Foreword - *2026



***Dance* by Νικολαος Τομπαζης - © Benaki Museum**

While it is true that unavoidable pitfalls await amateurs with a passion for the Aegean Bronze Age, there are also advantages to diving in at the deep end. If one is looking for precedents, it is enough to point out that the entire scholarly enterprise was launched by an untrained amateur. And if we are to believe Heinrich Schliemann (not always a good bet) childhood dreams conjured from Homeric epic took him off to Troy and then to Mycenae. Schliemann's story may or may not be true but it is believable. One of the gifts of childhood is a fascination with the marvelous. Myths and fairy tales peopled with heroes and monsters are not only accepted by the child at face value but enthusiastically welcomed. Convinced that Homer's tales of a Heroic Age were more than fantasy, Schliemann went looking in the real world.

This predilection for the marvelous and a fascination with minotaurs and enchantresses, seems to be shared by children of all ages. In 1949 C. W. Ceram (the pen name taken by Kurt Wilhelm Marek) published *Götter, Gräber und Gelehrte*. A popular account of important archaeological discoveries *Gods, Graves, and Scholars* has sold over five million copies in 30 different languages. One has only to browse through the chapter titles to find the promise of mystery and marvels that are the source of the book's popularity. Each of Ceram's accounts engage the reader at various levels. But initially, at least for many of us, these are treasure hunts in search of preternatural beings and events both strange and wonderful. Archaeology invests what necessarily must remain largely imaginary places with material objects while populating places long ago and far away with flesh and blood. Of course it is also true that while there is little or no tension in the child's world between the real and the fanciful, ideally the imagination of the archaeologist will be restrained by the empirical evidence. However, the frequency with which this ideal is subverted by our more human side is notable. The deeply ingrained experiences and passions of our childhood are enduring. Almost inevitably the seeds of our curiosity are nurtured at an early age and most of us can recall a specific parent, mentor, or teacher who awakened our imagination.



Oliver Butterworth, my fifth grade teacher, gets the credit for firing my imagination. Mr. Butterworth's inspiring genius was to regularly read aloud the Homeric epics. Following each reading, Mr. Butterworth would call one or more students to his desk to ask what scenes or actions caught their attention—and then, miracle of miracles, he would make a credible pencil drawing of the blinded and enraged cyclops or an entirely believable Cretan archer. Mary Renault also deserves some credit. I remember skipping school more that once to continue reading *The Last Of The Wine* and *The Bull From The Sea* (1958; 1962).



The path from childhood to here is different for each of us. In my case there were lengthy periods when I put Homer aside. In the late 1960s I experienced a reawakening of my latent Bronze Age passion. My wife and I were spending a year in Europe and with the onset of winter, and the desire to stay warm (we were living in our camper), we followed our inclinations south. Fortunately, Fid's daily journal preserved details of three footloose and carefree months in Greece with much of the time spent in the Peloponnese and on Crete. Yes, Agamemnon and Minos were on our minds, although in a romantic rather than academic way. I remember with delight the hours I spent wandering about looking for sherds . . . blissfully unaware of Blegen's work at Korakou or even the game changing breakthroughs of Kober, Ventris, and Bennett nearly two decades earlier. I do have a few mementos from the trip, including a small collection of sherds and Blegen and Rawson's *A Guide To The Palace Of Nestor* (1967).

Once home, however, it was time to get on with life. Two decades would pass before I began rereading Homer——or perhaps reading both epics through for the first time. I came away amazed with the power and immediacy of Homer's stories but also with a nagging sense of my own delinquency. Water under the bridge I decided but was delighted to read Richard Ford's sympathetic comment on the back cover of Fagle's translation of the *The Aeneid*, "One reads it with the wish of having read it in youth" (2006). I soon realized that a rekindled interest and a reawakening of my earlier passion held the prospect of both pleasure and frustration. The intervening decades had radically altered what Bronze Age scholars knew and thought about prehistoric Aegean cultures. Just as revolutionary were the methods and technologies employed by contemporary researchers. Most of what follows is my project to "catch up."

By way of full disclosure I'm convinced the two epics are, in part, rooted in the realities (including myths and other fanciful beliefs) of the Mycenaean world. Admittedly, my position rests on both reason and intuition, but the question is often debated strictly on the facts. Oliver Dickinson and Thomas Palaima are among the best and brightest of Aegean scholars, yet each has a different answer to the "Homeric question" (Dickinson 2017, 621-622; Palaima 2008a, 342-355). Other perspectives also illuminate the nature of Homer's songs. Simone Weil's *The Iliad, or the Poem of Force* is considered one of the most insightful essays ever penned on the subject (1940/1956). For her, the epic is much more than a depiction of Bronze Age culture; it is also, says Weil, a poem about force——the reality "at the very center of human history," and about which, "the *Iliad* is the purest and loveliest of mirrors" (ibid., 4). Adam Nicolson's *Why Homer Matters* takes another tack. The elemental forces of violence and the sea, so clearly and honestly related in Homeric poetry, resonate with experiences in Nicolson's own life. This is a man who has felt the wind fill the mainsail and the exhilaration as it drives his ketch forward. He has also been threatened and terrified by the chaos of an ocean storm. Nicolson knows why the god Hermes would pose the question——"Who would want to cross the unspeakable vastness of the sea" (2014, 8; *Odyssey* 5.100). Clearly there are a variety of ways to approach early Aegean cultures while keeping Homer in mind. My intention here is to treat what is presently known based primarily on the archaeological evidence without ignoring the wonder I first felt as a child.



References

Blegen, C.W. and M. Rawson. 1967. *A Guide to the Palace of Nestor*. Cincinnati. University of Cincinnati.

Ceram C.W. 1986. *Gods, Graves and Scholars: A Story of Archaeology*, Second Revised Edition. New York. Vintage.

Dickinson, O.T.P.K. 2017. "The Will To Believe: Why Homer Cannot Be 'True' In Any Meaningful Sense." In *Archaeology And Homeric Epic*, edited by Susan Sherratt and John Bennett. Oxford. Oxbow Books.

Homer. 1990. *Homer, The Iliad*. Translated by Robert Fagles. With an Introduction and Notes by Bernard Knox. New York. Penguin.

Nicolson, Adam. 2014. *Why Homer Matters*. (Published in England as 'The Mighty Dead'). New York. Henry Holt and Co.

Palaima, Thomas G. 2008. "Mycenaean Religion." In *The Cambridge Companion to the Aegean Bronze Age,* edited by Cynthia Shelmerdine. New York. Cambridge University Press.

Renault, Mary. 1956. *The Last of the Wine*. New York. Pantheon.

___. 1962. *The Bull From The Sea*. United Kingdom. Longmans.

Virgil. 2006. *The Aeneid*. Translated by Robert Fagles with an Introduction by Bernard Knox. New York. Penguin.

Weil, Simone. 1956. *The Iliad, or the Poem of Force*. Wallingford. Pendle Hill. Original work published 1940.

Introduction - *2026

Ancient Eastern Mediterranean



Djoser Step Pyramid
Saqqara, Egypt Wikimedia

By 3000 BCE the civilizations of Egypt and Mesopotamia had existed for centuries. Each would continue to maintain certain distinct cultural traits over the subsequent millennium. Their lengthy histories are perhaps best characterized by the processes of change and transformation. For example, in Mesopotamia the Akkadian empire replaced the earlier Sumerian city-states and in Egypt, following the Predynastic period in ca. 3100 BCE, Horus-Aha united Upper and Lower Egypt. Each civilization underwent extended periods of growth and change as their peoples improved agricultural and pastoral production, established commercial networks that enriched their ruling classes, and developed the administrative capacity, economic base, and architectural prowess that ultimately produced monumental structures. The Ianna Temple complex at Uruk dates to BCE and the Djoser Step Pyramid at Saqqara to 2700 BCE.



2nd Millennium BCE - Late Bronze Age

During the Late Bronze Age Egyptians, Hittites, Mitanni, Babylonians, Assyrians, Canaanites, and Cypriots all participated in commercial trade that offered access to valuable natural resources and/or specialized crafts and services not readily available in their home territories. While the shifting balance of power between the Egyptians and the Hittites tended to define the region's overall political and economic dynamic, the uneven distribution of talent and resources encouraged peaceful interactions. Two Aegean peoples, the Minoans and the Mycenaeans also played important roles. While not as dominant as some of their eastern neighbors, they would leave indelible traces throughout the region and, along with the Cycladic culture, define the Aegean Bronze Age. The development of monumental structures occurs on Crete soon after 2000 BCE; half a millennia later Mycenaean strongholds were established on the Peloponnese and in central Greece. Ultimately the Mycenaeans would dominate the Greek mainland as well as the Cyclades, and Crete, while also co-opting Minoan interests on the western Anatolian littoral. Ultimately, Aegean interests played a significant role in the wider eastern Mediterranean commercial network. In addition to mercantile trade and occasional diplomatic contacts, at least some artisans and scribes likely lived and worked in the lands of their trading partners. In stark contrast to their more peaceful interactions, sporadic raids and even pitched battles were likely common. By about 1200 BCE trade networks ruptured as many major cultural centers experienced signifiant destructions. Various factors including natural catastrophes and the failure of interdependent economies are implicated in what has come to be known as the “Bronze Age collapse”.

Rediscovery

During the 18th and 19th centuries CE adventurers, explorers, and scholars from the West increasingly turned their attention to the lands of the eastern Mediterranean and the ancient Near East. The Rosetta Stone's discovery led to Champollion's decipherment of Egyptian hieroglyphs in 1823 (Robinson 1995, 24-35). By mid-century the cuneiform scripts used in Mesopotamia by the Sumerians, Babylonians, and Assyrians had been deciphered (Ibid, 78-90). In contrast, the Hittite civilization——a major player in the Late Bronze Age with its center in Anatolia, remained largely unknown until the early twentieth century. The 1906 discovery of the royal archive at Hattusa (Hatuŝas / Boğazköy) provided scholars with literally thousands of tablets inscribed with Hittite cuneiform. The use of Sumerian and Babylonian cuneiform terms alongside their own script led to the decipherment of Hittite cuneiform in 1933 (Ibid, 91). The importance of the written documents recovered from these cultures is inestimable. Recorded on nearly indestructible clay tablets, the varied content sheds light on numerous aspects of these ancient civilizations including historical events, political organization, regnal lines, social hierarchy, religious practices as well as art, architecture, and literature. Of paramount importance were tablets from the Ashurbanipal's Royal Library at Nineveh, the Amarna Letters dating to the reigns of Amenhotep III and Akhenaten, Hittite tablets, the Mari archives, and more recently numerous caches from Ugarit's palace archives.



Ugarit Tablets: a. commerce - shipment of wood b. religion - death and rebirth of Baal
RMN-Grand Palais/Art Resource, NY

The rediscovery and elucidation of the early Aegean cultures, especially with regards to the written record, has been a different matter. Even before beginning his excavations on Crete, Arthur Evans was confident that advanced Bronze Age Aegean cultures would have a writing system. His supposition was almost immediately confirmed with the discovery at Knossos of not one but three different scripts (Cretan Hieroglyphic, Linear A, and Linear B). Four decades later in 1939, Blegen's excavation at Pylos unearthed the first known Linear B tablets from the mainland. Unfortunately the decipherment of what Evens had dubbed *Scripta Minoa,* unknown scripts recording unknown languages, proved both contentious and complex. Indeed, two of the three scripts remain undeciphered. Tragically Evans's own preconceptions and proprietary attitude was itself a major factor in the delayed decipherment of the third. It was not until 1952, more than a decade after Evans's death, that the work of Alice Kober and Michael Ventris led to the decipherment of Linear B (Fox 2013). However, because the content of Linear B tablets is largely restricted to temporary administrative inventories, the tablets initially provided only limited insights into Mycenaean life. Despite initial frustrations, Linear B specialists have recently made important contributions to what is known about Mycenaean society——often by applying new analytic methods to Linear B. Nonetheless, what is not recorded on the tablets has had significant consequences for the direction and progress of prehistoric Aegean studies. For example there are no narrative accounts——of daily life or religious practices, nor of battles won or lost. Largely absent too are descriptions of interactions among the major Mycenaean powers, their dealings with foreign allies and enemies, or of events they deemed significant. Despite these realities Aegean scholars, drawing on the accumulated archaeological and documentary evidence, have constructed a detailed picture—— especially for the period of the later Bronze Age.

Prologue

Troy, Mycenae, and Minoan Crete were not unknown before the late nineteenth century revelations that put the Aegean Bronze Age in the headlines. Although its location was disputed, Homer's Troy had been venerated by a line of supplicants including Alexander the Great, Julius Caesar, and Constantine. Curiosity about the fabled city was rekindled during the Renaissance, although visitors disembarking on the Ottoman shores were more likely to be shown Roman ruins touted by local guides as Troy itself. During the eighteenth century a number of European travelers and scholars visited the Troad in a renewed effort to locate Priam's city. There was, however, no consensus as to where the remains of Troy might be found. In fact a number of influential scholars suggested the site belonged solely to the realm of myth. Early in the nineteenth century the debate was enflamed by the contrary opinions of scholars, map makers, and amateur archaeologists. Even Lord Byron famously weighed in with his impassioned poetry and prose. At mid-century no resolution had been reached although the Calvert brothers, residents and landowners living in the Troad, had carried out several fruitful excavations. Frank Calvert had his eye on a site known as Hissarlik and despite unsuccessful attempts to convince the British Museum to support his work, Calvert would ultimately assist the inexperienced Heinrich Schliemann with his successful endeavors to unearth the remains of what is now considered the site of ancient Troy (Fitton 1995, 50-53).

Schliemann's luck in the Troad was a charm in the Peloponnese. His excavations at Mycenae, highlighted by rich finds from Grave Circle A, were not, however, the first indications of an early mainland culture. Interestingly, the earliest evidence was not found on the mainland but rather on the Cycladic island of Thera and in the Dodecanese on Rhodes. Christos Tsountas, in his foundational *Mycenaean Age*, briefly recounts Fouqué's 1866 finds on Thera as well as Biliotti's excavation of tomb sites on Rhodes between 1868 and 1871. While unrecognized at the time, each had found significant examples of Mycenaean pottery among other material finds. Schliemann's revelations in 1876 ultimately led to a reevaluation of the Thera and Rhodes material (Tsountas and Manet 1897, 5). Unlike the vagaries of Troy and the deeply buried treasures of Mycenae, the Minoan ruins at Knossos were a prize waiting to be taken.



Mycenaean Stirrup Jar
A. Biliotti - Rhodes
© Trustees of the British Museum

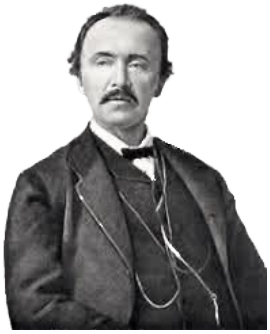
Memories run deep on Crete and much of the Minoan past is just below the surface. More then a decade before Evans's first trip to Crete the British Museum had been the recipient of the pithos shown here——the gift of Minos Kalokairinos, a native of Crete, who had excavated at Kephala Hill in 1876. However, the apparent serendipity of his name did not convince the decision makers at the British Museum to underwrite additional excavations. Schliemann, on the other hand, knew a good thing when he saw one and journeyed to Crete in 1886 where he met with Kalokairinos. Ultimately he was frustrated by the political realities of Ottoman rule. However, when Turkish forces were expelled from Crete in 1898, Evans was quick to take advantage of the opening. His excavations, begun in the first year of the new century, would swiftly secure his place at the forefront of Aegean archaeology (Fitton 1996, 122-123).



Minoan Pithos - 114 cm.
Knossos - Crete
© Trustees of the British Museum

Dreamers & Diggers

Heinrich Schliemann (1822 - 1890)



Heinrich Schliemann
1822 - 1890

Born in northern Germany, Schliemann attended Gymnasium (grammar school) for three years but family poverty resulted in his transfer to Realschule (vocational school) at the age of fourteen——eliminating the possibility for Heinrich to attend university.[1] Despite his limited formal education Schliemann's genius for languages would play an important role in both his business successes and later his archaeological exploits. Following employment in an import-export firm Schliemann left Germany for America where he opened a bank in San Francisco to broker transactions related to the California gold rush. Within two years he had made his first fortune and returned to Europe. During the 1850s Schliemann settled in Russia, married, and had three children. He also added to his considerable wealth as a trader in the indigo market as well as through sales of military goods during the Crimean War. In 1866 Schliemann abandoned his Russian family and moved to Paris where he studied briefly at the Sorbonne. However, it was his trip to Greece in 1868 that signaled Schliemann was about to change the focus of his life. The erstwhile business man was now in pursuit of Homer——motivated by his belief that the heroes and events described in the *Iliad* and the *Odyssey* belonged to the realm of history not myth. The following year after a brief trip to America to finagle a divorce, Schliemann set sail for Greece and in October married the seventeen year old Sophia Engastromenos. Schliemann's accomplishments in the final two decades of his life exceeded even his own expectations. His excavations at Troy (1871-1873, 1878 - 1879), while rightly criticized as amateurish and destructive, gave the fabled city a real location and initiated a series of archaeological projects that continue to this day. His work on the Greek mainland at Mycenae (1876) and later at Tiryns (1884 - 1885) and his subsequent publications not only captured the public's attention but more significantly revised the foundations of European history (Schliemann 1878).

While Schliemann's overbearing and occasionally immoral behavior are unquestioned, so are his contributions to our understanding of the history of Western Civilization. He is considered the father of modern archaeology and is credited with the first important excavations of Aegean Bronze Age civilizations. His exploits popularized the study of European ancient history and inspired numerous scholars and archaeologists to continue the work he began. Before Schliemann's efforts it was generally assumed that Greek history began in the eighth century BCE. In his wake, much of Western Civilization, including its origins and defining characteristics, was reimagined.

1. Short biographical sketches run the risk of omitting and/or misrepresenting significant aspects of their subject's life. Nevertheless, I hope to provide the reader with a brief outline of the *who, what, when*, and *where* of the important figures at the beginning of Aegean Bronze Age studies. Most have been the subject of one or more biographies and many have published autobiographical material in one form or another. The prominence of men such as Schliemann and Evans almost invariably means their shortcomings and foibles will be discussed, debated, and written about along with their insights and their accomplishments. While the two men may fairly be said to have first revealed the earliest western cultures, others have contributed to and/or continue to advance in significant ways the elucidation of those beginnings. And yes, along with their professional accomplishments, their personal lives display all the color and complexity one might expect. For example, Alice Kober and Michael Ventris were major figures in the decipherment of Linear B. Each was also a truly heroic and tragic figure. Investigating the personal stories of these men and women will likely enrich one's appreciation of Aegean Bronze Age studies.

Sir Arthur Evans (1851 - 1941)

The other icon of Aegean Bronze Age studies is Arthur Evans. Born into a well-to-do, if not wealthy family, his father ran a paper mill. More significantly, John Evans was a highly respected scholar with an interest in numismatics, geology, and archaeology. Although Arthur's mother died when he was seven, an attentive step-mother raised the boy and his four siblings. Evans was educated at Harrow and then Oxford although his decision to read modern history at the latter nearly proved disastrous. Evans's real interests were anthropology, archaeology, and prehistory. As a student he travelled to the continent visiting, among other locales, the Ottoman territories in the Carpathians. Although his successful graduation in 1874 required the good graces of dons that were close friends of his father, the young Evans would ultimately add significantly to Oxford's fame. Evans resumed his travels in the mid-1870s, but while in the Balkans, drew the attention of officials of the Austro-Hungarian Empire. Never averse to taking risks, Evans landed in the middle of the English Protestant revolt against the Turks. In any case, on returning to England, the publication of his travel journals proved a popular success and he was hired to report on the Balkans. Evans married Margaret Freeman in 1878 and shortly thereafter he and his wife returned to Croatia. Ultimately, both were arrested as agitators for their outspoken backing of local Slavs and were soon deported (Fox 2013, 17-21).



Arthur Evans
1851 - 1941

In 1883 Evans and his wife travelled to Athens and visited with the Schliemanns—— already enjoying celebrity status for Heinrich's discoveries at Troy and Mycenae. Apparently the couples spent a friendly afternoon together and Schliemann shared a number of his finds from the Peloponnese. On returning to England, Evans secured the post of Keeper of the Ashmolean, a position that launched his career as an archaeologist and ultimately brought fame to himself and to the Ashmolean. In the early 1890s both his father-in-law and wife died. Evans would not remarry and appears to have mourned his wife's death throughout his life. For a brief time following his losses, Evans seems to have become disinterested in both personal and professional pursuits and it may well have been Schliemann's successes that rekindled Evans's curiosity about the Cretan site at Knossos——refocusing his attention on what would become his life's work (ibid., 21-24).

The original impetus for Minoan Crete's long-lived reputation was, of course, Homeric epic. Along with references in various myths, including those of Daedalus and Theseus, Crete is mentioned prominently in Book II of the *Iliad*.

> *And the great spearsman Idomeneus led his Cretans, the men who held Cnossus and Gortyn ringed in wall, Lyctos, Miletus, Lycastus' bright chalk bluffs, Phaestus and Rhytion, cities a joy to live in—the men who peopled Crete, a hundred cities strong. The renowned spearman Idomeneus led them all in force with Meriones who butchered men like the god of war himself. And in their command sailed eighty long black ships* (*Il.* 2.650-653).

A series of modern preludes on Crete hinted that Homer's songs, the foundation of Greek Classical culture, might also preserve memories of ancient realities. Following Minos Kalokairinos's 1878 excavations of Kephala (the local name for the hill site of Knossos), the American William Stillman reported cryptic "masons marks" on one of the walls unearthed by Kalokairinos. Together with Schliemann's rich Mycenaean finds and the initial prospecting at Knossos there was a mounting body of evidence for one or more early Aegean cultures predating, perhaps by millennia, the archaic period.

Evans was confident that an Aegean Bronze Age civilization had existed and, furthermore, that it would have had a writing system (Fox 2013, 28-29). In fact, Evans first visit to Crete in March 1894 was motivated, in part, by his quest of evidence for an ancient script——one that might be based on examples of what he termed “seal-stones showing ‘hieroglyphic’ characters.” The previous year Evans had purchased seal-stones from Athenian antique dealers, and his inquiries regarding these “inscribed” seals, as well as a collection in the Berlin Museum, pointed to their Cretan origin (1909, 9). On Crete Evans discovered similar objects referred to by the local women as milk stones and worn by them as charms when breast feeding. Kalokairinos also shared his finds with Evans. The following year Evans was back in Crete and was shown a small piece of clay, apparently found at Kephala, that bore incised linear marks. Although unsure of its nature Evans copied the markings of what would eventually be identified as a fragment from a Linear B tablet (illustrated below). While Schliemann had been unable to secure permission to dig at Knossos, Evans was able to purchase a portion of the site with an option to buy additional land. The political situation in Crete, however, was still in turmoil. Disagreements over terms for independence among Turk, Cretan, and British factions, punctuated by sporadic violence, continued until 1899 when Crete became a republic. This opened the way for Evans to purchase the entire site at Kephala in 1899 and he began his excavations at Knossos the following year (Fox 2013, 30-31).



Antonios Zakhyrakis Tablet
Linear B Fragment - Kephala, Crete?
1894, 38, 39
after drawing by A. Evans 1952, 34 J s 02

As early as 1894 Evans had published his ideas about the likelihood and nature of a possible Mycenaean script——one, Evans hoped, that would shed light on the culture itself. And in March 1900, only weeks after Evans began excavations at Knossos, he found exactly what he was looking for——in fact his early excavations revealed several different scripts. These inscriptions——found on a variety of tablets, seals, and items of personal adornments——and their subsequent history, reflect both Evans's extraordinary contributions to Aegean archaeology as well as his dramatic failings. Evans had unearthed not only ‘hieroglyphic’ inscriptions but also the Linear A and Linear B scripts (ibid., 33-38). Ultimately, the Linear B tablets would shine a light on the Bronze Age cultures of both the Minoans and Mycenaeans. To date these scripts provide the only known contemporary written sources from ancient Greece.[2] Tragically, the decipherment of Linear B occurred only after Evans's death and in some ways as a result of his passing. As the work of Alice Kober and Michael Ventris would reveal, Linear B recorded an early form of Greek——not, as Evans was convinced, a Minoan language. Evans's curiosity, persistence, and intellect are largely responsible for much of what we know about the Minoans. However, his position of authority and personal prestige, his inclination to stamp the entire Aegean with the Minoan brand, and his intransigent nature also acted to delay progress in Minoan and Mycenaean studies. Nevertheless, it is impossible to characterize the history of Aegean studies without also paying tribute to Arthur Evans——the man whose curiosity and dedication turned Cretan mythology into Minoan reality.

2. Although see *Mycenaean II,* the Hittite Ahhiyawa texts.

Christos Tsountas (1857 - 1934)



Christos Tsountas
1857 – 1934

A Thracian by birth, Christos Tsountas devoted his career to excavating and elucidating ancient Aegean cultures on the Peloponnese, the Cyclades, and in northern Greece. His 1893 publication *The Mycenaean Age* and the English translation in 1897 with J. Irving Manatt, comprise the first coherent synthesis of Mycenaean studies. Building on the work of Schliemann, Tsountas's persistence and professionalism raised the standards of Aegean archaeology. His excavations at Tiryns and Mycenae revealed important new details, including the latter's main palatial structures as well as the elaborate access to a spring fed subterranean water supply. Most importantly he excavated, described, and clarified the sequence and characteristics of interment practices for pit graves, tholoi, and chamber tombs. While not entirely free of the prejudices and misunderstandings of his era (eg. speculation on racial differences), Tsountas used Egyptian synchronisms to suggest one of the first reasonably accurate chronologies for Mycenaean Greece. His view that Bronze Age culture is reflected in Homeric epic alongside Archaic content was both insightful and surprisingly current. Tsountas also pioneered Neolithic studies at Dimini and Sesklo in northern Greece. No less important were his excavations in the Cyclades, notably at Chalandriani and Kastri on Syros, revealing important aspects of early Cycladic culture (Fitton 1996, 104-107).

Alan J. B. Wace (1879 - 1957)

Wace went to Athens in 1902 as a student, served as Director of the British School at Athens between 1914 and 1923, and was Professor of Archeology at the University of Cambridge from 1934 to 1944. Having worked on Neolithic pottery in Thessaly, he joined Carl Blegen in 1915 and 1916 at Korakou in a collaboration that produced the first stratigraphic/ceramic study for the early Bronze Age period——*The Pre-Mycenaean Pottery of the Mainland* (1918). This work not only established ceramic analysis as the basis for a mainland chronology but also framed Helladic culture as related to, but distinct from, Minoan culture. Evans's dogmatic pronouncements framing the mainland as a vassal state of Minoan Crete led to the ensuing academic battle——one that would, in part, redefine Aegean Bronze Age studies. Although the position of Wace and Blegen was largely vindicated, Wace in particular inflamed Evans's ire——especially with regards to the younger scholar's subsequent interpretations of his mainland findings. Following Tsountas's work, Wace directed important excavations at Mycenae between 1920 and 1923. Improved methodologies and careful attention to ceramic details enabled Wace to more accurately date elements such as the final fortifications and Lion Gate and to show their chronological relationship with the earlier tholoi. In a similar manner he demonstrated that interments in Grave Circles A and B had developed from the Middle Helladic tradition of cist graves. Wace suggested that a number of Mycenaean tholoi dated to ca. 1600 BCE and argued that such structures were not directly attributable to the similar pre-1700 BCE Minoan tombs in the Messara Plain. Evans's insistence on the perennial Minoan hegemony over the mainland led not only to a number of incorrect assumptions but ultimately devolved into a personal attack resulting in the termination of excavations at Mycenae and Wace's dismissal as Director of the British School. Wace, however, was not easily deterred and would return to Mycenae, rewrite Aegean history, and ultimately live long enough to see Linear B deciphered. Wace's work provided important evidence attesting to Mycenaean prominence in the late Bronze Age and ultimately to its domination of Minoan culture (Fitton 1996, 150-155).

Carl Blegen (1887 - 1971)
Prior to WW I Blegen came to Greece as a fellow of the American School of Classical Studies at Athens and worked there until 1916. Having completed his doctoral degree at Yale in 1920 he returned to Greece as Assistant Director of the American School. At this point he and Wace resumed their collaboration at Zygouries where they uncovered a potter's shop with a cache of Late Helladic IIIB ceramics that added to their understanding of mainland chronology first attested from Korakou. His "Coming of the Greeks" published in 1928 with J. B. Haley, based in part on linguistic analysis (largely place and plant names with -nthos and -ssos endings), presents the hypothesis that the first Greek speakers arrived on the mainland at about the beginning of the Middle Bronze Age (ca. 2100 BCE). The date was the consensus opinion during the first half of the twentieth century and remains in favor——albeit largely for subsequent findings and additional evidence (including data from recent genomic research) unavailable to Blegen and Haley. However, the authors' conviction that the Greek speaking mainlanders were culturally distinct from the Minoans was accurate (ibid., 157-158).

In 1927 Blegen began his tenure as professor at the University of Cincinnati and with the financial backing of his colleague Professor William Semple launched extensive follow-up excavations at Troy during the 1930s. His major contribution in the Troad was to distinguish between Troy VI and VIIa. While Troy VI displays certain characteristics suggestive of palatial architecture, Blegen felt it was destroyed by an earthquake. Although Troy VIIa looked to have been sacked it was, according to Blegen, a paltry site unworthy of Homer's Troy. The crowning achievement of Blegen's career was his excavation, with Marion Rawson, of Pylos in western Messenia——popularly thought to be the site of Nestor's palace. In the late 1930s Blegen and Konstantinos Kourouniotis of Athen's National Museum had begun to suspect Pylos might be located near the Gulf of Navarino. Aided by a local tomb hunter, Blegen succeeded in confirming the location of this important Mycenaean stronghold. While the initial excavations were interrupted by WW II, prewar finds foreshadowed the unparalleled contributions Pylos would make to Aegean Bronze Age studies. On the very day excavations began (April 4, 1939), Blegen's team unearthed a cache of Linear B tablets——the first such documents from a mainland site. Blegen returned to excavate at Pylos with Rawson between 1952 and 1964. Ultimately, their efforts would reveal the best preserved and most informative of all the Mycenaean palace-centers (McDonald 1967, 197-243, 247-274).



Celebrating Alan Wace's 60th birthday at Mycenae, July 13, 1939
Carl Blegen, Konstantinos Kourouniotis, Spyridon Marinatos, Bert H. Hill, Alan Wace, Georg Karo

Numerous other men and women also made significant contributions in the early years of Aegean studies. At Troy and Tiryns Wilhelm Dörpfeld's insights and expertise were invaluable to Schliemann, while on Crete Duncan Mackenzie's archaeological experience and organizational skills were a boon to Evans. Marion Rawson may be less well known than Blegen, but she was in fact responsible for directing important aspects of the excavations at both Troy and Pylos while also authoring and editing major site publications. Both Harriet Boyd's excavations at Gournia on Crete and Hetty Goldman's research at Eutresis in Boeotia continue to influence Aegean studies. In fact, Boyd's work at Gournia anticipated a much later recognition of the importance of investigating extra-palatial sites occupied by various social classes. Goldman's Eutresis reports were unique when first published and continue to define, in part, the Early Helladic period. Despite the prevailing social mores that tended to undervalue the professional contributions of women, many of the women associated with Aegean studies were fortunate in having male co-workers who fully appreciated their contributions. Clearly this was not always the case.

The names of individuals who worked in the trenches, in libraries and museums, or in laboratories far from the Aegean are often found only at the head of major publications while often unnamed are the numerous day workers——local men and women who did the heavy lifting at the sites themselves. The individuals mentioned here may have made the headlines during the early period of Aegean Bronze Age studies, but others did important work as well. Twenty-first century armchair archaeologists will do well to mine the riches available online to fully appreciate the lives and work of the numerous individuals who participated in and defined the study of the Neolithic and Bronze Age Aegean.



Alice Kober
Brooklyn Public Library



Harriet Boyd-Hawes

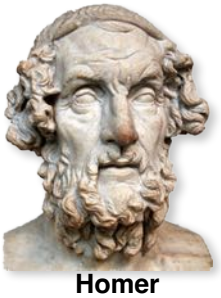


Hetty Goldman
Bryn Mawr College Library

Perennial Puzzles

Throughout much of the nineteenth century CE it was generally agreed that Greek history began in eighth century BCE when, along with improved metallurgy and iron-based metals, increasing agricultural productivity, and a growing population, the Greeks adopted and adapted the Phoenician alphabetic script to write Greek. However, during the final quarter of the nineteenth century, M. Kalokairinos, C.T Newton, A. Furtwängler, and F. Petrie (among others) each provided clues suggesting earlier Aegean cultures. By the early twentieth century a series of excavations and publications had established that reality, and Aegean studies took their place alongside the Classical disciplines. Significant aspects of early European history (or protohistory) have, however, engendered perennial debates. These include: the relationship of history and the traditions of Greek epic and myth, the arrival of Greek speakers to mainland Greece, and the accuracy of Bronze Age chronology. Importantly, the context for these discussions has evolved as the focus and methodologies of archaeology itself have changed.

One Homeric Question

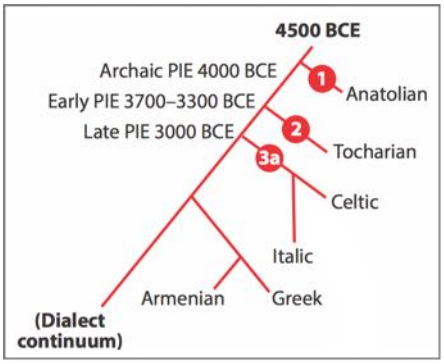


Homer
Hellenistic Bust

How exactly do we assess the relationship between the material finds of Bronze Age archaeology and the narrative content of Hesiod and Homer? While contradicted by the results of subsequent excavations, Schliemann and Evans were convinced (at least in part) that they were uncovering the Homeric age. M. I. Finley's thesis that Mycenaean culture largely reflects Eastern Orientalism rather than an incipient western culture frames this divide. While Finley's position and its *Ex Oriente lux* underpinnings are no longer central to the debate, aspects of the Homeric question remain. A significant number of material objects and practices referred to in Homer are attested from Bronze Age sites. Each successive field season adds to our understanding of the Bronze Age Aegean and it is generally agreed that we know a good deal more about Greek "prehistory" than did the historians and philosophers of the fifth century BCE. Yet Greeks of the Archaic and Classical periods assumed their Bronze Age heritage and used it, at least in part, as a template for the culture they were engaged in building. Of course an assumption of cultural continuity is not surprising, especially in the presence of a strong oral tradition. Yet Iron Age Greeks had no knowledge of the earliest written records and lived in a period when much of the physical evidence was buried. While some scholars have rejected Homeric connections many others see in the epics genuine reflections of Bronze Age history.

Hunter Gatherers, Early Farmers, and the Coming of the Greeks

Accounts of significant changes in the material culture have often been attributed to migration or invasion events. Thus, perceived cultural breaks on the Greek mainland and islands have been interpreted as variously signaling the arrival of Anatolian farmers, Indo-European speakers, an invasion of Doric outsiders, or "the comings of the Greeks." For example, during the 7th millennium BCE new tools and new tool technologies along with evidence of animal and plant domesticates suggests an influx of peoples with an agropastoral lifestyle. And in this case the archaeological evidence is corroborated by recent genomic research. Within a relatively short period farmers migrating from Anatolia settled on the Greek mainland and on Crete——largely replacing the indigenous hunter-gatherers. A separate question, but one that has been associated with early farmers, is the "coming of the Greeks" or the arrival of Greek or proto-Greek speakers to the Aegean. Two scenarios, both initially framed by archaeologists, were



Sequence of Branching (in part) IE Daughter Languages after Anthony & Ringe 2015, Fig 2

proposed. Maria Gimbutas' Kurgan Hypothesis suggested the diffusion of Proto-Indo-European speakers from their hypothesized central Asian place of origin——the steppes north of the Black and Caspian Seas. Alternately, Colin Renfrew's Anatolian Hypothesis suggested Proto-Indo-European speakers dispersed from their central Anatolian base along with the spread of agriculture in the period between 7000 - 6000 BCE. This, would have put the first agriculturalists and proto-Greek speakers in their present homeland as early as 6500 BCE or millennia earlier than the Kurgan prediction (Anthony and Ringe 2015, 201-202). Not surprisingly, historical linguists have played a part in the ongoing debate. Linguistic analysis of the dispersal of Indo-European (I-E) languages rests largely on assumptions about the order in which daughter languages diverged from the reconstructed Proto-Indo-European (PIE), informed in part by the presence or absence of cognates among Indo-European languages. The cladogram above presents one such representation showing the proposed dating for the separations of 1. Anatolian (includes Hittite) and 2. Tocharian language subgroups, as well as 3. the later divergence of I-E branches that share a common PIE ancestor. A series of PIE words (reconstructions) are associated with wheeled vehicles——for example *kwékwl-o-s ('wheel') and *h2éks ('axle'). The descendants (cognates) attested in daughter languages have similar meanings and shared phonologies. The Greek κύκλος and Sanskrit cakrám are cognates for P-I-E *kwékwl-o-s. The linguistic characteristics of the cognates must necessarily arise after 4000 - 3500 BCE——the *terminus post quem* (earliest possible date) for the first use of wheels on wagons and carts established by dating of archaeological finds. This, also supports the hypothesis that the Anatolian farmers that introduced agriculture to Greece in the mid-7th Millennium BCE spoke a non-IE language (Anthony and Ringe 2015, 199-206). Recent genomic research suggests a variation of the "steppe" model based on a Proto-Indo-Anatolian language group in the region of the southern Caucasus as the source of two major migratory movements (ca. 7000 - 5000 years ago), one west into Anatolia and the second northwards into the steppe——the latter ultimately leading to the dispersal (beginning ca. 5000 years ago) of I-E groups (Lazaridis et al. 2022).

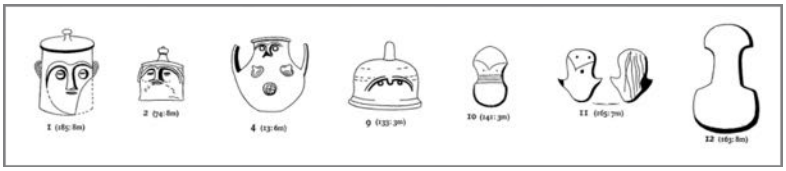
Chronologies: Relative and Absolute / High or Low

Archaeologists refer to both relative and absolute chronologies. The former are largely based on associated groups of ceramic types that have been excavated *in situ*——in undisturbed stratified deposits. Once defined these ceramic assemblages provide a means to approximate the relative ages of additional finds. Although these chronologies are not meant to be temporally exact, their ordered placement in published tables and figures may give the impression of undue precision and lead to unfounded assumptions. However, such difficulties seem mere inconveniences when faced with the ongoing schism over assigning calendrical dates to named periods. The debate focuses on differences between the high chronology——derived from scientific measurements (eg. 14C and dendrochronology) and the low chronology——based on synchronisms attested in the archaeological record (eg. Mycenaean grave finds and dates of Pharaonic reigns). Particularly problematic are the eighteenth through the sixteenth centuries BCE with the dating of the mid-second millennium BCE volcanic eruption on Thera often at the heart of the dispute (Manning 2010, Manning et al. 2020). In general, the high chronology is adopted here.

Archaeology - Historiography[3]

A stroll through the British Museum's ground floor galleries serves well as an introduction to the nineteenth century roots of archaeology. Together the exhibits present a microcosm of ancient Eastern cultures; they are also indicative of the acquisitive reach of the Crown during the colonial period. Early in the century Lord Elgin, serving as Ambassador to the Ottoman Empire, parlayed his influence with the Turkish overlords of Greece to bring home the Parthenon marbles—now displayed in Gallery 18, the largest of the Museum's exhibits. Among the treasures in Gallery 4 is the massive Ramesses II sculpture retrieved from Thebes in 1816 by the adventurer-Egyptologist Giovanni Belzoni. Close by is the Rosetta Stone, French forfeit as spoils of war under the terms of the 1802 Treaty of Alexandria. Austin Henry Layard, among the Museum's more magnanimous benefactors, enlisted the assistance of British Ambassador Stratford Canning in 'recovering' a wealth of Neo-Assyrian treasures. Gallery 10 walls are lined with the spectacular series of panels depicting the royal lion hunt——taken from the Ashurbanibal palace at Ninevah (modern Mosel); Gallery 6 includes among its displays the monumental Lamassu or Assyrian sphinx that once framed the entrance to the palace of Ashurnasirpal II at Nimrud (ancient Kalhu). Layard's statement that his goal was,"to obtain the largest possible number of well preserved objects of art at the least possible outlay of time and money," makes clear that at the time he held no pretense to being an archaeologist (Daniel, 1976, 152). However, the extraordinary finds that Layard and others like him brought to England motivated a number of his countrymen to pioneer what might properly be termed archaeology during the second half of the nineteenth century. Two influential pioneers of modern archaeology were Augustus Henry Lane-Fox Pitt Rivers (1827 - 1900) and William Matthew Flinders Petrie (1853 - 1942).

Pitt Rivers (aka Lane-Fox) was among those swept up in the wave of enthusiasm created by Layard's finds. His interest in both ethnology and archaeology and his considerable wealth enabled Pitt Rivers to acquire artifacts from around the world——a collection that now resides in Oxford's Pitt Rivers Museum. Influenced by the contemporary revolutions in evolutionary theory, cultural history, and linguistics, Pitt Rivers's museum gave physical presence to his personal vision of material typologies and cultural progress and was, in his view, "an effective historical tool for the investigation of exotic cultures" (Chapman 1981, Chapter 3). In his essay, *Principles of Classification*, Pitt Rivers explains both his intent and its realization——"For this purpose ordinary and typical specimens, rather than rare objects, have been selected and arranged in sequence, so as to trace, as far as practicable, the succession of ideas by which the minds of men in a primitive condition of culture have progressed from the simple to the complex, and from the homogeneous to the heterogeneous" (1873/1914, 316). Aside from his great museum project, Pitt Rivers's precise measurements and detailed record keeping associated with his excavations of Roman sites in Britain influenced subsequent archaeological practices.



Realistic Degeneration - As Illustrative of Evolutionary Decay
Lane-Fox, *On The Evolution Of Culture* Plate V
After Various Ceramic and Marble Artifacts excavated by Schliemann at Troy

3. See also *Homer's Odyssey,* The Nineteenth Century - A Perfect Storm

In 1833, with the financial support of the Egypt Exploration Fund, Flinders Petrie transformed a childhood fascination with Egypt, into to his life's work. For the better part of a half-century Petrie conducted field work——much of it exploring the tombs of Egypt's ancient rulers (Smith 1945, 3-4). Early on Petrie formed an unfavorable opinion of the methods and work habits of his fellow excavators and in a letter to his sponsors suggested a remedy——"the careful noting and comparison of small details" (ibid. 5). And it was this attention to detail that led to one of Petrie's more significant contributions to archaeological methods. Decades of experience looking at the innumerable and subtle stylistic variations of Egyptian pots and sherds, along with his extraordinary visual memory, resulted in Petrie's formulation of 'seriation' or 'artificial sequencing.' Although stratification as a tool for determining the chronology of artifactual material was initiated during his lifetime (see below), Petrie was working with funerary finds in non-stratified situations. Ultimately he was able to demonstrate that applying statistical analysis to changes in stylistic characteristics allowed the excavator to establish the relative (if not the absolute) chronology for groups of artifacts (Hirst 2017). Petrie's excavation and recognition of non-Egyptian sherds at both Amarna and Kahun (Lahun) had a direct impact on Minoan and Mycenaean studies (1890). Petrie correctly suggested that the atypical pottery he had found was Aegean, dating to the second millennium BCE——this despite the current consensus placing prehistoric Aegean cultures in the Archaic period (1891, 199-205). While Petrie's methodological advances enhanced the archaeologist's toolkit, Lane-Fox's theories regarding the attributes of artifacts would ultimately be judged ill-considered.



Mycenaean Pottery Group
Tell el-Amarna, Egypt - F. Petrie
© University College London

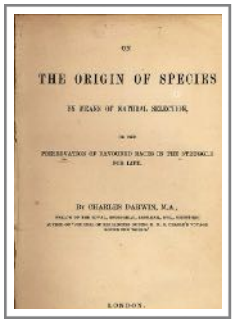
Hindsight suggests that well before either Schliemann or Evans had put a shovel in the ground each had in mind a more or less specific cultural context——including assumptions that, to a degree, "anticipated" the excavated evidence.[4] If Schliemann embraced what came to be termed *Archaeologica Homerica*, Evans's views were well within the contemporary Zeitgeist (Gladstone in Schliemann 1878, vi; Papadopoulos 2005, 88-90). Although the long history of European enrichment through trade and colonization had begun with the New World empires of Portugal and Spain in the fifteenth and sixteenth centuries, shifts in the balance of maritime power led to Britain, France, and Germany controlling the richest resources during the nineteenth century.[5] Exploration necessarily preceded exploitation and this in turn expanded the West's intellectual horizons to the lands of the Ancient Near East and to the early River Valley Civilizations of Mesopotamia and Egypt. The antiquities of Rome and Greece were also of particular interest with Lord Elgin's activities on the Athenian acropolis in the first decade of the nineteenth century setting something of a benchmark——infamous to many, but also indicative of the growing conviction that the antecedents to Western culture were to be found in Classical Greece. As national museums competed to obtain Hellenic artifacts, Greek epic and Athenian drama became firmly entrenched in the educational curricula, while both poets and artists looked to Homer, Phidias, and Aeschylus for inspiration. See *Homer's Odyssey*. The enthusiasm of the proponents of Western philhellenism, at time, seemed boundless. For example, in 1846 John Stuart

4. While preconceptions need to be evaluated, they are not, per se, untenable.

5. It is notable that, along with America, these same three countries were the first to establish schools of archaeology in Greece.

Mill suggested that, with regards to the course of English history——the battle of Marathon was more important than the Battle of Hastings (Papadopoulos 2005, 90)! At the very time Western parochialism was being reshaped by the histories and antiquities of foreign cultures, European natural scientists were revolutionizing our understanding of the history of life on earth. The amalgam of nationalistic fervor with evolutionary theory would in turn have lasting consequences, not solely for scholarly interpretations, but in the real world as well. The impact on Aegean Prehistory would be particularly tenacious, in part the consequence of received wisdom and intractable opinions but also a result of the absence of any useful contemporary documentation during the initial three-quarters of a century of scholarly attention.

Charles Lyell's *Principles of Geology*, had established stratigraphy, at least theoretically, as a basis for assigning relative chronologies to artifacts excavated *in situ* (1830 - 1833). At about the same time that Lyell was publishing his *Geology* (and decades before Petrie's work) Christian Jurgensen Thomsen was struggling with a related matter—but one for which stratigraphy didn't supply an answer. His dilemma arose, not from artifacts in the ground, but rather the numerous prehistoric stone and metal finds of a large museum collection. Thomsen turned to the three-age system: Stone Age, Bronze Age, Iron Age and suggested a successive chronology of oldest to most recent for stone, bronze, and iron artifacts such that the earliest/oldest stone artifacts might be associated with the deepest stratigraphy (1836/1848). Significantly, he understood these 'surmises' were hypothetical and would remain so until one or more excavations gave his hunch an evidence-based foundation. Thomsen's hypothesis was confirmed by the excavations of J. J. A. Worsaae (Heizer 1962, 259). The three-age system provided an empirical, albeit generalized, foundation for classification based on stratigraphic association with typologies functioning as essentially higher resolution subgroups of the same system. As artifact collections multiplied it became possible to identify and define typologies or classes of artifacts based on material, stylistic, and technical features.


ON
THE ORIGIN OF SPECIES
BY MEANS OF NATURAL SELECTION,
OR THE
PRESERVATION OF FAVOURED RACES IN THE STRUGGLE
FOR LIFE.
By CHARLES DARWIN, M.A.,
LONDON.

Lyell's *Geology* also played an important role in Charles Darwin's intellectual bombshell, *On the Origin of Species* (1859). Darwin's theory of evolution would, in turn, have a significant impact on archaeology——although not always beneficial. On the positive side, Darwin's revolutionary insights offered an alternative to the revealed world of Biblical creationism with a natural world whose processes are subject to scientific inquiry by means of observation and empirical tests. Just as significantly Darwin framed evolutionary biology in historical terms——a process whose changes over time are the result of both random variations and non-random selection. Within a decade of the publication of *Origin*, however, Darwinian principles were being cloned to elements of Herbert Spencer's generalized concept of cultural history—one adopting Lamarckian use-inheritance to rationalize the concept of *cultural evolution* (1862). Proponents of cultural evolution began to write historical narratives in ways never intended by Darwin——or supported by the evidence. As Ernst Mayr has pointed out "The truly outstanding achievement of the principle of natural selection is that it makes unnecessary the invocation of "final causes"——that is, any teleological forces leading to a particular end" (2000, 78-83). Nonetheless, during the nineteenth century cultural evolution came to be envisioned by many as a singular and inherently progressive force moving inexorably towards an idealized Western civilization. Conveniently, cultural evolution provided models of change with outcomes, albeit teleological, that were compatible with diffusion——another hallmark of contemporary archaeological thinking.



Painted Stucco Relief of Charging Bull - West Portico North Entrance

the most magnificent monument to Mycenaean plastic art that has come down to our time . . . full of life and spirit . . . naturalism and grandeur . . . it is no exaggeration to say that no figure of a bull at once so powerful and so true was produced by later classical art.[6]

-Knossos. Summary Report - Evans, 1900, 2

Perhaps not surprisingly as Evans initiated his excavations at Knossos he began to frame Minoan history as developing in a predetermined manner, a narrative that finds its ultimate expression in Evans's four volume *Palace of Minos* (1921 - 1936). Although his *magnum opus* would be decades in the making, Evans's *Summary Report* for the first year of the Knossos excavation suggests the nature of his interpretations and foreshadows the ways in which his characterization of Minoan culture would color Aegean prehistory in general (1900). It is clear that Evans came to Crete with a vision——one whose assumptions ultimately fostered both insights and illusions. In sum, Evans's narrative envisions a place and people unique in the ancient world——an enlightened monarchy with clear ties to Pharaonic Egypt yet a culture whose artisans and scribes had surpassed both past and contemporary accomplishments in ways that 'curiously' (a word used repeatedly by Evans and often an unintended but useful landmark inviting the reader's due consideration) prefigure aspects of an unrealized European future. However one judges Evans's Minoan vision——as overly enthusiastic, unsupported, or at times——as knowing mischaracterization, on the face of it his seductive narrative quickly captured the public's imagination As John Papadopoulos states in his *Inventing the Minoans,* "Without the aid of substantial texts, Evans ventured into a realm of interpretation based purely on objects and architecture, the very stuff of the archaeological record, and his own vivid imagination" (2005, 95). Not only did Evans envision Minoan society as the root of European civilization with a distinctly Oriental past, he defined Aegean civilization in general as the inheritors or replicators of Minoan culture.

Evans's rationale for framing Minoan culture as the progenitor of European civilization was based, in part, on the influential work of his student V. Gordon Childe. During the early decades of the twentieth century a number of scholars and theoreticians were refining the concept of diffusionism. Childe published a number of works on the topic including *The Most Ancient East: The Oriental Prelude to European Prehistory* and *Man Makes Himself* (1929; 1936). In its broadest sense diffusionism posits that characteristic cultural traits, ideas and/or material objects are spread from their place of origin via the movement of ideas and/or peoples. Childe's phrase "the irradiation of European barbarism by Oriental civilisation" refers to an archetypal example of the more general doctrine expressed by *Ex Oriente lux* (1958, 69). Thus the attributes of social complexity, advanced technologies, and aesthetic refinements in the arts and architecture——the prototypes of civilization, spread northward and westward across the Mediterranean into Europe from their Eastern points of origin in Mesopotamia and Egypt. Assuming the Mediterranean provided an unrestricted pathway for this diffusion was not without consequences. Thus, "the dominance of Childe's compelling master narrative appears to be a primary reason for the lack of any consideration of the unique properties of islands" (Cherry and Leppard 2015, 13). By applying the filter of Minoan

6. Confusingly, Evans used the term "Minoan" for early Cretan civilization and "Mycenaean" when referring to the high point (ca. 1700-1450 BCE) of Cretan prehistory——thus coopting Schliemann's finds at Mycenae as all part of Minoan hegemony.

culture to the process of diffusion, Evans argued for an early influx of Egyptians to Crete (EM I) while also making the case that Minoan artisans added their distinctive improvements to Nilotic material culture. Given the directionality attributed to diffusion, Minoan Crete might then be framed as the source, if not the progenitor, for advances across the Cyclades, onto the mainland, and beyond (ibid., 11-12). Within the framework of cultural evolution, diffusionism drove historical narratives in decidedly Euro-centric, often nationalistic ways. This was the perspective promoted in Lane-Fox's unique organization of his museum collection. In distinguishing his arrangement of ethnological and archaeological artifacts he emphasizes that previous collections had been arranged geographically, "whereas in the arrangement which I have adopted, the development of specific ideas and their transmission from one people to another, or from one locality to another, is made more apparent" (1873/2014, 343). By the late nineteenth century the adoption of evolutionary mechanisms became firmly entrenched in archaeological theory and found an effective and popular expression in precisely the type of museums that Arthur Evans and Lane-Fox created and directed at Oxford (ibid., 11). If the Pitt Rivers Museum was designed expressly to showcase the, "founder's ideas about typology [and] universal human cultural evolution" Evans perceived the, "Ashmolean as correctly portraying, in its core archaeological collections, humanity's unwritten history" (ibid., 11; Prezioli 2002, 33). However, as additional early Bronze Age sites across the eastern Mediterranean and more generally throughout western Europe were excavated it became clear that while some archaeological findings exhibited Eastern (and/or Minoan) influences, uniquely local and regional characteristics were abundant as well.

Early twentieth century excavations at Knossos strongly influenced how Aegean prehistory was to be understood. Previously thought to have emerged out of the darkness in the Archaic period, Greek culture now took its place alongside the venerable river valley civilizations with revelations of a brilliant Bronze Age past. And the Aegean archaeological map was expanding. The closing years of the previous century had been highlighted by Christos Tsountas's research of Cycladic cemeteries as well as the important excavations at Phylakopi on Melos led by Duncan Mackenzie (1898). Although Schliemann's spectacular grave finds had essentially kick-started Aegean prehistoric archaeology, Evans's interpretation of events on Crete had effectively promoted the narrative of Minoan preeminence. However, while Minoan influences at mainland sites were apparent other evidence strongly suggested a uniquely Mycenaean culture. As mentioned above, Blegen's and Wace's work near Corinth provided an early demonstration of the usefulness of ceramic analysis and laid the groundwork for Mycenaean 'independence' (1918, 175-189). Although the authors followed Evans's tripartite scheme they defined a distinctly mainland chronology of Early, Middle, and Late Helladic periods based on a sequence of pottery typologies. By the late 1930s, despite Evans's publications and pronouncements *ex cathedra*, the reality of a distinct Mycenaean culture was being buttressed by excavations——both at its eponymous site and elsewhere ranging from Iolcus in Thessaly to Pylos in Messenia. Pylos proved to be particularly informative. Although initial excavations were cut short by WW II, the cache of Linear B tablets excavated in 1939 were only the first of the extraordinary finds from a site that continues to surprise (Blegen and Rawson 1967, 3). That same year Blegen and Wace coauthored a work that reinforced the independence and importance of Mycenaean culture based on the evidence of Mycenaean pottery exported to Egypt (Blegen and Wace 1939; Fitton 1996, 169).



LH IIB - Ephyraean goblet
Blegen 1921, Pl. VII no. 1

Evans's death in 1941 and the war years marked a watershed in Aegean studies. The 1952 decipherment of Linear B ended years of frustration and, in a positive vein, revolutionized Aegean studies. Linear B tablets record information about Mycenaean palace economies and although it has taken decades of scholarship, innovative analytic methods have revealed a wealth of details about Mycenaean society including the various economic roles and responsibilities of individuals, commensal and ritual traditions, as well as details about individual scribes and scribal practices. Linear B content has also provided a more secure basis for comparing late Bronze Age social practices and institutions with those of the Archaic and Classical periods (Palaima 2011). Interpretations of the Linear B corpus have not been without controversy. M. I. Finley argued that the economic focus of the Linear B tablets was further evidence that there was nothing at all 'Greek-like' about the Mycenaean state economy; it was instead, he maintained, an Eastern-type 'redistributive' autocracy (Nakassis et al. 2011, 179-180). Finley's characterizations would play a part in the next paradigm shift in Aegean archaeology.

By the 1960s the usefulness of the diffusionist model was being debated along with a broader set of criticisms questioning the methods and goals of archaeology itself. Early proponents and influential voices for what would become to be known as the New Archaeology (later, Processual Archaeology) were Lewis Binford and David Clarke. Binford, at the University of Chicago, fretted over his perception that archaeologists had become "little Linnaean beings"——experts at classifying the cultural artifacts they dug from the earth but with little or nothing to say about how and why cultures changed (Balter 2005, 62-63). Across the Atlantic Clarke was raising epistemological questions. What exactly were the limits to what archaeologists might know given data-based evidence (ibid., 63-64). While not exactly on the same page, Binford and Clarke were asking important questions and others were starting to listen. There was also a general sense that scientific methodologies would give archaeology a testable means to explain cultural change. Significantly, however, the concept of cultural evolution was being redefined in terms even more closely allied with biological evolution. Culture arose and evolved as a result of a peoples' responses (or adaptations) to external environmental factors. Theoretically, therefore, one should be able to identify those specific environmental conditions and devise means to measure and describe their affects.

Colin Renfrew's application of radiocarbon 14C dating provided an early demonstration of the efficacy of an empirical approach (1968). Although the basic analytic method was first described in 1949, calendar year results were not possible until 14C measurements were calibrated using bristlecone pine (*Pinus longaeva*) tree-ring dating (ibid., 279-281). Using the enhanced methods, Renfrew demonstrated that supposed synchronies between the Aegean (Late Bronze Age Mycenae, ca.1600 - 1200 BCE) and Northern Europe (Early Bronze Age Wessex culture, ca. 2100 - 1700 BCE) were misaligned (ibid., 283). This in turn negated the possibility that Mycenaean (or Minoan) material culture could have in any way influenced an earlier period in Northern Europe—the era of Stone Henge (ibid., 282-284). Renfrew concluded his paper by making the point that similarities in material objects from diverse cultures are in fact to be expected, not necessarily as a by-product of diffusion, but because, "In reality a similar cultural process is at work in each area at these different times" [7] (ibid., 285). And it was to be such processes that would become the focus of *processual archaeology.*

7. Seemingly in concert with the concepts of 'analogies' and 'homologies' in biological evolution.

Given their relative proximities to Egypt and Mesopotamia it was reasonable to suspect different cultural prehistories for the Aegean and Northern Europe. Colin Renfrew's *Emergence of Civilization: The Cyclades and the Aegean in the Third Millennium BC* engaged with this question while also giving voice to a number of broader archaeological issues (1972/2011). Renfrew's original *Preface* pointed to the influences of V. Gordon Childe and the current acceptance that Greek culture arose as an "offshoot of Oriental civilisation" (2011, LI). As an admirer of Childe's work, Renfrew lauds the scholar who had, "touched upon, and illuminated most of those problems in prehistoric archaeology which trouble us today" (ibid., LII). In fact, Childe's hypotheses were also the root causes of at least some of the troubles. Childe had famously coined the term *Neolithic Revolution* to describe one of the essential cultural shifts along the "path" from savagery to civilization. Additionally, Childe claimed, "If they (evolutionary stages) be defined by suitable selected criteria, the logical hierarchy of stages can be transformed into a temporal sequence of ages, proved archaeologically to follow one another in the same order *wherever they occur* [my emphasis added] (1950, 3). This was, of course, a mid-twentieth century rewrite of earlier teleological narratives that were very much in tune with the politics of colonialism and nationalism. Renfrew's own investigations of the third millennium BCE emergence of Cycladic culture, however, suggested scenarios at odds with a number of Childe's hypotheses. Various elements of Cycladic culture, as reflected in the archaeological record, including agricultural practices, craft traditions, and social structures were essentially unlike those of the Near East or Egypt (Renfrew 2011, LI - LII).

Although the details of Renfrew's extensive work in the Cyclades are covered elsewhere, his excavation with John Evans on Saliago in the late 1960s mark a turning point in Aegean studies (Evans and Renfrew 1968). In their published results the authors suggest that, "The affinities of the Saliagos culture are not so marked in the case of any one culture as to single out the latter as a likely point of departure for the inhabitants of Saliagos," and furthermore, "it would seem better to view the Saliagos culture as indigenous" (ibid., 91). As Cherry and Leppard point out, John Evans had raised the initial questions about applying diffusionism with a broad brush and together with Renfrew their Saliagos publication, "placed a new emphasis on the importance of the operation of local cultural processes, constrained by insularity" (2015, 13).

While diffusionism might account for aspects of Cycladic culture it was, at best, only a partial answer. Renfrew stressed that defining an alternative model to diffusionism would require more than archaeological evidence. Excavating and describing the material finds and architectural remains was necessary, perhaps even sufficient, to explain cultural beginnings. However, the wherewithal to elucidate more advanced cultural processes would require a different set of tools——ones quite unlike those used by the excavator (Renfrew 2011, LI - LII). Excavation may suggest reconstructions and their variations over time (for example, the diachronic changes of domestic dwellings) but is silent with regards to the underlying causes for those changes. Ultimately, archaeologists turned to anthropology to expand their reach. While Childe's diffusionist approach may not by itself have been up to the task, Renfrew, like Childe, was looking for a unifying model. As cultures evolve from subsistence economies to



Violin Type Figurine
Amorgos, Grotta-Pelos Culture
© Trustees of the British Museum

complex societies, with individuals acting in specialized roles such as administrators, agriculturalists, and artisans, the tools of the anthropologist are required to understand and describe such changes. Moving beyond the description of artifactual material to descriptions of how and why the members of prehistoric communities interacted with the materials at hand is clearly a more ambitious goal. As Renfrew made clear, "Before disposing of the diffusionist view, however, it was necessary to put something in its place. It was necessary to offer a 'processual' account of the origins of Europe——that is to say one laying emphasis upon economic and social processes by means of which new societies were constructed——in place of the now-rejected diffusionist one" (ibid. XXX). The concept of *redistribution* would play a central role in the new model——one that defined Aegean economies largely as palace-based institutions. It should be noted that although the focus had shifted from diffusionism to redistribution, a number of the underlying assumptions of cultural evolution remained. For both Childe and Renfrew, and more generally for processual archaeology, the concept of the progress of civilization retained, at least for some, the assumption of an inexorable path ultimately leading to European monarchies.

While Renfrew's call for a new direction with new methodologies was generally heeded, a series of reactions to his model were framed around efforts to understand the critical factors leading to the "emergence of the state" rather than the more encompassing concept of civilization. Cherry proposed that the 'state' as a 'complex centralized political administration,' "provides an integrative focus for research that is generalized yet archaeologically definable" (1984, 24). Various factors including agriculture, coercion, social storage of surplus food supplies, secondary products revolution, and even a return to Near Eastern models were subsequently suggested as critical to state formation.

Redistribution in Aegean societies was originally conceived of as a process of gathering various crops, raw materials, and/or trade goods in a central place to facilitate exchange. Gradually, as such processes at particular sites became increasingly complex the organizer took on the role of "chief"——enhancing his/her authority and ultimately leading to the individual coopting control of the products and their redistribution. The process was seen as a characteristic of the transition from earlier egalitarian communities to hierarchical societies or chiefdoms accompanied by "a monopoly of legitimate violence" (Nakassis et al. 2011, 178). A number of scholars suggested that as the elite became entrenched they transformed Minoan economy in ways thought to mirror "Near Eastern temple-city" models (ibid., 179). Significantly, this model "emphasized redistribution as a hyper-centralized economic system that controlled virtually all aspects of economic production and distribution" (ibid., 180). Such redistributive systems implied an inherently rigid, top-down, social hierarchy and were part and parcel of Finley's conception of Oriental despotism as the model for the Mycenaean state (1957). Archaeological evidence, including the enormous wealth interred with a select group of Mycenaeans "chiefs," as well as the conspicuously large storage facilities at Minoan palaces appeared to buttress just such a model.



Mycenaean Grave Goods
National Archaeological Museum



Knossos Magazine & Pithoi
Heraklion Museum

Recent scholarship, however, suggests a number of deficiencies in “a unitary top-down model.” For example, differences in the Minoan and Mycenaean states tend to be masked by generalized models. Even at the level of the individual state, as Nakassis puts it, “we ought not to be discussing whether a given society is redistributive or not, but how it is redistributive,” and to focus, “on describing the multiple systems embedded within the economy of a given society” (Nakassis 2011, 180-181). Despite these criticisms Renfrew’s *Emergence* also argued for a methodological approach characterized by, “a series of models to explain change that are specifically grounded in the data” (Schoep and Tomkins 2012, 3).

Some archaeologists consider post-processualism as an extension of the processural movement and one whose questions are largely complementary; others consider the two to be antithetical. In any case post-processual archaeology arose as a reaction to the perceived lack of results of positivism and its emphasis on scientific methodologies (hypothetico-deductive reasoning). Ian Hodder, an apologist for post-processualism, has pointed out that patterns evident in the archaeological record can often be explained equally as well by more than one hypothesis (Balter 2005, 67). Post-processualists contend that all archaeology is in some sense subjective, its pronouncements ultimately based on the viewpoints of individual archaeologists. In fact interpretation is necessary to understanding individual actions (human agency) and behavior in specific social contexts. Elements such as meaning or intension are often unique to specific cultures and are generated internally——not solely as adaptations to external conditions. At the same time, understanding a given archaeologist’s theoretical underpinnings is often challenging. However, Michael Balter’s *The Goddess And The Bull* is an engaging work that brings readers to the dig (Hodder’s excavations at Çatalhöyük in central Anatolia) as well as to the lecture hall. Balter serves up a good deal of theory but not at the expense of omitting the real world that archaeologists inhabit (2005).

An outcome of the post-processual movement was the post-modernist critique of the long-lived assumptions of cultural evolutionism in archaeology. The analogizing of cultural change with the growth and development of organisms led to a number of unfounded conclusions including Eurocentric prejudices (Catapoti 2005, 5). One of the more tenacious aspects of the adoption of cultural evolutionism were assumptions about Mycenaean culture and subsequent Greek history. In a recent volume on the formation of Pylos Jack Davis states a simple but consequential fact——“Bronze Age Greece is largely the creation of archaeology” (2022, 4). As Davis points out, Christos Tsountas’s early and influential work made the case that his excavations, like those of Schliemann before him, uncovered the foundations of Greek history——cultural links that were inexorably tied to the modern Greek State via the Archaic and Classical periods (ibid., 7-8; Tsountas 1897). Just such convictions achieved the status of certainty in the forge of state-making and racially tainted warfare in the late 19th and early 20th centuries. No less a trend setter than Carl Blegen carried forward these views in his, “belief in the exceptional nature of the Greek character,”——an essential element in the narrative Davis characterizes as, “the phylogenetic model of Greek history” (Davis 2022, 4-6). However the critique of nationalism by Davis and others is not in the service of erecting a wall between Aegean prehistory and later Greek culture but rather a deliberate decision to redirect the focus to the excavated evidence. And recent revelations from Pylos, including the rich findings from the grave of the Griffin Warrior make this case (Davis and Stocker 2016, 627 - 655).[8] See also *Mycenaean I*.

8. Serendipity on Englianos Ridge. Recent aDNA analyses demonstrate that while some elite individuals at Pylos carried markers for steppe ancestry, others including the Griffin Warrior did not (Lazaridis et al. 2022, 1-6).

The critique described above demonstrates that archaeology is transformed as much by introspection and a reorientation of focus as by new and/or reanalyzed data from excavations. *Post-evolutionary* archaeologists continues to excavate and conduct surveys while also bringing a different set of assumptions to the field. While Evans largely equated Aegean archaeology with the Palace of Minos, the ongoing re-evaluation of Knossos' place in Minoan culture questions earlier convictions (Schoep 2006, 2010). The traditional temple-palace model in particular seems unsupported by the evidence. Court centered complexes are now seen as traditional sites of commensal rituals——where ideological cohesion is at least as important as economic matters. Currently a number of archaeologists suggest a 'bottom-up' approach as a better way forward for understanding these cultures. For example, rather than an exclusive focus on the palace (Neopalatial Knossos) researchers have shifted their investigations to outlying areas and to smaller but equally significant sites that have shown themselves to be of particular importance in the development of specific architectural innovations, craft expertise, and or commercial ventures. Rather than investigating and describing broad thematic topics that cut across large spans of Minoan culture more attention is now being given to discrete times, places, and practices (Schoep 2018, 24-26). Catapoti frames it this way——"Put simply, this is a form of thinking which encourages us to bring to the fore what was previously thought to be a (disturbing and confusing) anarchy of detail" (2005, 86). Similar critiques have affected mainland studies.

Changes in theoretical models have been accompanied by new methodologies. Together they share a change in perspective—one that broadens the purview of archaeology to include diachronic matters. One of the more productive methodological advances has been intensive survey archaeology. Alongside site specific excavations there has been increasing interest in and projects designed to investigate relatively large areas ranging from community-wide sites adjacent to palace-centers to considerably larger regional territories. A typical element of survey projects deploys teams of field workers to collect surface sherds along defined transects. Data is then collated based on the numbers and types of sherds collected. Such analyses are complemented by the reports of interdisciplinary team members that often include paleobotanist, geographers, and climatologists. The goal is "to investigate patterns of settlement . . . across space and through time" (Rutter 2001, 102). The results of such efforts have broadened our understanding of regional matters while also informing the findings of specific excavations (Wright et al. 1990, 640-643).[9] Advances in specific technologies (eg. SCUBA) have also changed archaeology by providing new tools that have opened up entirely new areas for investigation as exemplified by the work of George Bass and the Institute of Nautical Archaeology. In addition, improved analytic technologies such as dendrochronology, remote sensing, neutron activation, and isotope analysis have informed many areas of investigation including chronology, site mapping, and the composition and origin of specific material finds. As ancient DNA (aDNA) studies have already demonstrated, genomics has assumed a role alongside radiometric dating as an essential and revolutionary tool in archaeological research.

Not the least of the changes that have affected archaeological endeavors are the result of self-criticism. Like any human endeavor each individual brings to their work a set of cultural presuppositions, aspirations, and goals. Indeed, absent these characteristics little would be accomplished——in archaeology, but in many other pursuits as well. However, exactly the same set of motivating attributes may have unintended consequences. John Papadopoulos's retrospective of Arthur Evans and his intellectual heirs examines this dilemma (2005). Although Evans was in some sense unique,

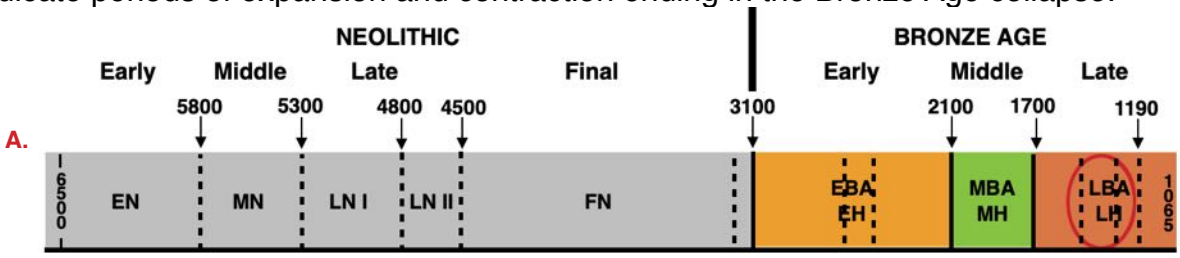
9. See, for example, the *Nemea Valley Archaeological Project (NVAP)* Wright et al.1990.

Papadopoulos illustrates how the insidious affects of preconceptions may be widespread and long lasting. And while it is perfectly normal and natural for young scholars to emulate their mentors, the potential pitfalls of received wisdom are also clear. Peer review, wariness of authority, and the desirability to formulate testable hypotheses each plays a part in checks on what are simply part of being human. Real progress in understanding the Aegean Bronze Age rests on understanding ourselves as well as the pots and trade routes of ancient peoples. Preziosi and Hitchcock's *Aegean Art and Architecture* exemplifies this perspective (1999). The authors make clear their work, "is not a historical novel" but rather their attempt to find a middle ground between what is meaningful to each of them as modern-day researchers and the type of interpretations whose meanings seem plausible for peoples of the Aegean Bronze Age (ibid. 27; 24-28).

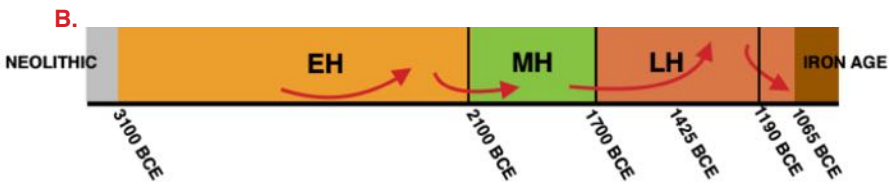
Despite the impressive progress that has been made in Aegean studies, there are significant and perennial challenges that will likely not find resolution in the short term. Elizabeth French summarized what every Aegean archaeologist knows. The excavated evidence (including textual documents) is fragmentary and unevenly distributed while an additional portion is unrecoverable——thus, in French's words, "any description of artifacts produced by the Mycenaeans cannot avoid being unbalanced" (2002, 103). The implication is that many generalizations based on the known evidence—whether about the people we refer to as Mycenaeans, their palaces, or their practices, are conditional and to a degree speculative. In fact, the recent post-modern critique of previous applications of central palace theory reflects an awareness of these limitations. See, for example Dill 2021. At the same time, both Joseph Maran and Thomas Palaima have argued, that informed interpretations of the evidence from associated cultures may also illuminate aspects of Mycenaean culture (Maran 2004, 18-25); Palaima 2008, 343). The prospect of new evidence and fresh interpretations suggests future changes and a more detailed and clearer understanding of the Mycenaeans and their world.

Chronological Overview*

Timeline A. below gives break points between commonly referenced periods. An initial focus on the relative duration and relationships among the more inclusive categories (Neolithic & Bronze Age) and their major subdivisions is useful. Mycenaean culture flourished (circled in red) in the 14th and 13th centuries BCE. Arrows on Timeline B indicate periods of expansion and contraction ending in the Bronze Age collapse.



Neolithic & Bronze Age Chronology
after Demoule and Perlès 1993, Manning 2010



*The traditional tripartite division (and subsequent subdivisions) of Aegean Bronze Age chronology (Early, Middle, and Late) is also termed Early Helladic, Middle Helladic, and Late Helladic for the Greek mainland——a convention adding "Cycladic" for the Cyclades Islands and "Minoan" for Crete chronologies. Periodization for the preceding Neolithic and following Iron Age follow similar conventions.

References

Anthony, David and Don Ringe. 2015. “The Indo-European Homeland from Linguistic and Archaeological Perspectives.” *The Annual Review of Linguistics*. Vol. 1.

Balter, Michael. 2005. *The Goddess And The Bull*. New York. Free Press.

Blegen, Carl W. 1928. “The Coming of the Greeks: II. The Geographical Distribution of Prehistoric Remains in Greece.” *American Journal of Archaeology* 32, 146–54.

Blegen, C.W. and M. Rawson. 1967. *A Guide to the Palace of Nestor*. Cincinnati. University of Cincinnati.

Blegen, Carl and Alan Wace. 1939. “Pottery as Evidence for Trade and Colonisation in the Aegean Bronze Age.” *Klio* 2, 131-147.

Catapoti, Despina. 2005. *From Power To Paradigm: Rethinking The Emergence Of The "Palatial Phenomenon” In Bronze Age Crete*. Ph.D. dissertation, University of Sheffield.

Chapman, William Ryan. 1981. *Ethnology In The Museum: A.H.L.F. Pitt Rivers (1827-1900) And The Institutional Foundations Of British Anthropology*. Ph.D. dissertation, University of Oxford.

Cherry, John F. 1981. “Pattern and process in the earliest colonization of the Mediterranean islands.” *Proceedings of the Prehistoric Society* 47, 41–68.

___. 1984. "The emergence of the state in the prehistoric Aegean.” *Transactions of the Philological Society* 30, 18-48.

Cherry, J. and T. Leppard. 2015. “A Little History of Mediterranean Island Prehistory.” In *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean,* edited by A. Knapp & P. Van Dommelen. Cambridge. Cambridge University Press.

Childe, V.G. 1929. *The Most Ancient East: The Oriental Prelude to European Prehistory*. London. Kegan Paul.

——. 1936. *Man Makes Himself*. London. Watts.

——. 1950. “The Urban Revolution.” In *The Town Planning Review* 21, 3-17.

——. 1958. *The Prehistory of European Society*. Harmondsworth. Penguin.

Daniel, G.E. 1976. *A Hundred and Fifty Years of Archaeology*. 2d ed. Cambridge. Harvard University Press.

Darwin, Charles. 1859. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. London. Murray.

Davis, Jack and Sharon Stocker. 2022. *A Greek State in Formation - The Origins of Mycenaean Pylos*. Oakland. University of California Press.

Demoule, Jean-Paul, and Catherine Perlès. 1993. "The Greek Neolithic: A New Review." *Journal of World Prehistory* 7, 355-416. http://www.jstor.org/stable/25800637

Dill, Amy. 2021. *An Analysis Of The Application Of Central Place Models In Mycenaean Archaeology*. Ph.D. dissertation, Florida State University.

Evans, A.J. 1894. “Primitive Pictographs and a Prae-Phoenician Script, from Crete and the Peloponnese.” *The Journal of Hellenic Studies*.

___. 1899/1900. “Knossos. Summary Report of the Excavations in 1900: I. The Palace.” *The Annual of the British School at Athens* 6, 3–70.

___. 1909. *Scripta Minoa : the written documents of Minoan Crete, with special reference to the archives of Knossos*. Oxford. Clarendon.

___. *The Palace of Minos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*. 1921-1936. Vol. I: 1921; Vol. II: Part I 1928a, Part II 1928b; Vol. III: 1930; Vol. IV: Part I 1935a, Part II 1935b; Index 1936. London. MacMillan and Co.

___. 1952. *Scripta Minoa II. The Written Documents of Minoan Crete with Special Reference to the Archives of Knossos,* edited by John L. Meyers. Oxford. Clarendon Press.

Evans, J.D., and C. Renfrew. 1968. "Excavations at Saliagos: Near Antiparos." *The British School at Athens. Supplementary Volumes* 5, iii–226.

Finley, M.I. 1957. "The Mycenaean Tablets and Economic History." The Economic History Review 10, 128–41.

Fitton, L. 1995. *The Discovery of the Greek Bronze Age*. Cambridge. Harvard University Press.

Fox, Margalit. 2013. *The Riddle of the Labyrinth - The Quest To Crack An Ancient Code*. New York. HarperCollins.

French E. B. 2002. *Mycenae, Agamemnon's Capital, The Site in its Setting*. Gloucestershire. Tempus.

Haley, J. B. 1928 "The Coming of the Greeks: I. The Geographical Distribution of Pre-Greek Place-Names." *American Journal of Archaeology* 32, 141–45.

Hamilakis, Yannis, ed. 2002. *Labyrinth Revisited - Rethinking 'Minoan' Archaeology*. Oxford. Oxbow Books.

Heizer, Robert F. 1962. "The Background of Thomsen's Three-Age System." *Technology and Culture* 3, 259–66.

Hirst, K. Krist. 2017. *Seriation - Scientific Dating Before Radiocarbon*. https://www.thoughtco.com/seriation-scientific-dating-before-radiocarbon-170607

Homer. 1990. *The Iliad*. Translated by Robert Fagles with an Introduction and Notes by Bernard Knox. New York. Penguin.

Lane-Fox, Augustus Henry. (1873/4) 2014. "On The Evolution Of Culture." In *The Evolution of Culture*, edited by J. L. Myers. Gutenberg eBook.

Lazaridis, Iosif and Songül Alpaslan-Roodenberg et al. 2022. "The genetic history of the Southern Arc: A bridge between West Asia and Europe." *Science* 377, 939.

Lyell, Charles. 1830–33. *Principles of Geology: being an attempt to explain the former changes of the Earth's surface, by reference to causes now in operation*. 3 vols. London. John Murray.

Mackenzie, D., T.D. Atkinson, and C.C. Edgar. 1898. "Excavations in Melos, 1899." *The Annual of the British School at Athens* 5, 3–19.

Manning, Sturt. 2010. "Chronology And Terminology" In *The Oxford Handbook Of The Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press.

Manning, Sturt, Lukas Wacker, Ulf Büntgen, Christopher Bronk Ramsey, Michael W. Dee, Bernd Kromer, Brita Lorentzen and Willy Tegel. 2020. "Radiocarbon offsets and old world chronology as relevant to Mesopotamia, Egypt, Anatolia and Thera (Santorini)." *Scientific Reports* 10, 13785.

Maran, J. 2004. "The Spreading of Objects and Ideas in the Late Bronze Age Eastern Mediterranean: Two Case Examples from the Argolid of the 13th and 12th Centuries B.C." *Bulletin of the American Schools of Oriental Research* 336.

Mayr, Ernst. 1995. "Darwin's Impact on Modern Thought." *Proceedings of the American Philosophical Society* 139, 317–25.

McDonald, William. 1967. *Progress into the Past*. New York. Macmillan.

Nakassis, Dimitri, William A. Parkinson, and Michael L. Galaty. 2011. "Redistribution in Aegean Palatial Societies. Redistributive Economies from a Theoretical and Cross-Cultural Perspective." *American Journal of Archaeology* 115, 177-184.

Palaima, Thomas G. 2011. "Scribes, scribal hands and palaeography." In *A Companion to Linear B: Mycenaean Greek Texts and Their World,* Volume 2, edited by Y. Duhoux, A. Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

___. 2008. "Mycenaean Religion." In The Cambridge Companion to the Aegean Bronze Age edited by Cynthia Shelmerdine. New York. Cambridge University Press.

Papadopoulos, John. 2005. “Inventing the Minoans: Archaeology, Modernity and the Quest for European Identity.” *Journal of Mediterranean Archaeology* 18, 1.

Petrie, William M. F. 1890. *Kahun, Gurob, and Hawara*. London. Kegan.

___. 1891. “Notes on the Antiquities of Mykenae.” *The Journal of Hellenic Studies* 12, 199–205.

Prezioli, Donald. 2002. “Archaeology as Museology: Rethinking The Minoan Past.” In *Labyrinth Revisited,* edited by Yannis Hamilakis. Oxford. Oxbow Books.

Prezioli, Donald and Louise Hitchcock. 1999. *Aegean Art and Architecture*. Oxford. Oxford University Press.

Renfrew, C. 1968. “Wessex without Mycenae.” *The Annual of the British School at Athens* 63, 277–85.

___. 2011 (1972). *The Emergence of Civilisation*. Havertown. Oxbow Books. Kindle.

Robinson, Andrew. 1995. *The Story of Writing: Alphabets, Hieroglyphs and Pictograms*. London. Thames and Hudson.

Rutter, J.B. 2001. “Review of Aegean Prehistory II: The Prepalatial Bronze Age of the Southern and Central Greek Mainland” and “Addendum: 1993-1999.” In *Aegean Prehistory: A Review,* edited by T. Cullen. Boston. Archaeological Institute of America.

Schliemann, Henry. 1875. *Troy and its Remains*. Reprinted in 2010. Cambridge. Cambridge University Press. Kindle.

___. 1878. *Mycenae ; A Narrative of Researches and Discoveries at Mycenae and Tiryns* with a preface by W. E. Gladstone. London. Murray.

___. 1880. *Ilios, City and Country of the Trojans*. New York. Harper.

___. 1886. *Tiryns: Der prahistorische Palast der Konige von Tiryns*. Leipzig. Brockhaus.

Schoep, Ilse. 2006. “Looking beyond the First Palaces: Elites and the Agency of Power in EM III-MM II Crete.” *American Journal of Archaeology* 110, 37–64.

—-. 2010. “The Minoan ‘Palace-Temple’ Reconsidered: A Critical Assessment of the Spatial Concentration of Political, Religious and Economic Power in Bronze Age Crete.” *Journal of Mediterranean Archaeology* 23, 2.

___. 2018. “Building the Labyrinth: Arthur Evans and the Construction of Minoan Civilization.” *American Journal of Archaeology* 122, 5–32.

Schoep, Ilse., P. Tomkins. 2012. “Back to the Beginning for the Early and Middle Bronze Age on Crete.” In *Back to the Beginning - Reassessing Social and Political Complexity on Crete During the Early and Middle Bronze Age,* edited by Ilse Schoep, Peter Tomkins and Jan Driessen. Oxford. Oxbow Books.

Smith, Sidney. 1945. “William Matthew Flinders Petrie, 1853 - 1942.” In *Biographical Memoirs Of Fellows Of The Royal Society*. DOI: 10.1098/rsbm.1945.0001

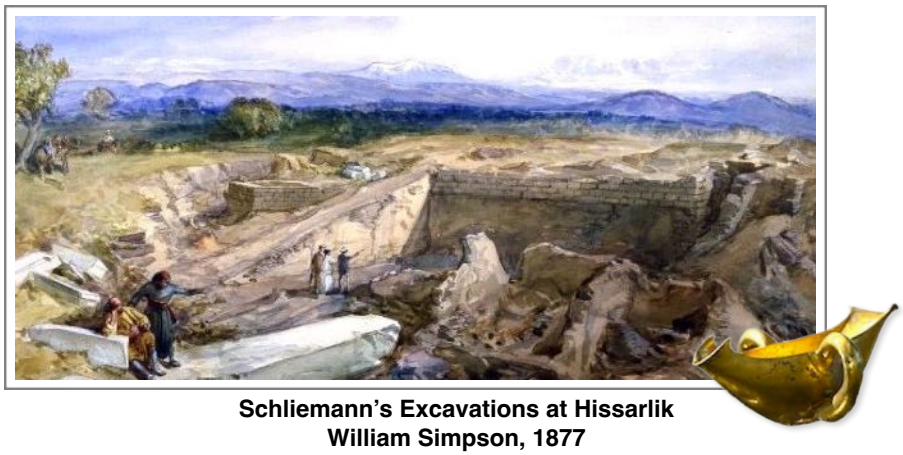
Spencer, Herbert. 1862. *First Principles*. London. Williams and Norgate.

Thomsen, C. J. 1836. *Ledetraad til Nordisk Oldkundskab* (*Guide to Northern Archaeology*), published in English in 1936 - 1937. Copenhagen. Møllers Bogtrykkeri.

Tsountas, Christos and J.Irving Manatt. 1897. *The Mycenaean Age: a study of the monuments and culture of pre-Homeric Greece*. London. Macmillan.

Wace, A. J. B., and C. W. Blegen. 1918. “The Pre-Mycenaean Pottery of the Mainland.” *The Annual of the British School at Athens* 22, 175–89.

Wright, James C., John F. Cherry, Jack L. Davis, Eleni Mantzourani, Susan B. Sutton, and Robert F. Sutton. 1990. “The Nemea Valley Archaeological Project a Preliminary Report.” *Hesperia* 59, 579–659.



Schliemann's Excavations at Hissarlik
William Simpson, 1877
© Trustees of the British Museum
Gold Sauceboat
Pushkin State Museum of Fine Arts, Moscow

Thunderbolt

Aegean Bronze Age studies begin with Heinrich Schliemann's belief in the historicity of Homer. Given that Homer's world is populated with gods and semi-divine heroes it is perhaps surprising that something akin to Schliemann's original intuition continues to engage and yes, at times vex, a good deal of contemporary Bronze Age scholarship. Not long after Schliemann announced his discoveries of Priam's treasure at Troy and the gold burial masks of Agamemnon and kin at Mycenae, a wave of public enthusiasm was accompanied by scholarly pronouncements ranging from caution to outright disbelief. A century and more after the fact Schliemann remains controversial——and not simply for his mythologized interpretations. As it turns out Schliemann had found neither Priam's Treasure nor Agamemnon's interment, but rather cultural artifacts many centuries older than the putative date of the Achaeans siege of Troy. Yet in a strange twist of fate Schliemann's excavations ignited an archaeological revolution that would unearth the previously unrecognized prehistoric Aegean cultures that in the Late Bronze Age twilight of their glory was the world Greeks of the Archaic and Classical eras envisioned in Homeric epic. In any case, Schliemann's enduring fame continues to focus attention on his archaeological exploits, resulting in judgements that are not altogether flattering. There are, however, differing opinions about Schliemann's work. One incarnation of the debate has been the perennial charge that he cooked the books. D. F. Easton paper, in part a commentary on David Traill's *Schliemann of Troy: Treasure and Deceit*, replays many of the pros and cons (1998, 335-343; 1997). Easton's conclusion focuses not on Schliemann's personal short comings but on his accomplishments. Yes Schliemann was vane, even dishonest at times, but Easton found no compelling evidence that Schliemann falsified his findings. "His lasting achievement was to open up Aegean prehistory, and to create a world wide enthusiasm for archaeology" (1998, 343). While the last statement is undoubtedly true it needs to be balanced against the reality that Schliemann's showmanship and egotism did, at times, degenerate into unsavory behavior and yes, lies. For example, Traill's later publication, *'Priam's Treasure': Clearly a Composite*, enumerates a number of discrepancies among Schliemann's own accounts describing the excavation of the 'Priam' hoard of jewelry, weapons, and pottery. Traill presents a strong case that rather than being a single cache, the jewelry and the famous gold sauceboat, while authentic, were added to other artifacts thus enhancing the nature of the find (2000, 17-32). Traill's conclusion is certainly consistent with Schliemann's inclination to fabricate the record, at least in part, and for self-aggrandizement——often at the expense of others.

Certainly In the 1870s when Schliemann began excavating in the Troad and then the Peloponnese his activities were seen by many as quixotic. The largely buried remains of Priam's citadel and Agamemnon's fortress were the stuff of legend——famously characterized by the revered historian George Grote, as part of "a past that never was present" (1880 Vol. 1, 43). Homer's creations were considered pure myth, a world not unlike Shakespeare's artful fabrication in *The Tempest,* "the actors all spirits of some insubstantial pageant" (1987, 4.1.147-155). Ultimately, however, Schliemann's revelations would substantiate the reality of prehistoric Greece.



Octopus in Gold
Grave IV Grave Circle A
National Archaeological Museum

Carol Thomas, in making the case for what has become the view of many scholars in the early twenty-first century asserts that, "What once was thought to be the product of a lively imagination is assuming a fixed shape . . . the mythical is becoming historical" (1993, Preface). Innovative archeological methods and technologies along with the results of more than a century of Aegean excavations and scholarship have transformed our perceptions of the Mycenaean landscape. New analytic tools are also changing the way we look at history itself, what Mary Beard characterizes as, "new ways of looking at the old evidence" (2015, 343). In *Confronting the Classics* Beard makes the point that an analysis of how Thucydides "constructed an image of historical objectivity within a late–fifth century setting" may well be more productive than traditional efforts to authenticate this or that historical statement (2014, 40). While there is no expectation of unearthing Hector's bones there is ample evidence attesting to the existence of Late Bronze Age cultures in the Aegean whose elite classes were preoccupied with hunting and warfare, enjoyed their wine and likely had a fondness for song, who feasted and worshipped much like Homeric heroes and whose drinking cups, weapons, metalwork, and deities all have a place in Homeric epic. Notably, many of the archaeological parallels can be confirmed through the documentary evidence of specific Linear B records. For example, Thomas Palaima has detailed the various congruences between Homer's descriptions of religious rituals with the responsibilities of the Pylian *wanax* (king) for regular sacrifices and feasting (2012; 2008a, 347-355). Additionally, Epic language itself includes archaisms consistent with early Late Bronze Age dates as well as cognates with even earlier Indo-European daughter languages. The judgment that Homer does in some measure describe the Bronze Age world of the Mycenaeans continues to be debated and is not without its naysayers but perceptions have changed significantly over the last century.

The early reception of Schliemann's discoveries and his initial convictions that he had indeed found the tomb of Agamemnon and yes, bedecked his young Greek wife in jewels from Priam's treasury, clearly called for a degree of healthy skepticism. And it was Charles Newton, an early and enthusiastic supporter of Schliemann, who wisely set the parameters for a debate that continues to the present day. The Keeper of Greek and Roman Antiquities at the British Museum was convinced the inexperienced German excavator had made important, indeed spectacular, discoveries. But it was also clear to Newton, himself steeped in the traditions of Homeric epic, that "plausible fiction" needed to be distinguished from the "residuum of true history." The real work would be to define reliable means to evaluate, "How much of the story of Agamemnon is really to be accepted as fact" (1878, 222).

Aegean Genesis

Early in the eighth century BCE the Greeks adopted and adapted the Phoenician alphabet to write Greek. Previously it was thought that later in the same century the Homeric epics were written down for the first time, albeit at least one school of thought now favors a sixth century BCE date. Hesiod, considered by some to have been a contemporary of Homer, provides the earliest mythological background for the *Iliad* and the *Odyssey*. His *Works and Days* includes the first written accounts of the Greeks' foundation myths. Hesiod's verses relating the five ages of man characterize the fourth as:

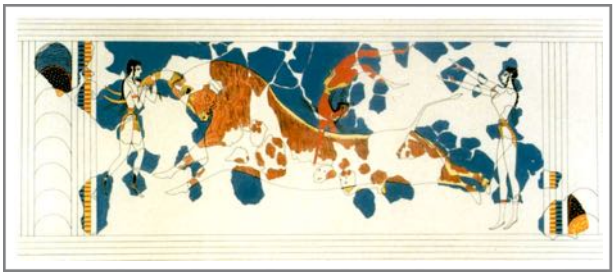
> *The divine race of Heroes, also called*
> *Demigods, the race before the present one.*
> *They all died fighting in the great wars,*
> *Some at seven-gated Thebes, Kadmos' land,*
> *In the struggle for Oidipous' cattle,*
> *And some, crossing the water in ships*
> *Died at Troy, for the sake of beautiful Helen*
>
> -Hesiod 1993, 28

Hesiod also tells us that Zeus favored these bygone heroes, granting them immortality in an eden-like land. Like the heroes themselves the poems of Hesiod and Homer have achieved a certain immortality among literate Westerners, not as historical documents but rather as collections of fiction. Greeks living before and after these poets, however, had a decidedly different view. Homeric scholars may debate *who* and even *what* Homer was but they are in general agreement that Greeks of the Archaic and Classical periods accepted the world of Homer——the events and Bronze Age heroes as real. Recent scholars, including M. I. Finley who dismissed the epics as "a collection of fictions from beginning to end," are clear about early Greek perceptions (2002, vii). According to Finley, Homer was, "the unimpeachable authority on their early history" (ibid.,5). The Greeks' implicit trust in the veracity of Homer is expressed in their educational system, their politics, and their art. As H. D. F. Kitto remarked, "A kind of Fundamentalism grew up: Homer enshrined all wisdom and knowledge" (1960, 44). The Greeks assumed the truth of their myths as an article of faith but not all Greeks did so on faith alone. Based on the widely held assumption that there were no written accounts of their early history, Herodotus (ca. 484–425 BCE) turns to the Egyptians——"since they have always counted and always recorded the years" (2009, 2:145). Although Herodotus is clearly relying on hearsay he is also seeking what he considers a reliable source. In an attempt to reconcile two versions of Helen's abduction by Alexandros (Paris) he consults an Egyptian priest who confirms that Helen was detained in Egypt during the Trojan War. Despite this testimony Herodotus assumes Homer rejected that version as, "not as appropriate for epic composition" (2:116). Thucydides (ca. 460–400 BCE) writing several decades later also pondered the basis for Homeric narratives. How, he asked, might his ancestors have marshalled a force capable of attacking Troy (1996,1:9). In this effort Thucydides analyzes Homeric names: *Danaans*, *Argives*, and *Achaeans*, discusses the early tradition of raiding, piracy, and the seapower of Minos, and suggests that Agamemnon relied on force rather than an unlikely oath (as related by Homer) to gather his armada (ibid.,1: 3-5, 9). Thucydides is also aware that Homer might well have embellished his account or that the earlier bards might have exaggerated the tales simply for the pleasure of their audience. Ultimately, he admits,



Detail - Death of Sarpedon
Euphronius krater ca. 515 BCE
Iliad, V, 471–492

“the subjects they treat of (are) out of reach of evidence . . . time having robbed most of them of historical value by enthroning them in the region of legend” (ibid.,1: 21). Having weighed the available evidence and acknowledging its limitations both Herodotus and Thucydides accept the historicity of the Trojan War. Lesley Fitton characterizes such conclusions by early Greek historians as, “rationalisation: an intelligent reconstruction based on sketchy and uncertain evidence” (1996, 22). Yet in the Theseus myth Fitton also identifies themes that foreshadow historical realities and are consistent with the archeological record (ibid.,17-19).



Knossos Toreador Fresco Reconstruction
M. A. S. Cameron
M. Shaw 1996, Plate C (1)

One such theme is the balance of power during the Late Bronze Age. The narrative relating Theseus’s defeat of the Minotaur may plausibly be read as a mythologized representation of mainland factions overcoming Minoan dominance——an historical reality attested across the Aegean in the mid-15th century BCE. Additionally, the prominence of bull leaping in the Theseus story is reflected in the well known iconography depicted in fresco fragments from both Knossos and Mycenae. As might be expected, the central focus of the historical debate are the Homeric epics——the *Iliad* and *Odyssey*. Yet despite the informative excavations of Carl Blegen and Manfred Korfmann at Troy, there is little consensus that the archaeological evidence suggests a Trojan War as depicted in the *Iliad*. However, a lack of definitive proof for Homer’s Trojan War is a different matter than judgments about material objects (eg. boar’s tusk helmets and the body or tower shield) attested in the archaeological record and also present in the corpus of Homeric epics. In any case, as noted above, the notion of historical elements in epic poetry may best be supported by the internal evidence of the songs themselves and the conviction that epic poetry is the product of oral performance whose traditions evolved over a period of many centuries. This has been established in large part by Milman Perry and Alfred Lord’s exposition of oral-formulaic composition, a thesis strengthened by recent research including Linear B scholarship (Lord, 1960; Palaima 2008b; Nagy 2011). See also *Appendix B - Minoan Scripts and Mycenaean Greek*.

In their introduction to *Archaeology and Homeric Epic,* Sue Sherratt and John Bennet suggest that a goal of the volume’s multidisciplinary approach is, “to move beyond the old dichotomies between historicity and irrelevance” and the contributions of fourteen scholars representing archaeology, anthropology, history, philology, and the social sciences provide diverse perspectives (2017). Snodgrass’s chapter, “Homer, the Moving Target,” highlights the affect of Gregory Nagy’s ‘evolutionary model’ that proposes a sixth century BCE date for the initial written forms of Homeric epic (Snodgrass 2017, Chapter 1; Nagy 1981; 1997). Not only is this two centuries later than previously held but Nagy suggests that it was not until the mid-second century BCE that some unknown number of “transcripts” became codified. Snodgrass sees the implications of this lengthened horizon as a challenge to both Homerists and archaeologists. Those bent on fixing congruencies between Homeric texts and dating for specific material objects (eg.

