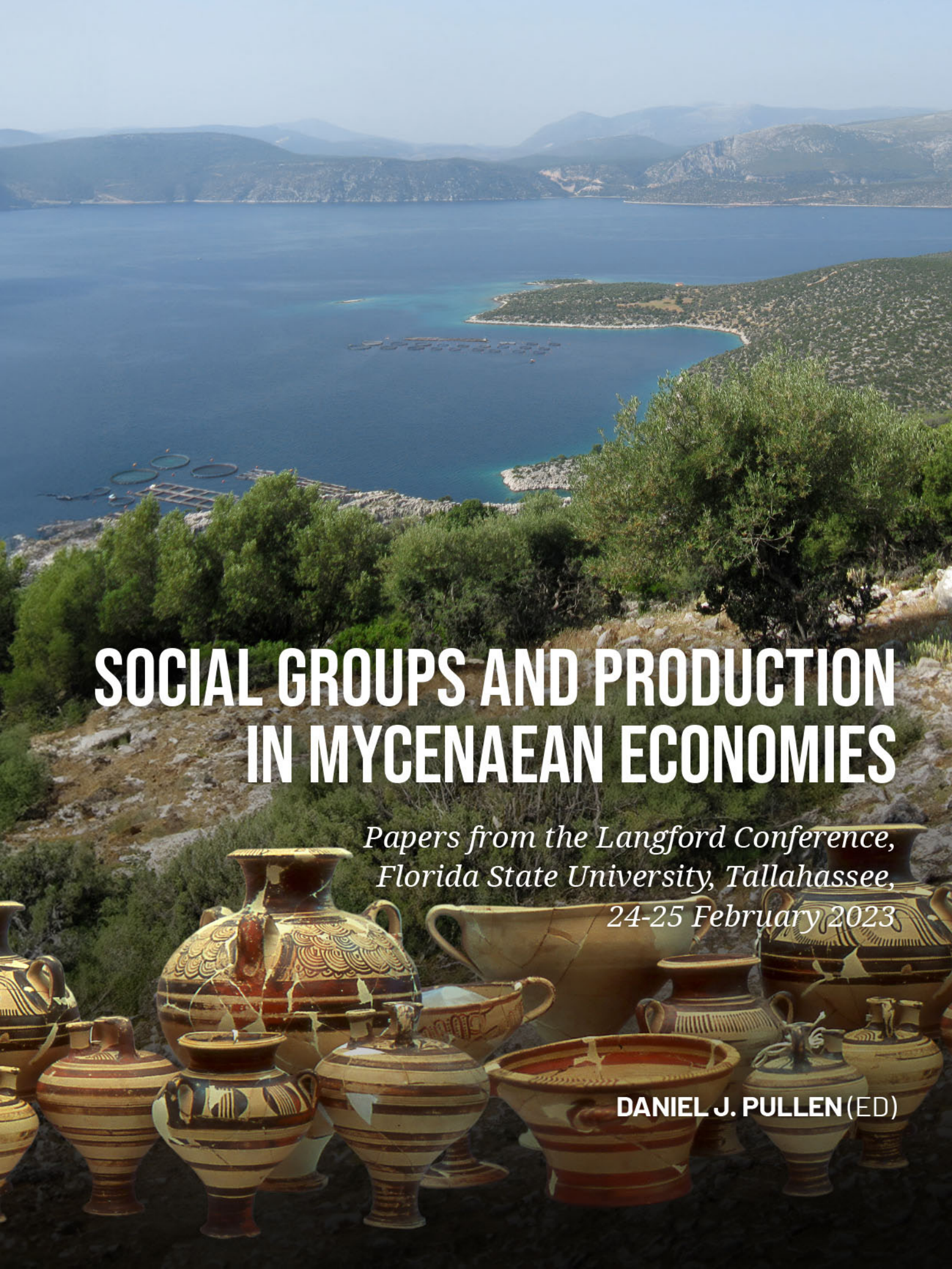

SOCIAL GROUPS AND PRODUCTION IN MYCENAEAN ECONOMIES

Papers from the Langford Conference, Florida State University, Tallahassee, 24-25 February 2023

DANIEL J. PULLEN (ED)

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Contents

Coastal Communities and Connectivity in the Late Bronze Age Aegean

Thomas F. Tartaron

Abstract

We often remark that communities inhabiting coastal anchorages, harbors, and ports linked terrestrial and maritime worlds. But the ways that these realms were linked, and the people who linked them, are typically obscure. In this paper, I first examine a range of Aegean Bronze Age coastal sites from uninhabited to seasonally occupied to fully sedentary, followed by discussion of the spectrum of resources that were exploited on them. I then shift my focus inland to explore strategies for investigating the linkages between coastal and interior sites, including Mycenaean palaces. In a case study, I investigate the relationships among the inland palatial site of Mycenae, the Saronic harbor settlement at Korphos-Kalamianos, and the Saronic Gulf. I highlight Kalamianos as a "weak tie" linking Mycenae with the Saronic Gulf, thus fulfilling a mediating role. This exercise draws evidence from excavations and surveys, archaeometric analyses, Linear B archives, and ethnography and cross-cultural ethnoarchaeology.

Introduction

In the context of Aegean Bronze Age maritime networks, it is often remarked that coastal communities linked, and mediated between, terrestrial and maritime worlds. But the characteristics of these communities, the ways these realms were linked, and the people who linked them, are often obscure. In this chapter, I reflect on the diverse types of coastal sites, the people and communities that inhabited them, and the practicalities of the links they facilitated and exploited. Previously, I focused on the maritime networks in which these communities participated (Tartaron 2013); here, I turn my gaze inland to scrutinize their connections to people and places in the interior (Figure 6.1). In the concluding section, I examine Korphos-Kalamianos, where Daniel Pullen and I worked together for several years, to illustrate these themes.

Coastal sites and the small worlds they comprised were realms of constant motion and connectivity (Broodbank 2000; Horden and Purcell 2000), but the coastscapes and communities that inhabited them were highly diverse. There were different kinds of coastal sites, in terms of size, infrastructure, and range of activities they witnessed. Simply by distinguishing landing sites with the labels anchorage, harbor, and port (Tartaron 2013: 4), we acknowledge a continuum of increasing infrastructural formality for accommodating subsistence, trade, or even naval fleets. Further, we can identify a range of activities as people exploited coastal and marine resources such as fish, shellfish, and salt, and wetland products such as clay, grasses, and waterfowl. Many coastal sites were not occupied continuously at all — such as

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Figure 6.1. Map of the Aegean region showing key sites mentioned in the text. Base map public domain, Wikimedia Commons.

Site type	Subtype	Activities
Uninhabited	Special purpose	Fishing; shellfish gathering; salt collection, wetland resources; ferry
	Opportunistic	Sheltered anchorage; offload agricultural and forest products
Seasonally inhabited	Subsistence; Special purpose	Fishing; herding ("goat island")
Inhabited year-round	Subsistence	Agriculture, pastoralism, hunting, gathering
	Node in ordered site hierarchy	Dependent harbor; administrative center
	Trade harbor/ emporion	Import/export
	Production site	agricultural, marine, metal, textiles, stone tools, etc.
	Ritual/sacred	Pilgrimage; sanctuary
	Military port	Defense; fleet storage
	Ferry port	Crossing point

Table 6.1. Hypothetical coastal type sites and activities. This typology is neither intended to be exhaustive of the range of variation, nor to suggest that sites could have only one purpose or kind of activity.

locations for harvesting shellfish or sea salt, or for picking up or dropping off agricultural products episodically. It is possible to propose a tentative typology for the kinds of coastal sites that might have existed (Table 6.1). There are many ways one could organize coastal sites conceptually; in Table 6.1, I have chosen to feature a continuum from uninhabited to seasonally inhabited to inhabited year-round. These types and subtypes are not exhaustive, and it is understood that a coastal place can slide along this continuum or accommodate multiple activities at the same time.

A coastal location need not be inhabited to be important economically or in some other way. Fishing and shell fishing grounds, as well as collection sites for salt and wetland resources, may be spatially detached from settlements and yet part of routine subsistence practices. Other uninhabited landing sites could be used opportunistically as anchorages, for example as occasional shelter for ships, or for loading/offloading of agricultural and forest products. Obviously, such locations are difficult or impossible to identify in the archaeological record, in view of coastal change over millennia and the light imprint humans left on them, unless there is an accumulation of material as for example in a shell midden. What we *can* do is point to the kinds of settings on modern coasts —

Figure 6.2. Examples of uninhabited coves that could serve as informal landing sites, Cyprus.

Figure 6.2 continued.

wetlands, small anchorages, etc. — as representative of the *types* of locations where non-settlement activities took place. In recent fieldwork in Greece and Cyprus, I have examined numerous small, uninhabited coves that could serve as informal anchorages (Figure 6.2).

