritons) as well as Agrimi horns used for funerary and perhaps other kinds of cult.³³⁹ Molds for bronze tools come from other workshops.

Houses A and B are large (each with 30+ rooms on the ground floor) and have an elegant stuccoed section with vestibules, polythera, a light well, suites, a lustral basin, staircases leading to the second floor, and a magazine section. Nine tablets, 13 medallions, two inscribed cones, 16 noduli, and various types of sealings were found in Quartier Mu. Hieroglyphic

Χοιρόμανδρες et le contrôle des communications," *BCH* 114 (1990) 43–65. See also A. MacGillivray, "The Cretan Countryside in the Old Palace Period," in R. Hägg and N. Marinatos eds., *The Minoan Villa* (Stockholm, in press). MacGillivray's claim for a deserted MM I countryside is contradicted by recent survey data.

³²⁷ M. Wiener, "The Isles of Crete? The Minoan Thalassocracy Revisited," in D. Hardy et al. eds., *Thera and the Aegean World III.1: Archaeology* (London 1990) 131; Hood and Smyth (supra n. 11) 8.

³²⁸ G. Cadogan, "What Happened at the Old Palace of Knossos?" in *Function* 71 and J. MacGillivray, "The Early History of the Palace at Knossos," in Momigliano and Evely (supra n. 89).

³²⁹ I. Pini, "The Hieroglyphic Deposit and the Temple Repositories at Knossos," in Palaima (supra n. 242) 33–60 and J. Weingarten, "Sealings and Sealed Documents at Bronze Age Knossos," in Momigliano and Evely (supra n. 89).

³³⁰ MacGillivray (supra n. 328).

³³¹ *PM* I, 203–204.

³³² N. Momigliano, "The 'Proto-palatial Façade' at Knossos," *BSA* 87 (1992) 165–75.

³³³ K. Branigan, "The Early Keep, Knossos: A Reappraisal," *BSA* 87 (1992) 153–63. The construction of much of the present palace cannot be dated any earlier than MM II. Pendlebury (supra n. 4) 129 dated the Keep, the present form of the West Magazines, the Koulouras and West Court (which he excavated), and the single East Wing to MM II.

³³⁴ MacGillivray (supra n. 328) 70–72.

³³⁵ G. Cadogan, "An Old Palace Period Knossos State?" in Momigliano and Evely (supra n. 89).

³³⁶ See B. Detournay, J.-C. Poursat, and F. Vandenaabee, *Fouilles exécutées à Mallia: Le Quartier Mu II (EtCret 26, Paris 1980)* and Poursat's summary, "Ateliers et sanctuaires à Malia," in *Society* 273–76.

³³⁷ *BCH* 102 (1978) Chronique 831–34; van Effenterre 551–61.

³³⁸ Yule 212–13.

³³⁹ *BCH* 105 (1981) Chronique 964–65.

inscriptions occur on tablets, pottery, medallions and cones, and on impressions stamped on noduli and sealings from the upper floor.³⁴⁰ An archives complex, with a variety of document types (e.g., noduli related to the delivery of goods and cones for chests or doors), has been identified near the east entrance of House A. Tablets were used in storage areas to keep track of produce. Both the long two-sided rectangular tablets and the medallions were probably first drafts used in the storage rooms and workshops. Crescents may have been connected with goods brought into the storerooms. In addition, Houses A and B produced hundreds (350) of stone vases, bronze cauldrons, and a bowl, seals, moldmade ceramic reliefs (including a sphinx), several swords including one with a gold-covered handle, and five spearheads. A number of the finds, human and animal figurines as well as miniature and Chamaizi vases and offering tables, point to the existence of domestic shrines. The area above room IV 4 in House B was a storeroom for costly objects. In addition to domestic dwellings, the large houses had an administrative role, which involved production, storage, record-keeping, and redistribution. Glimpses of the wealth of these households appear in the finds and in the records: one tablet records the number 7,000 (sheep?). It appears that each family had a group of clients who worked for them (and were fed in return). International connections are apparent in the sealings (Anatolia), reliefs (Egypt and Anatolia), stone and faience beads (of Egyptian shape), a sword (Syria), and two stone anchors. The international mercantile character of Quartier Mu is reminiscent of the contemporary houses from the karum at Kültepe-Kanish.

The French excavators have uncovered much new evidence for the urban development of Mallia

in the MM IB–II period.³⁴¹ Areas of the protopalatial town outside of the palace include the open court called the “Agora” and the large specialized building at its southwest corner (“Crypte Hypostyle”); Houses A and B (south of the palace), which together flanked a narrow entrance into the town protected by a tower; the Southwest Building; and houses in quarters Alpha, Beta, Gamma, Mu, and Thêta.³⁴² Because of its cache of stone funerary vases, the protopalatial Villa Alpha near the cemetery has been identified as a priest’s house.³⁴³ The paved road west of the palace was constructed in MM IA.³⁴⁴ Beginning in the early 1980s a series of trial trenches sunk around and inside the Late Minoan palace at Mallia have uncovered walls and floors from lower levels, which because of their size and orientation have been interpreted as belonging to the first palace.³⁴⁵ Sondages under the central court have found surfaces of packed whitish earth identified as belonging to the protopalatial central court. Along the south border of the central court a water channel of protopalatial date was found, perhaps defining the edge of the protopalatial court.³⁴⁶ These trials have also established the MM II stratigraphy of the two great swords found in the palace at Mallia.³⁴⁷ Pelon, the excavator, also claims to have discovered a foundation deposit in a cist containing an MM IA jug connected with the construction of the early palace.³⁴⁸ The case for the existence of an early palace at Mallia seems convincing, but evidence for its plan and date of construction remains minimal. The discovery of a clay bar inscribed in hieroglyphic, in a protopalatial context in the town some distance west of the palace, should indicate that literacy at Mallia was not strictly limited to the palace and its appendages.³⁴⁹

³⁴⁰ See J.-C. Poursat, L. Godart, and J.-P. Olivier, *Fouilles exécutées à Mallia: Le Quartier Mu I: Écriture hiéroglyphique crétoise* (*EtCret* 23, Paris 1978) and J.-C. Poursat, “Hieroglyphic Documents and Sealings from Mallia, Quartier Mu: A Functional Analysis,” in Palaima (supra n. 242) 24–33. The economic holdings described on the tablets from Quartier Mu are separate from the administration of the first palace and do not necessarily tell us anything about the latter, pace T. Palaima, “Administration in Minoan and Mycenaean Society,” in Palaima (supra n. 242) 93.

³⁴¹ J.-C. Poursat, “La ville minoenne de Malia: Recherches et publications récentes,” *RA* 1988, 72–74, 77–80.

³⁴² Agora: H. and M. van Effenterre, *Fouilles exécutées à Mallia: Le centre politique I: Lagora (1960–1966)* (*EtCret* 17, Paris 1966). “Crypte Hypostyle”: Amouretti (supra n. 174). Quartier Thêta: H. and M. van Effenterre, *Fouilles exécutées à Mallia: Maisons IV: Le Quartier Thêta* (*EtCret* 22, Paris 1976). Synthesis in van Effenterre 155–200 and for the First Palace, 201–28; discussion in J. MacEnroe, *Mino-*

an House and Town Arrangement (Diss. Univ. of Toronto 1979) 17–20, 182–89. For the tower at Mallia, see Y. Spence, “Was There a Guarded Southern Entrance Way to the First Palace at Mallia?” *BSA* 85 (1990) 369–74.

³⁴³ van Effenterre 181–84.

³⁴⁴ *BCH* 113 (1989) Chronique 770.

³⁴⁵ Reports have appeared in the *Chronique* section of *BCH*: *BCH* 108 (1984) 881–87; 110 (1986) 814; 113 (1989) 711–77; 115 (1991) 726–35; 116 (1992) 1–36.

³⁴⁶ O. Pelon, “Particularités et développement des palais minoens,” in E. Levy ed., *Le système palatial en Orient, en Grèce et à Rome* (Leiden 1987) 187–201.

³⁴⁷ O. Pelon, “L’épée à l’acrobate et la chronologie maliote II,” *BCH* 107 (1983) 679–703.

³⁴⁸ O. Pelon, “Un dépôt de fondation au palais de Malia,” *BCH* 110 (1986) 9–16.