Meriones's boar's tusk helmet), place names, or cultural practices must now consider a much broader range of dates (*Il.* 10.261– 267). Undaunted, Snodgrass accepts Nagy's hypothesis and concludes that looking for apt correlations between Homeric content and archeological finds has become more difficult but no less worthwhile (2017, Chapter 1). Dickinson, on the other hand, expresses his weariness with dealing once again with an overworked question and one that, at least for himself, was long ago answered. His chapter title says it all—— "The Will to Believe: Why Homer Cannot be 'True' in any Meaningful Sense" (2017, Chapter 2). Johannes Haubold revisits a theme common to Schliemann biography and sees it reenacted by Manfred Korfmann. Haubold's thesis contends each man's personal dreams, in Schliemann's case as the "bourgeois hero" and for Korfmann Troy as a focus for a renewed German sense national pride, are played out in their successes at Troy. While attributing psychological motives is not without its pitfalls Haubold does seem to make the case that both Schliemann and Korfmann interpret what they found, at least in part, through the lens of very personal passions. Haubold suggests that understanding the behavior of both Schliemann and Korfmann is instructive in that it serves as a reminder to those of us inclined to make connections between Homer and Bronze Age archaeology. Such arguments, he observes, may very well be convincing, "but they are never innocent" (Haubold 2017, Chapter 3). Sherratt and Bennet conclude that it may not serve either epic or archaeology to insist on a strict dichotomy but propose granting to each a modicum of the real and the unreal "with neither having a monopoly of power to shed light on the other" (2017, Introduction). While this will likely ruffle the feathers of some, it strikes a useful balance. Archeologists are not created fully formed with notebook and trowel in hand and along with their formal training——they are men and women that have been nurtured by Hamilton, the D'Aulaires, and yes Homer.

We continue to look back from the twenty–first century to interrogate both contemporary culture and ancient history——and just such quests seeking to differentiate 'truth' from 'fiction' (to use Newton's words), have a long history. Noting that truth was a slippery thing, Xenophanes of Colophon (ca. 570–475 BCE) proposed (although here the sources are at times contradictory) that it was first necessary to distinguish between belief and knowledge (Lesher 2021, Section 5). The way to approach truth was (in concert with his contemporary Herodotus) first hand observation——that is to say through empirical evidence (ibid., Sections 6). Xenophanes's epistemology has not only found favor with recent philosophers but suggests the methodology employed by many contemporary scholars and researchers (ibid., Section 7; Fragment B34). Not incidentally, this same philosophical poet had a decided distaste for both Homer and Hesiod who, he claimed, "attributed to the gods all sorts of things that are matters of reproach and censure among men" (ibid., Section 2; Fragment B11). Xenophanes was also well aware of the limits of empiricism——of those things that might be known directly. While the mythological tales alluded to by Homer falls outside the realm of empirical analysis, Martin Nilsson demonstrated——well before Linear B was deciphered, that the prominent narratives of early Greek mythology precede Homer and, "are attached with the cities where finds from the Mycenaean age have been made" (1932, 11-13). Ultimately the genius of Homeric Epic comes not solely from its geographic or chronological setting but rather——as Richard Martin says of the *Iliad,* its capacity to impart, "an indelible vision about the nature of human existence" (2011, 17). Yet as Martin elaborates——this vision is an unsettling one, suggesting questions rather than answers. Is the true hero Hector or Achilles? "Is the *Iliad* a celebration of heroism or an interrogation of its basic—potentially flawed—assumptions?" Ultimately for Martin and others, the poem is one, "of self-exploration and self-discovery" (ibid., 52-53).

At Home



Centaur–10th c. BCE
Lefkandi Cemetery
Eretria Museum

By the time the poems of Hesiod and Homer were given written form, they comprised an eclectic oral tradition, created by untold generations of performing bards, woven from experiences and traditions stretching back well over a millennium. In truth, we will never know when the songs were first sung, but as Nagy suggests, "The internal evidence of the Homeric verses, both in their linguistic development and in their datable references, points to an ongoing evolution of Homeric song embracing a vast stretch of time" (2013, 0§29). Following Nagy, we can say with reasonable certainty that by the sixth century BCE, when the epics had begun to take on something akin to their final form, they stood as a defining characteristic of Greek culture. During the so–called Dark Ages of the tenth and ninth centuries BCE some of the people who would come to call themselves Hellenes migrated to the Ionian coast of Anatolia. They brought with them the worship of Poseidon and the oral traditions of their myths and both became a part of the cultural mix at cities such as Miletus. The eighth century BCE era of colonization spread even larger numbers of "Greeks" to the western Mediterranean where they settled in coastal areas of Iberia, on Corsica and Sicily, and in southern Italy. Other colonies were established north to the Black Sea and south to the Nile Delta. From the shores of the Euxine to the Pillars of Hercules these seafaring people encircled the Mediterranean world "like frogs around a marsh" (Plato 1975, Kindle Locations 1508 - 1509). Although widely dispersed and frequently at odds, one with another, the new communities maintained cultural ties though their common language, shared customs, and traditional myths. Panhellenic institutions such as the Olympic Festival and the Delphic Oracle were also essential elements of their cultural cohesion (Hall 2014, 58–60).

I am Nestor's cup, good to drink from.
Whoever drinks this cup empty, straightaway Desire
for beautiful–crowned Aphrodite will seize him.



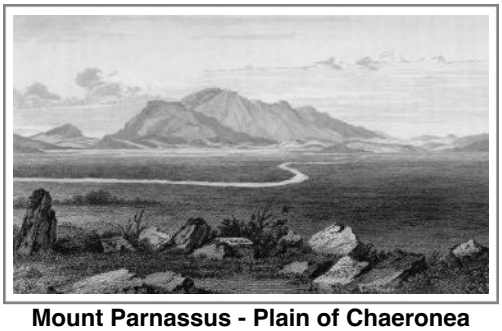
Nestor's Cup–8th c. BCE
Pithecusae Archaeological Museum



Thought to bear one of the earliest known examples of Greek (Euboean), "Nestor's Cup" was recovered from a grave at the Greek trading post at Ischia, an island in the bay of Naples. The hexameter verse may refer to the *Iliad* but in any case is indicative of the spread of the Greek language and heritage during the period of colonization (Hall 2014, 25–26). The quadrennial games at Olympia, begun in 776 BCE, focused on athletic contests but other Panhellenic celebrations inaugurated at Delphi, Nemea and Isthmia added contests of poetry, music, and dance in addition to the religious rituals that became integral parts of the festivals (Finley 1982, 130–131). During these celebrations professional rhapsodists competed in performances featuring lengthy passages from Homer. A poem by Pindar (ca. 522–443 BCE) includes a reference to the *Homeridae* as "singers of stitched words," a literal translation of ῥαψῳδός, *rhapsodes* (Graziosi, 2008, 208). It is thought that Greek drama may have evolved from the lyric poetry contests held at Athenian festivals. While most of the

original plays are lost, a portion of the works of Aeschylus, Sophocles, and Euripides survive. These too are steeped in Homer as reflected in Aeschylus' remark that his plays were 'slices from Homer's great banquets' (Athenaeus 2014). The oldest surviving example of Homeric epic on papyri is from the third century BCE. It is also clear the epics were common in school rooms and private homes in the fifth and fourth centuries BCE (Homer in Print 2014).

On The Road With Alexander



Mount Parnassus - Plain of Chaeronea
Edward Dodwell, 1819

In the latter half of fourth century BCE Alexander, with *Iliad* in hand, set out to conquer the known world. He would share with his hero Achilles a short life and undying fame. The Argead dynasty, so known for their ancestral Argolid homeland, treated allegiance to their native soil as something of a matter of convenience. In 338 BCE Philip II of Macedon defeated the combined Theban and Athenian forces at Chaeronea. Soon thereafter he commissioned the Philippeion at Olympia, a lavish monument co-opting the hallowed ground to suggest he and his family were more akin to the deities than to mortal men——a conviction his son would take to heart later in his career (Hall 2014, 182 -183, 189-190). Following Phillip's assassination Alexander razed Thebes in a particularly vindictive and brutal manner. Alexander's subsequent conquering of the Persian empire from the Bosporus to the Hindu Kush gave currency to his god-like image——one that he would reinforce with oracular pronouncements and demands of obeisance. Alexander spread Hellenic culture across Asia and into Africa but much of Greece's traditional independence was lost amid the burgeoning empire. The deficiencies of Alexander's non-traditional brand of Greek culture came swiftly to roost with his early death, perhaps by poison, in 323 BCE. The Hellenistic world he created continued Alexander's veneration of Homer, in fact Homeric studies would be born in the shadow of Alexander's final resting place, but he also left a destabilized and chaotic world that predictably led to widespread blood letting as territorial monarchs *qua* deities sought to establish absolute rule over various parts of his fractured empire (Freeman 2005, 39-42).

One of the more positive outcomes of the partitioning of Alexander's empire was the Egyptian Ptolemaic dynasty (ca. 305–30 BCE). Following Alexander's example the rulers adopted pharaonic status. Perhaps surprisingly they used their power, at least in part, in the service of learning. Ptolemy I Soter and his successor Ptolemy II Philadelphus oversaw the building and establishment of the Mouseion——in part the Library at Alexandria, where men such as Zenodotus of Ephesus (fl. ca. 280 BCE) and Aristarchus of Samothrace pioneered Homeric scholarship. Perhaps half a million papyri were collected, catalogued, and housed in the city's library and Serapeum. Scholars-in-residence from all branches of learning——albeit mainly Greek literature, studied discussed, edited, and copied texts, often adding their personal commentaries (*scholia*) in the margins. The importance of the Greek epics to Hellenistic society is clear from the Homeric texts once amassed in Alexandria as well as the numerous papyri fragments that continue to be found at sites such as Oxyrhynchus in Egypt (Classical Inquiries, AHCIP). Cleopatra (69–30 BCE), the last Ptolemaic ruler and known for her linguistic facility, may have had her own copy of Homer. What is certain is her involvement with Julius Caesar, Anthony, and Octavian and the events leading to the formation of the Roman Empire (Freeman 2005, 50-52).

In Rome

As Nestor's Cup attests, the diffusion of Homer across the Mediterranean had begun well before the traditional founding of the Rome Republic in 509 BCE. Legend has it that Tarquin the Proud, an Etruscan King, was overthrown in a popular revolt and replaced by *Res Republica*. Although our understanding of the Etruscan culture is limited by our inability to read most of their inscriptions, several of their tombs are furnished with frescos depicting Homeric themes. The fourth century BCE François Tomb and Tomba dell'Orco include scenes of Achilles honoring Patroclus and the blinding of the Cyclops respectively. Similar images enjoyed continuing popularity throughout the period of the Republic——often as small decorative elements on cinerary urns or marble tablets, but also as large frescos decorating public areas or private homes (Farrell 2004, 256–259).



Abduction of Cassandra
House of Meander, Pompeii
© 2015 Richard F. Ebert

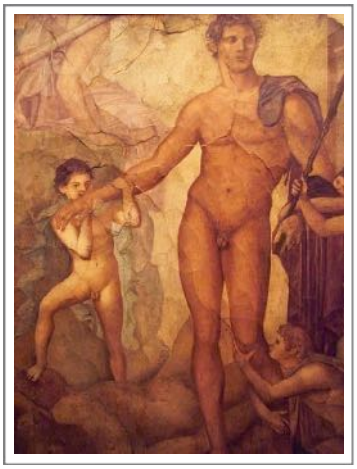


Wounded Amazon
Roman Marble copy
Greek Bronze - 5th c. BC
The MET

In the same decade that Alexander began his Persian campaign Rome initiated a series of battles with neighboring tribes that later Roman historians referred to as the Latin and Samnite wars. By the beginning of the third century BCE Rome was spreading her influence and legions throughout the peninsula. Encouraged by success and a sense of manifest destiny, Roman legions initially engulfed lands to their west and then eastward. Directly in the path of Roman expansion were the Hellenistic territorial monarchies of the Antigonid, Attalid, Seleucid, and Ptolemaic dynasties (Cartledge 2011, 110–113). Ultimately the Mediterranean became Rome's *Mare Nostrum*. The sack of Carthage in 146 BCE ended the century-long Punic Wars. As Scipio Aemillianus watched the city burn to the ground he was said to have remarked——presumably with Rome in mind, "the day shall come when sacred Ilios shall be laid low, and Priam, and the people of Priam with goodly spear of ash" (Polybius 1889, 39:5; *Il*.6.448). Following close on the destruction of Carthage, legions under Mummius sacked and torched Corinth, the last survivor of the Achaean League (Polybius 1889, 38:3–11).

Rome ultimately annexed Greece itself and in the process pillaged and burned many of its cities. Roman generals, displaying both their philhellenism and their avarice, purloined Greek libraries, art, and other antiquities to furnish their villas and town houses. By the mid-first century BCE Rome had turned on herself in what became a series of civil wars instigated by ambitious generals. Paradoxically, despite having ravished Hellenistic lands, educated Romans took pride in their Greek intellectual heritage. Rome's aristocrats sought out Greek tutors for their children while poets, playwrights, architects, and sculptors looked to Greece for inspiration (Farrell 2004, 266–270; Cotterell 1980, 251). Cicero (106–43 BCE), often cited as the archetypal Republican statesman, studied in Athens, translated Homer, and authored several books on Greek philosophy. Plutarch (46–120 CE), a Greek native, enshrined Cicero's life in his *Parallel Lives* and although he held Roman citizenship, Plutarch spent most of

his life at his home in Chaeronea as well as at Delphi where he served as a priest of Apollo (Hall 2015, 244-245). The poet Horace's (65–27 BCE) ironic epigram, "Captive Greece, took captive her savage conqueror and brought her arts into rude Latium" reflects a salient feature of Rome's subjugation of Greece (1902, 2:1, 156).



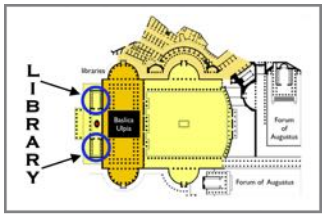
Fresco of Herakles
Herculaneum, Basiliva IV
© Stefano Bolognini

The Empire created by Caesar Augustus did engender a degree of stability, particularly within the city walls of Rome. This in turn created the conditions, at least among a portion of the aristocracy, where literacy and learning were valued and both formal and informal educational practices were instituted. The results of this fertile environment are attested at the seaside town of Herculaneum, that along with Pompeii was buried by the eruption of Mount Vesuvius in 79 CE. Originally a Greek trading post (*Heraklion* - Ἡράκλειον), the Roman remains were first investigated in 1738 and excavations have continued periodically to the present day. Over 1800 papyri scrolls, constituting the only extant library from this period, have been found in one of the buried structures now know as *The House of the Papyri*. Most of the texts have yet to be read as the papyri were carbonized by the volcanic heat. It is certain from what has been read, however, that the owner of the villa had a scholarly interest in Epicurean philosophy. Even unread the large library, much of which may still be buried, speaks to a passion for learning as well as to the importance of the Greek intellectual tradition for these Roman *literati* (Greenblatt 2011, 61–63).

Certainly one of the more enduring Roman monuments to Homer is Virgil's *Aeneid*. Both the form and content of Virgil's epic reflect the poet's admiration for and emulation of the earlier epics. The narrative itself grows directly out of the *Iliad* as its hero Aeneas is a survivor of the destruction of Priam's Troy. Like Achilles and Sarpedon, Aeneas embodies both divine and human natures——his father Anchises a mortal, his mother the goddess Aphrodite (Venus). Nagy points out that this specific lineage bequeathed to Aeneas the promise of dynastic, if not personal, immortality——a heritage that had been acknowledged and claimed by Greek city-states as early as the seventh century BCE (2015). Ultimately Rome, not Greece, would adopt the mantle of this unique destiny——albeit Virgil envisions Aeneas's city as a reflection of the Athenian Empire. And while Virgil's *Aeneid* is clearly a poem of praise for the Roman Empire of Caesar Augustus many of the author's most powerful verses glorify Hellenic traditions. Early in Virgil's poem Aeneas enters Dido's palace at Carthage and is awestruck when, "all at once he sees, spread out from first to last, the battles fought at Troy, the fame of the Trojan War now known throughout the world, Atreus' sons and Priam—Achilles savage to both at once" (Virgil 2006, I. 550-553). Virgil's homage to Homer is clearly a creation of its time, reflecting the early Empire and Roman aristocratic culture of the first century BCE, but it is also a work that would find an honored and enduring place in the Western canon.

Farrell in his chapter "Roman Homer" says that, "From what we know of Roman schools, Homer occupied a central place in the curriculum"——albeit formal education was likely restricted to young male aristocrats. Interestingly, Homer was particularly held up as a model for ethical and moral behavior (2004, 269). The earliest Roman libraries were mostly the private holdings of legates and tribunes pilfered from Greek territories.

Julius Caesar, however, proposed a “public” library with separate sections for Greek and Latin texts. These plans were carried out after his assassination and were followed by library construction projects under the emperors Augustus, Tiberius, Vespasian, and Trajan. Trajan (53–117 CE) was the last emperor to have a monumental *forum* built to honor himself and his works. The grandest of the Roman *fora,* it included the *Bibliotheca Ulpia*, in fact two libraries——a West (Greek) Library and an East (Latin) Library, on either side of what is now called “Trajan’s Column” (Cary 1925, 68:16,3).



Forum of Trajan
Rome, 112 CE
Khan Academy

Trajan’s successor Hadrian (76 - 138 CE) was certainly the most demonstratively philhellenic emperor. With a passion for travel he spent more time touring his empire than in Rome with Athens perhaps his favorite destination. Known for his hands-on rule Hadrian personally managed Roman geopolitics for Greek territories while also dictating Athenian religious practices. His formation of the Athens-centered Panhellenion administrative structure incorporated essentially all the territories within the empire with any claim (spurious or not) to Greek heritage. Hadrian revived the ancient Panathenaea festival while also instituting three additional religious festivals including, unsurprisingly, the Hadrianeia with a focus on emperor-worship. The more material reminders of his interest focused on city planning. Hadrian instigated the construction of a massive library in the Athenian agora and pushed through to completion the monumental Olympieion——a shrine to Olympian Zeus begun in the sixth century BCE. Statues of Hadrian, including one in the Parthenon, as well as a prominent arch with the inscription—“This is Athens, the *former* city of Theseus” (my emphasis) left little doubt to whose glory the Emperor’s philhellenism was directed. Yet despite his professed reverence for things Greek Hadrian disapproved of both Homer and Plato (Kelly 2006, 61–65; Benario 2000). Pausanias (ca. 110 - 180 CE), like Hadrian, was an avid traveller. His ten volume *Description of Greece* would achieve fame as a gazetteer-like guide to antiquities. Notable is Pausanias’ inclination to give contemporary sites, including Hadrian’s Athenian projects, short shrift. Well versed in Greek mythology and legend, his travels included visits to Mycenae and Tiryns——accounts that would be consulted nearly two millennia later by both Schliemann and Tsountas. (*Pausanias* 2:15,5; 25,8)

Additional libraries continued to be built until late in the second century CE when the political framework of Roman rule had begun to disintegrate. In the year 193 CE five Romans briefly held imperial office—their reigns cut short, one after another, by assassination and execution. Absent an established policy for succession, the chaotic transfer of power had perennially destabilized Rome. During much of the third century CE the empire had become essentially unrulable although in the final decade of the century Diocletian (284–305 CE) instituted the Tetrarchy that imposed at least temporary order by creating dual senior emperors (*augusti*) each with a junior ruler (*caesar*) as designated successor.

Constantine And The New Cult

Despite Diocletian’s Tetrarchy the continued expansion of the Empire was ultimately a destabilizing force as Rome gradually become less capable of governance across ever increasing distances. Hostilities at the border with Sassanid Persia in the east and along the Rhine-Danube frontier to the north added to the difficulties. In response there had been a gradual shift of both military and civil decision making away from Rome. What remained of the traditional authority of the Roman Senate, already weakened by

Augustan policies, was gradually replaced by a dispersed imperial aristocracy comprising military and civilian appointments filled largely from the ranks and by provincials. The shift of power away from Rome also had a decidedly eastward momentum. Diocletian, a native of Dalmatia (where he would ultimately build a palace) chose to rule from Nicomedia, in the Asian province of Bithynia (Kelly 2006, 7–9). Rome's eastern provinces were also where Christianity had taken hold, rapidly gained converts, and was seen as a threat to Roman order. Diocletian responded with brute force and the persecution of Christians reached its height during his reign (Freeman 2005, 79-87).



Diocletian Tetrarchy (284 – 305 CE)

Constantine (272–337 CE), son of the Western Emperor Constantius, had spent his early years at Diocletian's court as a virtual hostage. Shortly after Constantine was recalled to the west his father died and in 306 CE the son was installed by acclamation and hailed by his troops as "Caesar." Over the next eighteen years in a campaign of bloody civil wars the young Caesar crushed his rivals——most famously Maximius at the Battle of the Milvian Bridge. In 324 CE he became sole ruler of the Roman Empire as Constantine the Great (Freeman 2005, 154-174). His was to be a singular reign highlighted by relocating the imperial seat to Constantinople in 324 CE and promoting Christianity as the state-sponsored religion. Constantine's "conversion" to and elevation



Reverse: Sol Invictus - Sun God



Reverse: Chi-Rho Atop Battle Standard

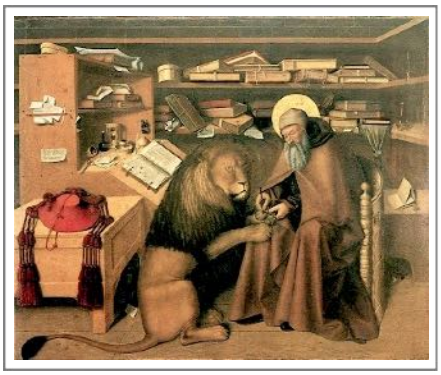
Constantine Roman Imperial Coins

of the new religion appears to have been a political calculation rather than a matter of faith. Additional realities led to his decision to move the capital from Rome to what is now Istanbul. The new location would offered convenient access to the riches of eastern provinces. Just as important were military concerns and an eastern capital put Constantine in a better strategic position to respond to threats from along the Danube as well as from Persia (Saris 2015, 16–17). The cultural implications of this move were also significant as the relocation of institutions, administrators, and scholars meant the decline of scholarship and learning in Rome. At the beginning of Constantine's imperium there were more than two dozen libraries in the city of Rome. Soon after his reign these were gone. Ammianus Marcellinus recorded that, "those few houses which were formerly celebrated for the serious cultivation of becoming studies, are now filled with the ridiculous amusements of torpid indolence, re-echoing with the sound of vocal music and the tinkle of flutes and lyres. Lastly, instead of a philosopher, you find a singer; instead of an orator, some teacher of ridiculous arts is summoned; and the libraries

closed for ever, like so many graves" (*History* 14:6.18). Within the century Visigoth *foederati* overran Rome, virtually destroying the remnants of Rome's intellectual tradition. Collateral damage included the loss of the Homeric tradition and the elimination of Homeric texts throughout much of what had been the western Roman Empire. Constantine died in 337 CE and in less than two decades what remained of the reinstated Tetrarchy was taken over by the Valentinian dynasty. In 379 CE Theodosius I consolidated power and became the final emperor to rule the entire Roman Empire. By 393 CE he had formally banned all sacrificial practices and pagan rituals. Theodosius's actions resulted in the termination of the Olympics and the destruction of the temple of Apollo at Delphi, the death knell for what had come to be disparagingly called paganism (O'Donnell 2015, 194–198).

Freeman, in his *The Closing of the Western Mind,* identifies three factors leading to the loss of the Greek intellectual tradition, "the attack on Greek philosophy by Paul, the adoption of Platonism by Christian theologians and the enforcement of orthodoxy by emperors desperate to keep good order" (2002, viii). Hall discounts the affects of Roman Imperialism and attributes the eclipse of Greek culture to the new religion (2014, 253). Both authors, however, point to Paul's proselytizing as a critical opening volley in the ensuing culture wars. During the latter half of first century CE Paul's preaching to the Hellenes (a name Christians would later replace with the pejorative "pagans") and Jews had spread the fledgling cult to important areas of Rome's eastern empire. Clearly this new cult was not always an easy sell. In Athens, aware he was among thoughtful and religious people, Paul's message is at times sympathetic while also leaving no doubt that his god does not live in the idols he sees all around him. Some Athenians seemed willing to give Paul a second hearing while others found his story of the resurrection preposterous (Gaventa 1993, *Acts* 17:1–34). The New Testament narrative of his ministry in Ephesus relates Paul's increasingly strident tone. Recalling his experience with converts in Corinth Paul speaks of the dangers he faced in Asia (Furnish, Victor, 2 Cor: I-8). This may be an allusion to being jailed (and possibly threatened with execution) in Ephesus. Predictably in Ephesus, a site sacred to Artemis and a center for silversmiths crafting votive figures for the shrine of the goddess, Paul's message was both an economic and religious threat. There was nothing politic about Paul's rant, "that gods made by hands are not gods at all*,"* nor is it surprising that Paul's moral condemnation of the silversmiths was met with hostility (Gaventa 1993, Acts 19: 23–41). Hall points out that in addition to Paul's persuasive salesmanship the new religion offered some attractive possibilities for potential converts. Along with a clear set of rules and a fellowship open to all social classes, Christianity held out the promise of immortality—certainly a cheerier prospect then the Greek alternative (2014, 253). But the corresponding possibility of eternal damnation suggested the awful price some would allegedly pay—a threat that often shaped the philosophy and writings of the early churchmen.

Jerome (ca. 340–420CE) spent much of his life withdrawn from society, briefly practicing asceticism in the Syrian desert, but more significantly living in relative isolation in Jerusalem writing comments on and translating biblical texts. He is best known for having translated the Hebrew Bible (and other sources) into Latin, a work that came to be known as the Vulgate. Born in rural Illyria, Jerome went to Rome to study rhetoric and philosophy. As so often is the case when country boys go to the city, Rome's sleazier aspects attracted his attention and Jerome apparently enjoyed a variety of



St. Jerome - 15th c. CE
Niccoló Antonio Colantonio

debauches. Such carousing was certainly not unusual but Jerome's response to his feelings of guilt is notable. Whether he simply felt a need to punish himself or was seeking atonement is unclear. In any case, Jerome repeatedly forced himself to venture into the catacombs, places that for the young student were terrifying visions of hell. His recollections are vivid and disturbing, "Often I would find myself entering those crypts, deep dug in the earth, with their walls on either side lined with the bodies of the dead." It was, said Jerome, as if he had been directed by the Psalmist's curse to, "Let them go down quick to Hell" (Jerome 2011, 85). His waking nightmare was also haunted by the words of Virgil, "All things were full of horror and affright, And dreadful ev'n the silence of the night" (Virgil*,* 1697 2.752.). Jerome's departure from Rome in 373 CE with the intention of leading the life of an ascetic was likely motivated by these travails. At some point Jerome began to conflate his sinfulness with his passion for Latin literature. In a letter to Eustochium, one of a circle of wealthy Roman women who shared Jerome's religiosity, he asks, "What has Horace to do with the Psalter, Virgil with the Gospels and Cicero with Paul? Is not a brother made to stumble if he sees you sitting at table in an idol's temple?" (Jerome 1933*,* 22:125) Similar associations were recalled by Jerome at the moment of his conversion. Seriously ill (preparations were being made for his funeral) Jerome recounts that, "Suddenly I was caught up in the spirit and dragged before the Judge's judgment seat . . . I was asked to state my condition and replied that I was a Christian. But He who presided said: *Thou liest; thou art a Ciceronian, not a Christian"* (ibid*.,* 22:127). Abjuring all pagan literature as the price of salvation was a defining pledge of Jerome's embrace of Christianity. While not all Christians went to such extremes there was a tendency for early Christian apologists to paint all things pagan with the same brush. This attitude would endure for more than a millennia following Jerome's death.

The seeds sown by Paul clearly found fertile ground and early apologists, including Jerome, defined Christianity in a way that excluded the traditional ideas and practices of the Hellenistic world. By the end of the fourth century CE Theodosius had established Christianity as the exclusive state religion——a sea change that eradicated significant aspects of Greek culture. For example, early in the fifth century CE the city of Alexandria was rocked by a series of bloody, factional battles among Jews, Christians, and Pagans. A famous victim of the mayhem was said to be Hypatia, a renowned Greek scholar. A number of accounts, likely apocryphal, say Hypatia was dragged into the local church and flayed by the angry mob. Cyril the bishop of Alexandria (later to be deemed a saint) likely had a part in fomenting the riots. The ensuing chaos also impacted the literary treasures of the city when the libraries at Alexandria, a unique repository of early western intellectual thought——specifically early Homeric papyri, were destroyed and the documents burned (Hall 2014, 260). Palladas, the fourth century CE Alexandrian poet and purported eulogist for Hypatia, wrote lines befitting an epitaph and one that seem to prefigure the Early Modern theme of *Et in Arcadia ego* . . .

O men of Hellas, but that men still deem
Us living, we are dead. Alive we seem,
But, lit on such misfortune, if we live,
Or seem, life dead, to live 'tis but a dream.
-Glover 1901

In Byzantium

During the Early Middle Ages Latin Rome and much of western Europe endured an extended period of retrenchment and stagnation. It is only with hindsight that we now know how close the western world came to catastrophic loss. It was, to use Kenneth Clark's assessment, 'by the skin of our teeth' that much of the culture's foundational canon survived. For several centuries monasteries such as those at Iona, Lindisfarne, and Fulda were the sole refugia of literacy in the west (1969, 9-19). Clark has little to say about the Byzantine civilization aside from calling it "static"——a label typical of the Eurocentrism that remained prevalent well into the 20th century CE (ibid., 20).

In fact, the Byzantine Empire would flourish for a millennia after the demise of Rome and to quote Edith Hall, "Homer continues to form the basis of education there until it fell to the Ottoman Turks in 1453" (2008,14). In his *Byzantium, A Very Short Introduction*, Sarris introduces his topic with an overview of the West's perennially distorted view of its Eastern neighbors. Because the Byzantine Empire was rightly seen as a Christian Empire, and a conservative one at that, it was assumed—and most especially by scholars of the Enlightenment, that its cultural characteristics were rigid, unlearned, and backward (2015, 1-3). Lost in the general dismissal of historical Byzantium, however, is an awareness of the part it played in preserving important aspects of Western culture. Sarris points to both ecclesiastical and lay scholars who together, "preserved the fruits of Classical Greek (and pagan) philosophy, literature, and learning" including "individuals who, through their reading, would come to prefer Homer to Christ, or Plato to St. Paul (ibid., 4).

By the middle of the sixth century Emperor Justinian I and Byzantine forces led by Belisarius had recaptured nearly all of the territories in Syria, North Africa, Spain, and Italy that had been lost in the previous century to the Goths and Persians. In hindsight the cost had been prohibitive and the prospect of retaining control bleak. Less than a half-century later Heraclius, having usurped imperial power, fashioned himself in the traditional guise of a Roman Emperor but also as *basileus*—after the line of Old Testament kings. Faced with a major threat from the Sassanid Persians he declared holy war on the infidels. Heraclius eventually defeated the Persians only to have the latter period of his reign consumed by a new threat—an advancing wave of Muslim armies and the rise of Islam (ibid., 50-58). In fact the history of the Byzantine Empire is one of perennial threats and a series of territorial expansions and contractions. In 1204 CE marauding Norman Christians of the Fourth Crusade with help from the Venetian Navy sacked Constantinople. The city was retaken in 1261 CE and perhaps surprisingly Constantinople and at least a remnant of the Byzantine Empire held out until the middle of the fifteenth century. Throughout this era Homer would have a refuge in Byzantine cultural life. Brownings publication, *Homer in Byzantium*, sheds light on "the purpose for which Homer was read" (1975, 15). First and foremost Homeric verse was used in Constantinople, as it was in Athens, as the standard text for teaching basic literacy. While the exceptional student might actually read the *Iliad*, Homer provided typical pupils with a daily dose of thirty lines to be parsed and memorized (ibid.,15-17). Throughout the course of Byzantine history Homer was a classroom constant and while many Byzantine intellectuals and scholars embraced Homer they did so in a variety of unique ways. Selected passages from the *Iliad* as well as the *Odyssey* were variously used in discussions of mysticism and morality, enshrined as paradigms and proverbs, and cited when interpreting current events. That the epics were also used to elucidate the Christian Gospels is indicative of the manner in which religion permeated Byzantine culture (ibid.,17-21).



Antonio Maria Ceriani (1828 - 1907)
Ilias Ambrosiana, Cod. F. 205 P. inf.
Bibliothecae Ambrosianae Mediolanensi
Berna: In aedibus Urs Graf, 1953

While Homeric studies per se were seldom the concern of Byzantine academics a few individuals and several documents have played a critical role in the transmission of Homer from Constantinople to the Western world. The *Ilias Ambrosiana* is the only known document from the ancient world illustrating Homeric epic. Surviving fragments also include passages from the Iliad written on the verso of each page. The original was likely commissioned by a wealthy admirer of Homer—perhaps around 500 CE in Constantinople (Homer in Print, 2014).

Venetus A, the oldest extant manuscript of the *Iliad,* dates to the tenth century CE——a period known as the Macedonian renaissance. Currently in Venice at the Library of St. Mark, the work was previously part of Cardinal Bessarion's unique collection of Classical Greek manuscripts. Bessarion donated his private library to the Venetian Republic in 1468 shortly after Constantinople was captured by the Ottoman forces of Sultan Mehmet II (Zorzi 2009, ix). Of particular significance are the marginal notations or scholia included on the pages of Venetus A——commentaries on passages from the *Iliad* authored by numerous scholars dating from the Ptolemaic Dynasty of Egypt in the second century BCE through medieval times (Blackwell and Dué 2009, 6-9). Other commentaries including those from Porphyry's *Questions* (3rd century CE), "preserve some observations on Homeric poetry made by Aristotle and Plato," that, among other insights, tell us, "much about the ancient experience of listening to this poetry" (ibid., 8-9; Porphyry and Schlunk, 1993). It is hard to imagine a more valuable legacy than these echoes from the fifth century BCE Athens; Aristotle and Plato opining on Homeric verse——the songs themselves reaching back into the Bronze Age. Among the Venetus A's numerous embellishments are short summaries at the head of each book recalling major episodes in the *Iliad*—stories that for nearly three millennia have remained foundational to the Western canon (Blackwell and Dué 2009, 9-10).



And Beta includes a dream, an assembly, and enumerates the ships.



Venetus A - 24r
Dué, ed. 2009, 9-10
Homer Multitext Project

Venetus A - 6r, Mounted Warrior (Achilles?)
Venetus A - Later (18th century CE) Binding
Biblioteca Nazionale Marciana; Hecquet 2009, 71

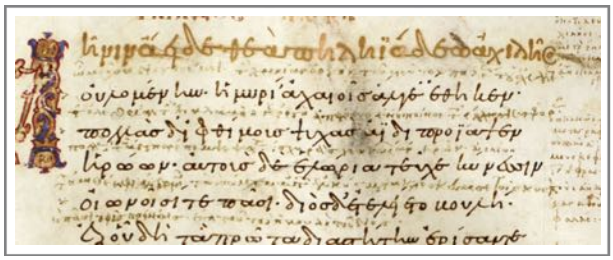


Returns

That the Greek language had literally been forgotten in the West is attested by the fact that Petrarch, Bocaccio, and Dante could neither read nor write Greek. The European reawakening from the Medieval winter was to be a crab-like affair. Hall's chapter "Embarkation" in *The Return of Ulysses* closes with her launch of the *Odyssey* back into western waters. Happily Petrarch and Bocaccio are at the tiller. They had, "in the end," says Hall, "commissioned their Greek teacher Leontius Pilatus to translate their codex of Homer into Latin, a task he completed in 1369" (2008, 15). It would be another hundred years before the works would appear in print and not until the 1560's that the epics would become widely available. Homer was in fact the exception to the rule as many ancient Greek texts were irretrievably lost, while others survive as mere fragments. The durability of the *Iliad* and *Odyssey* are testaments both to Homer's genius and the works' perennial relevance.

John William Mackail, Oxford Professor of Poetry, Virgil scholar, and translator of Homer's *Iliad,* included several of Palladas's verses (see above) in his volume of Greek epigrams (1890). His introduction includes a short summary of the transmission of Greek literature from the Early Middle Ages to the Renaissance. Mackail's words express his passion for these texts as well as his view that both chance and luck played critical roles in the preservation of these ancient master works.

> *Filtered down through Byzantine epitomes, through Arabic translations, through every sort of strange and tortuous channel, a vague and distorted tradition of this great literature just survived long enough to kindle the imagination of the fifteenth century. The chance of history, fortunate perhaps for the whole world, swept the last Greek scholars away from Constantinople to the living soil of Italy, carrying with them the priceless relics of forgotten splendors. To some broken stones, and to the chance which saved a few hundred manuscripts from destruction, is due such knowledge as we have to-day of that Greek thought and life which still remains to us in many ways an unapproached ideal.*
>
> -John William Mackail 1890



Venetus A - folio 12r, *Iliad* 1-1.6
Homer Multitext Project

Μῆνιν ἄειδε θεὰ Πηληϊάδεω Ἀχιλῆος
οὐλομένην· ἡ μυρί' Ἀχαιοῖς ἄλγε' ἔθηκεν·
πολλὰς δ' ἰφθίμους ψυχὰς Ἄϊδι προΐαψεν
ἡρώων· αὐτοὺς δὲ ἑλώρια τεῦχε κύνεσσιν
οἰωνοῖσί τε πᾶσι· Διὸς δ' ἐτελείετο βουλή·

Rage - Goddess, sing the rage of Peleus' son Achilles,
murderous, doomed, that cost the Achaeans countless losses,
hurling down to the House of Death so many sturdy souls,
great fighters' souls, but made their bodies carrion,
feasts for the dogs and birds,
and the will of Zeus was moving toward its end.

Renaissance and Early Modern Period

The Republic of Venice had long provided a link with Byzantine culture and ultimately a safe haven and repository for ancient texts. Ironically the Venetus A, perhaps the most precious of these works, was unknown to Renaissance scholars. Soon after its arrival in Venice the manuscript seems to have been sequestered and forgotten—not to be rediscovered until 1788 (Blackwell and Dué 2009, 6). However, a renewed interest in classical texts in general, with its initial impetus in Florence, constituted an important element of the Italian Renaissance. And Homer would play a part with the first printed edition produced in Florence in 1488 - 1499 (ibid., 5). Florentine Lorenzo Valla and his fellow humanists had a passion for ancient texts and rescued many rare and unknown works from oblivion. Poggio Bracciolini (1380 - 1459 CE), one of a number of ardent manuscript hunters, combed the collections of European monasteries—at times with spectacular success. Whether begged, borrowed, or stolen most of his rare finds ended up in Florentine libraries (Greenblatt 2011). While Renaissance humanists were clearly obsessed with ancient texts there was nothing new about their mania or the perennial attention that Homer's works received. Perhaps from as early as the fourth century BCE Homer has provided grist for a select group of scholars whose passion led them to ponder and parse the texts themselves (Nagy 1996, 40-43). A lost work by Aristotle and perhaps a recension by Pisistratus began a tradition that continues to this day——for example with the contemporary efforts of the *Homer Multitext* collaboration (2014). Generations of scholars have refined our understanding of the epics while their emendations have defined the texts themselves and thus what we read. It is certain the Alexandrians Zenodotus (330 - 260 BCE) and Aristarchus (220 - 143 BCE) made substantial revisions to Homeric texts. While the preservation of the Venetus A may have assured Homer's survival in the West, the rediscovery and publication of the *editio princeps* by Villoison in the late eighteenth century CE ignited the modern scholarly obsession with this tradition and led to the period of Homeric studies influenced largely by Friedrich August Wolf (1759 - 1824) CE. The most recent revolution in Homeric scholarship was initiated by Milman Parry (1902 - 1935) based on his detailed analysis of Homeric diction, including the essential relationships among formulae, epithets, and hexameter verse. Subsequently, Parry and his student Albert Lord (1912 - 1991) would redefine our understanding of the creative process fundamental to oral composition——both ancient and modern (A. Parry 1971; Lord 1960).

The cultural revolution of the Renaissance, the invention of the printing press in 1440, and a growing literate population brought Homer to a much wider audience than the relatively exclusive, some would say arcane, world of antiquaries, scholiasts, and grammarians (*Homer In Print* 2014). Eventually Homer would become suffused throughout western culture. Edith Hall's, *The Return of Ulysses* is a particularly rich display of Homer's reach into the "fiction, poetry, theater, and film" of contemporary culture. From Dante to Dr. Who and from Virgil to Batman, Hall shines a spotlight on Homer's ubiquity (2008). However, it was a momentous series of events in the nineteenth century——revolutionary insights into the nature of life and the revelations of far off places that realigned humankind's history itself and suggested new perspectives on Homer's place in that history. The Renaissance may have prepared the way for this Homeric revival but the journey had been a tortured one. By late in the sixteenth century the Roman Church had lost its struggle to maintain exclusive control over Western Christianity, due in part to self-inflicted wounds but also, as a result of the empirical inquiries of scholars such as Copernicus (1473 - 1543), Galileo (1564 - 1642), Bacon (1561 - 1626), and Spinoza (1632 - 1677) and those men and woman following their lead.

A Perfect Storm - The Nineteenth Century CE

During the 1800s, heirs to the aforementioned scholars and individuals dedicated to observations of the natural world, were promulgating ideas that would radically alter their understanding of the history of the earth. The works of Charles Lyell and Charles Darwin were paramount. Lyell's observations established the principles of uniformitarianism and gradualism to explain geologic change. This in turn suggested a previously unimagined length of time stretching back into the past——a key to Darwin's understanding of the evolution of life on earth. Significantly these ideas arose in a world that had rapidly become smaller as the worldview of many Europeans expanded (Forte 1997, 240). An era of exploration and colonialism had returned not just wealth to the seats of empire but eyewitness accounts of unknown lands, narratives of ancient kingdoms, as well as an increasing number of natural curiosities and extraordinary cultural finds. Napoleon's late eighteenth century campaign in Egypt as well as French and British interests in Mesopotamia had initiated a series of explorations of the ancient Middle East. By early in the twentieth century popular exhibits featured portions of Babylon's Ishtar Gate from Nebuchadnezzar II's palace (ca. 575 BCE) at Berlin's Pergamon Museum, an extensive collection of Egyptian artifacts including the sculpture of the Seated Scribe (ca. 2500 BCE) at the Louvre, and the gypsum wall panels from the Neo-Assyrian ruler Ashurnasirpal II's (r. 883 - 859 BCE) palace at the British Museum. Each of these spectacular exhibits was informed by the near perfect storm of debate, decipherment, and discovery that took place in the nineteenth century.



Seated Scribe
Louvre, Paris



Assyrian Lion Hunt
© Trustees of the British Museum



Detail, Ishtar Gate
Pergamon Museum, Berlin

The novelty of nineteenth century finds from Mesopotamia and Egypt together with collections of Greek and Roman antiquities excited the public's imagination and attracted unprecedented numbers of museum goers. The British Museum's 1816 opening of the Elgin Marbles exhibit combined spectacular art with a growing controversy surrounding the manner of its "acquisition." While the furor over ownership continues to the present day, it is also generally agreed that an awareness of these relief carvings and sculptures altered the history of western art and architecture.



Detail, Parthenon East Pediment
© Trustees of the British Museum

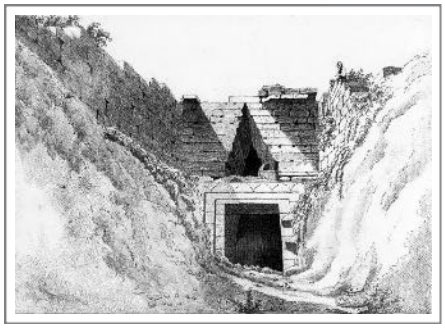
The European mania for all things Greek was also on display in the drawing rooms and studies of wealthy aristocrats as well as at most universities alongside their requisite and richly endowed Classics departments. So all-pervasive was instruction in Latin and Greek in English schools that a law——the Grammar School Act of 1840, was required to allow the use of school funds, 'to purposes other than the teaching of classical languages.' Homer had an important place in educational curricula at all levels but even for most academics advanced Homeric studies focused on literature, philology, and linguistics. At mid-century Greek history and archaeology concerned itself almost exclusively with the fourth and fifth centuries BCE. The glory of Greece, albeit narrowly defined, had become the birthright of Western Europeans. By the end of the century, however, a radical rethinking of what it meant to study Greek culture was well underway.

Among the antiquities purchased from Elgin by the British Museum in 1816 were marble fragments (see below) from the Treasury of Atreus (Tomb of Agamemnon). At the time of their acquisition, however, even the most knowledgable scholars were unaware the fragments predated the Parthenon by 1,000 years——an era that Grote and his contemporaries assigned to "a past that never was present" (Bain 1873). At the time Grote was writing, scholars and museum curators were focused on what was considered the apogee of Greek cultural attainment as represented by the Classical period. While many of the wonders arriving at museums from the deserts of Mesopotamia and the Nile Valley were unique, expeditions to Greece often focused on art and monumental architecture known from drawings and/or copies made during the Roman era. Although the difficulties and dangers of early expeditions and excavations were real, the sites of many of Greece's Classical treasures were known and at least partially exposed. At the same time an unknown prehistoric Greek past remained largely buried and entombed.

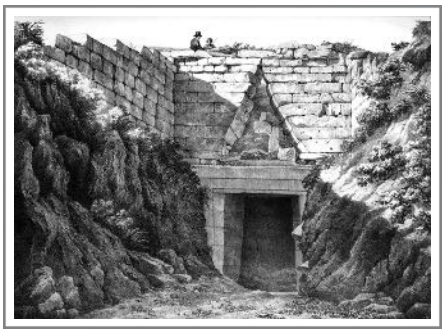
That their past was clearly present to Greeks of the classical period, however, is attested by their poets and historians. Aeschylus' tragedy *The Oresteia* (458 BCE) is based on the House of Atreus at the time of Agamemnon's return from Troy. Along with the ancient traditions of Athens and Sparta, Thucydides turned his attention to

Mycenae and especially to the Mycenaean warlord's navy. Speaking with the perspective of an archaeologist he warns against using the lack of monumental remains to draw conclusions about the historical status of a given polity. Whether or not the historian had seen any of the Argolid's ancient walls is unknown, but Thucydides likely applied his own *dictum* to Mycenae. In any case he was cautiously content to accept Homer's word and so opined, "we may safely conclude that the armament in question surpassed all before it" (1996, 1.10.3). Four centuries after Thucydides wrote his famous account, the Roman era Greek geographer and historian Strabo may have relied on hearsay when he stated, "In subsequent times Mycenae was razed by the Argives, so at present not even a trace is to be discovered of the city of the Mycenaeans" (1988, VIII.6.10.). However, a century later, an account by Pausanias appears to be that of an eyewitness. The traveller going to Argos by way of Corinth, he wrote, will arrive at the small city of Cleonae where two roads cut through the mountains. One, more suitable for carriages, passes near to the cave of the Nemean Lion (of Herakles fame) and shortly, "you see on the left the ruins of Mycenae." After relating the site's mythological origins, Pausanias tells his readers he saw the cyclopean walls, the Lion Gate, several tombs, and the Perseia——the spring fed water source for Mycenae (1918, II.15.4,16.5–6, 25–8.).

Pausanias's *Descriptions of Greece* was particularly useful to nineteenth century travelers including members of the Society of Dilettanti. A dining club for British gentlemen established in 1734, the Society brought together the well heeled elite who had taken the Grand Tour. Known for their revelry and love of the risqué, Alexander Pope caricatured the members' interests as "statues, dirty gods, and coins." But the Dilettanti had a serious side as well and in the early 1800s were offering scholarships for students and artists intent on traveling to Greece. In 1811 the Society commissioned Willam Gell to explore and write about local features of Greek Classical sites. His friend and sometime fellow traveller Edward Dodwell had similar interests and each published illustrated works referencing the ancient sites described by Pausanias. These early travel guides popularized Greece as a destination for wealthy European collectors and adventurers (Redford 2008).



William Gell, *Itinerary* 1827
Treasury of Atreus



Edward Dodwell, *Descriptions* 1834
Treasury of Atreus

Certainly the most famous, infamous, or notorious (depending on your view) collector of the era was Thomas Bruce, the Seventh Earl of Elgin. Elgin served as ambassador to the Ottoman Empire at Constantinople. At the time the Turks controlled Greece and the Turkish government was much indebted to the English for Nelson's defeat of Bonaparte in Egypt. These circumstances allowed Elgin to ask for and receive

extraordinary favors and by 1803 he had arranged for many of the Parthenon's finest relief carvings and statuary to become his private property. Elgin spent the next decade struggling to get his (some say 'pilfered') hoard back to England. As noted above, included among the the Earl's booty were fragments from a Mycenaean tholos tomb (Elgin Marbles, 2004).



a. & b. Illustrations of Sculptural Elements
Drawn by James Inskipp
Dodwell, *Travels*, II, p. 232
c. Marble Sculptural Element - Treasury of Atreus
© Trustees of the British Museum

In the 1850s Charles Newton, a diplomat and archaeologist working in the eastern Aegean on the island of Rhodes, met and trained Alfred Biliotti to help with surveys and excavations. Biliotti would go on to make a name for himself in both the consular service and the world of archaeology while Newton, on his return to England, became the first Keeper of Greek and Roman Antiquities at the British Museum. As Keeper, Newton was in charge of the increasing number of "primitive" artifacts from Hellenic lands acquired by the British Museum including those sent to him by Biliotti. In 1868 Biliotti began a series of excavations at the necropolis of Ialysus (Moschara Vounara) on Rhodes——a site destined to become an important one in Mycenaean studies. Although Biliotti seems to have noted the contrasting ages of Rhodian pottery, when his 1868 and 1870 collections arrived at the British Museum the idea of prehistoric Hellenic cultures was vague at best and Newton categorized the ceramics as *Graeco Phoenician* (Fitton 1995, 78). While Newton may have initially misconstrued Biliotti's Ialysus finds, during the next quarter of a century the British Museum Keeper would play an important role in the recognition and definition of Greece's Bronze Age.



Alfred Biliotti
1800-1879

Mycenaean Molded Glass Juglets
Ialysus, Rhodes
© Trustees of the British Museum





Mycenaean Cup - LH IIIA2
Ialysus, Rhodes
© Trustees of the British Museum



Charles Thomas Newton
1816-1894



Mycenaean Piriform Jar - LH IIIA2/IIIB1
Ialysus, Rhodes
© Trustees of the British Museum



Mycenaean Brazier - LH IIIA2
Ialysus, Rhodes
© Trustees of the British Museum



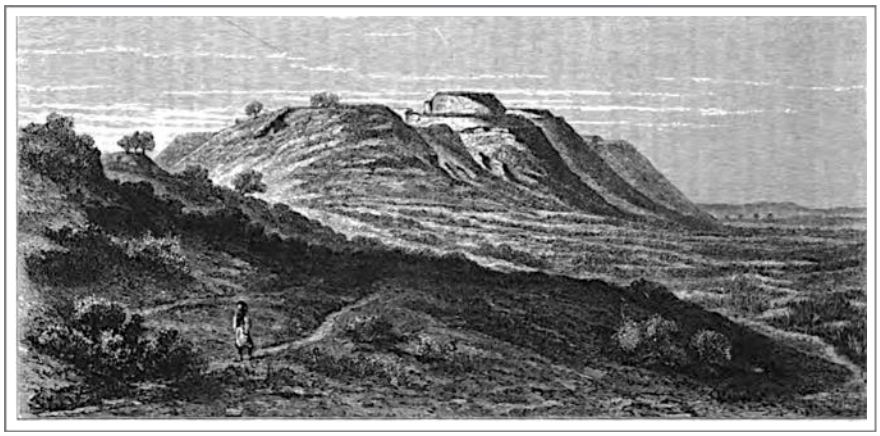
Mycenaean Bronze Sword - LH III
Ialysus, Rhodes
© Trustees of the British Museum

In her survey of of ancient Greece scholarship, *The Discovery of the Greek Bronze Age,* Fitton suggests that Newton's initial perceptions were prejudiced by the conventional wisdom of his day. Cultural evolution, it was thought, invariably followed a bell curve path from rise to fall. If the artifacts were Greek, Newton reasoned, they must belong to the Archaic Period. As such they represented inept, primitive efforts that would be far surpassed in the centuries of Classical Greece's floruit (1996, 31–32). Much of Fitton's appraisal of Newton is based on the Keeper's 1878 article, "Dr. Schliemann's Discoveries at Mycenae" which in turn is a discussion of Schliemann's publication, *Mycenae* (Newton 1878). Because of his responsibilities at the British Museum, Newton was in a unique position to evaluate Schliemann's finds in light of the growing collection of "primitive" artifacts arriving from mainland Greece and the eastern Mediterranean. Newton recognized and elucidated the many similarities of material finds from diverse sites and was the first to make a convincing case that as a group they represented a hitherto unappreciated era in Greek prehistory. Despite his considerable insights, Newton's early conclusions about the chronology were mistaken——in large part because he was trying to place the new material into a traditional timeline. Additionally, there was a natural reticence among scholars to entertain an era widely believed to be "attested" solely by Homeric Epic. Even after the antiquity of Bronze Age cultures was established some classicists remained decidedly cynical about studying Greek prehistory and a few decried the growing numbers of scholars interested in pre-classical studies. Fitton quotes Perry Gardner's 1911 retirement address as outgoing president of the Society of the Promotion of Hellenic Studies in which he states, "The pursuit of what is primitive has led them on from point to point, until they are inclined perhaps somewhat to overvalue mere antiquity" (1996, 38). The following year, however, Arthur Evans was in the chair and countered Gardner's pronouncement with a promise to, "take advantage of my position here today to say something in favor of roots, and even of germs" (ibid., 38).

Clearly the pendulum was swinging. At the onset of the twentieth century the revolution was well under way and the man who had hurled the thunderbolt had been dead for twenty years. The world of Classical archaeology in the latter part of the nineteenth century CE was an exclusive one. Dominated by men who were highly educated, wealthy, and often of aristocratic lineage, they had few concerns with making a living but a healthy interest in making a name for themselves in their chosen field. This is not

to say they were inclined to remain in ivory towers. Most were passionately dedicated to their profession and willing to risk life and limb exploring and excavating in potentially dangerous and out of the way places to advance their understanding of the antiquities of Greece and Rome. Nearly all, however, shared in their elevated social status and inherited wealth. And into their midst came Heinrich Schliemann, a commoner with no reputable lineage who had variously been a grocer's clerk, a cabin boy, and a book keeper and whose considerable financial resources came in part from his less than wholesome stint as a banker in the California gold fields and shrewd profiteering during the Crimean War. Ultimately, however, Schliemann belief in his own romantic fantasies fueled by Homer's enchanting and enchanted tales led to the discovery of a world that everyone knew about but that few believed had actually existed.

Most would argue that what Schliemann found is significantly different than what he was searching for and/or thought he had found. Troy, that is to say, a Late Bronze Age fortified city was certainly not at the bottom of the massive trench he caused to be dug through the mound at Hisarlik nor were Agamemnon and his contemporaries interred in the shaft graves. Yet few would deny Schliemann the credit for revealing the previously unknown (and once thought fabulous) era of Aegean prehistory. How then do we judge Schliemann's embrace of what some describe as *Archaeologica Homerica.* James Porter's volume, *Homer: the very idea* surveys the reception, both critical and biographical, of Homer from antiquity to the present day (2022). While the search for the man——a flesh and blood poet, appears irresistible it has also proved fruitless. Porter deals with this shape-shifting aspect behind the Epics with a series of unsettling paradoxes. Thus, even "Homer's name was clearly not his own" (ibid., 66). Porter also observes that despite lacking any reliable biography, "[Homer] can nevertheless be linked to a place on a map with GPS accuracy." This place, of course, is Troy and Porter argues that, "the very idea of Homer is wrapped up with the very idea of Troy: neither one can be imagined in the absence of the other" (ibid., 27-28).There seems to be a kernel of truth here——at least from the point of view of Aegean studies. Schliemann is faulted not for digging in the wrong place but for digging too deeply. Johannes Haubold appears to confirm Porter's thesis with his question, "what type of 'reality' do archaeologists claim to uncover when they work in and around Homer's Troy?" (2017, Chapter 3; see also 30 above). There are legitimate and contrasting answers to this question and more broadly as applied to Aegean archaeology but these are also questions that ultimately must consider Homer.



No. 16 from *Ilios, the city and country of the Trojans : the results of researches and discoveries on the site of Troy and throughout the Troad in the years 1871, 72, 73, 78, 79*. Heinrich Schliemann, 1880

References

Athenaeus. 2014. *The Deipnosophistae*. Translation by S. Burges Watson, *Living Poets*

Bain, Alexander. 1873. *The Minor Works Of George Grote*. London. Murray.

Beard, Mary. 2014. *Confronting the Classics: Traditions, Adventures, and Innovations*. New York. Liveright.

___. 2015. *SPQR: A History of Ancient Rome*. New York. Liveright.

Benario, Herbert W. 2000. "Hadrian (A.D. 117-138)." In *De Imperatoribus Romanis*: *An Online Encyclopedia of Roman Rulers and Their Families*. http://www.roman-emperors.org/

Blackwell, Christopher and Casey Dué. 2009. "Homer and History in the Venetus A." In *Recapturing a Homeric Legacy: Images and Insights from the Venetus A Manuscript of the Iliad,* edited by Casey Dué. Center for Hellenic Studies, Trustees for Harvard University. Cambridge. Harvard University Press.

Browning, Robert. 1975. "Homer in Byzantium." In *Viator* 6, 15-34.

Cartledge, Paul. 2011. *Ancient Greece: A Very Short Introduction*. New York. Oxford.

Cary, Ernest, trans. 1925. "*Cassius Dio Roman History,* Volume VIII, Books 61-70. Loeb Classical Library. Cambridge. Harvard University Press.

Clark, Kenneth. 1969. *Civilization: A Personal View*. New York. Harper & Row.

Cotterell, Arthur. 1955. T*he Bull of Minos*. London. Pamn Books Ltd.

Dickinson, O.T.P.K. 2017. "The Will To Believe: Why Homer Cannot Be 'True' In Any Meaningful Sense." In *Archaeology And Homeric Epic,* edited By Susan Sherratt And John Bennett. Oxford. Oxbow Books. Kindle.

Easton, D. F. 1998. "Heinrich Schliemann: Hero or Fraud?" *The Classical World* 91, 335-43.

Elgin Marbles. 2004. *Elgin Marbles BBC*. Produced and directed by Robin Dashwood.

Farrell, J. 2004. "Roman Homer." In *The Cambridge Companion to Homer,* edited by R. Fowler. Cambridge. Cambridge University Press.

Finley, M.I. 1982. *Early Greece: The Bronze and Archaic Ages*. New York. W. W. Norton & Co.

___. 2002. *The World of Odysseus*. With an Introduction by Bernard Knox. New York. New York Review Books.

Fitton, L. 1995. "Charles Newton and the Discovery of the Greek Bronze Age." In *Klados: Essays In Honour Of J.N. Coldstream. Bulletin of the Institute of Classical Studies*. Supplement 63, 73–8.

___. 1996. *The Discovery of the Greek Bronze Age*. Cambridge. Harvard University Press.

Forte, Richard. 1997. *Life: A Natural History Of The First Four Billion Years of Life On Earth*. London. HarperCollins.

Freeman, Charles. 2005. *The Closing of the Western Mind: The Rise of Faith and the Fall of Reason*. New York. Vintage.

Furnish, Victor. 1993. "Corinthians." In *The HarperCollins Study Bible: New Revised Standard Version, with the Apocryphal/Deuterocanonical Books,* edited by Wayne A. Meeks and Jouette M. Bassler. New York. HarperCollins.

Gaventa, Beverly. 1993. "Acts." In *The HarperCollins Study Bible: New Revised Standard Version, with the Apocryphal/Deuterocanonical Books*. edited by Wayne A. Meeks and Jouette M. Bassler. New York. HarperCollins.

Getty Exhibition. 2008. *Grecian Taste and Roman Spirit: The Society of Dilettanti*.

Glover, Terrot R. 1901. "Palladas." In *Life and Letters in the Fourth Century*. Cambridge. Cambridge University Press.

Graziosi, Barbara. 2002. *Inventing Homer: The Early Reception of Epic*. New York. Cambridge University Press.

Greenblatt, Stephen. 2011. *The Swerve: How the World Became Modern*. New York. Norton.

Grote, George. 1880. *A History of Ancient Greece. Volume I.* New York.Harper & Brothers, Publishers.

Hall, Edith. 2008. *The Return of Ulysses: A Cultural History of Homer's Odyssey*. London. I. B. Tauris.

___. 2014. *Introducing the Ancient Greeks: From Bronze Age Seafarers to Navigators of the Western Mind*. New York. Norton.

Haubold, Johannes. 2017. "Dream and Reality in the Work of Heinrich Schliemann and Manfred Korfmann." In *Archaeology and Homeric epic,* edited by Susan Sherratt and John Bennett. Oxford. Oxbow Books. Kindle.

Herodotus. 2009. *The Landmark Herodotus: The Histories* translated by Andrea L. Purvis, edited by Robert Strassler, with an introduction by Rosalind Thomas. New York. Anchor.

Hesiod. 1993. *Hesiod Works and Days & Theogony,* translated by Stanley Lombardo with an Introduction by Robert Lamberton. Indianapolis. Hackett.

Homer. 1990. *Homer, The Iliad*. Translated by Robert Fagles. With an Introduction and Notes by Bernard Knox. New York. Penguin.

___. 1996. *The Odyssey*. Translated by Robert Fagles with an Introduction and Notes by Bernard Knox. New York. Penguin.

Homer in Print. 2014. "The Transmission and Reception of Homer's Works." University of Chicago Library.

Homer Multitext. 2014. Editors and Architects of the Homer Multitext project. http://www.homermultitext.org.

Horace. 1902. *The Satires, Epistles, and Art of Poetry of Horace,* translated by John Conington. London. Bell.

Jerome. 1933. *Select Letters of St. Jerome,* translated by F. A. Wright. Loeb Classical Library. Cambridge. Harvard University Press.

___. 2005. "The Chronicle of St. Jerome." In *Early Church Fathers - Additional Texts,* edited by Roger Pearse. http://www.tertullian.org/fathers/jerome_chronicle_02_part1.htm

——. 2011. "Commentarius in Ezzechielem, c. 40, v. 5." In *Parade of Faith: A Biographical History of the Christian Church*. Zondervan.

Kelly, C. 2006. *The Roman Empire: A Very Short Introduction*. Oxford. Oxford University Press.

Lesher, James. Summer 2021. "Xenophanes." In *The Stanford Encyclopedia of Philosophy,* edited by Edward N. Zalta.

Lord, Albert B. 1960, 3rd rev. edition, 2019. *The Singer of Tales*. Cambridge. Harvard University Press.

Mackail, John W. 1890. *Select Epigrams From The Greek Anthology,* edited with revised test, translation, and notes. New York. Longmans.

Marcellinus, Ammianus. 1911. *Roman History of Ammianus Marcellinus,* translated by C. D. Yonge. London. G. Bell and Sons.

Martin, Richard. 2011. "Introduction to Richmond Lattimaore's Iliad." In *The Iliad of Homer* translated by Richmond Lattimore, 1951. Chicago. University of Chicago Press.

Nagy, Gregory. 1981. "An Evolutionary Model for the Text Fixation of Homeric Epos." In *Oral Traditional Literature: A Festschrift for Albert Bates Lord,* edited by J. M. Foley. Columbus. Salvica.

___. 1996. *Homeric Questions*. Austin. University Texas Press.

___. 1997. "New Light on a Dark Age: Exploring the Culture of Geometric Greece." In *The Shield of Achilles: ends of the Iliad and beginnings of the polis,* edited by S. Langdon. Columbia. University of Missouri Press.

___. 2011. Observations on Greek Dialects. *Proceedings of the Academy of Athens* 86 (Second Issue), 81–96.

___. 2013. "Part 1, Introduction to Homeric Poetry." In *The Ancient Greek Hero in 24 Hours*.

___. 2015. "From Homer to Virgil." Center for Hellenic Studies Open House. November 19, 2015.

Newton Charles T. 1878. "Dr. Schliemann's Discoveries at Mycenae." In *Essays on Art and Archaeology*. 147, 220-256. London: Longman's, Green, Reader and Dyer; Edinburgh. Adam and Charles Black.

Nilsson, Martin. 1932. *The Mycenaean Origin Of Greek Mythology*. GlobalGrey 2016.

O'Donnell, James. J. 2015. *Pagans*. New York. HarperCollins.

Palaima, Thomas G. 2008a. "Mycenaean Religion." In *The Cambridge Companion To The Aegean Bronze Age*, edited by Cynthia W. Shelmerdine. Cambridge. Cambridge University Press.

___. 2008b. "The Significance of Mycenaean Words Relating to Meals, Meal Rituals, and Food" given at 12th International Aegean Conference. http://hdl.handle.net/2152/63793

___. 2012. "Security and Insecurity as Tools of Power in Mycenaean Palatial Kingdoms." In *Études mycéniennes 2010. Actes du XIIIe colloque international sur les textes égéens, Sèvres, Paris, Nanterre, 20-23 septembre 2010,* edited by Pierre Carlier et al. Biblioteca di Pasiphae. 10. Roma.

Parry, A. 1971. *The Making of Homeric Verse*: *The Collected Papers of Milman Parry*. Oxford. Clarendon Press.

Pausanias. 1918. *Description of Greece*, translated by W. H. S. Jones and H. A. Omerod. Loeb Classical Library. Cambridge. Harvard University Press.

Petrie, William M. F. 1891a. "Notes on the Antiquities of Mykenae." *The Journal of Hellenic Studies* 12, 199–205.

___. 1891b. *Illahun, Kahun and Gurob 1889-90*. London. D. Nutt.

Plato. 1975. *Plato: Phaedo,* translated with notes by David Gallop. Oxford. Clarendon.

Polybius. 1889. *The Histories of Polybius*, translated from the text of F. Hultsch by Evelyn S. Shuckburgh. London. Macmillan.

Porphyry and R. Schlunk. 1993. *The Homeric Questions*. A Bilingual edition. New York. P. Lang.

Porter, James. 2022. *Homer: the very idea*. Chcago & London. University of Chicago Press.

Redford, Bruce. 2008. *Dilettanti: The Antic and the Antique in Eighteenth-Century England*. Los Angeles. Getty.

Sarris, Peter. 2015. *Byzantium: A Very Short Introduction*. Oxford. Oxford University Press.

Shakespeare, William, and Stephen Orgel. 1987. *The Tempest*. New York. Oxford.

Shaw, Maria C. 1996. "The Bull-Leaping Fresco from below the Ramp House at Mycenae: A Study in Iconography and Artistic Transmission." *The Annual of the British School at Athens* 91, 167–90.

Sherratt, Susan and John Bennet eds. 2017. *Archaeology and Homeric Epic*. Oxford. Oxbow Books. Kindle.

Snodgrass, Anthony. 2017. "Chapter 1, Homer, the Moving Target." In *Archaeology and Homeric Epic,* edited by Susan Sherratt and John Bennet. Oxford. Oxbow Books. Kindle.

Strabo. 1988. *Geography,* translated by H. L. Jones. Cambridge. Cambridge University Press.

Traill, David. 1997. *Schliemann of Troy: Treasure or Deceit*. New York. St. Martins.

___. 2000. "'Priam's Treasure': Clearly a Composite." *Anatolian Studies* 50, 17–35.

Thomas, Carol. 1993. *Myth Becomes History: Pre-Classical Greece*. Claremont. Regina.

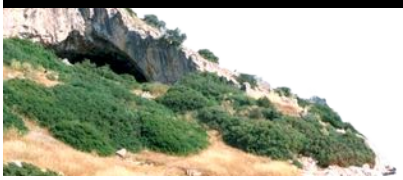
Thucydides. 1996. *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War,* translated by Richard Crawley, edited by Robert Strassler, with an introduction by Victor Hanson. New York. Free Press.

Virgil. 1697. *The Aeneid* (Dryden trans.). New York. P. F. Collier.

Virgil. 2006. *The Aeneid* translated by Robert Fagles with Introduction by Bernard Knox. New York. Penguin.

Wolf, F.A. 1985. *Prolegomena to Homer 1795,* translated with introduction and notes by A. Grafton, G. Most, and J. Zetzel. Princeton. Princeton University Press.

Zorzi, Marino. 2009. "Foreword." In *Recapturing a Homeric Legacy: Images and Insights from the Venetus A Manuscript of the Iliad,* edited by Casey Dué. Center for Hellenic Studies, Trustees for Harvard University Cambridge. Harvard University Press.



From the Abyss were born Erebos and dark Night.
And Night, pregnant with sweet intercourse
With Erebos, gave birth to Aether and Day.
- Hesiod, *Theogony* (1993)

A Time Out Of Mind

While most Greeks of the Classical and Hellenistic periods looked to the songs of Hesiod and Homer for their origins, Xenophanes, an Ionian Greek of the late sixth century BCE, proposed a different approach for such inquiries——one stressing observation in pursuit of empirical evidence (Lesher 2014). In 1967 T. W. Jacobsen, following Xenophanes, began excavations at Franchthi Cave. Located on the the Bay of Koilada on the eastern shore of the Gulf of Argos, the site has yielded an impressive array of evidence for humankind's early presence in the Aegean (Farrand, 2003, 69). Recent radiometric dating associated with ornamented shells and lithics confirms human activity at the cave as early as 40 ka cal BP (Douka et al. 2011).[1] Plant and animal remains, a variety of artifacts, and structural evidence are attested from the Upper Paleolithic to late in the Neolithic.[2] The earliest human traces were left by bands of hunter-gatherers during seasonal visits. By the Early Neolithic (EN)——ca. 6500 BCE, pottery sherds attest to year-round residents and the beginning of a period of occupation that would endure, with some interruptions, for more than three millennia. Late in the Final Neolithic (FN)——towards the end of the 4th millennium BCE, prehistoric occupation of the Franchthi Cave ended as rising sea levels inundated the adjacent land and prevented access to the cave itself.

Numerous obsidian (volcanic glass) bladelets and points, critical items in the toolkits of early humans, have been collected at Franchthi. Significantly, the origin of the obsidian itself, if not the finished tools, was the island of Melos. This attests to a degree of access to distant resources as early as the late Upper Paleolithic (Rutter and Gonzalez-Major 2011 - 2013, Lesson 1). Neolithic rock engravings of canoes and longboats at Strofilas on Andros suggest the means by which early adventurers reached Melos and other Cycladic islands (Liritzis 2010). Franchthi's coastal location was well situated as a nascent entrepôt. Many centuries later, Aegean merchants would ply the vast Middle Sea in large, sail-powered vessels——partaking of the expansive eastern Mediterranean economy and attesting to the reach of the Mycenaean culture.



Melian Obsidian and Rock Engravings
Strofilas on Andros
Christina Televantou

1. Dating abbreviations: ka = *years (in thousands) ago;* cal BP = *before present* with adjustments based on 1950 CE as "present," and BC/BCE = *before current era* based on calibrated radiometric data.

2. Aside from methods for determining accurate dates (covered below) two issues affect discussions of chronology throughout Aegean studies. A general difficulty relates to time scales, some geological, outside the norms of human experience and how best to conceive such vast stretches of time. In addition, elements of Aegean prehistory are a a mire of chronological complexities. References to 'absolute' (calendar dates) and 'relative' chronologies are commonplace. The first are controversial and the second challenge the everyday notion of chronologies as constant temporal categories. Differing settlement patterns and rates of acculturation across the Aegean result in a lack of uniformity. At the same time chronologies may be based on different criteria including aDNA, 14C, synchronies, and/or cultural elements such as ceramic styles or metal use. See *Introduction,* 11.

Beginnings

Before turning to the Franchthi Cave's early prehistory, it will be useful to consider two technologies that have altered Aegean studies (and numerous other disciplines) in a fundamental way. In his volume *Prehistory: the making of the human mind,* Colin Renfrew makes the point that two centuries ago, "the very notion of prehistory, in the sense of a broad stretch of time going back before the dawn of written history, had not been formulated. There was absolutely no notion that the human past involved tens of thousands of years of development and change" (2007, Ch. 1). And it was not until fairly late in the 19th century that a majority of scholars accepted the reality of this very ancient human history. As this revolutionary concept gained wider acceptance it became clear that an essential task was to bring a degree of temporal order to this newly envisioned ancient world——with a chronology that superseded the *ex cathedra* interpretations of Biblical testament. However, prior to the mid-20th century no independent measure existed and calendrical dating relied on complex cross referencing based on assumptions about Mesopotamian and Egyptian regnal dates.

The American John McPhee coined the term *deep time* in 1980 but the outlines of Earth's vast temporal horizon were initially formulated by a succession of late eighteenth and early nineteenth century Scottish and English scholars. James Hutton, a member of the Scottish Enlightenment, was among these pioneers. Hutton realized that geologic change typically happens in imperceptible increments——albeit through such everyday processes as erosion and sedimentation. This in turn suggested the possibility of previously unimagined stretches of time over which geologic change occurs. At Siccar Point (at left) uplifted gray sandstone is capped by old red sandstone——representing events separated by 70 million years. In 1788 Hutton visited Siccar Point with his companion John Playfair who wrote, "The mind seemed to grow giddy by looking so far back into the abyss of time." Although Hutton was faulted for making a complex matter nearly unintelligible he did leave one trenchant summary of his work (1788, 304).



Siccar Point Berwickshire, Scotland
Hutton's Unconformity

> *The result, therefore, of our present enquiry is, that we find no vestige of a beginning, no prospect of an end.*

No less important were William Smith's publications, *A Delineation of the Strata of England and Wales with part of Scotland,* 1815, and *Strata Identified by Organized Fossils,* 1816 - 1819 (Winchester 2001). Smith's descriptions of England's geologic strata, identified in part by fossil typologies, established a model that would play a significant role in future archaeological methodologies. Together, the works of Hutton and Smith set the stage for Charles Lyell's *Principles of Geology* that in turn influenced Darwin's revolutionary *On the Origin of Species* (1830 - 1833; 1859). Geologists were not alone in stirring the pot that ultimately led to a reimagining of humankind's ancient origins. Flint objects, looking suspiciously like ancient man-made tools, had been found in both England and France. However, much as with the numerous fossil finds, more than a few churchmen and traditionalists voiced strong opposition to proposals suggesting that fossils might be extinct forms of life or that the flint "tools" had been crafted by humans. Ultimately, evidence of hand axes in association with the remains of extinct animals and human skulls offered irrefutable proof.

During the nineteenth and early twentieth centuries archaeologists applied the general assumptions of Thomsen's Three Age System (stone, bronze, and iron) and their understanding of stratification——notably the principle of superposition (younger strata and their deposits overlie older strata and their deposits), to define archaeological contexts and material relationships (1836/1848). In combination with typologies——classes of objects (eg. decorated ceramics) defined by various attributes (eg. formal, morphological, and functional), it was possible to assign relative chronologies to artifacts and/or architectural features revealed by excavation. And although absolute dates (or approximations thereof) were suggested, such dating rested on assumptions rather than independent measurements.[3] However, Willard Libby's 1947 elucidation of radiocarbon dating radically altered the possibilities. Colin Renfrew described the resulting sea-change as, "the most significant advance in the study of prehistory since the establishment of the antiquity of man nearly a century earlier" (2007, chap. 3). While 14C (the radioactive isotope Carbon-14) is not a silver bullet for archaeology's dating challenges (scholarly debates, calibration issues, and sampling errors are complicating factors), it provides an empirical basis for determining a range of dates——evidence that is independent of cultural associations or geographic locations. As a practical matter 14C analysis of anything later than the Early Bronze Age outputs date ranges that are too broad to provide much more than ballpark resolutions. In these cases Bayesian sequencing is used to suggest data sets of probability for various date ranges. Trial tests are presently being carried out using 14C to date food residues and fatty acids retained in ancient pots. This methodology has the potential to provide absolute chronologies directly from the ceramic vessels (Casanova et al. 2020, 506-510).

People, Pots, And aDNA

During the first decade of the 21st century, another revolutionary tool for investigating the history of life was being refined——one that, much like 14C, provides a powerful adjunct to archaeological investigations. This most recent innovation rests on the 1953 description of the structure of DNA by Crick, Franklin, Watkins, and Wilkins. The ability to sequence genes and entire genomes has not only altered the biological sciences, it is also contributing to advances in history, anthropology, and archaeology (Albright 2014). Both mitochondrial DNA (mtDNA) and ancient DNA (aDNA) evidence has already impacted our understanding of the arrival and dispersal of early hominins and *Homo sapiens* out of Africa and into Eurasia, yet we are scarcely at the beginning of an era that may redirect and transform our knowledge of prehistory in ways that are still not clearly understood. A decade ago mtDNA studies demonstrated notable genetic differences between ancient hunter-gatherers and early European farmers (Bramanti 2009). Even more remarkable—— aDNA comparisons of whole genomes has led to genetic evidence suggesting a variety of cultural changes including the timing, size, and consequences of migrations (Reich 2018, 102-107).[4]

In 2016 Qiaomei Fu led a team at the David Reich Lab (Harvard College) in a project to investigate the story of modern humans' arrival and dispersal in western Eurasia (2016, 1-5). Although *Homo sapiens* were preceded by *H. erectus*, *H. neandertalensis*, and *H. denisova*, it is largely the legacy of *H. sapiens* that is reflected in European history. Fu and her group analyzed genome-wide data from 51 Eurasians dating from ~45,000 to ~7,000 years ago. Their findings describe, "how population turnover and migration

3. For related topics see: *Introduction* and *Homer's Odyssey*.

4. See also, *Neolithic Mainland* for a brief description of genomic methodology.

have been recurring themes of European prehistory" (2016, 1). Reich outlines these themes with five events (2018, 87-92). Like their earlier hominin relatives, the first modern humans to migrate out of Africa ~ 50 ka (event I) are not reflected in the genetic makeup of later European hunter-gatherers (ibid., 90). This was likely a result of the CI Super-erruption dated to ~ 39 ka——a horizon of significant cultural discontinuity attested in the archaeological record. However, the genetic signal of a subsequent migration——event II (~37 ka), is clearly represented in subsequent European hunter-gather populations. In fact, all individuals from between ~37 and ~14 ka are descendants of a single founder population ancestral to present-day Europeans. The



I. Out of Africa / II. First European Hunter-Gatherers / III. Gravettian Expansion
IV. Magdalednian Expansion / V. Bølling-Allerød Expansion

Ice Age Europe - Early Modern Humans after Fu 2016; Reich 2018

earliest of these people, characterized in the material record by Aurignacian tools, were largely displaced (event III ~ 33 - 22 ka) by groups whose culture is associated with cave art and Venus figurines as well as Gravettian tools. Indications that the advancing ice sheet forced these populations into southern refugia is suggested by the subsequent movement (event IV begins ~19 ka) of Magdalenian culture groups from southern sites northward as temperatures moderated. Surprisingly, Magdalenian genomic data included evidence for a remnant of Aurignacian ancestry——largely displaced and absent for 15,000 years, as well as the eastern European Gravettian influence. The Bølling-Allerød expansion (event V beginning ~ 14 ka) of hunter-gatherers represents a different lineage, one that largely replaces the earlier Magdalenian groups. While the hunter-gatherers of events II - IV were in large part distinct from present day Near Eastern populations, the peoples that migrated into western Europe after ~ 14 ka are more closely related to peoples of the Near East (Reich 2018, 90-93). Taken as a whole, there is a remarkable consistency between recent genomic data and the evidence gathered over decades from paleontological and archaeological excavations.

The potential misuse of genomic data has raised signifiant methodological and ethical concerns. The latter focuses on racial profiling, best known from Gustaf Kossina's culture history theories as appropriated by the National Socialist to advance the concept of racial superiority and as rationales for anti-Jewish pogroms and the holocaust (Callaway 2018). Efforts have been made to counter these concerns (Haak, W. et al. 2015, 207–211). Conceptual differences among scholars have also played a part in critiques of the use of genomic evidence, however, the reception of a number of recent publications suggest an ongoing process of accommodation (Knipper et al. 2017).

Stone Age

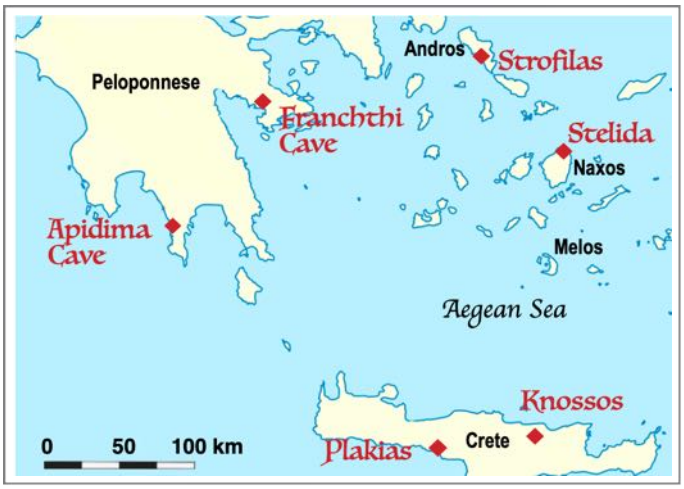
While human prehistory may be a mere moment in geologic time, nevertheless, investigating and understanding the details of that history presents numerous challenges. Although the focus here begins with the late Stone Age (Upper Paleolithic and Mesolithic), four Lower Paleolithic sites, including several of the Plakias locales on Crete, have been confirmed. Tourloukis and Harvati also mention, “ca. 240 sites,” dating to the Middle Paleolithic period (2017). Along with the work of paleontologists and the geneticists mentioned above, research involving sea level fluctuations and seafaring capabilities as well as archaeological excavation have each enhanced recent advances in our knowledge of humankind’s earliest presence in the Aegean. In 2008 a team of archaeologists (*Plakias Stone Age Project*) working on Crete also uncovered evidence suggesting hominin presence on the island during the Middle Paleolithic. More recently, excavations at Stelida on Naxos, the largest of the Cycladic islands, have revealed numerous lithic artifacts ranging in age from about 200 ka to the period following the Last Glacial Maximum (LGM) or about 19 ka. Because the late Middle Paleolithic was a time when *Homo neanderthalensis* coexisted with *H. sapiens* it is likely modern humans interacted with our closest hominin relative somewhere on the Greek mainland. There is, in fact, evidence that Franchthi was occupied in the late Middle Paleolithic, however, physical aspects of cave have precluded excavating at those levels (Farrand 2003, 72). A number of the Stelida chipped stone tools are similar to Aurignacian-type tools from Franchthi (Carter et al. 2019, 3-4).



LU7 - ca. 200 kya denticulated flake

LU6 - ca. 94 kya blade

chipped stone tools - Stelida, Naxos
Carter 2019, 5 Fig. 3 l, h



Lower Paleolithic Emery Hand Axe
Middle Paleolithic Chert Point
Lower Paleolithic Chert Cleaver
Upper Paleolithic Bone Point
Stelida Naxos Arch. Project



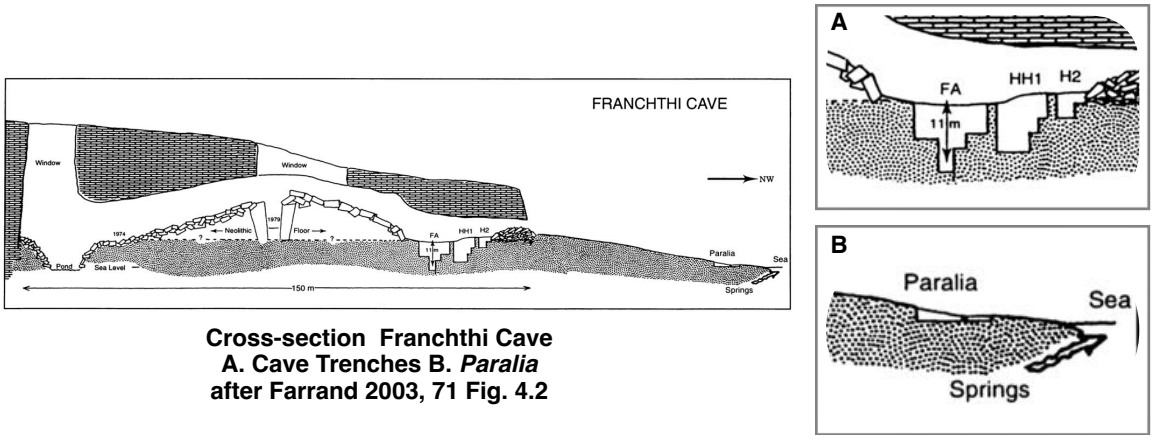
Paleolithic & Mesolithic
Plakias, Crete Stone Age Project

The day to day experiences of Franchthi’s hunter-gatherers were influenced by both the ecological and geophysical aspects of their surroundings. Among the defining, but not static, factors are climate and the nature of the terrestrial and marine habitats and their associated flora and fauna. Each of these elements, however, needs to be understood within the defining parameters of the southern Greek mainland. Equally important were various social factors influencing the choices and practices of both individuals and groups. Clearly an era comprising tens of millennia creates a complex and moving target for any effort to interpret and understand how these people lived their lives. And

despite the wealth of Franchthi's artifactual material, the evidence is fragmentary——eroded by both time and circumstance. Nonetheless, the extant record does suggest at least the outlines of how occupants of Franchthi dealt with everyday challenges. However, as interested "observers" of these remote times, we need to acknowledge the vast temporal reality of Franchthi's prehistoric era——a reality that included innumerable generations of ancient people and inevitably blurs our own perceptions. It seems highly likely that aspects of their lives, even essential ones, may be unimaginable for us. Ultimately, however, our efforts to understand the lives and livelihoods of hunter-gatherers rests on the conviction that we do share common ground.

A Light In The Dark

Franchthi Cave has provided much of the initial evidence for the mainland's early human occupation and ongoing analyses of the artifactual data continues to inform our understanding of the prehistoric period. Preserved within the strata of Franchthi Cave is a material record contemporaneous with the cave's visitors and inhabitants. One trench alone (FA) reaches a depth of eleven meters and viewing the depositions from bottom to top as a high-speed movie would provide a window on much of humankind's prehistory on mainland Greece (Farrand 2003, 71). We now know that small groups of hunter-gatherers had been visiting the cave for well over 30,000 years when, at ~ 6600 BCE, the initial farming communities were established. The earliest visitors/settlers, perhaps at times only an extended family, sheltered in the cave itself. During the EN an open-air settlement or *paralia* (beachfront) was established between the cave mouth and shoreline——creating space for small gardens and the first built dwellings. However, the cave offered both shelter and protection and likely remained prime real estate. On the downside, earthquakes had the potential to make the cave a dangerous trap.



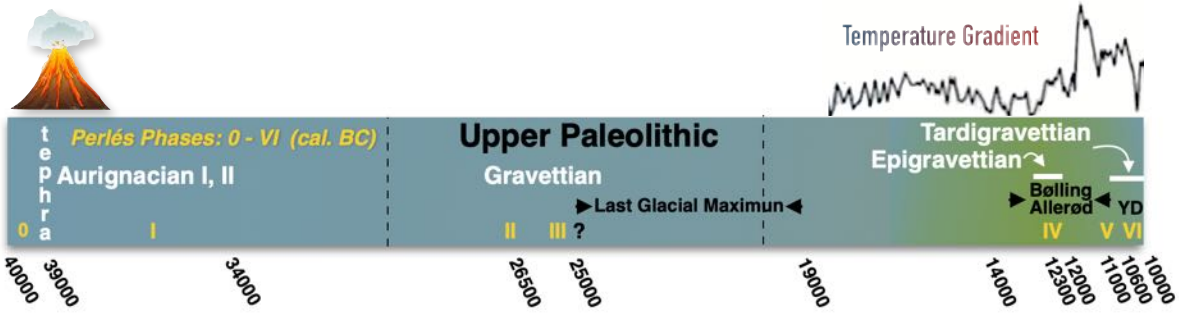
Cross-section Franchthi Cave
A. Cave Trenches B. *Paralia*
after Farrand 2003, 71 Fig. 4.2

Although we can fancifully imagine a single vertical section comprising the successive Neolithic, Mesolithic, and Upper Paleozoic strata——an undisturbed artifactual layer cake in chronological order, reality at Franchthi is altogether something else. Over the millennia natural forces have shifted and compromised significant portions of the habitable areas of the cave. Major incidents of collapse, such as the two creating massive openings in Franchthi's roof, have left large areas of the cave inaccessible and/or dangerously unstable. Ongoing erosion has also taken a toll, creating "blindspots" in a number of the excavated trenches. In truth, only relatively small areas of the cave's subsurface have been investigated. As a consequence, archaeologists necessarily work with fragmentary evidence and yes, the absence of evidence, to piece together and conceptualize a prehistoric outline for Franchthi Cave.

Artifactual evidence dates to the final period of the Old Stone Age or the Upper Paleolithic (ca. 40 - 11 ka). The date can be given with some precision based on evidence associated with the CI Super-eruption——a spectacular volcanic event resulting in its signature layer of volcanic tephra being spread across the eastern Mediterranean (Douka et al. 2011, 1131). The material evidence left by the cave's occupants in subsequent periods is uneven——scarce or even absent at times while rich and varied at others. Along with plant and animal remains, three categories of artifacts: stone tools, marine shells, and pottery have proved essential to interpreting the details of the human presence in and around the cave. Together these materials offer clues about cultural changes across the millennia. Although ceramic evidence is absent during the Paleolithic and Mesolithic, tools fabricated from chipped flint, chert, and obsidian as well as ornamented sea snails and tusk shells constitute two essential categories of artifacts that are well represented at Franchthi.

Fire And Ice

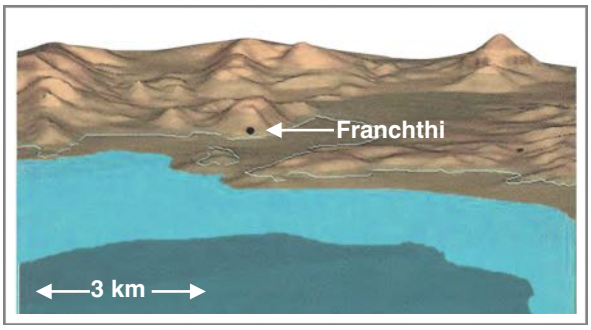
Catherine Perlés is among a handful of researchers that have taken a special interest in Franchthi. In particular she has advanced the study of the cave's lithics and ornamented shell fauna (1987; [1994] 1999; 2003; Douka et al 2011; 2017). The study of lithics and marine and terrestrial shells in archaeological contexts are specialized endeavors and many of the details and nuances of each discipline are beyond the scope of this work. However, basic concepts and terminology are included within the series of chronological and thematic overviews that follow. Perlés divides the Upper Paleolithic into two major periods, separated by approximately five millennia, with the earliest division ending around the onset of the Last Glacial Maximum (LGM). Within these larger periods Perlés defines a series of Phases I - III and IV - VI (see timeline) based on a combination of artifactual and geophysical data as well as plant and animal remains ([1994] 1999, 312-315; 2019, 196-197). It is useful to keep in mind that the underlying evidence for the following generalized descriptions is often fragmentary, at times contentious, and spans not just centuries but millennia.



Franchthi Cave Upper Paleolithic Sequence
Perlés Phases 0 - VI
after Perlés 2019, 197 Table 1

Rising Seas

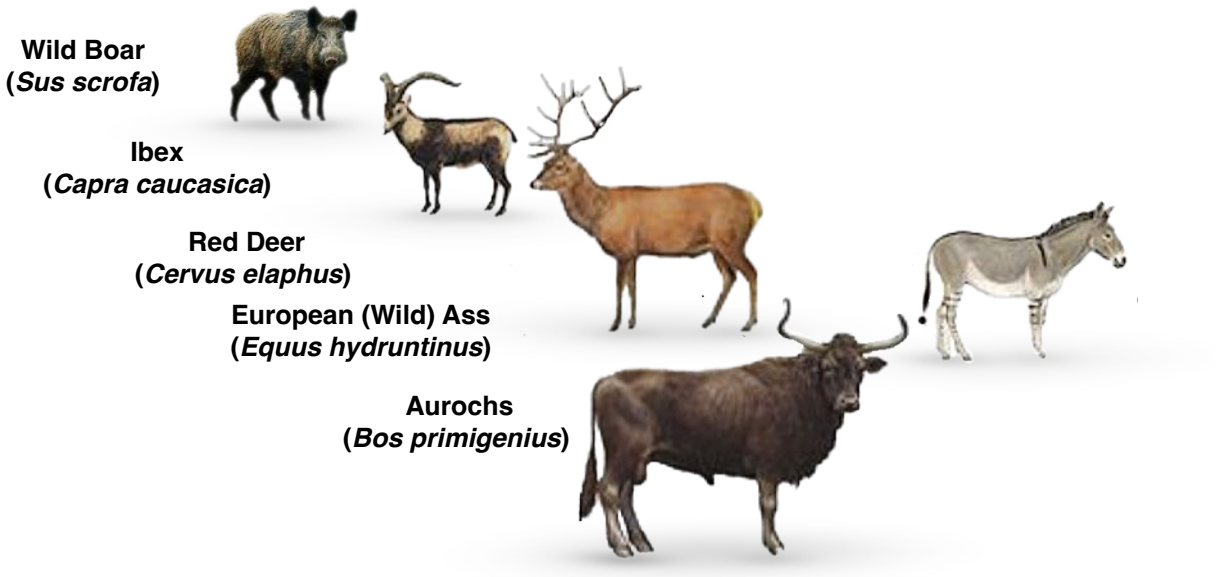
Much of the Franchthi narrative occurs during the late Pleistocene (Ice Age) and early Holocene (begins ca.11 ka). North of the Balkan peninsula glacial conditions persist through much of the period but end after the LGM. The Holocene's gradual warming trend follows——albeit interrupted by significant periods of retrenchment (the Younger Dryas and the 8.2 event). Throughout the Upper Paleolithic, however, Franchthi's southerly location resulted in relatively temperate conditions. In any case, the effects of climate are most usefully understood through changes in the physical geography and ecology affecting the Argolid's coastal areas. At present the cave is accessible along a narrow skirting beach with the entrance to Franchthi 10 m above the shoreline.



Rising Sea Levels at Franchthi
▲ ~ 12000 BP ▲ ~ 8000 BP
after Lambeck 1996, Fig. 9 b & d

Today's visitors will need to engage their imaginations to envision the ancient shoreline——some 6 to 7 kilometers to the west (Lambeck 1996, 610; Asouti 2018, Fig. 12). It was just such a landscape that was encountered by Franchthi's earliest visitors. As earth's temperatures moderated, glacial melt waters brought that shoreline ever closer. Over time these changes directly influenced the livelihood of Franchthi's occupants and are, to a degree, reflected in the artifactual record.

For the greater part of the Upper Paleolithic, through the LGM, cool and dry conditions prevailed across the southern mainland. At Franchthi large expanses of steppe grasslands spread out from the cave mouth towards the distant shoreline. Characteristic herbaceous plants (Perlés Phases I - III) were *Alkana*, *Lithosperma arvense*, and *Anchusa*——all members of the Boraginaceae family ([1994] 1999, 313 Table 29.1). Recent evidence from anthracological (carbonized firewoods) studies provide additional details for the woody plants. By the early Late Glacial (Perlés Phases IV - VI) the coastal plain was a mosaic of steppe-like grasslands and woodland copses, with various cereals and legumes characteristic of the former, the latter dominated by cold tolerant junipers, *Juniperus* sp. and wild almond, *Amydalus webii* (Asouti 2018, 13-16). During "the temperature and precipitation see-saw of the Late Glacial" (13th - 11th millennia), the general trend is one in which wild almonds replaces cold-loving junipers (Asouti 2018, 16). Asouti makes the case that Franchthi was within a distinct ecological zone——"the southern Argolid coastal shelf woodland-grassland biome" (ibid., 18). Thus the open, steppe-like habitats of the Argolid coast were unique in a number of ways and contrasted markedly with the oak (*Quercus* spp. both evergreen and deciduous) woodlands characteristic of the interior mainland during the late Paleolithic and Holocene at Franchthi itself (ibid., 22-23).



Meat On The Hoof

A feature of these grasslands until well after the LGM were several species of large grazing mammals. Based on bone frequency data from Franchthi the red deer (*Cervus elaphus*) was the most common large prey during the earliest periods although European ass (*Equus hydruntinus*) were also hunted and become an increasingly important source of meat (Stiner 2011, 633). Along with red deer and European ass, Stiner reports the remains of aurochs (*Bos primigenius)* and wild pig (*Sus scofra*) and less frequently ibex (*Capra sp.*) from Franchthi strata (2011, 625-626). The gradual warming trend that followed the LGM transformed grassland habitats at the same time that coastal areas were being inundated by rising sea levels. Presumably it was the loss of these grasslands that reduced the presence of large grazing mammals. This is reflected in the decreasing abundance of bone evidence at Franchthi and indicates the declining reliance on large mammals as dietary staples (Jacobsen 1973a, Fig. 6).

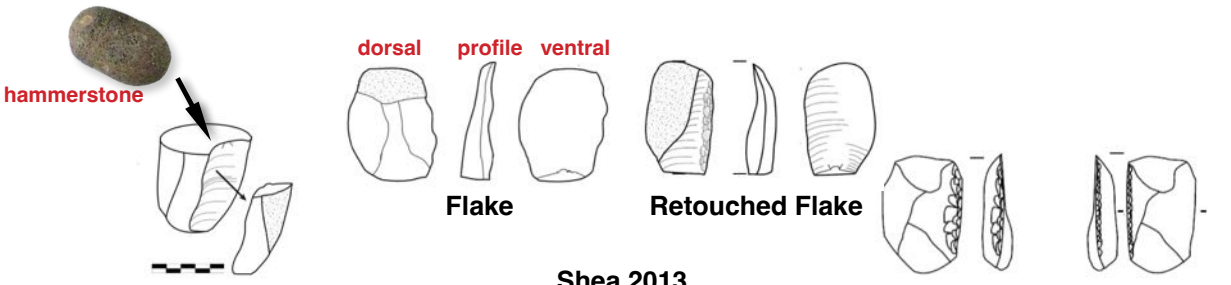
Indispensable Technologies

Perlés characterizes the human occupation of Franchthi during Phases 0 - III as "sporadic" with the cave serving as temporary shelter during "hunting halts" (2019, 197 Table 1.). It is likely that large grazing animals were the main attraction for the hunter-gatherers as even a single kill represented a significant amount of meat and marrow while also providing bone and hide for fashioning tools and clothing. The successful tracking and killing of these large mammals clearly required both specialized skills as well as reliable and effective weapons. And the chipped stone bladelets and points used by Franchthi's Paleolithic hunters were state of the art technology in a line dating back 3.4 million years to the tools of *Australopithecus afarensis.* In fact, the acceptance of the extreme antiquity of our hominin ancestors was closely connected to the early study of lithics. How tools are made (technology) and their physical characteristics (typology) are essential to our understanding of early humans. While the Oldowan industry is the oldest of the so-called lithic industries associated with early hominins, the much later Aurignacian tool assemblages are attested at Franchthi during the early Upper Paleolithic.

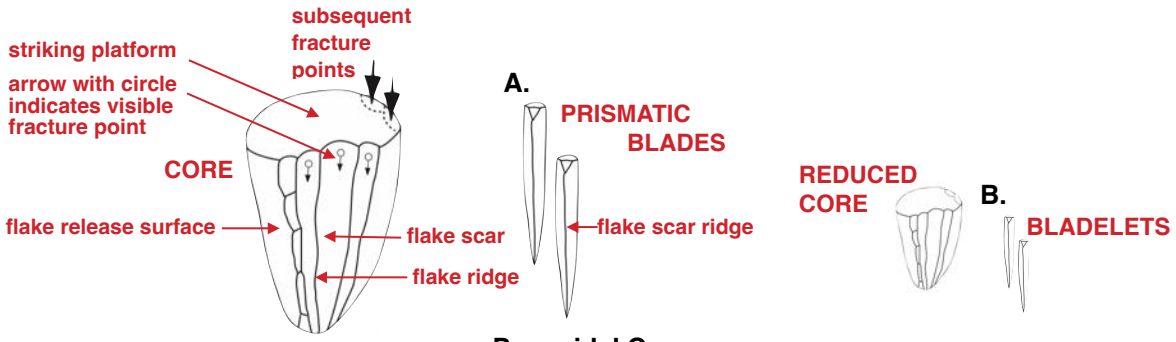
Franchthi Bladelets 28000 - 15000 BCE
Nafplion Archaeological Museum



An essential aspect of lithic analysis involves understanding the processes of tool making (Shea 2013, 17). While the details are complex, the basics include (in the jargon of the specialist) how the tool or tools (eg. *flakes*, *blades, bladelets*——also referred to as *débitage or debris*) are derived from the *core tool* (chert, flint, or obsidian) through a process referred to as *reduction* (fracturing). Core materials are selected for their fracture properties, specifically those producing a *conchoidal fracture* or a sharp, clean break. Following the initial reduction, flakes or tools were often *retouched*——shaped or sharpened by removing additional small flakes (ibid., 22).