Small seasonal and sedentary sites: Chryssi and Papadiokampos

Activity at some coastal sites involved seasonal occupation and exploitation of resources such as seafood or grazing land for livestock. Chryssi, a small island about 12 km off the south coast of Crete, is nearly waterless, windy, and hot. It has no permanent settlement today, but is used seasonally by shepherds and fishermen, as archaeologists believe was also the case in the Bronze Age (Brogan et al. 2019; Chalikias 2015). The Minoan site (MM II–LM IB) yielded massive amounts of crushed *Hexaplex trunculus* (murex) shell, a purple dye producer.[1] Building B1 on the site has been interpreted as a residence with an attached purple dye workshop. The site produced many other species of fish and shellfish, and a large number of hooks, floats, and net weights. The excavators suggest this was a seasonal site where people fished and produced purple dye for a textile industry at one of the palace centers on Crete, or more locally for an as yet unknown center on the southern coast of the Ierapetra Isthmus (Chalikias 2015: 43–44; Mylona 2020: 188–193). Another kind of seasonally occupied site is the so-called goat island, where herders brought livestock seasonally to graze on unexploited pasture (Constantakopoulou 2007: 200–214; Horden and Purcell 2000: 224–230). Starting with Homer's Thrinacia, the island where the cattle and sheep of Helios grazed (*Odyssey* 12.128–131), and the offshore island of the Cyclopes, inhabited only by goats (*Odyssey* 9.116–124), it has remained a popular trope among authors down to the present day. Ptolemy (*Geography* 3.15.28) and Pliny the Elder (*Natural History* 4.12.23) wrote of the small, uninhabited island of Polyaigos (literally, "many goats") off Melos, and in recent centuries numerous islets and islands have been described in this way (Constantakopoulou 2007: 203–204).

By contrast, Papadiokampos was a small, year-round seaside settlement on the north coast of Crete with a diversified economy (Mylona 2020: 195–201; Sofianou and Brogan 2009). The inhabitants of Building A1 (LM IB)

1 *Hexaplex trunculus* was formerly known as *Murex trunculus*, as it often appears in the archaeological literature. Closely related species such as *Murex brandaris* (now *Bolinus brandaris*) are also present in Bronze Age assemblages.

processed wine and olive oil, but really striking was the massive deposit of edible seashells, 50 kg spread around hearths in rooms 5 and 8. 98% of these were limpet and top shells. Archaeologists were fortunate because the site was abandoned hastily, and the occupants left the food refuse along with pottery, tools, and other items. While the inhabitants of A1 seemed occupied with subsistence featuring a seafood diet, those living in Building B1 on the same site appear to have been involved in the production and trade of metals and textiles (Sofianou and Brogan 2009: 9). Modern ethnographic examples similarly confirm that small coastal communities often adopt diversified economies. On the small, nearly waterless island of Dokos off the coast of the southern Argolid, in 1945 22 families herded sheep and goat, cultivated wheat and olives, collected wild plants, and stored water in cisterns for human and animal use (Kardulias 2000). Despite their risk-buffering strategies and attempts at self-sufficiency, they could persist on the island only by articulating with regional markets and resources on the larger island of Hydra and the mainland around Hermione. Islands like Dokos were enmeshed in networks of connectivity, both facilitating them and depending on them for survival.

The brief examples of Chryssi and Papadiokampos highlight some of the variability among small Bronze Age coastal sites. They give a vivid picture of resource exploitation and daily life, and there is much we can learn from them. Systematic surface reconnaissance is necessary to discover such tiny, unobtrusive sites, many of which will have been erased or otherwise rendered undetectable by millennia of coastal transformation by natural and anthropogenic means (e.g., Knodell et al. 2022). They reveal diverse strategies for subsistence, and in particular for the roles they played in regional maritime networks connected to the palaces and other intermediate nodes, with purple dye and metals just two examples of their productive output. Equally important are the meticulous methods of excavation, demonstrating that it is possible to recover and analyze fragile assemblages of fish and shellfish.

Larger sedentary sites and networks

As the size and complexity of coastal settlements increases, these communities may take on multiple roles in social, economic, and political organization at scales from small worlds to international world systems (Table 6.1). For example, Minoan Kommos on Crete may have functioned as the dependent harbor of the Phaistos palace, a center of production (pottery, purple dye) and trade in its own right with imports from throughout the Mediterranean, and a working town with evidence for vigorous daily life (Shaw 2006).

Following the organizational structure evident in the Pylian Linear B tablets, many archaeologists have favored top-down models of vertical regional integration with multi-tiered site hierarchies based on site size, complexity, or presence of certain features such as imports, elite tombs, or other monuments (e.g., Carothers 1992; Cosmopoulos 2006; Kilian 1988; Liko 2012). Cosmopoulos (2006: 208–215) drew upon archaeological and textual evidence to propose a four-tiered site hierarchy in Messenia in the 13th century B.C. with Pylos at the apex. This is a compelling model for that particular place and time, but there are alternative organizational structures that do not present clear hierarchies or even high levels of regional integration. One aspect of this is exploring the limits of the palaces' political and economic dominance of nearby territories, as well as the presence of non-palatial and nonstate forms of integration. Pullen and Tartaron argued that the northern Corinthian coastal plain developed a non-hierarchical pattern of similarly scaled peer polities beyond palatial reach during the Bronze Age (Pullen and Tartaron 2007; Tartaron 2010). Emiliano Arena (2015) envisioned loosely integrated chiefdoms (in the descriptive, not evolutionary sense) in LBA Achaia as an alternative to the palatial model. The political situation in the LH III Argolid is notoriously difficult to resolve in a hierarchical framework; Pullen recently argued for "…a situation of competition, not subordination, among those centers" (Pullen 2022: 83). Dimitri Nakassis, among others, has cautioned against reconstructing from the Linear B archives a rigidly hierarchical bureaucratic state (Nakassis 2013, 2023).

Network analysis is another source of alternative organizational models. It has been a quarter century since Cyprian Broodbank (2000) published his Proximal Point (network) Analysis (PPA) model of maritime interaction in the "small world" of the Cycladic islands for each phase of the Early Bronze Age. Using a simple method of connecting each site to its three nearest neighbors, the PPA identified the densest webs of connections as "interaction centers." Often, the islands that were more "central" in network terms were not the largest or most environmentally endowed, but those that were most strategically placed on communication corridors. Location is also a strong factor in the prominence of Kalamianos, as I discuss below.

Exploitation of marine resources in the Aegean Bronze Age: Fish and shellfish

For a long time, the received wisdom has been that Aegean Bronze Age people, both coastal and inland, avoided fish and other marine resources in their diet (e.g., Iezzi 2015: 101; Petroutsa and Manolis 2010). Negative evidence was drawn from two sources: the low quantities of archaeological remains; and stable isotope analyses that consistently failed to detect isotopic signatures for consumption of marine products. Regarding the first problem, recovery of very small remains like seeds, plant parts, and fish bones was poor in the Aegean until excavations made flotation of deposits standard procedure in recent decades. Judith

Powell (1996) was able to catalogue only modest remains of fish and associated material culture in the early 1990s. This change in field practice has resulted in the recovery of fish bones and shells that would have been missed before, though because of the fragility of the skeletal remains of small fish, at most sites they are poorly preserved and must represent only a fraction of the specimens once used and discarded (Theodoropoulou 2012: 301–304). Meticulous recovery at sites like Chryssi and Papadiokampos, along with a growing number of excavations using similar techniques, has yielded evidence of harvesting marine creatures for both dietary and industrial uses. Particularly striking is the expanding roster of Bronze Age sites, both large and small, with substantial deposits of crushed murex shells: Knossos, Kommos (Ruscillo 2006), Pefka (Apostolakou et al. 2016; Apostolakou, Brogan, and Betancourt 2020), Chryssi, Palaikastro (Reese 1987; Stieglitz 1994), Ayia Irini (Kea), Kolonna (Berger et al. 2020), Mitrou (Vykukal 2011), and many more (see also Betancourt, Brogan, and Apostolakou 2020; Burke 1999; Nuttall 2021: 155–162). Moreover, our understanding of the process and scale of purple dye manufacture has fundamentally changed. For decades it was believed that thousands of living murex were required to extract a mere gram or two of dye (Ruscillo 2005: 101), but recent experiments by Ruscillo (2005) and others have shown those estimates to be grossly overstated. Thus, while it was once believed that only sites with enormous piles of crushed murex shells could be involved in the production of purple dye, it now seems likely that dye could be produced on a more modest scale, and not necessarily for export (Apostolakou, Brogan, and Betancourt 2012). Future discoveries are likely to happen at a remove from habitation areas, in view of the infamous stench of the process.

The "stable isotope paradox"

Despite the progress in the recovery of marine resources at archaeological sites, the results of stable isotope studies consistently indicate that throughout Aegean prehistory, both coastal and inland dwellers avoided marine resources in their diet — a contradiction we might call a "stable isotope paradox." The stable isotopes of carbon and nitrogen are "fixed" in human teeth and bone collagen through the kinds of foods we consume. Plants like wheat or barley (C3) can be distinguished from maize or millet (C4) by their different photosynthetic pathways, which produce distinct carbon–nitrogen isotope ratios. In the same way, consumption of marine and terrestrial animals can be distinguished by the ratios of their stable isotopes; the segregation of terrestrial, marine, and mixed terrestrial/marine dietary practices was worked out for Atlantic fish and shellfish, and when these benchmarks were applied to Aegean prehistoric sites, marine animals were consistently absent in the diet. The problem is that Aegean marine species had not been measured for the Mediterranean. When Garcia-Guixé et al. (2010) and Vika and Theodoropoulou (2012) measured Mediterranean fish directly, they found that the ratios not only diverged from those of the Atlantic, but also varied within the Mediterranean and overlapped with terrestrial values. These findings could mean that marine exploitation is hiding in the stable isotope data. Because the scientific data seemed so conclusive, it had been possible to ignore the contrary data — particularly the rich marine iconography of the Aegean Bronze Age, such as Minoan Marine Style pottery, frescoes from Akrotiri, Knossos, and Phylakopi, and the octopus and nautilus motifs on Mycenaean painted pottery. Hence, paradoxically, the stable isotope data contradict emerging marine assemblages and the care with which Aegean artists expressed their engagement with marine life in art (Theodoropoulou 2012).

