

The Emergence of Sociopolitical Complexity at Gournia: Local and Regional Perspectives

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Between 2200 and 1900 B.C.E., the coastal site of Gournia on Crete grew substantially in size and population, eventually emerging as a regional center for production and export. At the same time, other sites in the Mirabello region were destroyed, and new sites were established in defensible locations. People from the Cycladic islands fled to Crete and established new settlements on the north coast, possibly in response to a climatic upheaval. How did Gournia manage to emerge as a prosperous center, amidst the turmoil and chaos sweeping through the Mirabello region at this time? This article proposes that by successfully integrating immigrant populations into a new lower class, elites at Gournia reorganized craft production, which fueled economic prosperity. Recent excavations at Gournia support this hypothesis. There is new evidence for intensive ceramic production at the northern periphery of the site in the Late Prepalatial period. In the Protopalatial period, an expansive new architectural complex with craft workshops was constructed near an elaborate residence, suggesting that elites played an important role in the centralization of production and redistribution at Gournia.

Introduction: Gournia and its Regional Context

Gournia is located on the northeastern coast of the island of Crete, and sits on a small hill overlooking the expansive Gulf of Mirabello (Fig. 1). The Gulf of Mirabello is the northern boundary of the Isthmus of Ierapetra, the narrowest part of Crete, where just twelve kilometers of flat, easily navigable land separate the Aegean Sea and the Libyan Sea. The ease of moving through the landscape in this region facilitates trade and exchange, and the area was densely populated throughout much of the Bronze Age.¹ The Vrokastro, Kavousi, and Gournia surveys have produced a range of data on the settlements in this region,² revealing sequences of urban growth in some areas, and desertion in others. These shifts in regional settlement pattern are key to understanding the development of sociopolitical complexity in the Mirabello region from the Prepalatial period to the Protopalatial period (Fig. 2).

In the Early Minoan II period (EMII), there were three main centers of production and trade in the Mirabello region of eastern Crete: Mochlos, Vasiliki and Priniatikos Pyrgos. Each of these centers specialized in a certain kind of craft manufacture. Mochlos was known for its production and export of fine stone vases, Vasiliki for its distinctive fine, mottled pottery, and Priniatikos Pyrgos for its large pottery vases.³ Mochlos stands out as a center of wealth during this period, as the rich graves with fine jewelry and imported objects from the Near East and Egypt attest.⁴ Mochlos, Vasiliki, and Priniatikos Pyrgos were surrounded by smaller, agricultural sites, which were dispersed throughout the landscape. These smaller settlements operated relatively independently and did not rely on the villages for their survival.⁵ Gournia was established by a small group of settlers who were probably drawn to the settlement because of its proximity to the sea, abundant natural resources and the fertile land in the area. Archaeological remains from this early period at Gournia