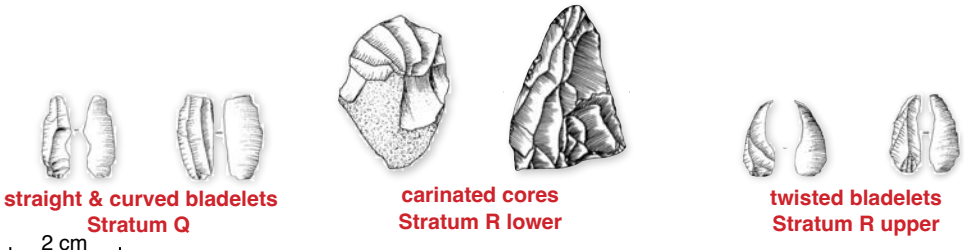
Archaeologists analyze the morphology of cores, flakes, and tools——often in concert with replication experiments, in order to infer the specifics of reduction techniques. Pertinent features include the *striking platform,* the *flake release surface, point of fracture initiation* as well as *flake scars* and *ridges*.



Pyramidal Core
after Jacques Bordaz 1970
Shea 2013, 123 Fig. 5.2

Improvements in core preparation resulted in more efficient core tools while also reducing the weight of transported material (Shea 2013, 122). For example, nearly the entire volume of prismatic cores (above) produced useful *débitage,* although *rejuvenation* (reworking) of the core was occasionally required. The pyramidal core illustrates a *single reduction sequence* in which both larger blades and smaller bladelets are produced on the same core——the former A. from the original, large core, the latter B. from the reduced core.

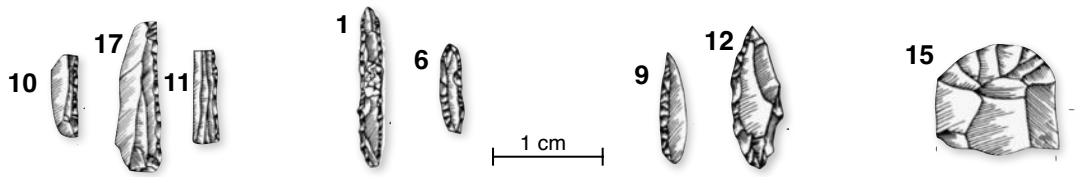
Meaningful artifactual analysis requires both precise contextual data as well as accurate chronologies. While the earliest Upper Paleolithic is at or near the limits (ca. 50,000 years) of 14C dating range recent advances have enhanced the accuracy of these measurements. At the same time the three Aurignacian industries (0, I, II) have been defined with more precision (Douka et al. 2011, 1131-1132). Lithics dating from the time of the initial use of the cave during the early Upper Paleolithic (Perlés Phases 0 - III) are consistent with Aurignacian and Gravettian industries (Perlés 2019, 197). The earliest chipped stone tools were recovered from strata P, Q (the tephra level mentioned above), and R in trenches FA and HH1. Stratum P produced too few lithic artifacts to assign any specific diagnosis for Phase 0 tools. On the other hand, lithics recovered from most of strata Q and the lower level of R were mainly straight and curved bladelets, typical of Aurignacian I (Early Aurignacian). Tools from the upper levels of R included a number of twisted bladelets——suggesting, “evolution in the mode of production and the morphology” and indicative of Aurignacian II (Evolved Aurignacian). Carinated cores were also recovered from the upper levels of Q and R (Douka et al 2011, 1134 - 1139).



Franchthi Bladelets & Carinated Cores
Lithic Phase I - Strata Q and R (lower & upper)
Douka et al 2011, 1137 Fig. 3; 1138 Fig. 4; 1139 Fig. 5

Perlés stresses that both Aurignacian I and II make use of, "*two clearly separate reduction sequences*," one for *blades* and another for *bladelets* (Douka et al 2011, 1132). This contrasts with the example of the pyramidal core above (Shea Fig. 5.2). Leaving aside blade production, Aurignacian I and II bladelets are both produced from *carinated end-scrapers*. However, contrasting shapes (narrow-faced and wide-faced) of these tool cores result in bladelets with different characteristics as described and illustrated above (Douka et al 2011, 1132). Although carinated cores typical of Aurignacian II are absent from the Franchthi assemblage the presence of Evolved Aurignacian is inferred from the twisted bladelets (ibid., 1136 Table 1.; 1139 Fig. 5). The variable function of *carinated end-scrapers* may be a source of some confusion. These and various other carinated tool cores were themselves used as tools——for example scrapers to clean hides. Necessarily then lithic artifacts so named may be cores and/or tools, a situation that adds terminological confusion to technical complexity. Clearly such obfuscation was fostered by lithics specialists, not the tool makers.

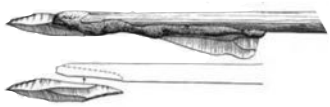
Following a lengthy artifactual gap, resulting in part from erosion, subsequent——albeit sparse lithic evidence, associated with Gravettian industries begins at ~ 26000 BCE. Phase II and Phase III lithics are characterized by Perlés as "extremely unbalanced"——most of the tools being *backed bladelets*, with only a few, "end scrapers, notches, and laterally retouched pieces" ([1994] 1999, 312). Blades and bladelets are referred to as *backed* when at least one of the edges has been "steeply" *retouched.* Retouch characteristics, as defined by various attributes (eg. location, extent, and angle), are terms used by the specialist to define typologies. However, the concepts of single and double backed as applied to bladelets and blades as end products are relatively straightforward and illustrated below. (Perlés 1987, Figs. 22, 23, 24; [1994] 1999, 312).



Perlés 1987 - Franchthi Lithic Characteristics
Fig. 22: 10, 17, 11; Fig. 23: 1, 6; Fig. 24: 9, 12; Fig. 24: 15

Deceptively Lethal

At first glance these stone age blades and bladelets may seem unremarkable——small points of chert, flint, and obsidian useful as arrow heads to hunt small game but hardly ideal for constructing effective weapons to hunt large mammals. They are, in fact, products of a relatively sophisticated technology——effective and potentially lethal components of a variety of useful weapons. Even blunt arrow heads affixed to a shaft would disable or kill small mammals and birds with their shock force while hafting several bladelets (*projectile inserts*) along a shaft produced an enhanced weapon with lethal capabilities. Both flint and obsidian bladelets are extremely sharp with the latter known to take a finer edge than modern surgical instruments. A large mammal struck by spears or arrows armed with such bladelets would likely receive a mortal wound as a result of bleeding. A successful hunt would require tracking skills but in time the injured quarry would ultimately succumb. In context, lithic artifacts may inform archaeologists about a number of cultural factors including technological capabilities, food acquisition, and even trade networks.



Hafted Bladelets
Projectile Inserts
National Museum Denmark

Haute Couture

Excavations at Franchthi Cave included several sieving practices designed to document small to minute (to .3 - 1.8 mm) artifactual material (Jacobsen 1973a, 57; Perlés 2019, 198). Among the objects recovered were thousands of Paleolithic and Mesolithic ornamented shells, characterized by Perlés as, “possibly represent[ing] the longest and numerically richest sequence in Europe” (ibid., 197). Although this material received little attention during early Franchthi studies a number of researchers, notably Perlés, have refocused attention on the ornamented shells in recent decades (Jacobsen 1973b, 257-258; Perlés [1994] 1999, 2001, 2018a, 2018b, 2019). Two groups of marine mollusks are pertinent: sea snails——*Tritia* (synonym *Cyclope*) *neritea/pellucida, Columbella rustica* (rare during Phases 0 - III), and *Homalopoma sanguineum*, and tusk shells, *Antalis* spp. (Perlés 2019, 199). Although many sea snails are potentially edible Perlés explains that at Franchthi a number of marine shelled organisms were collected solely for their use as ornaments.



Scaphopod
Antalis vulgaris
Common Tusk Shell

Tusk Shell Necklace (section)
Bronze Age
Muséum de Toulouse

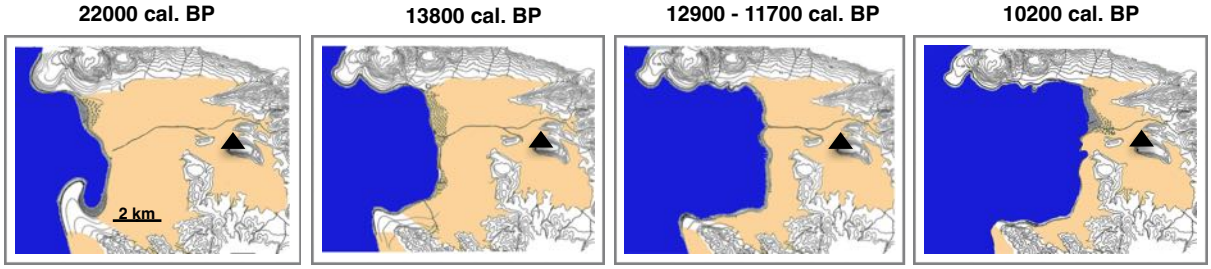
Sea Snails
Cyclope neritea
21st century Conchology Dealer

An important aspect of this research are efforts to establish reliable criteria for distinguishing shells intentionally modified from those with similar but natural alterations. A number of marine predators attack and kill their mollusk prey by drilling through the shell while wave action often results in fractures, punctures, or abrasive smoothing—— all results similar to anthropic alterations caused by manufacture or use. Stiner and her coauthors, using both experimental archaeology and statistical analysis, described a number of the important criteria while working with shell artifacts from the Üçağizli Cave in southern Anatolia (2013, 380-398). Recent research on ornamented shells have led to fresh insights that in turn have prompted new questions regarding the cultural significance of shell ornamentation. For example, Perlés familiarity with both lithics and ornamented shells have led her to contrast their relative value as cultural proxies (2019, 196). Although the shell species composition during Phases I - III is representative of Franchthi findings from subsequent periods the sample size is small (ibid., 198). Consequently, we will return to Perlés analysis after summarizing the later phases.



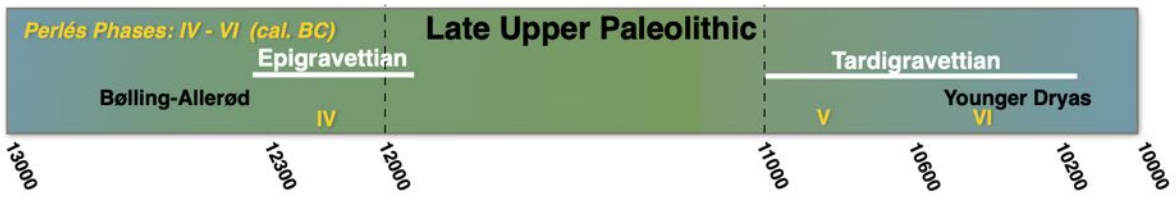
Early Upper Paleolithic Phases 0 - III
***Tritia* sp. *and Antalis* sp.**
Perlés 2019, 200 Fig. 2

Average sea levels at the time of the LGM are estimated variously as between 100 - 150 m and 120 - 130 m below present levels (Van Andel 1983). Subsequent to the LGM, glacial melting and the attendant rise in sea-levels occurred in the main from ca.14050 to 6050 BCE (Lambec 2002, 358). Although rates of sea level rise (SLR) in select areas around the globe were as much as 1 km per year, this was exceptional. However, much lower rates of change may well have been noticeable within a lifetime——although this is conjecture for coastal areas of the Argolid. Clearly, however, marine transgression of this magnitude affected access to and availability of various food sources. The series of maps indicate generalized changes over a 10,000 year period. They illustrate the loss of terrestrial habitats (from the perspective of Franchthi's occupants) concurrent with increasingly convenient access to marine areas.



Sea Level Rise
Franchthi Cave - Koilada Bay Region
after Asouti 2018, 19 Fig. 13 (data from Van Andel and Sutton 1987)

Evidence from Franchthi, consistent with this scenario, indicates a gradual transition from the exploitation of terrestrial to marine resources. What the maps do not illustrate is the complexity of the terrestrial habitats and marine ecosystems. Access to freshwater wetlands, lakes, rivers, and springs as well as salt marsh, dunes, and tidal flats provided the occupants of Franchthi with a rich mix of natural resources. While each of these elements are attested in the vicinity of Franchthi, changes over time would have varied the size and proportion of these habitats and thus determined the nature of potential food sources. It seems likely that hunter-gatherer groups, given their familiarity with a diversity of alternate food sources, would have responded efficiently to fluctuating periods of abundance and scarcity. On the other hand, sedentary populations' reliance on specific and fewer food sources to feed larger numbers of individuals might have meant untenable conditions during periods of depleted or altered local flora and/or fauna resulting from short-term aberrations in precipitation.



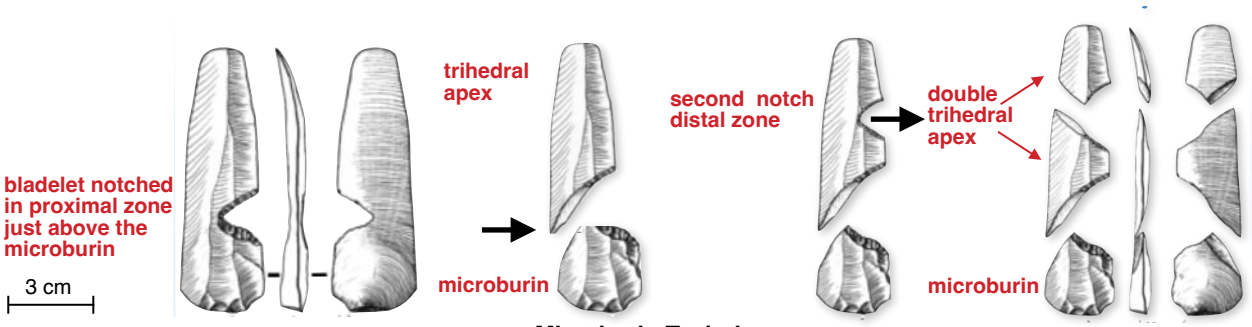
Franchthi Cave Late Upper Pleistocene
after Perlés 2019, 197 Table 1

A Place Called Home

Significant changes occur at Franchthi after the LGM——changes reflected in both the number and kind of artifactual evidence. By the late 13th millennium cal. BC (Phase IV) Franchthi is no longer just a way station along the route of peoples continually on the move but rather it had become a settlement of sorts, the home place for substantial numbers of people (Perlés 2010, 117). Asouti's anthracological studies for the post LGM period reflect the results of a gradual, if episodic, warming trend (Bölling). This climatic

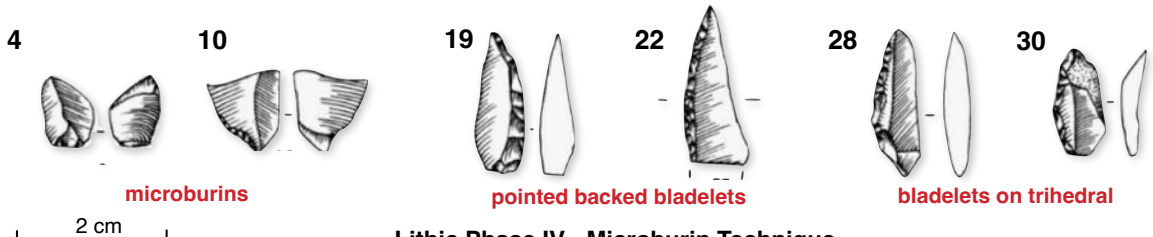
amelioration brought not only warmer temperatures but increased rainfall——changes that in turn influenced plant communities including the loss of cold tolerant *Juniperus* spp., increased presence of wild almond (*A. webii*), and the initial appearance of fruit bearing species (tribe Maleae) such as pears and apples (2018, 15). Although glacial melt waters resulted in SLR, grasslands, patch-worked with shrubs and open woodlands, continued to dominate southern Argolid coastal habitats. Ungulates remained an important food source while bone remains also indicate a variety of small mammals and reptiles, several species birds, as well fish (Sparidae) were exploited by Franchthi's occupants. Additionally, carbonized seeds indicate plant foods were actively collected (Perlés 2010, 115-117). In sum, the rich artifactual record from Phase IV indicate exploitation of a greater diversity of plants and animals by increasing numbers of Franchthi occupants. Despite the increasing human presence at Franchthi during Phase IV ornamented shell are absent from the archaeological record. Perlés suggests this may or may not relate to the period's relatively thin strata available for excavation (2010, 199).

Franchthi's lithic evidence from the period also attests to significant changes, both technical advances as well as some increases in tool diversity. Although backed bladelets continue to be the common tool, and again most likely used as projectile inserts for weapons, these are produced using the microburin technique (Perlés [1994] 1999, 314). Characteristic of microburin technique is the use of flexion——pressure applied at the apex of a notch to snap (truncate) the blade or bladelet. The resulting elements are a proximal microburin and a trihedral apex (see below). The trihedral apex may then be retouched to create a backed bladelet. Alternately, a notch may be applied to the distal end of the trihedral apex at which point flexion pressure results in a double trihedral apex. In the latter case the second fracture creates "geometric" pieces with distinct forms such as segments, trapezoids, triangles, and crescents (Shea 2013, 172-180).



Microburin Technique
Graphic Reconstruction
José-Manuel Benito

Franchthi Phase IV lithics are mostly backed bladelets but rather than being produced on specialized cores with a specific reduction sequence the blanks are undifferentiated and bladelets are produced using the microburin technique as detailed above.



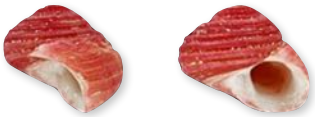
Lithic Phase IV - Microburin Technique
Perlés 1987, Figs. 26

A Taste For Snails



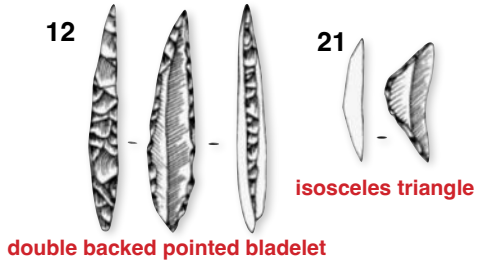
Helix figulina
Rossmässler 1838 - 1844, Taf. 44 Fig. 580

Three factors highlight Perlés' Phase V: a diverse and rich artifactual record, a massive replacement of dietary components, and the frustrating reality that at present precise chronological data are unavailable. A gap of unknown length occurs between Phases IV and V with the latter phase attesting to extremely large land snail (*Helix figulina*) middens.[5] Not thousands of discarded snail shells, but tens of thousands, with a single trench containing approximately 30,000 shells (2010, 118). Concurrently, Aurochs remains are absent and European ass numbers are much reduced. Some wild boar are attested but red deer is the only large mammal still commonly recorded. A broader range of food sources is exploited, including small carnivores and marine snails. Perlés suggests dietary changes may be attributed to environmental factors and prey availability but sees no compelling evidence for suggesting an exclusive role for one or the other (ibid., 118-119). Alongside the massive harvest of land snails as a food staple, ornamented shell evidence reappears in Phase V. Most common are *Tritia* (*Cyclope*) *neritea* and *Antalis* sp. with *Columbella rustica* now attested in greater numbers. One species, *Homalopoma sanguineum,* is absent from the Phase V assemblage. This herbivorous sea snail is an algae feeder and is typically found on rocks. Given that *Tritia* and *Antalis* are sediment dwellers it is possible, although speculative, that SLR had inundated the areas of the rocky shoreline where *H. sanguineum* had likely been collected.

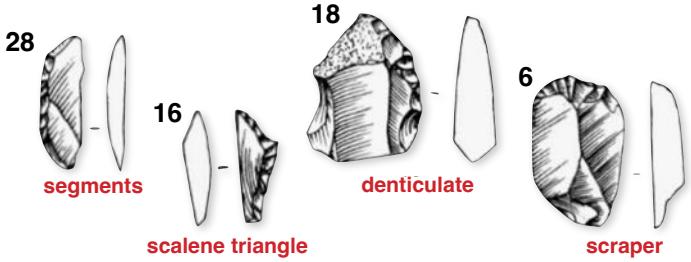


Homalopoma sanguineum
H. Zell, Wikipedia

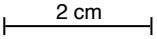
Franchthi Phase V and VI lithic assemblages are similar and continue the use of microburin technique, not for the typical backed bladelets seen in Phase IV, but to produce geometric microliths (triangles and segments). Tool diversity also increases (eg. endscrapers and denticulates) while Sauveterre-type points (double backed) are also attested. Significantly the initial presence of obsidian tools also occurs in Phase VI (Perlés [1994] 1999, 314).

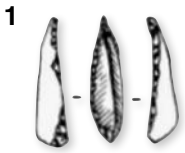


Lithic Phase V - Bladelet & Geometric Pieces
Perlés 1987, Fig. 29



Lithic Phase VI - Triangles & Tools
Perlés 1987, Figs. 37, 38, 39





Lithic Phase VI - Obsidian Drill
Perlés 1987, Fig. 39

5. Currently Red listed as an endangered species, *H. figulina* (aka Ceramic Snail) is a terrestrial shrub-land species with records from Crete, the Aegean islands, and the Balkan Peninsula north through Bulgaria.

Younger Dryas

Signs of human activity and faunal remains during Phase VI contrast sharply with the previous phase. Although plant diversity remains stable, faunal evidence suggests scarcity in nearly all the categories recorded in the previous period. Quantities of discarded *H. figulina* shells are much reduced and in general, "the cave's occupation appears to be sporadic and of low intensity." Perlés suggests decreases in prey populations and fewer crops may have resulted from the cooler and drier climate of the Younger Dryas——a situation that ultimately required a return to hunter-gather strategies in the attempt to make do with fewer and more widely distributed food resources (Perlés 2010, 119-120). Although Phase VI is generally characterized in negative terms there is a slight increase in the number of ornamented shells as compared with Phase V. Perlés stresses that these shells were located in the upper (later) strata and thus at the end of the period (2019, 199-200).



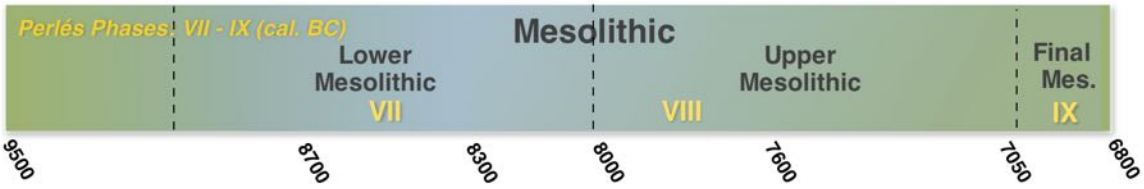
Late Upper Paleolithic Phases V - VI
Tritia (Cyclope) neritea* - *Antalis* sp. - *Columbella rustica
Perlés 2019, 200 Fig. 4

Abandonment

At some point during the final Upper Paleolithic Franchthi Cave was abandoned. The ensuing gap, perhaps in excess of six centuries, crosses the divide between the Paleolithic and Mesolithic (EpiPaleolithic) and the onset of the Holocene (Perlés 2003, 80). Given the various developments during the later Paleolithic Franchthi's artifactual evidence from the early Mesolithic is somewhat unexpected. A retrospective overview of the earlier periods (Phases 0 - VI) and the related archaeological findings suggest, at least episodically, access to diverse food sources, improvements in lithic technologies critical to exploiting a number of those resources, and the initial gathering and consumption of local plant resources. The ornamented shell evidence suggests an appreciation of decorative personal items and thus some level of engagement with the symbolic realm. Finally, the Phase IV occupancy of Franchthi suggests a nascent community——a greater number of people, including families, with regular if not permanent connection to Franchthi.

In an early overview of the Franchthi evidence Perlés suggested that the various transformations attested in Phase IV, including advances in lithic technology and the increasing stability and size of Franchthi's community, signal, "a different cultural tradition" (Perlés [1994] 1999, 314-315). In fact the advances in lithic technologies and types, explains Perlés, are more akin to Mesolithic scenarios in other parts of Europe. This atypical pace of "Mesolithisation" of the "cultural and economic data" is attributed, in part, to environmental conditions that in the south were generally more amenable than those in the north (ibid., 314). However, as Perlés explained in her 2003 paper, attempts to identify cultural transformations (often to argue for the arrival of new peoples——even the replacement of one group by another) or to attribute specific causative factors (eg. climate or environmental change) for such perceived transformations is a complex business. Because lithics constitutes the major, at time sole, body of artifactual evidence for Paleolithic and Mesolithic sites, it becomes, de facto, the primary interpretive tool. In Perlés' words——"lithics often constitute the only category of material one can use to establish cultural continuity or cultural affinities"

(2003, 79). However, Perlés research with ornamented shells at Franchthi revealed contrasts with the lithic evidence. From their earliest presence (Phases I - III) up through the final Paleolithic (Phases V - VI) the tradition of shell ornamentation is a conservative one. Species composition remains more or less constant (in spite of the readily available alternatives) and craft practices related to their manufacture show little or no change (Perlés 2019,199-200). As we will see, the Mesolithic adds to this evidence and raises additional questions about a number of the more significant and perennial topics that intersect with archaeological interpretations. While innovations, transformations, and replacements may be clear in the material evidence, a world of possibilities and pitfalls attend any attempt to isolate and ascribe causes and meanings.



Franchthi Cave Mesolithic
Perlés Phases VII - IX
after Perlés 2019, 197 Table 1

In their introductory chapter to the volume *The Greek Mesolithic: Problems And Perspectives,* Galanidou and Perlés make the point that, previous to the 1970s excavation at Franchthi, the Greek Mesolithic, "was more or less *terra incognita*" (2003, 27). Subsequently, a growing interest in the Mesolithic led to a number of regional surveys and excavations (mainly in caves). Despite these efforts, it seems fair to say that over the last half century expectations have exceeded evidence. Cave sites (Theoptera Cave in Thessaly, Cave of Cyclops in Thrace, and the caves of Klissoura in the Argolid) have revealed some new information, yet, in their summation Galanidou and Perlés admit that the paucity of known sites, "cannot safely be regarded as representative of the entire Mesolithic period throughout the whole of Greece" (ibid., 30). In related publications Perlés suggests that the lack of known sites may reflect reality and that in fact Mesolithic sites in Greece were in fact few and far between (2001, 24). She has also observed that sites in Greece have little in common with Mesolithic sites elsewhere in Europe (2003, 83). With regards to Franchthi, Perlés concludes the evidence "was more remarkable for its idiosyncratic features than for any strong affinities with other contemporaneous culture" (2003, 83).

Although Phase VII covers a relatively short period in Franchthi's prehistory it is notable for its relatively intensive occupation——and this following a lengthy period of abandonment during the Younger Dryas. A massive increase in the collecting of shells for ornamental purposes is matched by a return to the extensive exploitation of land snails as food items. The numbers of recovered carbonized seeds during Phase VII is more than double the total collected during all previous phases (Perlés 2010, 120-121). While the Lower Mesolithic is a period with rising temperatures and increased precipitation, the southern Argolid seems to have maintained what Asouti refers to as the, "coastal shelf woodland-grassland biome." The warming trend had eliminated most of the cold tolerant junipers (*Juniperus* spp.) leaving copses of wild almond, terebinth (*Pistacia*), and pear as the dominant shrub and tree community amid various wild grasses including oats (*Avena*) and barley (*Hordeum*) as well as pulses (2018, 18). However, by the early Holocene SLR had inundated much of the terrestrial habitat

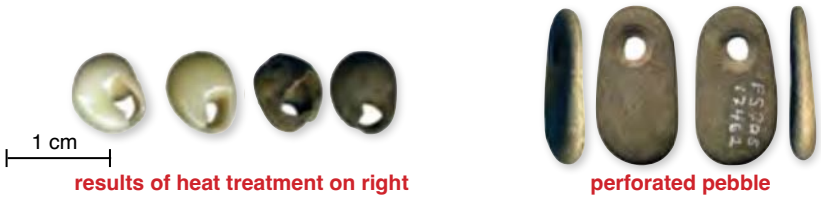
west of Franchthi and the initial intrusion of what would become the Bay of Koilada brought it to a position less than a kilometer from the cave mouth (ibid., 21 Fig. 14). The loss of terrestrial habitat may have been responsible for an increasing reliance on plant gathering as well as the reduction in large mammal exploitation——now mainly restricted to red deer and wild boar (Perlés 2010, 120-121). Perhaps the most significant cultural change at Franchthi during Phase VII was the introduction of human interments within the cave including, “a cluster of eight burials, including two cremations” and an additional number of bone fragments scattered throughout the cave (Cullen 1995, 270).

While Perlés’ characterization of the Phase VII stone tool assemblage as “uglylithic” may not be officially adopted it is a refreshingly apt characterization of the finds. Essentially, the relatively advanced lithics of Phase IV - VI lithics (backed bladelets, microburin techniques, and geometrics) had nearly vanished and had been “replaced” by retouched tools including notches, denticulates, and endscrapers ([1994] 1999, 315). Perlés’ remarks are grounded in the apparent crudity of Phase VII lithics, tools made on “casual flakes” and in the main “transformation tools”——expedient items used solely to rework and finish such items as arrow shafts, bone awls, and implements fashioned from antler (ibid.; Vaughan 1990, 247). Significantly, the projectile bladelets that were preeminent in earlier phases as critical components of the hunter’s weaponry are absent (Perlés [1994] 1999, 315).



Lithic Phase VII - transformation tools on flakes
Perlés 1990, Figures 6, 7

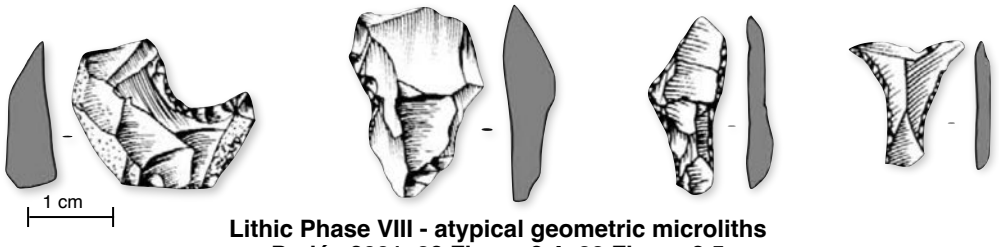
In sharp contrast to the paucity of lithics, Phase VII ornamented shells recovered from trenches H1B and FAS increased by a factor of ten and, as in previous periods, the species composition remained the same. The practice of heat treating *Cyclopes* in order to darken their natural ivory tone, initially attested in the Upper Paleolithic, continued with the sole new ornamental element being a few perforated pebbles. The latter items, however, are numerically insignificant in comparison to the thousands of ornamented shells. Perlés states that wear-use marks indicate that ornamented shells were embroidered on garments and/or head-dresses (2019, 200-202). Although significant changes at Franchthi would occur in the final Mesolithic phases, shell ornamentation remained essentially unchanged albeit the relatively few ornamented shells recovered from Phase IX lacked tusk shells (ibid., 203).



Franchthi Cave Phase VII
Perlés 2019, 202, Figure 5

The Upper Mesolithic (Phase VIII) and Final Mesolithic (Phase IX) periods experienced a continuation of climate moderation and a relative stability that, in hindsight, was representative of the Holocene interglacial that continues to the present day. This is a useful reminder that compared to the vast expanses of geologic time (ca. 2.5 million years) we refer to as the Pleistocene and during which glacial events occurred in 40k to 100k cycles, the human history at Franchthi transpires entirely within the most recent glacial event and the beginning of the subsequent interglacial.

Tuna fish are a notable aspect of Franchthi Phase VIII. Bluefin Tuna (*Thunnus thynnys*) are large (in excess of 1,000 lbs.) migratory fish known to gather in spawning areas. Although numerous tuna bones were recovered from Franchthi their context indicates a fairly short-lived phenomena not continuing into the Final Mesolithic (Jacobsen 1981, 307; Perlés 2003, 80). While it is not certain whether these fish were net trapped or caught individually, the bones were recovered from strata containing numerous microliths. According to Perlés these microliths are unusual on several accounts. They are atypical in being produced on flakes rather than on blades or bladelets (as Phase VII "uglilithics") and also differ from standard geometrics of Phases V, VI (2001, 31; 16 above). Given that the microliths and tuna bones occur together, and not elsewhere, Perlés suggests the tools may have been associated with fishing practices——perhaps in fashioning nets ([1994] 1999, 317).



Lithic Phase VIII - atypical geometric microliths
Perlés 2001, 32 Figure 2.4; 33 Figure 2.5

Total artifactual material from the Final Mesolithic period at Franchthi indicates sporadic occupation. Plant and animal remains are scarce and lithic evidence indicates devolvement of "crude" tools typical of the Early Mesolithic period. The scarce archaeological record of the Final Mesolithic is perhaps most significant in hindsight. There is scant evidence (but see below) that foreshadows or anticipates the essentially different lifestyle and relatively rich material culture that appears at Franchthi within several centuries (ibid.).

At Franchthi, the period Perlès refers to as the Initial Neolithic is much like the Final Mesolithic with sporadic visits to the cave by hunter-gatherers and shellfish remains and other material artifacts attesting to a continuation of earlier practices. This relatively short period sets the stage for a much more significant transformation——in Perlès' words, "There is thus a very sharp break between the Initial Neolithic and the Early Neolithic that corresponds to a temporal break in all the cave's excavated trenches" (2003, 84). Following this gap EN stratigraphic layers reveal a novel suite of evidence including domesticated sheep and goat bones, an expanded variety of celts, as well as lithics crafted with new materials using techniques not previously attested at Franchthi. Also present are the seeds of domesticated six-row barley, emmer wheat, and lentils——the cereals and legumes that supported the early farmers' subsistence life style (ibid.). The initial use of the *paralia*, the area between the cave and shoreline, is one of a number of changes marking this transition, one in which a largely sedentary agricultural community replaces hunter-gather bands. The nature of this transition is covered in the

next section (*Neolithic Mainland*) but suffice it to say that a decade before the critical aDNA studies had been published Perlès made the case that these changes were the result of demic diffusion (2001, 45). A number of material finds suggest the transformative nature of the Mesolithic - Neolithic boundary. Although the artifactual material is limited and the strata somewhat disturbed, the Final Mesolithic lithic assemblage includes atypical transverse arrow-heads. Additionally, during the Initial Neolithic a number of finely worked tools (eg, trapezes) fashioned from non-local material are attested while increases in obsidian tools are apparent by the Early Neolithic (ibid., 46-49).



Franchthi Lithics
Perlés 2001, Fig. 3.2; 2000, Fig. 24

To date, no site on mainland Greece offers a better record of hunter-gatherer bands than Franchthi Cave. Nonetheless, how to interpret that record——even during periods when the artifactual evidence is robust, is a complex matter. In his review of Stone Age Greece, Runnels identified Franchthi's Lower and Upper Mesolithic as culturally equivalent and substantially different from the late Upper Paleolithic. A novel toolkit produced on flakes, the substantial replacement of grazing animals with a broader spectrum diet including plants, land snails, and in-shore fish, as well as the substantial increases in ornamental shells are just part of the evidence. The later tuna fish evidence together with imported obsidian and andesite, suggested to Runnels an, "emphasis on marine resources and long distance trade" (2001, 722). Additionally, Runnels considered the presence of family groups and the first interments as indicative of an essential change in the social structure (ibid.). Given the totality of evidence Runnels hypothesized colonization of Franchthi by a, "seafaring people who are unrelated to the Pleistocene inhabitants . . . the first stage in a wave of demic diffusion that culminated in the establishment of the Neolithic farming village way of life in Greece" (ibid., 251). However, Perlés' interrogation of substantially the same evidence led to a different interpretation. While Runnels suggested Franchthi parallels with the Natufian culture Perlés found, "the differences more striking than the resemblances," while at the same time admitting, "the interpretation of what was going on in the cave especially puzzling" (Runnels 1995, 251; Perlés 2010, 120). In contrast to the climate driven "Natufian model" and its associated changes in subsistence diet and social organization, Perlés points to the coastal Argolid's relatively stable environmental conditions along with an absence of evidence for architectural remains that would normally be associated with sedentism. Also lacking are the grinding tools, mortars, and even mice (*Mus musculus*)——each attested at and indicators for permanent settlement (ibid., 122-123). The evidence that does focus Perlés's attention is the abundance of both seeds and shells——evidence that leads her to pose an alternative scenario. Rather than Franchthi's domestic details, Perlés looks to the innovative mortuary practices. Arguably, both the ornamented shells and abundant seeds have ritual uses known to be associated with interment activities (ibid., 123). Perlés point is not to insist that Franchthi was transformed into a center for burials with associated ritual practices, but rather to suggest that alternative hypotheses should be considered——in this case one that gives priority to social factors rather than resting on deterministic environmental (climate) changes (ibid., 124). Perlés long term studies of lithics and ornamented shells suggests similar interpretive perspectives.

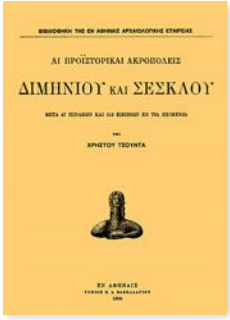
The three major conclusions to her Franchthi shell studies are, “their numerical richness, the restricted range of types, and their stability through time” (2019, 203; 13 above). Other sites with assemblages of ornamented shells may differ in species composition but the specific choices of shells often (but not invariably) remain stable for long periods of time. Perlés argues that such “monotony is meaningful,” as it, “reflects cultural choices” (ibid., 204). This stability contrasts directly with lithic technology——where change (eg. from various core-based reduction methods to microburin techniques) has been the traditional measure of, “presumed cultural breaks” (ibid.).[6] Perlés suggests an alternative approach——one that prioritizes (or at least factors into the equation) the ornamented shell evidence and that (as is the case at Franchthi), the stability of that evidence reflects long term “chronocultural” continuity with lithic changes being framed within the norm of regional variability (ibid., 205).



Franchthi Cave - Ibex Tooth
late 13th millennium cal. BC
Perlés 2019, 200 Figure 3

The long view of Franchthi’s Upper Paleolithic and Mesolithic suggests episodic periods of occupancy, ranging from sporadic visitations to semi-permanent communities, interspersed by lengthy periods of either abandonment or lack of evidence. Even during periods of occupancy, the lack of chronological precision results in the evidence being generalized across multiple centuries. Leaving aside expectations for an uninterrupted, coherent narrative, the evidence does suggest how visitors to Franchthi not only dealt with day to day challenges but also ways in which they expressed their individuality. Finds, such as the ibex tooth group illustrated above, elicit the very human response of wonder. Perhaps irresistibly our imaginations are engaged and we want to know the underlying narrative. The perforation is direct evidence for part of that story——one that clearly implies a human narrative. A better understanding of what archaeologists have dug from the ground and teased from the data enhances the chances of our imagining that narrative as it actually took place.

Although recent investigations of both open air sites and caves have made significant contributions to early mainland studies, the initial excavations of Neolithic settlements took place early in the twentieth century in Thessaly. Following Tsountas’ pioneering work at Sesklo and Dimini, Wace and Thompson excavated at Rachmani and Tsangli and in 1912 published a compendium of northern Neolithic sites. During the following half-century, however, interest in the Neolithic period waned——in part overshadowed by Bronze Age discoveries but also reflecting the widely held opinion that the Neolithic period was essentially static and uninteresting. Significant exceptions in northern Greece include the works of W. A. Heurtley, D. R. Theocharis, and G. Hourmouziadis (1939; 1973; 1979).



Prehistoric Citadels
Dimini and Sesklo
Tsountas 1908



Prehistoric Thessaly
Lake Kopais to Macedonia
Wace and Thompson 1912

6. Perlés makes the point that in actuality weapon inserts (bladelets and points), not lithic assemblages, have been the basis for defining traditional divisions.

References

Albright, R.N. 2014. *The Double Helix Structure of DNA: James Watson, Francis Crick, Maurice Wilkins, and Rosalind Franklin. First Edition. Revolutionary discoveries of scientific pioneers*. New York. The Rosen Publishing Group, Inc.

Andel, Tjeerd H. van, Curtis N. Runnels, and Kevin O. Pope. 1986. "Five Thousands Years of Land Use and Abuse in the Southern Argolid, Greece." *Hesperia* 55, 103–28.

Asouti E, Ntinou M, Kabukcu C. 2018. "The impact of environmental change on Palaeolithic and Mesolithic plant use and the transition to agriculture at Franchthi Cave, Greece." *Plus One*.

Bordaz, J. 1970. *Tools of the Old and New Stone Age*. American Museum of Natural History. Garden City. Natural History Press.

Bramanti, B. et al. 2009. "Genetic Discontinuity Between Local Hunter-Gatherers and Central Europe's First Farmers." *Science* 326, 137-140.

Callaway, Ewen. 2018. "Divided by DNA: The uneasy relationship between archaeology and ancient genomics." *Nature* 555, 573-576.

Carter, Tristan, Daniel A. Contreras, Justin Holcomb, Danica D. Mihailović, Panagiotis Karkanas, Guillaume Guérin, Ninon Taffin, Dimitris Athanasoulis and Christelle Lahaye. 2019. "Earliest occupation of the Central Aegean (Naxos), Greece: Implications for hominin and *Homo sapiens*' behavior and dispersals." *Science Advances*: Vol. 5, 10.

Casanova, E., Knowles, T.D.J., Bayliss, A. et al. 2020. "Accurate compound-specific 14C dating of archaeological pottery vessels." *Nature* 580, 506–510.

Cullen, Tracy. 1995. "Mesolithic mortuary ritual at Franchthi Cave, Greece." *Antiquity* 69, 270-289.

Darwin, Charles. 1859. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. London. Murray.

Douka, K., N. Efstratiou, M.M. Hald, P.S. Henriksen, and A. Karetsou. 2017. "Dating Knossos and the Arrival of the Earliest Neolithic in the Southern Aegean." *Antiquity* 91, 304–21.

Douka, K., C. Perlès, H. Valladas, M. Vanhaeren, R.E.M. Hedges. 2011. "Franchthi Cave revisited: the age of the Aurignacian in south-eastern Europe." *Antiquity* 85, 1146.

Farrand, W. R. 2003. "Depositional Environments and Site Formation during the Mesolithic Occupations of Franchthi Cave, Peloponnesos, Greece." *British School at Athens Studies* 10, 69–78.

Fu, Q., C. Posth, M. Hajdinjak, M. Petr, S. Mallick, D. Fernandes, A. Furtwängler, et al. 2016. "The Genetic History of Ice Age Europe." *Nature* 534, 200–5.

Galanidou, Nena and Catherine Perlès. 2003. "An Introduction to the Greek Mesolithic." *British School at Athens Studies* 10, 27–32.

Haak, W., I. Lazaridis, N. Patterson, N. Rohland, S. Mallick, B. Llamas, G. Brandt, et al. 2015. "Massive Migration from the Steppe Was a Source for Indo-European Languages in Europe." *Nature* 522, 207–11.

Hesiod. 1993. *Hesiod Works and Days & Theogony,* translated by Stanley Lombardo with an introduction by Robert Lamberton. Indianapolis. Hackett.

Heurtley, W.A. 1939. *Prehistoric Macedonia: An Archaeological Reconnaissance of Greek Macedonia (West of the Struma) in the Neolithic, Bronze, and Early Iron Ages*. Cambridge. The University Press.

Hourmouziadis, G. H. 1979. *Neolithic Dimini*. Volos. Etaireia Thessalikwn Erevnwn.

Hutton, James. 1788. "Theory Of The Earth; Or An Investigation of the Laws observable in the Composition, Dissolution, and Restoration of Land upon the Globe." In *Transactions of the Royal Society of Edinburgh*, Vol. I, Part II, 209-304.

Jacobsen, Thomas W. 1973a. “Excavation in the Franchthi Cave, 1969-1971, Part I.” *Hesperia* 42, 45–88.

___. 1973b. "Excavation in the Franchthi Cave, 1969-1971, Part II." *Hesperia* 42, 253-283.

___. 1981. “Franchthi Cave and the Beginning of Settled Village Life in Greece.” *Hesperia* 50, 303–319.

Knipper, Corina, Alissa Mittnik, Ken Massy, Catharina Kociumaka, Isil Kucukkalipci, Michael Maus, Fabian Wittenborng, Stephanie E. Metz, Anja Staskiewicz, Johannes Krause, and Philipp W. Stockhammer. 2017. “Female Exogamy And Gene Pool Diversification At The Transition From The Final Neolithic To The Early Bronze Age In Central Europe.” *Proceedings Of The National Academy Of Sciences* 114: 38. 10083–10088.

Lambeck, K. , Yusuke Yokoyamab, And Tony Purcellinto. 2002. “Into And Out Of The Last Glacial Maximum: Sea-Level Change During Oxygen Isotope Stages 3 And 2.” *Quaternary Science Reviews* 21.

Lesher, James. 2014.”Xenophanes" in *The Stanford Encyclopedia of Philosophy,* edited by Edward N. Zalta.

Liritzis, Ioannis. 2010. “Strofilas (Andros Island, Greece): New Evidence for the Cycladic Final Neolithic Period through Novel Dating Methods Using Luminescence and Obsidian Hydration.” *Journal of Archaeological Science* 37, 1367–77.

Lyell, Charles. 1830–33. *Principles of Geology: being an attempt to explain the former changes of the Earth's surface, by reference to causes now in operation*. 3 vols. London. John Murray.

Perlès, Catherine. 1987. “Les Industries lithiques taillées de Franchthi (Argolide, Grèce)”, Fascicle 3, Volume 1 *Excavations at Franchthi Cave, Greece*. Bloomington. Indiana University Press. Kindle.

___. (1994) 1999. ”Long-term Perspectives on the Occupation of the Franchthi Cave: Continuity and Discontinuity." *British School at Athens Studies* 3, 311-18.

___. 2001. *The Early Neolithic In Greece - The Frst farming communities in Europe*. Cambridge. Harvard University Press.

___. 2003. "The Mesolithic at Franchthi: An Overview of the Data and Problems." *The Mesolithic at Franchthi* 10, 79-87.

___. 2010. “Is the Dryas the Culprit? Socio-Economic Changes During the Final Pleistocene and Early Holocene at Franchthi Cave (Greece).” *Journal of The Israel Prehistoric Society* 40, 113-129.

___. 2018a. *Ornaments and Other Ambiguous Artifacts from Franchthi. Excavations at Franchthi Cave*, Fascicle 15, Bloomington. Indiana University Press.

___. 2018b. “Stones, pots … and now ornaments: Revisiting the Middle–Late Neolithic and the Late–Final Neolithic transitions at Franchthi.” In *Communities in Transition: The Circum-Aegean Area During the 5th and 4th Millennia BC,* edited by Søren Dietz, Fanis Mavridis, Žarko Tankosi,and Turan Takaoğlu. Oxford. Oxbow Books.

___. 2019. “Cultural Implications of Uniformity in Ornament Assemblages: Paleolithic and Mesolithic Ornaments From Franchthi Cave, Greece.” In *Special Issue: Personal Ornaments in Early Prehistory. PaleoAnthropology* 2019, 196–207.

Reich, David. 2018. *Who We Are and How We Got Here. Ancient DNA and the New Science of the Human Past*. New York. Pantheon.

Renfrew, C. 2007. *Prehistory: the making of the human mind*. New York. Modern Library.

Rossmässler, E. A. 1838-1844. *Iconographie der Land- und Süßwassermollusken, mit vorzüglicher Berücksichtigung der europäischen noch nicht abgebildeten Arten*. Dresden. Arnold.

Runnels, Curtis. 2001. "Review of Aegean Prehistory IV: The Stone Age of Greece from the Palaeolithic to the Advent of the Neolithic” (225-254) and “Addendum: 1993-1999.” (255-258) In *Aegean Prehistory: A Review,* edited by T. Cullen. Boston. Archaeological Institute of America.

Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013. Aegean Prehistoric Archaeology. Project sponsored by Dartmouth College.

Shea, John J. 2013. *Stone Tools in the Paleolithic and Neolithic Near East: A Guide*. Cambridge. Cambridge University Press.

Stiner, M.C., and N.D. Munro. 2011. “On the Evolution of Diet and Landscape during the Upper Paleolithic through Mesolithic at Franchthi Cave (Peloponnese, Greece).” *Journal of Human Evolution* 60, 618–36.

Theocharis, D. R. 1973. *Neolithic Greece*. Athens. National Bank of Greece.

Thomsen, C. J. 1836. *Ledetraad til Nordisk Oldkundskab* (*Guide to Northern Archaeology*), published in English in 1848.

Tourloukis, Vangelis and Katerina Harvati. 2017. “The Palaeolithic record of Greece: A synthesis of the evidence and a research agenda for the future.” *Quaternary International*. Elsevier Ltd.

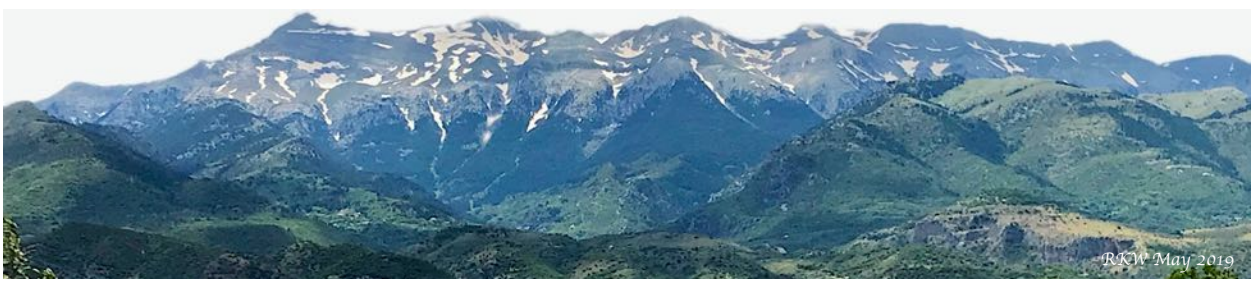
Tsountas, Christos. 1908. *Hai proïstorikai akropoleis Dimēniou kai Sesklou*. Athēnai. Sakellarios.

Van Andel, T. H., and N. Lianos, 1983, "Prehistoric and Historic Shorelines of the Southern Argolid Peninsula: A Subbottom Profiler Study," *International Journal of Nautical Archaeology* 12, 303-324.

Vaughan, Patrick C. 1990. “Use-Wear Analysis of Mesolithic Chipped-Stone Artifacts from Franchthi Cave.” In *Les Industries lithiques taillées de Franchthi* (Argolide, Grèce), Volume 2 *Excavations at Franchthi Cave, Greece*. Bloomington. Indiana University Press. Kindle.

Wace, A. J. B. And M. S. Thompson. 1912. *Prehistoric Thessaly*. Cambridge. Cambridge University Press.

Winchester, Simon. 2001. *The Map That Changed the World: William Smith and the Birth of Modern Geology*. New York. HarperCollins.



Mt. Taygetos Range - Peloponnese
View West From Agios Vasileios

The Nature of Greece

Mountains and the sea are the defining features of Greece; their significance lies both in the limits they impose and the possibilities they create. Although parts of the northern mainland, like much of the Balkans, are continental in nature, the Mediterranean Sea defines the peninsular land masses from the Chalcidice to the Mani. Of course, much of Greece is literally at sea. The islands of the Aegean, from the Bosporus south to Crete and eastward to the Anatolian littoral, as well the Ionian isles to the west, are surrounded by the sea. The peaks and basins of the Pindus range (the spine of Greece) define much of the northern interior while also influencing the north to south and west to east temperature-rainfall gradient and the contrasting regional environments. In general, much of Greece experiences warm and wet winters with hot and arid summers. While there are few places with a more picturesque landscape, it is a work in progress with both sudden and violent seismic changes and slower but no less dramatic erosional forces sculpting limestones and sandstones into ever deeper gorges and caves. During the post-glacial era rising sea levels redefined the coastal plain with consequential changes continuing throughout the Neolithic. Open forested areas, while not common, are more typical of northern areas and at higher altitudes with garrigue scrublands increasingly prevalent southward. Portions of the northern mainland, in particular the Thracian plain, are suitable for agriculture, with far less arable land in the south——a disparity reflected in the relative numbers of Neolithic farming communities. Intensive agricultural practices may have depleted the rich northern soils that, along with erosion and shifting alluvial sediments, played a part in the abandonments and relocations attested during the later Neolithic.

The sea that would ultimately be Greece's pathway to ideas, wealth, and even empire, also acted as a barrier. While seafaring capabilities gradually improved——from paddled and rowed to sail-powered vessels, it is likely that throughout the Neolithic and early Bronze Age those few individuals who risked sea voyages were among the courageous and/or the fool hearty. The sea was not the sole barrier as isolation was a pervasive feature of inland communities——cut off one from another by mountainous terrain, deep gorges, and the endlessly crenellated coast. While terrestrial and marine factors acted to isolate many early settlements, evidence for cultural ties is also irrefutable. Although often exhibiting local characteristics, shared lithic traditions, similarities in ceramic styles, the ubiquity of Melian obsidian, and the widespread appreciation of *Spondylus* jewelry speak to regional and even continent-wide connections. These items of personal adornment, material displays of individuality, may also be the outward expression of a willfulness to expand one's world by overcoming the natural boundaries of both the sea and the mountains.

Aegean prehistory (alternately, “history” or “proto-history”) is a comprehensively researched and widely published subject. I have attempted to describe a representative sample of important archaeological sites based on the published interpretations of their structural remains and recovered artifacts——both from the perspective of their initial excavation but also as currently understood. Equally important, in my opinion, is an appreciation of the historical context of excavations——the cultural attitudes and archaeological methods of researchers both past and present. While these long-ago and far-away places did, in their times, have a fixed reality, their characterizations in the archaeological literature is seldom static. We may reasonably assume that new evidence, new methodologies, and new generations of scholars will inevitably reshape what is understood about early Aegean cultures——including what is written here.

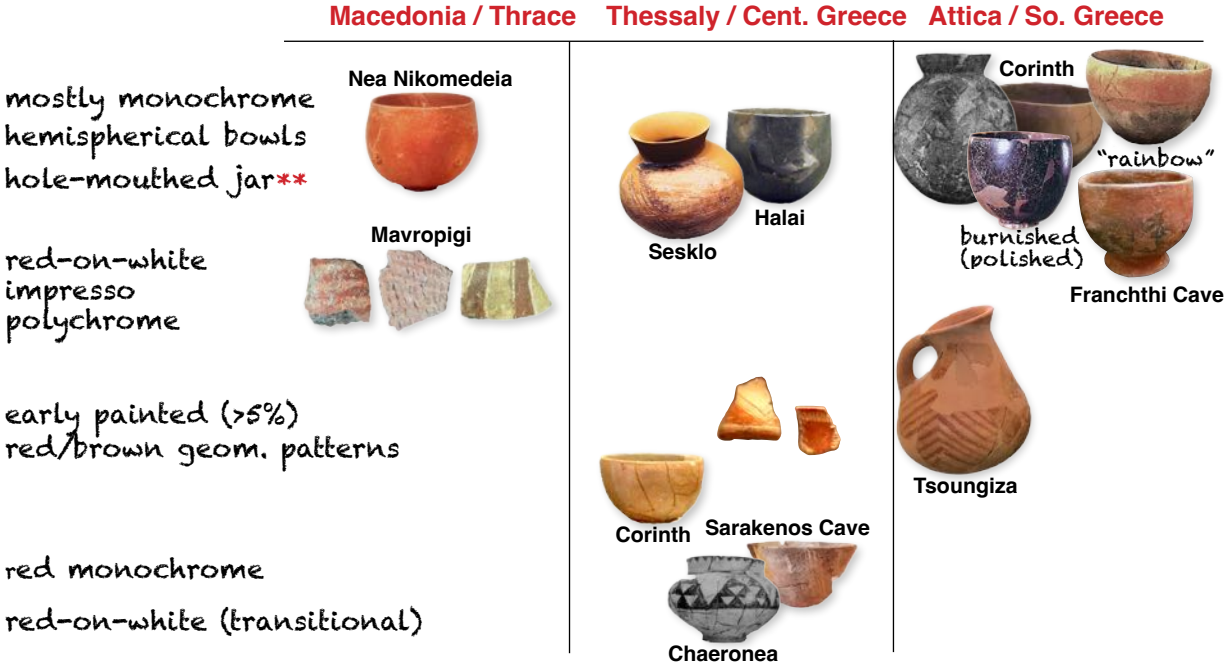
Timely Pots

The study of Aegean prehistory was initiated in an era when the general topic, if mentioned at all, was relegated to the Greek Dark Age (~1200 - 800 BCE) and thus was characterized as devoid of evidence or alternately, if referring to the Bronze Age (~ 3000 - 1200 BCE), largely mythological and thus fanciful. Additionally, and despite the works of Lyell and Darwin, a reliance on Biblical chronology persisted through much of the 19th century CE. However, excavations at Mycenae and Knossos redefined Aegean prehistory and by the early 20th century a number of archaeologists realized that the ceramic evidence of decorated pots and sherds, together with the principals of stratigraphy, offered the possibility of bringing order to the temporal uncertainty. Using ceramic typologies to establish relative chronologies provided an evidence-based methodology. While not a perfect tool, pottery-based dating continues to provide a temporal framework for nearly all excavations. Illustrated below are representative examples of ceramic types for each of five Neolithic periods.

MAINLAND

EARLY NEOLITHIC* ca. 6700 - 5800 BCE

Shapes (mostly rounded-bottom, convex), small sizes, and solid color (burnished at times) are relatively similar across the mainland. Some evidence suggests ritual rather than everyday use. References for specific illustrations are given with site descriptions below.**

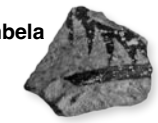


*Demoule, Jean-Paul, and Catherine Perlès. 1993; Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013

**"hole-mouthed" pots feature a restricted opening, with or without an inverted rim

MIDDLE NEOLITHIC ca. 5800 - 5300 BCE

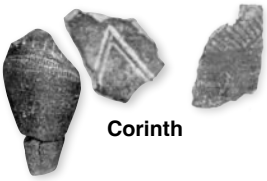
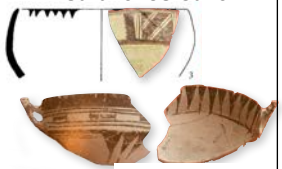
Innovative fabrics (clays & admixtures), shapes (eg. carinated & piriform) in regional styles, and decorative slips & motifs. Both fine (display) and coarse (functional) wares are present.*

	Macedonia / Thrace	Thessaly / Cent. Greece	Attica / So. Greece
red-on-white red-on-cream	Paliambela 	Chaeronea  Sarakenos Cave 	
Sesklo (Thessaly) monochrome flame patterned scratched		Tzani Tsangli  Lionokladi	Nea Makri Lerna  Franchthi Cave Alepotrypa Cave
Urfinis (Peloponnese) monochrome pattern-painted pattern-burnished			
see also Vitelli below 84, 121-122			

-black burnished (transitional)

LATE NEOLITHIC I ca. 5300 - 4800 BCE

Contrasts with MN as black burnished and brown-on-brown "matt-painted" wares become widespread across the mainland——each expressed in regional variations.*

	Macedonia / Thrace	Thessaly / Cent. Greece	Attica / So. Greece
Tsangli-Larissa black: burnished topped incised rippled channel	Dikili Tash  Thermi	Sarakenos Cave  Elateia	Kouphovouno  Corinth 
See also Bonga below 97			
brown-on-buff matt-painted	Dikili Tash 	Sarakenos Cave 	Corinth 
Arapi Polychrome	Promachonas 	 Dimini	

*Demoule, Jean-Paul, and Catherine Perlès. 1993; Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013; Bonga 2013

LATE NEOLITHIC II ca. 4800 - 4500 BCE

Fewer local variations and larger cultural regions (eg. Dikili Tash in Macedonia & Classic Dimini in Thessaly). Less definition in central & southern regions; polychrome meanders.*



FINAL NEOLITHIC ca. 4500 - 3100 BCE

Increasing contacts across the 1,000+ year-long FN lead to the central and southern Aegina-Attica-Kephala group (burnished & plastic decors and crusted wares) and Rachmani Phase in Thessaly. Widespread increases in coarse, often impoverished, ceramics.*



*Demoule, Jean-Paul, and Catherine Perlès. 1993; Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013; Bonga 2013

Early Farmers: People, Pots, and aDNA

During the second half of the 20th century the identification of large numbers of early farming settlements——most especially in Thessaly and Attica, reawakened interest in the Neolithic period. The scholarship resulting from the excavations of these newly found sites often addressed questions of origin in what became a perennial debate, at times presented in "either-or" terms. More commonly the indigenous model held that local hunter-gatherers, aided by an exchange of ideas and domesticates, gradually adopted an agrarian lifestyle. This suggested a relatively lengthy process and one that contrasted with the swift transition implied by the exogenous model of demic diffusion——based on the migration of peoples. Perlès volume, *The Early Neolithic In Greece*, includes a comprehensive assessment of the various artifactual and biological elements that constitute the evidence germane to this debate (2001, 38-45). Perlès concluded her analysis with the statement that the case for demic diffusion is, "an inescapable hypothesis" and that evidence for the "the presence of foreign colonists" is conclusive (ibid., 45). While the case for local domestication of plants was supported in part by several congeneric species found in mainland Mesolithic strata, the eight 'founder crops' (those actually cultivated by Neolithic farmers) are consistently found together in Neolithic strata (ibid., 39-41). Indigenous species of cattle (*Bos* sp.) and pigs (*Sus* sp.) also occur in Europe and might possibly have been domesticated locally. Archaeological finds, however, regularly attest to the remains of cattle and pigs as well as sheep and goats——the latter two species with no indigenous congeners. Significantly, as Perlès explains, the basic complement of both animals and plants appear, "simultaneously in Greece," at numerous EN sites——an assemblage absent in pre-Neolithic levels (ibid., 41-43). Contrary evidence is slim but includes a small number ground stone tools used for processing plants——for example as recorded by Sampson in pre-Neolithic levels at Franchthi Cave. However, as Bekiaris points out, there is a sharp contrast in numbers as, "food-processing stone implements in the everyday lives of the early farming communities becomes much more pronounced, as inferred from the increased quantities of grinding tools encountered at most Neolithic sites" (Bekiaris et al. 2020, 142). In any case, there is little evidence of a gradual transition requisite to adopting the skills for the cultivation of grains and husbandry of domesticates. Perlès also highlights various technical innovations characteristic of the material finds attested in early Neolithic layers including pressure flaked chipped-stone tools, polished axes, and elaborately fashioned bone tools——absent in Mesolithic layers (ibid., 43-44). Although Perlès marshals this and other evidence primarily to argue for a new explanatory model for the mainland's earliest societies, her clear exposition of the evidence convincingly supports her conclusions regarding Neolithic origins (ibid., 3). In the decade following her publication, Perlès interpretation was affirmed by another line of evidence.

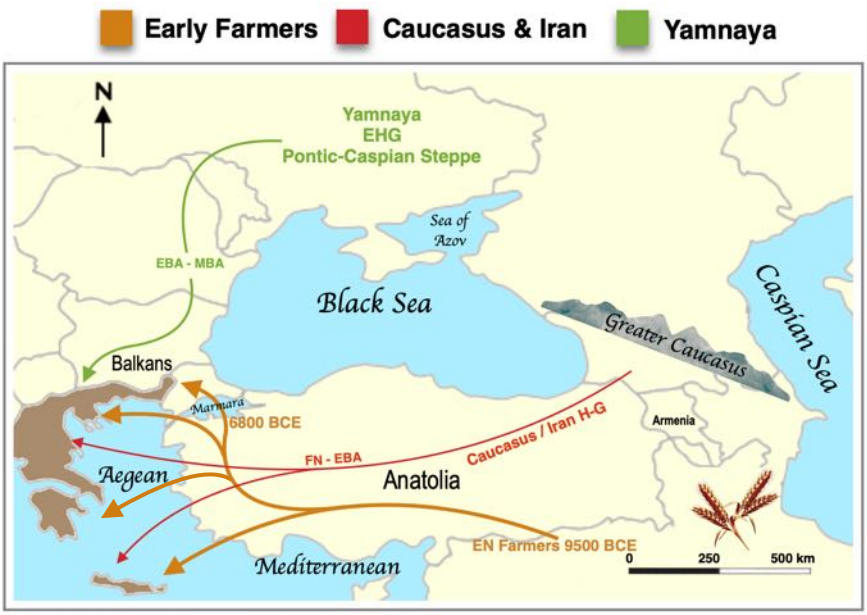
Somewhat surprisingly the question of origins was settled with some finality during second decade of the 21st century. The evidence confirming that migrating peoples brought farming to Greece was supplied by archaeogenetics. Genomics, while still a fledgling technology, is one whose rapid development and deployment has proved an effective and powerful adjunct to archaeological investigations. In the 1960s Luca Cavalli-Sforza, a pioneer in the field, was convinced that genetic evidence could be used to reconstruct the details of early human migrations. Between 1990 and 1993 the Human Genome Project——operating with a budget of $3-billion, essentially completed the first whole genome sequence of a human. Subsequent methodological and technical advances have radically reduced sequencing costs while also streamlining and accelerating the process. David Reich points out that during the first decade of the

21st century the cost of sequencing an entire human genome had been reduced ten thousand-fold while the numbers of genomes of ancient humans sequenced between 2013 and 2018 had increased by a factor of 100 (Reich 2018, 30; 102-107). See *Paleolithic and Mesolithic* for additional details.

While genomic-based science may be best known for its applications in medical research and treatment, genomics also provides evidence that is ideally suited to work in concert with both historical linguistics and archaeological excavations. In some cases it provides data that can be used to evaluate hypotheses suggested by linguistic patterns (eg. the spread of the Indo-European languages) or the relationship of artifact assemblages (eg. cultural affinities or disparities) and their dispersal. Because much of the research and development leading to genomics technologies was done by scientists working in the West, questions about European history and prehistory have been a focus of early studies. Not only have the number of sequenced European genomes (both ancient and modern) increased exponentially during recent decades, their analyses have provided some surprising insights. In 2015 two papers established the foundation for ancient DNA (aDNA) as a tool for illuminating the Neolithic origins of European farming cultures and the later migration of steppe peoples into Europe (Haak et al. 2015; Allentoft et al. 2015). Subsequent studies, building on those findings, have a direct bearing on early Aegean cultures and, in particular, the origins of the various contributing peoples. See *Appendix C. Archaeology, Paleogenomics, and Historical Linguistics*

Prehistory's Molecular Clock

When genomes, (often modeled as paired chains of chemical building blocks: A - C - G - T), are copied during meiosis random errors (mutations) occur at a rate of about 1 letter in 1,000. While the errors are unique they accumulate at the same rate. Thus when two genomes are compared the density of differences (relative numbers of errors) is a measure of how long (how many generations) it has been since they diverged from a shared common ancestor. Dated fossils and artifacts can be used to establish benchmarks for determining mutation rates and/or calibrating molecular clocks.



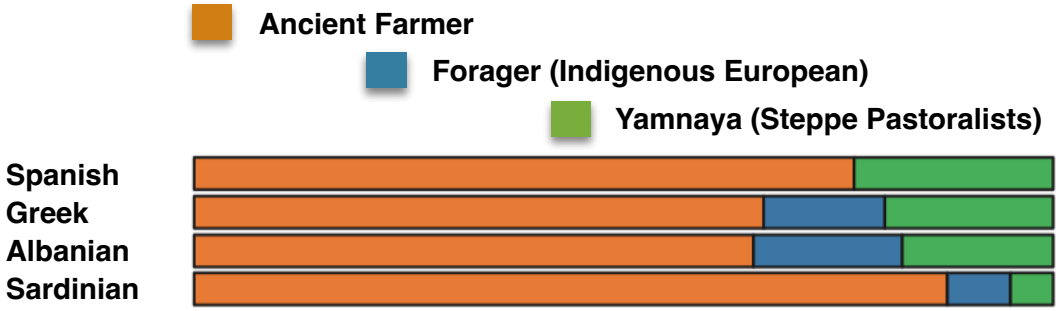
aDNA Evidence
Ancestral Origins & Dates for Aegean Peoples
Neolithic - Bronze Age
Hofmanová, Z. et al. 2016; Lazaridis, I. et al. 2017, 2022; Mathieson, I. et al. 2018; Clemente, F. et al. 2021

The map illustrates several of the significant patterns reflected by early aDNA research. Hofmanová (hereafter H16), using both aDNA and mtDNA, compared 5 genomes from EN - LN interments from northern Greece and northwestern Anatolia with known genomes of Eurasian hunter-gatherers and early farmers (Hofmanová 2016, 6886 – 6891). Results of the H16 analysis indicate strong similarities between established early farming communities on both sides of the Aegean (northern Greek mainland and western Anatolia) at the beginning of the EN (~ 6800 - 6500 BCE) and equally strong

dissimilarities with local hunter-gatherer populations. The latter characteristic suggests a non-local origin of early farmers and thus demic diffusion——a hypothesis that is strengthened by the presence of introduced domesticated animals and plants at the earliest agricultural sites. Similarity of the genomes of early Neolithic Aegean farmers with slightly later farmers across the Mediterranean and Central Europe (and again, unlike the native hunter-gatherer populations) indicate early farming was first brought to Europe, at least in part, via migrants from southwestern Asia (Anatolia) through Greece (Haak et al. 2015, 4).

A second study (hereafter L17) looked at the aDNA of 14 individuals from Mycenaean and Minoan tombs (2900 - 1200 BCE) along with 5 additional individuals from both Neolithic and Bronze Age (5400 - 1340 BCE) sites in Greece and Anatolia (Lazaridis 2017). The results showed that Minoan and Mycenaean genomes were similar, sharing 75% of their DNA with the early Aegean farmers mentioned above. Both groups also shared smaller amounts of DNA typical of foraging hunter-gatherers from the Caucasus and Iran. A third finding from L17 distinguishes the Minoans from Bronze Age mainlanders. Mycenaeans, but not Minoans, showed an admixture of as much as 16% of their aDNA from Siberian or Eastern European hunter-gatherers via the Eurasian Steppe or Armenia (~ 3000 BCE). The study team also noted clear resemblances between present day Greeks and Mycenaeans——a relationship, “support[ing] the idea of continuity but not isolation” (Lazaridis 2017, 214).

Despite the challenges of locating, extracting and sequencing DNA and the fact this technology has only recently become practicable, groups of labs working in concert have answered several significant and perennial questions. We now know that farming was first brought to much of the Mediterranean and central Europe by migrants along a route whose eastern origin is uncertain but one passing through southwestern Anatolia to coeval communities on both sides of the the Aegean. A second, even larger migration occurred during the 4th millennium BCE. This second movement is reflected in people of the Corded Ware culture——descendents of the Pontic-Caspian steppe Yamnaya pastoralist who spread across western Asia and into central Europe. The Early Bronze Age migration has strengthened elements of the “Kurgan Hypothesis”, suggested by Marija Gimbutas in the 1950s, and very likely the putative explanation for the expansion of early Indo-European languages into Europe. The genetic signatures of modern-day Europeans largely reflects these relatively recent migrations and their massive replacement of earlier populations (Haak 2015, 207-211). It should be stressed that while the evidence generated by aDNA studies mentioned here relates directly to migrations and the movement of peoples, aDNA data do not provide prima facie evidence for language dispersal.



Proportional Genetic Components of Present Day European Populations after Haak et al 2015, *Nature*


Promachon-
Topolnica
Sitagroi
Dikili Tash
Thrace
Macedonia
Kryoneri
Nea Nikomedeia
Paliambela
Thermi
Thasos
Dispilio
Makriyalos
Chalcidice
Vasilika
Kyparissi
Mavropigi
Servia
Rachmani
Soufli Magoula
Platia Magoula Zarkou
Agrissa
Palioskala
Epirus
Visviki
Tsangli
Tsani
Sesklo
Dimini
Petromagoula
Pefkakia
Mikrothives
Aegean Sea
Phthiotis
Voulokalyva
Lianokladi
Euboea
Aetolia
Elateia
Halai
Proskynas
Tharrounia
Chaeronea
Phocis
Skoteini
Cave
Sarakenos
Cave
Corycian Cave
Locris
Boeotia
Nea
Makri
Aghia Triada
Cave
Achaea
Athens
Ellis
Limnes
Cave
Corinth
Gonia
Merenta
Tsoungiza
Laurion
Berbati
Strofilas
Prosymna
Klissoura
Cave 1
Kephala
Arcadia
Lerna
Franchthi
Ionian Sea
Kouphovouno
Saliagos
Messenia
Kouveleiki B
Zas
Cave
Laconia
Kasagounaki
Alepotrypa
Diros
Melos
0
50 km

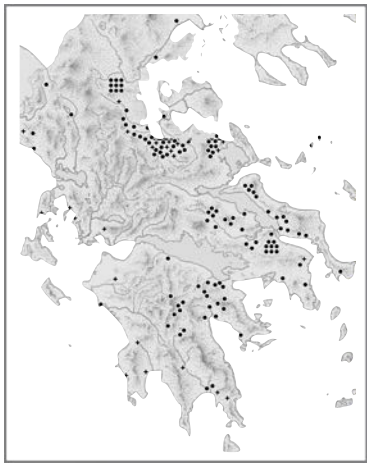
Endings and Beginnings

There is a fairly sharp contrast between our understanding of the Mesolithic-Neolithic and the Neolithic-Bronze Age transitions. Ironically, there is currently more clarity regarding the arrival of the first farmers than for the transition to the Bronze Age. The corroboration of the archaeological evidence from sites such as Franchthi Cave, Mavropigi, and Paliambela by recent genomic findings establishes a reasonably detailed narrative of relatively small agropastoral communities subsisting on grains and small flocks of sheep and goats——resources and a livelihood brought by the intruders and distinguishing them from the mainland's indigenous hunter-gatherers they replaced. Subsequently, there are remarkably few major changes in the overall social structure of these farming communities until the latter part of the Neolithic. As Perlès argues, "the socioeconomic system of the Early Neolithic remains essentially stable throughout the two millennia that follow, during the entire Middle and Late Neolithic" (Perlès 2001, 302). Local and regional changes do occur but there is little evidence for any widespread establishment of social hierarchy. In describing the contrasting modes of production, distribution, and consumption of Neolithic ceramics and lithics Perlès and Vitelli argue for delinking the traditional association of craft specialization with the economic and political indicators of an increasingly hierarchical society (Perlès and Vitelli 1999, 96). Although the LN and FN periods attest to changing patterns in ceramic and lithic procurement and use, the co-authors point out that all of their Neolithic examples are consistent with the simplest models of household, individual, and community production (ibid., 99). Significantly, underlying each of the trajectories of change are more or less egalitarian communities with a number of individuals assuming specialized roles throughout the Neolithic. While Perlès and Vitelli do not always agree about the nature of specific roles, together they strongly suggest that, "to understand the dynamics of prehistoric societies," it is critical to reformulate what is meant by specialization (Perlès and Vitelli 1999, 96). Theirs is an inclusive definition of craft specialization——not limited to hierarchical societies. As Perlès explains elsewhere, "Part-time craft specialization was a basis of socioeconomic organization long before the emergence of centralized political powers" (2001, 6). Half a millennia after the putative beginning of the Bronze Age, scenarios typical of the FN remain commonplace. However, while the archaeological evidence for hierarchy and social differentiation may not be attested until EH IIB——a transformation largely reflected by later mainland corridor houses, numerous suggestions of social differentiation and privilege are apparent during the Neolithic and early Bronze Age. Wiencke puts it this way, "The changes suggested by the phenomena surrounding the creation of the corridor houses rested, it would seem, on a series of slower but profoundly important ones which began in the later Neolithic and can be traced, at least in outline, through the earlier EH II" (1989, 497).

The cultural accomplishments of the mainlanders reach a peak midway through the Neolithic period——preceding the FN. One aspect of this progress were the growing networks of exchange and trade. The numerous northern village clusters (eg. the approximately 120 MN sites reported in eastern Thessaly) indicate a successful population of farmers and herders (Demoule and Perlès 1993, 368). Although these settlements may be envisioned as simple, self-reliant social units, Perlès argues that even in the early Neolithic an underlying social complexity and interdependence is evident, not the hierarchical differentiation that will characterize the later Bronze Age but rather, "a horizontal differentiation of economic roles and social status" (2001, 300). For example, because obsidian and certain flints were unavailable locally, specialized expertise was required to access these often distant and highly valued materials as well

as to craft the raw material into usable tools. Perhaps as early as the Mesolithic, but certainly by the early Neolithic, enterprising individuals had successfully engaged with, not to say overcome, the challenges and risks of deep water voyages in order to collect stores of Melian obsidian that were subsequently distributed through barter or exchange to the mainland. Also critical were toolmakers with the skills required to prepare the cores and produce the blades and other stone tools. The production of fine ceramic wares, as interpreted by Vitelli, is an example of specialization at the village level (1995, 59-62). Although our understanding of the social interactions and roles of the villagers is based on a variety of assumptions, the material record suggests that their skills and accomplishments were neither primitive nor simple. By the mid-5th millennium BCE the mainlanders' achievements reflect a relatively sophisticated culture. Admittedly such a characterization looks at the positive side of what for many must have been a tenuous existence. But the successes cannot be ignored. Collectively, the excavated evidence suggests social, economic, and material developments (eg. craft specialization, architectural advances, and perhaps some class differentiation)——not dissimilar in kind to characteristics evident during the Bronze Age.

Present evidence attests to significant contrasts between the northern and southern mainland during the Neolithic (Demoule and Perlès 1993, 364, Kotsakis 2014, 62-63). This may appear, at least initially, as a function of the history of excavation on the mainland. Not surprisingly the tells of Thessaly, often prominent features of the landscape, attracted the early attention of archaeologists and resulted in the first comprehensive publications of Neolithic sites.[1] In the south archaeologists were also drawn to the obvious, in this case the cyclopean walls of Mycenae and Tiryns in the Argolid. In itself, this divide between the Neolithic north and the Bronze Age south tended to perpetuate a dichotomy that is, in part, a reality of the prehistoric distribution of mainland sites. Excavations at Franchthi, arguably among the richer of southern Neolithic sites, began more than a half a century later than those at Sesklo and Dimini. Notwithstanding the robust evidence from Franchthi, when compared to the north (especially Thessaly) the southern mainland appears to have had many fewer and more widely dispersed settlements collectively indicating a smaller total population. Field surveys in Messenia, Nemea, and Berbati confirm the paucity of settlements as well as the contrasting regional patterns of occupation (Cavanaugh et al. 2002; Cherry and Wells 1998; Wells, Runnels, and Zanger 1990). Perlès points out that early Neolithic sites are largely located in eastern areas of the mainland. In Thessaly there is a demonstrable preference for alluvial basins and their surrounding hillsides——xeric habitats with relatively small amounts of rainfall. Perlès suggests a possible explanation for the choice is the similarity of such habitats to the arid conditions of the Near East——areas conducive to farming and grazing practices most familiar to the immigrants. In the south, preferred sites favored areas with springs and ample ground water——criteria that delimit the number of potentially suitable sites (Perlès 2001, 116-119; Johnson 1996, 37-73).



Neolithic Settlements
Perlès 2001, 114 Fig. 6.4

1. This is likely true for the Sesklo mound, referred to as, "of the high type," but Stais uncovered the Neolithic settlement at Dimini while excavating later tombs (Wace and Thompson 1912, 58;75).

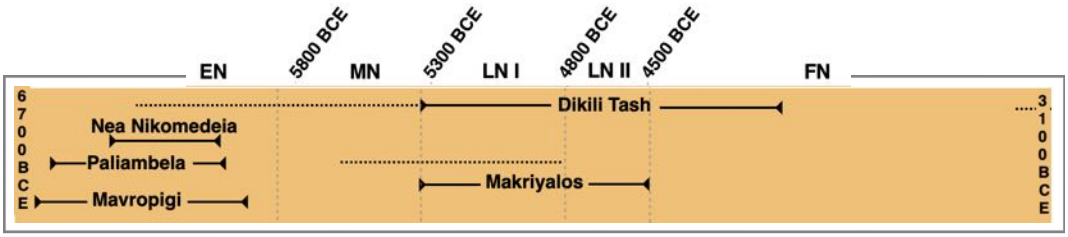
The late MN - LN I juncture (ca. 5300 BCE) marks the onset of a period of significant changes and contrasts: population shifts, new settlement patterns, and innovative ceramic styles occur across the mainland (Demoule and Perlès 1993, 387-388; Kotsakis 2014, 60-61). While some settlements increase in size many others are abandoned. A portion of these changes may be responses to the negative effects of an agropastoral livelihood. Given the characteristics of variable local habitats and regional environments, early farmers would necessarily have made adjustments to cultivation and grazing practices, resulting in varying degrees of success. The archaeological record of relatively long-lived and sizable settlements with indications of craft specialization and trade——as exemplified by late MN Sesklo, suggests a degree of success. Failed settlements, on the other hand, may have been common yet left little or no evidence in the archaeological record. Although the textbook case for the Neolithic "revolution" is often presented as a clear win on the path from savagery to civilization, the downside to neolithisation is often minimized (Childe, 1950). Early farmers did in fact face a number of potentially disastrous situations. Towards the end of the 7th millennium the wholesale abandonment of PPNB (Pre-Pottery Neolithic B) farming villages is documented for the southern Levant. Köhler-Rollefson suggests this may have resulted from intensive cultivation and excessive grazing that led to degraded local habitats where even a subsistence livelihood was untenable (1988, 87-91). Farmers that settled and maintained control of relatively rich soil areas with nearby pasture greatly increased the probability of their success. But success itself carried risks. Neolithisation is associated with larger populations and consequently increased prevalence of disease and higher rates of mortality. The deleterious effects can be traced in large part to sedentism, diet, and the characteristically close association of human and animal populations. Abigail Page and her coauthors summarized a variety of risk factors and the potentially bleak conditions faced by early agricultural societies (2015, 4694). Settlements accelerated the evolution of new viral and bacterial strains while providing multiple vectors for the transmission of pathogens from mammal domesticates to sedentary human host populations. Although the population size of Neolithic settlements was not large enough to promote what Diamond refers to as "crowd diseases" (eg. measles, bubonic plague), the precursor organisms that led to the later, lethal epidemics often got their start in smaller communities with domesticated species (1999, 3154-3515). Recent genomic studies have confirmed that an ancestral strain of *Yersinia pestis*, the pathogen responsible for bubonic plague, "was present by the end of the 4th millennium BC and was widely spread across Eurasia from at least the early 3rd millennium BC" (Rasmussen 2015, 575). Although the ancestral strain of *Y. pestis* was not capable of causing bubonic plague it is indicated in pneumonic and septicemic plagues (ibid.). Stephen Shennan's documentation of a "boom-and-bust" population pattern in mid-Holocene Europe stresses the fact, "that the bust following the initial farming boom is found in two historically separate agricultural expansions, the first into Central Europe ca. 7,500 years ago and the second into Northwest Europe 1,500 years later" (2013, 10).[2] Rasmussen's study confirmed *Y. pestis* sequences in the genetic material of individuals from LN and BA cultures (2015, 572). While direct evidence is lacking, widespread dislocations attested during the LN and FN are certainly consistent with settlement-wide illness and high mortality.

2. Dates adjusted for southern Europe are consistent with Reich's dates for the migrations of early farmers and steppe pastoralists respectively and for beginning dates for the Neolithic - ca. 6700 BCE and Bronze Age - ca. 3100 BCE (2018, 104 Fig. 15).

For example, the LN II Dikili Tash settlement (Phase II) ended when Sector 6 houses were destroyed by fire. Recent dating (2008 - 2010) confirms a destruction date of ca. 4100 BCE and the subsequent abandonment of much of Dikili Tash until ca. 3300 - 3000 BCE (Tsirtsoni 2014, 285 Fig. 6). In this vein, Kotsakis says of the northern mainland——"As we are approaching the end of the 5th millennium and the beginning of the 4th, the traces of settlements almost disappear. In many excavated sites there exists a gap and a long abandonment that lasts for many centuries" (2014, 61). On the southern mainland, Kotsakis sees the, "fragmented pattern [as] particularly noteworthy in the Final Neolithic, where very small temporary sites and caves dominate the record . . ." (ibid., 63). How, asks Kotsakis, does one reconcile this, "devolution of population and patchy settlement with a gradually increasing autonomy of the individual household," or with "the long term emergence of social asymmetry" (ibid.). Kotsakis' is contrasting the FN——not with what has been, but with what will be. The EH II horizon will include the mainland's first monumental architecture and an increasing degree of social hierarchy. The cultural distance between the FN inhabitants of widely dispersed settlements and coastal caves and the EH II residents of multi-storied corridor houses is indeed significant. The "Balkans 4000" project offers a somewhat different perspective on the same evidence (Tsirtsoni ed. 2016). Despite the numerous abandonments of late Neolithic settlements the occupational gaps seem less severe when evaluated on a regional basis. Perhaps Herodotus, often heralded as the first historian, suggests a useful perspective——

> *I will cover minor and major human settlements equally, because most of those which were important in the past have diminished in significance by now, and those which were great in my own time were small in times past.*
>
> -*The Histories I, 5.* (Investigations) 5th century BCE





Macedonia & Thrace

Early Neolithic (6700 - 5800 BCE) studies on the northern mainland were reinvigorated in the 1960s, in part, by the excavation of the Macedonian site at Nea Nikomedeia. Led by R. J. Rodden, the project brought a multi-disciplinary team to the site with the innovative goal of defining the historical landscape and its environment in order to better inform their understanding of the artifactual materials. As Wardle explains in his Preface to the long delayed publication, “The collection of faunal remains and paleobotanical samples was integral to the project from its conception and the study of the changing landscape and environment an essential adjunct” (Roden et al.1996, xix). Although such practices are now commonplace, their introduction at Nea Nikomedeia set new standards. The results of radiometric dating, another innovative feature, suggested Nea Nikomedeia was among the oldest (ca. 6180 BCE) farming sites in Europe. Although other sites can now claim earlier settlement dates, at the time the radiocarbon evidence prompted expectations that Nea Nikomedeia might provide answers to the perennial question of origins. “Was it going to be possible to determine,” asked Wardle, “whether European farming developed in Europe or was imported from further east?” (ibid.). Although Nea Nikomedeia would not settle that particular issue, it would reconfigure archaeological field work as the progenitor of methods and practices in use today. Much like Sesklo A, Nea Nikomedeia fits well within the parameters of typical tell sites——the Túmbes and Maghúles referred to by Wace and Thompson at the beginning of the century (1912, 4-5). Building phases from both the EN and LN periods were excavated at the site. The EN settlement featured four dwellings around a large (11.8 x 13.6 m) central building that was thought to have been have been a shrine—a function suggested by the unusual assemblage of finds. These included five female figurines, two greenstone axes, and two caches of unused flint blades (Rodden 1964, 114). Despite its initial promise the excavation of Nea Nikomedeia had little immediate impact on Greek Neolithic studies. This was due in part to lingering preconceptions about Macedonia——attitudes then current, Fotiadis’ argues, that made Macedonia not only irrelevant but antithetical to Aegean studies (2002, 115). Although various negative connotations were maintained, the entire region was treated, not as a place so much as a “highway” to elsewhere——both isolated and backward (ibid, 120). Aegean prehistorians quest for the origins of Helladic culture looked to the south while Thessaly and Macedonia were considered Balkan (ibid., 127). This division was reinforced by notable Bronze Age and Classical palatial and monumental architecture in the south, “creating,” as Katsakis explains, “a kind of geographical and cultural ‘boundary’ ” (2007, 1). However, during the 1960s and 1970s the excavations of D. R. Theocharis and G. Hourmouziadis at Sesklo and Dimini, along with their leadership in establishing curricula with a focus on ancient history at the University of Thessaloniki, shone a new light on Neolithic research (Andreou 2001, 262-268; 284). These efforts have had a lasting affect. During the last quarter century many Greek scholars have directed Neolithic studies at northern mainland sites——research that has resulted in a general reevaluation of the initial interpretations of Aegean prehistory.



Nea Nikomedeia
EN Female Figurine
Theocharis 1973, fig. 18

Heinrich Schliemann famously followed *Pausanias* in search of Bronze Age ruins. More recently, concentrations of surface finds recorded during intensive field surveys have indicated promising prehistoric sites. At present, in a somewhat less felicitous vein but with increasing frequency, archaeologists are involved with "rescue excavations"——projects initiated by the accidental "finds" of bulldozers, including the long buried sherds and bones of ancient settlements. For example, Nea Nikomedeia came to light because its tell, "was the obvious choice for road-fill" (Rodden 1996, 4). A brief note in *AR,* No. 53 foretold the fate of 27 other Macedonian sites. They were, according to Georgia Karamitrou-Mentessidi, scheduled "to be destroyed by the newly opened lignite mine" (Whitley et al. 2006, 52). Mavropigi-Filotsairi (Mavropigi) has in fact been destroyed. Fortunately Mavropigi was granted a temporary reprieve——one that led to a comprehensive rescue excavation during the 2005 and 2006 seasons.



Mavropigi, Macedonia
Circular Pit (back left) and Rectangular Structures
after Karamitrou-Mentessidi et al. 2013, fig. 3

Mavropigi is among the more informative Neolithic sites on the northern mainland. In one sense it can be seen as the fulfillment of the expectations and goals set forth a half century earlier for the Nea Nikomedeia project. The settlements uninterrupted 700 year occupation (AMS dating indicates Mavropigi predated Nea Nikomedeia) has resulted in significant insights into both local and regional conditions as well as changes across the EN period.[3] In their 2016 publication Mavropigi's researchers credit the recovery of the rich and comprehensive material evidence, in part, to the site's atypical excavation. "The site represents a rare archaeological example of a fully uncovered early farming community . . ." (Karamitrou-Mentessidi and Efstratiou 2016, 47). The foreknowledge that Mavropigi was to be destroyed led to the decision to excavate a much greater percentage of the site——as compared with the selective trenching at typical digs.

The initial settlement, perhaps comprising only several families, was well suited to their agropastoral lifestyle——an intermountain wetland basin currently known for its numerous, albeit largely not excavated, Neolithic sites (ibid., 48-49). The Phase I (6,600 - 6,400 cal BC) settlement's architecture was dominated by the Central Orygma. This large, circular-shaped, pit dwelling was expanded in Phase II (6,400 - 6,300 cal BC) as well as in Phase III (6,200 - 5,900 cal BC)——ultimately covering an area of 100 sq. m (ibid., 50-51). The seven, Phase III rectangular dwellings, while similar to those at Nea Nikomedeia, were better preserved and thus more informative (ibid. 53-54; 70-71). Although 10% of the bones (non-human) recovered are those of native fauna, the majority are the remains of domesticates (mostly sheep, but goats, pigs, and cattle as well) typical of Neolithic communities. Plant domesticates included wheats, barley, and lentils; seeds of wild elderberry, pistachio, and cornelian cherry were also documented (ibid., 60-61).

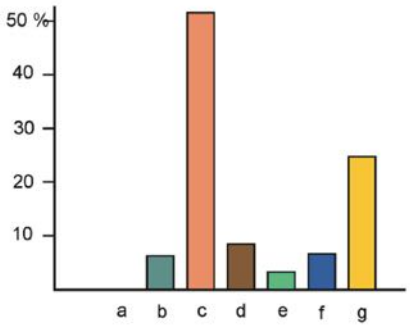
3. AMS (accelerator mass spectrometry) requires smaller samples and is faster and more accurate than 14C dating; cal BP = *before present* (using 1950) and cal BC or BCE = *before current era* based on calibrated radiometric data.

Mavropigi's rich assemblages of small finds include bone tools, stamp seals, a variety of decorative ornaments, as well as anthropomorphic and zoomorphic figurines. Also significant are 18 intact pit burials, all associated with Phase III Mavropigi, located both within and between dwellings. The bone tool and stone amulet illustrated below were among the grave goods accompanying one of the interments (ibid., 58-67).



Mavropigi, Macedonia
anthropomorphic figurines, bone tool, and stone amulet (frog)
Karamitrou-Mentessidi et al. 2013, figs. 30, 43

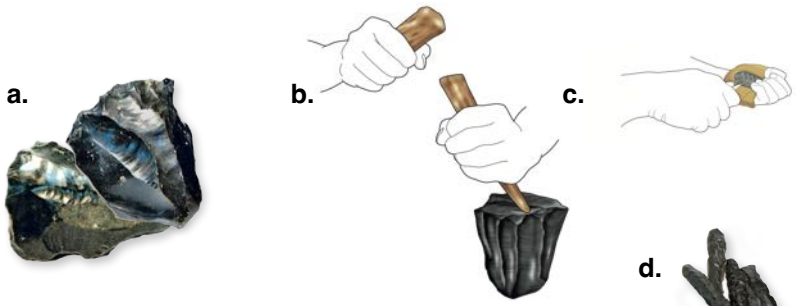
The numerous lithics recovered at Mavropigi are especially informative. Małgorzata Kaczanowska and Janusz Kozłowski's catalog——*Mavropigi Chipped Stone Assemblages,* is a virtual handbook to EN stone tools of western Macedonia (2016, 71-115). The site's location facilitated comparison with lithic industries in Thessaly as well as with those of the "classical Balkan model." The exceptional number of tools, in particular for the second and third occupational phases, enabled an analysis that reflects changes over time in lithic material preferences and sources (ibid. 93-95). The evidence also informs our understanding of local practices and craft skills as well as contacts within and between regional and extralocal sources of raw materials and finished goods. Lithic artifact totals from the three phases are: 13 from Phase I - Stratum 3, 389 from Phase II - Stratum 2, and 2,272 from Phase III - Stratum I (2016, 71-115). Chipped stone tools are often characterized by the type and origin of their raw materials as well as their place of manufacture. At Mavropigi three categories are defined: 1."local" quartz tools produced on-site; 2. tools made from "mesolocal" radiolarite——a local secondary deposit or known source 50 km distant, worked at least partially on-site;[4] 3."extralocal" tools of obsidian (from Melos) and flints (eg. "silex blond") that are absent or rare locally and either preformed or entirely produced off-site (ibid.). Neolithic tool assemblages contrast significantly with those of the Paleolithic and Mesolithic periods. While bladelets are the predominant stone tools in the earlier periods, blades (medio- and macrolithic) are most common among Neolithic assemblages. This reflects the replacement of small projectile inserts with larger blades used to fashion sickle tools for harvesting grains. This is consistent with the widespread evidence that Neolithic communities placed little reliance on hunting native wildlife as a food source. Although local quartz accounted for the majority of all chipped stone tools at Mavropigi, blades were often made from better quality flints and obsidian.The bar chart gives percentages for various Phase III obsidian tools. Blades predominate and the relatively small percentage of obsidian flakes (b) suggests off-site production. The authors attribute chip quantities to on-site retouching and repair (ibid., 79-80).



Obsidian Phase III Mavropigi
a. cores, b. flakes, c. blades,
d. tools, e. splintered pieces,
f. splinters, g. chips
Kaczanowska & Kozłowski 2016, 78, Fig. 51, 4

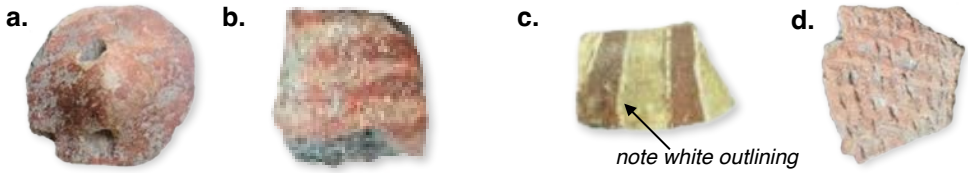
4. Radiolarite is a chert-like sedimentary rock formed from the organic remains of microscopic protozoans.

Obsidian's essential role in Neolithic farming practices raises a number of questions regarding tool production as well as access to the volcanic glass itself. One possible source for obsidian tools was Thessaly. It is known that obsidian tools were finished at Argissa from "partially worked lumps" imported from Melos (ibid., 94). However, evidence from Melos itself including core preparation waste and (a.) blade cores themselves indicate (d.) blades were produced on the island using (b.) reduction by indirect percussion and by (c.) pressure flaking. Given that Melos is approximately 500 km from Mavropigi, the common obsidian tools used in northern Greece during the Neolithic argue for some degree of craft specialization enabled by trade networks, and relatively sophisticated seafaring capabilities——all indicators of the social complexity associated with early farming communities.



Obsidian Blade Knapping
Zafeiris Vaos Collection
Milos Mining Museum

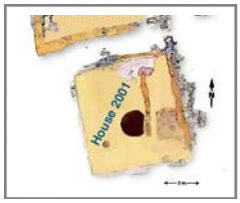
Although the ceramic analysis is a work in progress, decorated pottery from the Central Orygma dates to the early EN (Phase II and III ca. 6400 - 5900 BCE). Undecorated sherds occur in Phase I levels, while Red-on-White/Cream, Polychrome, and Impresso pottery were present in levels indicating earlier dates than had previously been recorded (ibid., 59-61, 67; Bonga [2015] 2017, 377-383).



Potsherds - Central Orygma
a. Undecorated b. Red-on-White/Cream c. Polychrome d. Impresso
Karamitrou-Mentessidi and Efstratiou 2016, 59-61 Figs: 31-34

Mavropigi makes the case that traditional tell site narratives do not, by themselves, provide a comprehensive or balanced account of the Neolithic period. The diversity of dwelling designs and their organization at Mavropigi finds parallels in other recently excavated sites in Macedonia including Paliambela Kolindros and Makriyalos. Kostis Kotsakis has played a part in rewriting the northern mainland's Neolithic history. Following Theocharis, he and other scholars, propose a more inclusive account as well as a rethinking of the basic aims of interpretive efforts. Earlier concerns with indigenism and diffusionism, argues Kotsakis, "completely miss the social dimensions of space and time," whereas investigating, "the actual details of establishing the Neolithic mode of life," would likely prove more productive than the perennial focus on, "the delineation of transfer" (2014, 44).

Paliambela Kolindros shares with Mavropigi a mid-7th millennium BCE settlement date as well as a diversity of structural architecture. Unlike Mavropigi, Paliambela was also occupied in the MN and LN I - II periods (Kostakis 2016). The first two settlement phases (both dated to the EN) consist of circular to oval pit dwellings set in heavily landscaped terrain followed by later (ca. 6000 BCE) rectangular dwellings. Kotsakis describes the unique siting of the earliest dwellings as on terraced landscape. After removing the natural ground cover, the original settlers created two distinct levels or terraces. Pits in the lower section were apparently used solely for habitation while a second series of pits, dug into the upper level, functioned as common areas for food preparation and consumption as well as threshing (ibid.). The transition to entirely different dwellings begins in the later EN so that by the MN Paliambela had undergone essential changes. Along with the addition of a perimeter ditch, the pit dwellings had been abandoned and replaced by rectangular structures. At least one of these (House 2001) incorporated a hearth and threshing pit as well as pottery suitable for preparing and consuming meals (ibid.). During the LN I period the use of rectangular dwellings continued while the ditching was replaced by a perimeter wall (Kotsakis 2014, 59).