Textual evidence

More than 30 years ago, Tom Palaima stated unequivocally, "There are no references in the Linear B tablets to fish or fishermen" (Palaima 1991: 284), though that position may need to be modified somewhat (Mylona 2020; Nosch 2004; Palaima 2020). The different forms of the Linear B word *po-pu-re-jo*, which has been taken to refer variously to (female) purple dyers, purple-dyed cloth, or a purple dye workshop, might also refer to murex fishermen, who of course are implicit in the textile industry (Mylona 2020: 205; Nosch 2004: 33; Palaima 2020). Yet it could be that seafood was not consumed at the palaces, or that marine products (other than special dyes) were simply not among their administrative interests. Fish, we might conjecture, were ubiquitous and so not amenable to palace monopoly; and perishable so that routine delivery to the palaces — most of which were at least several kilometers inland — would not be practical. On the other hand, we now have solid evidence that at least some people consumed fish and shellfish at Mycenae, 50 or more kilometers from the coast. According to stable isotope analysis of skeletal material, elite individuals buried in Grave Circle A at Mycenae were apparently eating fish (Richards and Hedges 2007). More recently, an analysis of faunal remains from the well in Petsas House at Mycenae revealed a significant, though still minor, assemblage of shellfish (5.9% NISP) and fish (2.0% NISP) consumed during the palatial period (Meier, Price, and Shelton 2023). The shell belonged mainly to the bivalve *Arca noae* (Noah's Ark shell), an excellent source of nutrients including protein, fatty acids, and various vitamins and other essential elements. These findings raise a host of questions, not least of which center on who is transporting highly perishable resources tens of kilometers from the coast, and what was the nature of the transactions by which the inhabitants of Petsas House acquired them. Did they acquire them independently, or was the palace involved? Clearly, the story of exploiting marine resources in the Bronze Age Aegean is still being written.

Exploitation of marine resources in the Aegean Bronze Age: Salt

Like fish, salt is a fundamental marine resource that is elusive at Aegean Bronze Age sites, both coastal and inland. Salt was necessary for nutrition, for flavoring, and as a food preservative, along with medicinal and other uses. Salting was probably the main way to preserve highly perishable fish and other marine fauna meant for transport.

Salt could be produced in several ways. It could be mined at inland locations in terrestrial deposits or briny lakes (e.g., China: Flad et al. 2005), or extracted from sea water by various methods. It might simply be gathered in small quantities from rocks at the shoreline (Figure 6.3). In many places, salt water was boiled down in special salt production pottery known as *briquetage*. Some of the earliest evidence for this process comes from China, where such specialized vessels are known as early as the mid-third millennium B.C. (Li and Flad 2020). Hundreds of Maya salt production sites have been identified along the Caribbean coast, largely submerged with masses of broken briquetage; from there, salt was taken by canoe to be sold at inland markets (McKillop 2002, 2019).

In the Mediterranean, the main way to harvest salt is by solar evaporation, because of the sea's high salinity and extraordinarily high evaporation rate. It is a relatively simple matter to create shallow coastal pools to isolate sea water and allow it to evaporate in the hot sun, at scales from family production to massive industries. The western coast of the Peloponnese, with its extensive barrier-and-lagoon and wetland systems, was ideal for salt production. No place is better situated than Messolonghi, where vast saltpans today produce 120,000 tons of salt a year, as much as 60% of the country's production.

Direct evidence for salt harvesting in the Aegean Bronze Age is scant, both because of coastline change and the ephemeral nature of the materials used in the process (Harding 2013: 66; Mylona 2018: 426–428). It is estimated that 63% of Greek wetlands were lost in the 20th century, due to a combination of direct drainage, dam construction, irrigation, changing river morphology, and various coastal engineering projects (Zalidis, Mantzavelas, and Gourvelou 1997). A unique cache of sea salt stored in ceramic jars in Ourania Cave near Zakros, eastern Crete dates to the transition from the Protopalatial to the Neopalatial period (Kopaka and Chaniotakis 2003). As far as we know, salt as a commodity is not mentioned in any of the Linear B tablets despite the fact that it must have been essential to life at the palaces, and throughout history central authorities have sought to control its production and distribution (Carusi 2018; Kurlansky 2003). One possible explanation for the absence of salt in the Linear B texts refers to seasonality: salt collection is most efficient in summer, when hot, dry, sunny conditions create exceptionally high evaporation. Even today, salt production in Greece begins in March and ends in October. If, as some believe, the palace at Pylos was destroyed in the spring with an archive of six months to a year, it could mean that the tablets reflect the off-season for salt production.

Figure 6.3. Gathering salt from a rocky shore on the Aegean island of Ikaria. Buettner 2019: 188.

Linking maritime and inland economies and people

My second theme is how coastal people linked maritime and terrestrial worlds, turning our attention now to connections into the interior. The approaches we use to investigate these connections will vary, depending on a host of factors, including local terrain, coastline change, and preservation of archaeological sites and features. The following are sources of evidence we can exploit:

- Topography/least-cost models
- Archaeological site types and locations
- Walking experiments
- Texts: Linear B and subsequent written sources ancient to modern
- Ethnographies/oral histories

A first approximation of potential routes from the coast to the interior can be made by studying local topography. While in some cases a wide coastal plain offers access to the interior via numerous, undifferentiated routes, it is common in most of the Aegean to find narrow coastal plains backed by rugged, mountainous terrain that limited the possible routes inland. Eyeballing a topographic map can often suggest more and less likely paths based on slope and landscape features that might facilitate or obstruct progress. In recent decades, archaeologists have turned increasingly to least-cost analysis, or least-cost path, routines in GIS to derive statistically based routes that maximize efficiency and minimize effort for a person or a convoy of humans and animals traversing a given terrain. The assumption of least-cost analysis, that humans are rational actors who will always attempt to minimize the cost of

movement when they travel, has been rightly criticized even if it is a logical starting-point. A host of reasons, such as ground cover, social relationships, or certain special places en route, might cause a person to deviate from the most energy-efficient path (Brysbaert, Vikatou, and Stöger 2020; Efkleidou 2019).

A second consideration is that most Bronze Age overland travel will have been on informal, unpaved roads and tracks. Although formal roads passable for cart traffic are known in the Aegean Bronze Age, notably around Mycenae, these would have been uncommon (Brysbaert, Vikatou, and Stöger 2020, with references). Instead, people walked from place to place on foot, or when transporting goods, they used human or animal power on tracks that could have been rough and seasonally impassible with rain and snow. The domesticated donkey (*Equus asinus*), introduced in the Aegean by the mid-third millennium at Lerna (Wiencke 2000: 44, 122), was the ideal pack animal for carrying loads in difficult terrain. Donkeys walk at about the same speed as humans, 3.5–4.0 kilometers per hour, with a similar need to rest every 4–5 hours or less, resulting in a daily range of 20–30 kilometers (Mitchell 2018). They presented significant advantages as cheaper, faster and more sure-footed than oxen, and before the adoption of the sail, even than maritime commerce (Brodie 2008). Long overland journeys would have required waystations as well as leaders and guides with knowledge of "…water sources, resting places, landmarks, and important passes" along the route (Brysbaert, Vikatou, and Stöger 2020: 42).

Overland routes from point A to point B have sometimes been mapped, at least partially, by linking a chain of intervening, known archaeological sites and features (e.g., traces of roadbeds) assumed to be contemporary. In his study of coast–hinterland interconnections in the Corinthian Gulf during Archaic to Early Hellenistic times, Anton Bonnier leans on topography but also states that "…the use of physical routes which connect coastal zones with hinterlands, and consequently developing patterns of communication, can be determined through the study of site development in connection with these routes" (Bonnier 2014: 12). There is a long tradition of walking the modern surface between destinations to discover intervening sites and features that may indicate where an ancient route passed. Sometimes this amounts to identifying places mentioned in Pausanias or other past travelers (for a recent example, see Windell and Webb 2021a, 2021b), but sites discovered as part of formal surface surveys or informal hikes in the countryside can begin to connect the dots (see Fachard and Knodell 2020).

The Linear B texts from Knossos and Pylos name hundreds of places, from which we can infer some sense of the geographical extent of the dominion of these *inland* palace centers in Late Bronze III. In the case of Knossos, we can derive a sphere of influence, if not direct control, extending north to the coast at Amnisos, east to the Lasithi massif, south to the Mesara plain and Phaistos, and west to Chania, during the mid-14th century (Bennet 2011: 148–151). Coastal sites are identified mainly by placenames that can be recognized in historical times (Phaistos, Kydonia, Amnisos).[2] These were classified as "second order" centers which, depending on distance, ranged from direct control (Amnisos, Tylissos) from Knossos to semi-independence (Kydonia) during the years of Mycenaean hegemony on the island (Bennet 1985). The Knossian archive famously records up to 100,000 sheep distributed in herds across central Crete, under direct control of the palace or indirectly through "collectors" as part of an expansive textile industry that supplied wool as well as meat and secondary products (Halstead 1993, 2003; Nosch 2014). Bennet (1985) shows that of approximately 100 herding sites indicated, most would have been actual settlements, meaning that, although it may prove impossible to match most Linear B names with specific archaeological sites, feasible routes for the movement of animals and their products can be proposed by joining the topographic, environmental, and archaeological records.