³⁴⁹ S. Müller and J.-P. Olivier, “Prospection à Malia: Deux documents hiéroglyphiques,” *BCH* 115 (1991) 65–70.

the area of the later central court. The tripartite west facade of the north block repeats that of the lower southern section. Later in MM II rooms were added to the northwest "shrine" and koulouras to the middle court. While the paved corridor between the north and south blocks of the First Palace might well be taken to imply the existence of a "central" court, the earliest architectural elements (i.e., colonnade and pavement) of the central court are dated, according to Levi, to MM III.³⁵⁷ The fact that the central court shows no signs of construction between EM I and the time that the MM pavement was laid down could argue for its use as an open area already in MM IB.³⁵⁸ Levi's reconstruction of the architectural development of the palace is not entirely convincing. The presence of two paved courts in MM IB and the deliberate symmetry of the west facades of the north and south blocks, which are laid along a single line at the east edge of these two courts, argue for their contemporaneity. In addition, there does not seem to be any appreciable chronological difference between the earliest pottery in the levels below the north and south blocks.³⁵⁹

The earliest artifacts from the First Palace, found in the MM II destruction level, help us to understand the palace's function. The north block contained storage magazines and complexes where food was prepared and served (rooms V–IX, XIX, XX), each opening directly onto the west court by a door. An alcove (with shelves?) of an archive room in the southeast portion of the storage wing yielded over 6,500 sealings. Protopalatial Linear A inscribed objects were found in room 25 (18 tablets, one sealing, and five roundels), room 51 (three sealings and five roundels), and between rooms LIII and LV (one tablet). A small MM II complex of six rooms, with benches, tables, two clay hearths, cult objects (Triton shell, stone offering tables), and areas for food preparation and storage, opened onto the west court, which contained an open-air hearth; the complex is generally called a shrine.³⁶⁰ It is more accurate, however, to say simply that within this complex people were served food (accompanied by

rite or ceremony) at the palace's expense.³⁶¹ The southern block of the palace is organized into two areas: 1) the rooms (LIX, LX, LXIV) leading from the entrance (with annexes LXI, LXIII, and LXV for the storage of pottery and a potter's wheel) to the magazines (LVIIIa–e); and 2) the complex of residential rooms and workrooms (LI, LIII, LIV, LV, LXII). The benches and hearth in the first area as well as the many pitchers and cups and the nine pithoi (one with the remains of grapes) indicate that wine and perhaps food was dispensed here. The second area included signs of residence: a possible bedroom dais in LIV, a cosmetic palette, loomweights, a hearth with animal bones, and possible signs of manufacturing and domestic activities, viz., a mortar, grindstone, whetstones, stone vases, inlays, lamps, stone and bronze tools, and a potter's wheel. This second area is connected by a staircase (and the presence of sealings) to the upper floor. Thus it is likely that the workshops were actually upstairs, as in Quartier Mu at Mallia.³⁶² The upper floors (Levi's phase II) gave evidence of a wider variety of activities, viz., food preparation, weaving of textiles (many loomweights), bronzeworking (lost-wax mold of a human hand),³⁶³ a small shrine(?), and sealings from an administrative system. Sealings from the upper floor have been found in rooms LI, LXIV, LV, and in rooms 10 and 11 to the northeast. The main group of sealings along with inscribed tablets, bars, and roundels was found in room 25 in the north storage block. The inscriptions are written in an early form of Linear A and mention men, vases, wine, grain, and figs.³⁶⁴ The preserved inscriptions all record relatively small amounts of agricultural goods.

There has been much progress in understanding protopalatial administration at Phaistos and elsewhere. Fiandra's early studies made two main contributions: they showed how the sealings were used and how the administrative system worked. She documented that the clay sealings at Phaistos were used mainly to seal the wooden pommels or knobs of boxes and doors as well as jars and basketry. The

³⁵⁷ See *Festòs I*, 262–81 and note the spacing of the column bases of the colonnade vis-à-vis corridor III. Pernier (supra n. 29) 353–75 dated a group of rooms (XL–XLIII) northeast of the palace to the protopalatial period because they rested on a "probable MM I" level. The pottery illustrated is MM III, however.

³⁵⁸ See Vagnetti (supra n. 27) 12–13, and fig. 2a.

³⁵⁹ Pace Fiandra (supra n. 354) 116–17 with pls. ΚΣΤ' nos. 1–3 and ΙΘ', Κ' nos. 1–2. On present evidence the pottery below the north and south blocks appears to be a mixture of MM IA and MM IB.

³⁶⁰ G. Gesell, *Town, Palace, and House Cult in Minoan Crete*

(Göteborg 1985) 11, 120–24.

³⁶¹ Muhly (supra n. 150) 270 minimizes (rightly, in my opinion) the religious character of the complex.

³⁶² Identified by K. Branigan, "Craft Specialization in Minoan Crete," in *Society* 26.

³⁶³ C. Laviosa, "Una forma minoica per fusione a cera perduta," *ASAtene* 29/30 (1967/1968) 499–510. Laviosa lists some of the Near Eastern and Egyptian antecedents for this type of statue mold.

³⁶⁴ *GORILA* 1 (Paris 1976) 286–319; 2 (Paris 1979) 89–96.

sealed objects were constantly being opened and resealed; broken sealings were stored in room 25 as records of transactions.³⁶⁵ By comparing the Phaistos sealing system to identical examples throughout the Near East (where written documents explain the bureaucratic system that the sealings were a part of), Fiandra hypothesized that the Phaistos sealings were made by officials who oversaw the redistribution of palace stores to guard against theft. The sealings were kept so that if necessary they could be checked against written orders for the redistributions. This sealing system is relatively simple in comparison with that of the neopalatial system. It is generally accepted that this sealing system derived from the East.³⁶⁶ Weingarten's recent review of Minoan sealing administration emphasizes the lack of earlier precedents for this MM II sealing practice and sees it as an importation to the island at the time of the first palaces.³⁶⁷ Within the protopalatial period the Minoans introduce two new practices to their system: crescent-shaped sealings meant to hang by a cord and flat-based nodules pressed directly on leather strips that may have been written documents. The MM II administration at Phaistos used Linear A, while those at Knossos and Mallia used cursive hieroglyphic script, as well as hieroglyphic engraved seals and sealings stamped with two or more different seals.³⁶⁸ Hieroglyphic seals are interpreted as belonging to high officials as opposed to the lower status of "non-literate" seal owners.³⁶⁹ It is the complete absence of this distinction between types of seals and any complex sealing practice in

EM II–III Crete that makes it difficult to believe in any developed social ranking in Crete before late MM IA. The transactions recorded in the Hieroglyphic Deposit from the Palace at Knossos differ from those at Phaistos because the seals used on the sealings rarely repeat: thus, they do not directly reflect palatial storeroom accounting (where certain seals, presumably those of palace officials, predominate). Weingarten has noted antecedents for the multiple stamping system (as well as for the motifs of the Phaistos seals) at MB II (ca. 1750 B.C.) Karahöyük in Anatolia.³⁷⁰

New archaeological evidence from Phaistos and Mallia and the flurry of studies on aspects of the Old Palaces bear directly on one of the most discussed questions in Aegean archaeology, namely, the process whereby palatial or state society was first developed on Crete in MM I.³⁷¹ The architectural development of the Minoan centers is clearly a central aspect of this process. At present three reconstructions have been suggested.³⁷² The first sees an early stage of urban construction over which the first palaces were superimposed. Van Effenterre hypothesized that at Mallia the "Agora" and its street system as well as the "Crypte Hypostyle" comprised the political center of the settlement before the first palace. They thus represent a "democratic" stage of political development at Mallia before the superimposition of palatial control.³⁷³ The pottery associated with the hypothetical first palace and the "Agora" and "Crypte Hypostyle," however, does not allow any chronological distinction. Moreover, there is no

³⁶⁵ E. Fiandra, "A che cosa servivano le cretule di Festòs," in *Πεπραγμένα* (supra n. 179) 383–97 and Fiandra, "Ancora a proposito delle cretule di Festòs," *BdA* 60 (1975) 1–25.

³⁶⁶ The similarity of the MM II system to Egyptian practice even extends to the flaring pommels and their containers—see Fiandra, in *Πεπραγμένα* (supra n. 365) 386–94 and pls. ΠΛΖ'–ΠΝΔ' and Fiandra 1975 (supra n. 365) 10–17. J. Weingarten, "The Sealing Structures of Minoan Crete: MM II Phaistos to the Destruction of the Palace of Knossos," *OJA* 5 (1986) 280 gives additional Eastern parallels for the Phaistos pommels and suggests that the wooden containers may have been imported from the East to Crete.

³⁶⁷ J. Weingarten, "Three Upheavals in Minoan Sealing Administration: Evidence for Radical Change," in Palaima (supra n. 242) 105. See also the remarks following Pini's suggestion (supra n. 329) that prepalatial seals were used as part of an administrative system, 55–60.

³⁶⁸ Detournay et al. (supra n. 336) 157–229. Weingarten (supra n. 329) 7–11 notes two possible exceptions to this difference in scribal tradition between North and South Crete in MM II.

³⁶⁹ Poursat interprets hieroglyphic seals used with a "non-literate" seal on sealings as the countermark of the

supervising official. J.-C. Poursat, "Fonction et usage des sceaux en Crète à l'époque des premiers palais," in W. Müller ed., *Fragen und Probleme der bronzezeitlichen ägäischen Glyptik* (Berlin 1989) 222.

³⁷⁰ J. Weingarten, "The Multiple Sealing System of Minoan Crete and Its Possible Antecedents in Anatolia," *OJA* 11 (1992) 25–37, esp. 33 and n. 11; Weingarten, "The Sealing Structure of Karahöyük and Some Administrative Links with Phaistos on Crete," *OJA* 29 (1991) 1–33; and J. Aruz, "Crete and Anatolia in the Middle Bronze Age: Sealings from Phaistos and Karahöyük," in M. Mellink, E. Porada, and T. Özgüç eds., *Aspects of Art and Iconography: Anatolia and Its Neighbors* (Ankara 1993) 36–51.