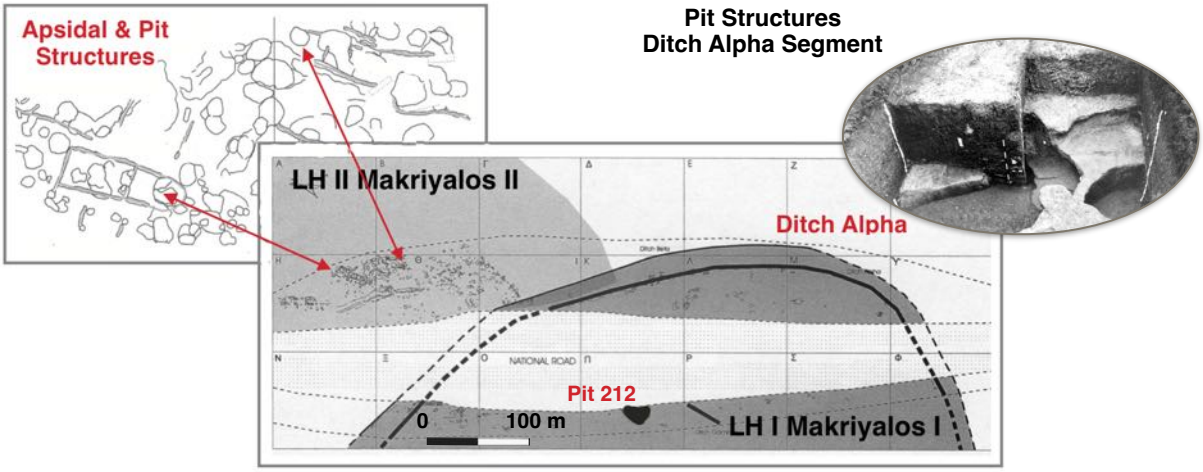
Phase II - House 2001
Kostas Kotsakis - BSA Lecture
Paliambela Kolindros

Within the EN horizon at Paliambela one can discern two generalized community plans: 1) a flat-extensive Macedonian-type settlement with widely spaced, circular- to oval-shaped dwellings at least partially subterranean and 2) a tell site, traditionally associated with Thessaly, with rectangular structures in close proximity where overbuilding occurs with successive dwellings phases. The former group's shallow stratification and paucity of artifactual material suggest frequent relocation——giving an impression of impermanence, much as might be expected with temporary settlements. The tell sites are literally 'built up' over time——gradually creating a more visible presence on the landscape and suggesting, if not actually documenting, permanence. Kotsakis argues that these contrasting patterns of organization reflect patterns in the lifestyles and attitudes prevalent in their ancient communities (1999; 2016). To this point, Kotsakis cites Chapman's interpretation of the meaning suggested by the physical structure of tells——"Since occupations are constructed over previous living surfaces, the tell is a 'power-full' ancestral space where communities live where their ancestors once lived" (Kotsakis 1999, 68; Chapman 1994, 138).

At Paliambela part of the transition from the earliest (pit dwellers) to the later (occupants of rectangular structures) Neolithic settlement phases is the displacement of communal food preparation areas (hearths) and work places (threshing installations) from the external upper terraces to within the four walls of individual houses. Bekiaris reports grinding slabs and grinders as well as mortars, "within the houses," at Paliambela (Bekiaris et al. 2020, 182). Whether or not this process is necessarily chronological, i.e. from earlier communal arrangements to later autonomous households, is unclear, but over time essential differences in the two types of communities emerge. These differences are reflected to a degree in the material attributes of the site but, according to Kostakis, are best understood as part of the changing social dynamics within individual communities and across the region. "If tells [therefore] materialize an ideology of the emerging household and of its individual continuity, the flat, extended settlements preserve an ancestral ideology of communality (Kostakis 2014, 57).[5]

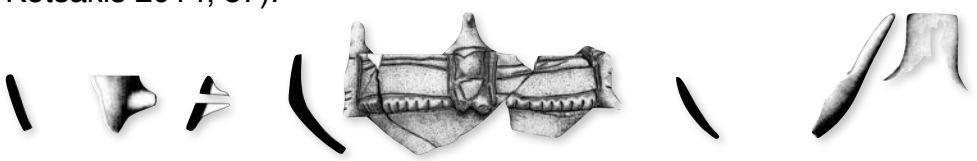
5. Extended sites in northern Greece suggest a binary settlement model, however, Pappa and Nanaglou explain, "At Kyparissi, the horizontal expansion of the site coincides with the vertical superimposition of buildings" (2019, 2).

The LN is broadly divided into early and late subdivisions. Traditionally, Sitagroi in Thrace represented the LN I period, while the Thessalian Dimini Culture exemplified the LN II period. Macedonian Makriyalos, a rescue site excavated in the early 1990s, carries the narrative of northern Neolithic settlements across the entire LN period. Makriyalos I (MK I - 5300 - 4900 BCE) was an expansive (28 ha) settlement with widely spaced, small clusters of round pit-houses with a relatively small population. In contrast, Makriyalos II (MK II - 4900 - 4500 BCE) was significantly smaller (1/5 the area of MK I) but with many more dwellings. An early phase of MK II comprises round pit-houses while apsidal-shaped structures are typical of late LN II (Pappa and Besios 1999, 112-116).



LH I - II Makriyalos I, II
Pappa an Besios 1999, 183, 185 Fig. 5, 8; Pappa et al. 2007, 259 Fig. 2

Earthworks in the form of parallel ditches ringed MK I——in part, reinforced with mudbrick or stone wall backing. The extent and upkeep of the ditching represented a significant investment of time——a commitment, it is argued, strongly suggesting an emphasis on community (Pappa and Besios 1999, 112-114; Kotsakis 2014, 57). The ditches, tracing the edge of the settlement and delineated with posts, also served as common burial pits. An arrangement, suggests Kotsakis, constituting a "veritable monuments to communality" (ibid.). An additional significant feature of MK I is pit 212. "Situated in the centre of the settlement as defined by the ditches described above, a large shallow pit preserved the remains of hundreds of animals and a large quantity of ceramic vessels" (ibid.). The pottery assemblage recovered from pit 212 comprised standardized tablewares (serving vessels) and numerous non-standard small cups——many of the latter with anthropomorphic embellishments. Animal bones recovered from the pit represent "tens of tons of meat." An analysis revealed that the deposition of pottery and animal remains occurred over a relatively short period——strongly suggesting commensal feasting and according to Kotsakis, represents "the first time in the Greek Neolithic that a communal event of that scale is documented" (Pappa et al. 2004, 24; Kotsakis 2014, 57).

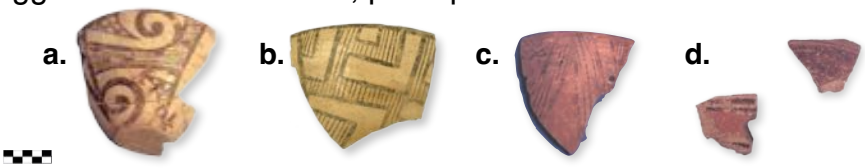


Individualized Cups
LN I - MK I - Pit 212
Pappa et al 2004, 26-30, , Figs. 2.4, 2.6, 2.8



White painted Black-topped Open Bowl
LN I - Makriyalos I
Pappa 2007, 264 Fig. 12

Overall, MK I pottery is fairly typical of northern LN I ceramics with an abundance of black-burnished wares. These wares are widespread across the Balkans during the LN I period and represent a contrast with the decidedly regional aspect to ceramic styles earlier in the Neolithic. There are various indications of a distinct break between Makriyalos I and Makriyalos II with the later LH II settlement established to the northwest of the initial settlement. Most significantly, Ditch Alpha, that had served as the defining perimeter for MK I, was filled and capped with a layer of soil over a meter deep. The more or less complete segregation of artifacts from the two periods suggest the earlier settlement had been abandoned prior to the establishment of MK II (Pappa and Besios 1999, 112). The radical shift in settlement planning, especially the adoption of apsidal structures in the later sub-phase, was accompanied by a unique ceramic assemblage notable for its inclusion of imported Classic Dimini wares—— including Dimini brown-on cream, black-on-red painted, and polychrome decorated ceramics (Vlachos 2002, 121). Aside from being the largest known group of such pottery outside of Thessaly, most all the MK II material was recovered from a relatively small area of the site (grid η), referred to by the excavators as 'borrow pits' (Bonga 2013, 56; 279). Furthermore, the accompanying ceramics seem mainly to have been cookwares. Like the contents of Pit 212, the fine imported ceramics together with cookwares suggest communal events, perhaps even of a ritualistic nature.



Classic Dimini Brown on Cream **Black-on red** **Polychrome**
Makriyalos II
Hitsiou 2003, 250 Pl. 4.1 (a.), 253 Pl. 4.5 (c.), 257 Pl. 4.10 (d.); Pappa 2007, 264 Fig. 14 (b.)

Various classes of artifacts recovered at Makriyalos are numerically extraordinary. Approximately 8,000 ground stone artifacts were recovered from the site along with more LN copper objects than are known from the entire mainland. A portion of the 250 clay figurines and two varieties of stamps were recovered from each of the two site phases (Pappa and Besios 1999, 117). See also *Spondylus* 103.



LN I - Makriyalos I
Clay Figurine
Pappa 2007, 254 Fig. 15



LN II - Makriyalos II
Marble Figurine
Pappa 2007, 264 Fig. 16

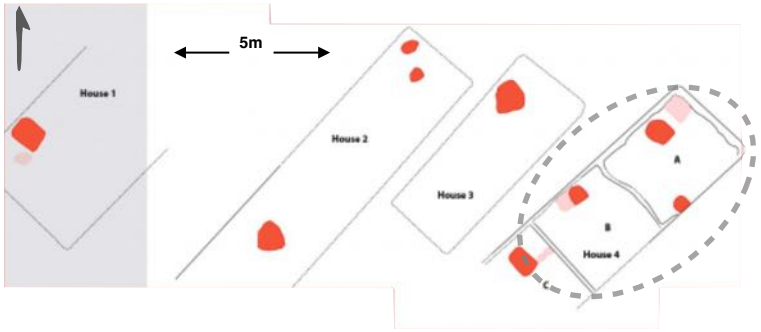


MN - LN I International Fair
Human ("dancing") Figure
Among Earliest Neolithic Representations
Pappa 2007, 268 Fig. 30

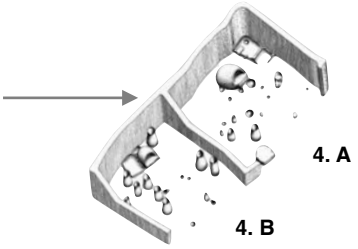
The dual nature of MK I and MK II contrasts the early flat site plan with the later tell-like settlement. A number of other *flat* settlements, including Thermi and International Fair (both less than 50 km northeast of Makriyalos), have recently been published. Several of these sites are contemporary with tell sites and therefore, rather than being developmental stages, each may represent a different approach to settlement organization reflecting community goals. The large open areas, focal points of group celebrations (eg. Pit 212), and shared works projects (eg. Ditch Alpha) at MK I seem to reflect an emphasis on a communal values (Pappa 2007, 270).

Sitagroi and Dikili Tash, located on the plain of Drama in eastern Macedonia, are considered part of the Promochon -Topolnica culture whose eponymous site straddles the Bulgarian-Greek border in the Middle Strymon River Valley. Sitagroi, notable for having confirmed the antiquity of Balkan Neolithic sites in general, was excavated by Renfrew in the late 1960s. H. Todorovo initiated research at Promochon-Topolnika in 1980—work that has continued for over 25 years (Todorova et al. 2007, 43 -78). Although Blegen and Welsh collected sherds at the Dikili Tash tell early in the twentieth century, systematic work did not began there until the 1960s (Mission a de Dikili Tash) with related efforts ongoing (Picard 1918, 44; Bulletin de correspondence hellénique).

Recent radiometric dating at Dikili Tash, based in part on earlier core sampling, has established that the community was first settled ca. 6400 - 6200 BCE. Two major LN Sector 6 settlements are defined as: Phase I = LN I ca. 5200 - 4800 BCE and Phase II = LN II ca. 4800 - 4250 BCE. Following destruction(s) by fire the site was unoccupied from ca. 4000 BCE to ca. 3250 BCE (Tsirtsoni 2014, 285 Fig. 6).



Phase II Sector 6 - Dikili Tash
Houses: 1, 2, 3, 4 Sketch
© Dikili Tash Research Program



Phase II Sector 6 - Dikili Tash
House 4: A & B
© Dikili Tash Research Program

The overall settlement plan of Sector 6 at Dikili Tash is less well known in the early phase but a pattern of post holes and pathways as well an open court are attested. It is thought that the courtyard area was used for food storage and preparation. The more expansive Phase II settlement comprised dwellings constructed in parallel rows and separated by walkways. Although some dwellings were built using the typical “wattle-and-daub” method, a number of Phase II structures consisted of framing posts and crossbars plastered with building clay——an earthen mixture with various additives (eg. hay or corn husks), each suited to a given function (Tsirtsoni 2016a, chapter 15). Recent excavations have added significant details for each of 4, Phase II houses. Similar fixtures and finds (domed ovens, hearths, grindstones, and food preparation and storage vessels) are attested for each interior division (as in 4. A & 4. B above) and consequently each is considered an individual household unit. Structures 1 and 4 were especially well preserved and the source of numerous finds (Malamidou 2015/2017, 61-62). A diverse collection of native (woodland, upland, and wetland) and domesticated plant species were attested from the numerous charred remains and imprints. Charred vines from House 1 led to subsequent soil analyses that revealed grape (*Vitis vinifera*) residue and remains including grape pips in multiple samples (ibid., 66-76). This suggests evidence for what is possibly the earliest (ca. 4300 BCE) wine making not only in Greece but for all of Europe. See: Dikili Tash: Neolithic: Food And Culinary Practices.

A number of ceramic innovations are feature of the LN period. Advances in firing techniques and new pigments resulted in larger vessels, more refined decorative motifs, and greater stylistic variation. Although the pottery of the Promochon-Topolnica culture exhibit a variety of these widespread changes it is perhaps better known for its regional and local characteristics. For example LN I (Dikili Tash I; Sitagroi II) black-burnished wares are attested in eastern Macedonia with channelled (rippled, ribbed) and black-topped decorative styles. See below. Later in the period red-on-black pottery is first noted and becomes most prevalent at the transition from LN II to FN. Graphite painted pottery is a hallmark of LN II (Dikili Tash II; Sitagroi III) in eastern Macedonia and eventually replaces red-on-black wares. Bong points out that, “Graphite-painted pottery becomes commoner as one moves east across the Drama plain,” and at Sitagroi and Dikili Tash, for example, it comprises the majority of decorated pottery (2013, 195). Kryoneri is another productive Promochon-Topolnica culture site in Eastern Macedonia (Siros 2016, 1-31).



LN II Dikili Tash
Black-on-Red Collared Cup
© Dikili Tash Research Program



LN I Two-handled Bowl
Channelled Decoration
Dikili Tash



LN I Bowl
Black-topped
Dikili Tash



LN II - Dikili Tash
Graphite-painted Bowl Fragment
Dikili Tash



LN II - Kryoneri
Graphite-painted Askos
Siros 2016, Fig. 19



LN II - Dikili Tash
Graphite-painted, incised & filled
Philippi Museum

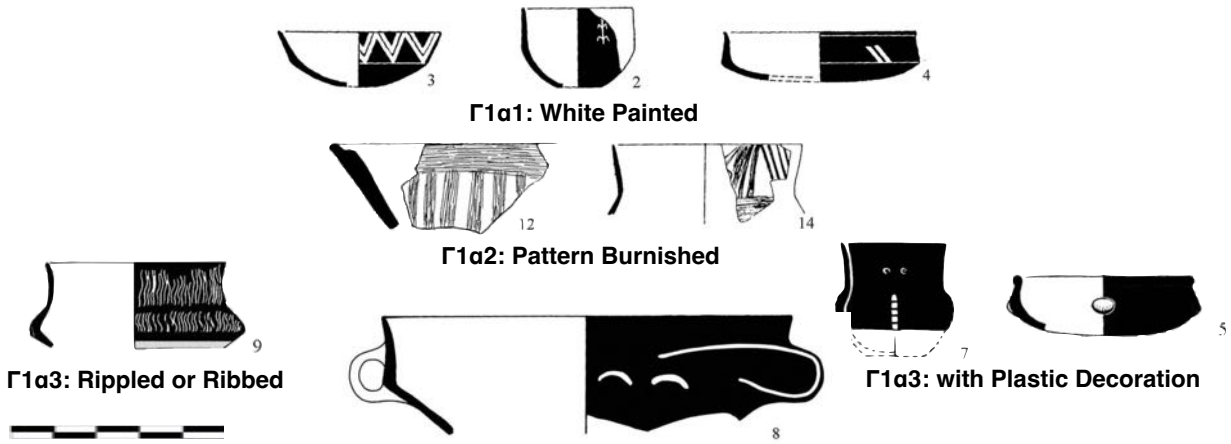


LN II - Dikili Tash
Graphite-painted Amphora
Dikili Tash



LN II - Kryoneri
B-on-R Four-legged Necked Bowl
Siros 2016, Fig. 19

Black-burnished ceramics are notable for their occurrence across the Greek mainland during the LN period, however, it is only one region of the pottery's widespread distribution ranging from the Balkans to Anatolia (Demoule and Perlès 1993, 392; Bonga 2013, 139). Holmberg describes these wares as heavily polished, often lustrous, jet-black——at times gray to brown-black (1964, 343). Biconical and carinated bowls along with high pedestaled fruitstands are part of the standard assemblage (ibid., 344). Although production methods vary the technique known as carbon-black (smoking or smudging) introduces saturated materials into the firing pit to produce a smokey, oxygen starved atmosphere that in turn increases the amounts of carbon in the porous clay (Bonga 2013, 162-163). Based on earlier studies, Bonga describes three categories of decorative techniques typical of back-burnished pottery: White painted (Γ1α1), Pattern Burnished (Γ1α2), and Rippled or Ribbed (Γ1α3). Bonga includes plastic appliqué decorations (eg. discs and pellets) in Γ1α3 and adds a fourth category (Γ2) for black-burnished pottery with incised and white-filled decorations (Tsountas 1908, 237; Wace and Thompson 1912, 17; Bonga 2013, 142 -142).



LN Black-burnished Wares
Schematic Illustrations
Bonga 2013, Figs. 42, Γ1α1, 46 Γ1α2, 51&48 Γ1α3, 45 Γ2

The expansive distribution of black-burnished wares suggest a range of possible cultural connections including individuals or overlapping networks of individuals with the motivation and the means to transfer the know-how and/or the finished products across the mainland. Despite their common characteristics, individual vessels exhibit site to site and regional diversity of clays, firing techniques, and decorative styles preferences. For example, a stylistic variation referred to as "black-topped" is known primarily from Macedonia where it was frequently combined with a number of other effects such as white paint, graphite, and/or incision (Bonga 2013, 151). Various excavators have noted that black-burnished pots have more numerous repair holes than other ceramics. If the suggested implication is a desire to preserve specific vessels, it is consistent with Kalogirou's observation that black-burnished pots at Megali Nisi Galanis showed few signs of use (Bonga 2013, 154). Weinberg's observation that joins were *entirely absent* from black-burnished sherds from the *Bothros* at Elateia suggests deliberate breakage. Finally, at Plateia Magoula Zarkou these vessels were the most commonly used receptacles for cremation remains (ibid., 153-154). Together, the evidence strongly suggests that at least some black-burnished pottery had special significance for their makers and users——a meaning likely relating to ritual practices.

Among the black-burnished pottery finds from Merenta was a "rhyton" leg.[6] Fragments of LN I rhyta were consistently misidentified before Weinberg's reconstruction of a four-legged vessel from Elateia. These scoop-like objects were, Weinberg explained, closely related to finds from the northern Balkans (1962, 190-195). Their exact function is unknown but Bonga suggests a typological relationship with the later scoops that persisted into the FN (2013, 230).



LN "Rhyton" Leg
Burnished & Incised
Kakavogianni 2018, Fig. 4

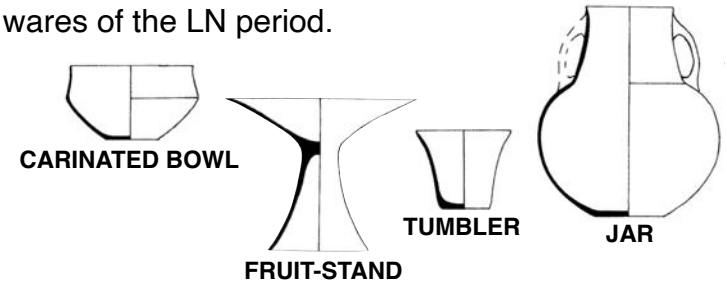


Four-legged Vase
Kakanj, Yugoslavia
Weinberg 1962, Pl. 65 d.

LN painted wares are notable for their diversity. Lily Bonga's PhD dissertation (a source for much of what is written here) treats the subject in detail and the table of contents for that document reflects the diversity of LN pottery types (2013). Besides the black-burnished ceramics illustrated above, Bonga's work covers matt-painted, black-on-red painted, polychrome painted, gray burnished and gray-on-gray, and bitumen painted. Along with the more typical vessels Bonga also addresses specialized LN shapes as well as the broad range of pottery with incised decorations (ibid., vi- xv). Finally, a major section of her dissertation treats LN monochrome and undecorated pottery (ibid., 269-288).

The character of the paint is the common denominator for LN decorated wares and is described as "matt" (flat, dull) as opposed to "lustrous" (exhibiting a sheen). The overall visual effect is the result of a number of factors including the paint, firing conditions, and clay body, however, it is generally agreed that most matt-painted wares were decorated with manganese based paint (except in Macedonia), an innovation of the LN that replaced the iron-oxide based paints used with the earlier red-on-white and Urfirnis pottery. Another significant aspect of matt-painted pottery is the arrangement of decorative motifs in bands and panels between the rim and carination——a style Bong characterizes as "rather austere" (2013, 45). The appearance of Classic Dimini wares in the latter LN II introduces another stylistic approach——one, in the words of Wace and Thompson whose, "patterns show a most remarkable combination of geometric and spiral elements" as well as, "being painted both inside and out" (1912, 16). Following earlier scholars, Bonga points out that given its more or less millennium-long history, LN matt-painted pottery deserves the attributions of "*koine"* and "*hallmark*" as most representative of the numerous wares of the LN period.

Matt-painted Pottery
Typical Shapes
LN Mainland
Bonga 2013, Fig. 6

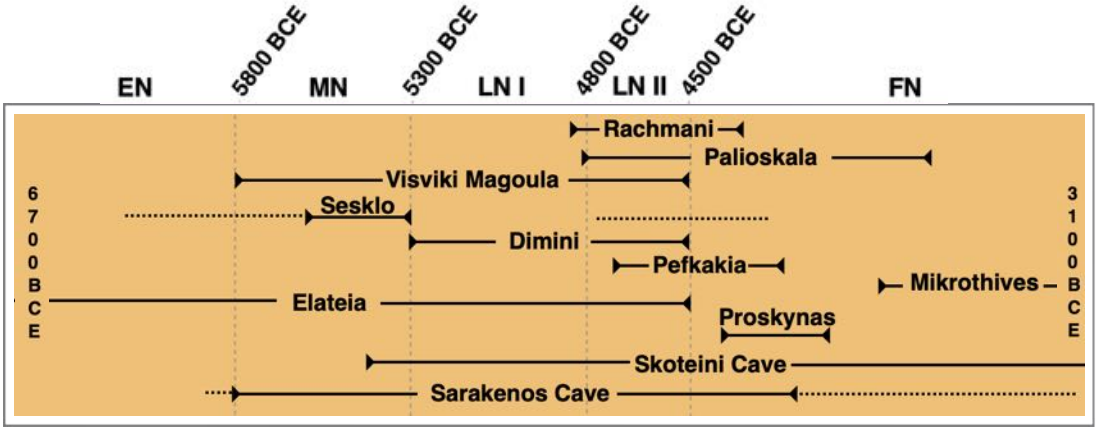


6. Although LN rhyta (sg. rhyton) are not comparable to the BA libation vessels (typically conical or anthropomorphic) of the same name, the traditional use of 'rhyta' for the LN object, despite being a misnomer, has been retained.



Minoan Conical Rhyton
1600 - 1500 BCE
The Met





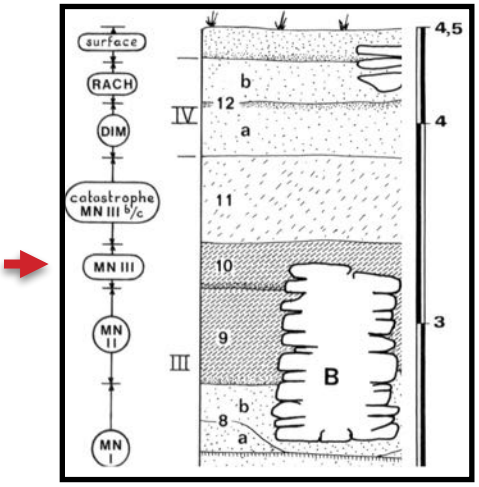
Thessaly & Central Greece

In 1955, half a century after the first excavations of Sesklo, D. R. Theocharis began a reexamination of the site and ultimately "put forth a model of urban development and population concentration that had no antecedents in the Greek Neolithic" (Andreou et al. 2001, 262). Sesklo was initially settled in the EN period and remained occupied through the late MN when the site was destroyed and largely abandoned. Reoccupation is attested in LN II and the Late Bronze Age. However, it is in during the final phase (III) of the MN settlement that Sesklo exhibits a variety of cultural advances that are reflected across much of the northern mainland (Rutter and Gonzalez-Major 2011-2013). If the 14th & 13th centuries BCE Mycenae and 5th century BCE Athens are floruits of their eras, late MN Sesklo can be seen as the cultural apogee of the Greek Neolithic.



Sesklo Tell (Kastraki Hill) and Lower Town
after Tsountas 1908, Wace and Thompson 1912, Theocharis 1973
Wijnen 1981, 8 Fig. 3

While the pioneering efforts of Tsountas at Sesklo focused on the tell, Theocharis added a horizontal dimension to the site and redefined the MN settlement as comprising two distinct communities——the *acropolis* and the *polis,* covering an area of nearly 30 acres (1908; 1973). Sesklo A, the acropolis, is characterized by free standing rectangular houses often separated by courtyards or alleys. Terracing and a low wall divided the acropolis from Sesklo B——an extended lower town stretching across Sesklo's flat northwest slope where tight clusters of houses shared common walls. The stratigraphy reveals continuous habitation at Sesklo A while the relatively shallow Sesklo B levels, often devoid of artifacts, suggests discontinuity and frequent relocation of dwelling clusters. The walls of MN houses are typically built of mudbrick on a stone socle (base)——a decided improvement on the earlier mud-and-daub construction (Andreou et al. 2001, 262-264). At least some Sesklo A dwellings incorporate hearths, storage spaces, and work areas—perhaps an indication of a degree of self-sufficiency. However, a number of structures in both areas——referred to as 'special houses' by Kotsakis, are notable for having unique features including extra rooms or buttressed walls (2014, 52). Along with the primary archaeological evidence (settlement patterns and structural details), a number of house models (ceramic miniatures) are attested from MN sites. Single-story models of Tsangli-type dwellings as well as two-storied pitch-roofed miniatures are typical. The prevalence of these finds suggests they may reflect an attribution of an enhanced value and status to actual dwellings.



Theocharis' 1957 Trial Trench
note MN III destruction level
after Wijnen, M.H.J.M.N. 1981, 9 Fig. 4



House Model
MN Pitch-roofed
Foundation Hellenic World



MN House Model Chaironeia
Theocharis 1973, fig. 10
Archaeological Museum of Chaeronea

Although Sesklo's population may have been closer to 300 (in contrast to Theocharis' overly enthusiastic 3,000) at its peak, the settlement had clearly reached a level of social organization different in kind from typical early Neolithic villages. Sesklo's location, an area with rich soils and upland pasture adjacent to the Gulf of Pagassai, was likely critical to its development. Established trade networks provided access to high value resources (eg. Melian obsidian) while also facilitating exports from Sesklo's craft workshops (Rutter and Gonzalez-Major 2011-2013). To what degree the occupants of Sesklo A and Sesklo B represented social asymmetry is not clear. Each of the excavators of Sesklo has reported partitioning of the settlement——variously interpreted as fortification walls, ditching, and or terracing. Alušík points out, MN Sesklo does have some remnants of a wall-like structure at the top of the Kastraki Hill ([2014] 2017, 188-189). As with similar structures these may have been intended primarily as terracing. In any case, it would likely have served a defensive function while also reducing erosion. The baffle-gate on the western side of the acropolis was more than likely a defensive structure. Whatever their function(s), retaining walls, ditches, and fortifications would have partitioned one area of Sesklo from another. Given that all such

evidence is associated with the acropolis rather than the lower town, it is hard to imagine that the community would have been unaware of some degree of social differentiation (ibid.). What is not debated is that a majority of the fine, painted pottery was recovered from Sesklo A——evidence that supports suggested differences (Andreou et al., 2001, 262-264). The strikingly styled red-on-white painted pottery shown below is a hallmark of the Sesklo Culture. Rutter suggests the geographical sphere of influence of Sesklo wares——"from Servia in western Macedonia south to Lianokladhi in Phthiotis" as comparable to that of southern Urfirnis wares (2017).



Red-on-White Scraped Bowl
MN (late) - Lianokladi, Phthiotis
National Archaeological Museum



SESKLO WARES

Red-on-White Painted Cup
MN (early) - Tzani Magoula, Thessaly
Sesklo



Red-on-White Painted Bowl
MN (late) - Tsangli, Thessaly
Sesklo

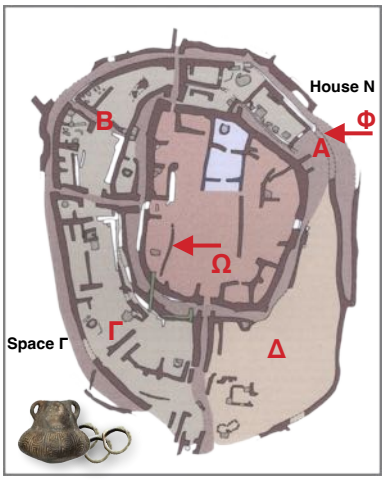
Perhaps the most celebrated neolithic pottery is LN II Classic Dimini ware——a local variety of the widespread matt-painted pottery. The unique motifs demonstrate, in the words of Theocharis, "[a] preference for the spiral and the meander" (1973, 102). Because they are painted on both the outside and inside even the smaller sherds are readily distinguished from other matt-painted pottery. At Dimini these wares account for approximately a third of the total pottery and nearly all (ca. 96%) of the painted pottery (Bonga 2013, 52-54). Along with brown-on-buff, Classic Dimini pottery occurs in black-on-red, polychrome, and incised wares.



LN II - Classic Dimini Ware
National Archaeological Museum

The LN period in Thessaly has traditionally been represented by Dimini——a large tell site on the Gulf of Pagassai. Dimini's architectural remains (both Neolithic and Mycenaean) have been a perennial focus of Aegean archaeology. Wace, with reference to the "Fortifications" (in general, following Tsountas) described the acropolis as follows: "The central and highest part of the town is an oval courtyard, in which stands a Megaron and a few small buildings. The whole courtyard is surrounded by a series of walls in some places fifteen metres and in others barely one metre apart" (1908, 79). Following his own excavations at Dimini, G. Hourmouziadis offered a contrary view (1979). He interpreted the walls——not as defensive structures, but rather as partitions that, together with the intersecting alleys or streets, created a series of four domestic areas (A, B, Γ, Δ on plan). While aspects of Hourmouziadis' interpretation have been questioned, the data from his detailed spacial analysis and record of small finds have been fruitful. For example, Halstead's subsequent analysis of that data suggested to him elements of both egalitarian and hierarchical social organization. On the one hand he saw the LN central megaron, "as evidence for the institutionalized élite during the Late Neolithic," while his detailed analysis of animal bone numbers and distribution across the domestic areas suggested the villagers, ". . . to a significant degree, collaborated in the production and storage of food and shared in its consumption" (1992, 31, 53-54).

Both pottery production and jewelry making were important industries at Dimini. A kiln and cache of incised wares suggests a pottery workshop (Γ) while collections of shells, most often *Spondylus,* were found in two locations (Φ and Ω). The latter are most likely workshops where shells were modified to make a variety of personal adornments (Tsuneki 1989, 6 Fig. 9). *Spondylus* jewelry, especially bracelets and rings (annulets) crafted from shells native to Aegean waters, is widely attested from the Balkans to central Europe and Dimini is thought to be a nexus of manufacture and distribution (ibid., 15-16 ; Andreou et al. 2001, 266). Interestingly, a comparable *Spondylus* industry at Makriyalos reflects a second link with Dimini (Pappa and Veropoulidou 2011, 105-117). See 94. Along with craft specialization, changes in mortuary practices may also indicate increasing cultural complexity. In this vein, the unique early LN extramural cemetery at Platia Magoula Zarkou, northwest of Dimini, held over 60 cremation vessels (some with skeletal remains). A number of internments were associated with colored sherds, clay pots, or flint tools—mortuary practices suggesting a degree of social differentiation (Andreou et al. 2001, 278-279).



Dimini - after Hourmouziadis Papathanasopoulos 1996, 56 Fig. 11

Dimini has played a part in recent research on the relationships between culture and the environment. Using the tools of the geoarchaeology, including satellite imagery, current and historical maps, and coring, Eberhard Zangger investigated the historical topography of the Dimini region (1991). Situated on a knoll 18 m above sea level, Dimini is presently 3 km from the sea. During the early Holocene, however, glacial melt caused sea levels to rise that in turn flooded coastal areas of the Pagasean Gulf. Based in part on his analysis of marine deposits inland from the present shoreline, Zangger concluded the Neolithic settlement of Dimini was a coastal site. As such it would have occupied a potentially choice location for an entrepôt——likely facilitating trade in its own *Spondylus* industry but also profiting from the movement of goods to and from the numerous inland sites. Zangger also determined that during the 4th millennium BCE erosional forces moved large amounts of woody material and soil seaward. Despite the continued slow rise in sea levels (much reduced from earlier rates), as the Neolithic period was ending increasing deposits of sediment in the bay resulted in a relatively rapid regression of the shoreline. A gradually receding shoreline would ultimately have deprived Dimini of the advantages it had previously enjoyed (ibid., 5-6).

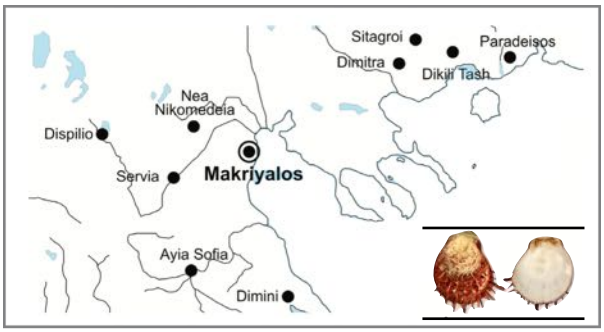

LN II - Black-on-Red Wavy-rimmed Basin
Natl. Arch. Mus. Athens


LN II - Black-on-Red Fruitstand
Natl. Arch. Mus. Athens


LN I - Arapi Polychrome Pattern-painted Spiraliform
Natl. Arch. Mus. Athens


LN II - Incised Incised Bowl
Dimini

It is tempting to categorize artifacts as either functional or decorative. Yet any such enterprise soon reveals these are not exclusive categories. Humankind's inclination to embellish and decorate may be as essential to human nature as is tool making. The widespread distribution of ornamental annulets and beads, crafted from *Spondylus gaederopus* shells, are testimony to the high value placed on decorative items by prehistoric peoples. The map below indicates a number of northern sites in Greece with *Spondylus* finds, including Dimini, Makriyalos, and Dispilio, that have been proposed as production centers (Pappa and Veropoulidou 2011; Tsuneki 1989; Ifantidis 2011). Additional sites are known from central and southern Greece. Significantly, finds of jewelry made from *S. gaederopus,* a mollusk endemic to the Mediterranean, are attested across the European continent. Séfériadès' data indicates these artifacts are found at two dozen sites from the Balkans to northern Europe and east to the Black Sea (2009,181-187). *Spondylus* annulets and beads are mainly dated to the Neolithic with the LN period providing evidence for Aegean production centers. Dispilio is known for its diverse ornament assemblage——the majority being stone artifacts largely recovered from the latest occupational phase (LN - FN). *Spondylus* finds at Dispilio, however, are a feature of its earliest phase (MN - FN). Of note is the site's inland location——120 km from the sea (Ifantidis 2011, 125-126). Both Dimini and Makriyalos are coastal sites with excellent access to *Spondylus.* Despite this proximity researchers suggest harvesting of choice specimens, typically attached to rocks and often in deep water, was both arduous and potentially dangerous (Pappa 2011, 110). At Dimini, Hourmouziadis's precise contextual data enabled Tsuneki to designate two areas on the acropolis as *Spondylus* production sites. Finished ornaments, partially worked shells, and production tools for annulets came from House N while Space Γ held similar finds for buttons and beads (1989, 13). According to Pappa, Makriyalos shell finds constitute, "the largest assemblage recovered thus far from a settlement in either the Greek or European Neolithic period" (2011, 107). At Makriyalos fifty-five species of marine shells are recorded, mostly (97.8%) the edible clam *Cerastoderma glaucum* (ibid., 108). However, over 400 *Spondylus* artifacts were also recovered. MK II (LN II) *Spondylus* ornaments, mainly annulets, were more numerous than MK I (LN I) finds and their production appeared more standardized. Together with numerous preforms and unfinished objects, the ornamented shells from the MK II site were mainly from habitation areas (ibid., 115-118). Although ritualistic and shamanistic attributes have been attributed to *Spondylus* artifacts, a straightforward interpretation addresses their value as external statements of their wearers' individuality——a trait that we can both identify with and appreciate. The widespread distribution of such artifacts quantifies that value and also provides evidence for significant extra-regional connections.



***Spondylus gaederopus* artifacts**
Northern Greece Selected Sites
Pappa & Veropoulidou 2011, 106 Fig. 1



***S. gaederopus* - Annulet & Beads**
Dispilio, Macedonia
Ifantidis 2011, 127 Fig. 4; 128 Fig. 7

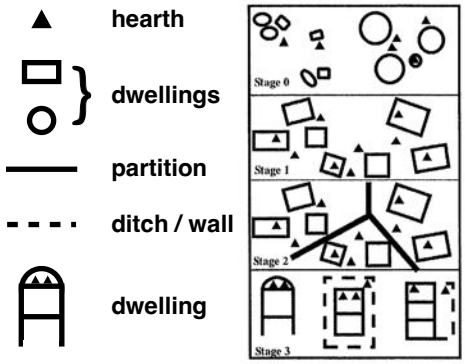


***S. gaederopus* - Annulet**
Dimini Production Sequence
Tsuneki 1989, 9 Fig. 6



Three early FN tell settlements in eastern Thessaly are Rachmani, excavated early in the 20th century, Pefkakia, initially excavated in the 1950s and subsequently between 1967 - 1977, and Palioskala, with excavations spanning more than a century (Wace and Thompson 1912; D. R. Theocharis 1973; H. J. Weisshaar 1989; G. Toufexis 2016). The Pefkakia Magoula, the southern-most site, overlooks the Bay of Volos, Palioskala is a lakeside site on the eastern Thessalian Plain while Rachmani, 35 km to the north, is a river valley settlement. Toufexis suggests that three-quarters of the earlier settlements on the eastern Thessalian Plain were unoccupied in the FN——the remainder being larger and more widely dispersed than those of the LN. A fairly common feature of FN settlements are encircling structures——both walls and ditches, albeit their function(s) is seldom clear. At Palioskala multiple concentric walls (the outer wall measuring 2.30 m in height) surround a central building (Toufexis 2016, 7-8). Walls are also mentioned in a Rachmani account by Lolling, and at Pefkakia by Milojčić (Wace and Thompson 2012, 4; Andreou et al. 2001, 268). Although a defensive purpose is often suggested, the evidence is consistent with other functions as well. Terracing, especially at tell sites, might reasonably be expected in order to control erosion. In the case of Sesklo, a social connotation also seems probable——that is, to define territorial boundaries or to partition one group from another. Rectangular structures are typical of the period, some in the apsidal style such as Houses P and Q at Rachmani. Andreou et al. describe four FN (final phase) rectangular houses at Pefkakia arranged in parallel and separated by narrow alleys (2001, 268). Storage vessels and internal hearths are attested from dwellings at each of the sites.

As discussed above Neolithic dwellings varied in overall design and arrangement. Rectangular, free standing structures were associated with tells while circular to oval, semi-subterranean structures were typically associated with horizontally expansive sites. Two general approaches to construction were wattle-and-daub and mud-brick, although materials varied based on function and/or availability. Paul Halstead has focused, in part, on understanding how the physical aspects and arrangements of Neolithic dwellings reflect social attitudes and norms (2006, 6-7). One aspect of his analysis evaluates the interplay between the rights and obligations of members of the settlement vis-à-vis individual households and the wider community. While seasonally variable labor requirements and an unpredictable harvest mediated in favor of shared efforts and thus communal allegiance, the self-serving interests of individual households required, at least in some measure, active separation from obligations to one's community. Halstead suggests this tension is reflected in part in the changing nature of individual dwellings and their relationship to the overall village. His figure (above) schematizes this concept with 4 stages (0 - 3). Individual dwellings, over time, become more self-sufficient (eg. hearths for cooking are less often located in common public spaces and more frequently enclosed within dwellings) while an increasing number of boundaries, real and implied, are erected (2006, 6-8). Although this dynamic varied from village to village as well as regionally, Halstead concludes, "domestic and communal control of production and consumption were gradually resolved in favor of the former over a period of three or four millennia" (2006, 7).



Household Transformations Over Time after Halstead 2006, Figure 3

Significant changes in the ceramic assemblages are attested throughout the FN period. While southern Urfirnis and northern Sesklo and Classic Dimini wares highlighted the technical and aesthetic accomplishments of the late MN and LN periods, a general decline in ceramic quality followed during the FN. At the same time an overall increase in production of coarse wares suggests their functional significance. The red-slipped bowl and crusted ware fragment below are representative of early FN pottery while the rope-like plastic decoration on the storage jar sherd is more typical of the later FN.



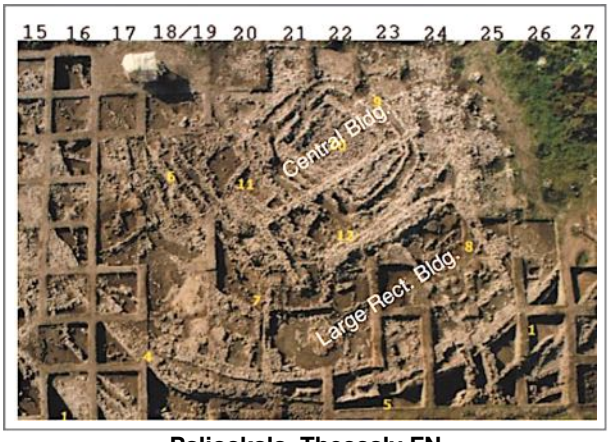
Palioskala, Thessaly FN
Red-slipped Bowl & Storage Jar with Plastic Decoration
Toufexis 2016, Figs. 13 & 14



Rachmani, Thessaly FN
Crusted Ware
a. Wace and Thompson 1912, Plate IV

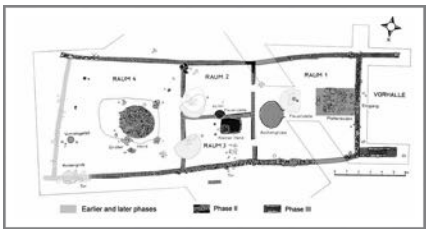
Although 14C dating for the Palioskala settlement falls within the early FN period (4460 - 3803 BCE) a portion of the pottery suggests to Toufexis that the site was also occupied briefly during LN II as well as during the FN - EBA transition (2016, 24-25). In any case it is clear that Palioskala is a multiphase site. Recent landscaping and the fact that excavations are a work in progress makes it difficult, in Toufexi's words, "to distinguish clearly chronological horizons and building phases" (ibid., 5). What is apparent is the notable size of select structures, one rectangular structure measuring 10.5 x 7.9 m (83 m^2) as well as a "central building" 9.0 x 8.25 m (74 m^2) with interior divisions, enclosed within a formidable outer circuit wall preserved to a height of 2.3 m The excavators also note at least two different building phases outside the circuit wall to the southeast" (ibid., 7). External fortifications are said to become more prevalent during the FN although a variety of walls and ditching are attested throughout the Neolithic. As is the case at Palioskala, such encircling barriers often create an inner and outer division of the settlement itself.

As Halstead suggests, the frequency and types of physical boundaries both within and between Neolithic dwellings seem to increase over time——a development that may in turn be related to a growing expression of autonomy of individual households or select groups over and against the greater community. Size seems to matter as well, as at least some differential in the overall dimensions of individual structures is apparent, often notably so, within even the earliest Neolithic settlement. At Mavropigi the Central Pit-House is said to "dominate the central part of the site," increasing in size with each subsequent settlement phase. During the final habitation phase, when rectangular structures are a hallmark of the settlement, House 7 is significantly larger than similar contemporary structures (Karamitrou-Mentessidi and Efstratiou 2016, 50-53). The transformations at Paliambela attest to the EN pit dwellings being replaced by somewhat larger MN rectangular structures surrounded by ditching——and ultimately by the LN II settlement with perimeter walls (Kotsakis 2014, 59).



Palioskala, Thessaly FN
Structural Remains: Circuit Walls & Buildings
Toufexis 2016, Fig. 3

The best known Neolithic walled settlements are late MN Sesklo and LN Dimini. Although archaeological evidence for “walls” is not clear cut. A central megaron-type structure is also suggested as a characteristic feature of each site. This enduring architectural design comprises (at a minimum) a rectangular room fronted on one of the shorter ends by an open porch whose roof is supported by dual columns set inside the exterior walls (*in antis*). Variations on this design, often multi-room structures, have been noted at a number of Neolithic sites. For example, Eva Alram-Stern’s description of recent excavations of Visviki Magoula includes her reanalysis of a megaron-like structure. She suggests two phases——the second a building greater than 8m in width and of a kind with “similar large building complexes” at Pefkakia Magoula and Dikili Tash while also, “recalling the well-known megaron buildings from Sesklo and possibly also Dimini” (2018, 6468). Although the pottery data lacks stratigraphy Alram-Stern used comparative typology and other material finds to conclude that Visviki dates from the late EN to LN II (Arapi and Dimini) and perhaps to the early FN Rachmani phase (ibid., 20845). Relatively large scale Neolithic structures are not uncommon and their presence would seem in concert with Perlès’ notion of differentiation and social complexity in Neolithic society (2001, 300).



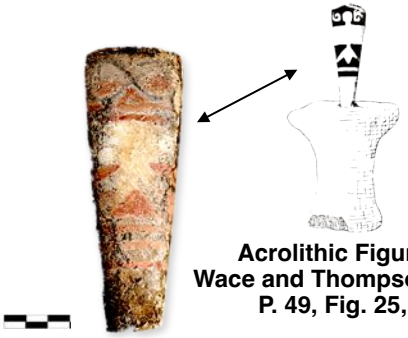
Visviki Magoula Plan
after Alram-Stern & Frauenglas
Alram-Stern 2018, Fig. 20.1

Halstead also looks to the Neolithic ceramic evidence for possible insights into the changing relationships between the community and the individual household. Noting two trends in the increasingly abundant Neolithic pottery Halstead states “an expanding range of functions, with more use for cooking and storage in the later Neolithic (e.g. Cullen and Keller 1990; Tomkins 2007, 184; Vitelli 1989), but also a dramatic growth from EN to MN and LN in the range of tableware forms (e.g. Papathanassopoullos 1996, 110–11, fig 36)” (2011, 137). What exactly the evidence means, however, is less than certain. For example, large jars might provide the necessary storage for surplus grain to be shared throughout the community in years of failed harvests while the numerous eating and drinking vessels, such as those attested at Makriyalos, may be associated with community-wide commensal practices. However, as Halstead points out, “Tableware and commensality signaled inclusion and exclusion at several different social scales” (ibid.,138). Each (or both) of these contrasting organizing principals (egalitarian and hierarchical) is possible, but assigning one or the other exclusively to any Neolithic period or region is often frustrated by the ambiguous evidence. In sum Halstead states, “The tension between domestic and collective means that neither label can be applied without qualification to any period of the Neolithic and poses the daunting task of defining archaeologically the extent of domestic and collective authority” (ibid., 140).



Storage Jar
Palioskala, Thessaly
Toufexis 2018, Figs. 11

While Neolithic clay figurines are relatively uncommon on the southern mainland they have been found in large numbers at sites in Thessaly (Phelps 1987, 234; Talalay 2018, 59). Most northern examples are from the EN but among the FN examples are acrolithic (having a stone head and clay body) figurines from both Rachmani and Palioskala (Wace and Thompson 1912, 31-49; Toufexis 2016, 27). Examples from House Q at Rachmani include both the head and body of four figurines. Given their find spots Demoule and Perlès suggest these figurines may be associated with a house cult (1993, 404).



Acrolithic Figurine
Wace and Thompson 1912
P. 49, Fig. 25, b

Acrolithic Figurine Head
Rachmani
Arch. Mus. of Volos

Despite known sources for copper in Greece, the earliest mining of copper ores was in Serbia ca. 5500 BCE. Additional advances is copper mining and metallurgy in Bulgaria followed and led to the Chalcolithic (Tsirtsoni 2016b). In any case, despite the numerous copper items attested from Makriyalos, metallic artifacts are scarce in Greece during the Neolithic. Renfrew mentions a group of small copper objects as well a crucible from Sitagroi Level III (ca. 4000 BCE) as "amongst the earliest signs of metallurgy in the Aegean" (1986, 482). Copper axes and daggers are attested from several FN Greek sites. The axe illustrated at left, a relatively recent find from Palioskala, is atypical as compared with the two FN axes from Sesklo below (Toufexis 2018, 27 and Note 52). Both Sesklo axes are 99% pure copper——cast in molds and hammer-finished. Similar lead isotope signatures of one of the Sesklo axes and Lavrion (Attica) ores suggest at least some FN mining activity in Attica (Alram-Stern 2014, 317).



Copper Axe
Palioskala, Thessaly
Toufexis 2018, Fig 22



Copper Axes
LN Sesklo
Tsountas 1908, 353-353 Figs 292, 293

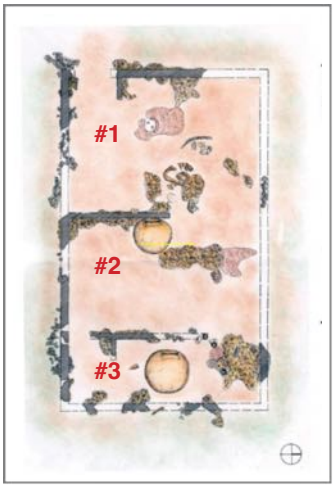
The Sesklo axes, like many of the the earliest metal tools and weapons, were fashioned from pure copper. As copper is a native metal——occurring locally in its pure form, it is probable that at least some early tools were made by simply hammering native copper into the desired shape. More typically, copper ores (eg. chalcocite) are smelted to free the metal from its ore and then hammered or cast in a mold and finished. Because copper is relatively soft it is typically combined with tin (10 - 12%) to produce bronze——an alloy that was cast into an extraordinary variety of tools, weapons, and decorative items. In Greece the smelting and use of tin bronze is not prevalent until the EH II period. An alternative method for strengthening copper is to alloy the metal with arsenic——a fairly common process during the later Neolithic. The fact that some ores naturally contain both metals means that arsenic bronze weapons and tools may be the products of a deliberate process or simply happenstance.



Bronze Daggars
Mikrothives, Thessaly
Adrymi-Sismani 2007, Fig. 25



Demoule and Perlès characterized the settlement pattern for Thessaly throughout the FN (their Phase 5) as one of a general decline. The pottery is less refined than earlier wares and "[is] often described as crude and lacking diagnostic characters" (1993, 401). An increasing proportion of "crude wares," "quasi-disappearance of painted wares," along with "rapidly produced decorations" are characteristic (ibid.). The abundant pottery finds from Mikrothives in eastern Thessaly fit this picture. The 1998 excavation of Mikrothives was prompted by construction of the National Highway (E 75). The excavator's report describes a relatively small site (about three-quarters of an acre) comprising 5 wattle-and-daub rectangular dwellings. Enough remained of House D to make a reasonable conjecture about its original layout. Vassiliki Adrymi-Sismani describes the 3-room structure as likely used for habitation but also, given the finds within room #1(labels added), an area of "intensive domestic activity" (2016, chapter 21). In fact spindle whorls and stone and/or bone tools were found in each of the sections of House D and represent only a small fraction of a total of 3200 stone, bone, and clay tools recovered from the site. An additional category of evidence (widely spread across the site) are,"large assemblages of food remains . . . principally of butchered sheep and goat bones" (ibid., 11). House D is something of a microcosm of Mikrothives and unsurprisingly Adrymi-Sismani concludes the original site was likely a farming community relying on animal husbandry as a source of food but also of wool used in the production of clothing. Overall, Mikrothives presents a picture of rural subsistence with few if any high value objects that might indicate the occupants enjoyed special status, position, or accumulated wealth. Several aspects of their agricultural efforts do, however, indicate advances over early farming methods. Based on previous research on the bone remains Halstead and Isaakidou concluded that at least some cattle at Mikrothives may have been used as draft animals (2011). Additionally, If Adrymi-Sismani is correct in her suggestion that woolen cloth/clothing (items that would have left little or no direct trace in the archaeological record) was being produced at Mikrothives——and numerous spindle whorls and weights suggest just this, the community may well have been producing articles with significant commercial value and for which there was likely a ready demand. This concurs with two notable characteristics of the Neolithic, cited by Demoule and Perlès——"Extensive trade in utilitarian goods and evidence for early craft specialization" (1993, 405). Although they specifically state that Thessaly may not have been involved in the growth of this economy during the late FN, evidence at Mikrothives seems to indicate otherwise (1993, 403).



House D - Mikrothives
Adrymi-Sismani 2007, 5 Fig. 2


Bronze Dagger
leaf-shaped, double-edged
Adrymi-Sismani 2007, Fig. 25

While the number of Bronze objects recovered from Mikrothives is small——three daggers and eight objects of unknown types, the properties of the metal indicate alloying with tin and perhaps arsenic. Although the exact origins of the daggers is unknown its presence would, "usually [be] regarded as the result of trading activity and exchange" and is indicative of the, "self-sufficient Neolithic farming communities" that are precursors for the relatively more sophisticated metallurgy of the EBA (Adrymi-Sismani 2007, 35-37).

Another line of evidence indicating Mikrothives was actively engaged in the expanding trade of the FN are the ceramic finds. Despite being abandoned after a single phase of occupation, the excavator describes, “enormous quantities of pottery (2200 bags weighing *ca* 3 kg each), [and] 70 complete vessels” (2016, chapter 21). Following the widespread mainland trend, FN ceramics are largely course, handmade pithoid jars and bowls——many unpainted. Various shapes and styles continue earlier Neolithic traditions (eg. pithoid vessels with lug handles) while others (pithoi with anthropomorphic relief and “Bratislava” bowls) are new to the regional pottery assemblage.



x 2/3

Wide-mouthed Pithoid with Lugs
Adrymi-Sismani 2007, Fig. 6c

Anthropomorphic Relief - Pithoid Vessels
Adrymi-Sismani 2007, Fig. 9









Pithoid Vessels with Vertical Tubular Lugs
Adrymi-Sismani 2007, Fig. 8



S-profile Bowl with Hollowed Base
Adrymi-Sismani 2007, Fig. 12



Handleless Conical Cup
Adrymi-Sismani 2007, Fig. 19

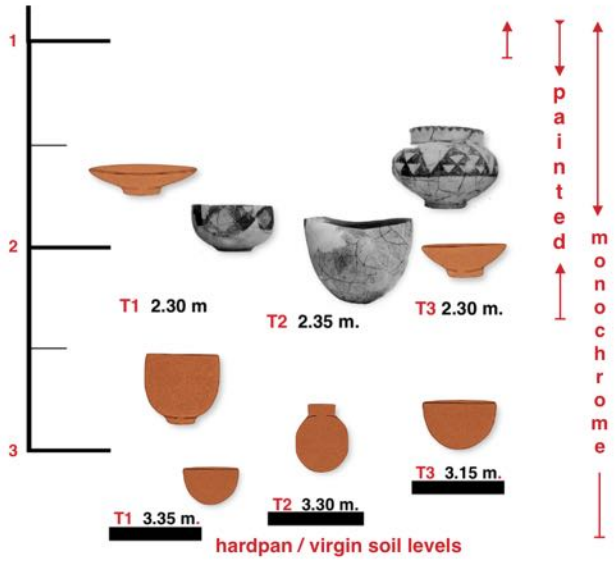


Slipped & Burnished “Bratislava” Bowl
Incised & Pointellé Decoration
Adrymi-Sismani 2007, Fig. 14

This diverse group of ceramics suggests contacts, either direct or indirect, ranging from the Balkans and northern Greece to the Troad and the eastern Aegean islands as well as with the the southern mainland and the Cyclades (ibid., 50). Adrymi-Sismani argues that Mikrothives, together with Petromagoula and Voulokalyva, comprise a small group of settlements that occupy a unique chronological phase between the end of the FN and the beginning of the EBA. Such FN to EBA sites are the exceptions to the general Neolithic pattern——a transition more commonly characterized by its discontinuities (ibid., 51).

The results of Saul Weinberg's Elateia excavations ware characterized by Phelps as, "the one stratified site in Central Greece with a more or less complete Early to Late Neolithic sequence (Weinberg 1962, 158-209; Phelps [1975] 2004, 15). Of particular interest are the EN and MN levels dated to ca. 6300 - 5900 cal BC (Perlès 2001, 100-106). Each of Weinberg's three trenches proved fruitful. Excavation of Trench 3 revealed an EN domestic dwelling with four successive floor layers while a MN structure uncovered in Trench 1, despite having been destroyed by fire, provided foundation and wall details, post holes, and the impressions of reeds and poles in baked clay (ibid., 160-161; 166-167).

Among small finds Weinberg recorded lithic tools and arrowheads (a number made from obsidian), bone and stone tools, 'clay sling bullets,' unbaked clay spools, and several figurine fragments (1962, Plates 69, 70). Figurines are typically scarce outside of Thessaly during the EN and together with an unusual unbaked clay pillar from the Bothros (Trench 3) suggest possible ritual activity. Obsidian at Elateia (and other southern sites) during the EN is relatively commonplace (in contrast with the distribution of figurines) and was likely due to its proximity to Melos. The function of sling bullets (a group of 28 were found near the hearth of the EN house) is debated but they are known to have been used as projectiles during the historic period (ibid., 200-206).

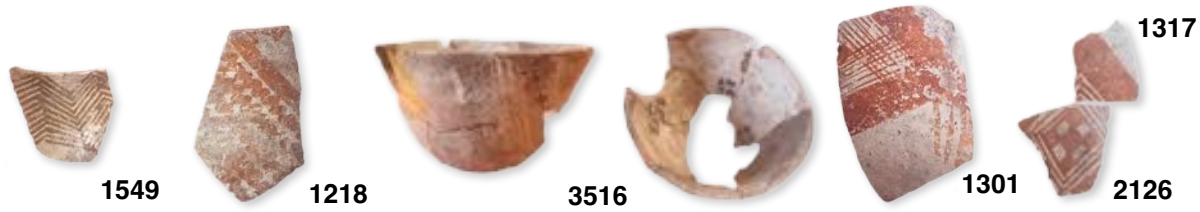


Elateia Trenches (in part)
Schematic after Weinberg 1962

Weinberg describes three groups of Neolithic pottery from Elateia: unpainted wares, red-on-white and other painted pottery, and matt-painted wares. The EN - MN periods are defined by the presence of monochrome and painted wares. "Hardpan" or "virgin soil" (as measured from the surface) in Weinberg's three trenches is recorded as T1 = 3.35 m, T2 = 3.30 m, and T3 = 3.15 m respectively with the first painted pottery noted at T1 = 2.30 m, T2 = 2.35 m, and T3 = 2.30 m (1962, 167). These numbers reflect a remarkable consistency among the three trenches and, as Weinberg states, make Elateia one of the "best stratified deposits of this first ceramic phase" (ibid., 172). The oldest pottery at Elateia is, like much of the earliest pottery across the mainland——unpainted hemispherical bowls or collared (hole-mouthed) jars often variegated, occasionally with pierced lugs, and/or decorated with plastic strips or ovals affixed near the rims (ibid., 171-172). The initial sherds of white-slipped wares, although decidedly uncommon, were also found at first ceramic phase levels (ibid., 168).


Early Neolithic Pottery from Corinth, Chaeronea, and Sesklo
Weinberg 1947, Plate XXXI f, g, h

Along with an increasing diversity of shapes and traits Weinberg's second phase includes fragments of the earliest black burnished wares as well as the first painted vessels at Elateia. The latter are decorated with linear motifs in red-brown paint applied directly to the clay surface——much like the red-on-buff wares from EN Peloponnesian sites (ibid., 176-177). These earliest painted pots occur only briefly and are soon replaced by increasing numbers of sherds from white-slipped vessels decorated with red paint. The typical red-on-white painted pottery (Chaeronea wares) at Elateia is one expression of the regional differentiation that develops during the late EN and MN periods when a variety of new shapes and decorative motifs are seen across the mainland. Southern Urfirnis-type wares are rare at Elateia and the typical geometric patterns of the northern Sesklo-type pottery contrasts sharply with Chaeronea wares motifs. Various central mainland sites, however, have ceramic assemblages much like Elateia. For example, in her description of pottery at Boeotia's Sarakenos Cave Mastrogiannopoulou states, "Heralded by White Slip ware Chaeronea ware appears in the late Early Neolithic (EN) to early Middle Neolithic (MN) with the familiar rounded shape" (2017, 357). Weinberg observed that the earliest evidence for red-on-white wares in Trench 2 (the most productive of the trenches for this pottery) occurs at the 2.30 m level, with quantities attested at 2.10 m and above (1962, 176). Changes in both the quality and color of the slip as well as an increasing complexity of decorative designs take place over time. Early slips are often streaky gray with the paint gradually thickening until the later, mature pottery exhibits a thick, chalk white slip (ibid., 177-178).



Red-on-White Sherds & White-slipped Hemispherical Bowl
Sarakenos Cave
Mastrogiannopoulou 2017, Plates VIII, XIII

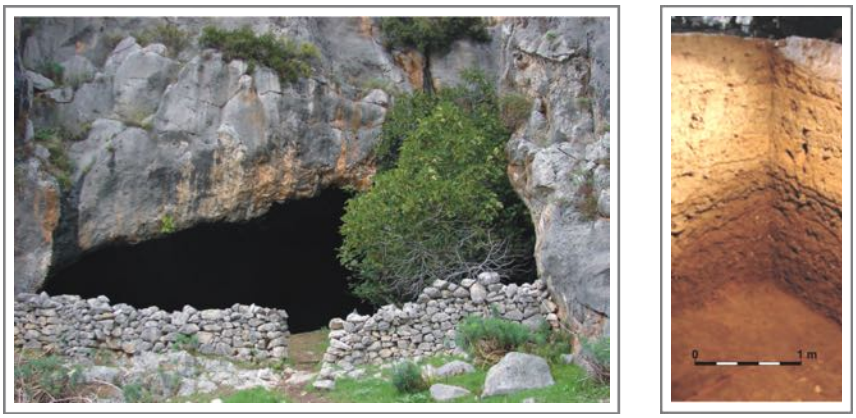
Among early red-on-white decorative patterns Weinberg included thin-lined chevrons and zigzags, large, solid or hatched triangles, and small lozenges or triangles around the neck; later vessels exhibit flame patterns, wide bands, and wavy lines (ibid., 178-179).



Red-on-White Painted Wares
Chaeronea, Boetia
Weinberg 1962, Plate 54 f & g (early), h (late)

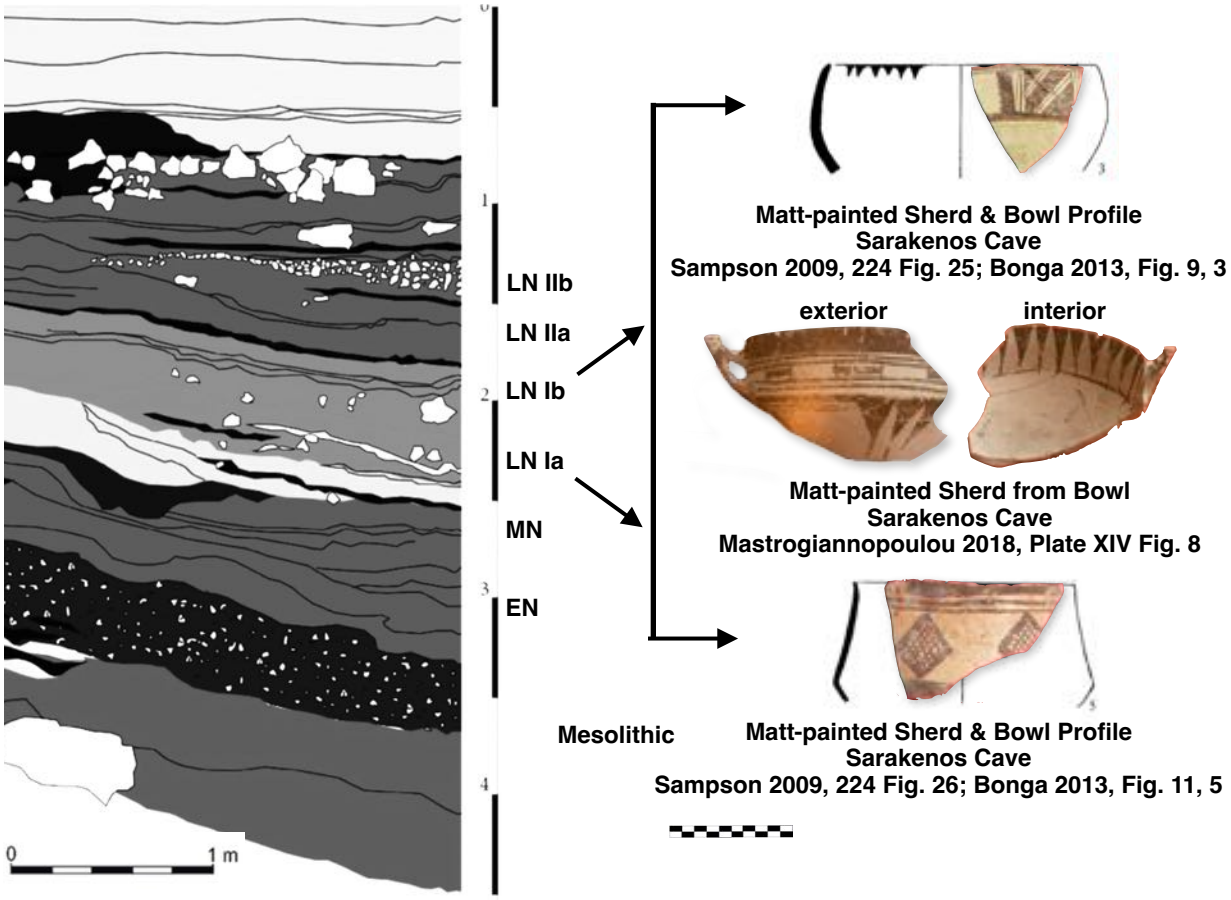
Weinberg also included black burnished wares in his second ceramic phase. Although the red-on-white Chaeronea wares are not found above second ceramic phase levels the black wares continue into his third or final ceramic phase at Elateia——the phase he defined by matt-painted pottery with the initial sherds at 1.20 m and then commonly at .80 m and above. This third phase marks the beginning of the Late Neolithic period (ibid., 196-197). The MN - LN ceramic transitions at Elateia exemplifies a more general trend across the mainland. In contrast with the MN regionality (from north to south: Sesklo, Chaeronea, and Urfirnis wares), LN I black burnished wares and dark-on-light matt-painted pottery both become widespread across the mainland.

Another marker for the LN period is the relocation of populations. In Thessaly, along with an increase in the total number of sites (ca 20%), there are large scale abandonments of earlier sites resulting in half of all LN sites being new settlements (Demoule and Perlès 1993, 388). One aspect of this relocation was an increasing use of caves, often on a seasonal basis. Excavations of a number of caves in central Greece have been particularly productive——most especially the Sarakenos Cave in Boeotia.



Sarakenos Cave Entrance and Trench D Exposed Stratigraphy
Sampson et al 2009, Figs. 4, 22

The entrance to the Sarakenos Cave overlooks the Kopais basin——in prehistoric times a large lake surrounded by wetlands. Along with the diverse pottery finds at Sarakenos, the cave features, “an uninterrupted stratigraphical sequence from the Middle Paleolithic to the Middle Bronze Age” (Mastrogiannopoulou 2017, 353). The older levels have yielded important evidence, not solely with regards to changes in the material culture, but also of shifts in environmental conditions during prehistoric times. Palynological (pollen) studies from cave sediments are consistent with a body of evidence suggesting that following the Pleistocene – Holocene transition (ca. 11kya) the region experienced widespread forestation (*Quercus*, *Juniperus*, *Pistacia* spp.). Conversely, there are also indications that beginning in the mid-5th millennium BCE the woodlands, “show the clear impact of humans on the Kopais basin environment” (Sampson 2009, 199-200). Based on lithic and bone finds Sampson highlighted the contrasting life styles of the cave’s occupants during the Mesolithic and Neolithic periods. The essential fact of Mesolithic life was one of isolation; subsistence necessitated a reliance on native food sources and local limestone tools. Following an occupational hiatus (ca. 120-140 radiocarbon years), the EN reoccupation of the Sarakenos Cave attests to sheep and goat pastoralism and macroblade technology——both resources originating outside the immediate region (ibid., 228-229). Sampson reports limited occupation of the Sarakenos Cave during the EN and MN with relatively small numbers of sherds——mainly red-on-white painted pottery (ibid., 218). In contrast, LN I was represented by “an important abundance of decorated, matt-painted ware” (ibid., 220). LN I wares at Sarakenos also included black-burnished and urfirnis pottery and although earlier researchers (eg. Weinberg) suggested these occurred earlier than matt-painted, Bonga points out that subsequent excavations established that all three wares “coexist” for a time early in the LN (2013, 44). The LN I matt-painted sherds from Sarakenos illustrated below exhibit typical shapes as well as the “linear and geometric” motifs enclosed in panels (Bonga 2013, 49).



Partial Stratigraphic Section - Trench B
Sarakenos Cave
Sampson 2009, 216 Fig. 16 [7]

Matt-painted Sherd & Bowl Profile
Sarakenos Cave
Sampson 2009, 224 Fig. 25; Bonga 2013, Fig. 9, 3

Matt-painted Sherd from Bowl
Sarakenos Cave
Mastrogiannopoulou 2018, Plate XIV Fig. 8

Matt-painted Sherd & Bowl Profile
Sarakenos Cave
Sampson 2009, 224 Fig. 26; Bonga 2013, Fig. 11, 5

Ceramic analysis and the resulting typologies tend to emphasize decorated pottery for the simple reason that the various motifs often exhibit elements that are amenable to differentiation and classification. However, this may leave the mistaken impression that such wares were relatively common. In fact, just the opposite is true. Sampson's excavation of the Skoteini Cave near Tharrounia in central Euboea also proved to be a fruitful site for Neolithic pottery. Sampson mentions one area with 700-800 sherds per cubic meter of soil——an abundance that threatened to overwhelm available storage (1992, 70). Of some 44,825 sherds inventoried 63% were coarse wares, 34% were monochrome, and only 3% were painted wares (ibid., 74). Painted wares are clearly a minor component of the total ceramic finds. Yet even a relatively few decorated sherds can establish the relative chronology for their find spot(s) and thus painted pottery has played an essential role in establishing Aegean chronologies. Perhaps inevitably, the intense focus on ceramic typologies, while clearly productive, was ultimately criticized by some as too narrowly focused. Ultimately this and other concerns led to a sea change in archaeological methods and the adoption of anthropological concepts. During the final decades of the 20th century, a growing number of archaeologists suggested that material finds and their contextual data could be analyzed in ways to define normative social behaviors for a given period. For example, assemblages of table and drinking wares deposited in a concentrated area might indicate group commensal activities. Not surprisingly, this often engendered contrasting interpretations by researchers evaluating the same evidence from differing perspectives.

7. NB, Chronological terms used (at times) by Sampson: LN Ia and LN Ib (for LN I & LN II); LN IIa and LN IIb for FN.

The occupational longevity of the Sarakenos cave as well as the variety and abundance of finds indicate the significance of this site. Although the cave's ceramics are a highlight, the numerous small finds are also of interest. A variety of specialized publications provide details of bone tools, flints and obsidian, faunal diversity (including both endemic and domesticated species), and a large assemblage of FN figurines. The figurines are not only numerous (739 listed in catalog), they are unique. Figurines in general are uncommon during the FN and although most Sarakenos examples are fragments, a number appear to have come from originals that were larger than most Neolithic figurines (Orphanidis and Sampson 2015, 11-14). As a group the Sarakenos figurines are notable for their simplified forms, however, some exhibit details not found elsewhere (eg. males modeled in a pose that emphasizes the genitals). Their context is also significant. A number of the fragments were found in clay-lined pits along with numerous animal bones——a clear indication of purposeful deposition. One such group also included an antler (ibid., 215-216; 227). The totality of the evidence prompted Sampson's suggestion that the figurines, "pose the question whether certain symbolic activities took place inside the cave, even ritual or sacral" (ibid., 229).



FN Anthropomorphic Heads
Human ORF 34; Animal 738
Orphanidis 2015

Antler & Figurine Fragments
LN Ia Trench D
Sampson 2009, 219 Fig. 20

FN Male & Female Figurines
ORF 143, 213
Orphanidis 2015

Often Isolated, difficult to access, and unfit for habitation, caves are regularly characterized as essentially different from open air settlements, even as "other worldly." At least some Bronze Age Minoan cave sanctuaries fit this model——and by association, cave artifact assemblages and the implied social practices of a cave's human occupants are often interpreted as atypical. Mastrogiannopoulou, with a focus on the painted pottery and other material finds from Sarakenos, constructs an alternative hypothesis. An absence of evidence——the general scarcity of dedicated ritual and burial sites in typical Neolithic settlements, has led some researchers to associate these social spheres with caves (2017, 353). Along with Sampson, Mastrogiannopoulou interprets depositions of figurines and pottery in clay-lined pits as ritual in nature. However, Mastrogiannopoulou argues, "The deposition of objects in the cave was an aftermath [of commensal practices] and not the primary purpose" (ibid., 365). A broader analysis of the context and finds from Sarakenos suggests long term traditions and social practices, not as differentiated from, but in concert with local settlements——"a focal point for local societies" (ibid, 353). While the physical characteristics (spacious and stable open areas) of the Sarakenos cave support the researchers' interpretation, the ceramic assemblages are typical of various mainland typologies and exhibit similar changes over time. There is also a close similarity between the proportional representation of various ceramic typologies recorded from the three major excavated trenches—— evidence that ritual activity, rather than being secluded or isolated, was spread across a number of readily accessible areas of the cave (ibid., 355-364). Although Sarakenos and its artifacts are in some senses unique, the material finds together with their contextual data support Mastrogiannopoulou suggested scenario of, "long periods of cultural uniformity and social stability, materialized by long-lived traditions" (ibid., 353).

Evidence for ritual practices does not seem tied to radical shifts in life style——for example a transition to Neolithic pastoralism, but rather is integrated into traditional, albeit changing, life styles over long periods of time (ibid., 367-368). Sarakenos is most certainly different than the domestic sites in the immediate area but, as Sampson and Mastrogiannopoulou argue elsewhere, “it positions the cave as an in-between area, where activity entered the domain of the extra- or non-domestic (i.e. wild), facilitating groups of people during hunting, collection of wild products, traveling, transhumance, social gatherings, refuge, to name only a few. (2018, 633/1589).



FN Cheese-pot
Ftelia, Mykonos
Sampson 2018, 6 Fig. 6



FN Kephala-type Scoop
Sesklo
Natl. Arch. Mus.



FN Pattern Burnished
Keos i, Kephala
Coleman 1977, Pl. 42



FN Rolled-rim Sherds & Bowl
Palioskala
Toufexis 2016, Fig. 15

Sarakenos’ ceramics mirror widespread FN changes in pottery as, “semi-fine or coarse jars become more common, whereas fine tableware is replaced by wider and cruder shapes." A number of the novel FN shapes are shown above and together with the application of “incised and crusted decoration,” are, “characteristic of the integration of pan-Aegean features into the mainland cultures” (ibid.). These “new” pottery shapes and styles are well represented in the latest Neolithic occupation phase at Sarakenos (trench A levels dated to 3757 – 3640 BCE) and are a testaments to a significant degree of continuity for a period often characterized by temporal gaps (ibid.).

Katerina Psimogiannou’s excavations at Proskynas in East Lokris reveal another side of FN mainland culture——one that may be more significant than the site might initially suggest (2008; 2012). The earliest phase at Proskynas consist solely of interments and pits cut into the limestone bedrock. Directly above the FN layers are the remains of EH II structures that, together with a scattering of MH and LH remains, attest to sporadic periods of occupation throughout the Bronze Age. The seven FN interments, along with a number of external pits, are spread across the top of a gently sloping hill. An additional group of 8 pits formed an irregular row along the southern border of the site. Each of five adult males was buried in a separate, shallow pit. The two additional interments held children——the cremated remains of one child placed in a burial pot, the other having been interred in a rectangular stone-lined tomb. Although no grave goods were placed directly in the tombs, numerous sherds were recovered surrounding the individual graves while each of the external pits contained broken pottery, shell and bone fragments, as well as flint and obsidian blades. Much of this material had been burned and a number of the external pits themselves had been lined with clay. Many of the pits, including those used for burials, had been capped with layers of stones.

In stark contrast with the necropolis at Varna (a Chalcolithic site on the Black Sea contemporary with Proskynas), where the extraordinary numbers of gold and finely worked metal objects speak to the status and authority of the interred, the significance of the commonplace material finds at Proskynas is in the choices and actions of those who created the burial ground——as well as with the cultural and material parallels with other Aegean FN sites. As Psimogiannou points out “The whole burial site had been

sealed with small row stones and every EH building was founded above a FN pit grave" (2012, 189). It is clear the celebrants took care with the details of each interment while also making efforts to memorialize the burial ground as a separate and unique place in its own right. Psimogiannou observation of the physical proximity of the FN grave sites and the EH II structures (eg. Burial IX and House D) seems more than coincidental. This suggested the possibility that, "the people of the EBA II claimed and used," some of these FN mortuary sites, "as a 'foundation' for another domain: a domestic one" (2012, 189; [2015] 2017, 210). However, given the immense time span (from ca. 4300 to 2650 BCE) between the two periods, this is conjectural at best. As Psimogiannou explains——at present the archaeological record lacks, "The intermediate stages of this 'transformation' (from the FN to the EBA II)" ([2015] 2017, 211). What is clear is that this aspect of Proskynas is not unique——in fact, many Bronze Age settlements were established directly above levels with Neolithic stratigraphy. Psimogiannou cites similar situations near Proskynas including two FN pit graves located in the bedrock directly beneath LH tombs at Kobatades in the Spercheios Valley (ibid., 201). In any case, Psimogiannou's primary focus is on the FN burial ground itself and comparable FN evidence from across the Aegean. A number of similarities in the contemporary material culture suggest widespread and significant changes in social practices during the FN——and these, Psimogiannou argues, do foreshadow important developments in the EBA.

It is significant that Proskynas functioned solely as an interment site——with no evidence of a contemporary settlement in the immediate vicinity. This contrasts sharply with the earlier traditions of mortuary practices. Aside from human remains in the Franchthi and Alepotrypa caves, most 20th century reports indicated Neolithic burials of any nature were decidedly uncommon. Although instances of cremations and secondary burials are attested, typical interments are primary inhumations of children——often beneath the floor or between domestic dwellings (Demoule and Perlès1993, 385). Recent excavations of Neolithic sites have significantly enhanced the body of evidence relating to mortuary practices. Eighteen well preserved EN (ca. 6300 BCE) pit burials with a variety of grave goods were found at Mavropigi while numerous disarticulated human remains found in the perimeter ditches at Makriyalos I (LN I) both attest to a tradition of communal burials (Karamitrou-Mentessidi 2016, 56-57; Kotsakis 2014, 57). Although Demoule and Perlès mention a LN I (Tsangli Phase) site near Plateia Magoula Zarcou with an external cemetery (" > 300 m from the settlement") much of the recent evidence is consistent with the EN - LN tradition of intramural burials (1993, 397). Kephala on Kea is the site of one of the earliest extramural cemeteries in the Aegean——an interment practice, that along with the presence of grave goods, suggesting a level of social complexity that prefigures BA mainland mortuary practices (Demoule and Perlès 1993, 404; Coleman 1977). In contrast with Kephala's rock slab, built tombs, the interments at Proskynas are pit burials——and typical of mortuary practices throughout the Neolithic period. For example, intramural pit burials were excavated at Mavropigi as well as at Nea Nikomedeia, Argissa, Soufli Magoula, and Franchthi. Like the example from Proskynas, burial jars with cremated remains (often children) are also found in pit graves. Twelve such interments were recorded from the burial ground near Zarcou (Demoule and Perlès 1993, 397).



Burial Pot & Child's Skeletal Remains
Proskynas Mortuary Site
Psimogiannou 2012, 191 Fig. 6

However, while the majority of pits at Proskynas are not interments they are apparently intentional deposits——filled with a variety of cultural material. As Psimogiannou points out, identical or very similar pits occur at numerous Neolithic sites. Although not graves per se, such pits regularly occur in close proximity to burials ([2015] 2017, 207). Psimogiannou cites as examples: Lerna, the Franchthi Paralia, and the Athenian Agora on the mainland, as well as Phaistos on Crete. Numerous other "open air pits" are recorded in the literature as unassociated with other signs of habitation or burials, for example at Tsoungiza in Corinthia and Nichoria in Messenia. Others, such as those on the Athenian Acropolis are characterized as "wells" and still others as "bothroi" or refuse pits (ibid.). Given their diverse distribution and varied interpretations, the significance of at least some of these pits may have been misconstrued. Psimogiannou, following Julian Thomas and others, suggests that pits may be "structured deposits" whose analysis as a single entity (rather than a jumble of discarded material) might offer useful insights (ibid., 208; Thomas 2012). Pits are commonly associated with caves——at times for interments. At Alepotrypa, Papathanasiou describes a variety of human depositions including secondary burials and bone scatters (2009, 22-24). See below. Other caves where interments have been reported include the Kouveleiki caves A and B, Franchthi, Tsoungiza, and Ayioryitika (Georgiadis 2011, 168-169; Jacobsen 1969, 380-381; Pullen 2011, 2; Petrakis 2002).[8]



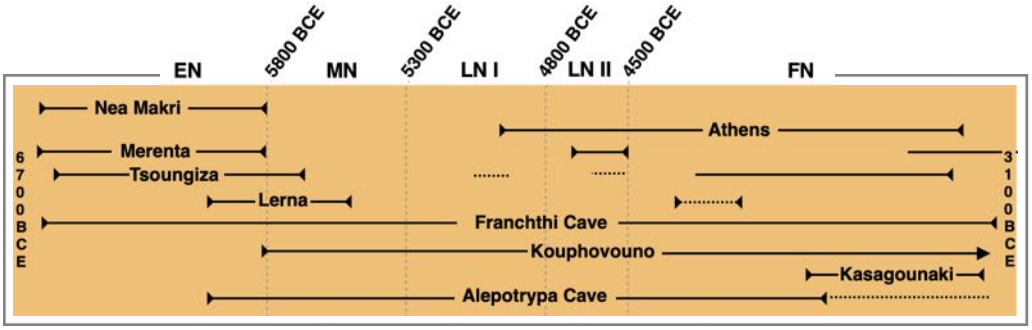
Matt Painted & Polychrome Sherds
Proskynas Child's Grave 2
Psimogiannou 2012, 191 Fig. 6

The graves of the two children at Proskynas and the manner in which the mourners honored those children provide a number of useful insights. The prevalence of ceramics proximate to the graves, in large part fragmented, suggests intentional placement——a depositional practice known from other burial sites. "The largest quantity of pottery," explains Psimogiannou, "was concentrated around the two child burials," although clear differences were recorded (2012, 190). Sherds in the immediate vicinity of one child were, like the majority of pottery found at the site, typical FN coarse wares. These included fragments of pattern-burnished and red crusted deep bowls and jars and other vessels associated with eating and drinking. By contrast, matt-painted and polychrome sherds, each from a different types of vessel, were adjacent to the pot burial (ibid.).

Given Psimogiannou's documentation of the widespread occurrence of the pits themselves, their placement and their treatment are prima facie evidence for what appears to be a widespread and common cultural practice. The contents of the pits and the material finds surrounding the interments at Proskynas find parallels from Thessaly south through the Peloponnese and on to Crete. Psimogiannou argues that during the FN the increased attention to mortuary practices, often in locations physically separate from the settlement, suggests a new sphere of social cohesion——one where the repeated practices of interment and deposition along with ceremonial sharing of food and drink create a place of bonding and identity. Such sites are clearly significant and may, to some extent, re-conceptualize the traditional association of mortuary practices and a settlement's shared living space (2017, 210).

8. As Pullen pointed out Blegen's find at Tsoungiza was not a "cave." Dabney's later report describes a EN-MN open air settlement where finds included the disarticulated, select bones of three adults. These were nearly all, "cranial, innominate, and long bone fragments," suggesting to the authors, "the practice of secondary deposition" (Dabney et al. 2020, 62).





Attica & Peloponnese

The Athenian Acropolis and adjacent Agora are among a number of sites in Attica where Neolithic evidence has been excavated. No doubt the Acropolis itself——particularly the limestone layer of the uplifted formation geologists call a klippe, provided a welcome source of shelter within its numerous caves. Not surprisingly, however, the intensive building of later periods resulted in most of the evidence being recovered from unstratified locations——often wells or bothroi but also the occasional tomb. A number of excavated wells on the northwest slope of the Acropolis and others in the Agora held pottery——typically dated to the LN or FN periods (Immerwahr 1971, 1-7). Along with the pottery, fragments of obsidian blades, hand axes, millstones, and animal bones attest to a relatively large Neolithic community in the latter part of the period (ibid., 16-18).



LN - FN Deep Bowl
Athenian Agora
P. de Jong Reconstruction 2016, Fig. 78B

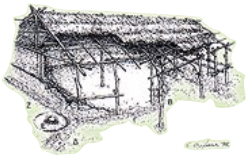


LN - FN Conical-footed Bowl
Athenian Agora
P. de Jong Reconstruction 2016, Fig. 78A



LN Red-burnished Biconical Jar
NW Slope Athenian Acropolis
Agora Museum

A series of excavations in eastern Attica have provided additional information for the mainland's Neolithic period. Dimitrios Theocharis initiated excavations at Nea Makri in the 1950s (1954, 114-122). Referring to the Theocharis study at that site, Perlès describes a series of pit houses excavated below the stone foundations of slightly later structures. One dwelling, measuring 5 x 4 m, was cut into the earth to a depth of nearly .5 m. Significantly, it included a central "cobbled hearth" (2001, 184-185; Theocharis 1956, 4). Given the various possible functions of pit structures (as per Psimogiannou above) an active debate ensued as to whether some or even any so-called 'pit-houses' were actually dwellings. Perlès, however, concluded that Nea Makri provided, "the most convincing evidence for 'pit-houses' " (2001, 185). Subsequent to Perlès publication evidence from a number of excavations attest to pit-dwellings——albeit pits also functioned as bothroi, clay sources, and perhaps as Psimogiannou suggests, ritual deposition sites. See Mavropigi, Paliambela, and Proskynas above. Given that Nea Makri is a 'flat' site extending horizontally over several hectares, the precise chronology of specific settlement features is not always clear. Pantelidou-Gofa excavated at Nea Makri in the 1990s and illustrated several MN dwellings based on the details of architectural remains.



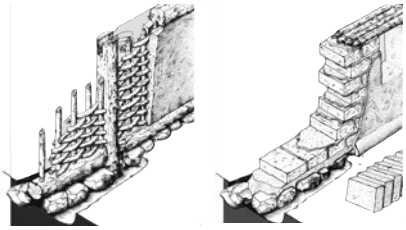
MN House
© Arch. Soc. at Athens

Nea Makri
MN & LN Reconstructions
Pantelidou-Gofa, 1997, figs. 55, 25



LN Hut
© Arch. Soc. at Athens

Gerard Monthell's drawings in Perlès volume illustrate contrasting details of wattle-and-daub and mudbrick construction (2001, 189-190). Perlès stresses that although these two generalized approaches are widely attested, "building techniques on the contrary are extremely variable from site to site or within sites" (ibid., 188). For example, at Elateia Weinberg describes the 'Burnt House' (Trench 1) as having the foundation and lower walls constructed of, "field stones of varying size set in mud mortar," "wattle-and-daub construction that probably came from the roof of the building," as well as, "the remains of mud bricks" (1962, 160-161). Clearly, the availability of materials as well as the inclinations of the builder determined the specific construction style and thus the end result.



Wattle-and Daub & Mudbrick Construction
Illustrations by G. Monthell
Perlès 2001, Figs. 9.4 & 9.5



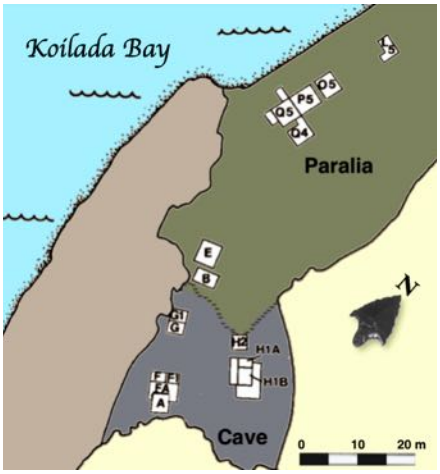
Field Stone (lower?) Walls - Burnt House
Elateia Trench 1
Weinberg 1962, Fig. 1

A number of excavations in Attica were initiated as a result of the construction of the Olympic Hippodrome (1964 Olympics). At Merenta two settlements were uncovered: one dating to the EN and LN, the other from the FN to the EH period. The earliest of the FN structures comprised 6 interconnected subterranean spaces with doorways providing access between the units and an entrance shaft at ground level (Kakavogianni et al. 2016, chapter 23). Although they were in use through the EH, the earliest phase of these structures dates to ca. 3500 BCE; based on a number of the material finds the researchers suggest they were dwellings (ibid., 19). Pottery typical of the FN period includes black splotched, red burnished conical bowls with in-turned rims, often fitted with lugs and other plastic decoration. The second LH phase was built within the

perimeter of the first. Both the foundations and interior walls were constructed with stone. The earliest structure included three recessed areas perpendicular to the walls along with 'storage cavities' sunk into the ground. The largest recessed area (3.0 m x 0.82 m x 1.30 m) may have been an ash pit (Kakavogianni 2016, 1-11).

Perhaps the most significant find at Merenta, if the interpretation proves to be correct, is evidence for metallurgy. Excavations revealed slag, part of a clay mold, and fragments of litharge (ibid., 38). According to Kakavogianni, "The discovery of litharge in the same context with residues from copper processing (slag) and with objects related to metalworking (moulds), suggests the existence of copper- and lead-metallurgy and metalworking on a small scale for the needs of the settlement" (ibid., 39). However, much of the evidence is presented conditionally and the authors state that, "there is no evidence here for an organized workshop for the cupellation of the argentiferous lead, like those found in Lambrika, Koropi, and in Zapani, Keratea (ibid.) Proximity to the mines at Lavrion may or may not be coincidental but it does seem the authors' argument for the occurrence of metallurgy at Merenta rests, at least in part, on the indirect evidence of this association as well as the date. The researchers conclude their discussion with the claim that, "the fact that the first finds relevant to metallurgy in the area date from the end of the FN is an additional argument for the existence of a "remarkable polymetallurgy" during this period in the Aegean, and especially in Southeastern Attica, so rich in metals" (ibid., 39).

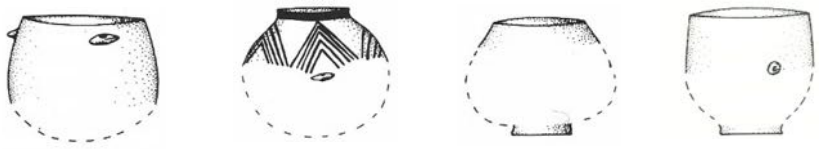
By the beginning of the Neolithic period hundreds of generations of humans had crossed the threshold of Franchthi Cave. Around the middle of the 7th millennium BC, however, there is a radical and relatively abrupt change in the nature of the artifactual evidence. The totality of this evidence supports Perlès' contention of——"An inescapable hypothesis: the presence of foreign colonists" (2001, 45). Genomic findings corroborate her interpretation of the archaeological evidence while clarifying at least some of the details of the demic diffusion from Anatolia that brought farmers and their lifestyles to the Greek mainland. In contrast to the period when the cave itself was the primary place of shelter, much of the early Neolithic evidence comes from the open air Paralia——a settlement site for a community of early farmers. Broken sections of rock walls uncovered in Paralia trenches are thought to be the remains of dwellings and terracing although much of the early site was likely inundated by rising sea levels in the late 4th millennium BCE. Along with the remains of the domesticates that provided most if not all of the communities food (evidence for hunting or fishing is minimal compared with pre-Neolithic periods), numerous artifacts attest to essential changes that occurred as agropastoralists replaced the hunter-gatherers. For example stone tools and arrowheads are different in kind from their Mesolithic counterparts with a greater percentage crafted from Obsidian. The microliths typical of the earlier periods are entirely replaced by blades (eg. for sickle-inserts) and bladelets suitable for agrarian tasks while borers and drills increase somewhat later and are associated with the production of ornamented shells (Perlès 2001, 205).



Franchthi Cave & Paralia
after Jacobsen 1973
Figs. 2, 3; Pl. 17 b

Among the more significant changes attested at Franchthi was the introduction of pottery. While domesticated plants and animals may be the signature characteristics of early farming communities, their remains are mere shadows in the archaeological record as compared with the innumerable potsherds that even today litter the Greek landscape. It would be difficult to overstate the importance of ceramics in the lives of Neolithic and Bronze Age peoples. Everyday uses for preparing and serving food and drink as well as for water and grain storage were essential to each and every family. Fine, decorative wares embodied another kind of value——one that differentiated the haves from the have-nots in both life and death. Finely crafted ceramics would ultimately come to play an essential economic role, both locally and regionally, while also providing an entrée to eastern Mediterranean commercial networks.

Excavations of Franchthi, like nearly every Neolithic site in Greece, revealed copious amounts of pottery and Karen Vitelli's study of the cave's ceramics (in excess of two tons) is comprehensive, informative, and not without some surprises. Vitelli, focusing on the potters' production sequence, devised a classification system (phases, wares, and varieties) based on choices of raw materials and surface finishing techniques (2007, 64-64). Her first two phases generally correspond to the EN and MN. EN ceramics comprise five ware types with two wares each having two varieties.



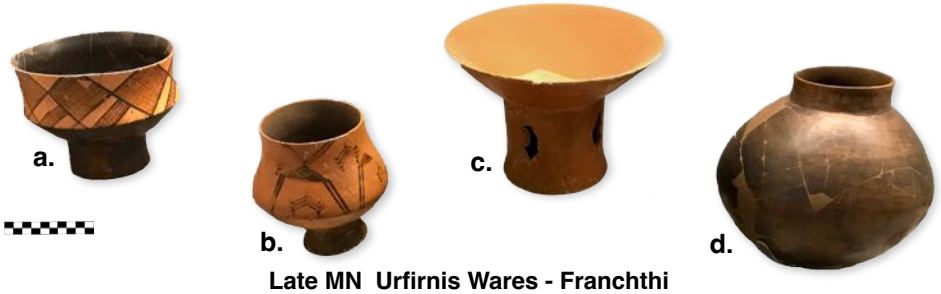
Selection of EN Franchthi Wares
Vitelli 1989, Fig. 2

Sharing in the common assumption that pots were used to prepare or store foods, Vitelli was surprised by the results of her sherd analysis (1989, 17-21). Actual counts of EN wares from Franchthi indicated that the number of pots produced per year was exceedingly small (ibid., 12-13). Furthermore each of the five wares exhibited recognizable variations suggesting they were the work of an individual potter. EN pottery is often described as coarse, yet Vitelli observed that sherds retaining any surface finish show they were highly burnished. The vessels typical lack of symmetry and uneven thickness suggests to Vitelli the work of beginning potters learning their trade. However, the relative rarity of the pots themselves may imply they were highly valued. Vitelli draws a comparison between the potters and those women who might have been responsible for gathering and preparing wild plants for medicinal purposes——both most likely small, select groups with specialized knowledge. Following this line of reasoning Vitelli hypothesizes that creating a pot may have been akin to the mixing of potions. The pots themselves might have had a magical air and a ritualistic function rather than serving primarily as cooking and storage containers (1995, 60-62). While Vitelli's conjecture is controversial there is general agreement about the importance of her painstaking analysis, descriptions, and classifications of Neolithic pottery.[9]

If EN potters were in the process of learning their trade by the MN a new suite of symmetrically, near perfect shapes, were being fired in a way that demonstrates control over a complex process. Initially coated with red slip (paint), by the MN period pots are often finished with a lustrous Urfirnis slip——variously plain and pattern painted and/or

9. For a contrary view of Neolithic pottery use see Yiouni 2004.

burnished, with regional styles notable. At Franchthi, Vitelli sees such developments as the continuation of a tradition of a limited number of specialist producing a small number of pots——but now at a level of excellence suggesting competitive and highly competent artists creating individualized works (1995, 55-57). Whatever the motivation, MN pottery from Franchthi, Alepotrypa, Lerna, and other contemporary sites attest to a variety of innovative shapes and designs, often angular and/or with pedestal bases.



Late MN Urfirnis Wares - Franchthi
a. Pattern Painted: Carinated Bowl with Pedestal base and b. Piriform Jar
c. Undecorated Fruitstand d. Monochrome Painted Collared Jar
Nafplion Archaeology Museum

A separate group of 'coarse wares,' undecorated everyday pottery, is also attested from the MH period (Rutter and Gonzalez-Major 2011-2013). By the MN - LN transition (mid-sixth millennium) polychrome pottery with matt-painted motifs is attested. Rutter characterizes the later pottery as comprising increasing proportions of unpainted coarse wares and a preference for plastic decoration (ibid.). Vitelli sees this trend as indicative of many more potters, perhaps even an individual in each household, who, among many other chores, are producing pots mainly as functional items to provide for basic cooking and storage needs (1995, 58).

Based on the, "relative abundance and variety of remains," Jacobsen characterizes the onset of the Neolithic (Stage 5) as providing, "a more complete picture of the social and economic life of the settlement than in preceding stages" (1981, 309). In particular, the diversity of material finds from the period suggests increased contacts with other areas of the Aegean (ibid). Obsidian was perhaps the best evidence for this trend. Although this highly useful volcanic glass is first attested in late Upper Paleolithic (perhaps intrusive) and Mesolithic levels, it is during the early Neolithic that obsidian was being crafted by Franchthi residents into numerous tool types using a variety reduction techniques (Perlès 2003, 84). While speculative, Franchthi's proximity to Melos suggests the possibility that Franchthi's residents may also have benefited from and participated in the trade of this highly valued commodity.