Settlement Pattern: The Mirabello Region

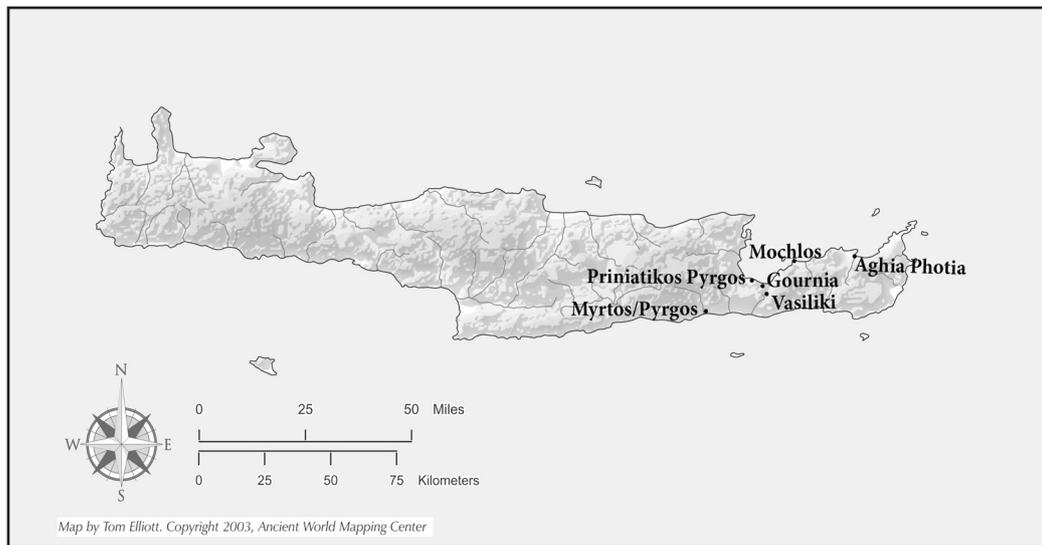


Figure 1: Map of Crete

	DATE B.C.E.	CHRONOLOGICAL PERIOD	MAJOR CULTURAL DEVELOPMENTS
Prepalatial	3100	EMII	Emergence of ranked society
	3000		
	2900		
	2800		
	2700		
Late Prepalatial	2600	EMIIA	Widespread foreign contact Destruction of major sites by fire Decline, isolation, retraction
	2500	EMIIB	
	2400		
Protopalatial	2300	EMIII	Nucleation and affluence at Gournia
	2200		
	2100		
Neopalatial	2000	MMIA	Tremendous population growth Construction of first palaces
	1900	MMIB/IIA	
	1800	MMIIB/MMIIIA	
Neopalatial	1700	LMIA	Construction of second palaces
	1600		
	1500		
	1400	LMIB	

Figure 2: Chronology of Bronze Age Crete

are scarce; although no architecture has been discovered, pottery has been found below later houses on the acropolis and the settlement may have had a similar appearance to Vasiliki or Myrtos/Pyrgos.⁶

At the end of the EMIIIB period, a series of destructions swept through the Mirabello region. Mochlos, the most prosperous village in eastern Crete, was destroyed by fire, and similar destructions occurred at Vasiliki, Myrtos Fournou Korifi, and Myrtos/Pyrgos.⁷ The dispersed agricultural settlements that dotted the region mostly disappeared, many coastal sites were abandoned, and new sites were established in defensible locations or in marginal, previously unoccupied areas, such as the high mountains of the Kavousi region.⁸ Gournia was different: the settlement managed to maintain a continuous occupation and a thriving burial tradition, as the many inhumations in the cliffs at the nearby Sphoungaras cemetery attest.⁹

The settlement pattern in the Mirabello region was fundamentally reorganized in EMIII and Middle Minoan IA (MMIA), following the EMIIIB destructions. Small clusters of houses cropped up around

patches of arable land near permanent water sources, and although they operated autonomously, neighboring clusters may have engaged in some communal activities, such as metal production at Chrysokamino on the coast.¹⁰ In EMIII and MMIA, Gournia expanded in size and population, and emerged as an affluent center of craft production and manufacturing.¹¹ A new kind of granodiorite-tempered pottery with lively white on dark designs was produced here, and distributed throughout the Mirabello region.¹²

The patterns of land use established in EMIII and MMIA in the Mirabello region set the tone for the MMIB settlement pattern, which progressed along the same lines.¹³ Site clusters remained intact, but a twofold increase in the number of sites and a dramatic population explosion in MMIB led to the dispersal of small farmsteads into the countryside.¹⁴ The metallurgy workshop at Chrysokamino was abandoned in the Late Prepalatial period and metal production probably shifted to Gournia, where it operated under the control of elites at the helm of a rapidly centralizing regional state.¹⁵ At Gournia, the growth that began in EMIII led to a

major expansion and reorganization of the settlement in MMIB and supported its position as the most important urban center in the Mirabello region.¹⁶ This growth mirrors a pattern of urban growth visible at other sites on Crete, including Knossos, Mallia, and Phaistos, which witnessed the construction of the first palatial buildings during this period.¹⁷