³⁷¹ For reasons of time and space, this complex question cannot be fully addressed here, but will be considered in detail in V. Watrous and D. Hadzi-Vallianou, *The Plain of Phaistos*, in preparation.

³⁷² For the earlier idea that the palaces can be explained exclusively as an outgrowth of Early Minoan society, see supra.

³⁷³ van Effenterre 33–41, 155–74 for his "archaeopalatial" period at Mallia, and H. and M. van Effenterre (supra n. 342) 142–44 for the prepalatial role of the "Agora" and the "Crypte Hypostyle." Damiani Indelicato (supra n. 354) esp. 123–39.



Fig. 26. View of the MM I–II settlement of Monasteraki, south sector. (Courtesy A. Kanta)

evidence for the political functions adduced by van Effenterre for the “Agora” and the first palace.³⁷⁴

The second view stresses the evolutionary form of the first palaces worked out during MM IB–II.³⁷⁵ This seems true for certain aspects of the palaces. The MM IB storage facilities at Knossos and Phaistos are augmented in MM II by the addition of koulouras in the West Court and a magazine for pithoi in the east wing at Knossos. Similarly, the administrative system of the palaces undergoes development.³⁷⁶ If it could be proved that the palaces controlled the fine Kamares ware workshops whose products are exported overseas beginning in MM II, then that could be seen as an evolved feature of the later first palaces.

The third view does not necessarily exclude the second. It simply emphasizes that all of the basic characteristics of the palaces are apparent from the very beginning of their construction. Thus, at Phaistos it seems probable that the First Palace built in MM IB consisted of the southern block (residences and workshops), the north block (storage magazines), two west courts, perhaps one kouloura, and a central court.³⁷⁷ Both architectural and later administrative evidence indicates that this complex at Phaistos should be regarded as a “palace,” that is, as the residence of a powerful authority, assisted by a literate bureaucracy, which controls a system of redistribution. Architecturally the Phaistos building differs in distinctive ways from earlier Minoan techniques: in its monumentality, ashlar orthostates and

timber-braced superstructure, cut limestone blocks, frescoed floors and walls, and its facade. These features, which cannot be derived from earlier Minoan practice, are employed to differentiate the building from the more traditional residential structures of the Phaistos community. While no sealings or tablets have been found in MM IB contexts at Phaistos, the developed nature of the MM II administrative system and the continuity of function apparent within the rooms of the MM II palace leave little doubt that the MM IB building served a similar purpose.³⁷⁸ What seems to distinguish the MM IB palace at Phaistos is its architectural pretension, its storage block, and its inclusion of the west courts as part of its plan (and function).

Ongoing excavations at Monasteraki promise to document a provincial town of protopalatial date. The settlement of Monasteraki sits on the top and slopes of Charakas, a steep, flat-topped hill overlooking the widest part of the Amari Valley. Part of Monasteraki’s importance must have derived from its location on a natural route between the Mesara and the coastal plain of Rethymnon. The ceramic finds at Monasteraki resemble the pottery at Phaistos. The settlement was founded in MM I and passed through two or possibly three architectural phases. It was apparently abandoned—no skeletal material and virtually no metal has been found on the site—before being destroyed by fire in MM II. The site was not reinhabited until Hellenistic times, which greatly increases the potential value of the

³⁷⁴ See J. MacEnroe’s review of Damiani Indelicato (supra n. 354) in *AJA* 88 (1984) 75.

³⁷⁵ K. Branigan, “A Dynamic View of the Early Palaces,” in *Pepragmena* 1990, 147–59.

³⁷⁶ MacGillivray (supra n. 328).

³⁷⁷ S. Damiani Indelicato, “A New Kouloura at Phaistos,” *AJA* 88 (1984) 229–30.

³⁷⁸ For the already evolved nature of the MM II sealing system, see Weingarten (supra n. 366) 281.



Fig. 27. Building west of open area at Monasteraki. (Courtesy A. Kanta)

information to be gained from excavation. During the protopalatial period the settlement was extremely large, measuring perhaps 20 ha in area. In MM I–II it must have been the main settlement in the Amari Valley. The recent excavations, directed by A. Kanta, have focused on three areas on the hilltop. The first area (fig. 26), on the south slope of the hilltop, has revealed a number of small rooms (probably part of a house or, at any rate, a larger structure), one of which produced ca. 150 clay sealings, the context of which is still unclear. Immediately south of these rooms was a possible ramp and a retaining wall along the south side of which was a fill with many MM IB–II conical cups. In this area was found a protopalatial clay two-storied house model.³⁷⁹ While this model is different in plan from the MM III Archanes house model, it clearly is an earlier example in the same tradition. The context of the sealings is as yet unclear.

The second area is immediately to the north on the flat saddle at the summit of the hill. Excavations there have shown that the limestone bedrock was trimmed and a level of earth packing was laid down to form a flat open area, which may have been a court. The north edge of the “court” was supported by a cyclopean retaining wall (fig. 26) and on the

terrace below (north) there was a line of storage magazines containing pithoi that had been partly dug by German excavators during World War II.³⁸⁰ The south side of the “court” is formed by a massive cyclopean terrace wall. At the west end of the “court” sits a (domestic?) building built of immense limestone blocks. Its interior rooms are fitted with large threshold blocks, a round cut-limestone column base, and a doorway with L-shaped doorjambs of (non-local) sandstone (fig. 27). The house faces onto a flagstone court to the west.

The third area under investigation is on the southeast corner of the summit, which is separated from the north by a rock outcropping. Current excavation there is revealing part of a large building, apparently a single structure, of more than 60 rooms (fig. 28). This two-story structure was built of rubble and wooden beams with a second story of mudbrick. Most of the rooms are quite small (a few are long and rectangular); all seem to have been basement storerooms. No certain exterior entrance has yet been found. The 1993 excavations revealed rooms on the north, with pithoi and masses of carbonized material and a few vases at an upper level that were from the second floor. Some 700 clay sealings, most of them fallen from the upper floor, have

³⁷⁹ The house model is illustrated in L. Godart and I. Tzedakis, *Témoignages archéologiques et épigraphiques en Crète occidentale du Néolithique au Minoen récent IIIB* (Rome 1992) pl. 87, I.

³⁸⁰ E. Kirsten and K. Grundmann, “Die Grabung der Charakeshohe bei Monasteraki, I, II,” in F. Matz ed., *Forschungen auf Kreta* (Berlin 1951) 27–71.



Fig. 28. Building in southeast sector at Monasteraki. (Courtesy A. Kanta)

been found in the building. For the most part, finds from the upper floor have been relatively scarce and it is uncertain how much of the structure had an upper story. Two deposits found within the building, the skeleton of an animal with conical cups set next to it and a cache of miniature vases, may represent cult activity. The character of this southern structure remains uncertain (domestic or official?), although its sprawling, diffuse plan vaguely resembles the plan of MM I house structures at Mallia.³⁸¹

Ultimately the chief importance of Monasteraki may be the more than 900 clay sealings from the site, which promise to shed much light on the nature of MM II administration. These clay bullae preserve clear imprints on their undersides of the containers, apparently of wood and basketry, that they sealed (fig. 29).³⁸² The face of each sealing is stamped several times with different seals. The administrative system for storage at Monasteraki seems to closely resemble that at Phaistos (including the presence of door and knob sealings). Likewise, many of the Monasteraki seal motifs are also found

at Phaistos. Although no inscribed tablets or roundels have yet been recovered, one loomweight inscribed with a Linear A sign indicates the existence of literacy at Monasteraki. At present Monasteraki gives the impression that it was controlled by a central administration, housed perhaps in the building north of the “court.” The Monasteraki “court” resembles that at Gournia in shape and topographical siting.

Cemeteries of the MM IA period continue to be used into the protopalatial period. Publication of MM I–II pottery deposits and ceramic studies have helped to make this clear.³⁸³ Many “MM IA” deposits actually consist of MM IA and MM IB and even MM II style vases. The composition of these widespread deposits tells us that the late MM IA–MM IB/II period should be considered a single cultural continuum. At Mallia the tomb at Chrysolakkos was thoroughly reconstructed in MM IB.³⁸⁴ The tomb was given a monumental limestone facade in ashlar orthostates with a paved terrace around it. A room with an elaborate stuccoed platform may have

³⁸¹ See van Effenterre 157, fig. 223 (houses south of the palace) and 183, fig. 254 (Villa A).

³⁸² Only a few of the sealings have been published: from the old excavations, Kirsten and Grundmann (supra n. 380) pl. 38.1 and 3; from the new excavations, *BCH* 111 (1987) 578, figs. 99–102 and Godart and Tzedakis (supra n. 379) pls. 77–86. A. Tsigkanaki is undertaking the publication of these seals.

³⁸³ A list of deposits appears in *Chronology* 51, to which Archanes Tholos C, Buildings 6 and 13, Knossos West Court Houses and Vat Room Deposit, and the “House of the Dead” at Mallia should be added. Middle Minoan ceramic studies, G. Walberg, *Kamarea: A Study of the Character of Palatial Middle Minoan Pottery* (Uppsala 1976) and Walberg (supra n. 133) with bibliography.

³⁸⁴ Soles 166–71.