LN I - Franchthi
Seated Figurine
Nafplion Archaeology Museum



Neolithic - Franchthi
Stone, Bone, & *Spondylus* Ornaments
Nafplion Archaeology Museum



MN Grave Goods - Franchthi Paralia
Bowl with Bone Tools
Nafplion Archaeology Museum

Early in his career Carl Blegen investigated a number of Neolithic sites in Corinthia including at Corinth's Temple Hill (Apollo's sanctuary), Gonia, and at Zygouries, the last published in a volume describing his 1920/1921 excavations (1928). The site of Tsoungiza ("small hill") in the Nemea Valley came to Blegen's attention during the 1924 - 1926 excavations at the well known Classical sanctuary of Nemean Zeus. In 1924 Blegen opened several trial trenches on the summit of Tsoungiza revealing an EH settlement. The following year, however, his attention was drawn to "a curious natural cave" on the hill's southern slope that contained Neolithic materials. Ultimately Blegen focused on the "cave's" Neolithic contents and James Penrose Harland excavated the EBA hilltop with each publishing short accounts; a planned book never materialized. (Blegen 1927, 436-439; Harland 1927, 63). However, Blegen's and Harland's efforts were not in vain as their work at Tsoungiza began a series of investigations that have continued for nearly a century culminating with the Nemea Valley Archaeological Project (NVAP). Included among NVAP's multi-faceted studies was a wide area survey designed to document prehistoric settlements across 85 km2 of the Nemea Valley (Cherry et al. 1988, 162-163). Cherry's summation of the regions early settlement evidence is notable—— "it is the EN phase that has produced most evidence of settlement in the Nemea region, with an apparent diminutions through MN, LN and FN" (1988, 175).

A recent contribution to Tsoungiza studies revisits the Neolithic settlement——adding to and revising Blegen's finds while also publishing the results of later excavations (Dabney et al. 2020, 61-62). Included in the paper are detailed catalogues of the ceramics, ground stone tools, and MN plant use as well as the preliminary results of the human bone remains analysis (ibid., 6- 61). The totality of excavated evidence as well as the scholarship subsequent to Blegen's work clearly supports the conclusion that Tsoungiza was, "a dispersed open-air settlement, rather than a cave," and, in fact, was "one of the largest EN–MN sites in southern Greece" (ibid., 61). Despite the abundance of evidence, however, no suitable stratigraphy was located to allow the researchers to determine temporal changes. Perhaps as significant as any specific finds were ceramic characteristics and ground stone tool types that closely match assemblages at Franchthi, Lerna, and Corinth. Clearly these sites were regional neighbors, not isolated settlements, with both the means and inclination to share common cultural materials. Although most objects were produced locally, each of these communities also imported exotic celts and obsidian——suggesting a common trading network. Secondary burial practices are strongly indicated given the proportions of select human remains. Tsoungiza was abandoned in the early MN but was reoccupied late in the FN——a common pattern shared by other communities across the Peloponnese (ibid.). Abandoned once again in the late FN and resettled in the EH I era, Tsoungiza's subsequent prehistory provided essential evidence for both for the Early Helladic periods and indirectly for the period of ascendancy at Mycenae.



EN Deep & Medium Bowls
Tsoungiza Hill, Corinthia
Nafplion Archaeology Museum

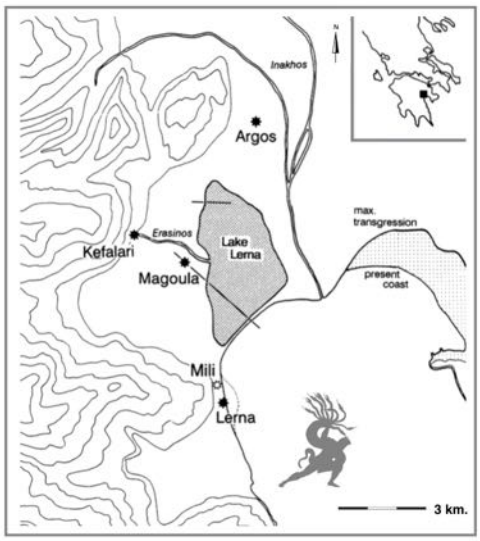


EN Flint, Obsidian Blades & Seal
Tsoungiza Hill, Corinthia
Nafplion Archaeology Museum



EN (late) Askoid Jug - Patterned Ware
Tsoungiza Hill, Corinthia
Nafplion Archaeology Museum

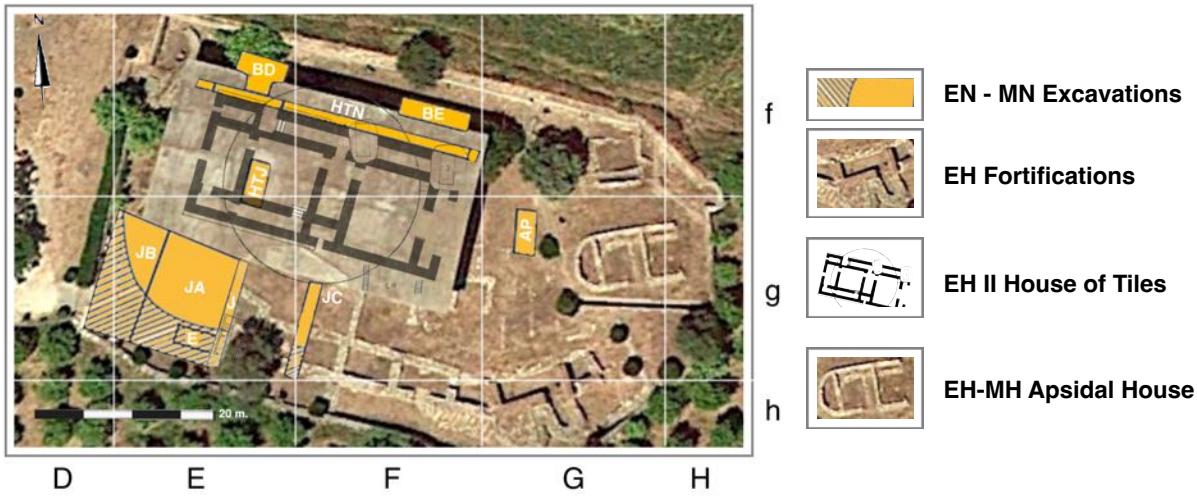
Early in his foundational work on the prehistoric mainland, Christos Tsountas draws his reader's attention to the southern Argolid, to its plain embraced by mountains and ever-present vistas of the sea——a place,"inviting to early commerce," and, "thick sown with heroic legends" (1897, 13 -14). The myth of Herakles and the Lernaean Hydra is one such legend. Eberhard Zangger suggests the history of Lake Lerna may lie behind this ancient story (1991). Today, all that remains of Lake Lerna is a remnant wetland, yet an enduring memory of that landmark can be traced from Aristotle to the present day. Zangger recounts Dodwell's narrative suggesting the hydra symbolized the lake, its many heads the countless streams flowing into the plain——the bearers of a malarial pestilence that carried off both man and beast (1991, 8). In an effort to separate fact from fiction Zangger applied the tools of the geologist to the northern coastal plain of the Gulf of Argos, the site of the fabled lake. Using topographical data (both current and from the Holocene) and core sampling, Zangger determined that sediments carried west from the mouth of the Inakhos River resulted in a barrier beach behind which Lake Lerna formed——fed by the waters of the perennial Erasinos (ibid., 2; 12). The original wetland began to form ca. 6330 ± 100 BCE with the fully formed lake reaching its maximum size around 4660 ± BCE. Lake Lerna persisted through the Neolithic and into the early Bronze Age when erosional sediments ultimately filled the lake (ibid. 12). By the 1950s when Caskey began excavations at Lerna, the ancient lake had all but been forgotten. However, for the original settlers the presence of the early wetlands and lake, indeed the entire topography, must certainly have influenced both where they choose to build and subsequently the quality of their lives.



Southern Argive Plain
after Zangger 1991, Fig. 5

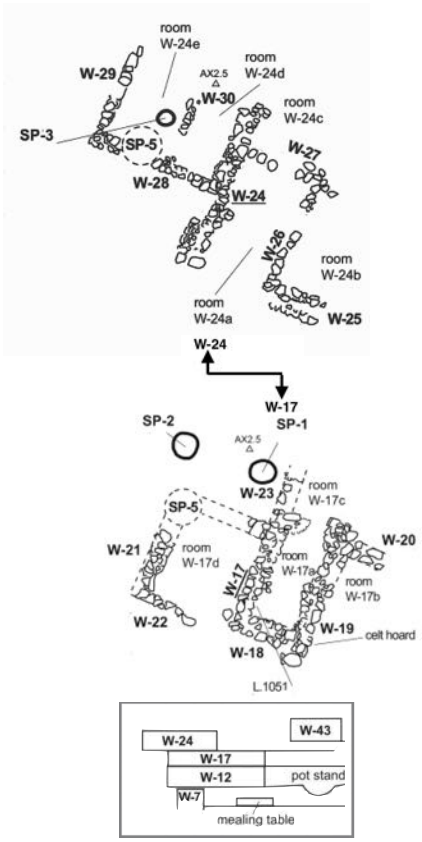
Caskey's excavations would establish a new Lernaean landmark, the first of the so-called corridor houses, the House of Tiles——considered the initial (EH II - Lerna III) monumental architecture on the mainland (1954). Lerna, Caskey explained, "ris[ing] about 5.50 m above the neighboring plain," was, "recognized as the place of a pre-Mycenaean settlement since the exploration of Frickenhaus and W. Müller in 1909" (1954, 3). Ironically, Lerna's contribution to Neolithic studies was, to a degree diminished due to the significance of its later (EH II) remains. With priority given to the Lerna III——understandable given its unique architecture, only a small fraction of the Neolithic strata were fully excavated. Additionally, 90% of the pottery was discarded while the remainder was archived in a manner that obscured much of the location data (Vitelli 2007, 45). Nonetheless, details of Lerna's Neolithic dwellings as well as the subsequent ceramic analysis have enhanced early mainland studies. Despite the archaeologists' focus on the House of Tiles, Area JA - JB revealed an abundance of Neolithic evidence including elements of foundations, walls, and platforms, as well as other built structures including clay-lined pits and a variety of hearths. In addition to the abundance of ovicaprid (sheep & goat) bones, chipped-stone and bone tools were also fairly common in excavated areas. Several additional trenches and pits, outside the Area JA - JB, added to the Neolithic record. Significantly, a dozen Neolithic interments were excavated including two dating to the FN period (Banks 2015, 259-270).

Prehistoric Lerna
shown with protective roof over EH II House of Tiles
after Caskey 1957; Banks 2015



Material remains from Neolithic levels—typically the oldest and lowest strata, are particularly subject to damage, both from natural causes and human activity. Evidence from Lerna indicates dislocations resulting from overbuilding as well as from the appropriation of older materials for newer settlement levels. Despite the focus on the House of Tiles, there was a concerted effort to investigate Neolithic areas when feasible. However, methods and practices current at the time resulted in only select ceramic samples (mostly decorated sherds or those with diagnostic shapes) being preserved. Several additional culling episodes of archived material further reduced the Neolithic ceramic inventory. While potsherds may be nearly indestructible, nothing protects such materials from deliberate disposal or benign neglect. Nonetheless, when Vitelli approached the task of analyzing and describing the Neolithic pottery she was faced with two metric tons of potsherds. Significantly, Vitelli judged that the associated data (find spots/stratification records) did not permit an accurate reconstruction of Lerna's ceramic sequence (2007, 33; 44-50). Undeterred, Vitelli applied her unique classification approach and correlated Lerna's Neolithic ceramics with Franchthi Ceramic Phases, FCP: 1.00 - 5.00 (ibid, 48-50). Elizabeth Banks' volume integrates the ceramic finds, architectural features, and other small finds within Neolithic Lerna stratigraphic context (2015). Caskey's initial designations had divided the Neolithic deposits into Lerna I (EN) and Lerna II (later than EN). Banks, following Vitelli's revised chronology, assigns "Ler EN-MN" (6100 - 6000 BCE) to the earliest chronological phase and "Lerna MN" (6000 - 5600/5500 BCE) to six later chronological phases. Although no structural elements are attested for the FN, two burials are assigned to "Ler FN" (4200 BCE) based on associated pottery (ibid., 3-4).

Finds from the deepest strata (Ler EN-MN) in JB and JA included a series of clay pits, a hut, celts, shells, as well as several imported marble ear studs (ibid. 5-22). Banks emphasizes that no evidence was found to suggest that the pits should be interpreted as dwellings. Lerna's typical late EN-MN domestic dwellings were two-room, rectangular structures with stone foundations (at times stabilized with clay mortar) and mudbrick walls. Later, superimposed structures often reflect the outlines of earlier dwellings. A number of these early structures exhibited multiple construction phases——the initial dwelling modified by the addition of one or more rooms in "agglutinative" fashion (ibid., 40). For example Building W-17 (Ler 3B.1 and 3B.2), excavated in a phase Banks characterizes as, "possible the longest, and certainly the richest in finds, of the Neolithic at Lerna," was constructed on the socles of earlier Building W-12 (Ler 3A). The second



Buildings W-17 and W-24
relative positions of socle elements
Banks 2015, Plans 10, 11; Sec. 2

stage of W-17 is designated W-24 with structural modifications including the enlarging and dividing of the northwest room and a possible additional small room to the southeast. A substantial increase in area is estimated from the earlier phase W-17 at 2.50 / 3.15 m^2 to W-24 at 4.15 / 4.80 m^2 (ibid., 51; 55). Among the finds from W-17 was a pattern decorated urfirnis collared jar, a grindstone, and several obsidian blades. The jar is of interest as it was composed of sherds from different periods leading Vitelli to suggest it may have been an heirloom. This same jar may have been one of a group suggesting "communal storage." Eleven celts recovered from room W-17b were plausibly an indication of specialization (ibid., 54; 263). At the center of room W-24d is one of a number of clay-lined pits (SP-3) described by Banks as, "surely meant for seed or food storage" (ibid., 262). Although interior structures were uncommon in the Neolithic dwellings several examples of possible "bench supports" were recorded while "a probable grain-grinding station, with a built-in work table" is attested from building W-5 (ibid., 262). The locations of various hearth pits (MN) and ash pits (LN), assumed to be associated with preparing food or holding live coals, suggested common cooking areas. These and lithic materials and debitage as well as stone and bone tools founds in "common" areas between dwellings may indicate communal practices typical of egalitarian groups. While much of Lerna's pottery is MN urfirnis, several ceramic grave goods date to the FN——a period unrecognized at the time Caskey was excavating and publishing his findings. Caskey did note, however, the similarities between the Spouted Cup and Heavily Burnished Bowl and suggested that although found in different areas of the site it seemed, "reasonably certain the two graves belong to the same late Neolithic period" (1959, 205). One other group of artifacts, although otherwise unknown in Aegean Neolithic contexts, indicates that spiritual practices and symbolic meaning played a part in the lives of the Lerna community. Banks characterizes these urfirnis sherds as fragments of 29 *tangas* or pubic shields. Nearly unique at prehistoric sites, these extraordinary objects seem to have counterparts only among a pre-Columbian Amazon tribe (1977, 324-339). Vitelli suggests that in, "a specific ceremony that called for wearing *tangas*—a puberty ritual would seem the obvious occasion" (2007, 471-472). Several small figurines or fragments were also found at Lerna but the most spectacular——the "Venus of Myloi" (at right) is 18 cm in height and sculpted in naturalistic fashion (Caskey & Eliot 1957, 175-177).

FN Crusted - Spouted Cup
Lerna - Burial JC-1
Vitelli 2007 fig. 85f; Caskey 1959

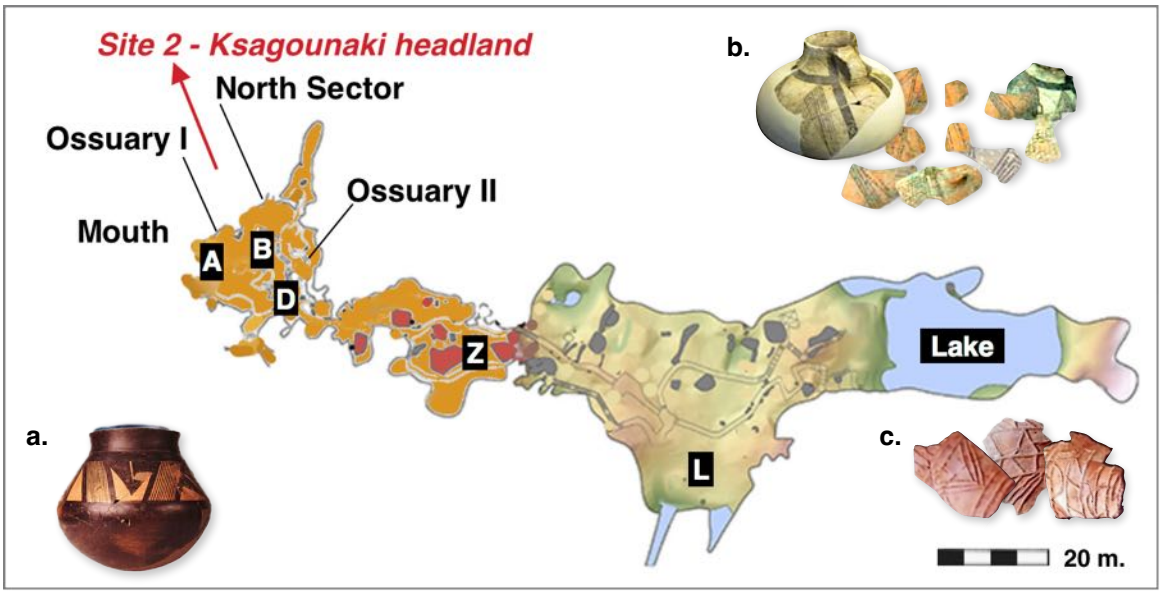
FN Heavily Burnished Bowl
Lerna - Burial HTN-1
Vitelli 2007 fig. 78a ; Caskey 1959



MN Monochrome Urfirnis - Collared Jar
Lerna - SW Area
Vitelli 2007 fig. 20f; Caskey 1958

Vitelli and Banks conclude from the evidence that sometime in the later MN Lerna's population declined and the site was more or less abandoned (2007, 604-605; 2015, 260). Was the hydra victorious? Banks does suggest the possibility of a malaria epidemic (ibid.). Faced with Lerna's incomplete record, Vitelli ultimately concludes, "We are left with a frustratingly vague sense of Neolithic activities at the site" (2007, 127). Yet this vagueness may be inevitable——even with the most fully documented Neolithic site. In her summary Vitelli remarks that, given rigorous analysis of the evidence, even fragmented remains offer the hope that, "In the end, our stories, motives, and symbolic gestures may not be so different from theirs." Identifying common patterns in the evidence may provide scenarios of "typical" Neolithic villages and commonplace practices over time. While a certain vagueness characterizes such profiles, the occasional unique and quirky finds——ones resisting inclusion among the more "typical" artifacts, suggest a willfulness and individuality that is refreshing. This may be close to what Vitelli intends by her phrase "symbolic gestures." At Lerna the vessel cobbled together in a patchwork of outdated sherds or the extraordinary *tangas* stand out from the everyday artifacts and engage the imagination. We cannot know for sure if that pot was an heirloom or exactly how the *tangas* related to expressions of sexual identity but someone must surely have intended to create something out of the ordinary when fashioning the pot while other individuals seem determined to (openly?) and visually express some aspect of their sexuality. Despite not knowing the specifics there is nothing vague about the gestures. Significantly, without having identified norms such individual gestures might go unnoticed. If Neolithic society tends towards the egalitarian, the atypical and unique may signal the presence of individuals or groups determined to make their voices heard.

Neolithic interments are seldom numerous at a given site and grave goods if present are sparse. Alepotrypa Cave, on the other hand, with the richest assortment of Neolithic burials in the Aegean, has much to recommend it as a dedicated mausoleum. Located on Diros Bay in the southern Peloponnese, the cave was occupied between 6000 and 3200 BCE. Sealed by tectonic movements at the end of the Neolithic, the cave remained isolated until it was "rediscovered" in 1958. Coopted by the Greek Tourist Service, popularizing efforts included blasting and the addition of internal walkways. Fortunately, in 1970 a more enlightened approach prevailed when the cave received protection under the jurisdiction of the Greek Archaeological Service (Papathanasiou 2009, 21). Excavation of the Alepotrypa Cave and its surrounds during the last half-century have uncovered a remarkable variety of material finds in contexts suggesting millennia-long practices and traditions——both mundane and extraordinary. Initial excavations by George Papathanassopoulos (1970 - 2006) were followed by Anastasia Papathanasiou's research on the osteological details and mortuary practices at Alepotrypa (2001 - 2009) and ultimately in their joint leadership (2012 - 2014) of a multidisciplinary team that conducted extensive investigations of Alepotrypa's rich material record (Papathanasiou 2018, chapter 1). Building on radiometric dating that established Alepotrypa as, "the best dated Neolithic site in Greece," the research team focused on two general areas of the cave to document, "a distinct differential spatial distribution and patterning of the materials" (Papathanasiou 2018, chapter 23). Complementing this research are the various surveys and excavations of the Diros Project (2010 - 2014)——in particular excavated finds at Site 2 on the adjacent Kasagounaki Promontory (Parkinson 2017, 127-136; Pullen 2017, chapter 31; Pullen et al. 2018, chapter 22).



Alepotrypa Cave - Mani Peninsula

a. MN Pattern-painted Urfirnis Alepotrypa - Chamber Z Papathanasiou 2014

b. LN Matt-painted Collar Jar & Sherds Alepotrypa - Chamber Z, Niche 31 Papathanasiou 2018, ***CPII 8***

c. FN Plastic Decorated Sherds Alepotrypa - North Sector, A Papathanasiou 2014

The overarching pattern within the confines of Alepotrypa suggest domestic-like practices in the areas closest to the entrance with centers of ritual activity in the interior.[10] This pattern is attested by the human and animal remains as well as various artifact assemblages including stone tools and a number of ornamented objects. However, as Papathanasiou (after Psimogiannou) explains, "It is primarily the pottery . . . that differentiates the interior part of the cave (Chamber Z), from the anterior part (Chambers A, B and D)" (2018, chapters 7 and 23). While the typologies of the ceramic assemblages in A/B are similar to those from Z, the latter group accounts for the majority of fine painted wares——often highly fragmented closed shapes such as collared jars, the sherds showing little or no wear and numerous joins. In general, the anterior sections of the cave held well worn, coarse pottery, storage vessels, hearths, burnt food remains, and other materials suggesting "living quarters" albeit occupancy was likely to have been seasonal rather than permanent. Another contrast involved fuels. Chambers A/B fires were fueled with wood gathered locally while extensive dung deposits are thought to have been used for fires in Chamber Z with *Pinus nigra* (a non-local species) likely employed as torches (ibid.).

Although Alepotrypa is rich in artifactual material the most striking feature of the cave are human skeletal remains. Papathanasiou's early research (1999 - 2013) included initial osteological analyses and a partial description of interment practices while her more recent efforts present significant new details and a more comprehensive overview of Alepotrypa's skeletal material (2009, 21-28; 2018, Chapters 6 and 13). The disposition of human bones in the cave can be grouped into three general categories: primary burials, secondary burials (ossuaries), and bone scatters. This variety reflects a multi-stage burial process involving the initial interment of the deceased followed by the removal and relocation of part or all of skeleton after decomposition of soft tissues. Primary burials are represented by both single (6 instances) and multiple interments (a minimum of 7 individuals). All such interments are located near the front of the cave.

10. The areas characterized as "domestic-like" and "living quarters" may well have been the temporary quarters for an "administrative" group——functionaries in charge of organizing and officiating at seasonal ritual events.

Secondary burials and bone scatters, however, are more representative of Alepotrypa skeletal remains in general and are found throughout the cave. Although only partially excavated, Ossuary I held the partial skeletons of 16 individuals (neonates, children, and adults) along with potsherds, two dog skulls, and the mandible of a cow. Several of the excavated levels reveal careful placement of the bones as well as deliberate preparation of their resting place. Given the evidence that Ossuary I had been used repeatedly, for two to three thousand years, Papathanasiou suggestion that the cave was likely considered a sacred place seems indisputable (2018, chapter 13).

Nearly half the total human skeletal remains at Alepotrypa were elements of bone scatters. Papathanasiou indicates the numerous bones located in Chamber Z constitute just such a deposition. She also makes clear that venturing to the interior chambers of Alepotrypa brings one to a different world——a dank and utterly dark place whose uncomfortable ambience enshrouds the visitor. The atmosphere is ready made for un- or other-worldly visions and Papathanasiou's finds in Chamber Z seem to confirm her sentiments. Three natural niches (eg. *Niche 22* is 1.5 x 4.0 m) revealed innumerable sherds of fragmented pottery together with disarticulated bones, both human and animal, packed within multiple layers of black greasy soil and dung deposits. Within the same strata fine obsidian blades and beads (some ornamented) are also attested (2018, chapter 6). The juxtaposition of human bones among shattered pieces of fine ceramic vessels (numbered in the thousands), together with animal remains (sheep and goats) suggesting consumption, make a strong case that these chambers were indeed places of ritual.

Several of Papathanasiou's more general observations are significant. Although there are few specific grave goods, skeletal remains occur throughout the cave both on the surface and within interments and typically in areas that are the foci of cultural finds. While the repeated scenario of pockets of disarticulated skeletons commingled with sherds of fractured pottery amidst the widespread scatter of bones may appear both random and chaotic, there is in fact an underlying order. Not by chance do "cranial and long bones consistently dominate over smaller elements both in prevalence in absolute numbers and also in their presence in all parts of the cave" (ibid. chapter 13). The cave is a place, as Papathanasiou observes, where the living and the dead are in close proximity. While the specific motivations behind such practices may be opaque the material remains themselves offer a remarkable window into the spiritual lives of these ancient peoples. Most significantly, the patterns of distribution and use of similar material objects occur repeatedly across a broad temporal horizon. The occupants of Alepotrypa, whether consciously or not, were participants in shared traditions and cultural practices spread across centuries, even millennia. Alepotrypa embodies two worlds.The cave front——recognizably a place to take care of (day-today) business, contrasts sharply with the interior——a passage to another world, both liminal and physically uncomfortable, where ritual may connect celebrants with their ancestors as well as their inevitable futures. In her review of the 2018 *Alepotrypa* publication, Perlès makes the cogent point that, "the term 'ritual' is here especially apt: a ritual is, by definition, an enactment that is repeated, and we have here evidence of continuity in practices from the end of the Early Neolithic to the Final Neolithic (2019, 430).



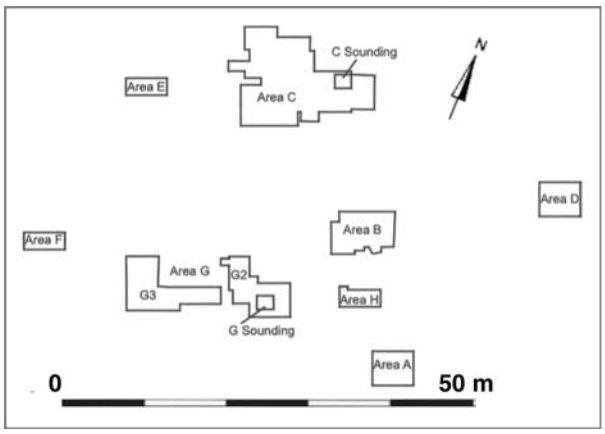
Alepotrypa Cave - Tools from Large Mammals - A. Hadjikoumis, 2018
***CPII38* pointed tool, 29.0 cm (red deer); *CPII39* pendant, 2.0 cm (fox); *CPII37,* 8.0 cm pointed tool (sheep/goat)**

The Diros Project excavation of Site 2 (see map on 118) on the Kasagounaki headland just northwest of the cave mouth provides additional data and context. The wide area survey had established that Neolithic occupation of the open air sites were restricted to the FN period. Although this contrasted with the EN - FN dating for Alepotrypa, it has been suggested that occupancy of the cave had largely ceased around 3800 BCE (Parkinson 2017, 126-136; Pullen 2017, chapter 31; Pullen et al. 2018, chapter 22). Investigations of Site 2 (Blocks 1 and 2) uncovered two FN terracing features: an earlier series characterized by linear groups of large boulders and somewhat later terracing tracing the contours of the promontory (ibid., 130-131). Three double interments associated with the later terraces included two infants, an adult male and female, and a mature male with a younger female. The infant burial was associated with a FN vessel dated to 4200 BCE. On a grim note, the positioning of the second "couple" led researchers to suggest the hands of the interred pair may have been tied behind their backs. An additional infant interment was located adjacent to wall structures from the earlier terracing. Although unknown elsewhere on the southern Mani, a Mycenaean era (LH III) ossuary was also excavated here. (ibid. 131-134).

While Sparta is best known for her warriors' heroics at Thermopylae and as a foil to Athens, its fame in prehistory rests on its Mycenaean presence at the Menelaion——the legendary seat of Menelaus, brother of Agamemnon and erstwhile husband of Helen. H. W. Catling's studies of the Menelaion ultimately led to The Laconia Survey (1983 - 1989) covering 70 km^2 within the territory of ancient Sparta (Cavanaugh et al. 2002, 1-5). Despite the extensive area surveyed, Neolithic evidence was restricted to the LN and FN periods (ibid., 121-122). A decade later, however, an intensive site survey was conducted at Kouphovouno, a Neolithic settlement in Laconia southwest of Sparta (Cavanaugh, Mee, and Renard 2004). As a result of this initial study it was determined that Kouphovouno might play an important role in answering a number of the more general questions about the Neolithic period in Greece——in particular the significant transformation between the MN and LN periods. Consequently, between 2001 and 2006 William Cavanaugh, Christopher Mee †, and Josette Reynard directed a program of excavation and research at Kouphovouno that did in fact prove fruitful. Included in the initial survey report are comprehensive environmental and geophysical descriptions of the Kouphovouno mound as well as an extensive catalogue of surface finds with an emphasis on the pottery. An indication of the detailed nature of the survey and analysis are the 54,591 sherds collected and sorted with individual typological and stylistic data referenced to find spots (ibid., 80-91). Along with the numerous MN and LN sherds, additional artifacts included lithics, 5 categories of polished stone (eg. axes and adzes), and small finds including figurines, clay spools and weights, and shells (ibid., 104-126). The variety of finds together with the detailed contextual data proved critical to answering a number of questions posed by the researchers.

During six seasonal excavations eight areas/trenches were opened with Areas C and G expanded on several occasions to expose additional elements of the MN and LN dwellings (Mee et al. 2014, 66). Although no EN remains were found, MN and LN Kouphovouno settlements supported sizable populations ("in the hundreds") with occupation also attested during the Bronze Age and as late as the Roman period (Cavanaugh 2004, 126-128). Cavanaugh describes the settlement's general features as comprising fairly dense clusters of small (10 m^2) houses placed around courtyards with common cooking areas. It is thought that the separate clusters might have represent kin groups, each farming wheat on their own relatively small plots.

Additional fields, at a greater distance from the settlement center, may possibly have been worked in a shared manner by the entire community (Cavanaugh and Renard Lecture 2017 - *BSA*).



Kouphovonou - Laconia
Excavation Areas A - H
Mee et al. 2014, Fig. 2

It is evident from their various publications that the research team at Kouphovouno made every effort to characterize each of the excavated finds in a detailed manner and to locate each as precisely as possible, both spatially and temporally. This process was critical, not solely in the service of accuracy, but also in light of their overarching conceptual goals. The researchers argued that Kouphovouno, "has an importance that goes beyond the regional," (Cavanaugh et al. 2004, 50). Their challenge was to make the case that the Neolithic evidence from Kouphovouno reflected widespread material and social change and in doing so to define the nature of that change. Two sorts of transitions are described against which to measure the Kouphovouno evidence. The first affected the material culture the second social practices.

Radical changes in pottery traditions between the MN and LN are evident across the mainland. While regional variations are noted they occur as part of more significant and widespread similarities. Two conservative, yet contrasting decorated pottery traditions, were in place for centuries and endured through the MN period. Urfirnis wares dominated southern ceramics while the red-on-white Sesklo wares were widespread in the north. In contrast, the LN period attests to a series of widespread innovations in ceramics across the entire mainland. Black burnished pottery heralds this change but other wares most especially matt-painted ceramics follow——albeit regional variations were common.



Patterned Urfirnis Carinated Bowl
MN Lerna II - Bldg. W-17
Vitelli 2007, L1038, Photo 36



Red-on-White Painted Cup
MN (early) - Tzani Magoula,Thessaly
Volos Arch. Mus.



Black Ware Incurved Bowl
LN 1a Kouphovouno
Cavanaugh 2017, ASA Lecture

Along with the two pottery traditions, a striking MN population differential is reflected by the number and density of settlements in Thessaly as compared with the relatively sparse, widely separated settlements in the south. Perlès points to, "Asea, Lerna, Franchthi, FS 400 in the Berbati basin and Corinth as examples of these widely spaced and demonstrably isolated settlements (Perlès 2001, 118). However, despite their physical isolation, cultural connections existed between southern MN settlements. For example, Tracy Cullen determined that Urfirnis decorative styles suggested two networks of individuals influencing in some manner the pottery found at specific sites. Additionally, she points to Vitelli's judgement that the level of expertise necessary to produce these pots requires person to person instruction. Although less likely, Cullen

also suggests mobile groups of specialists bringing their ceramic skills and perhaps their pots to various sites (1985, 94-96). The practice of exogamy is another probable (and perhaps biologically necessary) way connections were maintained. In any case the evidence for interaction is undeniable. Lauren Talalay has studied another tradition shared among southern sites. MN clay figurine legs (aka split-legged figurines) are known from at least six locations in the Peloponnese including Kouphovouno. A single complete example is known from Lerna but the remainder are single legs with each clearly showing the point of detachment from the original (1987, 161-166). Details on known examples include buttocks, public triangle, and some indication of a hand resting on the upper thigh. Talalay describes aspects of the production of these figurines that suggest the legs of the original were intended to be separated or broken into two parts (ibid. 163). A contrary opinion is offered by Banks (2015, 252). Although not attested, it is possible these objects were shared not only within their settlement but perhaps between widely separated communities. Talalay's paper also details the later history of similar objects created specifically to be shared for a range of purposes both practical and symbolic (ibid., 164-169).



Split-leg Figurines
Kouphovouno - Franchthi - Lerna
Renard 2006, Fig. 9, Caskey 1957, Pl. 36

Kouphovouno Area G excavations were especially productive and yielded 58,200 sherds representing a continuous MN through LN ceramic sequence. The earlier material largely consisted of fine Urfirnis——with shapes indicating, "the pottery was principally used for the presentation or consumption of food and drink" (Renard and Cavanaugh 2006, 11). As mentioned above, similar wares were typical across the southern mainland during the MN and provide additional evidence for shared cultural traditions. The same types of ceramics remained in use, albeit in decreasing numbers, in the transitional and early LN levels but were gradually replaced by black wares and matt-painted pottery. Also noted within transitional MN - LN levels was a "hybrid style," combining lustrous (rather than matt-painted) linear decoration as well as proportionally increasing numbers of course wares (bid., 12). Significantly, the ceramic sequence at Kouphovouno was uninterrupted while also reflecting changes in ceramic wares that took place across the mainland during the MN to LN transition. However, the researchers at Kouphovouno were intent on characterizing the transition in a more precise way——one that presented the evidence in a quantifiable manner. Among the variables that need to be accounted for were stratigraphic location, typologies, and sample size. Another significant issue was "redeposition"——the identification of sherds not in their original position. To what degree the researchers succeeded is a matter for experts to judge. They concluded, however, that rather than exhibiting a MN - LN break, at Kouphovouno——"the stratigraphy of Area G indicates there is some continuity" (2014, 70-89). Along with the variety of new ceramic wares and decorative techniques, LN bowls tended to be smaller and jars larger than their earlier counterparts. This, the researchers state, "imply that a different set of practices determined how food and drink were consumed" (ibid., 92). Significantly, these changes are not unique to Kouphovouno but are attested at a number of sites in the Peloponnese.

One group of ceramic vessels, the rhyta, reflect even wider connections——from the southern Peloponnese north through the Balkans to Bosnia and Croatia. Although rhyta first occur in the EN they are widespread in the LN and appear to be made locally (ibid., 93). Kouphovouno's researchers draw a number of conclusions based on their detailed analysis of the ceramics. Given the gradual transition from a period of stylistic uniformity (EN) to one of diversity (LN) it does seem unlikely that this was the result of any large scale displacement of one people by another. A notable aspect of LN ceramics——shared elements of decorative styles and shapes, appear to indicate widespread communication in some form across much of the mainland. It is not clear, however, that shared stylistic elements reflect the same degree or manner of interconnection between all regions nor that the presence of particular wares necessarily reflect similar symbolic attributions. The authors suggest that, "the rhyta do indicate a shared ideology which extended well beyond the Peloponnese" (ibid.). Although the function of rhyta is debated, recent analysis of 4 late MN - early LN rhyta (5400 - 4900 BCE) from Pokrovnik, Croatia on the Dalmatian coast indicated that three had secondary dairy product residues consistent with cheese (McClure et al. 2018, 7). While perhaps not conclusive these results clearly establish the probability that rhyta had a practical and functional use. While this does not eliminate a possible ideological or symbolic attribution, the latter appears to add an unsubstantiated speculative element to the interpretation. Of course even the plainest bowl or jar might take on symbolic meaning——an attribution commonly associated with deliberate breakage in a mortuary setting. As in this case symbolic attributions are typically dependent on context. Bonga makes the point that although few complete rhyta are attested, the majority of these are found in domestic contexts (2013, 229-230). At the conclusion of their 2014 article the authors state, "The contrast between the Middle Neolithic and Late Neolithic periods, between stylistic uniformity and diversity, reflects a change in the way that pottery was used and perceived" (Mee et al. 2014, 93). And the increasing amounts of course wares during the LN (presumably for everyday use) seems to buttress this generalization. One element of this trend is the increasing numbers of storage vessels——evidence that prompts the question, why these particular pots? Two possibilities are entertained: a belated awareness of a good idea or (after Halstead) a reflection, "that households had adopted a more independent storage strategy"; similarly, referring to LN changes in bowl and jar profiles the authors see this as suggestive of, "an emphasis on individuality in the way that food and drink were consumed" (ibid.). But as Halstead observed, a number of such changes in tablewares support hypotheses with opposing conclusions. To favor one or the other based on the archaeological evidence, he realized, was a daunting matter. It is one thing to document change, another to posit why. It may be that anticipation of social and cultural changes known to occur in the Bronze Age provide tempting, but not altogether convincing, targets for speculation. As Mee suggests the LN diversity may simply be the result of, "a desire for diversity after the uniformity of the previous period" (2007, 312). The "Balkans 4000" project addressed the "Fourth Millennium Problem" or the apparent widespread settlement abandonments, in part, by adding new 14C dating samples from

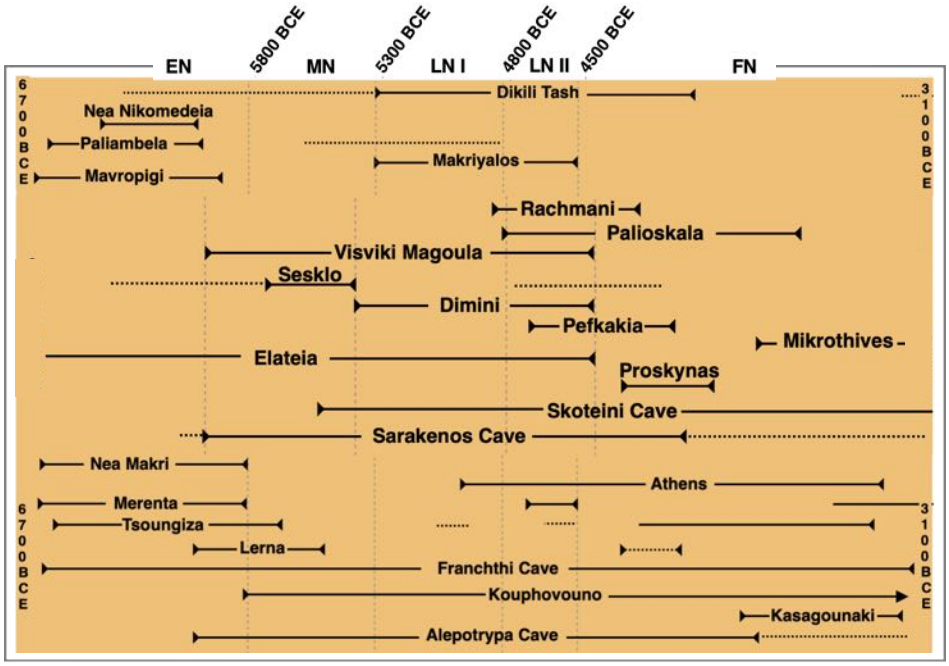




Rhyta leg
LN Kouphovouno
Cavanaugh 2017, ASA Lecture

MN - LN Rhyta
Pokrovnik, Croatia
Šibenik City Museum

Neolithic sites across mainland Greece and the Balkans (Tsirtsoni 2016a, 1-3). These data enhanced existing radiometric evidence in support of a multidisciplinary research project published as——*The Human Face of Radiocarbon* (Tsirtsoni 2016a). Tsirtsoni's preliminary publication points out that while the final centuries of the 4th millennium marks the beginning of the Bronze Age on the Balkan peninsula, the crux of the 'millennium problem' occurs in the preceding centuries (2014, 275). The underlying issue of gaps in the chronological record, Tsirtsoni explains, is reflected in both the Balkan region and on the Greek mainland despite their strikingly different historical trajectories. The Old Europe culture Chalcolithic tombs at Varna on the Black Sea reveal a society with extraordinary wealth and advanced technological skills by ca. 4500 BCE——but also one that suffered catastrophe and collapse towards the end of the 5th millennium. By the beginning of the Bronze Age, however, something of a "renaissance" was underway in the same region——but its cultural characteristics seem entirely exogenous rather than a reflection of earlier advances (2014, 277-279). The contemporary, albeit relatively more modest, advances (eg. at Sesklo, Dimini, and Dikili Tash) of the mature Greek Neolithic (late MN to early FN) also seem to fade away as one after another site is abandoned——many for nearly a millennium. In marked contrast to the north, however, the EBA reoccupation of many of these same sites attests to a significant degree of cultural similarity, if not direct continuity, with the earlier period (ibid., 279-281). The combined archaeological evidence and 14C data indicate that most site abandonments occurred between 4400 BCE and 4200 BCE (ibid., 283-284). Just as significant as the individual site episodes of occupation and abandonment are their collective temporal patterns across a given region. As Tsirtsoni states, "taken individually all the Neolithic/Chalcolithic sites seem to be abandoned at some point in their history, and most of them display gaps that reach or exceed an entire millennium. However, when considered at a regional scale, gaps are significantly smaller . . ." (ibid., 290). In any case, regional generalizations, stresses Tsirtsoni, are meaningful only to the degree they rest on specific site and survey evidence. The 14C data is the starting point, says Tsirtsoni, from which, "one has to see how this evidence – in fact, this absence of evidence – fits the relative chronological sequence in the same areas," and this leads to, "confrontation with 'standard' archaeological data – stratigraphy and material culture" (ibid., 5). The chart below (in the manner of Tsirtsoni 2014, 285 Fig. 6) illustrates occupational periods for the major sites mentioned in the text.



References

Adrymi-Sismani, Vassiliki. 2007. “Mycenaean Northern Borders Revisited New Evidence From Thessaly.” In *Rethinking Mycenaean Palaces II: Revised And Expanded Second Edition*. Monographs Book 60. Los Angeles. Cotsen Institute Of Archaeology Press.

___. 2016. “The settlement at the Mikrothives interchange and the transition from the Chalcolithic to the Early Bronze Age.” In *The Human Face of Radiocarbon: Reassessing Chronology in prehistoric Greece and Bulgaria, 5000 - 3000 cal BC,* edited by Z. Tsirtsoni. Lyon. MOM Éditions.

Allentoft, M.E., Sikora, M., Sjo¨gren, K.G., Rasmussen, S., Rasmussen, M., Stenderup, J., Damgaard, P.B., Schroeder, H., Ahlstro¨m, T., Vinner, L., et al. 2015. Population genomics of Bronze Age Eurasia. *Nature 522*, 167–172.

Alram-Stern, Eva. 2014. ”Times of Change: Greece and the Aegean during the 4th Millennium BC.” In *Western Anatolia before Troy. Proto-Urbanisation in the 4th Millennium BC?*: Proceedings of the International Symposium. Kunsthistorisces Museum Wien Vienna, Austria, 21 - 24 November, 2012, edited by Horejs Barbara and Mehofer Mathias. Vienna. Austrian Academy of Sciences Press.

___. 2018. “Visviki Magoula, Thessaly: Reconsidering cultural change from the Arapi to the Dimini phase.” In *Communities in Transition: The Circum-Aegean Area During the 5th and 4th Millennia BC,* edited by Søren Dietz, Fanis Mavridis, Žarko Tankosi, and Turan Takaoğlu. Oxford. Oxbow Books.

Alušík, Tomáš. (2014) 2017 “Communities Interaction and (intended) Land Use in Neolithic Greece: the Testimony of the Defensive Architecture.” In *Communities, Landscapes and Interaction in Neolithic Greece,* edited by A. Sarris, E. Kalogeropoulou, T. Kalayci, and L. Karimali. Proceedings of the International Conference, Rethymno, 29 - 30 May 2015. Ann Arbor. International Monographs in Prehistory, Archaeological Series 20.

Andreou, Stelios, Michael Fotiadis, and Kostas Kotsakis. 2001. “Review of Aegean Prehistory V: The Neolithic and Bronze Age of Northern Greece.” (259-319) and “Addendum: 1993-1999.” (320-327) In *Aegean Prehistory: A Review*, edited by T. Cullen. Boston. Archaeological Institute of America.

Banks, Elizabeth. 1977. “Neolithic Tangas from Lerna.” *Hesperia* 46, 324-339.

___. 2015. *Lerna. A Preclassical Site in the Argolid VII: The Neolithic Settlement*. Princeton. American School of Classical Studies at Athens.

Bekiaris, Tasos, Danai Chondrou, Ismini Ninou And Soultana-Maria Valamoti. 2020. “Food-Processing Ground Stone Tools In The Greek Neolithic And Bronze Age. A Synthesis Of The Published Data.” *Journal Of Greek Archaeology* 5, 135–195.

Blegen, Carl W. 1927. “Excavations at Nemea 1926.” *American Journal of Archaeology* 31, 421–40.

___. 1928. *Zygouries: a prehistoric settlement in the valley of Cleonae*. American School of Classical Studies at Athens. Cambridge. Harvard University Press.

Bonga, Lily. 2013. *Late Neolithic Pottery From Mainland Greece, ca. 5,300–4,300 B.C*. Ph.D. dissertation, Temple University.

___. (2015) 2017. “Thoughts on the Preliminary Study of Early Neolithic Decorated Pottery from the Central Origma at Mavropigi-Filotsai.” In *Communities, Landscapes and Interaction in Neolithic Greece*, edited by A. Sarris, E. Kalogeropoulou, T. Kalayci, and L. Karimali. Proceedings of the International Conference, Rethymno, 29-30 May 2015. Ann Arbor. International Monographs in Prehistory, Archaeological Series 20.

Caskey, J.L. 1954. “Excavations at Lerna, 1952-1953.” Hesperia 23, 3–30.

___. 1959. ”Activities at Lerna, 1958-1959." *Hesperia* 28, 202-07.

Caskey, John L. and Mary Eliot. 1956. "A Neolithic Figurine from Lerna." *Hesperia* 25, 175-77.

Cavanagh, William, Joost Crouwel, R. W. V. Catling, Graham Shipley, Pamela Armstrong, Jasper Fiselier, Oliver Rackham, Jan-Willem Van Berghem, And Malcolm Wagstaff. 2002. “Continuity And Change In A Greek Rural Landscape: The Laconia Survey.” *The British School at Athens. Supplementary Volumes* 26, iii–465.

Cavanagh, W., C. Mee, and J. Renard. 2004. “Sparta before Sparta': Report on the Intensive Survey at Kouphovouno 1999-2000." *The Annual of the British School at Athens,* 99, 49-128.

Cavanagh, Bill and Josette Renard. 2017. “Tradition, Transition and the impact of the new in Neolithic Greece.” The British School at Athens lecture.

Chapman, J. C. 1994. “The origins of farming in South East Europe”. In *Préhistoire Européenne* 6, 133–155.

Cherry, J .F., J. L. Davis, A. Demitrack, E. Mantzourani, T.F. Strasser, and L.E. Talalay. 1988. “Archaeological Survey in an Artifact-Rich Landscape: A Middle Neolithic Example from Nemea, Greece.” *American Journal of Archaeology* 92, 159–76.

Cherry, John and Wells, Berit. 1998. “The Berbati-Limnes Archaeological Survey 1988-1990.” *American Journal of Archaeology* 102, 824.

Childe, V.G. 1950. “The Urban Revolution.” In *The Town Planning Review* 21, 3-17.

Clemente, Floria et al. 2021. “The genomic history of the Aegean palatial civilizations.” Cell 184, 2565–2586.

Coleman, John E. 1977. *Kephala: A Late Neolithic Settlement and Cemetery*. Princeton. American School of Classical Studies.

Cullen, Tracy. 1985. “Social implications of ceramic style in the Neolithic Peloponnese.” Country. United States.

Cullen, T. and Keller, D. R. 1990. “The Greek pithos through time: multiple functions and diverse imagery,” edited by W. D. Kingery. In *The changing roles of ceramics in society: 26,000 b.p. to the present*. Westerville. The American Ceramic Society.

Dabney, Mary K., Susan E. Allen, Anne Kugler, Anastasia Papathanasiou, and James C. Wright. 2020. "The Neolithic Settlement on Tsoungiza at Ancient Nemea.” *Hesperia* 89, 1-65.

Demoule, Jean-Paul, and Catherine Perlès. 1993. "The Greek Neolithic: A New Review." *Journal of World Prehistory* 7, 355-416.

Diamond, Jared. 1999. *Guns, Germs, and Steel: The Fates of Human Societies*. New York. Norton.

Georgiadis, Mercourios. 2011. “Honouring the dead in Mesolithic and Neolithic Burials in the Peloponnese: a few general observations.” In *Honoring the Dead in the Peloponnese*. University of Nottingham. Centre for Spartan and Peloponnesian Studies Electronic Publication.

Haak, W., I. Lazaridis, N. Patterson, N. Rohland, S. Mallick, B. Llamas, G. Brandt, et al. 2015. “Massive Migration from the Steppe Was a Source for Indo-European Languages in Europe.” *Nature* 522, 207–11.

Halstead, Paul. 1992. “Dimini and the ‘DMP’: Faunal Remains and Animal Exploitation in Late Neolithic Thessaly.” *The Annual of the British School at Athens* 87, 29–59.

___. 2006. “What's Ours is Mine? Village and Household in Early Farming Society in Greece.” G. H. Kroon Memorial Lecture 28. Amsterdam. J. Enschedé.

Halstead, P. and V. Isaakidou, 2011. “Revolutionary secondary products: the development and significance of milking, animal-traction and wool-gathering in later prehistoric Europe and the Near East.” In *Interweaving Worlds: Systemic Interactions in Eurasia, 7th to 1st Millennia BC*., edited by T. Wilkinson, S. Sherratt, and J. Bennet. Oxford. Oxbow Books.

Harland, J. P. 1928. "The Excavations of Tsoungiza, the Prehistoric Site of Nemea.” *American Journal of Archaeology* 32, 63.

Herodotus. 2009. *The Landmark Herodotus: The Histories*. Translated by Andrea L. Purvis, edited by Robert Strassler, with an introduction by Rosalind Thomas. New York. Anchor.

Hirst, K. Kris. "An Introduction to Seriation." ThoughtCo. https://www.thoughtco.com/seriation-scientific-dating-before-radiocarbon-170607

Hitsiou, Elissavet. 2003. *Production And Circulation Of The Late Neolithic Pottery From Makrygialos (Phase II), Macedonia, Northern Greece*. Volume 2. Ph.D. dissertation, University of Sheffield.

Hofmanová, Zuzana, Susanne Kreutzer, Garrett Hellenthal, Christian Sell, Yoan Diekmann, David Díez-Del-Molino, Lucy Van Dorp, Saioa López, Athanasios Kousathanas, Vivian Link et al. 2016. "Early Farmers From Across Europe Directly Descended From Neolithic Aegeans." *Proceedings Of The National Academy Of Sciences* 113, 6886-6891.

Holmberg, Erik J. 1964. "The Appearance of Neolithic Black Burnished Ware in Mainland Greece." *American Journal of Archaeology* 68, 343–48.

Hourmouziadis, G. H. 1979. *Neolithic Dimini*. Volos. Etaireia Thessalikwn Erevnwn.

Ifantidis, F., and M. Nikolaidou, eds. 2011. *Spondylus in Prehistory: New Data and Approaches*. British Archaeological Reports. Oxford. Archaeopress.

Immerwahr, Sara Anderson. 1971. "The Neolithic and Bronze Ages." *The Athenian Agora* 13, iii–286.

Jacobsen, Thomas W. 1969. "Excavations at Porto Cheli and Vicinity, Preliminary Report, II: The Franchthi Cave, 1967-1968." *Hesperia* 38, 343–381.

___. 1973. "Excavation in the Franchthi Cave, 1969-1971, Part I." *Hesperia* 42, 45–88.

___. 1981. "Franchthi Cave and the Beginning of Settled Village Life in Greece." *Hesperia* 50, 303–319.

Kaczanowska, Małgorzata and Janusz K. Kozłowski. 2016. "Early Neolithic Settlement Of Mavropigi In Western Greek Macedonia." 2. "Mavropigi chipped stone assemblages," edited by Ofer Bar-Yosef and Janusz Kozlowski. *Eurasian Prehistory* 12, 47–70. Peabody Museum Press. Cambridge.

Kakavogianni, O., E. Tselepi, K. Dimitriou, C. Katsavou, and K. Douni. 2018. "The Neolithic and Early Bronze Age Settlement in Merenta, Attica, in Its Regional Context." In The *Human Face of Radiocarbon : Reassessing Chronology in Prehistoric Greece and Bulgaria, 5000-3000 Cal BC*, edited by Zoï Tsirtsoni, 437–51. Travaux de la Maison de l'Orient et de la Méditerranée. Lyon. MOM Éditions.

Karamitrou-Mentessidi, G. 2005. "Mavropigi and Komonos." *Archaeological Museum of Thessaloniki* 19, 511-539. Thessaloniki. Aristotle University of Thessaloniki.

Karamitrou-Mentessidi, G, N. Efstratiou. 2016. "Early Neolithic Settlement Of Mavropigi In Western Greek Macedonia." 1. "Archaeological investigations of the site of Mavropigi," edited by Ofer Bar-Yosef and Janusz Kozlowski. *Eurasian Prehistory* 12, 47–70. Cambridge. Peabody Museum Press.

Köhler-Rollefson, Ilse. 1988. "The Aftermath Of The Levantine Neolithic Revolution In The Light Of Ecological And Ethnographic Evidence." *Paléorient* 14, 87-93.

Kotsakis, Kostas. 1999. "What Tells Can Tell: Social Space and Settlement in the Greek Neolithic." In *Neolithic Society in Greece,* edited by Paul Halstead. *Sheffield Studies of Aegean Archaeology* 2. Sheffield. Sheffield Academic Press.

___. 2007. "Prehistoric Macedonia." In *The History of Macedonia*, edited by I. Koliopoulos. Thessaloniki. Museum of the Macedonian Struggle.

___. 2014. "Domesticating the periphery: New research into the Neolithic of Greece." *Pharos*: 20, 41-73.

___. 2016. "Paliambela Kolindros: an early community at the onset of the Greek Neolithic in Macedonia." The British School at Athens Lecture Series. https://www.youtube.com/watch?v=ILLGPsedwfk

Lazaridis, Iosif, Songül Alpaslan-Roodenberg, Ayşe Acar, Ayşen Açıkkol, Anagnostis Agelarakis, Levon Aghikyan, Uğur Akyüz, Desislava Andreeva, Gojko Andrijašević, Dragana Antonović, et al. 2022. "The Genetic History of the Southern Arc: A Bridge Between West Asia and Europe." *Science* 377(6609).

Lazaridis, Iosif, Mittnik, Alissa, Patterson, Nick Mallick, Subhashis, Rohland, Nadin, Pfrengle, Saskia, Furtwängler, Anja, Peltzer, Alexander, Posth, Cosimo, Vasilakis, Andonis et al. 2017. "Genetic Origins of the Minoans and Mycenaeans." *Nature* 548, 214–218.

Lazaridis, I., Patterson, N., Anthony, D. *et al*. 2025. The genetic origin of the Indo-Europeans. *Nature* **639**, 132–142. https://doi.org/10.1038/s41586-024-08531-5

Malamidou Dimitra, Maria Ntinou, Soultana-Maria Valamoti, Zoï Tsirtsoni, Haïdo Koukouli-Chrysanthaki, and Pascal Darcque. (2015) 2017. "An Investigation of Neolithic Settlement Pattern and Plant Exploitation at Dikili Tash." In *Communities, Landscapes and Interaction in Neolithic Greece,* edited by A. Sarris, E. Kalogeropoulou, T. Kalayci, and L. Karimali. Proceedings of the International Conference, Rethymno, 29-30 May 2015. Archaeological Series 20. Ann Arbor. International Monographs in Prehistory.

Mastrogiannopoulou, Vagia. (2015) 2017. "The Discovery of Painted Pottery in Caves: an Interpretation in the Case of Sarakenos Cave (Kopais, Boeotia)." In *Communities, Landscapes, and Interaction* in *Neolithic Greece,* edited by Apostolos Sarris, Evita Kalogiropoulou, Tuna Kalayci, Evagelia Karimali. Proceedings of the International Conference, Rethymno, 29-30 May 2015. Archaeological Series 20. Ann Arbor. International Monographs in Prehistory.

Mathieson, I. et al. 2018. The genomic history of southeastern Europe. *Nature* 555, 197–203.

McClure, Sarah B., Clayton Magill, Emil Podrug, Andrew M. T. Moore, Thomas K. Harper, Brendan J. Culleton, Douglas J. Kennett, and Katherine H. Freeman. 2018. "Fatty acid specific δ13C values reveal earliest Mediterranean cheese production 7,200 years ago." *PLOS ONE* 13, 9.

Mee, Christopher. 2007. "The production and consumption of pottery in the Neolithic Peloponnese." In *Cooking up the Past: Food and Culinary Practices in the Neolithic and Bronze Age Aegean,* edited by C. Mee and J. Renard. Oxford. Oxbow Books.

Mee, Chris, Bill Cavanagh, and Josette Renard. 2014. "The Middle-Late Neolithic Transition At Kouphovouno." *The Annual of the British School at Athens* 109, 65–430.

O'Donnell, James. J. 2015. *Pagans*. New York. HarperCollins.

Orphanidis, Laia and Adamantios Sampson. 2015. *Neolithic Figurines of Boeotia from the Sarakenos Cave at Akraephnion*. Athens. Academy Of Athens Research Centre For Antiquity.

Page, Abigail, E., Sylvain Viguier, Mark Dyble, Daniel Smith, Nikhil Chaudhary, Gul Deniz Salali, James Thompson, Lucio Vinicius, Ruth Mace, and Andrea Bamberg Migliano. 2016. "Reproductive Trade-Offs in Extant Hunter-Gatherers Suggest Adaptive Mechanism for the Neolithic Expansion." *Proceedings of the National Academy of Sciences* 113, 4694–99.

Palaima, Thomas G. 2008a. "Mycenaean Religion." In, *The Cambridge Companion To The Aegean Bronze Age*, edited by Cynthia W. Shelmerdine. Cambridge. Cambridge University Press.

___. 2008b. "The Significance of Mycenaean Words Relating to Meals, Meal Rituals, and Food" given at 12th International Aegean Conference. http://hdl.handle.net/2152/63793

___. 2012. "Security and Insecurity as Tools of Power in Mycenaean Palatial Kingdoms" in *Études mycéniennes 2010* édités par Pierre Carlier, CharlesDe Lamberterie, Markus Egetmeyer, Nicole Guilleux, Françoise Rougemont, Julien. Paris. Zurbach.

___. 2011. "Scribes, scribal hands and palaeography." In *A Companion to Linear B: Mycenaean Greek Texts and Their World* - Volume 2, edited by Y. Duhoux, A Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

Pantelidou-Gofa, M. 1997. *I neolithiki Attici*. Athens. The Archaeological Society at Athens.

Pappa, Maria. 2007. "Neolithic Societies:Recent Evidence from Northern Greece." *The Struma/Strymon River Valley In Prehistory,* edited by Henrieta Todorova, Stefanovich, and Ivanov. Sofia.

Pappa, Maria and Manthos Besios. 1999. "The Makriyalos Project: Rescue Excavations at the Neolithic Site of Makriyalos, Pieria, Northern Greece." In *Neolithic Society in Greece,* edited by Paul Halstead. *Sheffield Studies in Aegean Archaeology*, 2. Sheffield. Sheffield Academic Press. Cambridge. Cambridge University Press.

Pappa, Maria, Halstead, Paul, Kotsakis, Kostas, Urem-Kotsou, Dushka. 2004. "Evidence for large-scale feasting at Late Neolithic Makriyalos, North Greece." In *Food, Cuisine and Society in Prehistoric Greece,* edited by Paul Halstead and John Barrett. Oxford. Oxbow Books.

Pappa, Maria and Stratos Nanoglou. 2019. “The Rescue Excavation Project At The Neolithic Settlement Of Vasilika Kyparissi In Central Macedonia, Greece.” *Antiquity* 93, 1–7.

Pappa, Maria and Rena Veropoulidou. 2011. “The Neolithic Settlement At Makriyalos, Northern Greece: Evidence From The *Spondylus gaederopus* Artifacts.” In *Spondylus In Prehistory: New data and approaches. Contributions to the archaeology of shell technologies*. Oxford. Archeopress.

Papadopoulos, John. 2005. “Inventing the Minoans: Archaeology, Modernity and the Quest for European Identity.” *Journal of Mediterranean Archaeology* 18,1.

Papathanasiou, Anastasia. 2009. “Mortuary Behaviour in the Alepotrypa Cave: Assessments from the Study of the Human Osteological Material.” *British School at Athens Studies* 16, 21–28.

___. 2014. “Alepotrypa Cave and the surrounding area: Past and Present.” Aegean Lectures. Aegeus - Society for Aegean Prehistory. https://www.youtube.com/watch?v=L-NmRFG_qaw&t=411s

Papathanasiou, A., W. A. Parkinson, D. J. Pullen, M. L. Galaty, and P. Karkanas, eds. 2018. *Neolithic Alepotrypa Cave in the Mani, Greece. In honor of George Papathanassopoulos*. Oxford. Oxbow Books.

Papathanasopoulos, G. A. editor. 1996. *Neolithic culture in Greece*. Athens. N. P. Goulandris Foundation.

Parkinson, William, Anastasia Papathanasiou, Michael Galaty, Daniel Pullen, Panagiotis Karkanas, Giorgos Papathanassopoulos. 2017. “Diros in Context: Alepotrypa Cave and Ksagounaki Promontory in the Neolithic Period.” In *Communities, Landscapes and Interaction in Neolithic Greece,* edited by A. E. Sarris, Kalogeropoulou, T., Kalayci, and L., Karimali. Proceedings of the International Conference, Rethymno, 29-30 May 2015. Archaeological Series 20. Ann Arbor. International Monographs in Prehistory.

Perlès, Catherine. 2001. *The Early Neolithic In Greece - The first farming communities in Europe*. Cambridge. Cambridge University Press.

——. 2019. Review of "Neolithic Alepotrypa Cave in the Mani, Greece.” 2019. *Journal of the Netherlands Institute at Athens* 4, 424-431. Athens.

Perlès, Catherine and Karen Vitelli. 1999. “Craft Specialization in the Neolithic of Greece.” In *Neolithic Society in Greece - Sheffield Studies in Aegean Archaeology* 2, edited by Paul Halstead. Sheffield. Sheffield Academic Press.

Petrakis, S. L., 2002. *Ayioryitika. The 1928 Excavations of Carl Blegen at a Neolithic and Early Helladic Settlement in Arcadia*. Philadelphia. The Institute for Aegean Prehistory Academic Press.

Phelps, William W. (1975) 2004. *The Neolithic pottery sequence in southern Greece*. BAR International Series 1259. Oxford. BAR Publishing.

___. 1987. “Prehistoric Figurines from Corinth.” *Hesperia* 56, 233–53.

Picard, Ch., E. A. Gardner, F. N. Pryce, W. Cooksey, A. M. Woodward, S. Casson, F. B. Welch, and Marcus N. Tod. 1918. “Macedonia.” *The Annual of the British School at Athens* 23, 1–103.

Psimogiannou K. 2008. *I neolithiki egkatastasi ston Proskyna Phthiotidos*. Unpublished MA thesis, Aristotle University of Thessaloniki.

___. 2012. “Creating identities in the mortuary arena of the Greek Final Neolithic: a contextual definition of practices in Central and Southern Greece.” *Documenta Praehistorica* XXXIX.

___. (2015) 2017. “Fluid landscapes, bonded people? The role of burial areas as places for interaction, exchange, and deposition during the Final Neolithic period in central and southern Greece.” In *Landscapes and Interaction in Neolithic Greece,* edited by A. E. Sarris, Kalogeropoulou, T., Kalayci, and L., Karimali. Proceedings of the International Conference, Rethymno, 29-30 May 2015. Archaeological Series 20. Ann Arbor. International Monographs in Prehistory.

Pullen, Daniel J. 2011. *The Early Bronze Age Village on Tsoungiza Hill* (Nemea Valley Archaeological Project I). American School of Classical Studies. Princeton.

___. 2017 “Caves and the landscape of Late Neolithic – Early Helladic I Greece: Comparing excavation and survey data from the Peloponnese.” In *Communities in Transition: The Circum-Aegean Area in the 5th and 4th Millennia BC,* edited by S. Dietz, F. Mavridis, Z. Tankosic and T. Takaoğlu. Oxford. Oxbow Books. Kindle.

Pullen, Daniel J., Michael L. Galaty, William A. Parkinson, Wayne E. Lee and Rebecca M. Seifried. 2018. “The Diros Project, 2011–2013: surface survey and site collection in Diros Bay.” In *Neolithic Alepotrypa Cave in the Mani, Greece. In honor of George Papathanassopoulos*. Oxford. Philadelphia, Oxbow Books. Kindle.

Rasmussen, Simon, Morten Erik Allentoft, Kasper Nielsen, Ludovic Orlando, Martin Sikora, Karl-Göran Sjögren, Anders Gorm Pedersen, Mikkel Schubert, Alex Van Dam, Christian Moliin Outzen Kapel, and Henrik Bjørn Nielse et al. 2015 “Early Divergent Strains of Yersinia pestis in Eurasia 5,000 Years Ago.” *Cell* 163, 571-82.

Reich, David. 2018. *Who We Are and How We Got Here. Ancient DNA and the New Science of the Human Past*. New York. Pantheon.

Renard, Josette and William Cavanaugh. 2006. “The Kouphovouno Project 2006 Excavation Season.” *Academia*. Original PDF.

Renfrew, Colin. 1986. “Sitagroi in European Prehistory.” In *Excavations at Sitagroi: A Prehistoric Village in Northeast Greece* Volume 1, edited by Colin Renfrew, Marija Gimbutas, and Ernestine S. Elster. *Monumenta Archaeologica*. Los Angeles. The Cotsen Institute of Archaeology Press.

Rodden, R. J. 1964. “Recent discoveries from prehistoric Macedonia : an interim report.” *Balkan Studies* 5: 109-124. Thessaloniki. University of Thessaloniki.

Rodden, R. J., Gillian Pyke, Paraskevi Yiouni, And K. A. Wardle. 1996. “Nea Nikomedeia I: The Excavation Of An Early Neolithic Village In Northern Greece 1961-1964. The Excavation And The Ceramic Assemblage.” *The British School at Athens. Supplementary Volumes,* 25: iii–212.

Runnels, Curtis. 2001. "Review of Aegean Prehistory IV: The Stone Age of Greece from the Palaeolithic to the Advent of the Neolithic” (225-254) and “Addendum: 1993-1999.” (255-258) In *Aegean Prehistory: A Review,* edited by T. Cullen. Boston. Archaeological Institute of America.

Rutter, J.B. 2017. “The Neolithic Cultures of Thessaly, Crete, and the Cyclades.” In *Brewminate*. https://brewminate.com/the-neolithic-cultures-of-thessaly-crete-and-the-cyclades/

Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013. Aegean Prehistoric Archaeology. Project sponsored by Dartmouth College.

Sampson, Adamantios, Janusz K. Kozłowski, Malgorzata Kaczanowska, Anna Budek, Adam Nadachowski, Teresa Tomek, and Barbara Miękina. 2009. "Sarakenos Cave in Boeotia, from Palaeolithic to the Early Bronze Age.” *Eurasian Prehistory* 6, 199–231. Cambridge. Peabody Museum.

Sampson, Adamantios and Vagia Mastrogiannopoulou. 2018. “Late Neolithic traditions: Evidence from Sarakenos Cave.” In *Communities in Transition: The Circum-Aegean Area During the 5th and 4th Millennia BC,* edited by Søren Dietz, Fanis Mavridis, Žarko Tankosić, and Turan Takaoğlu. Oxford, Oxbow Books. Kindle.

Séfériadès, Michel L. “Spondylus and Long-Distance Trade in Prehistoric Europe,” translated by A.G. Brown. Centre National de la Recherche Scientifique. In *The Lost World of Old Europe The Danube Valley, 5000–3500 BC*. The Institute For The Study Of The Ancient World At New York University. Princeton. Princeton University Press.

Shennan, Stephen, Sean S. Downey, Adrian Timpson, Kevan Edinborough, Sue Colledge, Tim Kerig, Katie Manning & Mark G. Thomas. 2013. “Regional population collapse followed initial agriculture booms in mid-Holocene Europe.” *Nature Communications* 4, 2486.

Siros, Anastasios and Miltiadis Miteletsis. 2016. “Kryoneri, Nea Kerdyllia: a settlement of the Late Neolithic and Early Bronze Age on the lower Strymon valley, Eastern Macedonia.” In *The Human Face of Radiocarbon: Reassessing Chronology in prehistoric Greece and Bulgaria, 5000-3000 cal BC,* edited by Z. Tsirtsoni. Lyon. MOM Éditions.

Talalay, Lauren E. 1987. “Rethinking the Function of Clay Figurine Legs from Neolithic Greece: An Argument by Analogy.” *American Journal of Archaeology* 91, 161–69.

___. 2018. *Deities, Dolls, and Devices Neolithic Figurines From Franchthi Cave, Greece, Fascicle 9, Excavations at Franchthi Cave, Greece*. Bloomington, Indiana University Press.

Theocharis, D. R.1954. *Anaskafi neolithikou sinoikismou en Nea Makri (Attikis)*. Proceedings of the Athens Archaeological Society.

——. 1956. Nea Makri. Eine grosse neolithische Siedlung in der Nähe von Marathon. Mitteilungen der Deutschen Archäologischen Instituts 71, 1–29.

——. 1967. *Η Αυγή της Θεσσαλικής Προϊστορίας:αρχή και πρώιμη εξέλιξη της Νεολιθικής*. Volos. Filarkhaios Etaireia Volou.

___. 1973. *Neolithic Greece*. Athens, National Bank of Greece.

Thomas, Julian. 2012. *Regional Perspectives on Neolithic Pit Deposition: Beyond the Mundane*. Oxford. Oxbow Books.

Todorova, H., M. Stefanivic and G. Ivanov, eds. 2007. "Promachon-Topolnica: A Greek-Bulgarian Archaeological Project." In *The Struma/Strymon River Valley in Prehistory. In The Steps of James Harvey Gaul*, Vol. 2, edited by Ivan Vajsov, Ioannis Aslanis, Henrieta Todorova, and Magdalini Valla. Sofia.

Tomkins, Peter. 2007. "Communality and competition. The social life of food and containers at Aceramic and Early Neolithic Knossos, Crete." In *Cooking up the past: food and culinary practices in the Neolithic and Bronze Age Aegean,* edited by C. Mee and J. Renard, 174–99. Oxford. Oxbow Books.

Toufexis, G. 2016. "Palioskala. A Late Neolithic, Final Neolithic and Early Bronze Age settlement in the Eastern Thessalian plain (Central Greece)." In *The Human Face of Radiocarbon: Reassessing Chronology in prehistoric Greece and Bulgaria, 5000-3000 cal BC,* edited by Z. Tsirtsoni. Lyon. MOM Éditions.

Tsirtsoni, Z. 2014. "Formation or Transformation?: The 4th Millennium BC in the Aegean and the Balkans." In *Western Anatolia before Troy. Proto-Urbanisation in the 4th Millennium BC?*, edited by Barbara Horejs and Mathias Mehofer, Proceedings of the International Symposium held at the Kunsthistorisces Museum Wien Vienna, Austria, 21-24 November, 2012. Austrian Academy of Sciences Press. https://www.jstor.org/stable/j.ctv5vdd0s.16.

___, ed. 2016. *The Human Face of Radiocarbon: Reassessing Chronology in prehistoric Greece and Bulgaria, 5000-3000 cal BC,* translated by Boyan Alexiev, Athina Pediaditaki-Nalbant, Tatiana Stefanova, and Nicola Wardle-Hunter. Lyon. MOM Éditions. http://books.openedition.org/momeditions/498

___. 2016a. "The Late Neolithic II (Chalcolithic)-Early Bronze Age transition at the tell of Dikili Tash." In *The Human Face of Radiocarbon : Reassessing Chronology in prehistoric Greece and Bulgaria, 5000-3000 cal BC,* edited by Z. Tsirtsoni. Lyon. MOM Éditions.

___. 2016b. "The chronological framework in Greece and Bulgaria between the late 6th and the early 3rd millennium BC, and the 'Balkans 4000' project." In *The Human Face of Radiocarbon: Reassessing Chronology in prehistoric Greece and Bulgaria, 5000-3000 cal BC,* edited by Z. Tsirtsoni. Lyon. MOM Éditions.

Tsountas, Christos. 1898. "Kykladika." *Archaiologike Ephemeris*, 137–212.

___. 1908. *Hai proïstorikai akropoleis Dimēniou kai Sesklou*. Athēnai. Sakellarios.

Tsuneki, A. 1989. 'The manufacture of Spondylus shell objects at Neolithic Dimini, Greece." *Orient* 25, 1-21.

Vitelli, Karen. 1989. "Were pots first made for foods? Doubts from Franchthi." *World Archaeology* Vol 21: (1) *Ceramic Technology*. Routledge

___. 1995. "Pots, Potters, And The Shaping Of Greek Neolithic Society." In *Emergence Of Pottery In Technology And Innovation In Ancient Societies*, edited by William K. Barnett and John W. Hoopes. Washington. Smithsonian Institution Press.

___. 2007. *Lerna. A Preclassical Site In The Argolid. Results Of Excavations Conducted By The American School Of Classical Studies At Athens. Volume V. The Neolithic Pottery From Lerna*. Princeton. American School Of Classical Studies At Athens.

Vlachos, Dimitrios. 2002. “Changes in the production and use of pottery from the Early Neolithic to the ‘secondary products revolution’: some evidence from LN Makriyalos, Northern Greece.” *Documenta Praehistorica* XXIX.

Wace, A. J. B. and M. S. Thompson. 1912. *Prehistoric Thessaly*. Cambridge. Cambridge University Press.

Weinberg, Saul S. 1962. “Excavations at Prehistoric Elateia, 1959.” *Hesperia* 31, 158–209.

Weisshaar, H.-J. 1989. “Die deutschen Ausgrabungen auf der Pevkakia-Magula in Thessalien I. Das späte Neolithikum und das Chalkolithikum.” Bonn. Habelt.

Wells, B., and C.N. Runnels, eds. 1996. *The Berbati-Limnes archaeological survey, 1988–1990*. Stockholm. Swedish Institute at Athens.

Wells, Berit, Curtis Runnels, and Eberhard Zangger. 1993. “In The Shadow of Mycenae.” *Archaeology* 46, 54–63.

Whitley, J., S. Germanidou, D. Urem-Kotsou, A. Dimoula, I. Nikolakopoulou, A. Karnava, and D. Evely. 2006. “Archaeology in Greece 2006-2007.” *Archaeological Reports* 53, 1–121.

Wiencke, Martha Heath. 1989. “Change in Early Helladic II.” *American Journal of Archaeology* 93, 495–509.

Wijnen, M.H.J.M.N. 1981. “The Early Neolithic I settlement at Sesklo - An early farming community in Thessaly, Greece.” *Analecta Praehistorica Leidensia* 14. Leiden. Leiden University Press.

Yiouni, Paraskevi. 2001. “Surface Treatment of Neolithic Vessels from Macedonia and Thrace.” *The Annual of the British School at Athens* 96, 1–25.

Zangger, E. 1991 “Prehistoric Coastal Environments in Greece: The Vanished Landscapes of Dimini Bay and Lake Lerna.” *Journal of Field Archaeology* 18, 1–15.

Cycladic Islands: Late Neolithic to Early Bronze Age - *2026



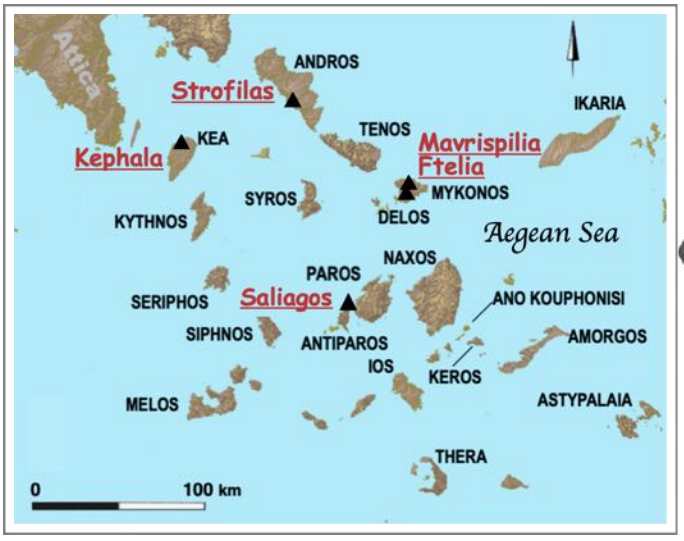
An abundance of evidence, predating the arrival of the first farmers by millennia, attest to hunter-gatherers voyaging to the island of Melos to acquire obsidian. Along with minerals, seasonal marine resources——including schools of spawning Bluefin Tuna (*Thunnus thynnys*), likely attracted the adventurous to the Cyclades. However, the initial colonization of the Cyclades dates to the LN and FN periods——notably later than settlement of the mainland and much of Crete. At the beginning of the present century, Cyprian Broodbank (a scholar in the forefront of the contemporary Cycladic studies) observed that understanding the processes leading to successful colonization requires defining the context in which the Cyclades, "were transformed from an empty archipelago into one occupied by resident communities" (2000, 107). Current analysis focuses on *insularity* and *connectivity* as the conceptual poles about which to characterize that context——as derived from the evidence of Cycladic archaeology. Significantly, this prioritizes the interplay of various elements of both the islands' physical environments and cultural attributes across both space and time (Knapp and van Dommelen 2014, 129-138).

There is, of course, a difference between a given colonization effort and a successful colonization. Theoretically, a small group of several families might transport enough of their personal possessions, tools, cooking utensils, crop seed, and live stock to establish an island farmstead and indeed "survive" for several or even a half-dozen years. However, as most early settlements were considerable smaller than the 300 to 500 individuals required to maintain viable reproduction rates, absent the means for reliable inter-island travel or transport to and from the mainland such groups cannot be said to have successfully colonized their new homes. Although we can only guess, there must have been a period of high failure rates and mortality among the pioneering colonist. Success stories were likely few——albeit the revelations from Strophilas on Andros provide early (FN) evidence for a relatively large and prosperous site. Critical to this assessment is the rock art strongly suggesting the availability of canoes and/or longboats capable of transport in even adverse weather conditions (Broodbank 2008, 52-54).

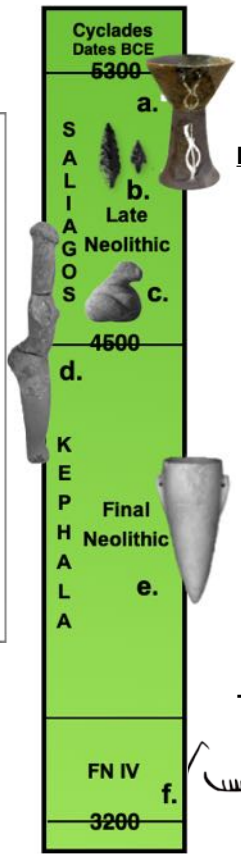
In the 1960s Colin Renfrew was among a small group of researchers excavating Cycladic sites. Concurrently Renfrew was investigating new models to apply to Aegean prehistory in general——an interest that would ultimately prove transformative. His volume *The Emergence of Civilization*——established a unique basis for Cycladic chronology but, even more significantly, redefined the parameters of Aegean archaeology in general (Renfrew 1972; Renfrew and Cherry 2017). Renfrew's call for examining Aegean culture on its own terms——stressing the aspects of the material culture unique to their own time and place, arose in part from Renfrew's critique of the limitations of the *diffusionist* model explicated by his mentor V. Gordon Childe (Renfrew and Cherry 2017, XXIX). During the latter decades of the twentieth century important aspects of Renfrew's vision were embraced while his own field work continued—— including important excavations in the Cyclades. Although not universally accepted, the cultural categories he defined for the Cyclades in 1972 remain in use today (ibid., XXXIII - XXXVII). NB, Calendar dates for cultural periods vary geographically but also as proposed by different scholars within a given region.

Late Neolithic - Saliagos Culture (ca. 5300-4500 BCE)

Apart from sporadic visits by early hunter gatherers, Knossos, was one of the first areas in the Aegean to be settled (ca. 7030–6780 BCE). Researchers have concluded that, "The first occupants, a small community, arrived in the area bringing with them the full Neolithic 'package' but not the pottery" (Facorellis and Maniatis 2013; Efstratiou et al. 2004, 44). With the notable addition of pottery, this seems to have been the pattern in the LN and FN as well. Saliagos, presently an islet between Paros and Antiparos, is among the earlier Neolithic Cycladic communities.[1] Prior to the period of rising sea levels, Saliagos formed part of an isthmus between the larger islands (Evans and Renfrew 1968, 3-5). Dwelling remains were limited to the stone foundations of rectangular structures although small finds including pottery and chipped stone artifacts were abundant. The finer pottery is typically burnished and commonly decorated with a variety of patterns in matt-white paint. See High-pedestaled Cup below. Notably, most obsidian arrowheads were finely crafted using a pressure-flaking technique, with a number exhibiting tang bases (ibid., 75-76). In addition to the shellfish that comprised an important part of the islanders' diet, an abundance of large fish bones, including tuna, suggests this seasonally common resource may have attracted settlers to the island. Weaving and basketry were also indirectly attested from loom weights and mat impressions. Estimated quantities of plant and animals remains (largely, carbonized grains and the bones of sheep and goats) indicated small groups of settlers (70-150 individuals) engaged in mixed farming although given the subsequent rise in sea levels and attendant erosion much of the evidence has likely been lost and population estimates may be low (Evans and Renfrew 1968, 77-81; Broodbank 2000, 145).



Cycladic Islands Neolithic Sites adapted from Google Earth



a. High-Pedestaled Cup
Saliagos
Neolithic Pottery - Wikimedia

b. & c.
see below

d. Figurine - Lady of Ftelia
Mykonos
Sampson & Mastrogiannopoulou 2017, Fig. 4.1

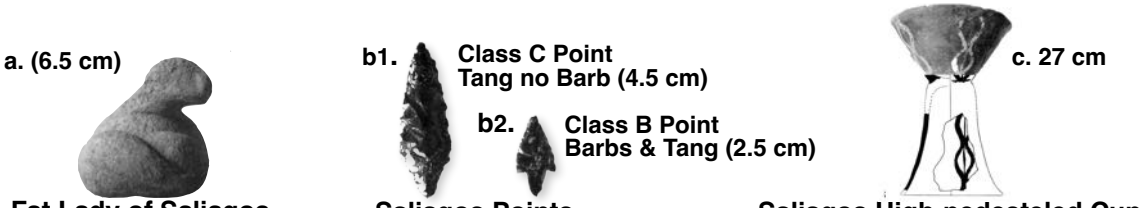
e. Marble Rhyton
Kephala, Kea
Coleman 1977, Pl. 67, 103

f. Rock Art
Strofilas
Televantou 2019, 165 Fig. 34

Chronology after Liritzis 2010, 1368 Table 1

1. Although see also Sampson et al. 2002; Kouka 2008. Mesolithic Maroulas on Kythera.

It is instructive to read *Excavations At Saliagos* as it offers a window on the narrowly focused archaeological methods of the period while at the same time hinting at the sea change in Aegean archaeology that would occur in fourth quarter of the twentieth century (Evans and Renfrew 1968). The report's central concern are the material finds——often enumerated in excruciating detail—for example 3,500 kg of pottery fragments (ibid., 34). The various site descriptions and catalogs of finds accompanied by illustrations of the stratigraphy together with photographs and drawings of the pottery, chipped-stone industry, and small finds (16 categories) clearly illustrate the methodological focus and practices of site archaeology (Ibid., 34-73). However, in their concluding remarks the authors enumerate both mainland and Anatolia affinities for a portion of their finds while also giving weight to, "the unique features of the Saliagos culture," and in fact to, "view the Saliagos culture as indigenous, doubtless with local antecedents" (ibid., 91).



Fat Lady of Saliagos **Saliagos Points** **Saliagos High-pedesteled Cup**

Evans and Renfrew 1968, a. Pl. XLII; b1. PL. XXXV, 4., b2. Pl. XXXVII ; c. XVII b., Fig. 31, 4.

Although the Saliago excavations preceded publication of Renfrew's *Emergence* (1973) and its engagement with Childe's worldview, a number of scholars have noted that the insights of both John Evans and Colin Renfrew——in part relating to their work at Saliagos, contributed to the subsequent transformation in our understanding of early Aegean history. In their aptly titled, *A Little History of Mediterranean Island Prehistory*, Cherry and Leppard highlight the profound influence of Arthur Evans and V. Gordon Childe on Aegean studies during the first half of the 20th century. Each envisioned a pan-Mediterraean diffusion of culture——originating in the ancient river valley civilizations of Mesopotamia and Egypt (Cherry and Leppard 2015, 11-14). However, as a result of his observations on Malta, John Evans had questioned the universality of this vision early in his career and, following his work on Saliagos, proposed that a number of the unique characteristics of islands, for example their isolation and limited resources, might provide archaeologists with *laboratories for the study of culture process* (1959; 1973). Although Renfrew sought to question a much wider range of topics, his *Emergence* volume suggested——"there could exist a functional relationship between insular environments and specific trajectories of cultural evolution" (Cherry and Leppard 2015, 14). Not surprisingly, in the course of the ensuing decades these hypotheses too were challenged. Current understanding of Mediterranean cultural patterns (following Broodbank) stress complexity and contingency often at a regional level——concepts largely in line with mainland archaeology. In any case, excavations on Saliagos encouraged both Evans and Renfrew to question the current paradigm and to suggest alternatives. See also *By Land and By Sea*.

Additional early 5th millennium BCE (LN) sites on Mykonos were initially investigated by John Belmont and subsequently reported by Renfrew (Belmont and Renfrew 1964). At Mavrispilia numerous flat-flaked, mainly obsidian, arrowheads with tang-bases exhibit advanced knapping technique similar to those from Saliagos. As a group they contrast sharply with the later, relatively crude points from Kephala on Kea (ibid., 396, 400). Ongoing excavations at Ftelia on Mykonos under the auspices of the The University of the Aegean began in 1995. This work has significantly enhanced what is known about a

number of the early structures. These include a “megaron” type building as well as apsidal-and circular-shaped structures (Sampson 2009). Notable are partially intact wall segments to heights of 1.5-1.8 m. The abundant pottery fragments indicate local production of handmade, mainly coarse, ceramics but also smaller groups of vessels (crusted, pattern- and black-burnished wares) decorated with matt-white paint in a manner similar to Saliagos fine wares (Aloupi 2002, 279-280). Also included among Ftelia’s diverse material assemblage were large quantities of obsidian——both cores and worked pieces, as well as numerous figurine fragments (Phoca-Cosmetatou 2008, 37; Sampson and Mastrogiannopoulou 2017, 30-34). Relatively recent excavations at Ftelia have enhanced the corpus of the earliest (FN - LN) metallic objects known from the Aegean. Each of these finds is significant as the deposition practices during the period reduce the probability of artifacts being recovered (Sherratt 2007, 248). The singular gold disk from Ftelia is the earliest find of its kind from the southern Aegean. In addition, over a dozen copper objects——largely awls and pins and a similar number of copper sheets are known from the site along with some evidence, albeit not conclusive, for metallurgical processes. Several researchers have suggested similarities between Mykonos finds and Varna grave goods (Maxwell et al. 2018).

Evans and Renfrew also identified Vouni on Antiparos and Agrilia on Melos as Saliagos culture sites. (1968, 74-75). Naxos, the largest of the Cyclades, has two additional sites with Saliagos cultural material——the Zas Cave and the Grotta cemetery (Broodbank 2000, 122-123). Zas strata I (just above bedrock) has small amounts of white-painted wares and significantly a gold ornament (Zacos 1999, 154). See map on 148.

Final Neolithic - (Attic) Kephala Culture (ca. 4500-3100 BCE)

The small settlement and cemetery at the north end of Kea was the initial FN (Chalcolithic) site to be discovered in the Cyclades. Excavations were initiated by Caskey and continued by a number of excavators including John Coleman who published *Kephala: A Late Neolithic Settlement and Cemetery* (Caskey 1962; Coleman 1977). Finds from Kephala date to the latest phase of the Neolithic and attest to a material culture that contrasts sharply with the settlement on Saliagos (Coleman 1977, 98). Neither the white-painted ceramics or the fine obsidian points characteristic of the Saliagos period occur on Kea. In fact, the ceramics are generally more akin to contemporary mainland pottery. For example the unusual scoop-shaped vessels common at Kephala are similar to ones from Thessaly and Attica; pattern burnishing along with other decor of Kean pottery also parallels finds at Thorikos and Athens (ibid., 100-101). The alternate cultural designation “Attic-Kephala” reflects these and other (eg. figurines from Kea and Athenian Neolithic wells) similarities (Immerwahr 1971, 230).



Scoop - Grave 13 (XX)
Pl. 82, 102



Grave 13 (XX)
Pl. 19, 13



Terracotta Figurine Head
Pl. 73, 128

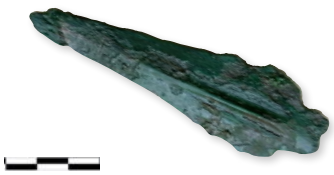
not to scale

J. Coleman, Keos I - Kephala 1977

The extramural burials at Kephala are significant as they are unlike contemporary mainland interments. At the time of its discovery the Cycladic cemetery was considered the earliest dedicated burial grounds in the Aegean. Unlike the common pit graves, most Kephala tombs are built graves——constructed with numerous uncut rocks, occasionally bonded with clay, and typically capped with a rock slab (Coleman 1977, 45). Platforms, of undetermined function, were added atop some graves. Two cist graves having sides lined with rock slabs and three jar burials were also noted (ibid. 48). Both individual

interments and group burials were present with one grave containing the remains of thirteen individuals presumed to be a single family (ibid., 44). Pottery was found in nine graves but aside from two marble vessels the material finds in general give the impression of a community with little wealth (ibid., 51). The Kephala graves are notable for features that are similar to tombs known from the later EC—for instance at Chalandriani at Syros. Several of the terracotta figurines also seem to suggest later developments. Coleman compares the head shapes of several clay figurines to later marble works at Ayia Irini (ibid., 105). Also significant were the small quantities of slag——indicating early experimentation with copper metallurgy at Kephala (ibid., 4). The copper itself shows some affinities with western Anatolian material and may, along with a marble rhyton, point to eastern influences. As Coleman explains, the evidence from Kephala attests to a number of possible regional affinities (ibid., 107). Given Kea's proximity to Attica, the northern Cyclades, and western Anatolia, the island's cross-cultural influences seem understandable.

FN Strofilas early date, overall size, and rich material finds are surprising. Christina Televantou began excavations at Strofilas on the western shore of Andros in 2000. This is a work in progress but one that has revealed the most extensive (3-3.5 ha) early Cycladic settlement to date (Televantou 2019, 147-151). Located atop a broad plateau, the site is protected seaward by sheer rock faces rising from two natural harbors. Landward access to the settlement was restricted by massive (h. to 4 m, w. to 2.5 m) defensive fortifications including a double wall and bastions along part of its length. Such fortifications are unique on Aegean islands in the Neolithic and anticipate later EBA structures. Partial excavation of the settlement has revealed foundations for both apsidal and rectangular structures, some with walls capable of bearing an upper story (2008, 43-45). Strofilas is perhaps best known for its rock-art engravings. Mostly depicting nautical, agrarian, and religious themes, the images occur singly, in small groups, and as large compositions (2018, 44). Both schematic and natural representations were either pecked or engraved into the rock surfaces of the settlement's walls and the site's bedrock. Significantly many of the seemingly primitive, schematic images appear to be symbolic and representative of underlying, albeit unknown, religious beliefs and/or ritual practices. The ring-idols at Strofilas and nearby Plaka**,** depicted in the rock-art and sculpted as figurines, are similar to ones known elsewhere in the Aegean, the Eastern Mediterranean, and the Balkans and are variously interpreted as symbolic of female fertility and/or representations of a deity. Televantou calls attention to the similarities of the ring-idols and the well known and enigmatic 'frying pans' of the EC II period (ibid., 45-47). Her descriptions of the numerous Neolithic figurines excavated at Strofilas, the rock art, and other material finds provide a FN link between earlier Saliagos artifacts and iconography and the Grotta-Pelos culture of the early BA Cyclades (Televantou 2017, 39-50). The 30 metal objects and 3 byproducts of metal working suggest metallurgy and perhaps connections with the nearby facilities for the enrichment of ores in Attica at Bertseko Laureotika——dated to the late 4th to early 3rd century BCE (Televantou 2019, 147; Tsaimou 2008, 493-494).



Bronze Dagger with Rib
Strofilas, Andros
Televantou 2019, 163 Fig. 29



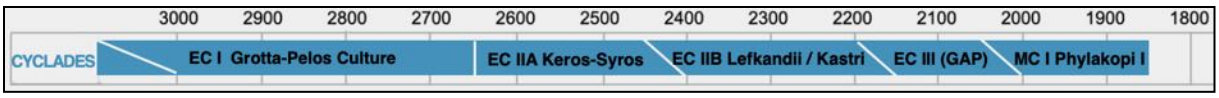
Ring-idols & Phallus Motif - Rock Art
Strofilas - Outside North Wall
Televantou 2019, 168 Fig. 38



Ring-Idol Type B Figurine - Andros
Televantou 2008, 52, fig. 6.20
Natl. Arch. Mus. Athens

Early Bronze Age Cyclades: EC I - III, MC I (ca. 3100-1850 BCE)*

Cycladic settlements during the FN (late) and EC I period are more akin to the LN Saliagos community while select elements at FN Strofilas point the way to the future. The small groups of families living in relatively dispersed hamlets and farmsteads early in the period would necessarily have relied on their neighbors, including those on adjacent islands. By EC II a small number of larger communities had established themselves on Syros, Kea, and Ios and to judge from the contents of their cemeteries, these settlements were not simply more populous but more socially diverse. A number of interments and tomb finds attest to individuals not just with more material wealth but also exhibiting indications of greater status and prestige. The degree to which this differentiation represents social hierarchy is debated but what is clear from the material finds are the increasing number of inter-regional contacts across greater distances——evidence for improvements in maritime capabilities. EC advances in metallurgy are also attested, in some cases by signs of the metal workers craft, but more often by copper weapons and tools as well as items of personal adornment crafted in silver. The Early Cycladic period was initially partitioned into the traditional tripartite arrangement, however, the lack of consistency of the material evidence across the region led to's cultural categories——Grotta-Pelos for EC I, Keros-Syros for EC II, Kastri EC II-III transitional, Phylakopi I for EC III (Renfrew 1973; Renfrew and Cherry 2017). Subsequently, prompted by an absence of evidence late in the EC III, Rutter suggested a revised chronology that adopted and adapted both earlier chronologies while also indicating parallels with Renfrew's cultural designations (1983, 75).



Early Bronze Age Cyclades
Aegean Prehistoric Archaeology
Rutter and Gonzalez-Major



Frying Pan with Longboat
Chalandriani, Syros 4974
Natl. Arch. Mus. Athens

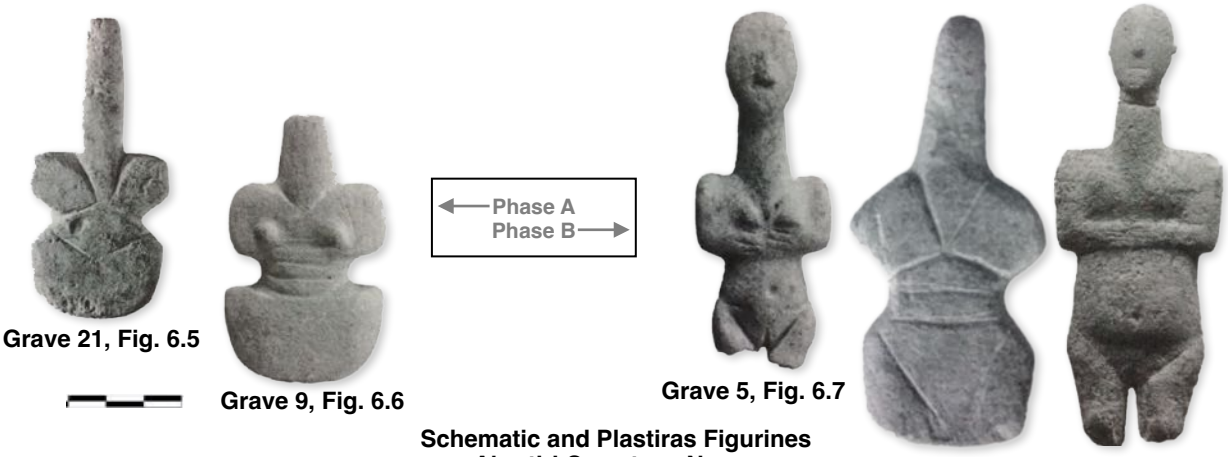
Early Cycladic Sites including western / eastern Attica-Crete trade routes
Marthari's (2008, 84)

Spedos Figurine
Provenance Unknown
© Trust. of the British Museum

* EC I - MC I dates in paragraph headings follow Rutter and Gonzalez-Major.
NB: Absolute chronologies typically rely on computation output and/or "best fit" data solutions and may vary regionally. However, as new evidence is likely to revise or refine absolute dates, a more useful approach may be to internalize the relative chronologies of important cultures and sites and their characteristic material evidence along with their implied social structures as well as the evidence for significant transitions and innovations.

EC I Grotta-Pelos Culture (3100/3000 - 2650 BCE)

The period is named for two cemeteries——Grotta on Naxos and Pelos on Melos, whose cist graves, like other FN - EC I burials, provide much of the important evidence for the period. Certainly the best know of Cycladic artifacts are the iconic marble figurines. Doumas excavated representative examples from burials at Akrotiri on Naxos and at the Plastiras cemetery on Paros. Two phases for EC I figurines are described. Phase A Schematic (violin-shaped) figurines from Akrotiri exhibit early morphological transitions——plain or with incised decorations and the initial schematic, anatomical details. Phase B Plastiras figurines may include ears, prominent kneecaps, and arms folded over the stomach (2017, 53-64). Unlike the examples Doumas described, many Cycladic figurines in museums and private collections have no provenance and thus are devoid of cultural significance. Although it is likely that many such figurines are forgeries, the marble cannot be dated and so the question of their authenticity is moot.