The Linear B archive at Pylos is more promising because of the repetitive patterning of place names across tablet groups in fixed-order lists that have been interpreted as "scribal itineraries." Combined with a small number of key identifications with later place names, it has been possible to construct a plausible political geography of the Pylian polity in LH IIIB (Bennet 2011; Cosmopoulos 2006; Hope Simpson 2014).[3] Some 17 or 18 second-order towns administered by a *ko-re-te*, a local or regional governor charged with overseeing agriculture, animal management, manufacturing, tax collection, and cult activity, can be discerned (Bennet 2011: 138). Among them, we can assume that several are coastal settlements. At least three occur on the *o-ka* tablets of the An series, referred to as the "coastguard" tablets for their references to troops stationed in coastal districts: *a-ke-re-wa* (modern Yialova: Palaiochori?), *ka-ra-do-ro* (modern Phoinikous?), and *ri-jo* (modern Charakopeio?). To these we should add a substantial number of Late Bronze Age coastal archaeological sites whose names are uncertain or unknown, such as at Kyparissia, Gargaliani, and Romanou on the Ionian Sea coast; and Nichoria, Kalamata, and Vigla-Ayios Ilias on

2 The built harbor installations (ship sheds and other infrastructure) that have been discovered at several coastal sites, including Kommos, Gournia, Poros-Katsamba, and Nirou Chani, were, except for Kommos, active mainly before the main Linear B archive at Knossos (Blackman 2011). Similarly, other coastal settlements involved in maritime trade, such as Mochlos and Pseira, were diminished or abandoned by the time that Mycenaean hegemony was firmly entrenched at Knossos.

3 Still, the only completely secure identification is *pu-ro*, the palace of Pylos itself at Ano Englianos.

the Gulf of Messenia (Hope Simpson 2014: Map 6). The scribal routes describe a logical way of organizing travel from a narrow administrative point of view, which would not make sense for other purposes. Notably, the actual movement of goods between the palace and the coast, or from farms and pastures to the palace, would have required more direct and timely routes — witness the transport of highly perishable seafood to Petsas House or to the occupants of Grave Circle A as examples. Similarly, there would be a strong incentive for high-value commodities such as imported raw metals to move directly and securely to their final destination. The Linear B archive offers far more than political geography alone — glimpses at social organization, the roles of named individuals, modes and scales of production, and specific transactions between the palace and subordinate communities are some examples (Nakassis 2013 and this volume). Combining the internal evidence of the tablets with topographic and archaeological information can help us suggest coast-inland itineraries with routes and waypoints.

Ethnoarchaeology can be a way to (literally) put flesh on the bones of these ancient activities. Ethnoarchaeologists have long recognized and acknowledged that the present cannot simply be grafted onto the past; when they record the places, actions, and ideas of living communities, they know they are not interacting with ancient people frozen in time, and they are aware of the changes separating modern people from the Bronze Age. Nonetheless, archaeologists can open their minds to a world of ideas about Bronze Age people by observing, interviewing, or participating in the lives of people who work(ed) with traditional practices, by which I mean unmechanized and not enhanced by recent technologies. In our day, this means finding the oldest members of a community, with the Second World War as a notional watershed in the Mediterranean before which traditional practices would have been widespread. Obviously, there is little time left to reach these living individuals.

We archaeologists write diligently about ancient farmers, herders, and fishers, but we should ask ourselves: Have I ever farmed? Have I ever led herds of sheep and goat looking for pasture? Have I ever relied on the daily catch for my existence and that of my family? Have I ever faced an existential crisis because of drought or blight? It seems perverse to tell our stories only from archaeological remains — which do not speak for themselves — or from elite ancient authors who themselves had little experience of these lifeways, while ignoring what one might learn from living people for whom these are day-to-day concerns. This is not to equate ancient with modern people, but to recognize that they may have faced similar challenges and opportunities with similar technologies and materials to address them. Relevant to the current topic, we might observe the moving parts that constitute regional economic networks. How do coastal inhabitants negotiate their landscapes to make connections with communities and markets in the interior? How do their movements diverge from optimized least-cost paths, and why? Who are the actors and the different roles they play in domestic life and territorial interactions? If we are fortunate, we may have some traces of ancient roads, as around Mycenae; an ambiguous list of subordinate sites as at Pylos; or a regional-scale roster of Bronze Age surface sites generated by intensive, systematic survey. These cases are rare, however.

Using ethnographic and oral history approaches, it is possible to build hypotheses and models based on living humans and living systems, which can then be considered in light of the ancient evidence. Under this rubric we should include observations made on traditional communities by ethnographers and travel writers of the last few centuries (e.g., Synge 1907; Lewis 1984). At times the convergence of archaeological and ethnographic evidence is striking and suggestive. One such example is the practice of beach seine fishing, which is still employed around the world and for which there is ample ancient substantiation. Called *karamadi* in Kerala state, South India (Figure 6.4a), and *gripos* in Greece, a broad net secured to extremely long ropes is taken offshore by swimmers or a small boat, and then slowly dragged back in to shore. This same practice is depicted on pottery in 12th century B.C. Greece (Figure 6.4b), and even earlier in Egypt (Figure 6.4c). The techniques and equipment of beach seine fishing are remarkably similar across time and space, reflecting universal subsistence pursuits and comparable raw materials and technologies. The only tangible remains may be fish bones and net sinkers, but iconographic representations show that it did happen in the Bronze Age, and details of the practice can be discerned by watching it in action.

Mycenae, the Saronic, and Korphos-Kalamianos

I turn finally to the coastscape of Korphos on the western shores of the Saronic Gulf, where Daniel and I co-directed the Saronic Harbors Archaeological Research Project (SHARP), as a case study to explore many of the themes outlined above (Figure 6.5). The Mycenaean harbor settlement of Kalamianos, situated 2.5 km southeast of Korphos village facing Aigina, was identified in 2001 by a team from the Eastern Korinthia Archaeological Survey during testing of a GIS-derived model for landing sites on the Saronic coast (Rothaus et al. 2003; Tartaron, Rothaus, and Pullen 2003). Daniel and I initiated and co-directed SHARP to study Kalamianos and its hinterland as a microregion within the context of the Bronze Age Saronic.

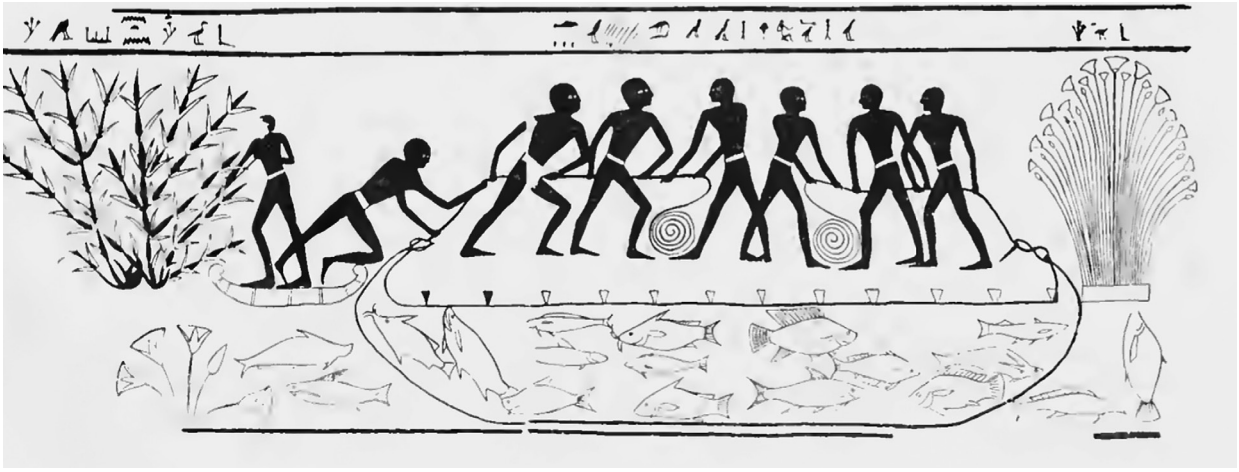
The archaeological site consists of an urban settlement preserved as exposed limestone architectural foundations and walls occupying approximately 4.5 hectares set within

a)

b)

Figure 6.4. Beach seine fishing, modern and ancient examples: (a) Kovalam Beach, Kerala state, India; (b) Aplomata, Naxos, Greece, LH IIIC; (c) Middle Kingdom Tomb 5, El Bersheh (Darby et al. 1977.1: 345 fig. 1.3).

c)