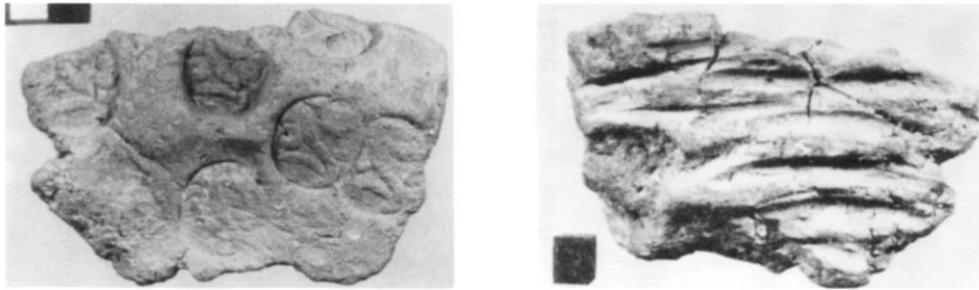


Fig. 29. Sealing from Monasteraki. (After A. Kanta, *BCH* 111 [1987] 578, figs. 99–100)

served as a shrine. Even though it was robbed, the tomb of Chrysolakkos produced figurines, stone vases, seals, bone/ivory inlays, a bronze vase and weapons, gold diadems, appliqués and pendants (including the famous bee pendant), an indication of its rich contents.³⁸⁵ This tomb certainly contrasts sharply with contemporary burials around it, in the Second Charnier and the Pierres Meulières, which contained only a few pots, stone vases, lamps, and personal possessions. At Gournia four house tombs had MM IB–II burials. In Tomb I were two clay kantharos imitations, the famous silver kantharos, clay vessels, seven stone vases, tweezers, two seals, a necklace of silver beads, a gold-plated bead, and ivory inlays (from a box?). Tomb II contained MM IA–IB/II ware, conical cups, seven stone vases, three bronze tweezers, and a zoomorphic amulet. Outside the tomb a conical cup was found next to a kernos. Poorly published Tombs VII and VIII held cookpots, three bronze knives, and a fragment of gold.³⁸⁶ Along the shore (at Sphoungaras), MM IA–II burials consisted of larnakes and pithoi next to which were found jugs, cups, and bowls.³⁸⁷ At Knossos the earliest of the chamber tombs at Mavrospelio date

to MM II.³⁸⁸ In Tomb XVII pithos burials were re-deposited in a pit with MM II pottery, beads of amethyst (of 12th Dynasty type), steatite, faience and crystal, seals, a stone jug, and a lump of meteoritic iron.

The Mesara tholoi continue to be used well into the protopalatial period. The Kamilari tholos tomb is particularly useful for protopalatial burial customs since it was only constructed at the beginning of the protopalatial period. During the MM IB–II period, offerings at Kamilari included bridge-spouted jars, miniature juglets and pithoi, cups, jugs, teapots, stone vases, seals, conical cups, and a few pieces of jewelry.³⁸⁹ Most of the (published) material from the tholos tombs at Agia Triada dates to the protopalatial period. This includes masses of pottery, especially from the annexes, stone vases, including the Old Kingdom imported pyxis,³⁹⁰ bronze weapons,³⁹¹ jewelry (beads of rock crystal, carnelian, faience; pendants of gold and ivory/bone), and 21 of the seals.³⁹² Tholoi A and B at Platanos continue at least into MM II. These tombs contained MM IB–II pottery,³⁹³ many stone vases,³⁹⁴ over 30 bronze daggers,³⁹⁵ a short sword and two

³⁸⁵ Demargne (supra n. 250) pls. 61–68. For a discussion of the date of the pendant, see G. de Pierpont, “Réflexions sur la destination des édifices de Chrysolakkos,” in R. Laffineur ed., *Thanatos: Les coutumes funéraires en Égée à l’âge du bronze (Aegaeum 1, Liège 1987)* 84–85.

³⁸⁶ Soles 3–28, 39–40.

³⁸⁷ E. Hall, *Excavations in Eastern Crete: Sphoungaras* (Philadelphia 1912) 55–60. Soles 51 is right to point to the difference in wealth between these two groups of protopalatial tombs. The distinction between the tombs does not hold completely, for House Tombs VII and VIII held simple larnax burials like those at Sphoungaras.

³⁸⁸ E. Forsdyke, “The Mavrospelio Cemetery at Knossos,” *BSA* 28 (1926/1927) 243–96.

³⁸⁹ Levi (supra n. 232) 7–148; *Festòs* I, 703–43.

³⁹⁰ Pace *Chronology* 125. Stone vases, Banti (supra n. 98) nos. 79, 87, 92, 96, 98–108.

³⁹¹ Branigan 160–61: 279, 314, 316, and a short sword, *BSA* 63 (1968) 203 no. 25.

³⁹² MM IB–II seals from Tholos A at Agia Triada: *CMS*

1.2, 9, 29, 44, 58, 70, 72, 78, 80, 81, 83, 85, 86, 90, 94, 96–101, and 103.

³⁹³ Some 25 examples are published in *VTM*, e.g., pl. 9.

³⁹⁴ Banti (supra n. 98), e.g., bridge-spouted jars, bowls, bird’s nest bowls, cups. There are over a dozen Egyptianizing shapes: alabastra, nos. 108 (cf. Ward 1971 [supra n. 304] 104–105, fig. 19, no. 22) and HM 373 (cf. *MSV* 5 [HM 373] and Petrie [supra n. 257] pl. 29.606–607); bowls, nos. 87, 88, 90, 92 (cf. Petrie [supra n. 257] pl. 23.385–86); cylindrical jars, nos. 96, 98–100, 102, 104 (cf. Ward 1971 [supra n. 304] 97–104 and Petrie [supra n. 257] pls. 2.22, 5.161–62, 173); miniature amphoras, nos. 105–106 (see *MSV* 71–72).

³⁹⁵ Branigan 10–12, types V, VI, and IX, which span MM IA–II and types X and XIV, which are MM IB–II: 159–61, nos. 230–53, 274–76, 280–82, 287–90, 309, 313, and the tin bronze HM 1934 in K. Branigan, “The Mesara Tholoi and Middle Minoan Chronology,” *SMEA* 5 (1968) 20–23. See also Branigan (supra n. 312).

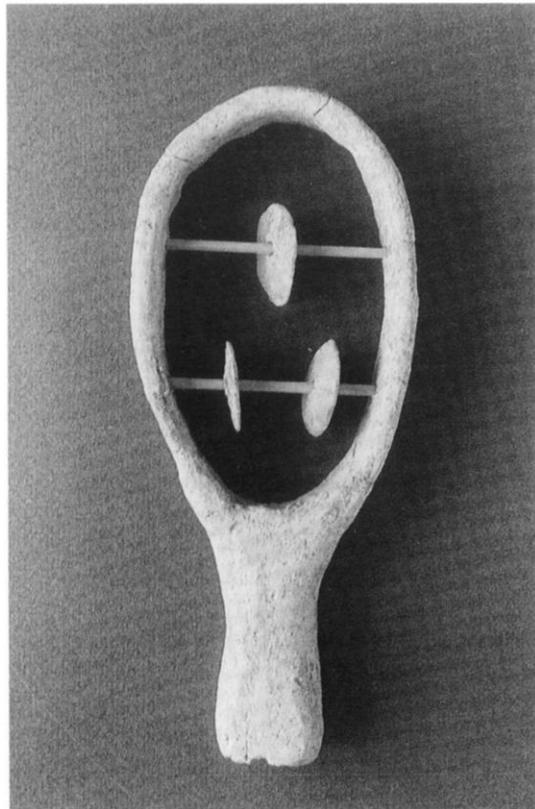


Fig. 30. Clay sistrum from Building 9, Phourni cemetery (Archanes). (After I. and E. Sakellarakis, *Archanes* [Athens 1991] 121, fig. 99)

double axes,³⁹⁶ 30 seals,³⁹⁷ an Old Babylonian cylinder seal,³⁹⁸ three Egyptian scarabs,³⁹⁹ and several amulets.⁴⁰⁰ Gold jewelry of late MM IA–II date includes three gold diadems,⁴⁰¹ 22 gold beads,⁴⁰² and gold discs, rings, and pendants.⁴⁰³ The Koumasa tombs had MM IB–II clay and stone vases, animal and human figurines, seals, at least seven bronze

long daggers,⁴⁰⁴ stone palettes, a gold diadem, and jewelry including a gold bead in the form of a lion, its mane rendered in granulation.⁴⁰⁵

The cemetery at Phourni in Archanes continued in use in MM IB–II. Three rooms (Building 9) built over Building 13 produced larnax and pithos burials, in addition to a clay sistrum (fig. 30), bull figurines and a rhyton, along with MM IB vases.⁴⁰⁶ North of Tholos Γ two rooms (8), built over an earlier structure (Building 29), contained more protopalatial burials.⁴⁰⁷ South of Tholos Γ, Building 18, constructed over traces of an earlier structure (Building 24), held burials of the MM IB–II period.⁴⁰⁸ North of Tholos Γ the large Building 5 was constructed over an older structure (Building 25).⁴⁰⁹ Buildings 5, 6, 8, 9, 13, 16, 18, and 19 contained substantial protopalatial deposits (fig. 31). Materials characteristic of MM IA burials, including seals of ivory/bone and steatite, obsidian blades, gold bands, pendants and bosses, necklaces with beads of bone, crystal, steatite, faience, seashells, silver rings, and stone vases, continued to be found in these protopalatial levels. Distinctive of the protopalatial deposits are the large number and types of clay vases offered as well as the presence of clay figurines (human and animal) and bull rhyta similar to those found on contemporary peak sanctuaries. Individual burials were often marked by a single cup or jug, and perhaps animal bones (including bird and fish), an obsidian blade, pebbles, and seashells. A single burial of a child in a jar with a silver ring, a cup, and three sacrificed animals might be interpreted as a case of inherited wealth.⁴¹⁰ Unique finds include a clay sistrum and a lapis lazuli cylinder seal.⁴¹¹ Relative to the large number of deceased in these upper levels, the burials appear markedly poorer in possessions than in MM IA, a change most easily seen

³⁹⁶ Branigan 164, nos. 481, 521, and 522.