Schematic and Plastiras Figurines
Akrotiri Cemetery, Naxos
Doumas 2017



Cylindrical Pyxis
Incised Decoration
EC I Antiparos?
© Trustess of the British Museum



Marble Collared & Footed Jar
Incised with Pierced Lugs
EC I - Plastiras Phase
© Museum of Cycladic Art



Ceramic Collared Jar
Incised with Pierced Lugs
Antiparos
© Trustees of the British Museum

On the auction block (even in some cases despite uncertain provenance) the relative rarity of Cycladic figurines determines their value. Conversely, the relative abundance of ceramic material imparts value in archaeological contexts. Ancient artifacts excavated from settlement sites or those revealed by the farmer's plow often provide insights into the lives of the people who created those objects. However, whether a priceless figurine or broken pot handle, the archaeological *sine qua non* is context. We know that the ceramic and marble vessels illustrated at left are contemporary with Grotta-Pelos period figurines because they (or similar objects) were found together *in situ* in well documented, undisturbed excavation sites. Collared and/or footed jars, pyxis-type containers, pierced lug handles, and especially incised decorations, are hallmarks of EC I vessels.

Along with Schematic and Plastiras figurines, the Louros (from the eponymous cemetery on Naxos) type also belongs to the EC I Grotta-Pelos period. The featureless face is characteristic while other anatomical indications (breasts or incised pubic triangle) are only rarely found on Louros figurines. A number of these marble sculptures are associated with the transitional EC I - EC IIA Kampos Group. Nearly all material finds from the EC I are from cemeteries——specifically from the cist and built tombs that are characteristic of the EBA.



Louros Figurine
Unknown Provenance
Renfrew 1969, Pl. 2, fig. f

The lack of settlement architectural and domestic material finds significantly restricts what can be said about the earliest Cycladic Bronze Age communities. Markiani on Amorgos is an EC I settlement with an abundance of Grotta-Pelos pottery—— architectural elements, however, are limited to the partial remains of fortification walls (Marangou et al. 2006, 100-107). The significant expansion in the size of select Cycladic settlements by EC II is attested at Markiani (Phase III) and is indicative of the growing populations at these centers (ibid. 16).

EC I (late) - EC IIA Kampos (early) Transitional Group



Kampos-type Frying Pan
Archaeological Museum of Paros

Named for a cemetery on Paros, the Kampos group is considered either part of the Grotto-Pelos culture or as transitional to the Keros-Syros culture. The typical pottery includes frying pans, ceramic bottles, and footed bowls. Never as celebrated as marble figurines, the enigmatic frying pans are, in fact, much less common. The shape and markings of these ceramic (rarely stone or bronze) objects are thought to have symbolic meaning. And although the function of frying pans is uncertain it is now thought they were likely associated with the living as well as the dead **(**Marthari 2017a, 154-159). The incised concentric circles, linked spirals, and angled strokes (*Kerbschnitt*) as well as the barred handle (compare with Chalandriani example) distinguish Kampos Group frying pans from other varieties (Coleman 1985, 191). In addition to Paros, the Kampos pottery assemblage is known from several other Cycladic sites including on Ano Kouphonisi. Nearly identical pottery has also been found as grave goods at Hagia Photia (incised bottle below) and other cemeteries in northeast Crete. Additional Cycladic characteristics such as simple cist-type tombs, 'Pebble Form' figurines, and various obsidian and metal products make it likely that one or more settlements on Crete were established by emigrants from the Cyclades. An important development in the EC period is the increasing use of metals for utilitarian items but also to craft prestige goods. Among the grave finds from Hagia Photia (EC I - IIA) are bronze fish hooks and daggers with midribs——the latter typically Cycladic and also likely to have been valued possessions enhancing the status of their owners (Davaras 1982, 6-10). See *By Land and By Sea*.



Kampos-type Incised Bottle
Antiparos - Closed Shape
© Trustees of the British Museum

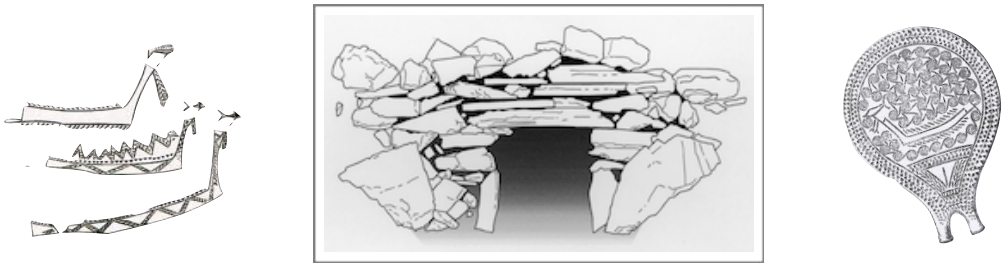


Kampos-type Incised Bottle
Haghia Photia Cemetery, Crete
Arch. Mus. Agios Nikolaos

EC IIA Keros-Syros Culture (ca. 2650 - 2450/2400 BCE)

Named in part for the island of Syros and highlighted by the Chalandriani cemetery (the settlement remains unexcavated), the period ushers in the blossoming of Cycladic culture. In Renfrew's characterization the "international spirit"——a reference, in part, to the increasing interconnections across the eastern Mediterranean. Marble figurine sculptures, ceramics, and metallurgy all attest to the Cycladic islanders' innovative genius and creativity. Additional significant sites include Ayia Irini on Kea, the ritual deposits at Kavos on Keros, the adjoining Dhaskalio islet, and Skarkos on Ios——a settlement site unique for the period and in an excellent state of preservation. By the mid-point of the third millennium BCE the aforementioned sites contrast markedly with the more typical, low density short-lived sites.

Included among the 700 tombs at the Chalandriani cemetery are many with grave goods attesting to a considerable accumulation of wealth and/or prestige. A number of the interred seem to have distinguished themselves within their community——perhaps initially as voyagers to new lands but also as those profiting from high-value goods and new technologies. The tombs have received the attention of a succession of archaeologists including Papadopoulos, Tsountas, Bossert, Doumas, Renfrew, and more recently Marisa Marthari (Marthari 1998, 9-10; Hekman 2003, 50-53). Tsountas's 1898 journal provides drawings for a variety of Chalandriani tombs and their inventories, the latter including the now iconic marble figurines and the curious 'frying pans.' At times grouped in clusters, graves with single interments are the rule. The tombs are largely subterranean structures carved into the soft hillside bedrock and having rounded to rectangular ground plans. The sides of the structure are constructed with flat limestone slabs built up in a series of increasingly narrowed offset-stages and topped with a capstone(s). Most tombs have a false entrance constructed of upright slabs and a lintel (typically green schist). Often referred to as "corbelled," these tombs share some characteristics with the Kephala cist graves (Hekman 2003, 77).



Chalandriani longboat representations, tomb, and frying pan
after Christos Tsountas 1899, Hekman 2003, 70 Fig. 19

Recent excavations (2002 - 2006, 2008) directed by Marthari have revealed an important cluster of twenty-eight undisturbed graves at Chalandriani. The grave goods included reddish-brown, slipped and burnished undecorated pottery (conical and wide-mouth cups) as well as dark brown, slipped and burnished wares in three classes: plain, incised, and stamped and incised. The well known frying pans are one of several shapes associated with the third style. While two frying pans were found in the recently excavated grave cluster, as noted, these items are uncommon in the archaeological record (Marthari 2014; 2017b, 297-309). Tsountas recovered only thirty-two frying pans in excavations of over 600 tombs on Syros (Coleman 1985, 193). Frying pans with inscribed longboats (eg. from Tomb VII below) are even rarer with fewer than ten examples found in context——all likely from Syros (Marthari 2014). The context and perhaps the symbolism of the incised markings on the frying pans suggest a number of



Dark Brown Slipped & Burnished Wares
Incised Spouted Jar

Stamped & Incised Frying Pan
Grave VII Niche

Red-Brown Slipped & Burnished Wares
Undecorated Conical Cup

Chalandriani, Syros - Marthari 2014

social and economic themes that may well have been significant in the lives of specific individuals in the EC IIA community on Syros (Marthari 2017b, 152-154). The Roussos grave cluster itself is remarkable on several counts. The remains of a wall, an atypical feature of contemporary cemeteries, may once have been part of an enclosure signifying the relative importance of the burials——an interpretation consistent with other aspects of the burial ground. Exceptionally high value grave goods were found in several of the tombs. A number of these items are uncommon to rare (eg. marble figurines, frying pans, copper scrapers, and marble bowls); others are unique including an incised, footed jar with a representation of a longboat, two bone pins: one bird-headed and one figural, and a stamp seal. Several of the aforementioned items were found in Tomb VII——carefully placed in a specially designed niche at the back of the tomb. Such niches are uncommon and are associated only with rich grave finds (ibid. 153). For Marthari the totality of evidence points to several probable aspects of community leadership perhaps including successive generations of prestigious individuals whose wealth and position derived from their maritime skills (157-159).



Tomb VII with Niche
Roussos Field Grave Cluster
Chalandriani, Syros - Marthari 2014

Of equal significance for the period are its iconic marble figurines. Cycladic statuary, both schematic and more fully sculpted, reaches its highest levels of achievement during the EC II period. Simple geometric shapes with folded arms are typical; musicians with their instruments and other more elaborate forms are rare. Many (perhaps most) of the works originally had painted designs and patterns——now mostly erased by centuries of ware. Nineteenth century finds were excavated by Clon Stephanos and Christos Tsountas (Papathanasopoulos,1962). More recently, numerous EC IIA figurines were recovered on Naxos in the Aplomata cemetery as well as many fragments in deposits on Keros. Despite losses from looting and the questionable provenance for many figurines, a number from known contexts have been documented and published (Marthari, Renfrew, and Boyd, eds. 2017). Most recently Marthari recovered two marble figurines from the grave cluster mentioned above——a schematic form from Trench 1, and more significantly, a Spedos folded-arm figurine (FAF) from grave XI (Marthari 2017a, 302-304).[2] Typical Speedos FAF figurines, the most common Cycladic type, are slender overall with relatively bold curvilinear shapes. The example below at left also has a number of characteristic that, according to Marthari, “resemble figures of the Dokathismata variety.” These include various subtleties of shape, arm position, and incised marks (2017a, 303).

2. Folded-arm-figurines (FAF) refers to the ‘canonical’ form of Cycladic marble sculptures associated with the Keros-Syros culture.



Spedos Folded-arm Figurine
Roussos Field Grave XI
Chalandriani, Syros
Marthari 2017a, 303, fig. 20.10



Chalandriani Spedos Figurine
EAM5201 - Grave 447 - Syros
Marthari 2017a, p. 301, fig. 20.6
Tsountas 1898, 114, pl. 10:32

Skarkos on the island of Ios is the largest and best preserved EC IIA settlement. The absence of Anatolian-type pottery suggests a pre-Kastri *terminus ad quem* for Skarkos. Built on a terraced hillside, the settlement is adjacent to extensive farmland and overlooks one of the better natural harbors in the Cyclades. The exceptional state of preservation of architectural features includes wall remains (2-4 m), a two story dwelling, and a network of roads unique among EC II sites (Marthari 2008, 71). This domestic site is of special significance as the period is largely attested by mortuary features. Additionally, much of the pottery was recovered intact and *in situ* (ibid., 72). Marthari's study of the pottery imported to Skarkos has led to several significant conclusions. Alongside an assemblage of locally crafted ceramic vessels, Marthari identified five groups of fine and semi-fine imported wares that appear to serve three different functions: transport, tableware, and special use (ibid., 72, 79). Copies of imported vessels were often made locally——for example the collared jar. Other vessels such as askos tablewares and urfirnis sauceboats were all imported. The relatively finer quality of imported pottery suggests to Marthari that its presence may well have been



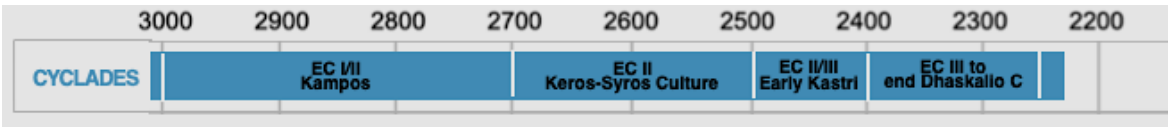
Marthari 2018, Fig. 32



Skarkos

COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA

Marisa Marthari
2020 Lecture



Skarkos II, aerial view to southwest and Ios harbor
Approximate Chronologies based on Radiocarbon Samples from Skarkos and additional EC sites
Maniatis, M. Marthari and G.S. Polymeris 2023, 1059 Fig. 3, 1076 Table 7 Chronology (Model 2)





Urfirnis Askos
Skarkos, Ios (imported)
Marthari 2008, 73, fig. 9.5

Coarse Collared Jar - Storage
Skarkos, Ios (imported)
Marthari 2008, 90, fig. 9.18



Yellow Mottled Bowl
Skarkos, Ios (imported)
Marthari 2008, 73, fig. 9.6

photography by H. Hiliadis & G. Patrikianos

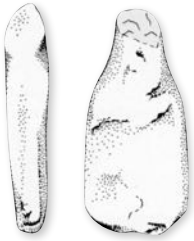
something of a status symbol and was perhaps used for special occasions such as communal eating and drinking (ibid., 81). The variety of pottery found at Skarkos is even more significant when seen within the wider context of Cycladic society as it clearly indicates the EC IIA islanders had the means and the motivation to participate in fairly widespread trade and exchange. It is reasonable to assume that specific individuals or groups (perhaps families) accepted the risks and then reaped the rewards for conducting this commercial trade. Pottery gives archaeologists a useful tool to model the expanding network of Aegean trade but it was likely that the supply and demand for Cycladic raw materials, especially metalliferous ores, that energized EC trade. As Marthari points out, Skarkos was in an ideal location to be a prime mover in these ventures. She maps out two trade routes: the western route between the mainland (Attica) and Crete (Poros) via Thera and Melos, north to Kythnos and Kea and the eastern route via Syros, Mykonos, and Paros south to Thera and Crete. In sum, she states, “The central position of Ios decisively marked out its main harbor, Skarkos, as a focus for interactions and exchanges” (ibid., 84). See map 148; also 197-198.

Much like his more general influence on Aegean prehistory, Colin Renfrew’s† (Lord Renfrew) footprints are all over the Cycladic Islands. And as Renfrew’s career demonstrated, luck is one thing, timing is everything. His first visit to Keros, prompted by Christos Doumas, was in 1963. Fifty years later Renfrew was still mining the mother load of archaeological riches he helped to uncover at Kavos on Keros and on the small islet of Dhaskalio. The initial findings at the western end of Keros, in an area now referred to as Special Deposit North (SDN), did not seem promising. Scattered across the surface of the hillside were numerous sherds of pottery as well as marble fragments from both vessels and figurines. Doumas viewed the site as a looted and vandalized cemetery and first impressions seemed to confirm his view. More than two decades later in 1987, following several smaller excavations on Keros, a more comprehensive study of the area was directed by Renfrew, Doumas, Lila Marangou & Giorgos Gavalas (Renfrew et al. 2007). In the *Preface* to their report the editors frankly agreed to disagree as to their interpretations of the evidence from the new excavations——in their words, “while the facts and observations presented here are not in dispute, conclusions differ” (ibid. xx). Were fragments the scattered residue of a recently vandalized cemetery or the consequence of some other event——perhaps an ancient one? Part of the drama of Keros issued from stories of earlier looting as well as its unconfirmed attribution as the source of three celebrated pieces of Cycladic sculpture: the harp and the double flute players (National Museum Athens) and a near life-sized head (Louvre). In any case, based on the 2006 excavations of Special Deposit South (SDS), Renfrew made a convincing argument that the numerous fragmented ceramic and marble pieces had, in prehistoric times, been deliberately broken before being brought to Kavos where they were deposited as part of a ritual act whose details are unknown (Renfrew et al. 2007, 108-128). Unlike the earlier finds, SDS finds were excavated from undisturbed deposits yet were fractured in a manner similar to those of SDN.

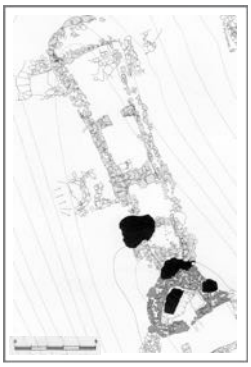


Flautist
Keros? EC II
Natl. Arch. Mus. Athens

Renfrew's conviction that the fractures were ancient was based in part on the fact that, despite careful screening, no human remains were recovered from SDS——an unlikely situation for a cemetery. The hypothesis that the vessels had been broken before deposition was also supported by a near total lack of joins among adjacent fragments (ibid., 112). Analysis of the pottery from SDN and SDS revealed the two assemblages were stylistically similar with most dating to the EC IIA period, a few to EC IIB. (ibid., 118-119). A 2008 excavation at Dhaskalio followed the preliminary 2006 and 2007 work. The islet, likely attached to Keros during the third millennium, presented an entirely different scenario than the adjacent special deposits. In describing the extensive structural remains on Dhaskalio Renfrew states, "among these, on the summit of the island, was a substantial structure, some 16.1 m in length, as large as any other known structure of the Cycladic Early Bronze Age (EBA)" (Renfrew et al. 2009, 27). Significantly, the stone used by the builders at Dhaskalio was imported——most likely from the nearby island of Naxos (ibid., 43). Various interesting finds were made on Dhaskalio, many in and around the three-roomed Hall at the summit. Scattered about the islet were "stone discs" of varying sizes——most having been deliberately flaked. In an area just south of the Hall a deposit of nearly 350 beach stones was located——their similar size and shape indicating they had been purposefully selected. The function of the 'discs' and pebbles is unclear although the latter are thought to be associated with ritual activities (ibid., 38; 40-42). Three copper tools, important indicators of advances in EBA metal craft, were recovered from the southern end of the Hall. The excavators also noted that fragments of marble bowls were relatively more common on Dhaskalio than might be expected. The two groups of objects that most clearly exhibit the contrasts between the special deposits on Keros and the settlement on Dhaskalio are the pottery and figurines. Domestic coarse wares comprise most (ca. 75%) of the pottery on Dhaskalio, vessels that are much less common in the special deposits. Interestingly, the assemblage of Dhaskalio figurines is also clearly different than that represented by the examples from the Keros deposits. Fragments recovered from SDN and SDS represent folded-arm figurines (FAF) while Dhaskalio finds are schematic figurines of the Apeiranthos type (ATF). Specifically, in



Dhaskalio Island
Schematic Figurine (Apeiranthos type)
Renfrew et al. 2009, 36, fig. *7*



Dhaskalio Island - Summit Structure
The Hall
Renfrew et al. 2009, 33, fig. *5*



Dhaskalio Island - Hoard
Copper Axe
Renfrew et al. 2009, 39, fig. *8*

SDN there were 18 fragments of FAF and three partial schematic figurines (Renfrew and Cherry 2017, 369). Many more figurine fragments were recovered from SDS, including at least three varieties of FAF as well as ATF fragments. One of the Spedos fragments is a part of the largest known Cycladic figurine from a documented context (Renfrew et al. 2007, 104; 121-124). On Dhaskalio no FAF were found while a dozen ATF were recovered——all but one from the Hall. Renfrew's description of the Dhaskalio sub-variety of ATF highlights the smallish, rounded rectangular body, notable head, and narrow nose ridge (Renfrew and Cherry 2017, 165-167).

Details of both sites are better understood in their chronological context. Dhaskalio is assigned three phases: Phase A (EC II), Phase B (EC II/III), and Phase C (EC III). The SDS fragments and the earliest buildings on Dhaskalio belong to the Keros-Syros period. This would have been the era when ritual depositions at Keros were at their height. Perhaps relatives of the pilgrims bearing the depositions initiated the building at Dhaskalio——thought by some to be a sanctuary. This work, however, was not completed until Phase B or late in the Kastri Group period. During the later Phase C, finds from the Hall included copper tools, the pebble depositions, and the ATFs (Renfrew 2009, 31-40). Renfrew points to the combined evidence from Keros and Dhaskalio as supporting the hypothesis that the site was a center of ritual congregation shared by a confederation of Cycladic islands. It is suggested that pilgrimages to Kavos on Keros were purposeful voyages, undertaken to deposit objects of symbolic importance (figurines) at the end of their use life. Dhaskalio likely served as the associated sanctuary whose settlement population was relatively small except during designated periods for pilgrimage, deposition, and perhaps other unknown rituals (Renfrew 2013). Research at Keros and Dhaskalio continues with new finds expected and new interpretations likely.

EC IIB - Kastri (Lefkandi I) Group (ca. 2450/2400 - 2200/2150 BCE)

A number of fortified settlements with material finds typical of western Anatolian are dated to the end of the EC II period. The fortifications, pottery, and metalwork distinguish these sites from the earlier Keros-Syros communities. The Kastri group takes its name from the settlement on Syros overlooking Kleisoura Bay. Kastri itself perches atop the marble outcropping that supplied material for both the community's defensive structures and dwellings. Tsountas made the earliest drawings of Kastri, outlining its extensive northern fortification walls and bastions (1899, 73-134). Eva-Maria Bossert's twentieth century excavations uncovered additional architectural remains——notably large areas of residential dwellings and workshops (1967, 56). Excavations between 2006 and 2012 revealed a third system of fortifications——a horse-shoe shaped wall on the settlement's north side (Marthari 2017c, 55). Access to the interior buildings required maneuvering through the overlapping bulwarks as well as the gated area in one of the bastions. Marthari uses the term *pericentric* to describe the arrangement of the numerous clusters of one- and two-room dwellings, typically with shared walls, occupying the steep hillside (Marthari 1998, 22-27). Courtyards and



Kastri Settlement (detail)
after Bossert 1967, no. 2
Marthari 1998, 24-25, fig. 15



Bronze Axes - Kastri
Marthari 1998, 30-31, fig. 22
Arch. Mus. of Syros



several hearths are also attested (ibid., 27). Aside from the defensive structures the most notable material finds include those associated with metal work. Crucibles, slag, and clay molds indicate extensive metallurgy (ibid., 28). Significantly, the copper was alloyed with tin creating a much harder and brighter bronze as compared with the earlier use of arsenic alloy; bronze workshops are also known from contemporary sites along the western Anatolian littoral (Kouka, 2016). See also *By Land and by Sea* 198 - 199.

Metal ores collected from deposits on the islands of Siphnos, Seriphos, and Kythnos were used across the Cyclades and on Crete during the Early Bronze Age and provided an important commercial resource for islanders trading within what Broodbank has called the Island Network (2000, 79-80; 354). See map on 159. The source of the tin remains uncertain although mineral rich deposits in western Afghanistan are considered most likely. Documentation suggests export from southern Mesopotamia through Mari to Ugarit (Muhly 1985, 281-289). While a portion of Kastri's pottery is consistent with Keros-Syros ceramics, other vessels show strong Anatolian influence and are characteristic of the northern mainland's Lefkandi I assemblage (Rutter and Gonzalez-Major 2011 - 2013). The highly burnished, tall, loop-handled cups (depas amphikypellon) are iconic. Although uncommon, plates turned on a potter's wheel also occur at this time and may represent another technological transfer from Anatolia.



a. National Archaeological Museum b. Chronos, Hellenic Ministry of Culture c. Syros Museum of Archaeology d. Katsonopoulou and Katsarou 2017

The transition between the EBA and MBA (late 3rd millennium to early 2nd millennium BCE) has been the focus of a good deal of scholarship, including various attempts to define a periodization scheme for Cycladic chronology. These include timelines by Atkinson et al. (1904), Barber and MacGillivray (1980), and Rutter (1983) respectively——often accompanied by suggested parallels with Renfrew's sequence of cultural assemblages (1972). In an effort to provide for cultural unity as well as regional variations, Rutter's 1983 scheme revised Barber and MacGillivray's alphanumeric timeline by replacing LC IIIA with EC IIB and LC IIIB with MC I (1983, 69-76).[3]

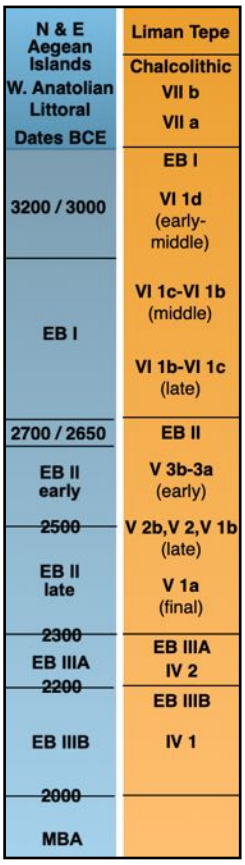
EC III (ca. 2200/2150 - 2050/2000 BCE)

Significantly, Rutter's 1983 revision was not simply a chronological fix; rather, his suggested revisions reflected a widespread body of material evidence relating to settlement organization, mortuary practices, and prestige symbols. Towards the end of EC II important Cycladic settlements were either permanently abandoned (Kastri on Syros and Mt. Kythnos on Delos) or temporarily deserted (Ayia Irini). Subsequent to these events and for a period of 100 to 150 years, Rutter argued, the totality of the Cycladic evidence was exceedingly sparse. Famously referred to as "the gap," Rutter offered his observations, not as received wisdom, but as a challenge to be prodded, evaluated, and revised and ultimately as a gap to be filled by well argued interpretations based on thoroughly tested evidence (2001, 73). While there is an abundance of evidence for contacts between Crete and the mainland during the MM IA and the early

3. Rutter had earlier made the case for the appearance of the Kastri / Lefkandi assemblages on the mainland and the islands not to EH III / EC III but rather to the late EH II / EC IIB periods.

MH, such was not the case between Crete and the Cyclades————a stark contrast with EC II / EM II when Cycladic islanders may well have established a colony on Crete's northeast coast. See 183 - 184. The focal point of Rutter's analysis identified a period of significant cultural transition across the Aegean——one whose complexities could not be understood by simply in-filling the chronological gap. While on Crete, at the time the Minoans were constructing the first "palaces," the mainland was entering a period of recession (with the notable exception of Aegina on Kolonna) and sporadic destructions that contrasted sharply with the cultural advances attested by the late EH II corridor houses. However, by the early MC period, Rutter observes, island culture too had undergone a significant transition from, "the dispersed settlement pattern," of the EBA to, "a highly nucleated pattern," as attested by Phylakopi I on Melos——a settlement displaying innovations in architectural complexity (ibid. 71).

During the three decades following Rutter's proposal excavations of new sites and a better understanding of known EC settlements filled in part, but not all, of the missing picture. In Jack Davis' summary of "Minding the Gap"——a scholarly review of the state of the evidence thirty years on he concluded there were, "very good reasons for us to continue 'minding the gap' " (2013, 533). Yes the gap was real, if somewhat shorter than Rutter originally proposed. In fact, Broodbank pointed out that strictly speaking, there remained no, "*continuous stratified sequence right across the gap phase,*" but of greater significance (and Broodbank intimated this was Rutter's real concern) were unanswered cultural questions prompted by that gap (2013b, 535). And this goes to Rutter's original question——"What was happening in the Cyclades during this 'gap' of a century or more?" (1983, 71).



after Kouka 2013 570-572 Fig. 1, Table 1

Ourania Kouka's response to Rutter's question broadens the interpretive focus to include the eastern and northern Aegean islands and the western Anatolian littoral (see map below). Koukla argues that as a group these settlements form a discrete cultural entity whose common elements can be compared and contrasted with one another but also with the the Greek mainland, Cyclades, and Crete. The abundant settlement data from the eastern sites are particularly informative given that the FN - EH II Cyclades are known largely from mortuary evidence——although see Skarkos above (Kouka 2013, 2016).

The important harbor site of Liman Tepe (LT) on the Gulf of Ismir was occupied continuously from the Late Chalcolithic (LCh) through the LBA. See timelines at left and map below. Round silos and apsidal structures are typical of the earlier (VII) phases at LT. At the same time, however, copper and obsidian workshops as well as prestige items (e.g. marble conical vessels) suggest to Kouka, "an emerging elite in the Aegean fourth millennium B.C.E." (Kouka 2013, 570; 2016, 206). The first in a series of large scale reorganizations at LT occurred ca. 3000 BCE (EB I) and seems to have been prompted by, "the economic wealth of the settlement" (2013, 570). Designated LT VI (ca. 3000 - 2700 BCE), both this and the subsequent 3 sub-phases of LT V (EB II - ca. 2700 - 2300



Mainland Sites with Lefkandi I Ceramics / Selected Aegean & Anatolian Sites

BCE) are characterized by large scale, free standing fortifications reinforced with buttresses as well as an entrance gate flanked by bastions (LT V bastions were estimated to have been 20 m in height). Excavated within the LT VI settlement were metallurgical, obsidian, and textile workshops containing a variety of gold and silver jewelry as well as EC I - IIA imported pottery (e.g. frying pans, incised pyxides, and Urfirnis sauceboats). One block of houses, part of a radiating settlement plan, comprised five, elongated rooms (to 23 m in length). By EB II (early) the increasing prosperity and growing population led to the LT V (early) expansion, including the fortification of the entire peninsula. While the increases in settlement size and population along with commercial success at LT during the EB I - II period are impressive, this was not unique among the EBA settlements of the northern and eastern Aegean islands and western Anatolian littoral. Other settlements including those on Lemnos (Poliochni and Myrina), Lesbos (Thermi), and Samos (Heraion) enjoyed similar success as did Troy, Bakla Tepe, and Iasos on the Anatolian coast (ibid., 205 - 212).

While many settlements were less prosperous that others, Koukla explained that they shared, “a cultural uniformity in terms of political and economic structures and social dynamics” (2013, 576). A critical aspect of each settlement’s prosperity was its relationship to the Anatolian trade network——a system of trade and transport that facilitated access to bronze technology via inland and marine routes. The success of this wide ranging commercial network peaked during EB II, a period contemporary with EC IIB or Kastri / Lefkandi I in the western Aegean. The first tankards and depas cups were produced towards the end of the LT V final phase. Soon thereafter, however, in EB IIIA (ca. 2200 BCE) construction of a series of terraces sealed the central building complex——signaling “significant political and economic change in the settlement” (ibid. 573). During EB IIIB destruction and relocation were followed by reorganization.

Nonetheless, Kouka stresses that despite the upheaval, Liman Tepe remained occupied. By the late EB IIIB period western Anatolian cultural shifts were highlighted by new communal activities that may have included feasting——a practice suggesting to Kouka, “strong social relationships" (ibid., 573-574). As a multitude of settlements coalesced into larger and more centralized sites, some areas were permanently abandoned. In sum, Kouka sees similar changes across the Aegean——changes characterized by a cultural reorientation from extroversion to regional introversion brought on at least partially by the political will of a new elite (ibid., 578).

MC I - Phylakopi I (ca. 2050/2000 - 1900/1850 BCE)

Renfrew’s Phylakopi Culture named for the eponymous site on Melos reflected at least some of the changes outlined above. Phylakopi I-ii attests to the general trend on Cycladic islands towards nucleation——the movement of small groups away from farmstead-type sites to more populous villages. This was accompanied by noticeable changes in ceramic styles and new interment practices. Significantly, this is also the period when the iconic marble figurines begin to drop out of the record. The incised duck vase, designed for carrying liquid, becomes widespread in the Aegean along with dark on light painted wares (Broodbank 2000, 322). Novel burial preferences and tomb architecture, often indicators of cultural change, are evident at both Phylakopi and Paroikia on Paros where rock-cut tombs with multiple interments replace the typical EC cyst tombs. Kouka's characterization of changes at Liman Tepe——disruption, relocation, and reorganization seems an apt description of changes in the Cyclades as well——as the end of one era and the beginning of another (2013, 570-574). The ascendancy of Minoan Crete would reframe Aegean civilization with the Cyclades being relegated to a supporting role.



Askos or Duck Vase
Phylakopi I - MC I
© Trustess of the British Museum

Malcolm Weiner’s contribution to the “Minding the Gap” Forum focuses on climate as a major contributing factor to the widespread disruptions and economic recession at the end of the 3rd millennium BCE (2013). Noting, “the prolonged desiccation event between ca. 2300 and 2000 B.C.E.,” Weiner stresses the expansive geographical area where draught conditions were recorded including much of the Mediterranean east to the Khabur River Basin, north to the Troad and south to Egypt (ibid., 581-586). Weiner also mentions the introduction of sail power as another transformative factor (ibid., 586-588). Ultimately, this would have affected essential aspects of EBA trade by redefining the requirements necessary to be in the game. Larger, commercial vessels would have substantially eliminated the use of island-hopping, oar-powered longboats for most trade. Small entrepreneurial crews could not have competed with the handful of communities that were able to muster the resources required to build and man larger more seaworthy vessels——maritime transport enabling the expansion of commercial trade. The rise of Minoan dominance, if not exactly a thalassocracy, likely shifted control of much of the commerce——initiated by the Cycladic islanders, to Crete.[4]

4. The following section——*By Land and By Sea*, broadens the geographic and chronological scope of the present section to include details of the cultural developments in the Ancient Near East. Coverage of the critical Neolithic to EBA transition includes additional details for the Cyclades and Crete as well as the northern and eastern Aegean and the western Anatolian littoral. This reflects the rapidly expanding world of the Aegeans enabled by their enhanced maritime capabilities and motivated by the lure of metals and the exotic and their attendant prestige and power.

References

Aloupi, E. 2002, "Pottery Analysis from the Late Neolithic Settlement at Ftelia, Mykonos. Provenance," In, *The Neolithic Settlement at Ftelia, Mykonos*. Rhodes. Univ. of the Aegean.

Atkinson, Thomas D., Robert C. Bosanquet, Campbell C. Edgar, Arthur J. Evans, David G. Hogarth, Duncan Mackenzie, Cecil Smith, and Francis B. Welch. 1904. "Excavations at Phylakopi in Melos." *The Society for the Promotion of Hellenic Studies Supplementary Paper* 4. London. Macmillan. Heidelberg Open Access Publications

Barber, R. L. N., and J. A. MacGillivray. 1980. "The Early Cycladic Period: Matters of Definition and Terminology." *American Journal of Archaeology* 84, 141–57.

Belmont, J.S., and C. Renfrew. 1964. "Two Prehistoric Sites on Mykonos." *American Journal of Archaeology* 68, 395–400.

Bossert, Eva-Maria. 1967. "Kastri auf Syros." *Archaiologikon Deltion* 22, 53 – 76.

Broodbank, Cyprian. 2000. *An Island Archaeology of the Early Cyclades*. Cambridge. Cambridge University Press.

___. 2008. "The Early Bronze Age in the Cyclades." In *The Cambridge Companion to the Aegean Bronze Age*, edited by Cynthia Shelmerdine. New York. Cambridge University Press.

___. 2013a. *The Making of the Middle Sea: A History of the Mediterranean from the Beginning to the Threshold of the Classical World*. London. Thames and Hudson.

___. 2013b. "'Minding the Gap': Thinking About Change in Early Cycladic Island Societies from a Comparative Perspective." AJA 117(4):535–43.

Caskey, John L. 1962. "Excavations in Keos, 1960-1961." *Hesperia* 31, 263–83. https://doi.org/10.2307/147121

Cherry, J. and T. Leppard. 2015. "A Little History of Mediterranean Island Prehistory." In *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean,* edited by A. Knapp & P. Van Dommelen. Cambridge. Cambridge University Press.

Coleman, John E. 1977. *Kephala: A Late Neolithic Settlement and Cemetery*. Princeton. American School of Classical Studies.

___. 1985. " 'Frying Pans' of the Early Bronze Age Aegean." *American Journal of Archaeology* 89, 191-219.

Davaras, Costis. 1982. *Hagios Nikolaos Museum - Brief Illustrated Archaeological Guide*. Athens. Hannibal Editions.

Davis, Jack L. 2013. "'Minding the Gap': A Problem in Eastern Mediterranean Chronology, Then and Now." *American Journal of Archaeology* 117, 527–33. https://doi.org/10.3764/aja.117.4.0527.

Doumas, C. 2017. "Figurines from Akrotiri, Naxos and Plastiros, Paros." In, *Early Cycladic Sculpture in Context,* edited by Marthari, Marisa, Colin Renfrew and Michael Boyd. Oxford. Oxbow Books.

Efstratiou, N., A. Karetsou, E.S. Banou, and D. Margomenou. 2004. "The Neolithic Settlement of Knossos: New Light on an Old Picture." *British School at Athens Studies* 12, 39–49.

Evans, J.D. 1959. *Malta*. New York. Praeger.

___. 1973. "Islands as laboratories of culture change." In *The Explanation of Culture Change: Models in Prehistory* edited by C. Renfrew. London. Duckworth.

___. 1977 "Island archaeology in the Mediterranean: problems and opportunities." *World Archaeology* 9: 12–26.

Evans, J.D., and C. Renfrew. 1968. "Excavations at Saliagos: Near Antiparos." *The British School at Athens. Supplementary Volumes* 5, iii–226.

Facorellis, Yorgos and Yiannis Maniatis. 2013. “Radiocarbon Dates from the Neolithic Settlement of Knossos: An Overview.” In *The Neolithic Settlement of Knossos in Crete New Evidence for the Early Occupation of Crete and the Aegean Islands*, edited by Nikos Efstratiou, Alexandra Karetsou, and Maria Ntinou. Philadelphia. INSTAP Academic Press.

Hekman, Jan. 2003. *The Early Bronze Age cemetery at Chalandriani on Syros (Cyclades, Greece)*. Ph.D. dissertation, Rijksuniversiteit Groningen.

Immerwahr, Sara Anderson. 1971. “The Neolithic and Bronze Ages.” *The Athenian Agora* 13, iii–286. doi:10.2307/3601979.

Katsonopoulou, Dora and Stella Katsarou. 2017. “Mainland Cosmopolitanism And The Rise Of Personal Prestige: New Evidence From The Coastal Early Helladic Town Of Helike, North-West Peloponnese, Greece.” *The Annual Of The British School At Athens*. Athens. British School At Athens.

Knapp A. Bernard and Peter Van Dommelen, editors. *The Cambridge Prehistory Of The Bronze And Iron Age Mediterranean*. Cambridge. Cambridge University Press.

Kouka, Ourania. 2008. “Diaspora, Presence or Interaction? The Cyclades and the Greek Mainland form the Final Neolithic to Early Bronze II” In Horizon – Όρίζων: A Colloquium on the prehistory of the Cyclades, edited by Neil Brodie, Jenny Doole, Giorgos Gavalas, and Colin Renfrew. Cambridge. McDonald Institute for Archaeological Research.

___. 2013. "“Minding the Gap”: Against the Gaps. The Early Bronze Age and the Transition to the Middle Bronze Age in the Northern and Eastern Aegean/Western Anatolia." *American Journal of Archaeology* 117, 569-580.

___. 2016. “The Built Environment and Cultural Connectivity in the Aegean Early Bronze Age.” In *Of Odysseys and Oddities. Scales and modes of interaction between prehistoric Aegean societies and their neighbours,* edited by Barry Molloy. Sheffield Studies In Aegean Archaeology. Oxbow. Oxford.

Liritzis, Ioannis. 2010. “Strofilas (Andros Island, Greece): New Evidence for the Cycladic Final Neolithic Period through Novel Dating Methods Using Luminescence and Obsidian Hydration.”Journal of Archaeological Science 37, 1367–77.

MacArthur, R.H., and E.O. Wilson. 1967. *The Theory of Island Biogeography*. Princeton, New Jersey. Princeton University Press.

Manning, Sturt. 2010. “Chronology And Terminology” In, The Oxford Handbook Of The Bronze Age Aegean, edited by E. Cline. Oxford. Oxford University Press. Kindle Edition.

Marangou, Lila, Colin Renfrew, Christos Doumas, Giorgos Gavalas, Anastasia Angelopoulou, Kiki Birtacha, Pantelis Eskitzioglou, Efi Karantzali, Chris Scarre, And Sarah Vaughan et al. 2006. "Μαρκιανή Αμοργού / Markiani, Amorgos: An Early Bronze Age Fortified Settlement: Overview of the 1985-1991 Investigations." *The British School at Athens. Supplementary Volumes* 40, iii-xvi, 1-296.

Maniatis, Y., Marthari, M., and Polymeris, G.S. 2023. "Radiocarbon Dating Of The Major Settlement At Skarkos (Ios Island, Cyclades) And Inferences For The Early Cycladic Chronology." *Radiocarbon*, Vol 65, 1057–1079. Cambridge. Cambridge University Press.

Marthari, Marisa. 1998. *Syros, Chalandriani-Kastri: From the Investigation and Protection to the Presentation of an Archaeological Site*. Athens. Ministry of Culture.

___. 2008 “Aspects of pottery circulation in the Cyclades during the early EB II: fine and semi-fine imported ceramic wares at Skarkos, Ios.” In *Horizon: A Colloquium on the Prehistory of the Cyclades,* edited by Neil Brodie, Jenny Doole, Giorgos Gavalas and Colin Renfrew. Exeter. McDonald Institute for Archaeological Research.

___. 2014. *Reconsidering the Largest EBA Cycladic Cemetery:The Recent Excavations at Chalandriani*. American School Of Classical Studies At Athens on Vimeo. http://www.ascsa.edu.gr/index.php/news/newsDetails/videocast-reconsidering-the-largest-eba-cycladic-cemeterythe-recent-excavat

___. 2017a. “Figurines in Context at the Chalandriani Cemetery on Syros.” In *Early Cycladic Sculpture in Context,* edited by Marisa Marthari, Colin Renfrew and Michael Boyd. 2017. Oxford. Oxbow Books.

___. 2017b. “Aspects of pictorialism and symbolism in the Early Bronze Age Cyclades: a “frying pan” with longboat depiction from the new excavations at Chalandriani in Syros.” In *Studies In Mediterranean Archaeology In Honour Of Nota Kourou,* edited by Vicky Vlachou and A. Gadolou. Brussels.

___. 2017c. “Kastri Of Syros In The Light Of The Research Of The Period 2006-2012.” In *Spira: Scientific Meeting In Honor Of Angelika Douzougli And Konstantinos Zachos,* edited by E. Mermiga. *Minutes*. Athens. Fund For Archaeological Resources And Expropriations.

___. 2018. “Architecture, Seals And Aspects Of Social Organisation In The Peak Period Of The Early Bronze Age Cyclades: The Evidence From The Major Settlement At Skarkos On The Island Of Ios.” In *Überschuss Ohne Staat – Politische Formen In Der Vorgeschichte Surplus Without The State – Political Forms In Prehistory*. 10th Archaeological Conference of Central Germany October 19–21, 2017. Halle. Landesmuseum.

___. 2020. The Early Cycladic Site at Skarkos on the Island of Ios. Lecture. Cotsen Institute of Archaeology at UCLA.

Marthari, Marisa, Colin Renfrew, and Michael Boyd, eds. 2017. *Early Cycladic Sculpture in Context*. Oxford. Oxbow Books.

Maxwell, Veronica, A. Sampson, N. Skarpelis and R. M. Ellam. 2018. “An Archaeological And Archaeometric Analysis Of Early Metals From Ftelia, Mykonos.” In *Ftelia On Mykonos Neolithic. Networks In The Southern Aegean Basin*. Volume II, edited by Adamantios Sampson and Tonia Tsourouni. Monograph Series 7. University of the Aegean. Laboratory of Environmental Archaeology.

Muhly, James D. 1985. “Sources of Tin and the Beginnings of Bronze Metallurgy.” *American Journal of Archaeology* 89, 275–91.

Papathanasopoulos, G. 1962. Kykladika Naxou.” *Archaiologikon Deltion* (Meletai) 17A, 104-51. Phoca-Cosmetatou, Nellie. 2008. “Economy and Occupation in the Cyclades during the Late Neolithic: the Example of Ftelia, Mykonos.” In *Horizon: a colloquium on the prehistory of the Cyclades*, edited by N.J. Brodie, J. Doole, G. Gavalas and C. Renfrew. Cambridge. McDonald Institute for Archaeological Research.

Renfrew, Colin. 1969. “The Development and Chronology of the Early Cycladic Figurines.” *American Journal of Archaeology* 73, 1–32.

___. 1972. *The Emergence of Civilisation: The Cyclades and the Aegean in the Third Millennium B.C*. London. Methuen.

___. 2013. The Sanctuary at Keros: Questions of Materiality and Monumentality. Albert Reckitt Archaeological Lecture. British Academy. https://www.britac.ac.uk/node/1861/

___. 2017. “The Sculptures of Neolithic Saligos.” In, *Early Cycladic Sculpture in Context,* edited by Marthari, Marisa, Colin Renfrew and Michael Boyd. 2017. Oxford. Oxbow Books.

Renfrew, C., and J. Cherry. 2017. *The Emergence of Civilisation The Cyclades and the Aegean in the Third Millennium BC*. 2nd ed. Havertown. Oxbow Books.

Renfrew, Colin, Doumas, C., Marangou, L. and Gavalas, G. (eds). 2007 *Keros, Dhaskalio Kavos: The Investigations of 1987-88*. McDonald Institute for Archaeological Research. Oxford. Oxbow.

Renfrew, Colin, Olga Philaniotou, Neil Brodie, and Giorgos Gavalas. 2009 “The Early Cycladic Settlement At Dhaskalio, Keros: Preliminary Report Of The 2008 Excavation Season.” *The Annual of the British School at Athens* 104, 27–47. http://www.jstor.org/stable/20745362

Rutter, J.B. 1983. “Some Observations on the Cyclades in the Later Third and Early Second Millennia.” *American Journal of Archaeology* 87, 69–76.

___. 2001. “Review of Aegean Prehistory II: The Prepalatial Bronze Age of the Southern and Central Greek Mainland” and “Addendum: 1993–1999” In *Aegean Prehistory: A Review*, edited by T. Cullen, 95–147 and 148–155. Boston. Archaeological Institute of America.

Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013. Aegean Prehistoric Archaeology. Project sponsored by Dartmouth College.

Sampson, Adamantios. 2009. “The Neolithic Settlement at Ftelia on Mykonos.” *Prehistoric Excavations and Studies*. Athens. University of the Aegean.

Sampson, Adamantios & Koslowski, J.K. & Kaszanowska, M. & Giannouli, B. 2002. "The Mesolithic settlement at Maroulas, Kythnos." *Mediterranean Archaeology and Archaeometry*. University of theAegean.

Sampson, Adamantios and Vagia Mastrogiannopoulou. 2017. "Figurines From The Late Neolithic Settlement Of Ftelia, Mykonos." In, *Early Cycladic Sculpture in Context,* edited by Marthari, Marisa, Colin Renfrew and Michael Boyd. 2017. Oxford. Oxbow Books.

Sampson, Adamantios and Tonia Tsourouni. 2018. "New Types Of Pottery And Miscellaneous Objects At Ftelia, Mykonos." In *Ftelia on Mykonos, Greece. Neolithic networks in the southern Aegean Basin* Vol. II, edited by A. Sampson and T. Tsourouni. Monograph Series 7. University of the Aegean. Laboratory Of Environmental Archaeology.

Sherratt, Susan. 2007. "The Archaeology of Metal Use in the Early Bronze Age Aegean – a review." In *Metallurgy in the Early Bronze Age Aegean,* edited by Peter M. Day & Roger C.P. Noonan. Sheffield Studies in Aegean Archaeology 7. Oxford. Oxbow.

Televantou, Christina. 2008. "Strofillas: a Neolithic Settlement on Andros." In, *Horizon - A colloquium on the prehistory of the Cyclades,* edited by Niel Brodie, Jenny Doole, Giorgos Gavalas, and Colin Renfrew. Cambridge. McDonald Institute of Archaeological Research.

___. 2017. "Figurines from Strophilas, Andros." In *Early Cycladic Sculpture in Context,* edited by Marisa Marthari, Colin Renfrew, and Michael Boyd. 2017. Oxford. Oxbow Books.

___. "The Roots of Pictorial Art in the Cyclades." In *From Strofilas to AkrotiriPaintbrushes. Wall-Painting and Vase-Painting Of The Second Millennium BC In Dialogue* edited by Andreas G. Vlachopoulos. Athens. University Of Ioannina / Hellenic Ministry Of Culture And Sports – Archaeological Receipts Fund.

___. 2019. "The Neolithic Settlement at Strofilas, Andros." *Papyri - Scientific Journal* Vol. 8.

Tomkins, Peter. 2007. "Communality and competition. The social life of food and containers at Aceramic and Early Neolithic Knossos, Crete." In Cooking up the past: food and culinary practices in the Neolithic and Bronze Age Aegean, edited by C. Mee and J. Renard, 174–99. Oxford. Oxbow Books.

Tsaimou, C. G. 2008. "A First Valuation Of The Excavation Of Ancient Washeries." In *Proceedings Of The 4Th Symposium Of The Hellenic Society For Archaeometry Edited By* Yorgos Facorellis Nikos Zacharias Kiki Polikreti. Oford. Bar Publishing.

Tsountas, Christos. 1898. "Kykladika." *Archaiologike Ephemeris* 1898: 137–212.

___. 1899. "Kykladika II." *Archaiologike Ephemeris* 1899: 74–134.

Wiener, Malcolm. 2013. 'Minding the Gap' Gaps, Destructions and Migrations in the Early Bronze Age Aegean: Causes and Consequences." *American Journal of Archaeology* 117, 581–592.

Zachos, Konstantinos. 1999. "Zas Cave on Naxos and the Role of Caves in the Aegean Late Neolithic." In *Neolithic Society in Greece*, edited by Paul Halstead. Sheffield Studies in Aegean Archaeology, 2. Sheffield. Sheffield Academic Press.

Mycenaean culture is a unique blend of mainland innovations as influenced by their Aegean neighbors——most significantly Crete, but also with clear cultural ties to the various political entities of the ancient Near East.[1] Unsurprisingly then, the wellspring of much of what will come to be called Greek civilization is decidedly eastern in nature. The Hittite (𒉈𒅆𒇷𒌷) language of Anatolia, first attested on documents dating to the early 2nd millennium BCE, is linguistically related to Mycenaean Greek as is Sanskrit whose epics, first sung in the Punjab, are echoed in both the *Iliad* and *Odyssey* (Watkins 2001, 12 -13).

Homeric: *κλέος ἄφθιτον* (Il. 9.413) / Rigvedic: *śrávaḥ . . . ákṣitam* (1.9.7bc)



2nd Millennium BCE - Eastern Mediterranean - Ancient Near East

Sippar to Ashur to Kanesh and Beyond

During the first half of the 20th century cultural biases and presuppositions influenced aspects of Aegean studies in substantial ways. Arthur Evans's inclination to pick and choose among attributes of ancient Near Eastern cultures for his Minoan narrative as well as his insistence that Mycenaean advances were either brought to the mainland by Cretan overlords or cloned from their Minoan originals impacted research and scholarly opinions for much of the 20th century. However, it is also clear that Mycenaeans did emulate aspects of Minoan culture just as Cretan artisans and artists borrowed Cycladic innovations and enthusiastically copied Egyptian originals. As metallic ores and their by-products evolved from the exotic to the necessary, efficient and reliable access to specific natural resources led to improvements in maritime capabilities. And while the quest for metals may have enticed longboat voyagers to unknown places across unpredictable seas, it would be shortsighted to define their successes solely in terms of exotica, gift exchange, or commerce. As Ourania Kouka enumerates, under the rubric of 'trade' we should envision, "a multidimensional event, in which technologies, goods or luxurious, high status objects, every-day practices (*e.g.* cooking), architectural or burial

1. The cultural transition that occurred during the 3rd millennium BCE (FN - EBA) shaped and to a significant degree defined the Aegean Bronze Age. While the impetus for this transition in the western Aegean may have first been reflected in the Cyclades and on Crete, it is best understood within a broader cultural and geographical region. This section expands on the previous focus to consider in more detail recent findings across the eastern Mediterranean and the resulting interpretive scenarios.

practices, symbolic actions and ideas of feasts either for the entire communities [*sic*] or just for an elite, and mentalities in general may also come together" (2016, 204). It is also likely that many of the details of this multifaceted history are unrecoverable while others will surely be misconstrued. Yet the results of decades of excavation, comparative analysis, decipherment, and publication have defined a body of evidence that bears scrutiny while revealing in some detail the lives of peoples and their cultures across the eastern Mediterranean and the ancient Near East. As Joseph Maran and Thomas Palaima have suggested, various sources—both prior to, contemporary with, and subsequent to the Aegean Bronze Age, illuminate Minoan and Mycenaean cultures (Moran 2004, 18-25; Palaima 2008, 343). See also *Collapse and Aftermath*.

The Hittite loan words and names referred to above——the oldest attested examples of Indo-European/Anatolian, are inscribed with cuneiform signs on tablets largely recording the Old Assyrian dialect of Akkadian, a semitic language (Melchert 1995, 2152). The texts themselves are among more than 20,000 documents that have been recovered from the *karum* or Lower Town in Kanesh (Anatolian, Nesa; modern, Kültepe) in south-central Anatolia. Kanesh played a major role in the early commercial networks that served as conduits for goods exported from southern Mesopotamia through Ashur and then on to colonial outposts in Anatolia. Often referred to as the Old Assyrian Merchant Colony, Kanesh seems to have been the most important of these outposts where, for two centuries, Assyrian merchants traded imported tin and textiles for silver and gold across much of Anatolia. The two periods of Assyrian presence at Kanesh are dated to ca.1945 – 1845 BCE and ca.1810 – 1740 BCE (Garfinkle 2007, 62-65).

Following the collapse of Sargon's Akkadian Empire towards the end of the 3rd millennium BCE numerous territorial states were established in Mesopotamia and Assyria and briefly reunited under the Ur III kings (22nd and 21st centuries BCE). The ancient city of Ashur, nominally controlled by the Sumerians, was in fact ruled by Assyrian governors. Early in the 2nd millennium BCE Puzur-Ashur I gained control of the city and established an independent Assyrian dynasty. It was during the Old Assyrian Period that the first generation of Assyrian merchants from Ashur established themselves at Kanesh (Level II). Typically the merchant's family remained in Ashur (1,000 km to the southeast) while those individuals doing business at Karum Kanesh, despite levies imposed by Anatolian overlords, operated largely within an Assyrian legal and political framework. The text documents preserve detailed accounts of the commerce as well as a rich variety of personal anecdotes by members of the merchant families——both at home and abroad (ibid., 65-66).



Facsimile Wall Painting Asiatic Nomads - Tomb Khnumhotep II - Dynasty 12 Senwosret II
Ikram 2018, Emily Prisse d'Avennes. Egyptian Art

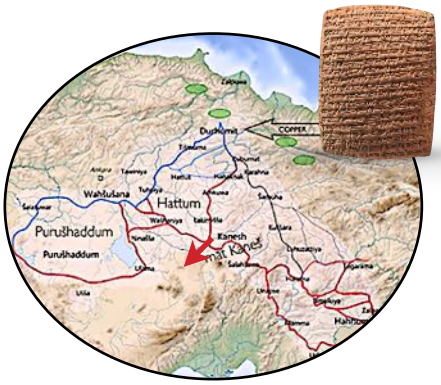
Even a brief perusal of the Kanesh texts reveals an astonishingly detailed account of the comings and goings of the traders, donkey caravans, and their goods. For example, the texts inform us of the precise load carried by each donkey: 10 kg of woven textiles and 65 kg of tin, as well as the transport costs for the pack animals: 7 black donkeys cost - 1 5/6 minas 3 shekels of silver, harness - 1/3 mina silver, fodder for donkeys - 2 1/2 shekels (Garfinkle 2007, 65; Larsen 1988, 100 - MMA 66.245.10). Assuming Sippar as the point of origin (see map above), the caravan would have trekked north to Ashur

before heading west to Kanesh——on average, a two month journey. In Ashur the merchant's wife or another senior member of the family firm, after inspecting the inventory, may have negotiated terms and documented an agreed upon price (goods, transport costs, and the inevitable taxes) for a specific portion (in modern terms a certain number of shares in a particular business venture) of the inventory. Having arrived in Kanesh, following an inventory by representatives of the Anatolian king and the payment of taxes due, the merchant would apportion specific fractions of the tin and textile goods (on credit but for sale within an agreed upon time frame) to individuals who would then travel to communities (points of sale) to market those goods. Payments due would be collected by the merchant and the silver or gold sent back to Ashur. A letter from Itur-ili (a senior partner) in Assyria to Ennam-Ashur (a merchant) in Kanesh includes the following:

> *This is important: / buy for the 16 minas of silver / some red gold for smelting / and send it to me with your servant! / This is important: / a dishonest man / must not cheat you! / To drink / do not succumb! / White gold: / Do not involve yourself. / You must know that there is / a lot of white gold here.* (Itur-ili, Assyrian scribe 19th - 18th centuries BCE)

While the risks were high the profits——between 100 - 200%, made such trade a lucrative proposition. One estimate suggests the first generation of merchants at Kanesh returned twenty-five tons of Anatolian silver to Ashur in payment for one hundred tons of tin and 100,000 textiles (Düring 2020, 34). Not surprisingly with such wealth at stake the tablets also record banditry, smuggling, and law suits along with internecine squabbles, recrimination, and various other hostilities. From a collection of twenty-seven Old Assyrian tablets owned by the Metropolitan Museum of Art we read of an admonition against smuggling, concern over a moth infestation of a shipment of textile, and the seizure of one merchant's slave girls by another (Larsen 1988, 94, 106-107). Given the context there is little here that is unexpected——and this familiarity in itself is meaningful. Despite the temporal chasm of four millennia between Ennam-Assur's world and our's there is little that seems foreign or alien, in fact just the opposite. That one merchant hid silver in his underwear to avoid taxes elicits our smile——a knowing one at that.

Karum Kanesh was destroyed by fire in ca. 1836 BCE but before the end of the century the site (Level Ib) was reoccupied by another generation of Assyrian merchants and it seems Karum Kanesh was back in business. Although there are fewer documents from the later era, aside from the fact that the Assyrian merchants began to marry local Anatolian women, the nature of the commercial activity seems much as it was with the earlier generation of traders. What had changed was the political structure at Ashur.



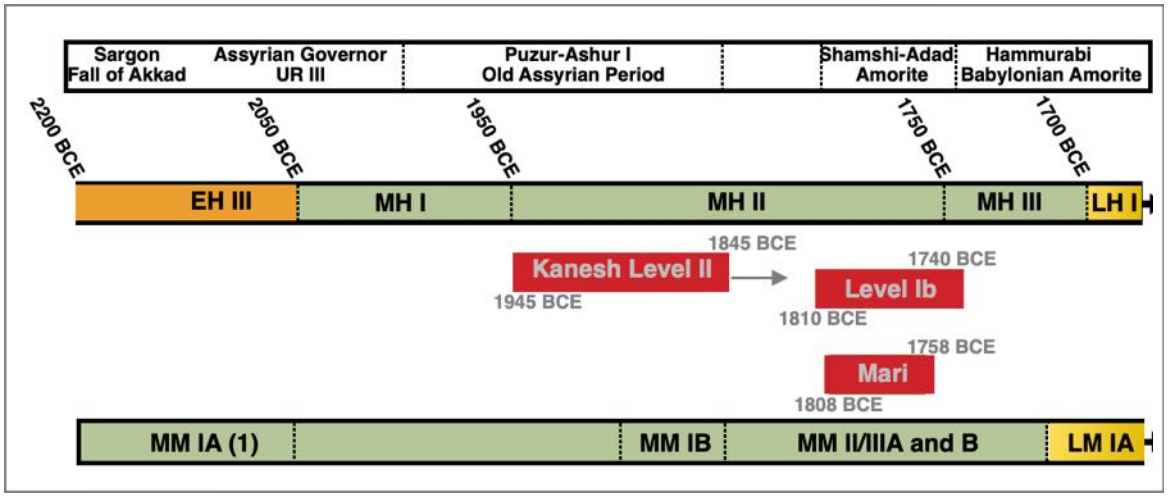
Old Assyrian Trading Colony Assyrian Trade Routes in part Cappadocia history.com
Caravan Tablet courtesy MET

Centuries before the Old Assyrian Merchant Colony was active the Amorites——nomadic tribes from Canaan and lands west of the Euphrates River, had moved in increasing numbers into Mesopotamia along the perimeter of Sargon's Akkadian Empire. In fact, together with the Elamites, the Amorites were responsible for the collapse of the UR III Dynasty. Aside from proper names and nouns the west Semitic Amorite language is poorly attested, however, Amorite clans and war lords are well documented in Akkadian texts. Not surprisingly the early record of their presence is not flattering.

The MAR.TU who know no grain.... The MAR.TU who know no house nor town, the boors of the mountains.... The MAR.TU who digs up truffles... who does not bend his knees (to cultivate the land), who eats raw meat, who has no house during his lifetime, who is not buried after death.

-E. Chiera 1934

In the final decade of the 19th century BCE the Amorite warlord Shamshi-Adad subjugated sizable areas of the northern territories including the city of Ashur and it was during his brief reign that commercial trade with Karum Kanesh was revived. Ultimately the expansionist policies of Hammurabi (also an Amorite) resulted in the settlement's destruction. Subsequently, Assyria was plunged into something of a "Dark Age" from which it would reappear, first in the mid-15th century BCE and most spectacularly, some would say with a vengeance, with the Neo-Assyrian Empire beginning ca. 900 BCE (Garfinkle 2007, 59; 67-69).



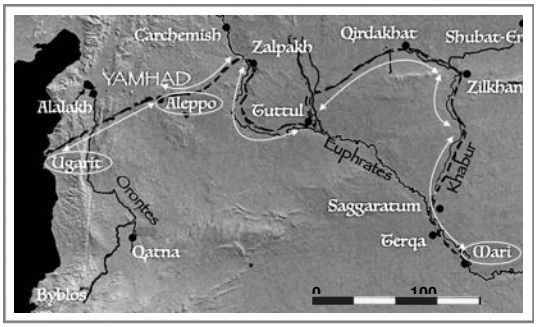
Old Assyrian Merchant Colony at Kanesh
Garfinkle 2007, 65.

Absent documentation from Kanesh, the reality of a relatively secure, long distance commercial network with markets for essential commodities in defined quantities, facilitated by standardized exchange rates——an economic engine whose merchants appear to have been indemnified against loss and/or injury, might seem hardly credible (Larsen 2008, 72). Yet just such an enterprise, regulated by the political and legal authorities of Ashur, Anatolia, and Karum Kanesh was active for over two centuries. While it is difficult to draw a straight line between the activities at Karum Kanesh and the Aegean, the documentary record of the Assyrian merchant colony details elements of early commercial trade that suggest contemporary parallels in the Aegean. It is certain that the tin, textiles, and silver essential to early Assyrian commerce, were likewise of major import to both Minoan and Mycenaean cultures. Also of note——commercial economies initiated by private individuals, families, or clans were subsequently coopted by centralized authorities in both the Old Assyrian period as well as during the periods of transition to the mature Minoan and Mycenaean societies——each with identifiable centers of economic success and political control. While there may have been periods of relative isolation, Mogens Trolle Larsen suggests that despite the absence of documentation, "It is likely that some of the tin and copper imported into and traded in Anatolia found its way to the Aegean region" (2008, 72). Few Aegeanists would attempt to refute Larsen's conjecture. See Miletus in *Mycenaean III*.

The Amorites, Zimri-Lim and Mari to Ugarit

Located on Tell Hariri, Mari's final occupation (City III) flourished from ca. 2220 to 1760 BCE. Midway between the northern end of the Persian Gulf and the Mediterranean coast, on the left bank of the Euphrates, trade was a significant factor in Mari's perennial success. A canal connected the city center to the river and was apparently navigable even during periods of flooding. Although Yahdun-Lim had taken control of Mari in the late 19th century BCE his assassination marked the expulsion, albeit temporary, of the Lim dynasty from the city. Given the economic importance of the city, it is likely that Shamshi-Adad, self-proclaimed "King of the Universe," was behind the assassination. During the relatively brief period between the ascension of Shamshi-Adad and its destruction by Hammurabi in 1760 BCE, Mari established itself as a regional power——initially as part of Shamshi-Adad's short-lived empire and subsequently with the return of the Lim dynasty (Garfinkle 2007, 61-69).

Although the individuals mentioned above are associated with Assyria and its initial rise to power, many of the principals were Amorites (Akkadian *Amurru* or "those of the west"). Amorite rulers would themselves be displaced by Hittites in the north and Kassites in the south but during the era of the Lim dynasty Amorite rulers thought of themselves as heirs to the Sumerian and Akkadian dynasties. Among the Amorite cultural markers described by Jack Sasson are kinship lineages with kings and vassals committed to well defined hierarchies ("fathers, sons, and brothers"), "obligatory gift-giving" among members of the ruling classes, and economies built on territorial control and the wealth generated from taxation and trade (2008, 95). In addition to the taxes levied along both riverine and land based commercial routes, a wide range of commodities (eg. wine, oils, wool, wood, and metals) were bartered, bought, and sold by Mari's rulers. Additionally, there was an active trade in people——not just slaves and laborers but skilled craftworkers, artists, and entertainers. To judge from text documents, however, "most frequently recorded is the transfer of diviners and physicians" (ibid., 96). No doubt this reflects the fragility of life in a world rife with hostilities and disease. A near obsessive concern with bureaucratic record keeping at Mari (the tracking of each and every item entering or leaving the palace) as well as the voluminous correspondence to and from the royal seat illuminates the period. Many of the letters, sent by vassals, are addressed to "*My lord"* or *"the great King,"* but Zimri-Lim was also an ardent letter writer. A dispatch to his daughter Liqtum, regarding her husband, not surprisingly touches on matters of state——*I am herewith sending a long communiqué to Adalshenni about establishing peace and good will.* But the great King had other matters on his mind as well——*In the land where you dwell, there are many ostriches; why have you not sent me ostriches?* (ibid., 98-99; Dossin 1978; Durand 1997 - 2000). As with the 14th century BCE Amarna Letters, the Mari correspondence are laced with flattery, thinly disguised threats, and not infrequent carping.



Zimri-Lim ca. 1760 BCE - Mari to Ugarit after Sasson 2008, 97

Zimri-Lim's place in history rests, in part, on his renovation and expansion (to 275 rooms) of the royal palace; of greater significance to posterity are thousands of text documents recovered from the palace library and dating to the first half of the 18th century BCE. A number of these tablets recount the details of Zimri-Lim's journey from Mari to Ugarit in ca.1760 BCE. Not unlike the sixteenth

century CE progresses of Tudor royalty, the trip was in large part diplomatic——with stops along the route to shore up ties with allies combined with opportunistic visits to vassalages to receive homage (of a decidedly material nature)——no doubt to defray the considerable expenses of this momentous undertaking. The trip itself was apparently instigated by a summons from Aleppo sent by Yarim-Lim——Zimri-Lim's father-in-law and ruler of the Yamhad territory. Yarim-Lim had requested help with a troublesome neighbor and no doubt the four thousand men who accompanied Zimri-Lin were clearly capable of providing martial assistance to his in-laws (Sasson 2008, 95). The formalized tradition of Amorite gift giving with its clearly defined privileges and obligations is well attested in the numerous texts documenting the journey. Even before his arrival in Aleppo, Zimri-Lim had sent gifts forward for Yarim-Lim's wife and for Addu (Adad)—the city's primary deity (ibid., 99). The gift giving and receiving continued as Zimri-Lim made his way from Aleppo to the coast, with mention of Hazor, Qatna, Ulme, and Byblos along with details of gifts sent and received (ibid., 100). Zimri-Lim's arrival on the eastern shores of the Mediterranean at Ugarit's port, Mahadou (modern Minet-el-Beida), attests to the importance of trade, including commercial dealings between the Aegean and the Near East. It seems clear that Zimri-Lim, quite apart from the ongoing flurry of gift exchanges, was on the coast to do business. Included in his baggage were 400 kilos of tin——in part destined for Cyprus, little more than 100 km offshore of Mahadou. It also appears he used a portion of the tin to purchase a number of Minoan luxury goods while visiting Ugarit (Foster 2018, 343-344).

Aegean Trade: ifs, ands, & buts

On the assumption that "Caphtor" or "Kaphtor" refers to Crete, the most direct testimony of Zimri-Lim's business with the Minoans is recorded on ARM / ARMT (Archives Royales de Mari) tablet 23 556 (Bardet 1984, 528-529). Line 28 has 1+2/3 MA.NA AN.NA ana kaptārāʾim '1+2/3 (? the amount is damaged) mina tin to Caphtorite'; lines 29-31 have '1/3 mina tin to translator, chief (of) [mercha]nt(s) Caphtorites in Ugarit' (the writing of 'Caphtorites' in line 30 is somewhat damaged).[2] That payment was acceptable in tin indicates the value (and rarity) of the metal as a critical component of bronze——one imparting both strength and visual appeal. At least for part of his reign Zimri-Lim was the recipient of tin directly from Elam. Although the extant tablet does not record the specific service(s) or item(s) for which payment was due, a number of other Mariote tablets do provide details on a variety of Caphtorite goods listed as part of the palace inventory and/or as item of exchange. A degree of ambiguity regarding the exact shapes and forms of many items has prompted Karen Foster to suggest, "artifactual analogues for the Mariote mentions of items from Crete" (2018, 343). Her itemized list extracted from 6 tablets (ARM: 21,23, 25, 30-32) includes gold (17) and silver (4) cups, various vases, a variety of weapons, foot-wares, and a belt (ibid., 356-357). While decorative motifs are described for several of the gold cups, the tablets provide few details related to the weapons, and the exact nature of the foot-ware (aside from being made of leather) is vague. In any case, like the archives from Kanesh, the Mari tablets provide records and details regarding the specifics of commerce during the MBA——documents absent in the Aegean. Another pertinent, albeit later (LH IIIB) text——an order from King Ammistamru II of Ugarit, states that a shipment of grain, beer, and oil being exported from Crete on Sinaranu's (an important Ugaritic merchant) ship should not be taxed (RS 16.238+254 —Nougayrol 1955, 107-108). See *Mycenaean III*, 433.

2. J. Huehnergard, personal communication, March 3, 2022.



Minoan Bronze Dagger with Gold Hilt - MM II
Pourset 2016, 5b. Malia the Mu Quarter Fig. 5
Minoan parallel from "Zimri-Lim's time" (Foster 2018, 350)

Although the Ugaritic text cited above was recorded half a millennia later than the Kanesh and Mari documents, it is significant for a number of reasons. Following Cline, Nicolle Hirschfeld points out that it is the only known record that names a specific individual (Sinaranu) involved in a commercial enterprise between the Aegean and the Near East during the Bronze Age (Cline 2003, 172; Hirshfeld (sic) 2009, 3,6). Hirschfeld observes, "[the] scarcity of references to the Aegean," is significant itself——given the voluminous textual documentation from Ugarit dealing directly with commercial transactions and contracts as well as individuals, both foreign and domestic, involved in that trade (ibid, 3).[3] While the documentary evidence for Aegean trade is clearly thin (see Palaima below), material evidence——including ceramic, metallic, and textile related artifacts offer clues to understanding both Minoan and Mycenaean participation in that trade. Vronwy Hankey (1916-1998), among the first archaeologists with a working knowledge of both the Aegean and Ancient Near East, published a pioneering analysis of the distribution of Mycenaean pottery from Cyprus and fifty additional sites ranging from present day Syria south to the Egyptian border. Based on her findings, Hankey concluded, "Mycenaean pottery found in the Near East is the result of trade radiating in general from the Aegean" (Hankey 1967, 147). Questions raised by Hankey's generalized conclusions continue to be researched in order to more precisely define the Aegean role in Bronze Age trade. In any case, it is fair to say that understanding trade is complicated by a number of inherent difficulties. As Malcolm Wiener points out, many of the very materials that were commonly traded or exchanged (eg. textiles and metals) are either subject to organic decomposition or in the case of metals were often melted down and repurposed——leaving few or no informative traces in the archaeological record (1991, 325-326). On the other hand, textiles——perhaps the oldest and economically most important of Aegean crafts, are widely attested by their production tools. For example, loom weights, spindle whorls, and spinning bowls were excavated at the EBA site of Myrtos in southern Crete. Textile themselves, however are rare, although their impressions in clay are not uncommon (Burke 2010; Warren 1972). Both wool and linen are cited in Linear B documents——for example, Killen references "Knossos Da-Dg SHEEP records," and includes Olivier's suggestion that the tablets refer to approximately 100,000 animals (Killen 2008, 173). The relative abundance of known metallic artifacts is, in part, a function of multi-generational tomb use and the resulting accumulation in mortuary settings. As a consequence, dating of specific artifacts is less than precise. Nonetheless, It is clear that the quest for metals——both precious and base, was a primary factor in expanding external contacts. As a result, metals and their alloys——their sources, production, distribution and consumption have been the subjects of intensive investigation.

3. Initiated nearly a century ago, excavations at Ugarit (Ras Shamra) continue to yield their treasure——most notably to date a series of archives comprising over 1,500 tablets. Among the more important Bronze Age centers of commerce, Ugarit was, to a greater or lesser degree, variously subject to Egyptian, Hurrian, and Hittite authority while retaining, at least to a degree, its independence. Ugaritic scribes were proficient in Akkadian (both Assyrian and Babylonian forms), as well as a number of other languages including Ugaritic with its unique alphabetic cuneiform script attested from the 14th century BCE through 1190 BCE when the city was destroyed. A number of the more important archives are associated with specific merchants——individuals that took leading roles in Ugaritic society during the later LBA. See also *Mycenaean III.*

It is worth re-emphasizing the extraordinary level of detail provided by the documentation from ancient Near Eastern sites such as Kanesh, Mari, and Ugarit. These texts speak to us across a temporal chasm of millennia, delineating specific locations for the origin and consumption of named commodities, means of transport, as well as details related to the economic and political contexts of that trade. In addition they provide a rich collection of anecdotal accounts of human interactions——named individuals whose livelihoods and family relationships were impacted by different aspects of that commerce. Such evidence is undoubtedly most useful in understanding Near Eastern BA commerce but it also provides contemporary scenarios that may, to a degree, be reflected in the Aegean. While the Linear B corpus dates to the second half of the 2nd millennium BCE it offers a number of insights (admittedly limited) into Aegean trade. Palaima's begins his review of "Maritime Matters" found in the Linear B corpus with comments on trade——observations the author firmly stamps with a "warning label." Cautioning that in general the documents typically address matters of "short-term concern," Palaima also characterizes the references to overseas trade as being "notoriously uneven." Most records, including those concerned with important economic matters, are highly particularized, with details typically informing site-specific industries (eg. textiles and perfumed oils at Pylos). In any case, given the absence of documentation among and between Mycenaean centers, the textual information cannot be applied with a broad brush (1991, 273-276). As if to re-emphasize his prologue Palaima offers the following——"The Mycenaean texts provide almost no direct evidence for the management of extra-regional trade whether by sea or land" (ibid., 276; with references). One tablet and a group of sealings do reference shipments of textiles and animals respectively, although in each of these cases, over relatively short distances (ibid., 276-278). Perhaps more meaningful, albeit indirect, is the linguistic evidence suggesting foreign relations. For example, Linear B tablets record Semitic and Anatolian loanwords for a variety of commodities (eg. spices: sesame *sa-sa-ma*, ivory: *e-re-pa*, and gold: *ku-ru-so*), non-local ethnics (women workers associated with Miletus, Knidos, Khios, and other locales), and one personal name suggesting an association with Egypt (ibid., 278-280). Of note is Palaima's observation that as a group the ethnic adjectives are largely associated with, "the major administrative capital of northern Egypt, with the copper-rich island of Cyprus, and with the major Syrian site of Byblos" (ibid. 281). In sum, the mainland documentary evidence may be suggestive of foreign relations but falls short of confirming specific trade relationships.

Absent evidence comparable to the tablets from Kanesh and Mari, the role played by Aegean traders in the EBA and the nature of that trade is based largely on evidence-based conjecture. The inevitability of new evidence, however, necessitates an ongoing engagement with the data. For example, at present it appears the traditional ideas of an established Minoan thalassocracy and the suggestion that Mycenaean traders played a major role in LBA shipping rest more on assumptions than on verified evidence. One has only to read Cheryl Ward's title——*Seafaring In the Bronze Age Aegean: Evidence and Speculation* to be alerted to the fact that our understanding of Aegean maritime trade and exchange requires evaluation in light of what we do not know along with the actual evidence (2010, 149-160). Ward points out that based solely on the material evidence related to interstate commerce, the actual numbers of Aegean objects in foreign lands is relatively small until the Late Bronze Age (ibid., 153-154). However, it does seem clear that LBA mainland economies did rely on maritime networks enabling economically significant trade and exchange of numerous goods and services. While one would need to ignore the evidence to argue that such was not the case, even the best evidence is not unequivocal.

The wreck of the Uluburun (ca. 1300 BCE) has become the poster child of LBA trade——and not without reason. See *Mycenaean III.* However, as Ward argues, "definitive proof of who operated the ship, how the ship's cargo was financed, or where it was going is tenuous at best" (ibid., 156). Additionally, there is a striking contrast between relatively well described inland trade routes of the Near East and the largely unknown maritime routes sailed by merchantmen transporting raw materials and finished goods back and forth between the Aegean and foreign ports. As Hirschfeld puts it, "we still lack the tool most fundamental to discussion of the physical links between these two areas [Levantine coasts and the Aegean] – a comprehensive mapping of viable sea routes of the ancient Mediterranean in the Late Bronze Age" (2009, 2). One reasonably certain circuit is hypothesized from the 'predictable' winds and currents during the summer sailing season. The prevailing northwesterlies dictate a counterclockwise movement for sail-powered transport. While laying a course from Crete directly to the Peloponnese would have been impractical, a merchantman departing the port of Kommos on the south coast of Crete could sail southeast to the Nile Delta and with experienced mariners aboard continue north along the eastern coast of the Mediterranean. While sail power is not a factor in the FN - EBA era, the same maritime conditions would have affected paddled and rowed craft as well.

Commercial activities at Karum Kanesh ended with its destruction in ca.1740 BCE, just prior to the early shaft graves at Mycenae——interments containing an abundance of material wealth suggesting a wide range of contacts between the mainland, the Cyclades, Crete, and the Balkans and likely more distant lands (Dickinson 2006, 196). The origin of these connections can be traced back to the 7th millennium BCE and the diffusion of agriculture across the Aegean——movements that in part must have been maritime. It is during the 3rd millennium BCE, however, that profound changes took place that would be reflected in both the development and the ultimate dissolution of Aegean Bronze Age cultures. Relatively recent excavations on Crete have yielded evidence for significant interactions with the Cyclades as early as the FN and with increasing frequency throughout the Minoan "prepalatial" period. Fortunately, efforts to establish the details of those contacts have been enhanced by innovative technologies (eg. mineral sourcing) that were unavailable to archaeologists for most of the twentieth century CE. Also critical to current scholarship and to our understanding of early Minoan history has been a shift in perspective by Minoan archaeologists. During the last quarter century Minoan studies, while not abandoning palatial matters, have increasingly focused on earlier periods as well as on areas either lacking monumental architecture or at the periphery of the well-known "Palaces." Additionally, in lieu of identifying island-wide themes, scholars have taken a more focused ("bottom-up") approach with their efforts to characterize local sites and regional trends. This shift in focus is the result of new excavations, the reanalysis of previous interpretations, and a more general post-modern critique of "evolutionism." As Hamilakis has argued, "cultural evolutionists do not only conceal divergent stories of societal development, but [they] also sacrifice one of the most interesting and rewarding aspects of the researcher's task, the investigation of differences" (2002, 11). Schoep and Tomkins speaking to the same issue characterize the revised framework from which to evaluate the data as, "more fully contextual and contingent" (2011, 4). See *Introduction* and Nakou below.



Stefani et al. 2014, Fig. 3

Spondylus & Obsidian
Early Aegean Trade



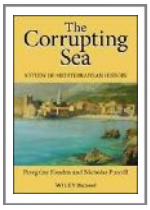
MET

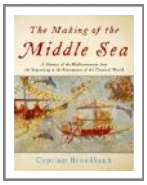
Apart from such changes in perspective and despite the sparse documentary record, the participation by prehistoric Aegeans in long distance down-the-line (indirect) trade seems indisputable. The early evidence rests, in part, on the presence of *Spondylus* jewelry in central Europe——items of personal adornment crafted from the shells of marine organisms endemic to Aegean waters. See *Neolithic Mainland* and below. Even prior to the Neolithic, the distribution of Melian obsidian testifies to trade across much of the mainland. As we will see, trade in this highly regarded volcanic glass continued to play a role in Bronze Age commerce, with the extant artifactual evidence, in part, informing Minoan early history.

Metals, Theoretical Models, and the Middle Sea

Colin Renfrew's *Emergence of Civilization* established the initial parameters for what remains an active effort to understand the critical Late Neolithic - EH II cultural transformations (1972 / 2017). Informed in part by his pioneering excavations in the Cyclades, Renfrew was among the first scholars to call attention to the intensification of trade (especially in metals)——a development, he suggested, that ultimately resulted in the rise of social complexity and the first proto-urban communities in the Aegean. "The influence of metallurgy upon the cultures of the period," he argued, "is thus a profound one, influencing the forms of expression as well as the economy" (1967, 16). Renfrew identified EC II as the period when the traditions of gift exchange, dating to the Neolithic, were replaced by "trading and the competitive acquisition of prestige goods"——an era of "international spirit [with] a common culture of artifacts, ideas and practices," enabled by innovations in metallurgy and marine transport (Papadatos and Tomkins 2014, 330-331; Renfrew 1972).







Cyprian Broodbank places the various manifestations of this cultural sea change within the 'long' 3rd millennium BCE——a period whose actual events are not constrained by artificial chronological boundaries. Building on Renfrew's treatise, Broodbank's initial focus was also the Early Cyclades, a perspective that would widen to encompass the entire Mediterranean Sea (2000; 2013). Although neither the mid-20th century volumes by Fernand Braudel or the more recent publication by Peregrine Horden and Nicholas Purcell focus on the Aegean during the 3rd millennium BCE——each in its way shapes Broodbank's perspective on the history of the *Middle Sea* (Braudel 1949; Horden and Purcell 2000; Broodbank 2013). Both world-systems theory and Braudel's longue durée play a role in Broodbank's approach to early Aegean history. The latter gives priority to a number of over-arching and inclusive themes proposed by Horden and Purcell: i. the complexity and fragmentation of Mediterranean ecology, ii. the perennial factors of risk and opportunity, and iii. connectivity. Broodbank identifies, "four epochal developments," manifestations of Horden and Purcell's categories, that impact the Mediterranean in diverse ways across both space and time (Broodbank 2013, 18-25). These include an increasingly arid climate, the impact of the expansion of the Mesopotamian and Egyptian mega-states on eastern areas of the Mediterranean basin, the development of innovative societies in the northern areas of the basin, and the burgeoning long-distance maritime connections (2013, 262). While the specifics of Broodbank's trans-Mediterranean treatment are beyond the scope of the present work, understanding how the Aegean evidence fits within this conceptual framework informs Early Bronze Age narratives in ways often absent from site specific reports.

Citing the “increasingly unpredictable rainfall” of the later Neolithic and EBA, Broodbank is among a growing number of Aegeanists paying closer attention to climate change (2013, 263-264). While Hazell’s recent study concludes the evidence for, “widespread climate change,” is inconsistent for Anatolia and Southeast Europe, the publication also suggests that the multiple climate mechanisms affecting the Mediterranean, “can result in widespread, abrupt, and rapid centennial-scale shifts in Mediterranean climates” (Hazell et al. 2022, 1-12). Illustrative of the increasing attention paid to climate is Cline’s discussion in his revised 1077 B.C. volume focusing on the BA collapse (2021, Ch. 5). A highly pertinent study analyzing, “the interlinkage between ancient land use and climate change in NE Peloponnese, southern Greece,” is consistent with Cline’s emphasis on the 1200 BCE drought——aka the 3.2 Event, while also implicating climate in significant disturbances around 2200 BCE——often referred to as the 4.2 Event (Weiberg et al. 2021, 1- 2). The studies long-term perspective (~ 1800 BCE - 330 CE) combines local field survey records with speleothem (e.g. stalactite or stalagmite) data from Peloponnesian caves. The analysis, graphed as measures of RCI (relative climate indicator) and of EPLU (the extent of possible land use) indicate a precipitous decline in the estimated number of hectares under cultivation in the EH I - EH III period although RCI date for the specific period is lacking (ibid., 3-5; Fig. 2.).

For the Aegean farmer——lacking the benefits of the annual Nile floods or the network of irrigated fields bordering the Tigris and Euphrates, the possibility of drought was a perennial threat. Broodbank identifies aspects of storage, diversification, mobility, and community that typify responses to what the farmer must have perceived as a clear and present danger. The earliest farmers to colonize the mainland, the Cyclades and Crete are often characterized as arriving at their destinations with the “full Neolithic package.” As critical as the material aspects of this "package" were the newcomer's heritage and lived experiences. By necessity these farmers must have understood that survival required a measure of built-in diversity and mobility. A combination of crops and flocks (the latter a form of “storage on the hoof”) offered a modicum of insurance against the vagaries of climate. Islanders, however, had thrown the dice against greater odds——at least or until they could assure resupply from a neighbor, an adjacent island, or the mainland. Isolated inland communities must also have maintained relationships with their neighbors, if for nothing else than the biological requirements of reproductive viability. In any case each community’s self-reliance would have been the first line of defense against crop failure and/or the loss of flocks due to disease or predation. The generally lateral migration of the early farmers from western Anatolia to southeastern Europe meant relatively similar conditions amenable to the traditional farming practices of the immigrants including strategies such as storage——precautions that would have enhanced their chances not just of survival but also success. And the evidence for storage in its various forms is plentiful among early farming communities. Perhaps less apparent are the potential tensions between communal cooperation and vested self-interest as each relates to storage.

Bothroi, cylindrical pits dug into the ground, were a common feature of Neolithic settlements. As Caskey asserted, while most of these multi-purpose structures were ultimately filled with refuse, it seems likely that *bothroi* were originally used for storage (1960, 294). Monica Nilsson’s study of grain storage in the EH period discusses both *bothroi* and pithoi (perhaps the most common form of household storage) but also focuses on a variety of built structures and subterranean chambers whose size alone suggests community participation (2014, 223-237). Given that the remains of such structures are inevitably incomplete, interpretation of their functions vary widely.

However, Nilsson stresses that a number of these fragmented stone remains are circular——a shape suitable to withstand the inevitable pressure of large amounts of grain. Nilsson published detailed plans with supporting evidence for a number of built structures (Orchomenos-multiple, Tiryns, Voïdhokoilia, and Aghios Kosmas). The details from Voïdhokoilia are convincing. The proposed granery is the sole circular (diameter 3.80 m) structure in an EH II settlement largely consisting of rectangular, closely spaced dwellings separated by narrow alleyways. Twenty millstones were recovered in or next to the granery (ibid., 230-231). Given the widespread adoption of crudely made, large storage vessels typical of the FN period, Nilsson suggests that the return to communal storage during EH I-II reflects an earlier Neolithic tradition carried foreward by groups expressing a deliberate choice——settlements where, "society was generally based on equality, and that each community cared equally for the well-being of its inhabitants" (ibid., 236-237). While the presence of large granaries at some EBA sites seems likely and may suggest certain social mores and attitudes, Halstead rightly points out that the devil is in the details when characterizing actual social implications. Lacking context, even one of the better known examples of large scale storage, the multiple rows of massive pithoi at Knossos, begs the question, *cui bono*? Whose goods were stored at whose expense and whose profit? This is a puzzle that foreshadows larger questions about the nature of Minoan society. Broodbank argues that in the unpredictable Mediterranean climate inequalities were inevitable. The lessons of Egypt and Mesopotamia (where rigid social hierarchies were established) suggest that some individuals or groups, whether by chance or design were likely to exploit, "the very interconnections intended to ensure mutual survival" (2013, 314).

Broodbank refers to the concept of 'world-systems' as one theoretical model for engaging with long-term, socio-economic trends. For example, by juxtaposing established 'core' civilizations (eg. Egyptian and Mesopotamian) with smaller but developing 'peripheral' entities (eg. Aegean and ancient Near Eastern) a number of interactions become apparent. Trade with the 'core' initiates a process whereby, "trappings of elite culture bolstered nascent leader," albeit in many cases the, "scraps of core culture lost their original meaning" (ibid., 283). An unmistakable and defining characteristic of the ancient river valley civilizations is the prominence of individuals——named rulers (either alongside deities or as personifications of the gods themselves) whose personal actions and livelihoods were the major beneficiaries of nearly every aspect of the economy as well as the central focus of prominent cultural narratives. Indeed, dynastic successions and regnal lists define and order modern-day histories of these ancient places. Absent the biographies of Hatshepsut, Akenhaten, Tutankhamun, and Rameses II, Gilgamesh, Queen Puabi, Sargon, and Hammurabi, little would remain of the various central narratives describing their reigns. While the received personalities of each ruler is, to a greater or lesser degree idiosyncratic, the exercise or threat of power (legitimized violence) is omnipresent.



Narmer Palette
Egyptian Museum, Cairo



Victory Stele of Naram-Sin
Louvre, Paris

Consider the stela (r.) of Naram-Sin (2254 - 2218 BCE)——the grandson of Sargon and first of the Mesopotamian rulers to promote his own deification, and the palette (l.) of Narmer (ca. 3273 – 2987 BCE)——thought to honor the first pharaoh to unite Egypt. For these and other heads of state the phrase 'to rule' was synonymous with 'to remain in power.' While early Aegean societies should not be conceived of as incipient Eastern theocracies, certain members of their communities were, no doubt, more ambitious than others. Poetically, this inclination has perhaps been best expressed by Simon Weil in her *The Iliad, or the Poem of Force*——a portrait not reserved solely for epic heroes or autocratic rulers but a reality, "at the very center of human history" (1965). Each of the rulers mentioned above was acutely aware that there was nothing more important to his/her status than the prominent display of their person. The most poignant evidence for this are the innumerable defaced monuments of Egyptian and Mesopotamian rulers——portraits in stone of 'great' kings and queens summarily chiseled away and defaced at the behest of their heirs and usurpers. In the Aegean there are no such monuments and the handful of possible personal names that are attested occur on Mycenaean and Hittite documents inscribed near the end of the Bronze Age. Clearly, however, as with the anonymous MH II warrior interred at Kolonna and LH IIA Griffin Warrior buried at Pylos there were those who excelled——individuals whose names would have been familiar to their contemporaries and whose deeds and wealth were likely of some renown. Despite the absence of names, a millennia before the Kolonna warrior's ceremonious interment, a body of evidence strongly suggests individuals, even small groups, had begun to assert themselves in novel but unmistakable ways.

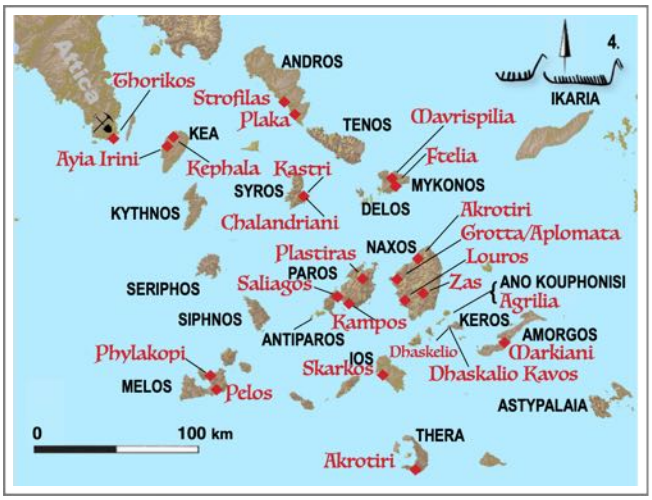
The persona of the BA male warrior, itself symbolic of the coercive aspect of elite society, left its imprint across Eurasia during the 3rd millennium BCE. The late phase Maikop (Maykop) culture (later 4th millennium BCE) located on the western piedmont of the North Caucasus, is known from a series of rich Novosvobodnaya-type interments. One grave with numerous arsenical bronze artifacts held, "15 heavy bronze daggers, a sword 61 cm long (the oldest sword in the world), three sleeved axes and two cast bronze hammer-axes," along with ceremonial bronze cauldrons and a variety of personal adornments crafted from lapis lazuli and carnelian beads (Anthony 2007, 291-292). Late phase Maikop artifacts were originally thought to have been influenced by their Mesopotamian trading partners, however, more recent dating suggests, "allowing for Maikop as a center of innovation in its own right" (Ivanova 2007, 22).

R. Hunter-Warrior Goulandris Coll. Mus. of Cycladic Art



L. 'Perditus' Warrior Figurine Watercolor by George Scharf © Trustees of the British Mus.

Megaliths or menhirs, widespread across Eurasia, include memorials to individual Bronze Age warriors and many are depicted with daggers. To judge from both their numbers and ubiquity, daggers held special significance for EBA Minoan males as well. Cosmopoulos's study determined that daggers comprise over 70% of EBA metal weapons (1991: 57, table 5.2). While likely signaling an association with a warrior class each dagger bespoke ownership and the identity of the individual who wore the weapon during his lifetime. Often recovered with these daggers are the tweezers and needles typical of the warrior's battle kit; it is suggested the latter were used to apply ornamental tattoos (Nakou 1995, 9-13).





Ftelia

Copper (Cu) Ring Idol Pendant
Gold (Au) Disk (x.5)
Maxwell et al. 2018. Figs. 2, 3



Zas Cave

Au Plate
Zachos 2008, 173
Naxos Museum



Kephala

Cu Slag
Furnace / Crucible Fragment
Coleman 1977, Plts. 22, 66



5.



Strofilas

Cu Midrib Dagger
Televantou 2019, Fig. 29

Zas Cave

Cu Flat Axe
Zachos 2008, 173
Naxos Museum



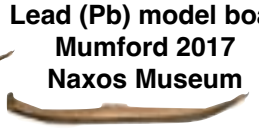
Hagia Photia

Cu Midrib Daggers - Tombs 216, 217
Davaras 1982,10; 13 Fig. 10
Davaras and Betancourt 2004, Figs. 485



Naxos

Lead (Pb) model boat
Mumford 2017
Naxos Museum



Chalandriani



Cu alloy - Tweezers & Awl
Marthari 1998, 21, Fig. 10
Syros Arch. Mus.

Antiparos



Silver (Ag) Bracelets
Renfrew 1967, Pl. 2, 4&5
© Trust. British Museum

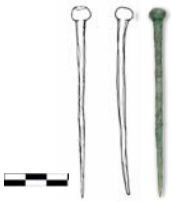
Kastri



Ag Diadem
Tsountas 1898
Syros Arch. Mus.

Kavos/Dhaskalio (Phase C)

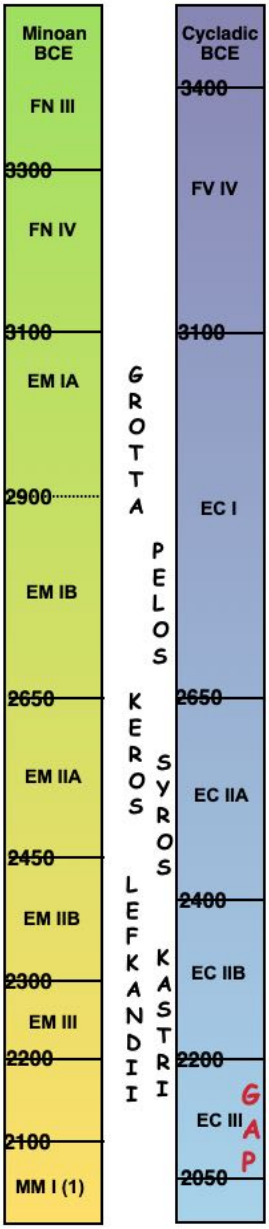
Tin Bronze (CuSn) Pin
Rahmstorf 2015 Fig. 7, 2

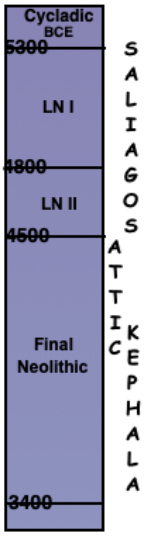


Kastri



Clay Crucible Fragment
Bossart 1967, 68-69 Abb. 3, 6
Marthari 1998, 31, Fig. 24





Late / Final Neolithic - Early Cycladic / Early Minoan I - III
Metallic & Metallurgical Related Artifacts
Chronology after Rutter and Gonzalez-Major, Tomkins 2007, Manning 2012

NB. Differing scales for timelines.

4. Rock pecking on Strofilas (C. Televantou, 2017).

5. Rock pecking on Naxos (Broodbank 2013, 328 Fig. 7.45 b.)

Relatively recent finds have enhanced the body of evidence for metal objects, notably so for the later Neolithic period (Sherratt 2007, 247-248; Zachos 2007, 168). On the plain of Drama in Eastern Macedonia Dikili Tash LN II finds include nine awls, LN I levels held, “evidence for a metallurgical installation,” while the artifact rich site of Makriyalos recorded 65 copper objects (Zachos 2007, 170-171). Southern locations including the Alepotrypa Cave on the Mani peninsula and the Cave of Zas on Naxos have also proved rich in metallic objects. Additions to earlier finds from Alepotrypa were 4 copper daggers and lumps of copper suggesting casting of molten copper dated to the FN. The gold strip from the earliest Neolithic layers at Zas is notable as are two spatulas and 4 flat axes from the FN stratum. Excavations at Ftelia on Mykonos produced a gold disk (the earliest of its kind) along with copper awls and an earring (ibid., 172-173). See also, *Cycladic Islands LN - EBA*. Noting the additional evidence, adjustments to chronology, and most particularly advances that led to insights into, “questions of metallography, technology and provenance,” Susan Sherratt commented that current understanding, “owes much originally to the initiative or stimulus of Renfrew” (2007, 246). What has changed, Sherratt explained, “[were] generalised shifts in interpretative approaches, influenced to a greater or lesser extent by what may be loosely called postprocessual ideas” (ibid.).

Georgia Nakou, in an alternative model for framing the LN - EH II emergence, argued that defining the transition within the context of state formation (given its evolutionary assumptions *à la* Renfrew), creates an inflexible context with “teleological implications,” and furthermore adopts a model that is ill-suited, “to explain the *specific* pattern of the archaeological record*”* (1995, 2). Nakou suggests that the phenomena Renfrew terms *Metallschock* in fact, “represents *a change in depositional behavior*, and thus a deliberate redirection of symbolic expression,” one that, “shifts the direction of inquiry into the social context of innovation, and the human uses of technology and material culture in general” (ibid.). Contrasting perspectives on the production, distribution, and consumption of metals reflect the scholars’ different interpretive models. While Renfrew emphasizes the utilitarian value of metals, both as tools and weapons as well as its perceived intrinsic value as a measure and store of wealth, Nakou focuses on metals and metallic objects as potent carriers of symbolic meaning in specific social contexts——initially related to community cohesion but increasingly as an instrument of social control (ibid., 19-21).

Nakou stresses that essential to understanding perceptions about metallic objects and the roles they assumed are their contemporary social and historical contexts (ibid., 3). Demographic evidence from the southern mainland, Cyclades, and Crete underlies recent reappraisals and alternate interpretations of the nature of the transition to social complexity. Broodbank and Papadatos each describe a widespread LN - FN population dispersal in the southern Aegean of relatively small groups to areas considered marginally productive. Typically located inland on rocky hillsides, these sites were often restricted to one or two families (Broodbank 1989, 320-321; Papadatos and Tomkins 2013, 372). Also dated to the later Neolithic is the increased use of cave sites. It is likely the such relocations were spurred by food shortages in areas where population growth exceeded the capacity of the land to produce adequate levels of crops and flocks. While dispersals to the hinterlands may have addressed sustainability issues it also carried risks and challenges. Aspects of larger communities were essential for labor intensive tasks (eg. harvesting), for protection against external threats (both natural and man-made), and for maintaining critical social networks (for example, to provide access to potential marriage partners). Also critical was an effective communication network

linking the various satellite sites. Nakou proposed that metallic objects, associated with community-wide gatherings (often in caves or other 'special places'), became imbued with symbolic meaning that functioned to maintain and preserve just such community ties (1995, 19-22).