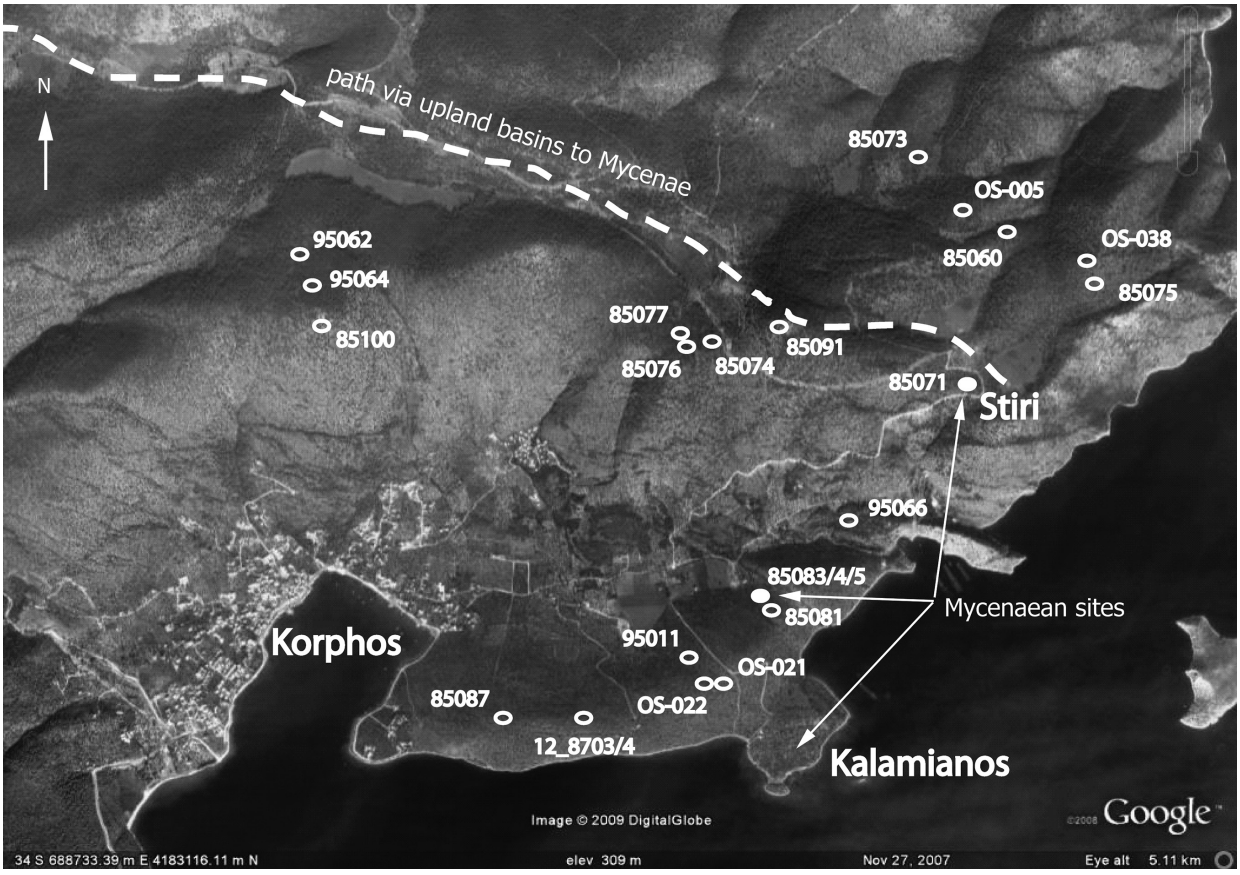


Figure 6.5. Google Earth image of the Korphos region with Late Bronze Age sites labeled. ©Google, 2009 DigitalGlobe.

a town wall enclosing around nine hectares (Figure 6.6).[4] The "empty" hectares appear to have accommodated stone agricultural terraces and a quarry that supplied the building stone. The exposure of the stone foundations is the result of a convergence of tectonism, erosion, and human action that is not fully understood (Tartaron et al. 2011: 568–569), but it enabled us to map and study a virtually complete plan of the Mycenaean town of the 13th century B.C. without excavation.[5] SHARP teams recorded over 1,200 walls and more than 50 buildings at Kalamianos between 2007 and 2010 (Pullen 2015; Pullen and Sapirstein 2020), collected artifacts, and engaged in geomorphological and underwater research (Tartaron et al. 2011). Simultaneously, surface survey in a zone of seven square kilometers in the hinterland of Kalamianos (Figure 6.7) revealed a second substantial Mycenaean architectural complex at Stiri and numerous agricultural terrace walls of probable Mycenaean date (Kvapil 2021; Tartaron 2015a). The broader survey aimed to contextualize Kalamianos in its wider microregional setting, in part to better understand how the harbor town was sustained by and connected to its interior hinterland.

A first realization about Kalamianos is that the architecture is surprisingly monumental. Wall blocks, typically composing inner and outer faces with a rubble core between them, are much larger than necessary for domestic dwellings, even if carrying a second story. The collapsed stone rubble of some buildings indicates that their walls were built higher in stone courses than the norm before receiving a mudbrick superstructure. Pullen and Sapirstein (2020) found the closest parallels for these masonry techniques in the Argolid, more specifically Mycenae. The use of ashlar blocks is absent, and the stones are smaller than those used for Mycenae's palatial buildings, but they are comparable to the "cyclopean" retaining walls of Mycenae's first fortification in late LH IIIA (Pullen and Sapirstein 2020: 378). Mycenaean painted pottery found built into the rubble cores of many buildings provides a *terminus post quem* that accords well with initial construction in late LH IIIA/early LH IIIB.

4 A part of the site, of unknown size, has been submerged in the sea due to tectonic subsidence.

5 No excavation has taken place on the site, in part because the exposure of much of the site to bedrock limits the opportunities for subsurface investigation.

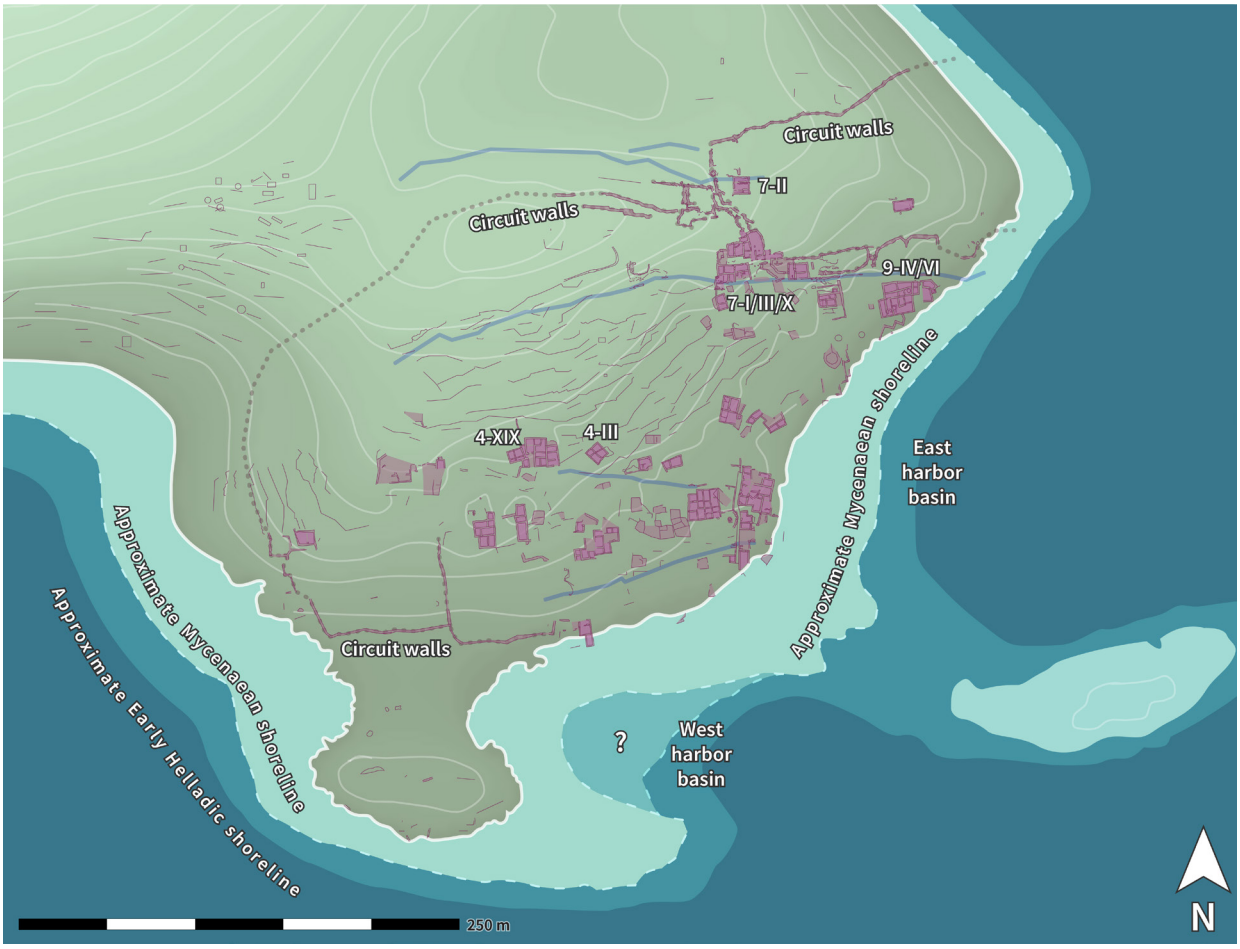


Figure 6.6. Plan of Kalamianos showing buildings, terraces, and other features.