³⁹⁷ MM IB–II seals from Platanos: *CMS* I.2, 241, 242, 247, 255, 260, 261, 269, 270, 275, 277, 279, 281, 282, 284, 285, 289, 293, 298, 301–303, 306, 307, 324, 328, 330, 332, 337, 349.

³⁹⁸ V. Kenna, "Ancient Crete and the Use of the Cylinder Seal," *AJA* 72 (1968) 322–24.

³⁹⁹ W. Ward, "The Scarabs from Tholos B at Platanos," *AJA* 85 (1981) 70–73 and Ward 1987 (supra n. 304) 507–32.

⁴⁰⁰ *VTM* pl. 15, nos. 1026, 1145–47, and 1252.

⁴⁰¹ *VTM* pl. 57, nos. 481–83. See Higgins (supra n. 137) 58.

⁴⁰² *VTM* pl. 57, upper two rows.

⁴⁰³ *VTM* pl. 57; nos. 487 (fly) and 489 (claw) are imitations of 12th-Dynasty Egyptian types of jewelry, cf. Bourriau (supra n. 277) 141 and 149.

⁴⁰⁴ Branigan 160–61, types 10–11, 13–14.

⁴⁰⁵ *VTM* pls. 3–5, 19–24, 26, 29–32.

⁴⁰⁶ *Prakt* 1971, 281; 1972, 351–52; 1973, 181–86. Sistrum, Sakellarakis and Sapouna-Sakellarakis (supra n. 234) 121, fig. 99; bull figurine and rhyton, *Prakt* 1972, pl. 277.

⁴⁰⁷ Room 8, *Prakt* 1971, 281–82; 1973, 177–81; 1982, 495–99.

⁴⁰⁸ *Prakt* 1976, 344–51. The juglet (*Prakt* 1976, 350, fig. 3) from the lower level of Building 18 dates to the MM IB–II period, cf. Zois (supra n. 236) pl. 17, MM IB; *Festòs* I, pl. 196a–c, e and g, MM II.

⁴⁰⁹ *Prakt* 1967, 159–61; 1971, 281; 1972, 319–27.

⁴¹⁰ *Prakt* 1976, 359–60.

⁴¹¹ Cylinder seal, *Prakt* 1967, pl. 152. Building 5 is dated to the MM IA period by the excavators, but its pottery indicates it continued into a later date. The low conical cup (*Prakt* 1972, pl. 270a) is MM II–III (Fiandra [supra n. 236] pl. 31a–g). The small amphora is of the same date (Levi [supra n. 232] 55, fig. 59a). The basket-shaped kalathos (pl. 275a) is a protopalatial shape (*Festòs* I, pl. 117d).



Fig. 31. Pottery from Building 6, Phourni cemetery (Archanes). (After I. and E. Sakellarakis, *Archanes* [Athens 1991] 101, fig. 24)

in the jewelry. Signs of overseas contacts reach a peak in this period: obsidian, probably sard, gold, silver, lead, and bronze from the Aegean; ivory and lapis from the Near East; and possibly ivory, gold, and faience from Egypt.

Recent studies have shown that the widespread and intense trade connections usually associated with LM I Crete had already begun in the protopalatial period. Relatively little is known about Middle Bronze I–II levels in the Aegean islands, but Minoan pottery and other objects have been found at a number of sites. While MM IA is presently unknown at Phylakopi, MM IB–II vases (and local imitations) are found in the City III level.⁴¹² Papaianopoulou's recent study⁴¹³ of the saved Minoan pottery from Phylakopi records two Barbotine vases, over three dozen MM II–IIIA cups, and a few jugs or amphoras and hole-mouthed jars as well as a figurine. Palatial-quality vases, with parallels at Knossos and Phaistos, predominate (as a result of

sorting?). Three possible East Cretan cups are mentioned. Minoan imports appear on Kea (period IV) in small quantities at the beginning of the Middle Bronze Age and they increase rapidly until the end of the period when their numbers are said to be "immense." Kamares ware from palatial workshops occurs.⁴¹⁴ The few soundings made under LM I levels at Akrotiri on Thera have also produced MM II pottery, mostly fine Kamares cups as well as one or two East Cretan examples.⁴¹⁵ On Samos an MM IA type goblet and MM II–III pottery have been found.⁴¹⁶ At Knidos painted Minoan pottery and cooking pots are said to begin in MM I.⁴¹⁷ On Rhodes MM II pottery, stone vases, a spindle whorl, and a loomweight have been found on the acropolis at Ialysos. The high proportion of Minoan-type artifacts (12 out of 13) in the floor deposit at Ialysos led Benzi to call the finds evidence for a Minoan settlement.⁴¹⁸ The Minoan town site of Trianda on Rhodes is said to be founded in MM III, but the

⁴¹² R. Barber, "The Status of Phylakopi in Creto-Cycladic Relations," in *Thalassocracy* 179–81.

⁴¹³ A. Papaianopoulou, *The Influence of Middle Minoan Pottery on the Cyclades* (Göteborg 1991) 84–116.

⁴¹⁴ J. Caskey, "Investigations in Keos," *Hesperia* 41 (1972) 376, fig. 8, nos. D8–10, 382 and pl. 83. The pottery of period IV is now published in J. Overbeck, *Keos VII: Ayia Irini, Period IV* (Mainz 1989); see 11 for a summary.

⁴¹⁵ S. Marinatos, *Thera VI* (Athens 1974) 31 and pl. 67b. See the more recent catalogue in Papaianopoulou (supra n. 413) 51–53.

⁴¹⁶ The MM I eggcup reported in J. Davis, "The Earliest Minoans in the South East Aegean: A Reconsideration of the Evidence," *AnatSt* 32 (1982) 32, fig. 2 has a mono-

chrome interior and is Momigliano's type 3 (supra n. 185) 246, fig. 30. It is from north-central Crete and, on present evidence, should date to MM IA. For other Minoan finds, see W.-D. Niemeier, "The End of the Minoan Thalassocracy," *Thalassocracy* 206–207.

⁴¹⁷ Reported in M. Mellink, "Archaeology in Asia Minor," *AJA* 82 (1978) 321.

⁴¹⁸ M. Benzi, "Evidence for a Middle Minoan Settlement on the Akropolis at Ialysos (Mt. Philerimos)," *Thalassocracy* 93–105. For the Profitis Elias site, see T. Marketou, "New Evidence on the Topography and Site History of Prehistoric Ialysos," in S. Dietz ed., *Archaeology in the Dodecanese* (Copenhagen 1988) 27–28. Marketou identifies the pottery as local.

published pottery, a Patrikies-type teapot and carinated cups, looks like material from MM IA–II.⁴¹⁹ Minoan pottery of the Old Palace period is known from Mikre Vigla on Naxos.⁴²⁰ Protopalatial pottery has been found on Kasos and Karpathos.⁴²¹ A Minoan settlement, with Minoan artifacts, burials, and a peak sanctuary, was established at Kastri on Kythera by MM IA and continued until LM IB.⁴²² The Italian excavations at Iasos report Kamares ware, pithoi, conical cups, lamps, and loomweights in a large building.⁴²³ MM II pottery has also been reported at Miletos.⁴²⁴

Beginning in MB I, Minoan pottery was for the first time traded to the Greek mainland.⁴²⁵ Sites receiving Minoan pottery include Kolonna on Aegina, Asine, Athens, Argos, Agios Stephanos in Laconia, Eutresis, Lerna, Mycenae, and Iolkos and Pefkakia in Thessaly. On Aegina, Hiller reports that the earliest Minoan imports are MM IA eggcups, followed by some 30 MM II vases, most of which are Kamares ware cups.⁴²⁶ At Lerna the amount of imported Minoan pottery as well as Minoanizing imitations is said to be in excess of 200 vases.⁴²⁷ Minoan imports at Lerna consist of Barbotine fine ware and larger storage containers. The Minoan route using the “Western String” of islands ending in Lavrion seems to have been motivated by the Minoan desire to acquire copper, silver, and lead.⁴²⁸ Thus it appears

that the route defined by Davis for LB I already existed in MM II. Papaianopoulou’s study indicates that MM I–II pottery in the Cyclades was mainly fine ware exported for its own sake; by MM III, Minoan ceramic exports were commonly larger vases traded as containers.⁴²⁹ She also stresses how beneficial the trade in Minoan ceramics and metals must have been to the Cycladic middlemen.⁴³⁰