Nakou's analysis of 19 sites ranging from Macedonia south to Crete and across the Aegean suggests, "marked differences in metal use [existed] between north-central mainland Greece and the southern regions" with artifacts from the south having much in common with metal products from north Balkan sites. For example, both the gold sheet and flat axes from the Zas Cave on Naxos are essentially identical to Varna (Gumelniţa-Karanovo VI Chalcolithic culture) artifacts. Additionally, northern artifacts tend to follow 'lithic' shapes unlike the metallic traditions at Varna and in the south (1995, 5, Fig. 2, 6). The unparalleled quantity of Varna gold, whether interred with human remains or embellishing cenotaphs clearly memorialized highly regarded, wealthy, and elite individuals——albeit both the powerful as well as the highly skilled appear to have been so honored. Of the 61 Chalcolithic graves with gold artifacts approximately half were cenotaphs while interments included both males and females (Radivojević and Roberts 2021, 35-37). In contrast to the extravagant display of metals at Varna, evidence for deposition in the south during the FN - EC I is cryptic at best. Nakou suggests the use of cave sites and other "marginal locations" may be indicated but the contrast in sheer quantities must also be in play (ibid. 7). In any case, as Nakou points out, "new subsistence strategies, the establishment of new symbolic loci, and the discovery of metal sources were interwoven in new social networks" (1995, 22).

Nakou proposed that something akin to the early role of metal is apparent in the MN trade and/or exchange of fine decorated Urfirnis pottery——wares embodying specific technical knowhow that are attested widely in settlements across the southern mainland (1995, 21). Phillipa-Touchis' suggests similar connotations for MH Aeginetan pottery. Widely exported, these wares appear to have been held in high regard, both for their aesthetic and functional excellence. See *EH I - LH I* distribution map. This would have created, explains Phillipa-Touchis, "a network of common references," sharing, "an ideological coherence, a sort of MH 'koine' " (2007, 97-112). While Nakou's hypothesis for the LN-FN period rests on a relatively small body of artifactual evidence this may reflect the actual rarity of metals at the time as well as the location and manner of deposition. As Sherratt points out, "this is one area of the archaeological record in which we have to reckon that there once existed very much more than we can actually or are ever likely to see" (2007, 24). However, if Zas Cave was in fact a place for periodic gatherings, for example to observe the winter solstice, for communal sharing of the harvest, or to celebrate the pairing of a young couple from separate farmsteads, it seems possible that select vessels as well as unique metallic objects might come to be associated with such special events——occasions that acted to reinforce community ties and ones that over time would develop into relatively well defined rituals with specific practices and paraphernalia.

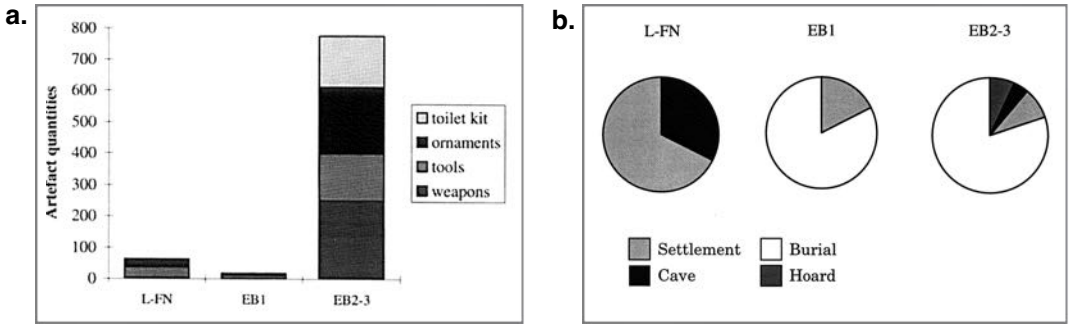
The relative lack of archaeological visibility continues during the transition from the FN to the initial phases of the EBA——a period concurrent with the beginning of essential changes in the social dynamics of the southern Aegean. Nakou stresses that while the EBA attests to a new social order it arises from conventions established during the LN-FN era. While the symbolic significance of metallic objects is no less important, their referents are transformed——in Nakou's words, "the EBA use of metal represents an appropriation of this medium from its Neolithic context" (1995, 23). Rather than acting to

sustain community ties, metals increasingly become symbols of self-aggrandizement for individuals who had managed to restrict, even exclude, the majority from access to metallic resources and the possession of finished products. Exactly when and how this major social reordering took place is chronologically vague and indirectly attested. While not of an equitable character, what does seem incontestable is an increasing access to metallic ores, early experimentation with metallurgical processes, and the presence of increasing numbers of metal tools, weapons, and items of personal adornment. As detailed below, the sites of Kephala Petras and Hagia Photia on the northeastern coast of Crete, chronologically the late FN - EM IB, provide early evidence for this transition. Given the paucity of metallic minerals on Crete this necessarily implies relatively efficient marine transport enabled by enhanced seagoing craft manned by experienced navigators and crews.

Perhaps counterintuitively, sail-power was not the key to advances in EBA marine transport. The new craft were, according to Broodbank, outsized and upgraded versions of the original paddle-powered canoe. Keeping in mind the absence of evidence (as outlined from Ward's study discussed above), Bronze Age maritime trade and transport is informed by a substantial, albeit indirect, body of evidence. While no longboat is known to have survived, iconographic representations ("rock art") of seagoing craft dated to the mid-4th century BCE have been found at Strofilas on Andros and also prominently at Vathy on Astypalaia. Prior to their discovery on Andros, the longboat was best known from depictions on EH II "frying pans" from the Chalandriani cemetery on Syros (Marthari 2017a, 149-152). Broodbank characterizes these images as representing a second generation of Aegean boats——larger and more seaworthy than the earlier canoes. Broodbank acknowledges that conclusions drawn from such representations are speculative but larger craft with multiple paired oars/paddles are clearly depicted. He suggests a minimum crew size of 25——a navigator/helmsman and 12 pairs of rowers/paddlers, and concludes, "The existence of longboats with large crews can be accepted as a real phenomenon in the islands during the Keros-Syros culture" (1989, 327-329). These craft would have differed substantially from the later broad-beamed, deep draft merchant vessels such as the Uluburun. With a limited capacity for bulk transport, Broodbank envisions the longboats as most suitable for voyaging——a term suggesting the craft's capacity to undertake relatively long journeys of exploration while also being suitable for raiding. Broodbank also suggests that among contemporary Cycladic settlements population size and administrative capacity meant that only a few communities had the resources to build, maintain, and operate such craft (2013, 329). Perhaps the best body of evidence in support of this view comes from mortuary finds from Chalandriani on Syros (Marthari 2017b).

Broodbank's and Nakou's characterizations of EB II society in the southern Aegean share elements identified in Renfrew's initial formulation of the sea change that took place following EB I period. In general they concur on the unprecedented abundance of metallic objects as well as evidence, albeit limited, for the processing of metals in the eastern (on Poliochni) and western Aegean (on Syros and Melos)——mostly cold-working but also casting and some smelting, and in any case the dissemination of the basic technical knowledge for working metals. Even absent the recent finds the prevalence of utilitarian tools and weapons of war is also clear. All three scholars would also likely agree that the latter category is consistent with a militant trend born out by the increasing numbers of fortified settlements. And finally, the trio could agree that the totality of EB II evidence strongly suggests, "necessitates" may not be too strong a term, improved maritime connections and the craft that made such networks possible.

Ultimately weapons as well as transport were used to establish and maintain selective control over metallic sources, transport of ores, and the production, consumption, and deposition of a variety of metal objects. However, Renfrew conceived of the rise of a bronze-based Aegean society as a consequence of widespread commercial trade, energized by the universal appeal of metals, and in some sense predestined to result in the social complexity of an urbanized state. Broodbank and Nakou, on the other hand, suggest a more restricted scenario——a transition driven by individual aspirations and achievements and subject to various contingencies. This more circumscribed perspective appears to be a better fit for the likely maritime capabilities as well as the EH II metallic evidence——in large part recovered from funereal deposits. Much of this evidence comes from Minoan and Cycladic tombs. Two arresting figures given by Nakou present the composite evidence for metallic finds——their general typologies, numerical and proportional abundance over time, and generalized find spots.

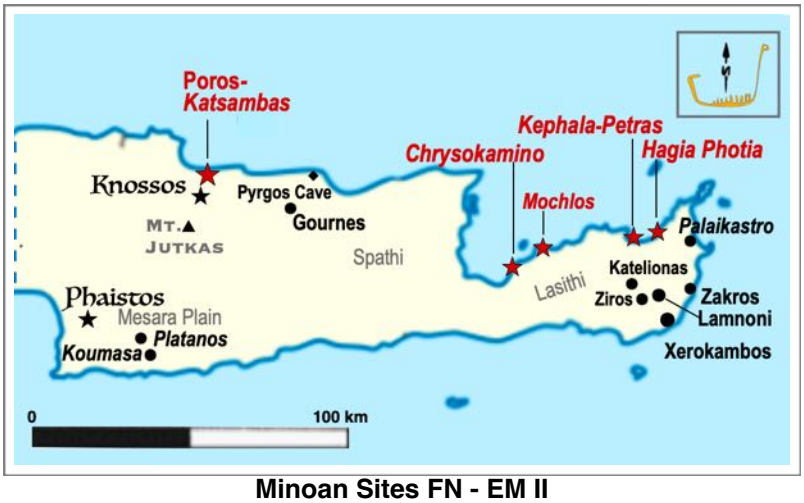


a. Nakou 1995, 2 Fig. 1. Chronological distribution of metal artifacts by form (after Branigan 1974; Warren 1976; Renfrew 1984; McGeehan-Liritzis 1983; McGeehan-Liritzis and Gale 1989. Demoule and Perlès 1993. Doumas 1977. Sampson 1985. 1988. Watrous 1994).
b. Nakou 1995, 8 Fig. 3. Contextual association of early Aegean metal finds (sources as Fig. 1).

Even a cursory glance at figure a. suggests the massive increase of metal finds in EB2-3 while figure b. illustrates the preponderance of such finds in specific deposits. What is not immediately apparent from Nakou's figures is the vast temporal expanse represented by the graphics. It is unnecessary to establish chronological precision to appreciate that the era under consideration spans nearly three millennia (ca. 4800 - 2000 BCE)——a fair match for the temporal span from when Homer's works were first given written form through the present day.[6] How to conceive of such temporal chasms is not entirely clear yet an ever-present temptation exists to assume a single interpretive model across centuries, even millennia. What is clear, in any case, is the apt nature of Renfrew's use of the term *Metallschock,* albeit the present consensus dates the occurrence to EB I rather than EB II (1972, 338; Papadatos and Tomkins 2013, 354).

While the events leading to EB I remain conjectural to a degree, recent research and excavation has brought the transition into better focus. Alongside confirmation that most metallic finds are from mortuary contexts there is now additional evidence from other venues. On Crete this is best attested by the evidence from a series of northeastern coastal "gateway" sites including Kephala-Patras (FN IV - EB IA settlement), Hagia Photia (EM IB cemetery), Poros-Katsambas (EM IB - IIA workshops & port), and Mochlos (EM II - III settlement and cemetery). Metallic finds are attested from each of these sites and the story of the transition itself is based in large part on the metallurgical evidence and the growth of inter-island connections. However, the evidence also suggests accompanying and at times radical social changes, often fueled by innovative accomplishments and practices that ultimately served individuals over and above their communities.

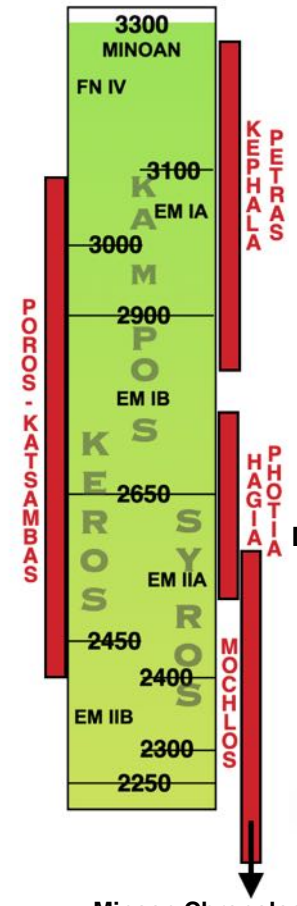
6. For comparative purposes, the entire 'Mycenaean' era from shaft graves to collapse spans approximately five centuries including the palace-centered society spanning the 14th and 13th centuries BCE.



Minoan Sites FN - EM II
after Papadatos and Tomkins 2013, Figs. 2, 12

Minoan Gateways

At the time Renfrew was readying *Emergence* to go to press Costis Davaras initiated excavations at Hagia Photia——a cemetery east of Siteia on Crete's northeast coast dating from EM IB to early EM IIA. Ultimately Davaras's efforts would reveal 263 tombs containing some 1800 artifacts including numerous ceramic vessels as well as copper weapons and tools, and a variety of jewelry——an assemblage notable for its Cycladic attributes. Nearly all the ceramics (+94%) from the Hagia Photia cemetery are considered typical of the Kampos Group (with close comparisons from the Agrilia Cemetery on Ano Kouphonisi) with the remainder (>5%) one of two Minoan styles—— Pyrgos wares (pottery with grayish wiped or burnished surfaces) or in the Hagios Onouphrios style (Davaras and Betancourt 2012, 94 -95; Illus. 3).



Minoan Chronology
after Tomkins 2007 & Manning 2010

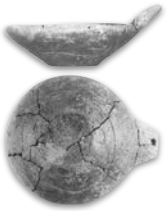


Cycladic Spherical Pyxis
Antiparos 3200 - 2800 BCE
Univ. Colorado Boulder



Cycladic Incised Bottle
Haghia Photia Cemetery, Crete
Arch. Mus. Agios Nikolaos

Kampos Group



Cycladic Bowl with tab handle
Haghia Photia Cemetery, Crete
Davaras & Betancourt 2012, Pl. 5-98



Cycladic Conical Pyxis
Crete c. 2700 BCE
© Trustees of the British Museum

Minoan



EM I Hagios Onouphrios Jug
Hagios Onouphrios Burial 21.5
Heraklion Museum

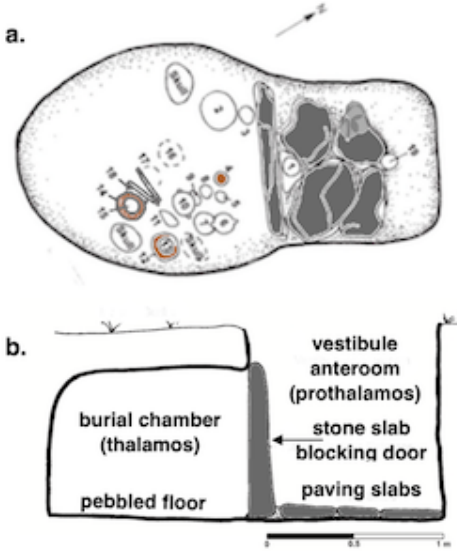


EM I - Pyrgos Chalice
Pyrgos Cave
Heraklion Museum

In the 1970s when Costis Davaras was excavating the Hagia Photia cemetery the location of the associated settlement was unknown. However, as testament to the principle that history is continually rewritten by new evidence, Metaxia Tsipopoulou's subsequent excavations at Petras (> 3 km west of Hagia Photia)——the site of a MM - LM Court Complex (palace-center), unearthed the adjacent FN IV - EM IA settlement of Kephala Petras——suggesting even earlier contacts with the Cyclades (Papadatos 2012, 69-77). Although Kephala Petras ceramics are largely Minoan, each phase had at least some pottery (earlier 10%, later 1.5%) with characteristics matching Cycladic ceramics. While inclusions in the clay and typological characteristics of the off-island FN IV pottery are similar to wares found in Attica, Kea and other sites in the northern Cyclades, some EM IA forms share attributes with ceramics known from Naxos, Amorgos, and Thera in the southern Cyclades (Papadatos & Tomkins 2014, 331-334). The obsidian, proportionally more abundant than at other Minoan sites, arrived from Melos as raw nodules. Finished obsidian tools exhibit knapping technology (eg. pressure flaking and the utilization of burins) associated with the Cyclades. A small group of imported spindle whorls, body ornaments, and phallic pendents are also consistent with Cycladic artifacts. While the metallic finds from Kephala Patras are sparse (including two pieces of copper ore and six pieces of slag) at least some smelting is indicated during the FN IV period (ibid., 336). Papadatos and Tomkins conclude that, "Preferential access to Cycladic goods allowed Kephala Petras to develop advantageous relationships with other communities in the region, by controlling the distribution of sought-after off-island products and raw materials and perhaps even by manipulating local demand" (ibid, 339).



Tomb 2 Lower Stratum
awl, chisel, mid-rib dagger
10, Figure 9 2A 47, 49, 50



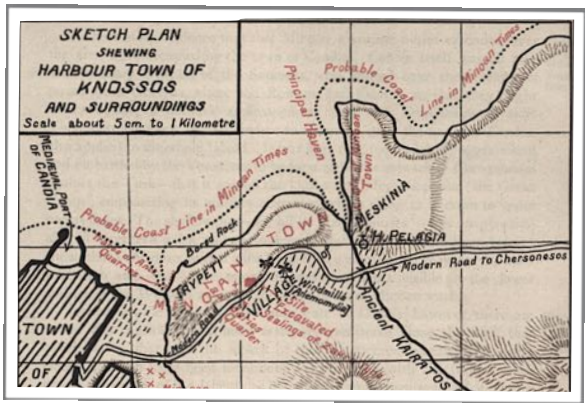
a.Tomb 17 24, Fig. 43
b.Tomb 272 Section, 233 Fig. 572

Hagia Photia Cemetery
Davaras & Betancourt 2004

The EM IB evidence from the neighboring Hagia Photia cemetery strongly suggests Cycladic islanders established a colonial outpost on Crete. The tomb architecture and numerous grave goods indicate that in addition to material goods, Cycladic technologies and social practices left their mark on early Minoan society (Davaras and Betancourt 2004, xxv-xxvi; 3-5). Hagia Photia's built chamber tombs, comprising an ante room and burial chamber (with pebbled floor) separated by a stone slab, are unlike contemporary Minoan cave sites, rock shelters, and tholos tombs. Furthermore, individual chamber tombs at Hagia Photia have many fewer interments per tomb (perhaps restricted to family or kinship groups) as contrasted with traditional multi-generational, multiple interment Minoan tombs that also served as ossuaries (Schoep 2018, 169-170). A number of copper items including weapons (mid-ribbed daggers and a sword), tools, and fish-hooks were recovered from the tombs along with numerous obsidian blades. The evidence of two crucibles (showing signs of use) and numerous obsidian flakes may indicate the community's regard for individuals with the skills to produce highly valued objects (Day, Wilson, and Kiriatzi 1998, 145).

Ilse Schoep provides a useful review of changing research perspectives——vis-à-vis mortuary remains during the 20th century. While early excavators were largely concerned with cataloguing mortuary finds——in part as keys to religious attitudes pertaining to the afterlife, proponents of the new archaeology interpret the relative richness of grave goods as a measure of the social standing of the interred. More recent interpretive models suggest that grave goods, rather than being passive testaments to the dead, had a role in actively creating and enhancing the persona of the deceased as well as for the community itself (2018,169-169). Nakou's observation——"Corporate groups did not pre-exist only to find expression in the new use of metal they were partly created through the new metallic forms and practices," suggests a similar perspective (1995, 13).

Mt. Jutkas, 4 km south of Knossos, is a prominent landmark for mariners charting a course to Crete's main northern harbor. Poras-Katsambas, the Bronze Age coastal facility, is situated 6 km north of Knossos in the area between Trypeti Hill and the west bank of the Kairatos River. Initially described by Evans, Nota Dimopoulou's excavations of the port's Sanoudakis house plot in 1993, yielded an abundance of EBA evidence in large part consisting of ceramic, obsidian, and metallic artifacts (Evans 1921, 298; Dimopoulou and Rethemiotaki et al. 2007, 84-86). While the numerous finds from Poras-Katsambas are in themselves informative the site's juxtaposition with Knossos significantly enhances their interpretive value.



Harbor Town of Knossos
Evans 1928 Vol. II: Part I Fig. 131A (in part)

Prior to the excavations of the gateway communities on Crete's northeast coast Aegeanists' understanding of the Neolithic to EBA transition was relatively vague. The rich artifactual records of the Hagia Photia cemetery and the settlement remains at Kephala Petras each revealed important evidence——albeit clues to the nature of their relationship are few. On the other hand, Poras-Katsambas and Knossos——despite clear differences, appear to have had very close ties. For example, the sites share a number of EM I ceramic wares including, "dark grey burnished or pattern-burnished chalices and pedestalled bowls"——pottery that likely had a common local origin and is also found southwards through central Crete (Dimopoulou and Rethemiotaki 2007, 88). However, while the EM I pottery at Knossos consists mainly of "serving, pouring, and drinking vessels," at the Sanoudakis plot "storage and cooking vessels" appear to be the rule. Additionally, the Cycladic style ceramics are found almost exclusively at the coastal locale. Such contrasts enhance our understanding by suggesting that despite their obvious ties, Knossos and Poros-Katsambas fulfilled very different roles in early Minoan society. Significantly, shapes related to the Hagia Photia funerary assemblage contrast sharply with the undecorated deep bowls and open jars at Poros-Katsambas (ibid.). Novel ceramic forms in EM IIA once again attest to shared Minoan forms but also contrasting proportions of storage/cooking and drinking/feasting type vessels at the two sites with——"a larger scale consumption of fine drinking/ feasting vessels at Knossos" (ibid., 89). Notable as well are the increasing numbers of imports during EM IIA——urfinis fine ware sauceboats but even more abundantly transport storage jars, course wares variously painted and unpainted (ibid.). Concurrent with the surge of imports are Cycladic-type jars indicating Minoan potters awareness of their popularity

(ibid., 90.). It seems reasonable to conjure the hustle and bustle at Poros-Katsambas, a sprawling settlement directly involved with the movement of goods as well as craft specialists working around the clock, side-by-side with a varied labor force including dock workers, freight haulers, and shipwrights.

The EM I - IIA lithic and metallic evidence appears to confirm just such a scenario. While Evans justifiably touted the output of “palatial” craft workers——the various faience creations and lapidary’s jewels, the production of obsidian blades at Poros-Katsambas suggests an entirely different scale of operation. Various excavation plots yielded nearly 31 kg (in excess of 68 pounds) of obsidian including débitage, worked cores, and raw nodules. Dimopoulou concludes, “The large-scale working of obsidian imported from Melos, presumably with the subsequent distribution of the products over Central Crete, accentuates the role of Poros-Katsambas as a harbor receiving raw materials and a production centre which transforms them into valued items of material culture” (Evans 1930, 409-411; Dimopoulou and Rethemiotaki 2007, 91). Roger Doonan and his coauthors present equally impressive evidence for the production of copper goods including both mid-rib and long daggers—— “The Poros material,” they state, “contains virtually every element that a complete metallurgical assemblage might well be expected to contain” (Doonan, Day, and Dimpoulou-Rethemiotaki 2007, 104).

The combined evidence of imported pottery, Melian obsidian, and off-island metallic resources, together with the innovative influences of technologies closely associated with Cycladic culture, can only be accounted for by an expansive network of connections and the maritime capacity required to realize and sustain such a network. That the fruits of such a network are fully realized by EM II is attested by the quantities of imported goods. For example, more than 400 collared transport jars are recorded from a single house (Sanoudakis) plot (Dimopoulou and Rethemiotaki 2007, 90). If we focus on the contrasting aspects of Knossos and Poros-Katsambas the finewares and indications of communal practices, perhaps of a ritual nature, involving drinking and feasting at Kephala Hill at least superficially suggests a social divide——with the occupants of Knossos as the beneficiaries of the coastal workforce. Even more tempting is to exaggerate the presence of social inequality based on the traditional view of Knossos in a palatial context. However, current interpretations of Minoan court-centered society tend to deemphasize or reject a strictly (one size fits all) monarchical hierarchy and the inevitable connections between monumentality and central authority in lieu of regional differences that include successful and innovative communities such as Quartier Mu at Malia (Schoep & Tomkins 2011, 13-16). Yet there remains a consensus that the Neolithic to EBA transition concludes with widespread evidence for social differentiation——a proposition clearly confirmed in evidence from the mortuary realm.

An especially significant body of evidence consists of Minoan tholos tombs and their annexes along with their associated pottery, stone vessels, copper tools and weapons, anthropomorphic and zoomorphic figures, and seals. Minoan tholoi are among the island’s signature structures——with some in use for centuries. Unfortunately nearly all Minoan tholos cemeteries (eg. Planatos and Koumasa on the Mesara in south-central Crete) were subsequently quarried for their rock and plundered of their valuables. At the same time the chronology of many such tombs is unclear due to successive generations of sequential interments and their use as ossuaries (Herrero 2011). However, in concert with Schoep, Borja Legarra Herrero embraces a significant shift in emphasis from

earlier studies of tholoi that focused on the, “social evolutionary spectrum (i.e., chiefdoms, ranked societies),” to contemporary concerns with the tholos cemetery as a, “complex social arena where society is not reflected but actively constructed and reconstructed” (ibid., 54). Herrero’s reanalysis of the tholoi at Koumasa and Platanos, despite the provisos necessitated by prior destructive events, suggests there are indications of diachronic change. While the EM IIA mortuary practices appear to be focused on valorizing the “status and position” of the deceased, the structural additions of MM I Platanos cemetery suggest increased public display outside the tombs with an emphasis on community-wide participation (ibid., 73-75). The folded-arm figurine (FAF) illustrated below with the image of the EM II A Tholos Tomb A trilithon (entrance with massive lintel) carries forward the Cycladic influence so prevalent on the coast while the bull rhyton is among the earliest representation of the bull-jumping “sport.” Although not illustrated here, Xanthoudídes excavated several dozen daggers from the Koumasa cemetery. Most were copper but three silver daggers were recovered from Tomb Γ. Silver of any kind is rare in these tombs but as Xanthoudídes stated, “it was the fashion among the Early Minoans for every man to wear his dagger in the tomb as well as, of course, in his daily life” (1924, 27). While likely not “every man,” Xanthoudídes’ observation foreshadows the contemporary consensus of the emergence of a ranked social structure——characterized by male power and authority and closely associated with access and control of metallic raw materials, the processing of specific products, and ultimately the distribution and deposition of the finished goods. The trappings of the Bronze Age warrior are among the outward signs of what is an essential social transformation. While the tholoi clearly attest to the individual material elements that come to symbolize the groundswell of social change, much of the artifactual evidence was either displaced or looted. Fortunately a variety of mortuary finds on what is presently the small islet of Mochlos provided a number of largely intact deposits that contribute significantly to our understanding of the EBA. See map above.



Koumasa - Tholos Tomb A Trilithon - Minoan Crete © Ian Swindale
Stéphanos Xanthoudídes 1924
Koumasa: Δ Pl. II Bird (4121) & Bull Rhyta (4126); AB: Pl. VII Cycladic FAF (122)

Richard Seager initiated major excavations of the prehistoric settlement and cemetery on Mochlos in 1908. On the western side of the islet's south-facing slope he found a mixed group of relatively small pit, cist, and rock-shelter graves while situated further to the northwest on a rocky ledge were "six large ossuaries or burial chambers" (1912, 13). Although Seager initially published finds from the settlement, his enthusiasm regarding the artifact assemblages from the western most tombs is clear.

> *The early cemetery which was discovered and cleared on the west side of the island has quite revolutionized many of our former ideas as to the culture of E. M. II and III. It produced an enormous mass of clay vases, weapons, vases of marbles, breccia, alabaster, and other bright-colored stones of beautiful workmanship also a considerable treasure of gold ornaments of various sorts* (1909, 278).

The large, rectangular structures on the cliff face, now referred to as house tombs, were built structures entered through massive stone slab doors complete with jambs. Of the six tombs, Seager identified tombs II and VI as containing the richest finds while III and IV had been thoroughly looted (1912, 13-18). Excavations on Mochlos indicate the prehistoric site was occupied from at least the FN through LM IIIC——albeit not continuously. The main period of use for the cemetery discussed here is EM II - EM III although pottery finds from EM I were not uncommon. During EM II Mochlos experienced significant in-migration from central Crete and for more than six centuries the settlement played an important role as a major Minoan entrepôt and manufacturing site. By the beginning of the MM period it appears Mochlos experienced a reversal of fortune albeit with partial reoccupation during the Mycenaean (LBA) period. Like the sites of Hagia Photia, Poras-Katsambas, and the tholos cemeteries in central Crete, excavations of the house tombs and settlement areas of Mochlos produced an abundance of pottery and obsidian as well as numerous weapons (with the exception of Tomb VI). However, the artifacts that distinguish Mochlos from other EBA mortuary and settlement sites alike are the numerous stone vases and the abundant personal items fabricated from gold (Soles 1978, 6-8).



Vessels of grey marble, alabaster, andesite, and steatite Tombs II, IV, and V
Gold leaf spray, hairpins, and cap with 4 pendant leaves Tombs II, V, IX
Seager 1912, Plates II, IV, and VII; Archaeological Museum of Agios Nikolaos

One can understand Seager's preoccupation with the unique artifacts recovered at Mochlos. The finds of gold adornments and stone pots significantly enhanced our understanding of early Minoan material culture——including an increased awareness of the expertise of the island's craft workers. Soles and Davaras point out that, along with its excellent harbor, a number of craft products positioned Mochlos to become, "a center

for new industries," with trading connections across the Aegean, "and perhaps serving as a gateway for goods coming to Crete from the Near East" (1992, 417). As summarized by Schoep above, recent interpretive models have sought to understand grave goods in their social context. This in turn has led to a closer look at the diversity of mortuary practices. Schoep's study of the Minoan house tombs argues that their innovative EM IIA architecture suggests significant and conscious shifts in social status among the builders and users of these mortuary monuments (2018). The contrast between house tombs and contemporary pit, cist, rock shelter, and cave interments, on Mochlos itself but also elsewhere on Crete, is notable——the former being embellished and refined by numerous details including doors, jambs, interior partitions, and plastered walls (Soles 1978, 8). While It is also clear that some traditional Minoan tholos sites included forecourts, antechambers, and annexes, Schoep agrees with the general consensus that fewer individuals were involved with the building and use of house tombs than was the case with tholoi. The evidence, however, is not conclusive. In fact, the numerous variations and lack of standardization for interments of all types suggests to Schoep, "that we should try to understand the introduction/adoption of the house tomb in EM IIA in terms of site-specific conditions and not simply as an island-wide cultural development" (2018, 180).



House Tombs IV, V, VI
Soles 1978, Fig. 7

Mochlos
Archaeological Institute of America

House Tombs 1, II, III
Soles 1978, Fig. 7

At Mochlos the presence of a variety of contemporary interment types highlights the contrast between the house tombs (13 such tombs were in use by EM IIB) and other forms of burial. The contrast is not solely one of the physical size as it seems clear that a good deal more planning and effort was involved in the construction of the house tombs. Additionally, the wealth represented by the house tomb artifacts, as Seager observed, is of a different order of magnitude than grave goods from contemporary interments on Mochlos——or indeed across the entire island. Given the clear differences, the essential question for Schoep is, "whether this correlates to differences in funerary practices" (ibid., 171). Schoep's affirmative answer rests, in part, on theory as well as the Mochlos evidence. John Barrett's studies of Britain's prehistoric long mounds (Neolithic) and later round mounds (early 2nd millennium) contrasts the earlier tombs as typically enclosing multiple interments, the later more often those of individuals. The differing practices have been represented as significant social statements——the later interments being, "conspicuous display undertaken by an indigenous elite whose outward concern was to make manifest their own individual status." But such interpretations, Barrett maintains, may miss a deeper meaning. As the complexity of funerary displays increased, for example to include, "procession, sacrifice and feasting," such practices reaffirmed, strengthened, and defined (not simply reflected) community mores, beliefs, and personal (genealogical) relationships for those within the community of mourners. Concurrently they acted as a declaration of differences with those outside their group (1990, 179-189). The house tombs at Mochlos differ not only in size from adjacent interments——the two monumental tombs

(1. chambers I, II, and III and 2. chambers IV, V, and VI), differ in kind. As part of his effort to clean and reassess these tombs Davaras described approach paths and terraces on multiple levels that strongly suggests ceremonial practices (Soles 1978, 11). Although the house tombs preserve evidence for both primary and secondary burials, the bones remains themselves, often haphazardly scattered or dumped in piles, are not helpful in differentiating burial practices among interment types. “What is clear,” explains Schoep, “is that burial in house tombs has different ideological connotations than burial in rock-shelters and caves” (2018, 175). Taking into consideration Mochlos’ prominence as a well connected trade center and producer of high value goods it is not surprising that the individuals responsible for and the beneficiaries of the unique crafts and commerce would take steps to distinguish themselves. Schoep sees both the funerary monuments and the likely presence of accompanying rituals as, “aimed at emphasizing the identity of a group within the community,” as well as, “maximising the impact of the funeral and the status of certain intra-communal groups (ibid., 181). Seager summarized the importance of his mortuary finds at Mochlos as follows——“The great importance of the Mochlos cemetery lies in the fact that it shows the primitive Minoans under very different conditions from those hitherto imagined” (1909, 12). While this is no doubt true, expanding ones perspective, as Schoep demonstrates, to consider what the elite community on Mochlos might themselves have imagined with regards to themselves is instructive——albeit speculative as well. Current research suggests their innovative mortuary practices express a particular role in the Mochlos community——as individuals and a group actively engaged in celebrating their talents and their successes as well as defining their unique status within the larger community (Schoep 2006, 50).

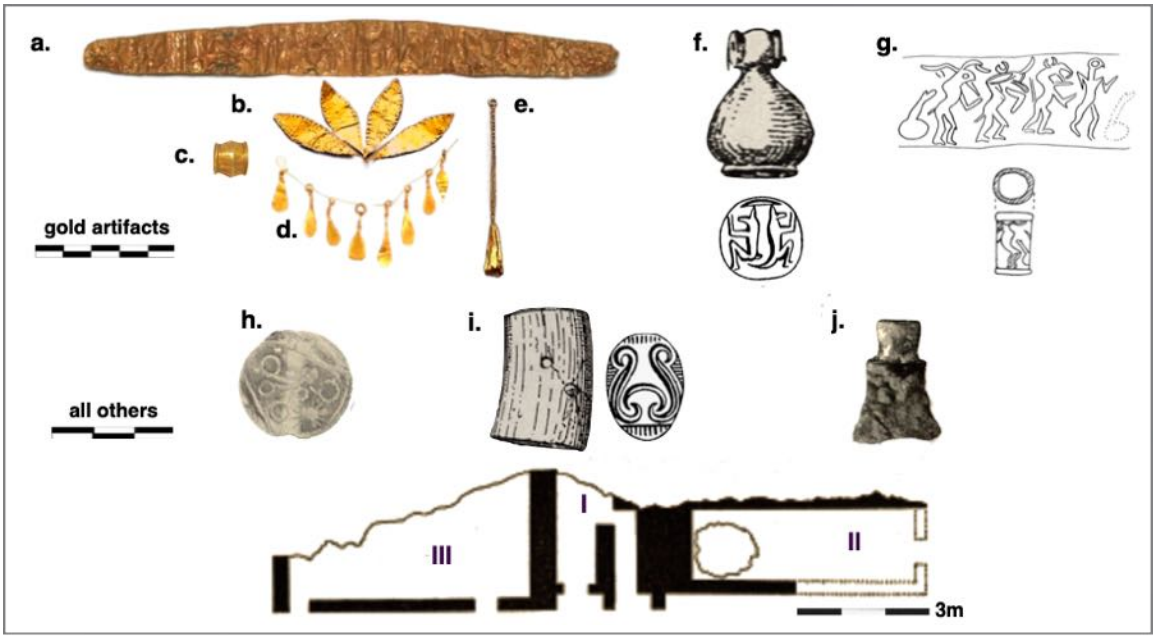
It is certainly not surprising that the FN IV - EM III era——spanning at least a millennia, would witness shifting centers of influence and occupation. And just such a pattern is apparent with the early gateway settlements and cemeteries on Crete’s northeast shore. The FN IV - EM IA Kephala-Patras community has claims to the earliest Cycladic ceramics on Crete——with Kampos-style pottery related to but not identical with the Hagia Photia assemblage. See timeline on 183. The settlement on Kephala Hill at Patras was abandoned sometime before the beginning of EM IB——perhaps not coincidentally prior to the initial burials at Hagia Photia (Papadatos & Tomkins 2013, 375; Davaras & Betancourt 2004, 4). At Poras-Katsambas the rich EM I - IIA record of imported Cycladic pottery is followed by a period when such wares were virtually absent——a situation mirrored at Knossos (Dimopoulou and Rethemiotaki 2007, 84-86). Perhaps also of some significance, Mochlos began its ascension to prominence at about the same time the cemetery at Hagia Photia became more or less inactive——albeit the ultimate fate of the Cycladic (in the opinion of many) community is unknown. As Seager suggested, the evidence at Mochlos is spectacular; its chronological longevity——conservatively estimated at half a millennia, is impressive as well. Also noticeable by their absence are Cycladic-style material goods (Schoep 2018, 180). At the same time, however, the very artifacts that distinguish Mochlos——its stone vessels and gold adornments are clearly influenced by contemporary Egyptian material culture with at least some exotic goods likely imported from Egypt. Additional artifacts from the house tombs suggest Levantine, specifically Syrian influences (Schoep 2006, 49). While it is not certain how eastern goods and technologies first arrived on Crete——whether directly but more likely indirectly via down-the-line trade, it is generally agreed that EM IIA attests to the initial presence of eastern exotics and the beginnings of a trend that will ultimately engage Aegean cultures both eastward and westward across the Mediterranean (ibid., 52).

Crossing the Abyss

Although the body of the evidence from Mochlos and the other Minoan gateway communities is impressive, it is also clear that the changing perspectives of Aegeanists have altered how we understand that evidence. As detailed above, Nakou's response to Renfrew proposed a social model for interpreting the Neolithic - EBA transition (Renfrew's EB2 *Metallschock*), with an emphasis on symbolic and ideological schemes as contrasted with the economics of materiality and trade (Nakou 1995; Renfrew 1973). Mary Helms's analysis of the ethnographic patterns related to, "long-distance contacts among traditional societies" has also shaped contemporary interpretations of the period (1988, ix). Although Helms work does not focus on the Aegean per se she summons Ulysses (Odysseus), as archetype of the "inquiring few"——a man quick to step forward with his oar when queried by the god——*Who would want to cross the unspeakable vastness of the sea*? While Odysseus fancies himself more raider than trader, the opening lines of the *Odyssey* describe the hero's thirst to know the minds and customs of those living on the periphery. And this fits well with Helms's characterization of "long-distance specialists." In any case, as Helms stresses, "trade is considered as only one of several possible motives," among early voyagers in traditional societies (1988, 5). These are individuals willing to point their craft towards the unknown where the everyday concepts of space and distance no longer apply. Traveling through a world where the mundane becomes mysterious and the commonplace takes on cosmic qualities, where the meaning of "actions, people, places, things" are supernaturally enhanced (ibid., 7-9). Such conditions are echoed in Odysseus's adventurous voyage, replete with one-eyed giants, men transformed into pigs, a visit to the underworld, and Phaeacian ships controlled by the mind. Perhaps most relevant to the elite community on Mochlos (and early Aegean voyagers in general) are Helms's characterizations of the personal transformations recorded in epigraphic accounts. Successful voyagers may return with exotic goods and wondrous tales but more notably their navigation of mysterious, dangerous, and unworldly places elevates their stature at home. As Helms observes, "in the home society travelers may be both reverenced and feared for the power and aura their distant experiences and activities provide and represent" (ibid., 82). Significantly, material wealth alone (at Mochlos the monumental tombs and abundance of gold) cannot confer elite status. Following Helms, "Social and political power," explains Schoep, is created and maintained through the elite's ability to establish certain ideologies within the larger community. Such ideologies act to distance the elite from other members of the community while at the same time associating their select group with cosmic order itself (2006, 49-51).

Cynthia Colburn makes the case that artifacts from the Mochlos house tombs including, "finished products, raw materials, and technologies," represent the earliest evidence for Eastern imports in the Aegean (2008, 203). Earlier interpretations, she explains, based largely on the rarity of the objects themselves, treated such artifacts as "oddities" and given their numbers, "inconsequential." Several aspects of the Mochlos finds convince Colburn otherwise. Notably, clusters of exotica appear rather suddenly in EM II at Mochlos and a few other sites including Koumasa and Lebena. Colburn points to the exceptional nature of Mochlos Tomb I, II, III as they contain, "almost all the types of imported objects, materials, and iconography imported to Crete from the Near East and Egypt during the Prepalatial period" (2008, 209 Table 1., 210). The numerous decorative objects crafted from gold, argues Colburn, were not solely meant for the dead. Given their "showy" aspects, some with signs of wear (eg. the ends of the diadem illustrated below were repeatedly pierced, presumably for attaching ties) and repair, she posits a performative function——associated with and characteristic of ceremony and ritual. In

addition to their dazzle, Colburn identifies the “emblemic” aspects of various artifacts with iconography symbolic of Eastern power and authority (ibid. 215).[7] See f. and g. below. While it may be speculative to choreograph the practices of Mochlos elite, both onsite evidence and reasonable assumptions about human nature provide one means to evaluate Colburn’s narrative. The prominent placement of the tombs themselves——positioned in full view on an exposed ledge overlooking what was likely a busy harbor, suggests both purposeful display and pride of place. In considering the exquisite gold diadems and leaf-shaped pendants it may be useful, albeit anachronistic, to draw a contemporary comparison with Rolex watches——items seldom sequestered in the dark or worn solely to check the time. These too are emblematic——of wealth and success. Imitation may be a part of this same theme——one also reflected in the knockoffs of Rolex watches and Gucci handbags. Colburn points out that soon after the Egyptian originals arrived on Cretan shores Minoan craftworkers were fabricating their own, “foot amulets, Egyptian scarabs, and Egyptian stone vessels” (ibid., 208-212).



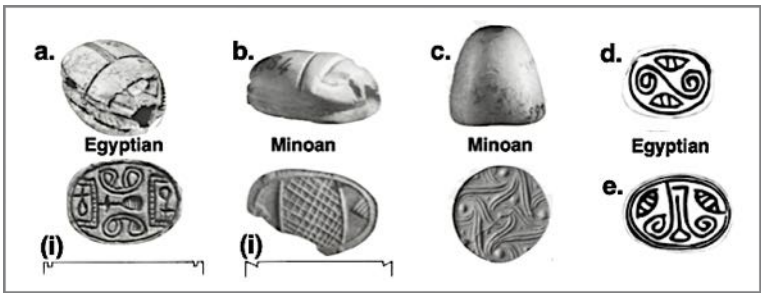
House Tombs I, II, III
Seager 1912, Figures 3, 10, and 36
MET & Archaeological Museum of Agios Nikolaos
a. (II. 5) gold diadem, punched design (eyes); b. (II. 23) 4 of 20 gold leaves;
c. (II. 37) bronze bead covered in gold; d. (II. 19) gold leaf-shaped pendants;
e. (II. 11) gold linked chain & bell; f. (II. 42) ivory signet seal (back to back cynocephalus apes);
g. (i. n) Near Eastern silver tube seal - Aruz 1984, fig. 1.; h. (I. s) chalcedony lentoid seal (marine theme); i. (II. 41) ivory seal (palmette design), repaired; j. (I. l) small cutter, ivory handle
a. - e. Gold: Egypt, Nubia f., i., j. Ivory: (Hippo) Egypt, Syro-Palastine g. Silver: Syrian h. Chalcedony: Egypt

Early Minoan seals having the form of Egyptian scarabs, add particularly significant detail to our understanding of Minoan off-island connections. Although seals were used on the mainland and are best known from Lerna (IIIC), their use was discontinued at the end of EH II and subsequently are unattested until the late MBA. See *Appendix B*. On Crete, however, seals occupy a longterm and uninterrupted role in Minoan culture——for use as personal adornment and identification but also for commercial purposes. In her *Aegean Seals - An Introduction*, Olga Krzyszkowska states, “our first secure evidence of seals and sealings dates to EM II (ca 2500 BC)” (2005, 56). Much of the early evidence

7. Polly Wiessner describes “emblemic” symbols, for example a flag, as ones that identify or associate the possessor of that symbol with an established political or social entity——for example, Egypt (1983, 257-258).

comes from tholoi in the Mesara and the Asterousia foothills of southern Crete. However, as Krzyszkowska cautions, the dating difficulties with tholoi artifacts, the lengthy EM periods, and the nature of seals (small and easily misplaced) make precise statements about such seals difficult. Additionally, despite the large numbers of seals (600-700) they are unevenly distributed both as to type and find spots (ibid., 58-59).

Krzyszkowska describes three “strands of stylistic development” for pre-palatial era seals——bone, boar’s tusk, and soft stone seals with linear designs followed by seals with more complex designs carved on imported ivory (hippopotamus) and a late group that included ‘white pieces.’ The story of the ‘white pieces’ involves the history of Egyptian scarabs and their imitation by Minoan seal carvers. Egyptian scarabs are first attested in ca. 2050 BCE and soon thereafter (early 20th century BCE) imported scarabs were being placed in Minoan tombs, for example at Lebena and Ayia Triada. Minoan seal makers soon began to copy Egyptian scarabs with such skill that that according to Krzyszkowska, “the genuine imports and Cretan scarabs are virtually indistinguishable.” Fortunately the carving tools used by Egyptians and Minoans seal makers left grooves with different shapes. See below, a.(i) perpendicular and b.(i) angular. Notably, the Minoan-made scarabs are fashioned from a synthetic, talc-like white substance that imitates the Egyptian material. Although the Minoan carvers would use the same substance for a wide range of seals only 11 imitation ‘white piece’ scarabs are know and these, Krzyszkowska argues convincingly are, “an early and striking case of technological transfer” (72-74). Leslie Fitton points to evidence for an even more meaningful relationship between the two cultures——one suggesting reciprocal influences. Concurrent with the initial presence of Egyptian scarabs in Minoan tombs (MM IA), spiral patterns, Fitton argues, “suddenly become the main motif on scarabs made in Egypt.” While spirals were not unknown in Egypt, the timing of the widespread adoption by Egyptian carvers of a pattern that was standard on the earlier Minoan ivory-inscribed seals is notable (2002, 63-64; Quirke and Fitton 1997, 438-439).



white piece scarabs: a. Lebena b. Gournes, (i) angle of groove; c. A. Triada hippopotamus ivory
Krzyszkowska 2005, 73 #s: 127, 128 a, b, c; 65 #s 107 a, b
Fitton 2002, 64 Fig. 28 d. & e. Lenda Tombs imported Egyptian scarabs with spiral patterns

While no semblance of a ship’s log is to be expected (although see *Mycenaean II* and Cline and Stannish 2011), the totality of artifactual evidence from Crete during the era of the gateway settlements and their cemeteries (FN IV - EM III) includes numerous indications of Minoan overseas contacts. Finds from Kephala Patras appear to confirm the earliest connections and notably ones spanning the Cyclades from Kea south to Thera. By the time of the house tombs on Mochlos at least some Minoans appear to have established contact with Egypt and likely with entrepôts (eg. Byblos and Ugarit) along the eastern shores of the Mediterranean. While it is uncertain exactly how such contacts were initiated and maintained both indirect down-the-line and direct interactions likely played their parts. The Minoan voyagers must certainly have crossed

paths with Cycladic islanders early on and then with Egyptian and Syro-Palestinian mariners by the EM II period if not before. One inescapable factor would have been the prevailing winds and current. These dictated both the seasonal (summer) and counterclockwise direction of travel. From Crete these conditions assist the would be adventurer or trader on a crossing to the Egyptian delta but also require lengthy northerly and westerly legs for the journey back to home waters. Of course, these same sea lanes pass just offshore of the home ports of the early Levantine mariners and traders mentioned above as well as settlements along Cypriot shores, the southern coast of Anatolia, the Dodecanese, and several of the Cycladic islands to northeastern Crete.

Cycladic Seafaring - Having a Dog in the Fight

The ethnographic accounts cited by Helms provide informative details of both the risks and rewards for individuals willing to initiate such widespread contacts——including a number of first hand accounts. Apart from Homeric epic, no such informative narratives are available for the prehistorian engaged in the interpretation of the EBA Aegean. Nevertheless, Helms's ideas inform Broodbank's model for EBA voyaging. As detailed above, no physical remains of longboats are known thus leaving inferences to be drawn, in part, from the numerous images depicted on stone and incised and stamped on ceramic "frying pans" along with a few lead models. As noted, Broodbank suggests that the EBA craft were more substantial than the canoes employed by the initial Cycladic colonists while also proposing that their distribution was limited to a small number of communities with large enough populations to supply the manpower required for the longboat crew while also sustaining the settlement's agricultural needs. Longboats are characterized as "special-purpose prestige craft used for warfare, raiding, and high status activities," including ceremonial processions, and more to the point here, long-distance voyaging (2000, 97-101). Aegean voyagers would likely have faced lengthy open water crossings——Broodbank's "marine deserts," where their luck, skill, and nerve would have been repeatedly tested as they engaged with the unknown dangers and threats implicit in the unpredictable nature of off-shore travel. It doesn't seem unduly speculative that accompanying such realities, tales of supernatural events and places——much as described by Helms, would have found a place in contemporary lore. Broodbank's conception of longboat voyagers is also consistent with the EBA evidence for preferential access to high-value goods and innovative technologies at several of Crete's gateway communities——for example, the trappings of Mochlos' elite community. At the time, Mochlos was one of only a few settlements on Crete with a variety and relative abundance of exotic goods, evidence reinforcing the proposition that distant off-island contacts were beyond the reach of most settlements.

Broodbank also argues that during the Keros-Syros period, when small settlements predominated, Chalandriana on Syros was one of the few Cycladic communities large enough to support longboat voyaging (1989, 320-325). Chalandriani's Roussos grave cluster (see below) contains a number of EH II interments including several with an unusual numbers of rarities that appear to have memorialized individuals associated with maritime activities and perhaps, as Broodbank suggests, a tradition of voyaging. Along with courage and an adventuresome spirit, voyagers are characterized as "elite male seafarers" steeped in the traditions of the "warrior ideal"——in fact, reminiscent of both the Argonauts and Odysseus (2013, 327-329). Intuitively such attributes seem consistent with individuals who might be willing to push off from the shores of Crete or Syros into unknown waters in search of exotica, material gain, and fame. But how convincingly do the material finds sustain the hypothetical narrative?

The late 19th century excavations of Christos Tsountas are foundational to later Cycladic studies and in particular to our understanding of the long EH II period represented jointly by the Chalandriani cemetery and the nearby Kastri settlement (1898, 1899). In his *Emergence,* Colin Renfrew analyzed "thirty-two of the richest" graves excavated by Tsountas at Chalandriani.[8] Based on these tomb inventories Renfrew concluded that certain types of artifacts "*tend to be concentrated predominantly in the hands of the rich,*" and furthermore, that copper spatulas and tweezers, and 'frying pans' were, "ten times more frequent in richer graves that in the others," with cups and bowls, "actually avoided by the rich" (Renfrew and Cherry 2011, Kindle Ch. 18). Three decades after Renfrew's study Jan Hekman also turned to Tsountas's Chalandriani data. Of the 540 tombs investigated by Tsountas, Hekman identifies 185 with sufficient documentation ("reconstructed tomb inventories") to be included in his study. Hekman applies the results of his analysis of the tombs and their contents to determine, "the degree and configuration of social inequality" (ibid., 168, 181). Following Wason's, *The Archaeology of Rank,* variables include tomb type (rectangular or circular), numbers of interments per tomb, as well as the quantity, diversity, and arrangement of artifacts (1994). Given an absence of biological date, Wason's measure of "status symbols or rank markers," as they relate to age and gender cannot be assessed at Chalandriani (ibid., 169). While clearly at odds with Renfrew's conclusions about bowls and cups, Hekman's analysis more broadly yields 4 clusters of tomb and artifact associations that suggest, "the relationship between an individual's burial and his/her place or position within society (at the time of death)." These include some of the specific goods suggested by Renfrew but do not match his categories.[9] Clusters 1 and 3 are illustrated below (Hekman 2003, 167-168; 181-186).



Clusters 1. and 3. after Hekman 186, Figure 43; Appendix 1
1. circular grave plan, bowl, pan, stone palette, stone grinder 2. rectangular grave plan, conical cup, metal pin, shell necklace, stone figures, metal punch, metal needle, metal spatula

Hekman concludes, in part, that although there was, "no strict model of fixed artifact inventories," the evidence suggests that, "gender of the deceased determined either one of the two types of groundplan of the tomb," with the concomitant presence of either a bowl or cup (ibid., 191-192). While acknowledging a number of his conclusions are both speculative and intuitive, Hekman proposes the association of females with circular ground plans and males with rectangular plans (1. and 3. respectively). He also suggests the artifacts comprising Cluster 2, while not associated with one of two tomb plans, appear to be paraphernalia, "related to the practice of body decorations and tattooing" (ibid. 185). Hekman describes, "A fourth cluster, albeit small, [is] formed by the associated group of footed bowl/footed cup and goblet, the spherical jar and the short-neck jug/bottle" (ibid.,187).

Although the tomb sample size is small, the material finds from the tombs of the Roussos Cluster are at odds with Hekman's cluster analysis. Twenty-eight, largely intact, tombs in the West Sector of the Chalandriani cemetery were excavated during the 2002 - 2006 and 2008 seasons. Marisa Marthari, Ephoreia of Antiquities (Emerita) at

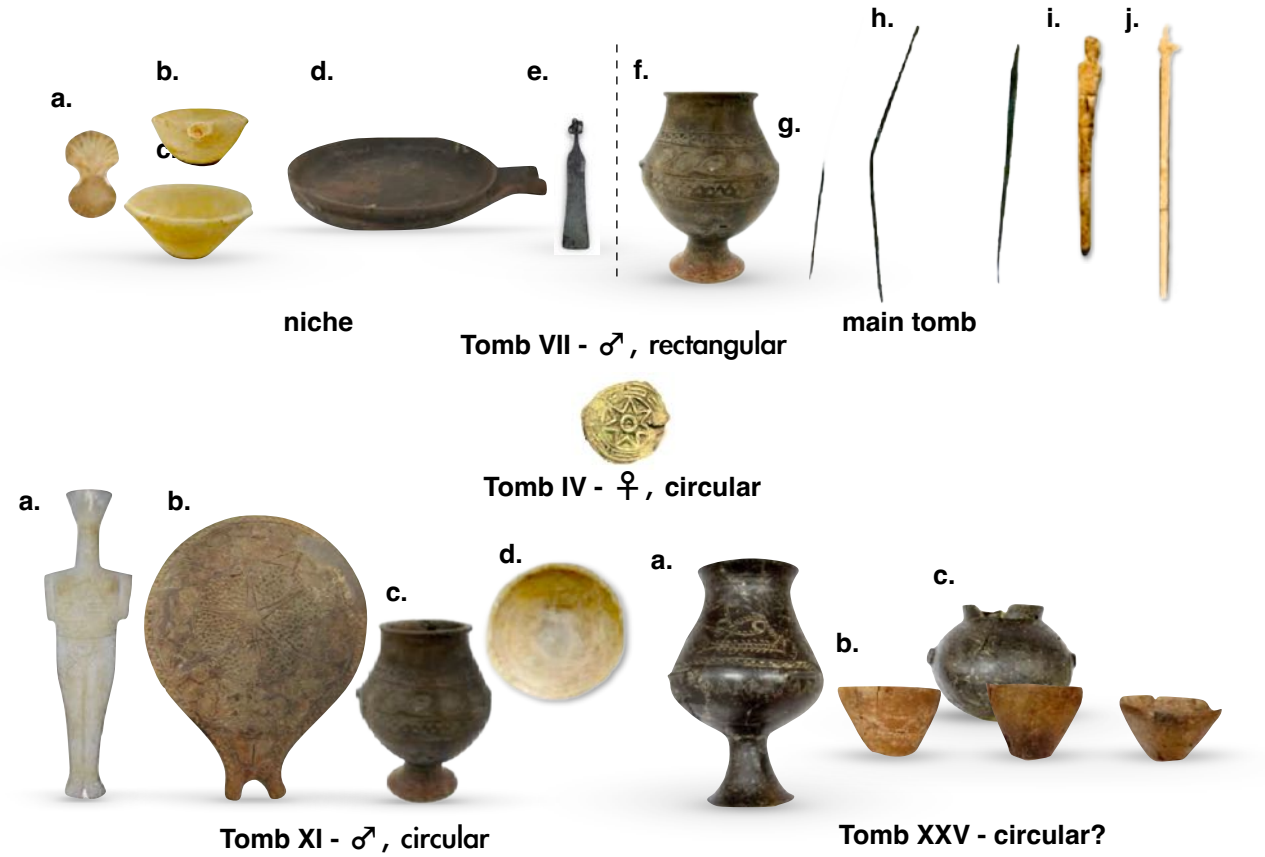
8. According to Hekman these graves were not the richest but rather a cross section of the graves and the artifacts given by Tsountas (2003, 179).

9. In addition to tomb type, Hekman's analysis is based on, "25 different artefact types which each occur in at least three of the 80 selected tomb inventories with two or more different artefact types" (2003, 184).



Roussos Cluster West Group - Chalandriani Cemetery, Syros
Marthari 2014, ASCSA

the Greek Archaeological Service, has taken a leading role in this and other excavations at both Kastri and Chalandriani on Syros. The artifacts illustrated below are from three of the richest tombs (as well as Tomb IV, notable for the seal) in the Roussos Cluster——burials highlighted by Marthari in her 2014 ASCSA lecture. While the gender associations suggested by Hekman cannot be fairly evaluated based on these tombs, there are significant differences in groupings between his Cluster 1 and 3 artifacts and those recorded for Tombs VII, XI, and XXV. Additionally, artifacts associated with tattooing (Hekman's Cluster 2) including the shell, bronze scraper, footed biconical jar, and bird-headed bone pin were all found in the Tomb VII——the richest of the Roussos Cluster graves. Also notable are the seal recovered from Tomb IV (see details below) and Tomb XXIII's schist slab floor——characterized by Mathari as "rare." See also Marthari 1998, 1914).



Perhaps most significantly, nearly all the recently excavated Chalandriani tombs are single interments——itself a practice prioritizing the individual while also enhancing the possibility for more precise interpretations. Additionally, recent excavations at Chalandriani provide some evidence for the partitioning of the cemetery——a factor Hekman had characterized as a "handicap," due to the absence of evidence relating to, "the original spatial distribution of the tombs over the terrain," as recorded by Tsountas (Hekman 2003, 167). What both Hekman's study and recent mortuary finds demonstrate is the uneven distribution of artifacts among the numerous tombs in this largest of Cycladic cemeteries. Hekman's analysis indicates that two-thirds of all finds were recorded in twenty-five percent of the tombs studied and, despite the small sample represented by the Roussos Field burials, Marthari reports three tombs each with a single grave offering closely associated with the artifact rich interments (Hekman 2003, 193; Marthari 2014, ASCSA). Marthari also describes evidence spatially related to but outside the tombs proper that strengthens the case for the exceptional nature of the Roussos Cluster. Unique among early Cycladic cemeteries is the enclosure wall. In addition, pottery sherds suggesting possible ritual practices involving liquids were collected from areas adjacent to the burial site. Also notable are the recently uncovered rock art representations of longboats just outside the grave cluster (Marthari 2014, ASCSA).

The significance of the solitary stamp seal from Tomb IV is best understood in the context of finds from another Cycladic site. Skarkos on Ios has enhanced our understanding of EBA II with its well preserved settlement architecture——generally absent from the EC IIA archaeological record. Stamp seals were in common use at Skarkos during the EB II period. Although stamped impressions from seals on pottery and hearths were known from a number of EBA sites, finds at Skarkos indicate that EC II seals served more than a purely decorative function (Marthari 2018, 185-187). Seal use on Ios is mainly attested by "pierced cubic terracotta objects." The sheer abundance of these objects (in excess of 300 have been found at Skarkos) indicate they served practical purposes——perhaps when attached with string (my addition as shown below), as labels indicating contents while also acting as fasteners (ibid., 191, following Weingarten 2000).

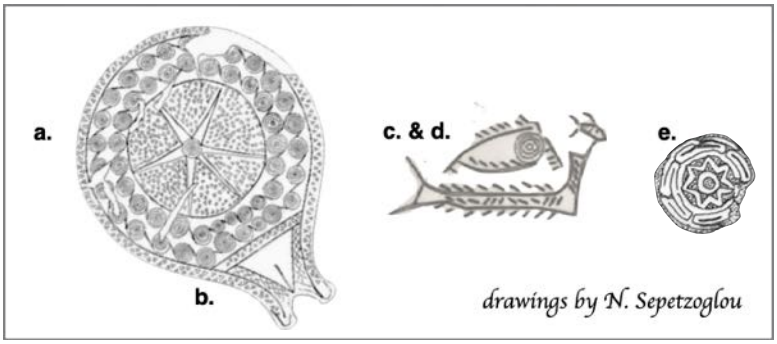


Building Beta at Skarkos illustrating, in part, ground floor and first floor
Left - terracotta objects: a. pierced cube, b. impressed with "X" seal, c. metal stamp impression
Right - local pottery: d. pithos, e. collar-necked jar, f. various eating & drinking vessels
Marthari 2018, a. Fig. 36b, b. Fig. 37b, c. Fig. 39 - d. Fig. 19, e. Fig. 18, f. Fig. 17
image credits: M. Marthari Building Beta, K. Xenikakis Figs. 17,18,19, and 36, Y. Patrikianos Figs. 37, 39

The quantity of clay 'labels' suggests production on a commercial scale. In fact, Marthari describes a regional (Paros, Naxos, Keros, Amorgos, and Thera) pottery style comprising tablewares and transport vessels——perhaps indications of a market that Skarkos' potters would have been well positioned to supply. The "obsidian nodules,

cores, working debris and finished products," also indicate Skarkos had access to Melian obsidian as well as the craft expertise and technological know-how to produce a variety of basic cutting tools. However, the most lucrative exports from Skarkos were likely a variety of marble items. Marthari describes, "[the] abundant evidence for the production of marble implements and primarily high-value products or prestige goods, such as figurines and fine vessels" (2018, 177). The Building of the Figurines and adjoining rooms 398 and 399 appear to have been a marble workshop as they contained the requisite tools (eg. obsidian blades and pumice) and decorating pigments along with partially finished work products (eg. marble bowls and figurines). Marthari characterizes these finds as particularly notable as they constitute the "first time that a combination of evidence points to the functioning of a specific marble workshop in an Early Cycladic site" (ibid., 182-184).

While tomb architecture together with artifact typology and relative abundance may provide a measure of social differentiation as well as suggesting the personal prestige and/or wealth of the interred, such evidence is not necessarily sufficient to connect these and other individuals with maritime exploits——either as voyagers or traders. However, among the Roussos Cluster grave goods published by Marthari are a Dark Burnished Ware "frying pan" featuring a longboat and a Footed Jug (perhaps unique) also decorated with the longboat motif. While "frying pans" in general are relatively rare in the archaeological record, thirteen out of fourteen of the subset with longboat motifs are from Chalandriani tombs. It is suggested that stamped-and-incised spirals and concentric circles surrounding the longboats are symbolic of the sea (waves?) and the pubic triangle of a female deity, perhaps even a sea goddess——to which might be added the large encircled 'sun' or 'star' (Tomb XI "frying pan" and Tomb IV stamp)—— possible associated with celestial navigation (Marthari 2017a, 147-157; Renfrew 1972, 421). These last are also reminiscent of a compass rose.



"Frying Pan", Footed Jar, Seal Motifs - Syros
Marthari 2014, ASCSA
a. & b. Tomb XI, c. & d. Tomb XXV, e. Tomb IV

North from Chalandriani, across the deeply cut Potamia ravine, the settlement of Kastri perches atop the rocky (marble) crown of the steep-sided hill for which it is named. A close connection with the sea is repeated here as smaller versions of the longboats pictured on Chalandriani "frying pans" have been pecked into the rocks along with dolphins or perhaps fish (ibid., 157-159). Dated to the late EH II period (aka the Kastri-Lefkandi I cultural period) the settlement's outstanding features are its architecture and evidence for metallurgy. A century after Christos Tsountas uncovered the main and northernmost of the settlement's defenses (fortification walls and horse-shoe shaped towers/bastions) and three decades after Eva-Maria Bossert's 1967 excavation of major

portions of the Kastri settlement, Marisa Marthari initiated new excavations as well as a program of conservation and protection. The most recent work included the uncovering of a third line of defense on the southern perimeter of the Kastri settlement (1998, 9-11; 2017b).

A cone-shaped fastness on whose flanks
With pains they pitched their eyrie camp,
Stone huts, whereto they wary clung;

- from Herman Melville's ***Syra***,1891.Stanza I



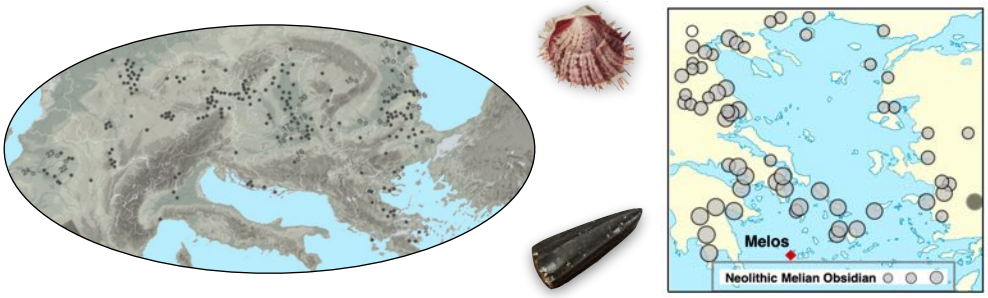
Kastri © George Stefanou

While the context of Melville's latter-day homage to Syros features the 19th century CE conflict between Greeks and Turks, the lines quoted above also capture what may have been part of the site's initial ambience and the conditions faced by Kastri's founders.[10] Given the accuracy of the poet's brief description, it also seems likely he made the arduous hike to the site itself. Melville concludes the poem's first stanza with the line, *Make of the haven mere a mart*——reflecting the importance of maritime commerce for the islanders of Melville's era, while yet again mirroring a lifestyle that seems consistent with the evidence from the late 3rd millennium BCE. In fact the late EH II settlement at Kastri is one of a number of contemporary fortified coastal sites distributed across the Aegean. The copious evidence for metalwork at Kastri, including the presence of tin bronze, is also a feature of other fortified settlements. It seems likely that the extraordinary efforts made by the Kastri community to protect themselves was motivated by an awareness of a clear and present danger of maritime raiders. At the same time the sea held the promise of enrichment. The abandonment of Kastri IIB was followed by a period Rutter famously dubbed "The Gap" (ca. 2350 / 2300 to 2200 BCE).

Kouka broadens the perspective on the FN - EBA II transition, in part through her response to Rutter's Gap, by comparing and contrasting different Aegean macro-regions (2013). Each region experiences the expansion of marine trading networks driven by the demand for obsidian and metals, the notable development of craft specialization, and increasing social stratification. However, Kouka also points out that "different rhythms in the interfaces and development of cultural process," results in distinct contrasts between and among the macro-regions. Such differences are reflected in the relative abundance of archaeological evidence. Ultimately, "the best data set," and, "[the] rich architectural evidence from EB I through EB III," in Koukla's opinion, is found at sites in the north and east Aegean and the western Anatolian littoral (2016, 203-205). While Crete, the Cyclades, and the Greek mainland each play their part, Kouka identifies Troy in the Troad, Poliochni on the eastern shore of Lemnos, and Liman Tepe in the Izmir Region as the more important settlements in their micro-regions and comparable to the Corridor House era on the Greek mainland. See *Cycladic Islands: Late Neolithic to Early Bronze Age,* 158-160.

10. Melville visited Syros in 1856 and again in 1857 but did not write *Syra* until the early 1890s, well before Tsountas' initial excavations in the Cyclades in1898.

Keeping in mind Wiener's observations regarding the inherent limitations of evidence for trade——his "trade without a trace," as well as Sherratt's observation that despite recent finds much of the Neolithic metallic evidence in unlikely to be recovered, the reality of the Aegean *Spondylus* distribution and the widespread evidence of Melian obsidian consumption (see maps) establish a substantial precedent for Aegean trade during the FN - EBA cultural sea change (Wiener 1991, 325; Sherratt 2007, 248; Milić 2016). While the written accounts are mythological and voyager's crafts long since recycled by marine worms——sites across the Aegean and north and east to the Anatolian coast suggest significant realities. Fortified settlements contemporaneous with the symbolic and economic premium on a range of metallic products——many crafted with innovative technologies and finished by specialized craftworkers, does not seem feasible absent an efficient means of marine transport between the nodes of a well travelled network.



***Spondylus* Distribution**
***Spondylus* Chenu 1824; Map Séfériadès 2010, 182**

Neolithic Obsidian from Melos
after Milić 2016, Fig. 5.2



EBA Fortified Sites - Mainland, Western and Eastern Aegean, Western Anatolia Littoral
Panayiota Sotirakopoulou 2008, Ourania Kouka 2016, Walter Gauss 2018
Sites with Longboat Rock Art: Strofilas, Chalandriani, Kastri, Panormos, Vathy

References

Anthony, David. 2007. *The Horse The Wheel And Language*. Princeton. Princeton University Press.

Aruz, J. 1984. "The Silver Cylinder Seal from Mochlos." *Kadmos* 23, 186-188.

Bardet, Guillaume et al. 1984. *Archives administratives de Mari I*. Archives royales de Mari, 23. Paris. Éditions Recherches sur les Civilisations.

Barrett, J. 1990. "The monumentality of death: the character of Early Bronze Age mortuary mounds in southern Britain." *World Archaeology* 22, 179–89.

Betancourt, Philip. 1970. "The Maikop Copper Tools And Their Relationship To Cretan Metallurgy."*American Journal Of Archaeology* 74, 351–358.

Bossert, Eva-Maria. 1967. "Kastri auf Syros." *Archaiologikon Deltion* 22(A), 53 – 76.

Braudel, Fernand. 1949. *La Méditerranée et le Monde Méditerranéen a l'époque de Philippe II,* 3 vols. Paris. Armand Colin.

Broodbank, Cyprian. 1989. "The Longboat and Society in the Cyclades in the Keros-Syros Culture" *American Journal of Archaeology* 93, 319–37.

___. 2000. *An Island Archaeology of the Early Cyclades*. Cambridge. Cambridge University Press.

___. 2008. "The Early Bronze Age in the Cyclades." In, *The Cambridge Companion to the Aegean Bronze Age*, edited by Cynthia Shelmerdine. New York, Cambridge University Press.

___. 2013. *The Making of the Middle Sea: A History of the Mediterranean from the Beginning to the Threshold of the Classical World*. London. Thames and Hudson.

Burke, Brendan. 2010. "Textiles." In *The Oxford Handbook of the Bronze Age Aegean,* edited by Eric H. Cline. Oxford. Oxford University Press.

Chiera E. 1934. *Sumerian Epics and Myths*. Cuneiform Series Volume III. Chicago. University of Chicago Press.

Cline, E. H. 2003. "Canaan's Relations with the Aegean." In *One Hundred Years of American Archaeology in the Middle East,* edited by D. Clark and V. Matthews. Proceedings of the American Schools of Oriental Research Centennial Celebration, Washington, DC, April 2000. Boston. American Schools of Oriental Research Centennial.

___. 2021. *1077 B. C. The Year Civilization Collapsed*. Rev. ed. Princeton. Princeton University Press.

Colburn, Cynthia S. 2008. "Exotica and the Early Minoan Elite: Eastern Imports in Prepalatial Crete." *American Journal of Archaeology* 112, 203–24.

Coleman, John E. 1977. "Kephala: A Late Neolithic Settlement and Cemetery." American School of Classical Studies at Athens. Princeton.

Davaras, Costos. 1982. *Hagios Nikolaos Museum - BrIef Illustrated Archaeological Guide*. Athens. Hannibal Editions.

Davaras, Costos and Philip P. Betancourt. 2004. "The Hagia Photia Cemetery I. The Tomb Groups and Architecture." *Prehistory Monographs 14*. Philadelphia. Instap.

___. 2012. "The Hagia Photia Cemetery II. The Pottery." with an appendix by Peter M. Day, Anno Hein, Louise Joyner, Vassilis Kilikoglou, Evangelia Kiriatzi, Alexandra Tsolakidou, and David E. Wilson. *Prehistory Monographs 34*. Philadelphia. Instap.

Day Peter E., David E. Wilson and Evangelia Kiriatzi. 1998. "Pots, Labels and People: Burying Ethnicity in the Cemetery at Aghia Photia, Siteias." In, *Cemetery and Society in the Bronze Age Aegean,* edited by K. Branigan. Sheffield Studies in Aegean Archaeology I: 133–149. Oxford. Oxbow Books.

Dickinson, Oliver. 2006. The Aegean From Bronze Age To Iron Age: Continuity and change between the twelfth and eighth centuries BC. London & New York. Routledge.

Dimopoulou, K. and G. Rethemiotaki. 2007. "Katsambas: craft production and exchange at the harbour town of Knossos." In *Metallurgy in the Early Bronze Age Aegean,* edited by Peter M. Day & Roger C.P. Noonan. Sheffield Studies in Aegean Archaeology 7. Oxford. Oxbow Books.

Doonan, Roger C. P., Peter M. Day and Nota Dimopoulou-Rethemiotaki. 2007. ”Lame Excuses for Emerging Complexity in Early Bronze Age Crete: the Metallurgical Finds from Poros Katsambas and their Context.” In *Metallurgy in the Early Bronze Age Aegean,* edited by P. M. Day, Roger C. P. Doonan. Sheffield Studies in Aegean Archaeology 7. Oxford. Oxbow Books.

Dossin, Georges, translator. 1978. *Correspondence feminine* with the collaboration of André Finet. *Archives royales de Mari*. Vol. 10. Paris.

Durand, Jean-Marie, compiler and translator. 1997 - 2000. *Les documentes épistolaires du palais de Mari*. 3 vols. *Littératures anciennes du Proche Orient* Vols 16 - 18. Paris.

Düring, Bleda S. 2020. *The Imperialisation Of Assyria: An Archaeological Approach*. Cambridge. Cambridge University Press.

Evans, Arthur J. 1921. Volume I. *The Palace of Minos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*. London. MacMillan and Co.

___. 1928. Volume II, Part 1. *The Palace of Minos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*. London. MacMillan and Co.

___. 1930. Volume III. *The Palace of Minos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*. London. MacMillan and Co.

Fitton, Leslie. 2002. *Minoans*. (Peoples of the Past). London. British Museum Press.

Foster, Karen Polinger. 2018. “Mari and the Minoans.” In *Historisch Tijdschrift Groniek*, 217. Midden-Oosten.

Garfinkle , Steven J. 2007. “The Assyrians: A New Look at an Ancient Power.” In *Current issues in the history of the ancient Near East,* edited by Gonzalo Rubio and Mark W. Chavalas. Publications of the Association of Ancient Historians 8. Regina Books.

Gauss, Walter. 2018. “Fortification Systems Of The Aegean Bronze Age. The Early And Middle Bronze Age.” In, *Understanding Ancient Fortifications Between Regionality And Connectivity,* edited by Ariane Ballmer, Manuel Fernández-Götz And Dirk Paul Mielke. Oxford. Oxbow Books.

Hamilakis, Yannis. 2002. *Labyrinth Revisited. Rethinking ‘Minoan’ Archaeology*. Oxford. Oxbow Books.

Hankey, Vronwy. 1967. "Mycenaean Pottery in the Middle East: Note on Finds since 1951.” *The British School at Athens* 62, 107-47.

Hekman, Jan J. 2003. *The early Bronze Age cemetery at Chalandriani on Syros* (Cyclades, Greece) Groningen: s.n.

Helms, Mary W. 1988. *Ulysses’ Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance*. Princeton. Princeton University Press.

Herrero, Borja Legarra. 2011. “The Secret Lives of the Early and Middle Minoan Tholos Cemeteries: Koumasa and Platanos.” In *Prehistoric Crete - Regional and Diachronic Studies on Mortuary Systems,* edited by Joanne M. A. Murphy. Philadelphia. Instap.

Hirshfeld, Nicole. 2009. The Many Ways Between Late Bronze Age Aegeans And Levants. *Baal: Hors-Seérie Bulletin d'Archéologie et d'Architecture Libanaises, 6, 285-294*.

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

Ikram, Salima. 2018. *Prisse d'Avennes. Egyptian Ar*t. Taschen.

Itur-ili. ca. 1840-1730 BCE. Turkey, Kültepe, Kayseri (Kanesh). Acquired by Henry Walters, 1913. Walters Art Museum.

Ivanova, Marina. 2007. “The Chronology Of The "Maikop Culture" In *The North Caucasus: Changing Perspectives. Armenian Journal of Near Eastern Studies* 11, 7-39.

Killen, J. T. 2008. “Mycenaean Economy” and “Appendix I, Trade.” In *A Companion to Linear B: Mycenaean Greek Texts and Their World* - Volume 1, edited by Y. Duhoux, A Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

Kouka, Ourania. 2013. "“Minding the Gap”: Against the Gaps. The Early Bronze Age and the Transition to the Middle Bronze Age in the Northern and Eastern Aegean/Western Anatolia." *American Journal of Archaeology* 117, 569-580.

___. 2016. “The Built Environment and Cultural Connectivity in the Aegean Early Bronze Age.” In, *Of Odysseys and Oddities. Scales and modes of interaction between prehistoric Aegean societies and their neighbours,* edited by Barry Molloy. Sheffield Studies In Aegean Archaeology. Oxbow. Oxford.

Krzyszkowska, Olga. 2005. “Aegean Seals: An Introduction.” *Bulletin of the Institute of Classical Studies*. Supplement 85, iii–429.

Larsen, Mogens Trolle. 1988. “Old Assyrian Texts.” In *Cuneiform Texts in The Metropolitan Museum of Art. Volume I: Tablets, Cones, and Bricks of the Third and Second Millennia B.C.,* edited by Ira Spar. New York. Metropolitan Museum of Art.

——. 2008. “The Old Assyrian Merchant Colony.” In, *Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium B. C.,* edited by Joan Aruz. New York. Metropolitan Museum of Art.

Manning, Sturt. 2010. “Chronology And Terminology” In, *The Oxford Handbook Of The Bronze Age Aegean*, edited by E. Cline. Oxford. Oxford University Press. Kindle Edition.

Maran, Joseph. 2004. “The Spreading of Objects and Ideas in the Late Bronze Age Eastern Mediterranean: Two Case Examples from the Argolid of the 13th and 12th Centuries B.C.” *Bulletin of the American Schools of Oriental Research*. 336. 10.2307/4150085.

Marthari, Marisa. 1998. *Syros, Chalandriani-Kastri: From the Investigation and Protection to the Presentation of an Archaeological Site*. Athens. Ministry of Culture.

___. 2014. *Reconsidering the Largest EBA Cycladic Cemetery:The Recent Excavations at Chalandriani*. American School of Classical Studies at Athens. Vimeo. http://www.ascsa.edu.gr/index.php/news/newsDetails/videocast-reconsidering-the-largest-eba-cycladic-cemeterythe-recent-excavat

___. 2017a. “Aspects of pictorialism and symbolism in the Early Bronze Age Cyclades: a “frying pan” with longboat depiction from the new excavations at Chalandriani in Syros.” In *Studies In Mediterranean Archaeology In Honour Of Nota Kourou,* edited by Vicky Vlachou and A. Gadolou. Brussels.

___. 2017b. “Kastri Of Syros In The Light Of The Research Of The Period 2006-2012.” In *Spira: Scientific Meeting In Honor Of Angelika Douzougli And Konstantinos Zachos,* edited by E. Mermiga. *Minutes*. Athens. Fund For Archaeological Resources And Expropriations.

___. 2018. “Architecture, Seals And Aspects Of Social Organisation In The Peak Period Of The Early Bronze Age Cyclades. The Evidence From The Major Settlement At Skarkos On The Island Of Ios.” In Überschuss Ohne Staat – Politische Formen In Der Vorgeschichte Surplus Without The State –*Political Forms In Prehistory*. 10th Archaeological Conference of Central Germany October 19–21, 2017 In Halle (Saale). Halle. Landesmuseum.

Maxwell, Veronica, A. Sampson, N. Skarpelis and R. M. Ellam. 2018. “An Archaeological And Archaeometric Analysis Of Early Metals From Ftelia, Mykonos.” In, *Ftelia On Mykonos Neolithic. Networks In The Southern Aegean Basin*. Vol II, edited by Adamantios Sampson and Tonia Tsourouni. Monograph Series 7. University of the Aegean. Laboratory of Environmental Archaeology.

Melchert, H. Craig. 1995. “Indo-European languages of Anatolia.” In, *Civilizations of the Ancient Near East, edited by Jack. M. Sasson*. UCLA. Scribner’s Sons.

Melville, Herman. 1891. "Syra (A Transmitted Reminiscence)." In *Timoleon, Etc*. New York. The Caxton Press.

Milić, Marina. 2016. “A Question Of Scale? Connecting Communities Through Obsidian Exchange In The Neolithic Aegean, Anatolia And Balkans.” In, *Of Odysseys and Oddities - Scales and modes of interaction between prehistoric Aegean societies and their neighbours,* edited by Barry P. C. Malloy. Oxford. Oxbow Books.

Mumford, Gregory. 2017. *ANT.245: Peoples of the World: Mediterranean. From Prehistory to the Trojan War.* Academia edu.

Nakou, Georgia. 1995. “The Cutting Edge: A New Look at Early Aegean Metallurgy.” *Journal of Mediterranean Archaeology* 8.2, 1-32.

Nilsson, Monica. 2014. “A note on domestic vs communal grain storage in the Early Helladic period.” *Opuscula* 7, 223–239. Stockholm.

Nougayrol, J. 1955. *Le Palais Royal d’Ugarit 3*. Mission de Ras Shamra 6. Paris. Klincksiec

Palaima, Thomas G. 1991. "Maritime Matters in the Linear B Tablets," In *Thalassa. L'Égée préhistorique et la mer,* edited by R. Laffineur and L. Basch. Aegaeum 7. Liège. Université de Liège, Service d'histoire de l'art et d'archéologie de la Grèce antique.

___. 2008. “Mycenaean Religion” in *The Cambridge Companion to the Aegean Bronze Age* edited by Cynthia Shelmerdine. New York. Cambridge University Press.

Papadatos, Yiannis. 2012. “Back to the beginnings: the earliest habitation at Petras on the basis of the evidence from the FN–EM I settlement on Kephala.” In, *Petras, Siteia – 25 years of excavations and studies,* edited by Metaxia Tsipopoulou. Oxford. Oxbow Books.

Papadatos, Yiannis, and Peter W. Tomkins. 2013. “Trading, the Longboat, and Cultural Interaction.” in, *the Aegean During the Late Fourth Millennium B.C.E.: The View from Kephala Petras, East Crete. American Journal of Archaeology* 117, 353–81.

___. 2014 “The Emergence of Trade and the Integration of Crete into the Wider Aegean in the Late 4th Millennium : New Evidence and Implications.” https://www.academia.edu/71287757/

Philippa-Touchais, Anna. 2007. “Aeginetan Matt Painted Pottery at Middle Helladic Aspis, Argos” in *Middle Helladic Pottery And Synchronisms,* edited by Florens Felten, Walter Gauss and Rudolfine Smetana. Vien. OAW.

Poursat, Jean-Claude. 2016. 5b. Malia – the Mu Quarter . Athes. French School at Athens.

Quirke, Stephen and Fitton, Lesley 1997. “An Aegean origin for Egyptian spirals?” In *Ancient Egypt, the Aegean, and the Near East: Studies in honour of Martha Rhoads Dell*, Vol. II., edited by J. S. Phillips, L. Bell, and B. B. Williams. San Antonio. Van Siclen Books.

Radivojević, Miljana and Benjamin W. Roberts. 2021. “Early Balkan Metallurgy: Origins, Evolution and Society, 6200–3700 BC.” In Journal of World Prehistory. Springer. doi:10.1007/s10963-021-09155-7

Rahmstorf, Lorenz. 2015. “The Aegean before and after c. 2200 BC between Europe and Asia: trade as a prime mover of cultural change.” In, *2200 BC – A climatic breakdown as a cause for the collapse of the old world?* Halle.Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt.

Renfrew, C. 1967. “Cycladic Metallurgy and the Aegean Early Bronze Age.” American Journal of Archaeology 71, 1–20. doi:10.2307/501585

___. 1972. *The Emergence of Civilisation: The Cyclades and the Aegean in the Third Millennium B.C.* London. Methuen.

Renfrew, C., and J. Cherry. 2017. *The Emergence of Civilisation The Cyclades and the Aegean in the Third Millennium BC*. 2nd ed. Havertown. Oxbow Books.

Rutter, J.B. 1983. “Some Observations on the Cyclades in the Later Third and Early Second Millennia.” *American Journal of Archaeology* 87, 69–76.

Sasson, Jack M. 2008. “Texts, Trade, and Travelers.” In *Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium B. C.,* edited by Joan Aruz. New York. Metropolitan Museum of Art.

Schoep, Ilse. 2006. “Looking beyond the First Palaces: Elites and the Agency of Power in EM III-MM II Crete.” *American Journal of Archaeology* 110, 37–64.

___. 2018. “Building the Labyrinth: Arthur Evans and the Construction of Minoan Civilization.” *American Journal of Archaeology* 122, 5–32.

Schoep, Ilse., P. Tomkins. 2011. “Back to the Beginning for the Early and Middle Bronze Age on Crete.” In *Back to the Beginning - Reassessing Social and Political Complexity on Crete During the Early and Middle Bronze Age,* edited by Ilse Schoep, Peter Tomkins and Jan Driessen. Oxford. Oxbow Books.

___. 2018. “The house tomb in contex: Assessing mortuary behavior in northeast Crete.” In, *From the Foundations to the Legacy of Minoan Archaeology: Studies in Honour of Professor Keith Branigan,* edited by Maria Relaki and Yiannis Papadatos. Sheffield Studies in Aegean Archaeology. Oxford. Oxbow Books.

Seager, Richard. 1909. "Excavations on the Island of Mochlos, Crete, in 1908.” *American Journal Of Archaeology* 13, 273–303. Boston. Archaeological Institute Of America.

___. 1912. *Explorations on the Island of Mochlos*. American School of Classical Studies at Athens.

Séfériadès, Michel L. “Spondylus and Long-Distance Trade in Prehistoric Europe,” translated by A.G. Brown. Centre National de la Recherche Scientifique. In *The Lost World of Old Europe The Danube Valley, 5000–3500 BC*. The Institute For The Study Of The Ancient World At New York University. Princeton. Princeton University Press.

Sherratt, Susan. 2007. “The Archaeology of Metal Use in the Early Bronze Age Aegean – a review.” In *Metallurgy in the Early Bronze Age Aegean,* edited by Peter M. Day & Roger C.P. Noonan. Sheffield Studies in Aegean Archaeology 7. Oxford. Oxbow Books.

Soles, Jeffrey S. 1978. "Mochlos. A New Look at Old Excavations: The University Museum's Work on Crete." *Expedition* 20, 4-15.

Soles, Jeffrey S., and Costis Davaras. 1992. “Excavations at Mochlos, 1989.” *Hesperia* 61, 413–45.

Sotirakopoulou, 2008. “The Cyclades, the East Aegean Islands and the Western Asia Minor: Their Relations in the Aegean Late Neolithic and Early Bronze Age.” In, *The Aegean in the Neolithic, Chalcolithic and the Early Bronze Age,* edited by Hayat Erkanal, Harald Hauptmann, Vasıf Şahoğlu, Rıza Tuncel. Yayın No / Publication No: 1. Ankara. Ankara University.

Stefani, Evangelia, Nikos Merousis, and Anastasia Dimoula. *A century of research in prehistoric Macedonia 1912-2012*. 2014. Thessaloniki. Archaeological Museum of Thessaloniki Publications.

Televantou, Christina. 2019. “The Neolithic Settlement at Strofilas, Andros.” *Papyri - Scientific Journal* Vol. 8.

Tomkins, Peter. 2007. “Neolithic: Strata IX–VII, VII–VIB, VIA–V, IV, IIIB, IIIA, IIB, IIA and IC Groups.” In, Knossos Pottery Handbook: Neolithic and Bronze Age (Minoan) edited by N. Momigliano. British School at Athens Studies 14, 9–2. London.

Tsountas, Christos. 1898. “Kykladika.” *Archaiologike Ephemeris* 1898, 137–212.

___. 1899. “Kykladika II.” *Archaiologike Ephemeris* 1899: 74–134.

Ward, Cheryl. 2010. “Seafaring In the Bronze Age Aegean: Evidence and Speculation.” In *Political Economies of the Aegean Bronze Age,* edited by D. Pullen. Oxford. Oxbow Books.

Warren, Peter. 1972. “Myrtos: An Early Bronze Age Settlement In Crete.” *The British School at Athens. Supplementary Volumes*, 7, iii–355.

Wason, P.K. 1994. *The Archaeology of Rank*. Cambridge. Cambridge University Press.

Watkins, Calvert. 2001. *How to Kill a Dragon*. Oxford. Oxford University Press.

Weiberg, Erika, Anton Bonnier, and Martin Finné. 2021. “Land use, climate change and ‘boom-bust’ sequences in agricultural landscapes: Interdisciplinary perspectives from the Peloponnese (Greece).” *Journal of Anthropological Archaeology* 63, 1-12. Uppsala.

Weil, Simone. 1965. “The Iliad, or the Poem of Force.” In *Chicago Review*, 18, 5. University of Chicago Press.

Wiener, Malcolm. 1991. “The Nature and Control of Minoan Foreign Trade.” In *Bronze Age Trade in the Mediterranean*. Papers Presented at the Conference held at Rewley House, Oxford (December 1989). *Studies in Mediterranean Archaeology* 90, 325–350.

Weingarten, Judith. 2000. Some seal-impressed weights from Eastern Crete. Πεπραγμένα Η΄ Διεθνούς Κρητολογικού Συνεδρίου. Προϊστορική και Αρχαία Ελληνική περίοδος Α3, 2ooo, 485–492.

Xanthoudides, Stéphanos. 1924. *The Vaulted Tombs of the Mesara*. London.

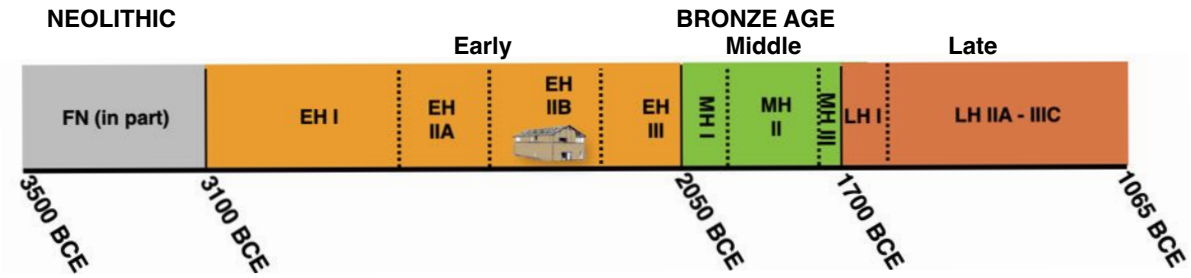
Zachos, Konstantinos 2007. “The Neolithic Background: A Reassessment.” In *Metallurgy in the Early Bronze Age Aegean,* edited by Peter Day and Roger Doonan. Oxford. Oxbow Books.

Early Helladic I - Late Helladic IIA: Mainland - *2026

Reconstruction - House of Tiles
EH II late, Lerna IIIC-D
after Wiencke 2000, I, fig. 107a





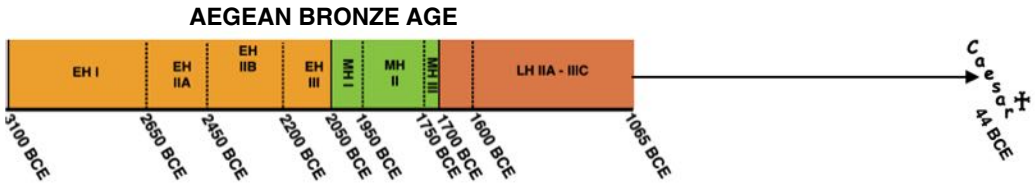


after Manning 2010, 23 Table 2.2

Tripartite Chronology,Telling Time With Sherds

The division of the Aegean Bronze Age mainland prehistory into Early, Middle, and Late Helladic (EH, MH, LH) periods was defined by Alan Wace and Carl Blegen——largely following Evans's tripartite model for Minoan chronology (Wace and Blegen 1918, 175-176). Although both schemes referenced the relative stratigraphy of excavated ceramics, Gere suggests that Minoan chronology was organized by Evans as analogous to, "the division of human history into the biological phases of birth, growth, maturity, and decay" (2009, 147). This and other interpretations of the tripartite model continue to influence Aegean prehistoric studies.

The simplicity of a three-part scheme makes it both useful and potentially deceptive. At the level of the initial division, or even the first subdivisions——as in Blegen's EH I, EH II, EH III, the system can be useful for framing general trends in pottery types over relatively lengthy chronological periods. As the subdivisions become more finely drawn—typically an act of clarification for the expert, confusion may be the result for the uninitiated. The divisions, as initially defined, did not refer to specific calendar dates but rather to named ceramic assemblages——sequential groupings with relative chronologies (older-younger) based on their stratification. For example, the term MH relates in part to the presence of Black/Argive and Yellow Minyan pottery. Subsequently, each division was assigned generalized dates (see timeline below) subject to revision(s) based on new evidence. However, inconsistencies may result when cultural generalities are attributed to one or more of these ceramic periods and/or when applied across diverse geographical areas. Sturt Manning's "Chronology and Terminology" is a primer on the methodological approaches used to define the chronology of the Aegean Bronze Age (2010, 11). In his outline of the basics, Manning warns that, "for the student and general reader, relative chronology has become a gate-keeping technology for the academic field: Only the initiated understand the otherwise impenetrable terms such as LH IIIA2 early or EM IB or Transitional LH IIIB2 – LH IIIC . . ." (ibid., 18). Concurrently, when it comes to assigning specific calendar dates controversy is heaped upon complexity. Absolute chronology, Manning warns, "is simple in concept but fiendish in practice; it means the ability to allocate the Western calendar timescale (thus dates BC / AD or BCE / CE) to archaeological contexts, objects, or discussions" (Ibid. 18). This is not to say that such complexities and controversies are swept under the rug——in fact scholarly publications often address these issues directly. However, coming across the proviso that "absolute dates are used as a convenience and not as a matter of conviction," does give pause (Vermeule and Karageorghis 1982, 3). Thus, it is necessary to accept that Aegean chronologies range from "not too exact" to "closely defined" measures for bringing some sense of order to the subject where otherwise chaos would reign. A final but related matter is the reality that Aegean prehistoric studies regularly deal with extremely long periods of time——temporal spans outside of everyday experience and difficult to conceptualize. The mainland timeline below, in part after Manning's "Approximate Absolute Chronology for the Aegean Bronze Age," may be helpful (ibid.). It will also be useful to remember that the two millennia span of the Aegean Bronze Age ends a millennia before Julius Caesar was assassinated. And so we begin——five thousand years ago.



EH I - Bronze Age Beginnings

Architectural remains from the EH I period are scant, in part,——as Rutter points out, because potential evidence would likely underlie later deposits (Rutter and Gonzalez-Major 2011-2013). It is also probable that some EH I building materials were repurposed for later structures. The EH I period has traditionally been defined by Hetty Goldman's publication, *Excavations at Eutresis in Boeotia,* along with the results of the Caskeys' subsequent excavations at the same site (Goldman 1931; Caskey and Caskey 1960). In fact, Goldman was able to identify ceramic groups for each of the Early Helladic periods: I, II, and III (originally described from Korakou by Blegen) within a stratigraphic sequence (Goldman 1931, 227-231; Blegen 1921, 4-5). The Caskeys' reinvestigation confirmed Goldman's findings, designating EH I - III as Groups III-IX respectively (Caskey and Caskey 1960, 159-167). The talented artist Piet de Jong illustrated ceramics from excavations by both Blegen and Goldman, including the EH I period's signature red slipped and burnished bowl.



Zygouries EH I - Incised Ware Sherds
Illustration by Piet de Jong
Blegen 1928, Plate IV, 2, 3

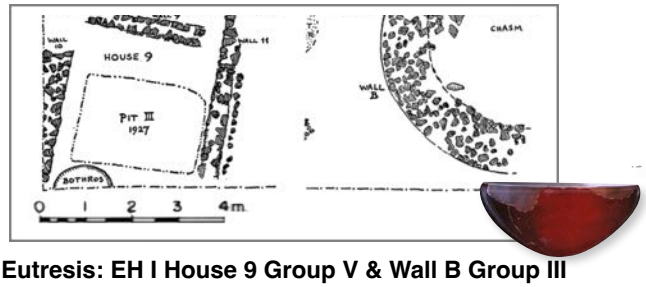


Eutresis EH I - Red Slipped Bowl
Illustration by Piet de Jong
Goldman 1931, Plate V, 2.



Eutresis EH I - White Ware Sherds
Illustration by Piet de Jong
Goldman 1931, Plate I, Nos. 4, 7

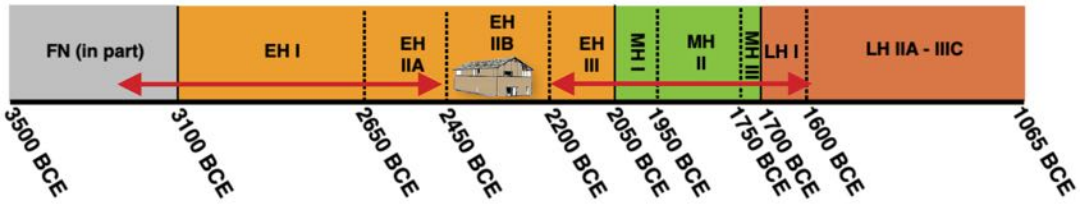
Goldman reported that objects of stone, bone, and clay were fairly common at Eutresis EH I levels while copper artifacts were absent. Typical finds included clay spools and whorls, obsidian and flint blades, small saw-like tools, as well as worked bone objects of uncertain use (Goldman 1931, 192-220; Caskey and Caskey 1960, 142). The general absence of the mainland's EH I structural remains gives added significance to the Caskeys' finds at Eutresis. Both curious and of interest was Wall B that, "appears to represent a circular building about 6.40 m in dimeter," encircling (at one level) what the excavators termed "the chasm" (1960, 138). Although the structure was excavated to a depth of over 3 meters the bottom was not reached. At EH I levels (Wall B) an abundance of red slipped and polished ware sherds were recovered (ibid.). The Caskeys' suggested the chasm was no mere bothroi, used for storage and/or rubbish, but rather, its unusual size likely indicated, "some religious significance, presumably connected with the worship of the Earth and the chthonian powers" (ibid., 163). The other EH I structure, House (Room) 9——measures 3.25 m in width and may have been part of a larger structure. Along with the remains of three walls (#s 9, 10, 11) the only signs of habitation were some EH I pottery and a terracotta pendant (ibid., 146; 148).