Our working scenario has long been that colonists from Mycenae arrived at that time and founded the settlement at Kalamianos on a sparsely inhabited coast, as part of an economic and political expansion to tap into the connections and resources of the Saronic Gulf. The incursion of settlers into the Saronic, dominated by Kolonna on Aigina for the previous two millennia, placed Kalamianos in the interesting position of a potential "contested periphery" between a venerable and an emerging power. In recent years, I have moderated my initial depiction of this encounter as a titanic struggle between Mycenae and Kolonna for hegemony in the Saronic, because as the study of sites and artifacts progresses, a different picture emerges (Tartaron 2015b: 26–27; see Marabea 2019). At Kalamianos we see the hand of Mycenae in the architecture and in the expansion of settlement and intensification of agriculture in a new coastscape. At the same time, however, artifact assemblages give ample evidence at Kalamianos and in the Saronic generally for uninterrupted relations in a maritime small world centered on Kolonna. At Kalamianos and Stiri, the source of the coarse kitchen and storage pottery was determined, both macroscopically (Dill 2021: 240–250) and microscopically (Gilstrap 2015; Trusty and Gilstrap forthcoming), to be Aigina. Of 67 button-base jars and tripod cooking pots sampled for petrographic and chemical analysis, 66 were identified with an Aiginetan source; in a similar study of 266 coarse ware sherds from the Eastern Building Complex at Kanakia on Salamis, 260 were sourced to Aigina (Marabea 2019). These results are consistent with a scenario in which fineware exports from Aigina wound down in LH IIIA, presumably because of competition from Mycenaean exports, but Aeginetan cooking and kitchen ware continued to dominate the assemblages of places like Kanakia, Kontopigado, Kalamianos, and Stiri into LH IIIC Early. A petrographic and chemical analysis of Late Mycenaean fineware (c. 1300–1150 B.C.) around the Saronic revealed a complex picture of production and exchange (Gilstrap 2015; Gilstrap, Day, and Kilikoglou 2016). Kalamianos and Stiri imported fineware from Kontopigado in the Saronic, but also from extra-Saronic sources that may have included the region around Corinth. To the pottery

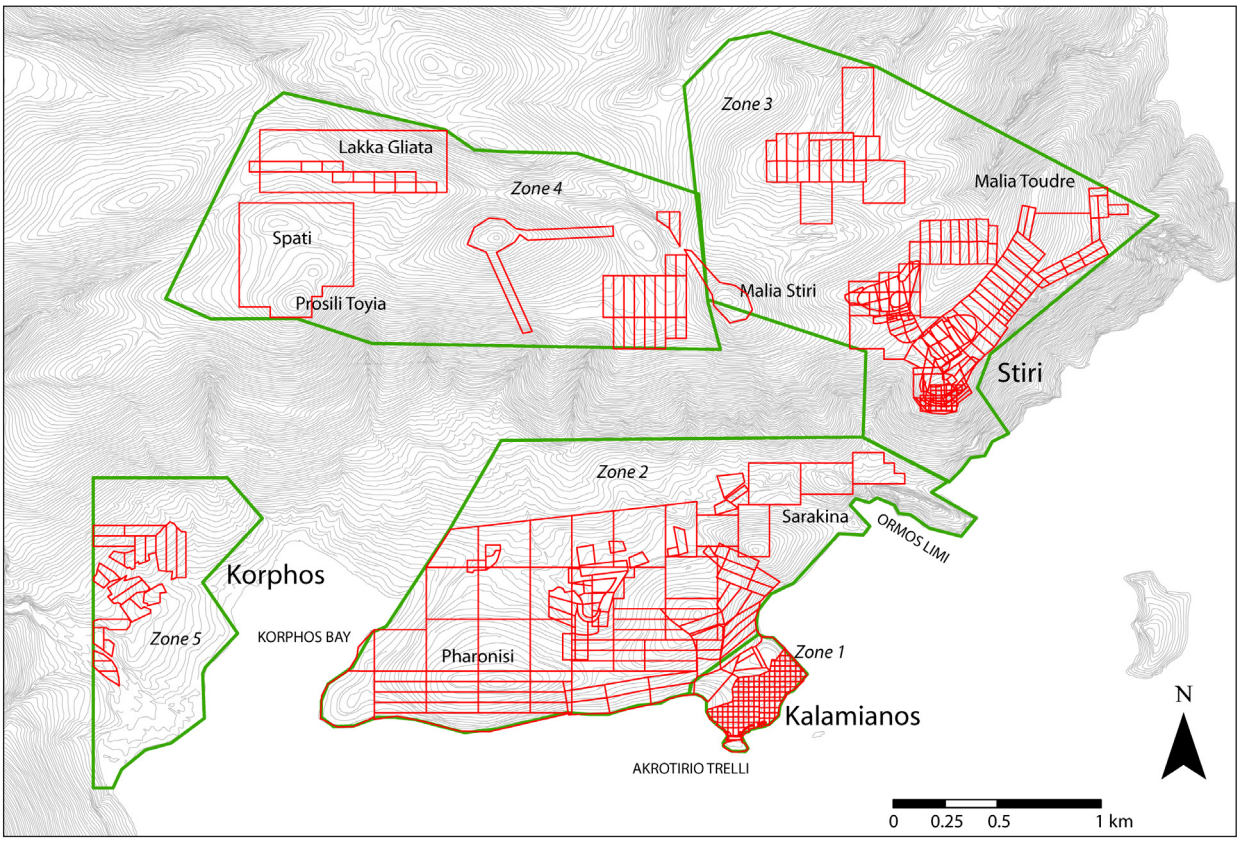


Figure 6.7. SHARP surface survey zones.

assemblages we can add that Aigina was the source of the ground stone collected at Kalamianos and Stiri.

What did Mycenae want?

If we are correct that Mycenae founded Kalamianos, the motivation was undoubtedly access to maritime networks. As a land-locked polity, Mycenae required coastal gateways through which exotic commodities, such as ivory and metals, could be secured. How and where this was accomplished? Proponents of a "Great Mycenae" (e.g., Kelder 2010; see Galaty and Parkinson, this volume) often cast Tiryns as the subordinate port of Mycenae, or maintain that Mycenae's control extended to the Corinthian Gulf (e.g., Salmon 1984). But others are skeptical of Mycenae's domination even of the Argolid, favoring instead a scenario of multiple, competing centers with little vertical integration (Pullen 2022). If Mycenae did not have unfettered access to the Argolic Gulf or to southern Saronic harbors such as Epidauros, Kalamianos may have been the closest and most accessible Aegean harbor. SHARP established that Kalamianos was a reasonably sheltered harbor by reconstructing the ancient coastline, identifying beach rock formations cemented with thousands of sherds of Bronze Age pottery, and locating ballast piles of volcanic stone (Tartaron et al. 2011: 569–575).

The question of how directly Mycenae controlled Kalamianos, if at all, is more difficult to answer. A top-down approach, modeled after the Linear B political geography of Knossos or Pylos, might portray Kalamianos as a "second order" center situated in a "Further Province." Bennet (1985) counted Phaistos and Kydonia (Chania) as second-order centers where "overseers" resided, through which Knossos administered smaller communities. But without a substantial archive, Mycenae's reach and political organization are less clear. There is the factor of distance over rugged, mountainous terrain, which is part of the logic we used to reject Mycenae's direct control over the northern Corinthian plain (Pullen and Tartaron 2007). While we should not expect perfect replication in material culture, it is not easy to explain the deviation of Kalamianos' built environment from Mycenaean standards: megara are absent and the building plans do not closely match any known Mycenaean site (Pullen and Sapirstein 2020: 378–382). Pullen (2019a: 147–149) addresses the direct-indirect question by pointing out the extraordinary outlay of labor, material, and expertise that would have been required to establish a modest-sized but

monumentalized settlement along with robust agricultural terraces in a virtually uninhabited, and indeed somewhat isolated, coastal zone. With reference to Pylian Linear B tablets that assign groups of "wall builders," as well as the large-scale infrastructure projects at Mycenae, Gla/Lake Kopais, Tiryns and elsewhere, Pullen (2019a: 147, 2022) acknowledges the probability of palatial involvement in building and establishing a community at Kalamianos (see also Kvapil 2012: 205), but rejects any meaningful *direct* control over the 100–150 years of the coastscape's existence (Pullen 2019b: 227–231).[6] Instead, once Mycenae's presence on the Saronic Gulf was established and the desired commodities and connectivity were flowing, the microregion anchored at Kalamianos developed self-sufficiency and forged its main connections within the maritime small world of the Saronic Gulf. Archaeologically, this process can be appreciated in the expansion of agricultural potential on terraced slopes (Kvapil 2021), the construction of the slightly later architectural complex at Stiri (Tartaron 2015a: 395–399), and subsequent phases in some of the buildings at Kalamianos (Pullen and Sapirstein 2020).