A wide range of foreign imports first appears in Crete in the protopalatial period. Cypriot pottery in MM IB contexts has been found at Kommos.⁴³¹ Copper objects analyzed from the Mesara tombs are consistent with a Cypriot source.⁴³² Substantial amounts of tin first appear in Minoan objects of protopalatial date,⁴³³ signaling commercial ties with the East (Syria?). On the other hand, Middle Hellenic pottery on Crete is conspicuously rare.⁴³⁴ The famous silver kantharos from Gournia is a sign of Cretan trade, probably for metals with Anatolian Cappadocia.⁴³⁵ Egyptian scarabs appear in tombs at Archanes, Gournes, and Lebena.⁴³⁶ Wiener has emphasized the importance of the Near East in the metals trade with MM IB–II Crete.⁴³⁷

Within the Aegean three Minoan “routes” leading to different areas are discernible: 1) Kythera, Agios Stephanos, and the Argolid (Lerna); 2) the “Western String” of islands (Thera, Melos, Kea) to Lavrion; and 3) Kasos, Karpathos, and Rhodes to the Ana-

⁴¹⁹ Marketou (supra n. 418) 28–29 and fig. 5L. Papazoglou-Manioudaki, *ArchDelt* 37 (1982) 142–51. Patrikies-type teapot, 149, no. 7 (with incorrect reference in n. 30) and pl. 62.7; this necked spout with an outturned rim should be compared to Patrikies-phase examples, Bonacasa (supra n. 226) 47, fig. 36 and *Festòs* I, pls. 98 and 102. The Trianda example dates to MM IA–B. The carinated cups, pls. 62.1, 4, and 9, 63.11–12, and p. 150, fig. 5, TP 163, represent a common protopalatial type. Papaianopoulou (supra n. 413) 309 mentions MM IA pottery from Trianda.

⁴²⁰ R. Barber and O. Hadjianastasiou, “Mikre Vigla: A Bronze Age Settlement on Naxos,” *BSA* 84 (1989) 107–108 and 140.

⁴²¹ E. Melas, *The Islands of Karpathos, Saros and Kasos in the Neolithic and Bronze Age* (Göteborg 1985) 173.

⁴²² Coldstream and Huxley, in *Thalassocracy* (supra n. 107) 107–12.

⁴²³ C. Laviosa, “The Minoan Thalassocracy, Iasos and the Carian Coast,” *Thalassocracy* 183–85.

⁴²⁴ Discussion in *Thalassocracy* 189; A. Papaianopoulou, “Were the S.E. Aegean Islands Deserted in the MBA?” *AnatSt* 35 (1985) 86–87.

⁴²⁵ Rutter and Zerner (supra n. 107) 75–83.

⁴²⁶ S. Hiller, “Minoan and Minoanizing Pottery on Aegina,” in C. and P. Zerner and J. Winder eds., *Wace and Blegen: Pottery as Evidence for Trade in the Aegean Bronze Age, 1939–1989* (Amsterdam 1993) 197–99. Hiller lists other Minoan imports or Minoan-type artifacts from MH contexts: stone vases, loomweights, a stone kernos, and a pot-

ter’s wheel.

⁴²⁷ Rutter and Zerner (supra n. 107) 79 n. 14.

⁴²⁸ For the Late Cycladic I period, see J. Davis, “Minos and Dexithea: Crete and the Cyclades in the Later Bronze Age,” in J. Davis and J. Cherry eds., *Papers in Cycladic Prehistory* (Los Angeles 1979) 143–57.

⁴²⁹ Papaianopoulou (supra n. 413) 267–73.

⁴³⁰ Papaianopoulou (supra n. 413) 273–79.

⁴³¹ V. Watrous, “Late Bronze Age Kommos: Imported Pottery as Evidence for Foreign Contacts,” *Scripta Mediterranea* 6 (1985) 12.

⁴³² Stos-Gale and Macdonald (supra n. 112) 267.

⁴³³ Branigan 150–51, nos. 554, 780, 4, 375, 73, 93, 3351, 1467, 537, 122, 702A, and 956A. The MM IB–II dates are indicated typologically (375, 537, 1467) or by find context (554, 754, 702A, and 956A). No. 93 is said to have come from the lower (EM II and later?) level at Platanos A. EM–MM I: 73, 3351, 122. See Gale’s remarks (supra n. 46) on the probable MM I date of the tin bronze 9402.

⁴³⁴ Rutter and Zerner (supra n. 107) 81–82.

⁴³⁵ Davis (supra n. 241).

⁴³⁶ Listed in *Chronology* 129. The authors’ citation of literature on the chronology of scarabs is selective; they do not acknowledge Ward’s 1987 article (supra n. 304) lowering the dates of exported scarabs. C. Lambros-Phillipson, *Hellenorientalia* (Göteborg 1990) 51–54 collects the evidence.

⁴³⁷ M. Wiener, “The Nature and Control of Minoan Foreign Trade,” in Gale (supra n. 112) 327–34.

tolian mainland (Iasos, Knidos, and Miletos) and to Cyprus and the Near East. These routes may to some extent be regionally organized, that is, route 1 seems to be connected with Chania and western Crete, route 2 with Knossos and north-central Crete, and route 3 with eastern Crete (including Mallia). Along route 3 Yiali obsidian was imported to Mallia.⁴³⁸ Poursat believes that Minoans must have traveled to Egypt in MM II because local clay vases with relief scenes based on Egyptian wall paintings are known.⁴³⁹ Two silver Egyptian objects of the 12th Dynasty are claimed to be made from Lavrion silver.⁴⁴⁰ Fresco fragments of kyanos blue found in an MM II context at Knossos can be linked to Egypt.⁴⁴¹ Obsidian from southern Anatolia (the Çiftlik area) appears in MM I contexts at Knossos and in Tholos B at Platanos.⁴⁴² The eastern trade route, via Cyprus to the ports of Syro-Cilicia, points to Minoan acquisition of metals (silver, tin, and copper). Many seals of the Old Palace period were carved from Near Eastern raw materials (agate, onyx, carnelian, sard, lapis lazuli).⁴⁴³ The Egyptian diorite statuette of User from the palace at Knossos may, like the similar royal statuettes found at Byblos, be a sign of links with Middle Kingdom Egypt.⁴⁴⁴ Signs of Near Eastern technology appear in MM IB–II metalwork, in the form of copies of eastern artifact types and new techniques of alloying, casting, and granulation.⁴⁴⁵

Evidence for Minoan trade outside the Aegean first appears in MM IA. The earliest object is the famous MM IA jar found in Tomb 806A at Lapithos in northern Cyprus.⁴⁴⁶ MM IB–II pottery, mostly cups, has been found at Karmi on Cyprus, and in Syria–Palestine at Ugarit, Qatna, Beirut, and Byblos. Kemp and Merrillees have studied Minoan im-

ports in Egypt.⁴⁴⁷ MM IB–II sherds are known from Lisht, Harageh, Kahun, Abydos, and Qubbet el-Hawa near Aswan. The contexts of these vases in Egypt range from the 12th to the 13th Dynasties. Knossian and Phaistian potters also made for export clay vases in imitation of foreign metal vases.⁴⁴⁸ Warren and Hankey have argued that the silver vases in the Töd treasure, which probably date to the 12th Dynasty, are Minoan (or can be taken as evidence of similar Minoan work).⁴⁴⁹ Since the one gold and 153 silver Töd cups are a single group, technically and stylistically, the standard shapes in the deposit may indicate their place of manufacture. The four main shapes (accounting for over 90% of the vases) are the hemispherical and shallow cups, kantharoi, and conical cups.⁴⁵⁰ These shapes are elements of the Anatolian MB I ceramic repertoire.⁴⁵¹ None are Aegean. Only two unique shapes in the Töd treasure are standard Minoan vase forms, the globular cup and cylindrical cup.⁴⁵² Thus, an Anatolian source for the Töd vases seems likely. Objects mentioned in Near Eastern written documents supplement the list of Minoan exports. A Mari tablet mentions clothing and a pair of leather shoes from Crete.⁴⁵³ A tablet of ca. 1800 B.C. records tin sent to Mari from the Caspian area for Cretans and others at Ugarit. Two Mari tablets refer to a Cretan weapon and Cretan products being sent from Mari to Babylon.

While Minoan trade is now better documented, the structure of that trade remains less clear. Was protopalatial trade mainly controlled by the palace or were other sectors of society also involved? Wiener stresses the importance of the palace in protopalatial overseas metals trade.⁴⁵⁴ Metal products convincingly associated with the palace at Mallia in-

⁴³⁸ F. Chapoutier and P. Demargne, *Fouilles exécutées à Mallia: Palais III (EtCret 6, Paris 1942) 54 and pl. 52.26.*

⁴³⁹ J.-C. Poursat, "Une thalassocratie au Minoen moyen II?" in *Thalassocracy 87.*

⁴⁴⁰ N. Gale in discussion, *Thalassocracy 87.*

⁴⁴¹ S. Immerwahr, *Aegean Painting in the Bronze Age* (University Park, Pa. 1990) 16.