Climatic Upeaval and Cycladic Immigration

An influx of immigrant populations on the north coast of Crete began in the Prepalatial period and reached its height in EMIII and MMIA, adding to the social and economic changes already underway in the Mirabello region. These settlers, from the Cycladic islands and West Asia, may have fled to Crete in response to a large-scale global climate event, which would have dramatically affected the efficacy of their subsistence strategies. This climatic disaster began around 2200 B.C.E. and lasted about 300 years, causing a severe, prolonged drought that affected all major societies in the eastern Mediterranean.¹⁸ The drought is extensively documented on a global scale in ice cores, pollen records, and historical accounts, and its abrupt onset and lengthy duration have been tied to a number of significant sociopolitical collapses.¹⁹ In the period from 2200 to 2000 B.C.E. the cities of Byblos, Kultepe, Tarsus, Ebla and Ugarit were destroyed by fire, and Old Kingdom Egypt collapsed.²⁰ The onset of drought caused the urban Harappan civilization in the Indus Valley to decentralize, and the population moved out to the countryside.²¹ In Palestine, cities disappeared and only a few villages remained,²² and in Mesopotamia, the severe drought led to a disastrous sequence of crop failures, political collapse, chaos, and foreign invasion, documented in cuneiform as the epic Curse of Akkad.²³ At the conclusion of this prolonged drought, entire regions were resettled in Syria, Palestine and Mesopotamia. Settlements

were fundamentally reorganized, served different functions than they had before, and had different ethnic compositions.²⁴

Crete's response to the severe drought parallels that documented in the Near East. The onset of the disaster coincides with the abandonment of major settlements, widespread population movements, the establishment of new settlements in rural areas, and the appearance of new ethnic groups. The arrival of Cycladic settlers on the north coast of Crete in EMIB and EMIII occurs at the same time as a widespread depopulation of the Cyclades, visible at sites such as Akrotiri on Thera.²⁵ The site of Aghia Photia in northeast Crete has overwhelmingly Cycladic-style artifacts and tomb architecture, and is widely regarded as evidence for a Cycladic zone of cultural influence on the north coast of Crete.²⁶ The arrival of Cycladic populations on Crete may have destabilized the social structure further, during this time of increased environmental stress. This is reflected archaeologically through the abandonment of many sites on the north coast, and through population nucleation at larger centers, that contain evidence for a new, lower class; probably an immigrant population.²⁷

By MMIB, processes of recovery on Crete were underway. A new building with an elite focus was constructed on the hilltop at Myrtos/Pyrgos.²⁸ Gournia grew to its largest size, and witnessed the construction of House Aa on the east slope, which had its own paved court and storage magazine with pithoi.²⁹ Settlements restabilized themselves, assumed new functions, and operated at a greater level of sociopolitical complexity. There is evidence for social ranking in this period at Gournia, in the disparity between high-status and low-status tomb architecture and contents. The richest burials were located at the north spur of the settlement, in rectangular house tombs, whereas lower-class burials were

placed in the hills of nearby Sphoungaras, in simple pithoi inhumations.³⁰ The lowest class burials contain Cycladic grave goods, indicating that they may contain inhumations of immigrant populations.³¹

The North Trench Deposit: Evidence for Continuity at Gournia

The sequence of events outlined above addresses regional changes in the settlement pattern on Crete over several hundred years at a broad scale. But, how are these changes manifest in the archaeological record of a single site? The site of Gournia is a valuable source of information for this inquiry, because it was occupied continuously from the Prepalatial to the Protopalatial periods. Other sites in the Mirabello region were destroyed in the Late Prepalatial period and contain truncated chronological sequences, or were established later during the MMIB population explosion. Evidence from Gournia reveals nuances of sociopolitical development obscured during this hazy period of prehistory at other sites.

The North Trench deposit is a large ceramic dump located at the northern periphery of Gournia, north of a rubble wall approximately 1 m in width. It was discovered and partially excavated by Harriet Boyd Hawes and Edith Hall during their 1901-1904 campaigns at the site.³² The deposit contained enormous quantities of distinctive white on dark pottery, and Boyd-Hawes and Hall assigned the deposit an EMIII date on the basis of stylistic observations.³³ The North Trench deposit is large and homogeneous, and is regarded as the type-site for EMIII pottery.³⁴ White on dark pottery has since become the most important chronological marker for EMIII in eastern Crete.³⁵ The abundant quantity of EMIII material at Gournia is unique; the phase is scarcely present at other sites in the Mirabello region. It is of critical importance to explanations of the emergence of sociopolitical complexity, because it hints

at a unique cultural sequence at Gournia, unparalleled at other sites in this part of eastern Crete: intensive occupation and economic prosperity lasting from EMIII through MMIB.