Oral histories conducted by Lita Tzortzopoulou-Gregory in Korphos village between 2007 and 2009 offer insight on how a horizontally integrated economy can operate in a Saronic maritime small world (Dill 2021: 237–240; Tartaron 2013: 265–270, 2018: 83–88). She interviewed elder fishermen and women about their lives in the pre-World War II era and consulted local archives. There seem to have been some distinct social and economic groups and networks: around 90% of the male population of Korphos was engaged in a maritime pursuit, either fishing or as merchants on the Saronic Gulf. The fishermen worked the local waters, but the sea-traders of the village were more mobile, prosperous, and of higher status. In the early 20th century, Korphos was a major port in a vibrant Saronic maritime small world with nodes on coasts and islands and "strong ties" connecting them. There was no single dominant port in the Saronic, but instead a handful of bustling nodes of maritime connectivity in a heterarchical arrangement. The sea-traders purchased fish and agricultural and forest products locally and exported them to Saronic markets. Several interviewees recalled bringing wood, charcoal, resin, and manure to markets at Piraeus, Eleusis, Salamis, Aigina, Poros, Nea Epidauros, and elsewhere. In exchange, they imported water jugs, flour, fruits, vegetables, and other foods. Upon returning to Korphos, land-based merchants acquired some of these commodities and sold them at villages in the interior. The oldest informant, a 102-year-old woman, described how she traded cheese, meat, and other products for fish at Korphos and carried them on mule back to Sophiko and other villages as far as Angelokastro, an uphill trek of 3–4 hours. The people of Korphos had strong ties of kinship and intermarriage with Sophiko, but always contrasted themselves, as people of the sea, with Sophikites, whom they considered inland, "mountain" people. Many Korphiotes married into island families and emigrated after marriage, carrying on maritime traditions. These brief excerpts from a rich set of interviews shed light on the practicalities of a coastal settlement mediating between marine and terrestrial worlds.

With a foothold on the Saronic Gulf, we can begin to imagine the roles that the Korphos microregion may have assumed for Mycenae. The smaller settlement at Stiri is perched far above Kalamianos on a coastal ridge, with a fertile doline on its inland side, but more importantly offering a panoramic view of the Saronic Gulf, with Salamis and Athens, Aigina and other islands, and Methana and the coastal Argolid all in its viewshed. From Stiri, there is a relatively easy path along several basins to the interior of the southern Corinthia and the Argolid. Hence, Stiri was productive with upland grazing and limited agricultural potential, and strategically significant as a lookout point over the Gulf.

Intensive pedestrian survey at Kalamianos collected intriguing ceramic evidence for the residents' daily activities (Table 6.2). The fineware consists mainly of standard Mycenaean forms — kylikes, deep bowls (A and B), and stemmed bowls — dating from LH IIIA to LH IIIC Early but belonging overwhelmingly to LH IIIB. The coarser vessels include hydrias, jugs, belly-handled amphoras, and button-base and tripod-foot cooking pots. These forms indicate a domestic function for most structures, consisting of cooking/heating, drinking, pouring, serving, and small-scale storage. The rare forms — cups, pithoi, and stirrup jars — are equally informative. The scarcity of pithoi or other large-scale storage containers weighs against the kind of mass storage capacity that might imply redistribution or production for export. Similarly, the absence of transport stirrup jars indicates that the community was not geared to producing and exporting products like wine or olive oil. The petrographic and chemical analyses also seem to preclude pottery production, even on a household scale.

There is some evidence, however, for harvesting purple dye, at least at a modest level.[7] Murex shells were

6 It can be stressed that however the history of Mycenae's presence in the Saronic played out, Kalamianos was built for permanence with an expectation of longevity.

7 In Alberti's (2008: 74–76, table 2) paradigm for indicators of purple dye working, Kalamianos would qualify as indirect evidence, falling into her Group 3 ("dumps of purple-dye industry waste material: heaps of crushed murex shells found on the coast") or Group 4 (debris re-deposition: heaps of crushed murex shells found in settlements or construction sites [foundation or terrace fill]"), or both.

Abundant: Standard Mycenaean Forms	Rare: Standard Mycenaean Forms
Hydrias	Cups
Belly-handled amphoras	Stirrup jars
Jugs	Pithoi
Button-based cooking pots	Functions: mass storage, production and export of products like wine, olive oil
Tripod cooking pots	
Deep bowls (A and B)	
Kylikes	
Functions: cooking/heating, drinking, pouring, serving, small-scale storage	

Table 6.2. Pottery forms at LH III Kalamianos and Stiri.

the most common species recovered in collections from the buildings, present both within rooms and in the rubble cores; the latter were likely scooped up dead along with rock and soil to fill the walls. After our fieldwork at the site was completed, we learned about illicit digging that unearthed piles of crushed murex shell. As noted above, it is now recognized that murex were more productive of dye than earlier believed, and thus a household or small workshop mode of production was feasible for domestic needs. It is not possible on present evidence to contemplate a small industry for export or to supply Mycenae's needs, but we can speculate on the origin of the practice at Kalamianos. The earliest evidence for purple dye production is currently the enormous dye and textile industrial complex at MM IIB Alatzomouri Pefka on Crete (Betancourt, Brogan, and Apostolakou 2020). From Crete, the technology spread over the Aegean, and MH II was precisely the period that saw the most intensive Minoan influence at Kolonna (Kolonna IX), possibly including Cretan artisans. A steady increase in murex starting in MH II and carrying through LH III at Kolonna surely reflects the adoption of purple dye technology through Minoan connections (Berger et al. 2020; Galik et al. 2013: 167–168), and its subsequent transfer from Aigina to Kalamianos.

Even if we impute to Kalamianos a large measure of independence, it remains possible that Mycenaean agents resided at Kalamianos to ensure that commodities produced on the site (purple dye, seafood, salt, and taxes?) and imported at the harbor (Aiginetan coarse ware, metals?) made their way safely to the palace, and to maintain a watch over the Saronic from Stiri. If Mycenae's territorial administration was comparable to that recorded in the Linear B archives at Knossos and Pylos, a *ko-re-te* (a local official in charge of one of the administrative units within the realm) and his deputy *po-ro-ko-re-te* are likely figures — Palaima (2005: 274, n. 15) describes them as the palace's "agents in the field." Pullen and Sapirstein (2020: 372–377) give a detailed description of architectural complex 7-I/III/X at Kalamianos, situated at a commanding elevation within the town walls. They emphasize the unique masonry features that they interpret as "palatially inspired" and conjecture that Building 7-I may have served a public function. If a *ko-re-te* was active at Kalamianos at any time during the life of the site, this may have been his residence and headquarters.

Overland connections

Kalamianos must have been reasonably accessible by overland travel from the Argolid, to justify the considerable effort to found the settlement and maintain ties. The journey from Mycenae to Kalamianos is around 52 kilometers on foot, assuming a topographically efficient pathway that descends to the Berbati Valley, rises up through Limnes to Angelokastro, and then descends once again toward the Saronic coast at Kalamianos (Figure 6.8). A donkey train laden with goods, moving at 3–4 kilometers per hour and needing to rest every 4–5 hours, might cover about 25 kilometers in a single day. Thus, Mycenae to Kalamianos is a two-day trip, and this raises the question of where travelers might shelter for the night. The answer must lie in currently inconspicuous sites along the tracks that served as waystations where one could find food, drink, and shelter — rather like Bronze Age caravanserais.

I can point to two examples along this route (Figure 6.8). In the Berbati Valley, Findspot 14 (FS 14) was identified by the Berbati-Limnes Archaeological Survey (Wells, Runnels, and Zangger 1990: 227). FS 14 sits alongside a preserved section of the Mycenaean road just three kilometers east of Mycenae. The artifact scatter at Findspot 14 reaches 6 ha, so it may be more than a simple waystation, but it seems intimately associated with the road in some capacity and the artifacts date mainly to the 13th century B.C. A second example is at the other end of the Mycenae–Kalamianos pathway, discovered by members of the SHARP team during one of several experimental hikes between Kalamianos

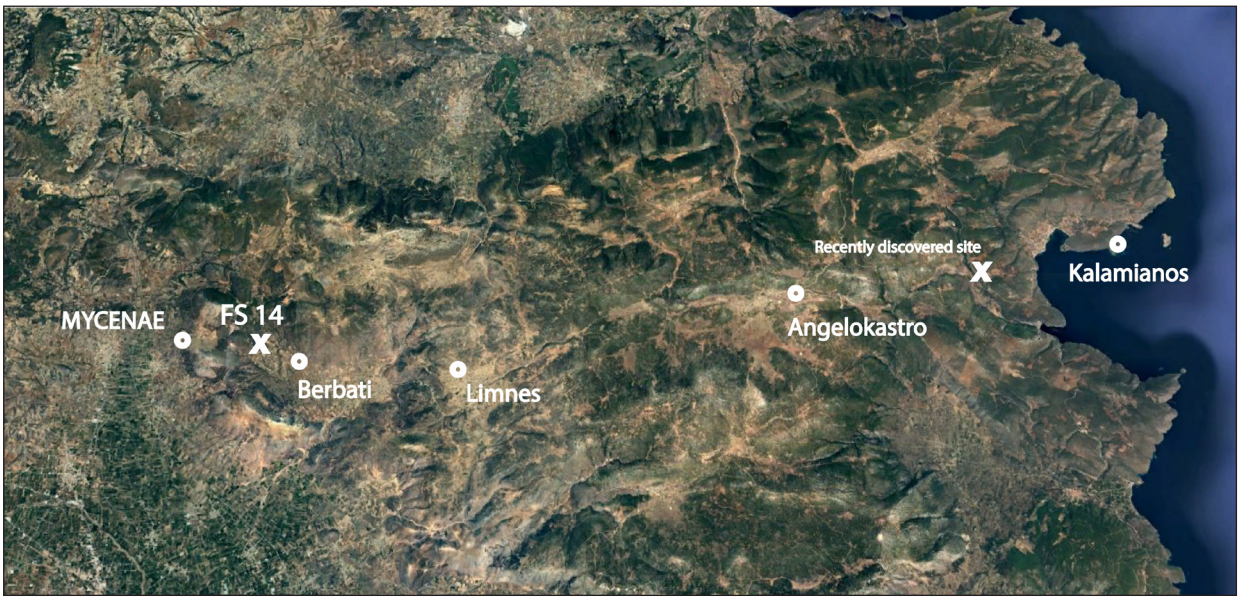


Figure 6.8. Hypothetical overland route from Mycenae to Kalamianos/Stiri. Source: Google Maps, Map data: ©2009 Cnes/ Spot Images, ©2008 Tele Atlas, Image ©2009 DigitalGlobe, ©2008 Basarsoft.