⁴⁴² C. Renfrew, J. Cann, and J. Dixon, "Obsidian in the Aegean," *BSA 60* (1965) 239. As Wiener notes (*supra* n. 437), the Anatolian obsidian comes from an area near metal sources in the Taurus Mountains and is a sign of Cretan-Anatolian metals trade (see A. Yener and P. Vandiver, "Tin Processing at Göltepe, an Early Bronze Age Site in Anatolia," *AJA 97* [1993] 207–38), just as Melian obsidian is a sign of Cretan-Cycladic metals trade in the EBA.

⁴⁴³ Yule 192–97.

⁴⁴⁴ *PM I*, 286–90.

⁴⁴⁵ Branigan 114–29, esp. 122–23 and fig. 10.

⁴⁴⁶ See Cadogan (*supra* n. 8) 514–17.

⁴⁴⁷ Kemp and Merrillees (*supra* n. 8).

⁴⁴⁸ *Chronology* pls. 6–11.

⁴⁴⁹ *Chronology* 131–34. The examples adduced in *Chronology* 132–33 show only that Minoan potters imitated a few of the types of metal vessels found in the Töd cache. For the eastern origin of the Töd vases, see E. Davis, *The Vapheio Cups and Aegean Gold and Silver Ware* (Diss. New York Univ. 1973) 69–79.

⁴⁵⁰ See F. Bisson de la Roque et al., *Le trésor de Töd* (Cairo 1953): hemispherical cups, pls. 12–13, 22–27; shallow cups, pl. 14; kantharoi, pl. 17; conical cups, pls. 19–21.

⁴⁵¹ See Lloyd and Mellaart (*supra* n. 201): hemispherical cups, 90, fig. P4, nos. 9 and 11; shallow cups, 92, fig. P5, nos. 10–12; kantharoi, 92, fig. P5, nos. 23–27; and conical cups, 90, fig. P4, nos. 15, 16, 18, and 92, fig. P5, nos. 13–16.

⁴⁵² Bisson de la Roque (*supra* n. 450) pl. 15, nos. 70583 and 70580.

⁴⁵³ Wiener (*supra* n. 437) 329.

⁴⁵⁴ Wiener (*supra* n. 437) 330–34.

clude the two MM II swords and the molds for axes and blades (from the area adjacent to the Mallia palace).⁴⁵⁵ At Knossos a crystal core, gold, alabaster, Giali (?) obsidian, and faience and shell inlays as well as clay sealings, ca. 400 loomweights, and miniature faience vases are probably indirect evidence for palace workshop activity.⁴⁵⁶ MacGillivray's study of Kamares ware production centers at Knossos postulates workshops serving Knossos, Phaistos, Mallia, Vasiliki, and Palaikastro.⁴⁵⁷ The excavation of Quartier Mu (producing, e.g., the mold for a "Kamares" lobed bowl and the stone anchors) serves as a warning that "palatial" workshops of artisans fed through redistribution and maritime trade were not limited to the palace but were also controlled by families living outside the palace. We do not know the exact relationship between these families and the residents of the palace. It is very likely that they were closely related, as at LBA Ugarit, but their commercial and political interconnections remain unknown. Links between Kamares ware workshops and the palaces are equally tenuous. As MacGillivray points out, the kilns for the Knossian area seem to have been located some 3 km south of Knossos.⁴⁵⁸ Certainly quantities of Kamares ware were destined for the palaces but, equally, quantities have been found in other sectors of palatial towns. Similarly there is no evidence that the palaces had any predominant role in the distribution of Kamares ware either in Crete or overseas. "Palatial" goods such as Kamares ware, precious metals, and artwork should probably be regarded as coming from groups of wealthy families or royalty located at the principal Minoan towns.⁴⁵⁹ The construction of a large architectural complex at the port of Kommos, however, may have been initiated by the palace at

Phaistos.⁴⁶⁰ There is now an impressive body of literature based on Near Eastern texts that illustrates the wide range of possibilities for the structure of protopalatial trade. The royal monopoly of Egypt seems exceptional. Far more normal in the Near East is the situation in which private commerce and royal trade (a mixture of commerce, gift exchange, and internal taxation) exist side by side.⁴⁶¹

Finally, one of the most distinctive features of Minoan civilization is its early adoption of representational art under strong Syrian and Egyptian influence.⁴⁶² Prepalatial representations on seals, pottery, and even sculpture are for the most part abstract.⁴⁶³ In the late prepalatial period (MM IA), figural representations on Minoan seals, made of ivory imported from Syria and Egypt, become common. On the earliest (MM IA-IB) group featuring pictorial motifs, the range of subjects is relatively limited: lions, spiders, scorpions, and goats.⁴⁶⁴ The successive MM IA-II group, distinctive for its highly pronounced Egyptian influence in its shapes and motifs, features a wider repertoire: man, deer, boar, goat, lion, ape, calf, fly, lily, ship, and jug as well as hieroglyphic characters (e.g., sistrum, leg, and double ax).⁴⁶⁵ Many of these early motifs are derived from Syrian or Egyptian workshops.⁴⁶⁶ The Mallia Workshop group (MM II) depicts men, goats, pottery, fish, waterbirds, bucrania, ships, spiders, scorpion, octopus, dog, double ax, and a fly.⁴⁶⁷ The MM II Phaistos sealings add to the Mallia repertoire with scenes of galloping animals in a landscape, an owl, and a Triton shell. Egyptian motifs include the bull and battlement, ape, griffin, bee, and Tu-art.⁴⁶⁸ A few pictorial motifs are depicted on pottery⁴⁶⁹ and the sphinx also makes its appearance on seals and ceramic relief.⁴⁷⁰

⁴⁵⁵ O. Pelon, "Minoan Palaces and Workshops: New Data from Malia," in *Function* 269-72.

⁴⁵⁶ *PM* I, 165-75, 248-70. For a discussion of the MM IA-II Vat Room deposit, see Momigliano (supra n. 185) 167-71; K. Branigan, "The Economic Role of the First Palaces," in *Function* 247-49 and ns. 4 and 6.

⁴⁵⁷ J. MacGillivray, "Pottery Workshops and the Old Palaces in Crete," in *Function* 273-79.

⁴⁵⁸ MacGillivray (supra n. 457) 276.

⁴⁵⁹ See the careful discussion in M. Wiener, "Trade and Rule in Palatial Crete," in *Function* 264-65.

⁴⁶⁰ See J. Shaw, "Excavations at Kommos (Crete) during 1986-1992," *Hesperia* 62 (1993) 184-85 and 164, fig. 10b.

⁴⁶¹ See the comments by W. Helck and B. Foster on Egyptian and Old Babylonian trade in *Function* 267. For the Near East, see P. Garelli ed., *Le palais et la royauté* (Paris 1974); M. Heltzer, *Goods, Prices and the Organization of Trade in Ugarit* (Wiesbaden 1978); Heltzer, *The Internal Organization of the Kingdom of Ugarit* (Wiesbaden 1982); C. Zaccagnini, "Aspects of Ceremonial Exchange in the Near East during the Late Second Millennium B.C.," in M.

Rowlands, M. Larsen, and K. Kristiansen eds., *Centre and Periphery in the Ancient World* (Cambridge 1987) 57-65; E. Gaal, "The Social Structure of Alalah," in M. Heltzer and E. Lipinski eds., *Society and Economy in the Eastern Mediterranean* (Louvain 1988) 94-110.

⁴⁶² See the excellent summary in Immerwahr (supra n. 441) 26-37.

⁴⁶³ Cretan figurines in stone and clay are, for religious reasons, an obvious exception.

⁴⁶⁴ Yule 208-209: the Parading Lions/Spiral group.

⁴⁶⁵ Yule 210-11: Border/Leaf Complex.

⁴⁶⁶ Yule 210-11; Pini 1981 (supra n. 140) 421-35; and Pini 1990 (supra n. 140) 115-27. P. Yule, "Early and Middle Minoan Foreign Relations: The Evidence from Seals," *SMEA* 25 (1987) 161-75.

⁴⁶⁷ Yule 212-13.

⁴⁶⁸ *CMS* II.5, nos. 253-326.

⁴⁶⁹ G. Walberg, *Tradition and Innovation: Essays in Minoan Art* (Mainz 1986) 6-38.

⁴⁷⁰ J.-C. Poursat, "Le sphinx minoen: un nouveau document," *AntCr* 1 (1973) 111-14.

The Old Palace period is brought to a close by a series of destructions in MM II, observed at Phaistos, Knossos, Mallia, Monasteraki, Pyrgos/Myrtos, and Palaikastro as well as at other sites.