The exact function of the North Trench deposit was unclear to Boyd-Hawes and Hall when they excavated it. Beyond its relationship to the large rubble wall, it was not associated with any architectural features.³⁶ Consequently, the deposit was classified simply as a ceramic dump, because joining sherds were extremely scarce, and other types of refuse associated with midden deposits, such as animal bones, were not present. One objective of recent research at Gournia has been to clarify the function of the North Trench deposit, and to reevaluate the position of white on dark pottery in the relative chronology of eastern Crete. The results of this work are introduced below, and the broader implications of these finds are examined in the conclusion.

Recent Fieldwork at Gournia

New excavations at Gournia were reopened in 2010, after a hiatus of fieldwork at the site that lasted over a century. A central objective of the Gournia Excavation Project was to locate and recover new material from the North Trench deposit, in order to clarify the cultural sequence at Gournia as well as the relative chronology of eastern Crete. In addition, new excavations on the unexplored eastern slope of the site were pursued, in order to determine the horizontal extent of the site in this direction, and to date any cultural levels found there.

The project was successful in locating the extant portion of the North Trench deposit, and recovered over two tons of pottery during the 2010 field season. In 2011, further excavations were carried out, which defined the boundaries of the

deposit, and its relationship to the rubble wall to the south. An initial examination of the pottery confirmed observations made by Boyd-Hawes and Hall; especially that the deposit contained no artifacts other than potsherds, and that joins were exceedingly rare. Further, a preliminary analysis of the shape, fabric and decoration of material recovered in 2010 and 2011 agrees with earlier observations made by Boyd-Hawes and Hall, although the material requires further study before any concrete stylistic or chronological observations can be put forth.

The discovery of a ceramic kiln destruction adjacent to the western boundary of the North Trench offers compelling insight into the function of the deposit, suggesting that the sherds may be refuse from pottery production. The kiln destruction is roughly 1 m x 2 m in size, and contains multiple layers of burned soil replete with ceramic wasters that date to the Late Prepalatial period (MMIA), as well as over 21 kg of plaster kiln lining. The industrial activity at Gournia was concentrated at the periphery of the site, close to the sea and facing the prevailing winds from the north. This setup has parallels at Priniatikos Pyrgos, where several ceramic kilns were uncovered on a promontory by the sea, and also at Chrysokamino, where metal production was concentrated a windy outcrop just a few kilometers east of Gournia, on the Mirabello coast.³⁷

On the eastern slope of Gournia, a series of adjacent trenches totaling 10 m x 12 m in size were excavated in 2011, which revealed a number of rectilinear rooms on either side of a paved, cobblestone street approximately 1 m wide. It is likely that this street connected to the circuit road that encircled the Gournia acropolis, but this remains to be confirmed in future field seasons. The contents of rooms in the architectural complex vary; some contained rich midden deposits (trench 21,

44), others were largely devoid of cultural material (trench 29), and still others yielded evidence for industrial activity, such as thick concentrations of loomweights, ground stone tools, standardized weights, and murex shells (trench 45). Outside of one room of the complex, there was a triangular cut bedrock pit .80 m deep, which tapered down to a point and contained an abundance of grayish-green, greasy soil with no artifacts in it whatsoever. This pit was interpreted as a waste pit, possibly for some kind of manufacturing activity. All of the soil from this feature was collected for further testing and analysis, in order to determine the exact composition of the refuse.

The architectural complex on the eastern slope of Gournia dates to the Protopalatial period, and extends beyond the boundaries of Neopalatial settlement. Although the Protopalatial acropolis remains a mystery because of later construction, several large houses (House Aa, House Ea) indicate social stratification during this period. Of particular interest is House Aa, which contains four storage magazines stocked with amphorae and pithoi and a paved court. If the Protopalatial architectural complex revealed by recent excavations is in fact an industrial quarter, then it is possible that these production activities may have operated under the purview of managerial elites who resided just a few meters away, in House Aa. This view is consistent with the idea that the growth of social complexity at Gournia was brought about by increasing centralization of economic production under elite control.

Conclusion

Recent work at Gournia has shown that pottery production during the EMIII and MMIA periods was concentrated at the northern periphery of the settlement. These activities came to a halt in MMIA, when a pottery kiln was destroyed, and the

ceramic dump went out of use. In MMIB, a new and more elaborate industrial quarter was constructed on the eastern slope, which housed the production of multiple different crafts in architectural units. Craft production at Gournia may have operated under the management of elites living in nearby elaborate residences, such as House Aa. How does this new information from Gournia relate to what we know about the emergence of sociopolitical complexity in the Mirabello region, and what role did Cycladic immigrants play in the reorganization of production at Gournia from EMII to MMIB?