and Mycenae.[8] On a small hill overlooking the route, we encountered a walled enclosure with traces of several ruined buildings as well as pottery of the Mycenaean palatial period and perhaps earlier in the Late Bronze Age. These two sites could be waystations on the overland route, and I am confident that a dedicated search would turn up others, perhaps an entire system of stopping places en route.

Although there can be skepticism about Mycenae's relationship with such a distant satellite, a convenient way to envision a rationale is through the concepts and language of network theory. Specifically, we witness Kalamianos playing a dual role as a node among "strong ties" within the highly connected Saronic maritime small world, and simultaneously a "weak tie" bridging the palatial realm of Mycenae with the resources and opportunities of the Saronic Gulf sea-world. In sociology, weak ties typically involve individuals who are in occasional or sporadic contact (and may or may not be physically distant), but they often bridge different groups bound by strong ties that otherwise have no connection, thus giving the individuals access to the persons and resources in these different social networks (Granovetter 1973). The maritime small world model defines networks that are "constituted by habitual face-to-face interaction and cohesion based on shared origin, cultural traditions, language, economic ties, social networks, mutual protection arrangements, and so forth" (Tartaron 2018: 73), and this is a good description of the relationship of Kalamianos to other Saronic coastscapes in the Bronze Age, or of Korphos in the early 20th century. The role of Kalamianos as a weak tie providing Mycenae access to the Saronic instantiates the mediating role that we often attach to coastal settlements. It might also help to explain the foundational imprint of the Argolid at Kalamianos, followed by what seems like a highly localized development when the hand of Mycenae seems very light. We might imagine that to Mycenae, Kalamianos was an important gateway that could be exploited with a substantial initial investment, and subsequently the presence of a small cadre of administrative agents. One way to interpret the unusual monumentality of the architecture at Kalamianos is as an advertisement of Mycenae's power rather than the actual exercise of it.

Actors and activities in the Korphos microregion

We can begin to imagine diverse individuals and social groups at Kalamianos, and a range of roles they played and activities they performed (Table 6.3). The buildings may have begun as similarly scaled structures based on a cellular plan, but with time and growth of the settlement, some groups seem to have elaborated on the basic form, perhaps signaling elevated wealth and status relative to their neighbors (Pullen and Sapirstein 2020: 384). The identity of these groups is unknown. As I conjectured above, the best-appointed house complexes like 7-I/III/X may have housed a *ko-re-te* or similar official appointed by the palace. But there are other possibilities at a scale between individuals and societies, such as the extended family (*oikos*) or the so-called House

8 This site was discovered by Sarah Murray and Emily Anderson. Because it is situated outside our permit zone, we have informed the archaeological authorities of its existence, but we have not studied it further. For alternate pathways from Mycenae to the Saronic Gulf, see Newhard, Levine, and Phebus 2014.

Fishing, shell fishing (food)
Purple dye production (Murex shell)
Salt production (wetlands, seashore)
Farming (terrace farming and small patches of arable)
Forestry production (timber, fodder, charcoal)
Herding (local transhumance; grazing at higher elevations — Stiri)
Quarrying limestone (on Kalamianos and Stiri sites for wall building, lime plaster)
Construction (planners, engineers, work groups of construction workers)
Import/export at harbor
Maritime traders in the Saronic
Overland traders with donkey trains
Itinerant craftspeople
Palace agents (*ko-re-te* and *po-ro-ko-re-te* from Mycenae, or "collectors"?)

Table 6.3. Hypothetical activities in the Korphos coastscape, LH IIIA–IIIB.

societies, where physical dwellings become the enduring materialization of the corporate identity, memory, and status of the social groups with which they are associated (Driessen 2010). The initial planning and layout of those houses on a regular grid was performed by skilled planners, who oversaw the construction by groups of semi-skilled and unskilled workers (Harper 2016: 188–208, 303).

The activities listed in Table 6.3 imply a busy microregion brimming with activity, mobility, and connectivity. The stone for buildings and lime plaster at Kalamianos and Stiri was quarried onsite. The earth for making mudbricks was available in nearby dolines or wetlands from which reeds and grasses for roofing could also be harvested. The timber for structural beams had to be obtained from upland forests beyond Stiri. Fishermen were busy on the shore and inshore waters catching fish and shellfish, for food and possibly to produce purple dye. Domestic activities were supported by access to fresh groundwater from enlarged joints or fissures in the limestone (Pullen 2019a: 141, fig. 4; Tartaron et al. 2011: 566–567, figs. 7–8). Terrace farming was practiced at Kalamianos and in the low hills around it. Currently, there is little information about herding, but ample grazing was available in the hills above Kalamianos, raising the potential for local seasonal transhumance.

More mobile were the maritime traders plying the Saronic and the overland traders who articulated Kalamianos with interior routes to the Corinthia and Argolid. Kalamianotes imported pottery and ground stone from Aigina, and fineware seemingly from both inland (Argolid, northern Corinthia) and overseas (Kontopigado) sources. Aiginetans virtually ceased fineware production for export by 1400, but the cooking pottery continued to be exported to the interior of the Corinthia and Argolid into LH IIIC (Gauß et al. 2015).[9] Kalamianos may have been a key point of transshipment from the harbor to merchants traveling overland routes. Over these same pathways they might have encountered shepherds, itinerant craftspeople, and palace agents forging those connections.

Conclusions

More work is needed to sharpen our understanding of the oft-cited mediating and connective role of coastal communities in the Aegean Bronze Age. We must first delineate their diversity in scale, habitation status, range of activities and functions, and connections by sea and land. Recent attention to the maritime networks in which they participated has not been matched by equal efforts to flesh out the overland connections that would allow us to begin to reconstruct a full constellation of network connections. Only when this is accomplished can we convincingly demonstrate the mediation and articulation they ostensibly performed. A holistic suite of methods, as outlined above, will advance us toward this goal. In particular, walking experiments and ethnoarchaeology deserve to be more prominent features of our methodological toolkit.

A close reading of the evidence from the coastscape anchored at Korphos-Kalamianos illustrates the challenges and opportunities. While SHARP has collected a wealth of empirical evidence, the narrative of Mycenae's involvement in founding the settlement at Kalamianos and its interests in the Saronic Gulf remains speculative. Kalamianos seems unusual in some ways, but the diversity in architecture alone among contemporary sites such as Kanakia on Salamis (Lolos 2007) or Mitrou in East Lokris (Vitale and Van de Moortel 2020) demonstrates that there was no cookie-cutter approach to the built environment. Yet we are fortunate that construction techniques, ceramic fabrics, and volcanic stone can all be traced with some confidence to their sources. Kalamianos was just one kind of site in terms of it scale and mix of activities, but its geographical position makes it an ideal location to explore its dual role as a node among strong ties in a Saronic Gulf small world centered on Kolonna, and simultaneously a weak tie bridging that world with the inland center of power at Mycenae.

Acknowledgements

I am honored to be a part of the celebration of Daniel Pullen's retirement. I had long admired his work on the Early Bronze Age when I first had the opportunity to work alongside him on the Eastern Korinthia Archaeological Survey. The exciting discovery of the Mycenaean site at Korphos-Kalamianos in 2001 gave us the impetus to join forces to initiate the

9 Gauß and Knodell (2020: 253) note that Aiginetan sherds at many sites, including Mycenae, are undercounted because relevant contexts remain unpublished.

Saronic Harbors Archaeological Research Project, or SHARP. As we became closer colleagues and then good friends, this became for me a dream collaboration on a truly fascinating archaeological landscape that never ceased to produce interesting new revelations. To this day I marvel at Daniel's professionalism, integrity, and scholarly acumen, but I also want to emphasize that Daniel knew how to have fun while working hard, and I think all of our SHARP colleagues over the years would attest to that. It is hard to overestimate the positive effect that Daniel has had on my career: when I was building my case for tenure, he graciously allowed me to take the lead on EKAS and SHARP publications, and we continue to work together on future publications. I offer this chapter as a humble tribute to work done together and work still to come.

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