CONCLUSIONS

During the last 20 years it has become increasingly apparent that excavation must go hand in hand with other techniques if it is to answer some of our current questions about Minoan Crete. Surveys, for example, have not only documented changing patterns of settlement, but they provide us with a general context that is invaluable in interpreting excavation finds. Surveys also present a unique diachronic perspective. We now know that defensively located settlements, for example, are not confined to the EM II period but are also characteristic of the FN, EM I, and MM I periods. The systematic use of watersieving to recover organic remains has the potential to answer basic questions about the evolving Minoan exploitation of the environment, about economic organization, population, and diet. Many problems involving chronology, trade, and religion in Minoan archaeology are in fact Aegean, or even Mediterranean, problems and are most profitably approached from a wider perspective. Much would be learned, for instance, about the structure of Minoan overseas trade by the thorough excavation and publication of an EBA Cycladic settlement connected with a mined ore source.

Studies of Early and Middle Minoan pottery deposits have helped to define these ceramic phases. Thanks to recent research we now know that the EM IIA and EM IIB periods are very different in some ways. Research on Middle Minoan pottery has made clearer the strongly regional character of Minoan Crete. For the EM I–MM II periods, however, we still lack a continuous stratigraphy (or even part of one) based on a single site. At Phaistos, for example, we have published deposits of FN, but nothing from EM I through MM IA. For Knossos there are informative publications of EM IIA and MM IA, but no EM I, EM IIB, EM III, MM IB, or MM II. Both sites possess excavated material from these missing periods but it has not been published. Consequently we depend on deposits from widely separated areas of Crete and from tombs for our ceramic sequence. In the past this has resulted in controversies concerning dating and has hindered our understanding of important historical questions, such as the development of Minoan social complexity, Aegean interrelations, and the evolution of Linear B. What is needed is the publication of as full as possible a sequence of deposits from a single site. Knossos is the obvious place for this to happen.

Scholars of Early Minoan Crete have reconstructed a society at the threshold of palatial achievement made up of elite families whose centralized authority included control of specialized workshops. These families are thought to have reached a peak of prosperity and technical proficiency during the “international era” of the Aegean EB II period. A generation of research has confirmed some of these claims and cast doubt on others. Current multidisciplinary ceramic analyses are beginning to demonstrate the highly specialized nature of EM II ceramic production and the volume of long-distance trade in pottery within Crete. Similarly the startling amount and range of Cretan access to Aegean metals have also been documented by scientific and archaeological work.

On the other hand, recent excavation and research have yet to yield any evidence for a complex sociopolitical organization in Early Minoan Crete. Some aspects of EM II material culture are indeed sophisticated and rich, but if the culture of EM II Crete is compared with that of other areas in the contemporary Aegean or with later MM IA achievements, it is relatively modest. Future research may well modify this view. We need an excavation of a large EM II settlement, at one of the later palatial sites, or at Koumasa, Platanos, or Agia Triada, only the cemeteries of which have been investigated. Such an excavation would correct the present bias in our EM II evidence toward tomb material. Because so many Early Minoan tomb groups are unstratified, the publication of the tombs at Lebena and Agia Photia would be particularly valuable. Data for most aspects of the all-important economic component of EM II society continue to be extremely rare—the excavations at coastal Myrtos, for example, produced no fish bones and only one olive stone—largely due to the lack of watersieving for organic remains. It is disturbing that while such economic questions are being actively discussed in the literature, many current well-financed foreign excavations in Crete are failing to watersieve. A large program of analyses of Cretan metal artifacts is another desideratum, as it would undoubtedly yield valuable information on Minoan society, technology, and trade.

The EM III period has generally been regarded as one of smooth transition and continuity between EM II and MM I. This prevailing view is based on past scholarship dealing with pottery, stone vases, and seals. Faced with a lack of stratigraphy for the EM III period, these studies created a uniformitarian sequence from EM IIB to MM IB based exclusively on style. The production of seals and stone vases during the EM II–MM I period is not, however, an uninterrupted tradition. Recent excavation

and survey work have also shown that there was a widespread, but by no means total, discontinuity of settlement on Crete at the end of the Early Minoan period, and that there is no basis for assuming that this period proceeded without interruption. All of this indicates rather strongly that previous continuous stylistic sequences, while perhaps internally correct, have little historical validity. EM III as it is understood in the current literature is simply a stylistic creation. Much that has been called "EM III" could easily be EM IIB or MM IA. The hard truth is that we know next to nothing about Crete during the EM III period.

This EM III controversy closely resembles the old problem, debated in the 1970s, of Late Minoan II—whether it was a style or a chronological period—and I believe it has the same solution. Before the mid-1970s it was thought that LM II was a Knossian style contemporary with LM IB in the rest of the island. Subsequent excavation and stylistic analysis showed that LM II is a chronological period, with its own ceramic style,⁴⁷¹ which had been missed by earlier excavators because it was rare and ill defined. This suggests that once EM III levels at Knossos are fully published, EM III material will eventually be recognized by excavators in the rest of the island. It may well turn out that no discrete decorative "style" exists for EM III and that we will recognize the pottery of the period in terms of certain shapes and their relative incidence within an assemblage. Excavation might help: a stratified EM II–MM I sequence certainly exists at the major centers and possibly at some smaller sites, such as Chamaizi, Gournia, Koumasa, and Mochlos.

In the past, our image of the MM IA period has been vague, largely because of chronological problems. Consequently, studies of the early Middle Minoan period have been relatively rare, particularly in comparison with the amount of research on the Early Minoan period. This has certainly tended to obscure the importance of MM IA and its development. Over the last 20 years, however, studies of chronology, pottery, seals, and metalwork have helped us to comprehend better what was actually achieved during the period. It is now clear, for instance, that exported Minoan pottery, our best evidence for the development of Cretan trade with the rest of the Aegean, is rare in EM II and increases dramatically in quantity and distribution in MM IA–

II. This should cause us to reevaluate the older view that most of the rich finds from the EM II–MM I/II Cretan tombs should be dated to EM II. Most would now agree that MM IA is a long period and one of dynamic development. Little is known about the early, first phase of MM IA but the evidence seems to indicate that there is initial recovery and great population growth, visible at major centers, and probably the beginning of an influx of new settlers at this time.

During the later, second phase of MM IA, the first true Aegean urbanization takes place on Crete.⁴⁷² The major population centers are reorganized: street systems, open squares, fortifications, and the first palaces are constructed. Literacy is introduced. Wealthy burials signal continued recovery and at the same time settlements spread across the countryside. Foreign imports from tombs at Archanes, Mochlos, and from the Mesara are a sign of the renewed international relations that are made possible by the stabilization of the Near East and the opening up of maritime contacts in the eastern Mediterranean with the rise of the 12th Dynasty in Egypt. Foreign influence is apparent in the number of imports and in new burial customs, architecture, ceramics, and seals. The Egyptian scarabs from Lebena and Archanes indicate that this later phase of MM IA corresponds roughly to the 20th century B.C. Peak sanctuaries are established in MM IA, and at the end of the period the first palaces are constructed at Knossos and Mallia. With the consolidation of these city-states, direct international relations are established with other polities outside the Aegean. Like their counterparts in the Near East, these Minoan states enter an era of widespread prosperity.

The outlines of the protopalatial period were securely established by excavators early in this century. For this reason, the period has been relatively neglected until recently. Several excavations—at Phaistos, Phourni cemetery (Archanes), Quartier Mu at Mallia, and Monasteraki—have helped to fill certain gaps in our knowledge. Levi's excavations at Phaistos have revealed a large portion of the Old Palace, but now need to be supplemented with tests to resolve important problems of relative dating for certain sectors of the palace. The revelation of Quartier Mu at Mallia makes one wish for excavation of another MM IB–II sector of the city (further

⁴⁷¹ This view was put forth by M. Popham, in "Late Minoan II Crete: A Note," *AJA* 79 (1975) 372–74.

⁴⁷² The archaeological correlates of urban states are

usefully listed in C. Redman, *The Rise of Civilization* (San Francisco 1978) 218.

out from the palace?) to understand better the range of urban dwellings and daily life at Mallia. The important excavations at Monasteraki, when fully published, will help fill out our picture of an MM IB–II provincial town. Sites such as Chamaizi and Agia Photia throw into relief the problem of rural “villas” or farms and their functions. Claims for lines of Minoan “forts” linked by paved roads in East Crete need further substantiation: the complete publication of one of these complexes would be helpful. The identification by survey and subsequent excavation of rural constructions, such as check dams and built terraces, is particularly exciting. More such work needs doing to document Minoan land use and engineering capabilities. Two areas of prime importance begging for intensive survey work are the Knossos-Archanes region and the plain of Rethymnon.

Some 20 years ago two scholars, C. Renfrew in *The Emergence of Civilisation* (London 1972) and K. Branigan in *The Foundations of Palatial Crete* (London 1970), presented an influential outline for the cultural development of pre- and protopalatial Crete.

This sequence was one of rapid cultural development during the EM I–II periods followed by a continuous and uneventful transition into the protopalatial period. Twenty years of excavation and research on Crete have documented a different pattern. Cultural development in EM I–II Crete appears to have been gradual and relatively modest; there is at present no evidence for social ranking in EM II Crete. Society in EM II Crete was sharply interrupted at the end of the period by widespread turbulence and the abandonment of many settlements. Only in the subsequent MM IA period is order gradually restored to the island. In MM IA, Minoan Crete first achieves urbanization, sociopolitical complexity, literacy, and wealth based on international trade, all cultural features we traditionally associate with civilization.

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