The following reconstruction is offered. EMII was a temporary period of prosperity on Crete, when a number of small centers (Mochlos, Vasiliki, and Priniatikos Pyrgos) were involved with production of specialized crafts. Craft production probably operated at the household level, involved voluntary cooperation, and was not centralized under the leadership of authority figures. These sites maintained trading contacts with their neighbors in the Isthmus of Ierapetra, as well as with Cycladic islanders to the north, and more distant polities in the Near East and Egypt. Competition between elites at EMII centers was amplified by the onset of a severe drought around 2,200 B.C.E. that triggered violence and warfare, and led to the demise of many sites at the close of EMII. Trade within and outside of Crete decreased dramatically at this time. Cycladic immigrants, responding to the climatic upheaval, fled to Crete and either established their own small settlements on the coast, or integrated themselves into the lower classes at Gournia, a rapidly expanding and affluent center. The enormous quantity of EMIII pottery from the North Trench deposit, and its association with a pottery kiln, suggests intensive production activities were occurring during this time, despite the turmoil sweeping through the rest of the Mirabello region.

By MMIB, the severe drought subsided. Gournia underwent a reorganization and expansion, which was fueled by population growth. The poorly furnished burials in the Sphoungaras cemetery at Gournia, which contain Cycladic grave goods, indicate that the Cycladic settlers were members of a new, lower class. It is possible that Gournia managed to withstand the EMII disaster in the Mirabello region by offering a safe haven for Cycladic immigrants fleeing a climatic disaster. This caused the population to increase to a threshold point, and facilitated the development of a new forms of hierarchical ranking. This trend toward greater social complexity continued unabated throughout the Protopalatial period, as Gournia continued to prosper as the most affluent center of manufacturing and export in the Mirabello region.

Endnotes:

- 1 Betancourt 2006a, 4-7; Soles 1979, 150
- 2 Vrokastro Survey, Hayden 2004; Kavousi Survey, Haggis 1996; Gournia Survey, Watrous 1993
- 3 Betancourt 1979; Hayden 2004, Kalpaxis et al 2004, 157; Warren 2010
- 4 Soles and Davaras 1989, 413
- 5 Watrous (forthcoming, 2-3)
- 6 Soles 1979, 150-51
- 7 Betancourt 2006b, 264, Manning 1994, 234; Watrous (forthcoming, 3)
- 8 Haggis 2005, 65-9; Haggis 2006, 228; Hayden 2004, Manning 1994, 234-36; Watrous (forthcoming: 4)
- 9 Soles 1979, 151
- 10 Haggis 2006, 226
- 11 Betancourt 2006b, 266; Soles 1979, 151; Watrous (forthcoming, 4)
- 12 Haggis 2006, 228; Betancourt 2006b, 266
- 13 Betancourt 2006b, 264; Haggis 2006, 228-9
- 14 Betancourt 2006b, 264-5; Watrous (forthcoming, 7)
- 15 Betancourt 2006b, 266
- 16 Betancourt 2006b, 264
- 17 Manning 2010, 14; Soles 1979, 151
- 18 Staubwasser and Weiss 2006
- 19 Staubwasser and Weiss 2006, 380-81
- 20 Roberts et al 2011, 152; Gibbons 1993, 985; Manning 1997, 149; Watrous 1994, 734
- 21 Staubwasser and Weiss 2006, 381
- 22 Palumbo 2001
- 23 Jacobsen 1957
- 24 Staubwasser and Weiss 2006, 382
- 25 Watrous (forthcoming, 10)
- 26 Betancourt 2003; Day, Wilson and Kiriati 1998, 141
- 27 Watrous (forthcoming, 5)
- 28 Cadogan 1977-78, 71
- 29 Soles 1979, 153
- 30 Soles 1979, 165
- 31 Watrous (forthcoming, 8)
- 32 Boyd Hawes 1908
- 33 Watrous 1994, 719
- 34 Betancourt 1984, 11
- 35 Betancourt 1984, 11; Watrous 1994, 719
- 36 Boyd Hawes 1908, 20
- 37 Betancourt 2006c, 47, Kalpaxis et al 2004, 143-55

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