Eutresis: EH I House 9 Group V & Wall B Group III
Caskey and Caskey 1960, 147, Fig. 9 Plan H; 149, Fig. 5 Plan C
Red slipped & polished Bowl - Goldman 1931, Plate V, 1. (Piet de Jong)

Cultural patterns seldom, if ever, map exactly onto predetermined chronological periods. Not surprisingly, as innovative methodologies and technologies are employed and new evidence accumulates, perceptions about significant themes and events change. While Wace and Blegen's original tripartite division for the Bronze Age continues to provide a

general temporal framework, they provide no cultural information per se. For example, EH IIB and the periods before and after can be considered thematically. Lerna's EH IIB Building BG and House of Tiles were the first of the corridor houses to be identified——with similar structures from Akovitika in Messenia to Thebes in Boeotia, all featuring monumental architecture. And while the era of the corridor houses was relatively short-lived it marks an EBA watershed on the mainland——one characterized by unprecedented social and economic transformations. Although much has been learned about the corridor houses themselves, Aegean research has also focused on the preceding and subsequent eras. Each of these eras span multiple periods, the earlier from the FN through EH IIA, the later EH III to LH IIA. Following the collapse of the corridor house society the focus falls on widespread economic recession and the transition to and the beginnings of the Mycenaean culture and the era of the shaft graves. Here we are concerned with the earlier era——one preceding the EH IIB House of Tiles. Martha Wiencke's analysis reports a series of slow, "but profoundly important," changes from the later Neolithic, "through the earlier EH II." These include increasing numbers of settlement sites, intensified agriculture, early evidence for bronze metallurgy, widening trade networks, and signs of social complexity. Wiencke explains that, in concert, these set the stage for, "an increasingly rapid pace of change [was] leading southern Greece toward a high level of social and economic complexity" (1989, 497).



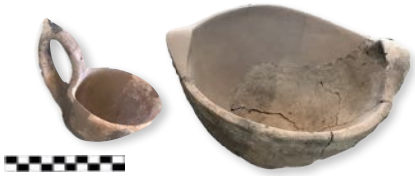
FN - EH sites on the mainland have been a focus of recent EBA studies. In addition to the greater number of sites identified by the Southern Argolid Survey (SAS) in the Hermionid (225 km^2), Pullen points out that nearly half of the EH I settlements in the Berbati Valley were new (Runnels and Van Andel 1987, 311; Pullen 2008, 23).There appears to have been a general movement of settlements away from FN upland locales to coastal and lower slope sites——changes that may reflect an increased emphasis on agriculture over pastoral practices (Pullen 2008, 22). Another trend suggested by SAS site distribution data was the reduction in the numbers of small FN - EH I "hamlets or even farmsteads," and the formation of a several larger villages, EH I margoules settlements (eg. Ermioni and Flamboura) that, "became the principal settlements in the region in the Early Helladic II" (Runnels and Van Andel 1987, 311-312). Significantly, a number of advances in material culture (eg. roof tiles, stone vases, and worked obsidian) are attested in villages but are absent at hinterland sites (ibid., 113).

Excavating Links - Tsoungiza

In contrast to the Berbati Valley and the southern Argolid, Corinthia's Nemea Valley was sparsely populated during the EBA. However, the small hamlet of Tsoungiza at the southern end of the Nemea Valley, has helped to clarify a number of the cultural transformations during the LN-EBA era as well as developments foreshadowing and perhaps directly reflecting the rise of Mycenae (Wright et al. 1990; Pullen 2011a; Rutter 2015).[1]

1. For Tsoungiza's EN and MN periods see Blegen 1927 and Dabney et al. 2020.

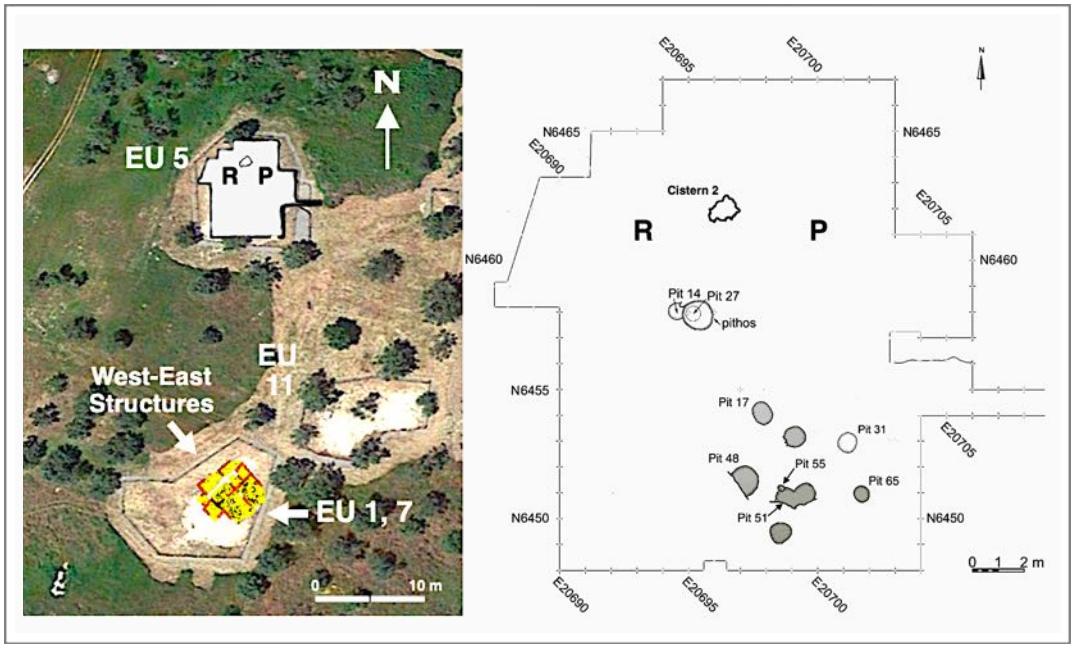
Situated atop a gentle knoll (ca. 375 masl), Tsoungiza's location north and slightly west of Mycenae, lies along the ancient and modern route through the Tretos Pass connecting Corinth to the Argive Plain. Like a number of contemporary Early Bronze Age hamlets, Tsoungiza was periodically occupied and abandoned——perhaps in concert with regional economic fortunes. Dan Pullen, one of a team of archaeologists working with the Nemea Valley Archaeological Project (NVAP), has a special interest in the EBA at Tsoungiza (Wright 1990; Pullen 2011a). Although Blegen's initial finds at the site dated to the EN and MN periods, Pullen's work focuses on the FN and EH periods. Much of the initial EBA evidence was uncovered by James Harland. Arriving at Tsoungiza in 1926, Harland focused his attention on the summit of the knoll where he expanded Blegen's 1925 trial trenches (see "R" and "P" on plan) and initiated new excavations on the hillside slopes. Although Harland completed his excavations with two campaigns in 1927, his findings at Tsoungiza remained largely unpublished at the time of his death (1973). Renewed interest in Tsoungiza was prompted by the University of California at Berkley and the Greek Archaeological Service salvage excavations (1974 - 1982) that in turn led to the NVAP comprehensive, multidisciplinary studies (1984 - 1986) and rekindled interest in Harlan's work. Fortunately most of Harland's logbooks, manuscripts, and photographs had been saved and would ultimately constitute a critical resource for Pullen's 2011 volume, *The Early Bronze Age Village On Tsoungiza Hill*.



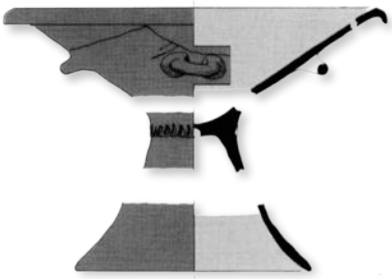
FN Tsoungiza - EU 5, Pit 31
Scoop & Two-handled Bowl
Nemea Archaeology Museum

A variety of FN sherds were located during the NVAP excavations. Three deposits in particular: EU (excavation unit) 5, Pits 31 and 27 and EU 11 held much of this evidence, albeit often mixed with later material and is thus categorized as FN/EH I (Pullen 2011a, 18-20). Notably, the material excavated at Tsoungiza (often not *in situ*) lacks the variety, including fine wares, found at other sites earlier in the Neolithic. This suggested to Pullen a late FN occupation as attested by the dating for the illustrated scoop and bowl (ibid., 25-28). While there is lack of continuity between the FN and EH, Pullen stresses that, "Two of the most important contributions our excavations at Tsoungiza have made are the documentation of (1) the transition from the EH I period to the EH II period, and (2) the earlier phases of the EH II period in Greece" (ibid., 28, 37).

Like many mainland settlements, Tsoungiza was apparently abandoned in the FN but unlike others was reoccupied in the EH I, although seemingly rather late in the period. Despite the absence of EH I structural remains an abundance of material evidence, mainly ceramic but other finds as well, indicate a hamlet or small farming community——perhaps only two or three families occupying the hilltop during the EH I period. Changes in the material evidence, including the structure of later buildings, indicate multiple generations occupied Tsoungiza well into the EH II period. Domesticated wheat and lentils were a significant part of the diet although sheep/goat meat, beef, and pork, are also attested——with indications of community-wide shared meals. Numerous material impressions of textiles left on wet clay along with weaving paraphernalia indicate local production of cloth. Despite Tsoungiza's relative isolation in the Nemea Valley, shared ceramic forms——most especially the fruitstand, offers clear evidence for regional connections. The following summary and details are largely based on the efforts and insights of Pullen and co-workers at Tsoungiza along with Harlan's archives (ibid, 38).



Tsoungiza Hilltop - Nemea Valley
Excavation Unit 5 (EU5) in part
after Pullen 2011a, 42 Figure 3.1



Fruitstand Composite
Form 1
Pullen 1997, 456 Fig. 2



Large Bowl Flat Base
Form 2
Pullen 1997, 456 Fig. 2

The fruitstand's relative abundance and overall quality attest to the form's significance for Tsoungiza's residents. Just as evident is the role the fruitstand has played in defining the EH I Talioti regional assemblage. Although previously known from occasional surface finds at various sites across the northeastern Peloponnese, the excavated evidence at Tsoungiza provided a contextual basis critical to understanding the relationships and chronology of this pottery during the EBA. In hindsight, the traditional reliance on finds from Eutresis (after Korakou) as a template for EBA ceramics provided only part of the picture. The Talioti assemblage adds a regional element to EH I pottery.[2] This regionalism can, in fact, be seen as one aspect of the developing differentiation——not solely with regards to ceramics but with a variety of material realms.

Nearly all the evidence for EH I ceramics at Tsoungiza was collected from Cistern 2 and Pits 17, 48, 51, 55, and 65 (see site plan above) within EU 5 (Pullen 2011a, 43). Material from Cistern 2, a rock-lined well partly built into the bedrock, proved to be a particularly rich EH I deposit (ibid., 46-52).

2. An early account of the Talioti assemblage from Kefalari Magoula was published by A. Dousougli in which she describes a group of pottery lacking sauceboats and Urfirnis wares and with minimal "Eutresis-type" red slipped sherds——an assemblage with counterparts at Talioti and Makrovouni and best characterized by its iconic red slipped fruitstands (1987).

A



EU 5 Pit 17

26 Fruitstand Fig. 3.10
(822-2-7) EU 5 Pit 17, E20697.95–20698.80/ N6453.40–6454.25
Two rim fragments. Diam. rim 0.40.
Class 1. Medium uneven 10R 5/4–N 6/0 core.
Form 1–2. Fruitstand bowl with downturned rim, round lip. Red paint exterior and interior.
Two different fruitstands? Firing is different, rim shapes different; piece from SU 822 is downturned much more sharply than piece from SU 814.
Early Helladic I

EU 5 Pit 17 - 26 Fruitstand & Illustration
Pullen 2011a, 97; 98 Fig. 3.10, 26

B1



B2



EU 5 Pit 18 Uncommon Decoration
Pullen 2011a, 108, Fig. 3.19 66; 67

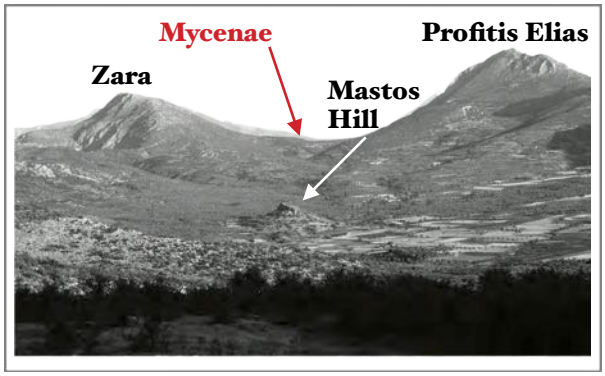
Pullen's publication of the pottery treats individual sherds and includes both data and drawings. As illustrated by the record (A above), contextual data and measurements are followed by groupings (Class & Form) and comments. The EH I signature vessels at Tsoungiza and for the Talioti assemblage as well are fruitstands——Form 1 and large shallow bowls with flat bases——Form 2. See previous page. Along with vessel shape Tsoungiza ceramics are categorized by Class (surface treatment and fabric).[3] Class 1 ceramics——hard-fired, red painted and unburnished, consist exclusively of fruitstands and the related bowls. Although decoration is generally uncommon on EH I ceramics (but see frying pans below), some fruitstand pedestal base sherds have impressed and incised motifs (illustration B1and B2 above). A second group of EH I pottery at Tsoungiza are Class 2 ceramics——the traditional and widespread red painted and burnished bowls (ibid., 59-65). Clearly, however, Class 1 ceramics dominate the Talioti assemblage. The impressive size of the fruitstands and bowls (height = 25 - 30 cm, average bowl diameter of 33 cm) would certainly have given them a prominent place at any meal and lends credence to Pullen's interpretation that, "the vessel was most likely used for display of food or drink," and furthermore, "suggests a greater degree of public sharing of food and drink in the EH I period than in the Final Neolithic" (ibid., 897). Strengthening the case for this scenario is Halstead's analysis of the evidence gathered from animal remains at Tsoungiza. Although he characterizes his generalizations as "very tentative[ly]" Halstead suggests Tsoungiza extended families and neighbors may have shared meals featuring piglet as the meat dish while an entire cow may have served for village-wide feasts (2011, 787). Although speculative, it is possible the relative isolation of Tsoungiza encouraged social sharing within the village. In any case, there is a good deal of evidence as well for regional connections and influences from more distant locales.

Given the relative lengthy and uninterrupted occupation of Tsoungiza——three centuries (ca. 3100/3000 - 2750/2700 BCE) during the EH, there would have been a basic biological necessity to form relationships with other communities in order to maintain a viable population (Pullen 2011, Table 1.2). Regionally, such connections are reflected in the Talioti assemblage and its know presence in Corinthia, Achaea, and a number of sites on the Argive Plain. For example, a three hour walk south from Tsoungiza along the ancient route through the Tretos pass brought one to Mycenae. An hour to the east of Mycenae lay the Berbati Valley.

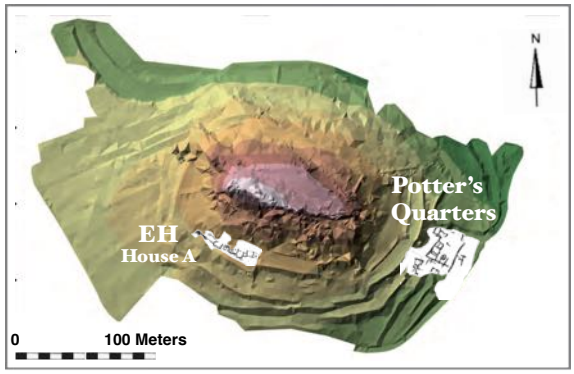
3. "Fabric" describes the material from which the pot is made including characteristics of the clay and its natural inclusions as well as additives and/or the specific conditions and affects of firing.

Berbati Pottery - Talioti Connections

The Mastos Hill in the Berbati Valley was initially investigated by Å. Åkerström and Gösta Säflund in the 1930s, well before the Talioti assemblage was recognized. However, sherds collected by Säflund included material now characterized as EH I Talioti ceramics (Forsén 2002, 136). The Berbati-Limnes survey in the late 1980s recorded an additional two EH I sites (Wells et al. 1990). In 1999 an intensive survey of the Mastos Hill (the site had been excluded from the Berbati-Limnes survey) canvassed 3.7 ha (ca. 26% being inaccessible) with the goal of collecting all artifacts found on the surface. Of the 97,000 sherds recovered by the survey team (all with previous survey



Berbati Valley - View to NW
Wells (†) 1996, 18 Fig. 1.



The Mastos Hill - Digital Terrain Model
Emanuel Savini In Wells (†) 1996

experience in the Berbati Valley and all familiar with the pertinent ceramics) representative samples were selected for the subsequent study (Lindblom 2011, 30). Michael Lindblom's comprehensive analysis and publication of the Mastos ceramics includes historical material but is largely based on samples from the intensive survey. While the EH material is the focus here, the Mastos findings indicate the site's prominence at various periods (MN through LH) while also providing evidence that informs our understanding of the cultural changes across the lengthy EH period (Wells † and Lindblom 2011, 177-178). Säflund's EH I finds originated in part from layers below the floor of House A——one of several EH II structures he excavated at Mastos ("EH" section on Savini's model above). Lindblom, following the EH I ceramic class established by Pullen and Dousougli, describes Säflund's finds as "bowls, basins and jars," as well as "askoi, ladles and frying-pans" (2011, 54; 57). An additional group of Talioti pottery was excavated by Åkerström in the area of the Potter's Quarters at Mastos (Forsén 2002, 156). Lindblom's descriptions of EH I pottery at the Mastos site compares well with Tsoungiza finds——in addition to the Talioti assemblages, both sites recorded Blegen's Class A II——red slipped bowls (2011, 57).



Mastos, Berbati Valley
Blegen's Class A II
Lindblom 2011, 70 Nos. 32, 33



Mastos, Berbati Valley
jar with horizontal handle
Lindblom 2011, 70 No. 37

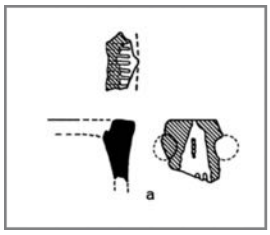


Mastos, Berbati Valley
fruitstand pedestal fragments
Lindblom 2011, 70 Nos. 39, 41

The impressed triangles (39) and taenia (41) on the fruitstand pedestal fragments exemplify another line of evidence connecting EH I southern mainland sites with each other but also with Early Cycladic I sites in the western Aegean. The examples above



Kampos-type Frying Pan
Euboea
Benaki Museum



EH I Frying Pan Fragment
Barred Handle
Pullen 1987, 458 Fig. 9a

are similar to material found at other Talioti sites including Tsoungiza. In general EH I pottery has few decorations (other than paint or burnishing) and when present are typically found on fruitstands, askoi, bowls with flat lips, or frying pans (2011a, 63). Decorative elements on fruitstands are typically found at the juncture of pedestal and bowl, on the base of the pedestal, and on the bowl rim if thickened and offset (ibid., 65). One of the more common motifs is a single or double row of triangles often referred to as *kerbschnitt* (B2 above). Although uncommon, pedestal bases may be incised or stamped with linked spirals (B1 above). These and other decorative motifs are also found in various combinations on the unique ceramic vessels called "frying pans." While the latter object's exact function is debated a variety of frying pan forms are known from tombs in the Cyclades (especially at Chalandriani on Syros) and in domestic settings on the mainland (Coleman 1985, 191-193). At Tsoungiza one of 12 frying pan fragments is securely dated to EH I. Sufficient intact detail confirms the complete frying pan had a barred handle. Taken together the fruitstands, frying pans, and their decorative motifs, "exhibit affinities with the Kampos Group of the Cyclades" (Pullen 2011a, 95). Given its rarity, another artifact from Tsoungiza deserves mention. Dated to EH I - II, the dagger from Pit 33 is among the earliest bronze weapons found in a secure context from central and southern Greece. In addition to its provenance and the likelihood that it was fashioned from ores taken from the Lavrion Mines in Attica, the dagger is significant as representative of the type of personal possession that would have distinguished the owner from others in his/her community (ibid., 897-898).



Bronze (arsenical) Dagger
bone or ivory rivets
Pullen 2011a, 644-645 #858

Tsepi Cemetery and Mortuary Practices

Within the last decade Oliver Dickinson proposed that despite the fact that the FN through the EH I was as lengthy as the entire balance of the Bronze Age, little could be said of the period that was not concerned with pottery (2014, 146). The single exception, noted Dickinson, was, "the remarkable cemetery of Tsepi near Marathon" (ibid.). Maria Pantelidou-Gofa's recent study of the site revisits Spyridon Marinatos' 1970s excavations as well as subsequent excavations in 1998 - 2002 (2005). More than 60 tombs at Tsepi have been investigated, nearly all dated to EH I and contemporary with Early Cycladic I (Pullen 2007, 576). The carefully planned cemetery consists of several groups of cist graves each arranged in an orderly manner. Individual graves are clearly demarcated and carefully constructed. Each tomb was stone built within a pre-dug pit that formed the central cavity. The walls of the chamber were lined with upright slabs and/or smaller stones. Large slabs were also used to cap the tombs as well as to construct short passage ways (select tombs only) extending from ground level to the entrance of the burial cavity. Following each interment (there were often a score or more individual internments within each tomb over time) the entire structure was sealed with earth and stone fill. As Weiberg comments, these tombs were built with the future in

mind——to be visible and lasting monuments designed and constructed to be used and reused by both the living and the dead (2007, 306-307). Erika Weiberg's studies of EBA funerary structures and practices are notable for their novel perspectives and insights. For example, in lieu of a focus on the material finds as markers solely of relative wealth or as indicators of both exotic and regional contacts, Weiberg chose to, "emphasize instead their potential use in graveside practices"——as indicative of the mortuary realm as a sphere of social interactions (2007; 2013, 31). Her analysis is based on a number of mortuary loci, both intramural interments and external cemeteries, generally divided into two geographical areas: the Peloponnese or central region (Argolid, Corinthia) and the eastern region (Attica, Boeotia, and Euboea).

1.



2.



Tsepi Cemetery near Marathon
1. partial image from video 2. lateral view of Grave 3
Early Helladic Cemetery at Tsepi, Marathon, Greece - Παραγωγή Ντάρια: Γκέρους ΕΛΛΑΣ
Weiberg 2007, 306 Fig. 65a after Pantelidou Gofa

Weiberg cautions that the limited evidence makes it difficult to determine precisely whether contrasting observations reflect regional (central vs eastern) differences or contrasting temporal periods. She also makes clear that, lacking written records, only certain elements of mortuary practices have "archaeological visibility" (ibid., 29-31; 45). Aside from the tombs themselves, interpretation rests on the evidence of ceramic vessels and various small finds. Weiberg divides the small finds into ornamental adornments (eg. pendants and beads) and items of practical use (eg. grinding stones, tubes, and small tools)——suggesting the latter group are associated with practices related to cosmetic embellishments such as body painting or tattooing. She also notes that ornamental items predominate at sites on the central mainland (eg. Zygouries) while eastern sites (eg. Tsepi) have more artifacts associated with body modifications (ibid., 31-34). Weiberg's analysis of ceramic vessel types also suggest contrasting mortuary practices both between eastern and central sites as well as within a given region. While sauceboats are absent as grave finds from eastern cemeteries, frying pans are unknown in central interments. In addition, while the EH period has generally been omitted from considerations of eating and drinking as an element in funereal rituals, the evidence indicates, "the consumption of drink, and probably also food, occurred at Early Helladic cemeteries" (ibid., 36). Rather than focusing on "grave goods" per se, Weiberg views certain pottery groups, recovered either from tombs or in associated contexts, as possibly related to mortuary ritual. For example, at Corinth open vessels (bowls and saucers) along with jugs (used for pouring) are typical of mortuary contexts while at Tsepi and Aghios Kosmas closed forms occur mainly within tombs and open forms (eg. the numerous single-handled cups at Aghios Kosmas) in the immediate

areas around the graves (ibid., 37-39). At Tsepi the small, closed pots typical of interments are those associated with Early Cycladic I (EC I) assemblages, while the household-type open vessels, with mainland forms and decorative motifs, come from deposits outside tombs. One large pit deposit (#39) at Tsepi included numerous fragmented vessels of EC I type but also sherds of, “vessels that were not typical burial offerings and of types not found in the excavated graves at Tsepi” (Pantelidou Gofa 2008, 282). The arrangement of deposits in an external pit——apparently left open and in continuous use, allowed the excavators to discern groups of pottery representing single deposits. One typical group invariably included a fruitstand, other open vessels, and at least one closed vessel (ibid., 283; Weiberg 2013, 40). While Pantelidou Gofa commented on parallels between the deliberate breakage of pottery from the pit and similar deposits elsewhere, including the special deposit at Dhaskalio Kavos on Keros, Weiberg noted the likelihood of a widespread practice of leaving at least a portion of the vessels used in mortuary rituals either in or near the places of interment (ibid., 41). The examples given above describe only part of the evidence Weiberg gathers in a convincing case for “connecting the living and the dead” during the EH I period. As she points out, in general the EH people buried their dead in cemeteries *outside their settlements* and while this complicates any search, the known variability of mortuary practices and contexts suggests a fertile area for future exploration and understanding (ibid., 44-45).

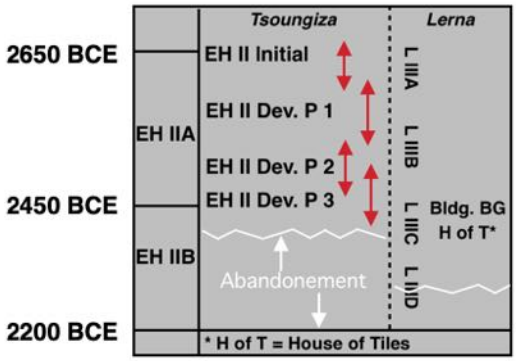


Tsepi “Tomb” Group
shallow bowl, frying pan, miniature vessel
Archaeological Museum of Marathon



Tsepi “Household” Group
cup, fruitstand, bowl
Archaeological Museum of Marathon

As mentioned above, Pullen considers the richness of the evidence for the transitional period between EH I and EH IIA unique to Tsoungiza. In part, the import of his ‘EH II Initial’ period derives from an absence of contemporary evidence at Lerna and much of the mainland in general. The table below indicates the specific periods and phases for Tsoungiza and Lerna. The earliest architecture at Tsoungiza consists of a segment of curved Wall 38 and 1982 House A——neither typical of later structures. The latter, 150 m southeast of EU 5, is a small (6.25 x 3.5 m) rectangular, 2-room building isolated from other dwellings. Based on the abundant pottery finds in the vicinity and its size and location, the excavators suggest 1982 House A may have been used for storage or food production but not as a domestic dwelling (Pullen 2011a, 149-154). Pullen contends that feasting or other communal activities may have been held at 1982 House A (ibid., 900-901). The ceramics as well as pottery finds at the top of the hill also proved useful in defining the EH II Initial



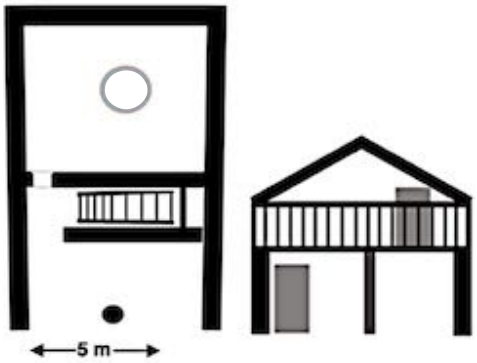
ceramics——an assemblage best understood by the relative abundance of the various forms as contrasted with those of earlier and later periods. Ceramic changes during EH II Initial include the gradual disappearance of fruitstands, an increasing number of bowls and basins, followed by the earliest records for the iconic sauceboat as well as other ring-based vessels. The use of painted and burnished surface treatment also declines and is replaced by a number of lustrous surface coatings, including Urfirnis (ibid.). Although increasing numbers of specialized vessels are attested, they account for a small percentage of the total pottery. EH II Initial and EH II Developed (Dev.) Phases 1 - 3 ceramics include 16 classes of ceramic vessels grouped into three categories. Just four classes, however, (plain and solidly painted tablewares, plain cooking pot ware, and plain coarse ware) account for up to 90% of all pottery (ibid., 162-163). Significantly, tablewares comprise nearly half of all pottery and the majority of these vessels are bowls. Bowls likely served as individual drinking vessels as well as the means to move food from hand to mouth. Aside from the abundance of EH II Initial pottery, spindle whorls (in and around 1982 House A) are the only other artifact found in relatively large numbers. Additional finds attest to at least indirect contacts with other regional settlements as well as with the central mainland and eastern Aegean (ibid., 200).

Tsoungiza House A - Persistent Puzzles

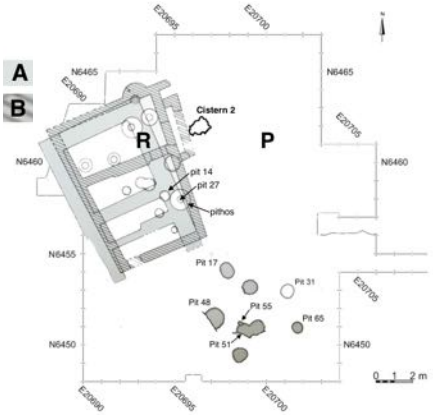
Architecturally, EH II Dev. Phase 1 is represented by House A (not to be confused with the 1982 House A), a structure excavated by Harlan in 1926 - 1927 and by NVAP in 1984 - 1986. While the structural remains of House A are essential to understanding Tsoungiza's EH period, much of the evidence is problematic. Contributing factors are damage resulting from subsequent building during the later Bronze Age, aspects of Harlan's excavation including misplaced material finds, incomplete or unreliable documentation, and missing architectural plans. On the positive side, Harlan's logbooks, catalogues of pottery and small finds, photographs, and even partial manuscripts helped to inform NVAP excavations and publications. Significantly, Pullen also credits Harlan with understanding Tsoungiza's overall EH stratigraphic sequence (ibid., 7; 37).

Despite Harlan's and the NVAP efforts, House A remains, according to Pullen, "among the most problematic structures at Tsoungiza in terms of its architecture, its chronological position, its function, and its destruction" (ibid., 264-265). Tsoungiza House A derives its significance from various structural characteristics that suggest to Pullen advances realized in the later "monumental" structures such as Building BG and the House of Tiles (Lerna IIIC - D) dating to the early EH IIB period. While less than half the total size of these later structures, wall segments of House A are comparable and measure a meter or more in width with the north wall (Wall 23) consisting of up to 9 courses of stone 1.35 m in height. Given House A's external dimensions (approx. 9.15 x 6.10 m, the southern end slightly more narrow) it seems reasonable to suggest the massive walls supported a second story. However, the dwelling's placement on the hilltop——in part projecting over the slope at the northern edge of the citadel, suggest the possibility that the massive walls served to stabilize the structure rather than to support the proposed second story (ibid., 268). Pullen opts for a two story solution and his reconstruction details a number of features similar to the corridor houses. These include a shallow (1.80 x 3.90 m) front porch with a central post supporting an upper story balcony, facing an open courtyard. The narrow vestibule (0.90 x 3.90 m) is reconstructed with an off-center entrance and access to a ladder. The main room (max. 3.95 x 4.10 m) would have been entered by a door on the west side of the back wall of the vestibule——as suggest by a pivot stone found in place. Pullen interprets the narrow vestibule of House A as analogous to the corridors (enclosing stairways accessing a

second story) of the later structures——suggesting that at Tsoungiza, the comparable structure is placed across the front (relatively narrow side) of the house rather then lengthwise (ibid., 274-275; 902). It is not known whether or not Harlan found roof tiles but in any case a number were recovered by NVAP excavators with at least 7 located in areas associated stratigraphically with House A (ibid., 284). Reconstructions are necessarily the results of both evidence and imagined visualizations. However, aside from his own experience and insight, Pullen has thoroughly considered other scholars analyses and the extensive research relating to corridor houses (Shaw 1987a, 1987b, 1990; Wiencke 2000). Neither Pullen or we may ever know for certain whether his reconstruction for Tsoungiza House A is accurate or not. On the other hand as long as there are archaeologists working on Greek prehistory new evidence will come to light and future finds may well confirm or alter Pullen's vision of House A.[4]



EH IIA House A - Tsoungiza EU 5
Top and Front Views
Reconstruction after VIZIN



EH IIA Houses A & B
NVAP EU 5 Tsoungiza
Composite After Harlan, Pullen 2011a

Pit 56 provided evidence for a variety of EH II Dev. Phase 1 ceramic wares. Assuming they were used in concert, one group of solidly painted (urfirnis) vessels, are suited for preparing and sharing a meal. Included are a large cooking vessel, a serving basin and ladle (see below), and individual bowls. While food preparation and consumption are necessities, ceramic items stressing display (fruitstands) along with numerous drinking and eating bowls suggest communal social practices.

Although the Tsoungiza settlement was abandoned at the onset of EH IIB, Pullen's EH Developed Phases 2 and 3 followed the apparent destruction of House A and provide additional material evidence for the EH IIA settlement. The Burnt Room (EH II Dev. Phase 2) with radiocarbon dates between 2566 - 2364 BCE, held a number of largely intact vessels. Pullen, suggests these are a *specialized drinking assemblage*——an observation reinforced by the absence of other typical pottery (eg. for cooking or storage) in the group. Included are small bowls, perhaps a mixing bowl, and two jugs for pouring (Pullen 2011a, 902-903).

4. The issue of interpretive bias is addressed in a number of works. Preziosi and Hitchcock's *Aegean Art and Architecture* describes the megaron and the corridor house——"two notable variants" of LN and EBA reconstructions within their insightful discussion of the inherent difficulties presented by our own preconceptions (1999, 43-47). In his review of EH non-monumental architecture Harrison suggests that given the evidence available for Tsoungiza House A there is a, "strong possibility that this was no more than a simple three-roomed rectangle structure of the type traditionally held to be typical of EH II" (1995, 36).

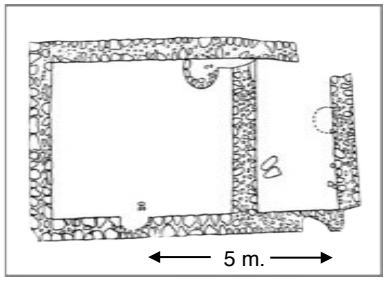


EH II Dev. Phase 1 Tsoungiza - EU 5, Pit 56
small bowl, large incurved bowl & ladle, basin
Pullen 2011a, 255 Fig. 5.12

EH II Dev. Phase 2 Tsoungiza - Burnt Room
Ring-based, Incurved bowls: small & medium
Pullen 2011a, 323 Fig. 5.58 (in part)

Archaeological Museum of Nemea

The EH II Developed Phase 3 House B marks the final occupation at Tsoungiza during the EH II period. Situated above House A but off-set to the northeast (see 218), House B——like House A had a slightly trapezoidal shape, but lacked the massive walls. The reconstruction and details rely largely on Harlan's documentation as little of the structure remains. Pullen calls attention to the, "very unusual feature," of the hearth that is partially built into the north wall (ibid., 324-326). Unlike House A, House B is similar (trapezoidal with two rooms of unequal size) to a number of other EH II dwellings such as those at Eutresis and Zygouries. Also typical of domestic structures of the period are the storage pithoi set into the floor of House B. Reinforcing its domestic character are the sauceboat, small bowl, pyxis, hydria (water jar), basin, cooking pot, and firedog stand. Pullen remarks on a number of similarities between Eutresis House I and House B including the pithoi, ceramic tablewares, cooking vessels, and hearths, as well as the positioning of the entrance as, "into the larger room [sic] on the long side of the free-standing building" (ibid., 328-330). Although two-room, free standing structures do seem typical, the thoroughly excavated EH I - IIA settlement at Lithares comprises about twenty, one to four rooms structures in two groups—one on either side of a stone paved street.[5] Many of the houses share walls and while built-in benches are a feature of some rooms a majority of the houses seemed to lack hearths of any kind (Spyropoulos 1973; Tzavella-Evjen1985).



EH I-IIA - Eutresis House I
after Goldman 1931, p. 13, fig. 8



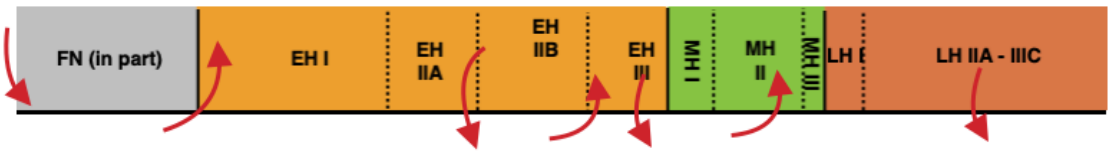
EH I-IIA - Lithares Settlement
after Tzavella-Evjen 1984; fig. ΣT

5. The numerous contiguous walls at Lithares make problematic 'independent' house counts. This in turn affects our ability to define a "basic" or "typical" domestic dwelling that ultimately affects projections about a range of social issues (Harrison 1995).

In summarizing the EH period at Tsoungiza Pullen highlights innovative forms and functions in a number of categories of material objects, incipient architectural structures, and indications of new social practices. In summary he concludes, “Tsoungiza has provided important evidence for the earlier phases of the Early Bronze Age in Greece, in terms of the material culture and in the social realm, helping to document, in the words of Renfrew, the ‘emergence of civilization in the Aegean’ ” (2011a, 909). While a number of the elements underlying Pullen’s summary are attested directly by the artifactual evidence others are substantiated by judgments based, at least in part, on less tangible evidence.

Mainland Monumental: Building BG and Corridor Houses

During the century following the EH abandonment of Tsoungiza, Building BG would be constructed at Lerna along with similar structures at Thebes and the ’Fortified Building’ at Kolonna on Aegina——Haus am Felsrand (Shaw 2007, 141). Subsequently, a series of more advanced corridor houses were built at various sites on the mainland. While certainly not palaces, each of these structures attest to architectural know-how, craft skills, and administrative capacities not previously evident. And while the actual form of Tsoungiza House A is subject to debate, a number of the details of its construction do seem to foreshadow those of both Building BG and the House of Tiles. Each of these structures, including House A at Tsoungiza, are *prima facie* evidence for varying degrees of organizational and technical advances. Building the massive walls of House A clearly involved more time and considerably greater effort than was typical for the period. At present, conjectures regarding the purpose of House A are speculative (likewise the House of Tiles), yet the project clearly suggests something more than a subsistence livelihood. This raises questions about food production and agricultural practices. As noted above, the Tsoungiza settlement experienced recurring episodes of habitation and abandonment——a pattern that continued throughout the Bronze Age. In the NVAP *Preliminary Report* Wright explains that prosperity in the Nemea Valley appears to have paralleled economic and political conditions in the wider region. At the same time Tsoungiza’s fortunes also seem to have risen and fallen, at least in part, with the relative health of the local soils. The rich lowland soils and upland pasturage were likely a significant factor in the relative prosperity of local farmers and herders. However, over time, success itself may have led to depleted and eroded soils. Wright states that this seems to have been the case, most particularly in the later Neolithic and EBA (1990, 643-645). Figurines of yoked oxen (EH II Dev. Phase 1) may inform these cycles as they suggest the introduction of the plow——an innovation with the potential to engender surplus but also carrying the risk of scarcity if the ultimate consequence was soil degradation. Evidence for increased grain production may be indicated by the widespread, albeit poorly understood, circular structures. Only fragments of the original structures remain——for example Wall B at Eutresis (see 208) and Wall 38 at Tsoungiza. While there is little agreement on what these structures represent, large quantities of grain would likely have necessitated greater storage capacity than bothroi could have provided (Nilsson 2014, 234).



Tsoungiza - Occupations and Abandonments

A number of singular artifacts provide additional support for Pullen's conviction that the Tsoungiza settlement, despite its small size and inland location, provides a preview of EH IIB cultural advances. Although no sealings were found, the lead stamp recovered from EU 5, Fill 1 is much like the typical administrative tool in common use later in the Bronze Age. At the same time the stamp is one of a number of objects that indicate an increasing use of metals and the beginnings of metallurgy on the southern mainland. Also fashioned from lead were a number of clamps of the type used to repair broken terracotta vessels. Although few in number bronze tools included awls and a spatula as well as the dagger described above. More significant than this handful of finished goods are fragments of two molds that indicate at least some metal working was done at Tsoungiza (2011a, 644-646). Two decades prior to Pullen's publication James Wright's NVAP "Preliminary Report" illustrated the dagger and the stamp along with a stone vessel's steatite lid with the suggestion the items were——among the, "signs of increased wealth and contact with exchange systems" (Wright et al. 1990, 628). In concert with Perlès and Vitelli's discussion of Neolithic craft expertise (see 84), evidence of lithic production at Tsoungiza is minimal. However, 90% of the tools are obsidian——most likely to have been knapped by itinerants. Roller-seal impressed hearth and pithoi fragments at Tsoungiza are also evidence for a level of craft specialization that may have been the work of itinerant specialists (Pullen 2011a, 642-643). Any such 'middle men' would also have provided an important communication link between Tsoungiza and her regional neighbors.



Bronze Dagger
EH II Tsoungiza - EU 5
Wright 1990, Plate 94, d.

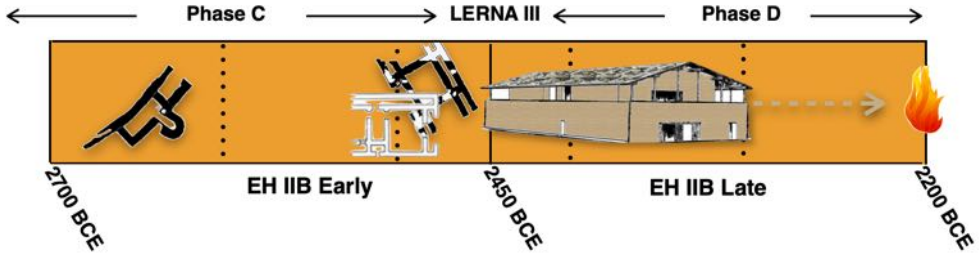


Top from Steatite Vessel
EH II Tsoungiza - EU 5
Wright 1990, Plate 94, c.



Lead Stamp & Impression
EH II Tsoungiza - EU 5
Wright 1990, Plate 94, e.

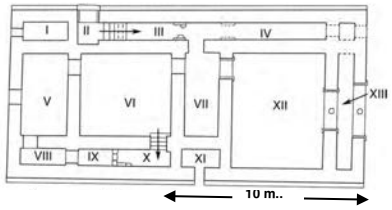
If the relatively recent excavations at Tsoungiza have enhanced the significance of this rural farmstead, the Lerna site——steeped in Greek mythology and overlooking the southern Argolid, has long been recognized as being at the heart of the mainland's EBA culture and studies. See 124 - 127. At the same time, solving the puzzle of Lerna's chronology has been complicated by discarded evidence and attempts to fit the material evidence into various hypotheses describing the historic narrative. The timeline below includes aspects of both John Caskey's and Martha Heath Wiencke's periodization albeit there are varying opinions regarding the chronology (Caskey 1997; Wiencke 2000). See overall plan on 223.



Spectacular Lerna and the House of Tiles

In her remarkable volume covering the archaeology and pottery of Lerna III, Wiencke speaks of, "an energetic architectural impulse at the beginning of phase C, together with pronounced ceramic changes," not arising from conflict but rather from, "vigorous but peaceful change [took place] in the social and political spheres" (2000, 645). Wiencke also offers another vision of Lerna III——one with an emphasis on, "security and display"

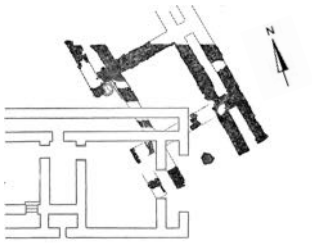
(ibid., 649). As early as late phase B, visitors approaching Lerna from the south would have ascended an impressive series of limestone steps before passing through the double-walled fortification that likely, at least for a time, encircled the central portion of the settlement. Although nothing remains of the superstructure, Caskey suggested outer walls of 6 to 8 meters topped with a platform and parapet. Lerna's defensive fortifications were repeatedly built, destroyed (both earthquakes and fire are implicated), and rebuilt with 4 phases described (1958, 133-136). However, at the time the House of Tiles was under construction, "the whole fortification system was in a state of disorganization" (ibid., 647).



Plan of House of Tiles at Lerna
Lerna IIIC late
after Wiencke 2000, I, fig. 103a



Reconstruction - House of Tiles
EH II late - Lerna IIIC - D
after Wiencke 2000, I, fig. 1ID07a

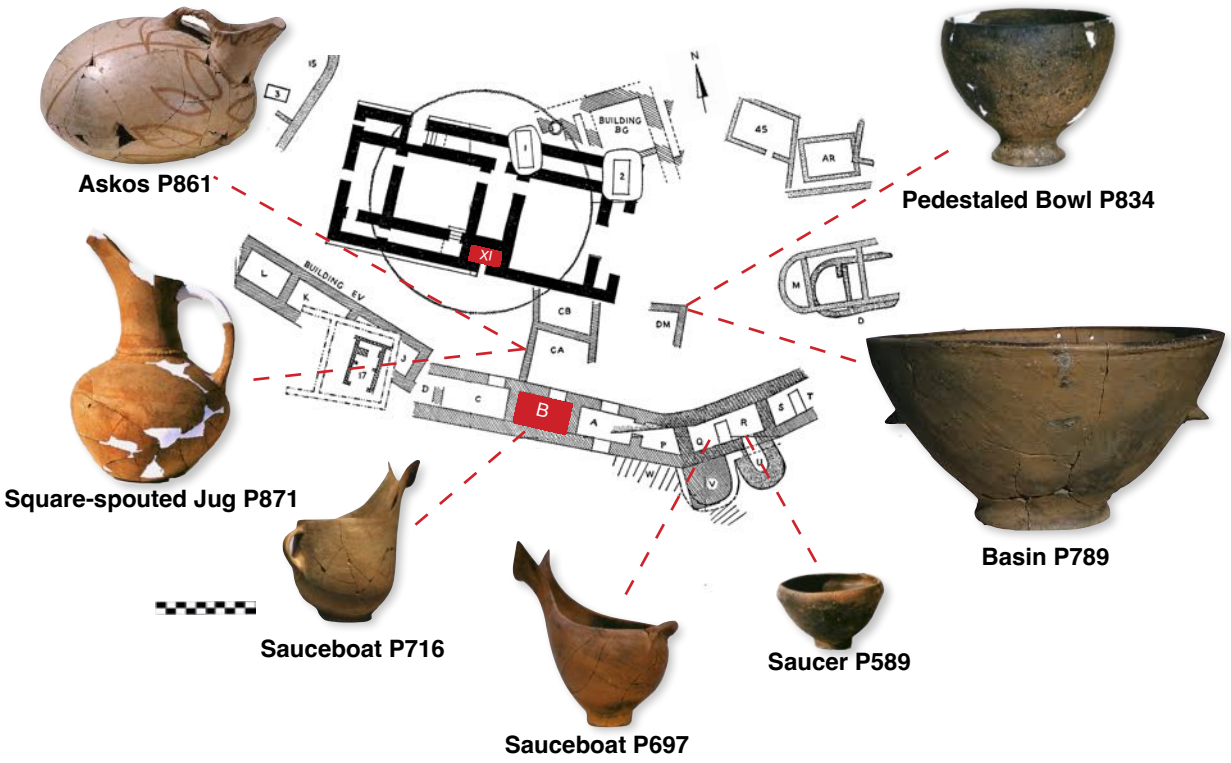


House of Tiles & Building BG
Lerna IIIC early
after Caskey 1959, 203 Fig. 1

In September of 1952, during preliminary soundings at Lerna, the southwest corner of the House of Tiles was uncovered——a find that set the agenda for the overall project (Caskey 1954, 21). Together with practical constraints this necessarily restricted excavation of various strata. In 1957 excavations by Elizabeth Caskey and Martha Heath (Wiencke) revealed a number of earlier Lerna III levels with structural remains including those of Building BG (BBG). The southern end of BBG lay, in part, below the northeast corner of the House of Tiles with the remainder beyond the excavation's boundary. Despite limited excavation, it was determined that BBG was one of a series of predecessors to the corridor house, each with massive walls and similar overall dimensions. Features associated with BBG included an open-ended vestibule with indications for a central post as well as an earlier pebble-paved open area provided with drainage. The western corridor of BBG held the fragmentary remains of a large circular hearth (diam. 1.15 m) with roller-seal impressed decoration (Caskey 1958, 129-130; 1959, 202-204).

The House of Tiles is one of a half dozen corridor-type houses known from EH IIB mainland sites ranging from Akovitika in Messenia north to Thebes in Boeotia. Joseph Shaw characterizes the design as an, "axially arranged rectangular structure," notable for their overall size (at Lerna ca. 25 x 12 m) as well as for the number and variety of rooms (2007, 137). Architectural features include two large ground floor rooms, length-wise flanking corridors, two stairwells (one exterior, one interior), and several small rooms. External doors on each of the four sides provide access to and from specific areas——perhaps to public and private areas. A tiled and pitched roof extended over the second floor open balconies. Additional details at Lerna's House of Tiles included several benches along exterior walls, a hearth in the large front room, and plaster coating of select interior walls (Caskey 1955, 37-41; 1956, 162-165). Corridor houses mark a significant, albeit relatively short-lived, advance in Bronze Age Aegean architecture. Something of a puzzle, the contemporary Rundbau (Round House) was a massive cylindrical edifice (diam. ca 28 m) constructed at the highest point on the acropolis at Tiryns. Whether it was a granary, served a cultic function, or was simply the whimsical residence of the local chief is unknown (Haider 1980).

Concurrent with the architectural transformations are significant ceramic innovations at the beginning of the EH IIB period. In contrast to the relatively few but finely crafted and finished ceramics of the Lerna IIIA, both the number and the diversity of ceramic vessels increase during early phase Lerna IIIC——with partly painted basins, saucers, jars, and jugs being especially prominent. Examples illustrated below include the newly introduced Type 5 rim-painted basin (P789) and the Square-spouted Jug (P871) with painted areas restricted to bands around the neck and shoulder. Also new are type 2 (P697) and type 3 (P716) sauceboats, pedestaled bowls (P834), and perhaps the ceramic hearth as discussed above (Wiencke 2000, 636-637). Also notable are relatively large quantities of vessels (eg. small saucers) seemingly intended for special occasions as well as single, exceptionally fine pieces (eg. askos - P861) that may have been made for persons of elite status (ibid., 648). While the absence of material finds in the House of Tiles may be significant, the exception is room XI where numerous sealings (see below) were found along with a number of sauceboats and more than 5 dozen small saucers (ibid., 505).



Saucer P589	Type 2 totally painted	Early Phase C: Tower B Doorway
Sauceboat P697	Type 2 dark-painted	Mid Phase C: Room QR
Sauceboat P716	Type 3 light-painted fine-polished	Mid Phase C: Bothros GB-4 Room B
Square-spouted Jug P871	ribbed neck - bands of paint	Late Phase C - Room CA
Askos P861	dark-painted patterned on light-painted	Late Phase C - Room CA
Pedestaled Bowl P834	coarse with potter's mark	Late Phase C - Room DM
Basin P789	Type 5 rim painted	Late Phase C - Room DM

Plan after Survey by L. E. Cotsen; drawing revised by Aliki Bikaki in Caskey 1958, Lerna 1957, Fig. 1. Ceramic Data from Wiencke 2000, Vol. IV Architecture, Stratification, and Pottery of Lerna III

Ceremonial Lerna

Wiencke's "Ceremonial Lerna," written a half century after Caskey's excavations, offers a unique perspective——one informed by her personal participation at Lerna as well as decades of pertinent research and publications (2011a). In considering aspects of Lerna as, "a symbolic site of ceremony and power," Wiencke points out that early in the Lerna IIIC period, and perhaps before, the impressive entrance staircase and fortifications together with the monumental BBG with hearth and paved terrace all suggest Lerna's prominence (ibid., 347). Many of these features are carried forward with the House of Tiles that, together with additional material evidence, reinforce the significance of Lerna on the mainland during EH IIB. It is also clear that Lerna was part of a fairly widespread mainland transition resulting in similar social and economic advances elsewhere. Wiencke cites Shaw's analysis of the sequential development of corridor house construction suggesting shared ideas and common standards across the mainland, beginning with the Fortified Building at Thebes and culminating with Lerna's House of Tiles (Wiencke 2011, 347-349; Shaw 2007, 148-151). This common culture is apparent in the ceramics as well but is not limited to corridor house sites. Zygouries may or may not have had a corridor house, but Blegen did recover pottery (household group at right) from the site comparable (note rim painted bowl with ring foot) to that found at Lerna during EH IIB.[6] Wiencke also notes similar ceramic changes at Tiryns, Agios Dimitrios, and Eutresis (ibid., 645).

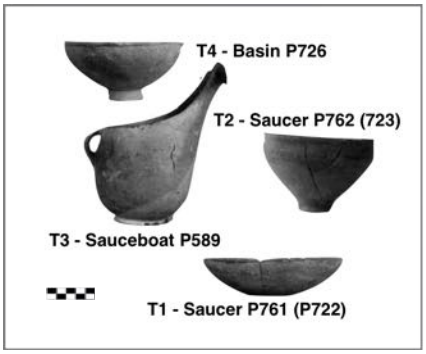


EH IIB Zygouries
MET Museum
Art of Aegean Bronze Age

Evidence for shared cultural traits does not necessarily involve political or economic unity. In fact, there is no evidence to suggest the corridor houses were elements of a mainland state. Renfrew and Cherry suggested "peer polity interactions" to frame the dynamic between and among settlements with monumental architecture or "central places" (1986). Competition and emulation are characteristic of such relationships although warfare, an ever-present possibility, may disrupt the balance of power and lead to widespread destruction (Renfrew and Cherry 1986, 1; Wiencke 1989, 508-509). The "chiefdom" model is also used to describe the political organization of corridor house settlements (Wiencke 1989, 501-502). While chiefdoms take numerous forms they typically describe a social order that is in some measure hierarchical——societies where an individual or a small group of individuals has or share enhanced authority over one or more aspect of the central site and lesser satellite communities. While theorizing about economic and political models in the absence of written documentation may seem overly speculative, the corridor houses themselves provide sufficient evidence for assuming some level of command and control of both labor and materials. Also consistent with the chiefdom model would be places and ceremonies that serve to strengthen and maintain the developing hierarchy. Even following Lerna's demise her monumentality may have been memorialized by the tumulus that covered the ruins of the House of Tiles. The significance of Lake Lerna, the site's reputation as a place of perpetual springs, and perhaps even the narratives underlying later mythologies may all have contributed to a recognition of Lerna's prominence.

6. Illustrated are three of six vases, gifts to the Metropolitan Museum of Art from the Hellenic Republic in 1927, all three excavated by Carl Blegen and published in his 1928 *Zygouries* monograph (Hemingway 2011, 97-99).

Elements of the ceramic assemblage together with the presence of sealings are further evidence that Lerna III was a place out of the ordinary. While the finds from room XI are significant, the brief occupancy of the House of Tiles marks the apogee of Lernian society as well as an end to the era of corridor houses. The material finds associated with Bothros GB-4 in Room B (see sauceboat P716 and plan above), on the other hand, provide some of the earliest evidence for an essential transformation. Like the assemblage from the Burnt Room at Tsoungiza, Wiencke see the pottery group found within the bothros as suggestive of “drinking sets”——a judgement based on widely shared assumptions about the functions of the vessels themselves (2011, 350). In remarking how the sauceboat could be seen as a hallmark of the period, Caskey did so with a smile (1960, 290). The humor reflected, at least in part, his own humility and puzzlement. Clearly elegant and innovative, the sauceboat is above all else quirky. Given its overall shape and the placement of its handle, the idiosyncratic sauceboat appears to demand two hands and hardly seems designed with the tipsy in mind (Type 3 with its vertical handle is a possible exception). Yet Wiencke notes that sauceboats are often found in pairs and concludes they were probably used as a wine drinking cups (2011, 349). Absent the shapes we think of as cups it seems less speculative that saucers may have served similar purposes. In any case, the sauceboats appear to suggest pouring——perhaps by attendants on behalf of the host and his/her guests.



Pottery Grouping - Bothros GB-4
Lerna Mid Phase IIIC
Wiencke 2000, 120, Plate 12

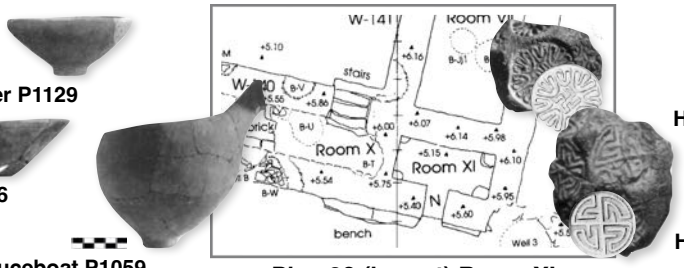
Sealing 145, Seal S72 Reconstruction (Piet de Jung)
Lerna Mid Phase IIIC - Bothros GB-4
Wiencke 1969, Plate 125: S72, 145



With respect to the evidence from Room B, an earthquake is thought to have dislodged a number of EH II Phase C vessels from an overlying shelf——toppling them, largely restorable if not intact, into the bothros. These included 3 basins, 3 sauceboats, 3 saucers, 1 bowl, and 1 askos (Wiencke 2000, 119). Also found with the pottery were fragments of sealings that at one point may have “secured” the contents of the bothros. Seals (absent at Lerna) and the sealings they stamped were important administrative tools widely used across the ancient world to indicate ownership and track inventories. Although sizable groups of sealings were recovered from Room XI (House of Tiles) and Room DM, the sealing fragments associated with Bothros GB-4 are the only evidence of seal use in Room B. The seal itself, reconstructed from the impressions, was oval, relatively large, and cut with spiral patterns (Heath 1958, 501-502).

Ultimately, a combination of factors related to Bothros GB-4 finds suggest their significance. As important as the artifacts themselves, their associated contexts——physical, chronological, and political are of equal significance. The oversized bothros (1.01 m tall), with carefully finished interior fully lined with clay, was firmly set into the ground. The contents, perhaps important food stores, were then secured with the sealings. Although theories abound, it is generally thought that such sealings (and their breaking) provided a method of tracking the removal of goods (Fiandra 1968). Wiencke marshals the evidence to propose that, “It may not be a matter of chance that the first

instance of securing a container with a stamped clay sealing [occurs] in mid phase C," and that it is closely associated with "ceremonial table ware" at the time when individuals were likely asserting their authority, at least in part, by providing for, "certain occasions of formal hospitality" (2000, 649; 2011, 349-350). While this interpretation involves assumptions and judgments based, in part, on patterns of evidence found elsewhere (for example, see Tsoungiza above), it is also one strengthened by the attested evidence of a number of similar groupings of pottery——as in Room CA, some with numerous sealings such as Room DA, and Room XI (Wiencke 1969, 501-504).



Plan 32 (in part) Room XI

Wiencke 2000, Plates 20, 21, 22

Quadripartite Loop
Broken Line
No. S27 *CMS* - V 080
Heath 1958, Pl. 21; Pl. 26 No. 118

Swastika
Isolated Element
No. S39 *CMS* - V 094
Heath 1958, Pl. 21; Pl. 27 No. 107

Minoischen und Mykenischen Siegel

Although Lerna itself is rich in artifacts, the House of Tiles is notable for its lack of material finds. Caskey attributed this to its destruction (by fire) before construction was complete, but Shaw suggests the building saw at least limited use as attested by finds from Room XI (Caskey 1958, 144; Shaw 1987, 61, 62). It is perhaps significant that Room XI (see plan) is isolated from the rest of the building with access limited to a single external door. It may also be the case that the pottery and sealings recovered from the charred debris of Room XI had fallen from an upper floor storage area when the House of Tiles was destroyed. Heath describes in excess of 120 clay sealings, accidentally baked by the conflagration, representing seventy different seals. Heath organized the sealings into six groups based on the types of containers (eg. chests, boxes, and jars) they are though to have sealed——albeit none of the containers, their contents, or any of he original seals were present (Heath 1958, 81-82). The seals themselves (avg. diam. 2.6 cm) may have been made of ivory, stone, or even wood with patterns (loops, continuous and broken lines, and various isolated elements) cut intaglio-fashion into the face of the seal (ibid., 113-116).[7] Along with various jugs, jars, and askoi, the pottery recovered from Room XI comprised 7 basins, 13 sauceboats, and 64 saucers (Wiencke 2000, 749). Various interpretations have been suggested for the material finds from Room XI but it is generally agreed the pottery assemblage indicates something other than day-to-day domestic use. The types and numbers of vessels are consistent with a gathering of a substantial number of persons——certainly in excess of a single family. The large numbers of seal impressions strongly suggest concern with identification and some level of security. However, it is unclear who or what is being identified and to what end——although, as discussed above, the manner of sealing indicates a concern with ownership or perhaps documentation but not with larceny.

Wiencke's major work on Lerna and Pullen's Tsoungiza volume have much in common (2000, 2011a). Each is an extraordinarily detailed account of an archaeological site enhanced, in part, by the author's own participation in the excavations. But their publications are also much more. The sites themselves have taken on iconic status, as

7. Cut in *intaglio,* the seals thus produced sealings that expressed their design in *relief.* By convention seals are read or described based on the *impression* they make.

representative of the mainland's EBA and the series of social transformations reflected by innovations and changes in the material evidence as documented in the archaeological record. The architectural and ceramic evidence, in particular, carry much of the burden of proof for Wiencke's and Pullen's interpretive conclusions. However, this is not to say that the cited evidence is restricted to Tsoungiza and Lerna alone. In fact essential to the EBA narrative are comparable material finds, including similar advances in architecture and the introduction of new ceramic assemblages, attested at sites across much of the mainland, the Cycladic islands, and Crete. See *Cyclades Islands: LN to EBA* and *By Land and By Sea*.

Rethinking Lerna

Wiencke and Pullen, like all Aegeanists working in the final quarter of the 20th century, were influenced by Renfrew's *Emergence of Civilization* and the various responses to this seminal work (1972). Central to Renfrew's thesis was his call to replace earlier diffusionist theories with his redistribution model placing an, "emphasis upon economic and social processes by means of which new societies were constructed" (Renfrew and Cherry 2011, xxx). The mid-third millennium BCE corridor houses were seen as exemplars of this process——representative of an early stage of a social transformation that ultimately led to Mycenaean palace societies. Both Wiencke and Pullen adopted aspects of peer polites and chiefdoms as theoretical models for the EBA (Renfrew Renfrew and Cherry 1986). Among the critiques of this approach was Olympia Peperaki's observation that, in practice, theory was shaping interpretation (2004). For example, characteristics of the House of Tiles had led to, "the provision of both 'private' and 'public' spaces," that, together with the corollary ceramic evidence for feasting, seemed to provide a reasonable scenario for a community in which the elite controlled at least some resources to serve their own ends (ibid., 216). However, as Peperaki points out, acceptance of the private-public dichotomy precluded alternative scenarios——ones that might envisage, "competing interpretations and constructions of social reality" (ibid., 226). Ultimately, much of Peperaki's critique was upheld and contributed to a more general rethinking of the role of redistribution and social complexity with a focus on, in Nakassis' words, "describing the multiple systems embedded within the economy of a given society," rather than generalized theories that marginalize local variation (Nakassis, Parkinson and Galaty 2011, 181). Pullen has taken an active role in efforts to refine and redefine the EBA societal transitions including those at Lerna (2011b). Along with acknowledging Peperaki's critique, Pullen engaged with her suggestion that the Room XI sealings and ceramics be considered as evidence from a single event——one characterized by, "participants in a feast bringing sealed containers of goods to be consumed at the feast" (ibid., 191). In fact, Pullen expanded on this hypothesis in conjunction with Erika Weiberg's analysis of the external "open terraces" adjacent to the House of Tiles (Weiberg 2007, 47-52). Pullen suggested that in concert, Peperaki's conception of, "differentiation through performance," and Weiberg's emphasis on "where the participants were situated," broadened the range of interpretive possibilities (Pullen 2011b., 192).[8] In sum, while elements of various resources and the presence of communal feasting may suggest some measure of authority and central control, little evidence exists for the presence of a top down hierarchy during the EBA. There are however, as Pullen suggests, indications of "asymmetrical social relationships emerging in the EBA Aegean" (ibid., 193).

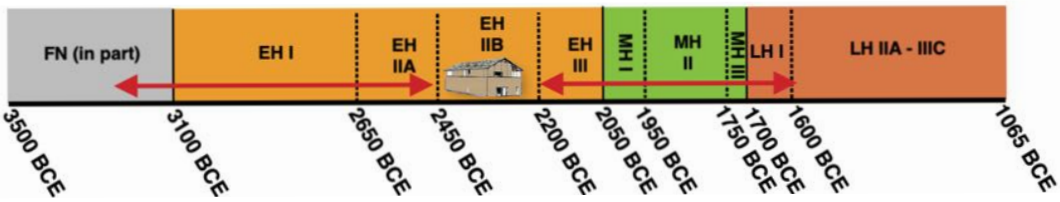
8. Some similarities are suggested with Jan Driessen's conception of Minoan courts where, "the ritual performances that took place within the Central Court were the first unifying and integrative actions that bound society together" (2002, 3).

Although Caskey excavated at Lerna for 8 years (1952 - 1959), the salient features of the House of Tiles had been uncovered by the second season. The northeast corner of the structure, excavated in 1952, clearly suggested the buildings unique size and Caskey's summary for the following year mentions the structure's signature "corridors" while also providing details of the massive walls (to 0.95 m in width). Additional documentation of "fragmentary tiles of terracotta and slate," together with, "fallen bricks and clay much reddened from burning, gray and black ash, and carbonized wood" provides unmistakable evidence for the structure's fiery end (1954, 21-27). Caskey



Lerna Corridor House
Roof Tiles: Collected and Stacked

also suggested that members of the Lerna IV community had heaped together and graded the destruction debris of the House of Tiles to form a memorial tumulus (although see Banks to the contrary below) encircled with white stones (1956, 172-173; Banks 2013, 23). As excavations continued a growing body of evidence reinforced the sharply contrasting scenarios of Lerna III (EH II) and Lerna IV (EH III). In fact, for Caskey *transition* seemed too neutral a term and ultimately he became convinced that the destruction of the House of Tiles was not an isolated event but rather part of, "a foreign invasion [that] created widespread havoc in this region and brought to an end the bright flowering of human society" (1960, 301). Evidence from other sites, including numerous structures destroyed by fire and the widespread abandonment of sites, seemed to buttress Caskey's proposition. But see Forsén below.

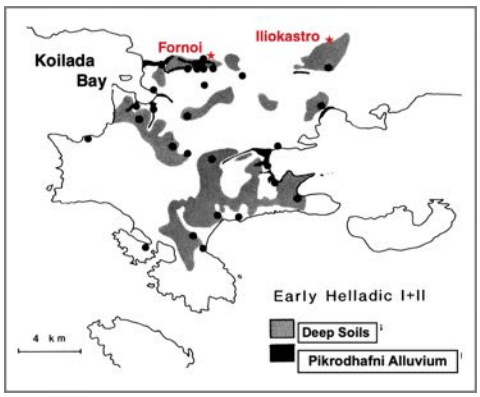


In any case, the contrast between the periods is stark with the general decline of EH III continuing into the early MBA. Although Wace and Blegen's original tripartite division of the Bronze Age (as color coded above) is retained here, Caskey's excavations at Lerna demonstrated that the significant cultural break occurs, not between EH III and MH I, but between EH II and EH III, with the EH IIB period defining a critical juncture in the pre-Mycenaean narrative (Wace and Blegen 1918; Caskey 1960, 289-297). While the view to the past stretches across four millennia to the arrival of the first agropastoral colonists on the Greek mainland, barely four centuries would elapse from the EH IIB transition to the period when the founders of the Mycenaean culture honored their dead with the bountiful gold and bronze of the shaft grave interments.

The term monumental may be something of an exaggeration, but the EH IIB corridor houses together with the Rundbau, their unique Tirynian contemporary, were momentous in both their architectural conception and construction. The efforts of Caskey and others to excavate and describe the material evidence of this architectural flourishing are notable; equally significant is the complex business of defining both the material and social elements that together shaped the creation and dissolution of the various EH IIB successes. As we have seen, the same body of evidence may elicit contrasting interpretations. EH II may end with the demise of the corridor house era but it also foreshadows the initial phase of the period that confirms an established Mycenaean presence on the mainland. While dissolution and economic recession are widespread across the mainland during the EH III - MH (early), the contemporary growth of Kolonna on Aegina is an unparalleled economic success story, one that rises with (some would say, on) the Minoan tide. Kolonna's exceptionalism does seem to make unlikely the idea of wholesale invasion. What then is the evidence that might inform our understanding of what was evidently a widespread and sharp reversal.

Another Perspective - Longue Durée[9]

Two factors that may have had a significant impact on the course of Aegean prehistory relate at least in part to climate, and while they may not have left the type of evidence revealed by excavation, either one or both might have had a substantial impact on the failure of innumerable settlements. An analysis of geomorphological conditions by van Andel, Runnels and Pope in their study of land use in the southern Argolid includes documentation for a, "sequence of erosion and alluviation events [that] began about 4,500 years ago, a thousand years after clearing of the Southern Argolid for agriculture started in earnest" (1986, 125). Given the results of their land use survey documenting a two-fold increase in settlements (from 13 to 28 - 32) between the FN and EH II periods and the subsequent EH III reduction in settlements (from 28 to 2), van Andel et al. suggest intensive land clearing had likely increased slope destabilization and erosion (ibid., 113-116). Specifically they call attention to a cluster of EH I - II hill sites south of Koilada Bay, "established to exploit the deep upland soils of the hill tops," that, "are now on bare bedrock" (ibid., 114). In contrast the gently rolling hills of the Fournoi valley and Iliokastro plateau, an important agricultural area, were less susceptible to erosive forces absent periods of excessive rainfall or intensive burning and cutting (ibid., 114-116). In any case the occurrence of EH I - II sherds within the Pikrodhafni alluvium topped by strata with EH III sherds is attested in the southern Argolid as well as on the Argive Plain (ibid., 113). Contravening effects may also have played their part as van Andel concludes that, "Two modes of land stabilization thus exist and, we believe, existed in the Southern Argolid: terracing and dam construction and, ironically, the complete abandonment of the land which allows maquis and pine to resettle the fields very rapidly" (ibid., 126). Tsoungiza's repeated pattern of occupation and abandonment may reflect the latter while Mycenaean terraces and dam works are a feature of the LBA. A concluding question posed by the authors pondered whether or not climate may have been a more significant factor than their study allowed——a question pertinent to the second study.



Showing Pikrodhafni Alluvium Downstream of Deep Soil Areas = EH I - II Site Clusters van Andel, Runnels and Pope 1986, 115 Fig. 8

9. Geomorphology and climate introduce radically different perspectives on prehistory as compared with the typical focus on temporally more circumscribed events. See Fernand Braudel in *By Land and By Sea*; *Mycenaean III*.

Climate change at the end of the 3rd millennium BCE is the focus of Sturt Manning's, *Comments on Climate, Intra-regional Variations, Chronology, the 2200 B.C. Horizon of Change* (2017). The author's extensive analysis covers the underlying evidence as well as alternative hypotheses for the, "climate-change episode or shift around 2200 b.c. / 4.2 ka b.p. (which continued over a couple of centuries ending by ca. 1900 b.c. / 3.9 ka b.p.)," affecting lower latitudes across the Mediterranean and Near East (ibid., 451). As Manning points out, assessing the affects of any such climate event involves a number variables leading inevitably to, "highlight inter/intra-regional variability" (ibid., 454). As originally conceived, an extended period of rising temperature was followed by sharply lower temperatures——'the event' lasting two to three centuries. Data from ice core analysis as well as bristlecone pine (*Pinus longaeva*) studies are cited as baseline evidence. Much of Manning's paper deals with evaluating the nature of climate data, the pertinent chronologies, and various conclusions drawn from alternative hypotheses (ibid., 251-259). Surprisingly, two contrasting models for the 2200 - 1900 BCE period both result in a period of marked aridity: a. sharply lower and more arid conditions and b. steadily rising temperatures reaching a peak around 1900 BCE, (ibid. 454). In any case, there does seem to be a significant change in climate at the close of the 3rd millennium. Manning turns to the Cycladic Islands, Crete, and Tel Leilan (located in northeastern Syria) to demonstrate that transitions in the cultural record align with the suggested 2200 - 1900 BCE climate event. Next he discusses in detail cultural developments on Crete and, in particular, the contrasting trajectories on that island and on the southern Greek mainland during the 3rd - 2nd millennium BCE transition.

In an earlier paper Manning, following Forsén, recognized, "a pattern of marked decline, dislocation, and change," on the southern mainland and the Cyclades——a situation that appeared to contrast sharply with contemporary developments on Crete (Manning, 1997; Forsén 1992). In fact, at the very time Minoan culture had begun to blossom, progress on the mainland (as epitomized by the corridor house communities) was abruptly curtailed by widespread, if not simultaneous, destruction. For most of the 20th century the MM IB period was accepted orthodoxy for the emergence of the Minoan palaces at Phaistos and Knossos (Tomkins 2011, 33). However, recent analysis has demonstrated that essential elements of Minoan palatial culture, including characteristic structures arranged around central courts, have their origins in the EM II - MM 1A (ibid., 72-75). Often referred to as the Minoan Late Prepalatial, the period dates to ca. 2200 - 1900 BCE. Assuming drought conditions play a part in developments on both the mainland and Crete, how, asks Manning, can we explain their contrary trajectories. A piece of the solution, explains Manning, is the reality that, much as on the mainland, there is also evidence of destructions and abandonments on Crete——albeit restricted to the island's southern and eastern regions (2017, 474). For example Poursat characterizes EM III - MM IA as, "oddly under-attested at Malia, to the extent that one might even suggest a site abandonment" (2010, 260). Nonetheless, contrasting outcomes are apparent and these, Manning suggests, relate to the the range and variability of existing, often site specific, conditions in the face of significant shifts (in this case drought) in the environment. Local resources (eg. availability of water), the prevailing nature of the community's livlihood (eg. urban or pastoral), and access to external resources via commercial trade network may each play a part (2017, 455). Manning makes the case that EH II successes on the mainland may paradoxically have contributed to an inability to survive the drought. Rapid growth and an increasing reliance on connectivity and trade may have, with the onset of drought conditions, resulted in a tipping point——what Manning refers to as, "the limits of its technological and social horizon" (ibid., 472). On the other hand Knossos (and perhaps Phaistos?),

with less reliance on external resources, took advantage of the island's diverse topography and rich agricultural resources to continue "operating within capacity" (Halstead 1981; Manning 2017, 472). Ultimately, advantageous local conditions at Knossos increased the site's resilience in the presence of adverse climatic events.

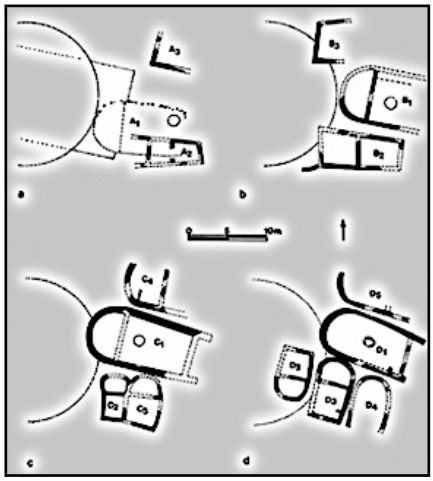
Forsén's Analysis - Devilish Details

Climate studies suggests that identifying the causes for the apparent successes and failures of prehistoric communities is a complex matter——one nearly always affected by a number of variables. In the cases described above, the potential negative effects of soil depletion and extreme aridity vary locally while they are also subject to interventions that may or may not ameliorate the potential harm. Archaeologists necessarily engage with similar levels of complexity when theorizing or suggesting generalized hypotheses based upon excavated evidence. While indications for transitions, for example the introduction of new ceramic shapes and styles or the adoption of technical innovations may be relatively easy to document, identifying the cause(s) for such changes is likely to prove more elusive. Jeannnette Forsén clearly faced a complex task in her attempt to evaluate Caskey's proposition of a late EH II large scale invasion and widespread destruction. Her evaluation of 89 sites from Ayios Stephanos in Messenia north to Lilaia in Phocis demonstrates the level of detail required. Forsén's site descriptions provide useful information on destruction layers as well as associated pottery and architecture (1992, 31-156). Her initial remarks and concluding sections are especially instructive.

Forsén establishes her main line of questioning in her *Introduction*——one that seeks to evaluate the degree of contemporaneity of destruction events. Just as significantly she seeks to understand, in what manner Caskey's theory may have, "impressed and influenced later scholarly work" (ibid, 7). These two inquiries alone provided answers that are indicative of the potential pitfalls involved in supporting such claims as Caskey's invasion model. At the same time they illuminate the tendency to allow theory to dictate interpretation. See remarks by Olympia Peperaki above. Ultimately Forsén's analysis confirmed a pattern of mainland destructions and general decline but offered little support for the widespread and unitary transition Caskey had proposed (Forsén 1992, 251; Caskey 1960, 301-302). Nevertheless, as Forsén explained, the Lerna project and Caskey's interpretation, "had a great impact on later archaeological work," creating an inclination to interpret signs of destructive elements and abandonments as testaments to an imagined invasion and even, at times, leading to revisions of earlier works to fit Caskey's narrative" (ibid., 13).

Field surveys in the Peloponnese do confirm a decline in the number of EH III settlements. This was not a matter of consolidation but rather of smaller and more isolated communities. According to Caskey, conditions at Lerna IV at the beginning of EH III were stark. The initial wood-framed, clay and sticks "Chieftain's House" suggests more than one step backward from the relative sophistication of the House of Tiles. Furthermore, Caskey envisioned the tumulus covering the ruins of the House of Tiles as signaling an end to the Lerna III period and comments, "For some time thereafter nobody encroached upon this mysteriously sacred area" (1960, 293). Weiberg, less certain about the timing, stated, "we cannot say with certainty either how much time passed between the destruction of the House of the Tiles and the formation of the tumulus above it or how much time passed between the latter and the first house [in EH III or Lerna IV]." (2007, 168). Banks argues effectively that the structural details of the tumulus, its neatness, and, "careful selection of the of the encircling stones and paving slabs," are more consistent with Lerna III (EH II) practices (2013, 23-31). In any case,

by the end of the EH III a succession of more substantial apsidal- and rectangular-shaped houses had been built on and near the tumulus (Weiberg 2007,135). The dwellings shared a number of features with EH I structures, for example the axial room arrangement of Tsoungiza House A as well as dwellings with opposing apse-shaped walls and an open porch (Pullen 2008, 36-37). Although bothroi——sizable storage pits (to ca. a cubic meter in volume) at times clay-lined and countersunk into the ground, were present in earlier periods, Caskey describes them as being a ubiquitous and characteristic feature of Lerna IV (1960, 294). House E at Tsoungiza (Harland's "House of the Querns" named for its numerous grinding stones) with 8 pithoi set against the inner walls provides an additional example of an increasingly common practice during EH III (Pullen 2011a, 452-460).

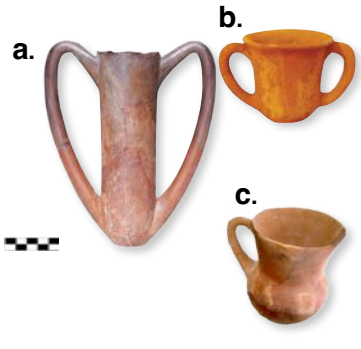


Lerna IV Composite
EH III Houses - Developmental Sequence
Haegg, R. and Konsola, D. eds. 1985, Fig. 35

The EH III eclectic ceramic assemblage has been a particular focus of scholarly attention. As an awareness of its regional diversity grew, the pottery assumed a central role in interpretations describing the course of early Bronze Age prehistory——including the perennial theorizing about the "coming of the Greeks." For example, in his 1960 survey of Lernian pottery, Caskey characterizes Lerna IV ceramics as, "a strikingly new range of wares, shapes, and patterns," including some made on the potter's wheel (1960, 295). Following what he believed to be a second incursion of invaders in MH I, yet another suite of pottery prompted Caskey to ask, "whether the people of Early Helladic III may not have been closely akin to the Middle Helladics and thus also of direct or indirect parentage to the Mycenaean Greeks" (ibid., 302). While many of new Lerna IV pots displayed shapes typical of western Anatolia, the second group of ceramics with Anatolian origins, dubbed "Lefkandi I" by Caskey, were almost exclusively found north of the Peloponnese.

Jeremy Rutter - Island Hopping Pots

Jeremy Rutter has played a leading role in Aegean ceramic research over the last half century and among his interests are the transitional EH II - EH III and MH - LH IIA periods including the pottery of Lerna IV (1979; 1995). Much of what follows is based on Rutter's scholarship. The Anatolian-style pottery first excavated at Lefkandi in Euboea was initially dated to EH III, a designation that could be interpreted as supporting an incursion of newcomers at the end of EH II (Forsén 1992, 204). However, Lefkandi I ceramics are largely attested north of the Peloponnese at coastal sites from Pefkakia in Thessaly south to Aegina in the Saronic Gulf, including Attica and Euboea, as well as on the Cyclades (Renfrew's "Kastri Group"). Many of these wares exhibit western Anatolian influences and it is likely that maritime trade (rather than population movements) played a significant role in their transfer to the Aegean. In addition, metallic (silver and rarely gold) versions of similar drinking cups were well known from Troy. While the question as to whether Lefkandi I should be placed in EH IIB or EH III is still debated, Rutter argues convincingly that Lefkandi I culture arises late in EH II as indicated by various sites (eg. Lefkandi, Manika, and Eutresis) where Lefkandi I ceramics are contemporary with Korakou EH II pottery (Rutter 2001, 113-116).

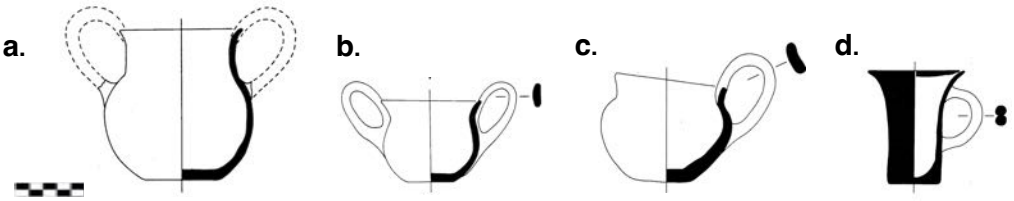






Silver Depas Cup
Troy II (2550 - 2300 BCE)
British Museum

Lefkandi I (includes Renfrew's Kastri group) Ceramics
a. Depas Cup - Helike[10] b. Bell-shaped Cup - Lefkandi c. Tankard - Lefkandi

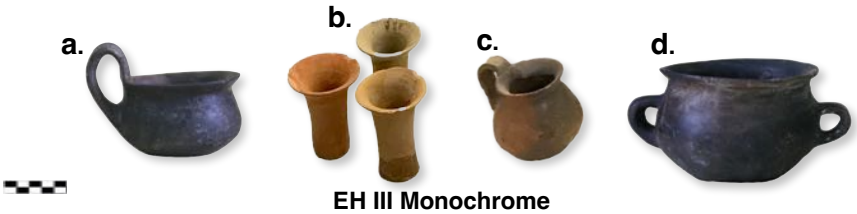


Lerna IV New Shapes - Rutter 1979, 9-10
a. tankard (Fig. 1) b. two-handled bowl (Fig. 4) c. one-handled cup (Fig. 5) d. ouzo cup (Fig. 6)

EH III pottery, widespread across the northern Peloponnese and northward across the central mainland south of Thessaly, refers to Renfrew's, "Tiryns Culture." Like nearly all "Lefkandi I" pottery, it is unknown from the southernmost Peloponnese. Rutter identified 4 new shapes characteristic of the Lerna IV assemblage and noted a "fusion" of Argive styles with those of Anatolia and the Cyclades (1979, 9-12). Often conspicuously pattern-painted with dark-on-light motifs typical in the south and light-on-dark (*Ayia Marina* wares) decorations in the north, monochrome pots are common as well, the smaller shapes burnished, the larger vessels unburnished. The initial use of the potter's wheel on the mainland is also attested during this period (Rutter, 2001; Rutter and Gonzalez-Major 2011 - 2013).



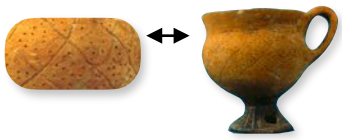
EH III Dark-on-Light Pattern-painted
a. Tankard - Tiryns b. Pyxis - Asine c. Askos - Berbati d. Cup - Tiryns e. Pyxis - Tiryns
Archaeological Museum of Nafplion



EH III Monochrome
a. Rim-handled Cup - Helike b. Ouzo Cups - Tiryns c. Jug - Tiryns d. Bass Bowl - Helike
b., c. Archaeological Museum of Nafplion
; a., d. Katsonopoulou 2017, 10 Figs. 8c, 8b

10. The Depas Cup from Helike is the sole Lefkandi I vessel from the site (Katsonopoulou and Stella Katsarou 2017).

Rutter called attention to alternate forms of decoration that are contemporaneous with EH III pattern-painted wares. Among these are impressed and incised decorations, often executed, like pattern-painted motifs, in rectilinear geometric designs. Many such markings are filled with white paint resulting in an effect similar to the light-on-dark pattern-painted decoration. Rutter suggests that impressed and incised motifs may represent the initial use of patterned decoration——foreshadowing the later EH III pattern-painting (1982, 460). Rutter catalogued examples from Lerna, Korakou, and Zygouries but also cited numerous other similar examples south of the Gulf of Corinth (ibid., 461).



EH III - Zygouries
Incised Pedestal-footed Cup
Rutter and Gonzalez-Major 2011 - 2013



EH III - Corinth
Incised & Impressed Tankard
ASCA.net



EH III - Lerna IV
Fine Gray-burnished Tankard & Kantheros
Rutter and Gonzalez-Major 2011 - 2013

Rutter's "fine gray-burnished" serves as a link with MH Gray Minyan wares. Of particular note are wheelmade examples from Euboea, Corinthia, and the Argolid——a significant technological advance over earlier mainland pottery that was entirely handmade. According to Rutter fine gray-burnished vase shapes are for the most part kantheroi, Bass bowls, and tankards (Rutter and Gonzalez-Major 2011 - 2013).

The classification system for *The Pottery of Lerna IV,* "was designed to be as flexible as possible in absorbing new types," explains Rutter, "in view of the pronounced regionalism which appears to characterize Mainland Greek ceramic production at this time" (1995, 640). This regionalism includes elements of "cultural fusion" (apparently via both hostile and benign agents) of Anatolian/Cycladic influences with mainland assemblages but also cultural continuity in those areas either isolated from or perhaps actively rejecting foreign influence. Despite the brevity of EH III (Rutter stresses its transitional nature) the contrasting ceramic types of the southern Peloponnese, northeastern Peloponnese, and central Greece, apparent in the late EH, come into even sharper focus during the Middle Helladic and early Mycenaean periods (Rutter and Gonzalez-Major 2011 - 2013).

The diverse pottery assemblages of EH III have raised a number of issues including ones related to the perennial discussion of cultural transmission. For example, despite their proximity (ca. 8.7 km), contrasting pottery assemblages were found at Tiryns and at Lerna following the late EH II destructions. At Lerna the new forms (EH III-types) occur almost exclusively while at Tiryns older forms (EH II-types) were found alongside the new. Weiberg & Lindblom suggest the evidence for dissimilar assemblages results from contrasting community responses to the recent destruction events (2014, 390, 399). While they find Rutter's suggestion of *stylistic fusion*, "an attractive explanation for the composition of the ceramic repertoire of the northeastern Peloponnese in the EH III period," they do not support Rutter's, "emphasis on external influence and change" (ibid., 388). Weiberg & Lindblom's response to Rutter is similar to the critiques of Peperaki and Forsén detailed above. Ultimately our understanding of Aegean prehistory is formed by differing responses to common bodies of evidence. As it is highly likely that evidence will be enhanced, opinions will necessarily change.

Kolonna - One of a Kind or Two in One?

Although from a regional perspective the island of Aegina in the Saronic Gulf was associated with the northeastern Peloponnese, it was also a notable exception to the mainland's widespread EH III - MH II recession. The island's "crossroads" location, astride maritime routes connecting the mainland, the Cyclades, and Crete as well as the more distant areas of western Anatolia, the eastern Mediterranean, and Egypt, is key to the Aegina's lengthy commercial history. The settlement of Kolonna, perched atop a promontory on the western shoreline of Aegina, with harbors to the north and south, enjoyed a degree of natural protection from potential raiding parties. Seaward the land drops off precipitously on three sides leaving only Kolonna's eastern flank exposed. As excavations have made clear the community spared little effort to protect its landward perimeter. Although much of the physical evidence for Kolonna's earliest occupation was swept away by subsequent leveling and building, pottery and several terracotta figurines dating from the LN attest to the early settlement. Florens Felten, a principal investigator at Kolonna, suggests that helmeted male figurines from the early period are warrior-like in appearance——a characteristic, if accurate, that may reflect the ancient tradition of piracy among early Aegean seafarers (2020, Fig. 3). Adding credibility to Felten's speculation are decorative motifs on the MH sherd and barrel jar (below) excavated at Aegina (Siedendopf 1991; Rutter 2001, 126-130). While at least some Aeginetans were most certainly skillful sailors, their piratical activities remain an intriguing possibility.

The longevity of the Kolonna settlement, with repeated episodes of destruction and rebuilding, has added to the complexity of understanding and describing the various features and finds among multiple occupational periods. Researchers have designated settlement periods (Roman numerals I - X) within traditional chronological divisions and ceramic phase designations associated with one or more of the settlement periods. Stratigraphy, well defined ceramic assemblages, and radiometric data support such designations. The figure below outlines these parameters along with significant hallmarks of Kolonna's development (after, Gauss et al. 2011).

	Kolonna		Ceramics	Hallmarks
2650 BCE	EH II	II	Phase B	Haus am Felsrand
		III	Phase C	Weißes Haus
		III Rebuild	Phase C Lefkandi I	
2200 BCE	EH III	IV	Phase D Peloponnese	metal furnace
		V Dest	Phase E	
		V Reconst	Phase E Central Greece	Fortification (single wall)
		VI	Phase F Cycladic Influen.	Fortification (double wall)
2050 BCE	MH I	VI	Phase G	
		VII	Phase G Lustrous Decor.	Redesigned Fortifications
		VIII	Phase H Minoan, Cycladic	
		VIIIA	Phase H	Large Building Complex
	MH II	IX	Phase I Minoan Imitation	Major Design Changes to Defensive Fortifications
	MH III	X	Phase J	
1700 BCE	LH I	X	Phase K SE - Aegean	

Kolonna: Settlement & Ceramic Phases
Chronological Chart & Stratigraphic Sequence
after Gauss et al. 2011, Fig. 3



MH Barrel Jar & Sherd
after Siedentopf 1991,
a. Pl. 14.75; b. Fig. 4

Despite the paucity of Neolithic remains on the island itself, Aegina is the likely source of contemporary andesite millstones, stone mortars, and clay vessels recovered in Attica at Athens and in the Argolid at Lerna and the Franchthi Cave (Runnels 1981; 1988). These finds indicate the islanders were part of an active, if limited, interregional trade at least as early as the MN - FN (Gauss 2010, 741). Excavations of EH II levels at Aegina produced an abundance of structural and artifactual finds confirming the importance of the island's main settlement. Elements of monumental architecture in the Kolonna II Haus am Felsrand structure were fully realized in the Kolonna III (EH IIB) Weißes Haus—a building comparable to Lerna's House of Tiles (Shaw 1987a, 62-64). Unlike the scant finds from within Lerna's corridor house, numerous domestic artifacts were recovered from the Weißes Haus. However, Aegina was not immune to the depredations attested across the mainland during the latter part of the EH period and excavations of the Weißes Haus indicate widespread destruction of the Kolonna III settlement (Walter and Felten 1981, 22). Notably at Kolonna——in a pattern that would be repeated, rebuilding was initiated soon after this destruction with little or no evidence of any occupational break between the Kolonna III and Kolonna IV settlements. Among the Kolonna III material finds are imported weights suitable for use as standardized measures——perhaps an indication of an increasingly sophisticated approach to trade. Also recovered was a cache of jewelry including gold, silver, and carnelian——pieces unique in the Aegean at this early date and suggestive of personal wealth commensurate with elite status as well as access to exotic high value goods (Gauss 2010, 742-743; Reinholdt 2003, 260-261).

The continued growth of Kolonna during the late EBA appears to be founded, at least in part, on ceramic production. In addition to the earlier exports, ceramic phase C evidence reflects the developing skills of Aeginetan potters. While much of the EH II pottery at Kolonna follows northeastern Peloponnese traditions, additional elements are notable late in the period. Alongside imported pattern-painted vessels and monochrome saucers typical of mainland wares, sherds of Lefkandi I type vessels were excavated from beneath the early fortification walls and among the lowest strata of the Inner Settlement (Berger and Gauss 2009, 210). Rutter employs the metaphor of "migrant drinking vessels" to track the origin and spread of these wares from Anatolia to their presence in the eastern Aegean——initially on Lemnos, Chios, and Samos and from there to the Cyclades and ultimately to Aegina and the mainland (2012, 73-76). Although Anatolian prototypes were wheel-made, ceramic copies from the Cycladic islands, associated with the Kastri culture and best documented at Ayia Irini on Kea (about 2500 BCE), were frequently handmade. On the mainland, EH IIB and EH III Lefkandi I-type pottery is frequently wheel-made (Rutter 2012, 73-76). The typical shapes found on Aegina during the period include one-handled tankards, bell-shaped cups, and beak-spouted jugs.



Sauceboat
Kolonna II - Phase B
Arch. Museum of Aegina



One-handled Tankard
Kolonna III - Phase C
Berger & Gauss 2016, 214 Fig. 3



Bell-shaped Cup
Kolonna III - Phase C
Berger & Gauss 2016, 214 Fig. 8a, 8b



Beak-spouted Jug
Kolonna III - Phase C
Arch. Museum of Aegina

Variations on this theme are also attested among phase C ceramics from Kolonna III. In a display of creativity and industry, Kolonna potters combined and adapted selected features of mainland and Anatolian ceramics to create novel, hybrid designs. Along with elements of the spout and body form, note the adoption of a flattened strap handle on the Aeginetan hybrid (Rutter 2012, 73-79). This EH II example was followed by additional hybrid forms including modifications of the bell-shaped cup resulting in the EH III, Kolonna V shoulder-handled tankard——a vessel also adopted at various sites on the mainland (ibid., 78).



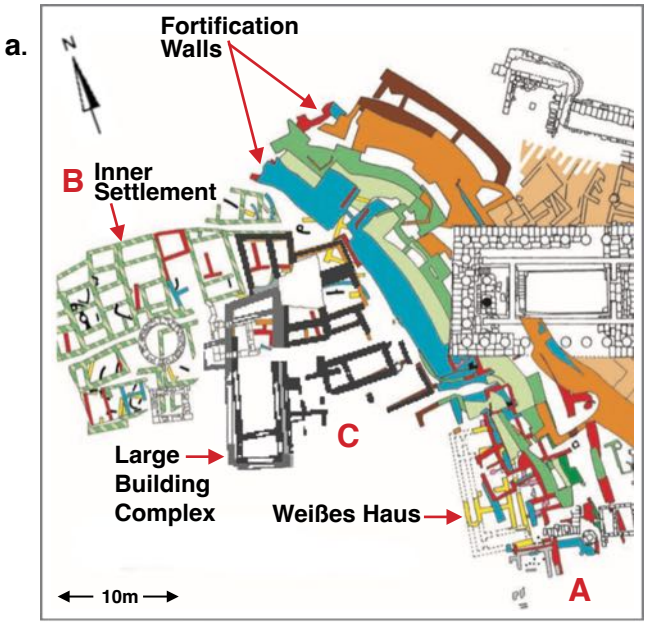
Lerna IIID
EH IIB Sauceboat

Lefkandi I
High-handled Jug

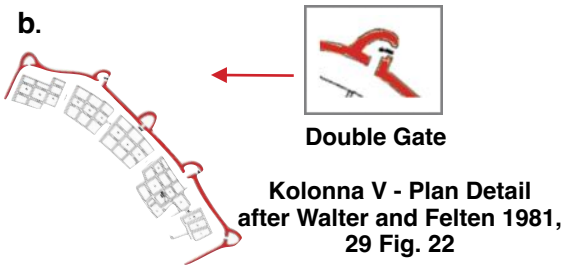
Kolonna III
Hybrid Sauceboat

After yet another destructive event the reconstruction of Kolonna V (EH III) included work on the early phase of what would become a massive system of fortification walls. While growth on Aegina during the late EBA can not compare with the concurrent flowering of Minoan culture, Kolonna was enjoying no small measure of success at a time when both mainland and Cycladic Island communities were in decline.

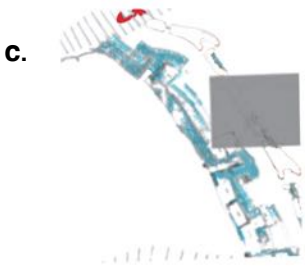
Wolf-Dietrich Niemeier's "*First Aegean 'State' Outside Of Crete?"* suggests Ayia Irini IV-V and Troy VI were the only fortified settlements comparable to Kolonna, but also that the, "sophisticated fortifications of Kolonna towns VI to IX are at their time hitherto unique in the Aegean" (1995, 75). Niemeier focuses on Kolonna's fortification with good reason and although he was referencing the MH walls, work on the fortifications began in the EH III period during the occupation of the Kolonna V settlement. Walter Gauss explains that not only were such fortifications nearly unique in the western Aegean at the time, but more significantly, successive generations of Aeginetans would maintain these structures for 600 years (2018, 48). In his review of EBA - MBA fortifications



Kolonna Composite Plan Detail
after Gauss and Smetana 2010, 172 Fig. 1.
and Berger and Gauss 2016, 211, Fig. 1.



Kolonna V - Plan Detail
after Walter and Felten 1981,
29 Fig. 22



Kolonna VI - Plan Detail
after Gauss 2018, 50 Fig. 5.3
based on Walter and Felten 1981

Gauss makes the point that——along with their primary purpose of protection, defensive structures signal something of a community's attitudes and expertise. They are clearly a visible display of power and a demonstrable presence of the will to resist external threats. Additionally, the fortifications are evidence of effective leadership capable of marshaling the technical know-how, manpower, and resources to plan and carry out a project of a different order of magnitude than normally required for domestic construction (ibid., 43). While there may have been earlier fortifications, the rebuilding of Kolonna V included the first substantial realization of a series of defensive structures that would be built, redesigned, and enhanced for over half a millennia. Only a remnant of the Kolonna V fortifications (coded red above) are shown in the composite plan (a.). It is thought that the dwellings of the period were arranged with their backs to the steep, oceanside scarp and that their positioning together with the initial wall provided increased protection for the community. As reconstructed (b.), the mud brick wall supported by a stone foundation had five bastions or towers, two as double-gated structures to impede and restrict access (ibid., 48). Excavated evidence suggests that fire, once again, ravaged the settlement and largely destroyed these fortifications. However, by the EBA - MBA transition the Kolonna VI community had rebuilt the settlement's defenses, including an additional line of fortifications (a. and c. in blue) constructed atop the ruins of the earlier dwellings. The new wall, located inside or west of the repaired and reinforced earlier wall, is characterized as, "[a] massive stone wall with a battered [i.e. angled] front and a mud brick superstructure." This new wall, now the second line of defense, had two massive, single-gated bastions. (ibid.; Walter and Felten 1981, 43–46).

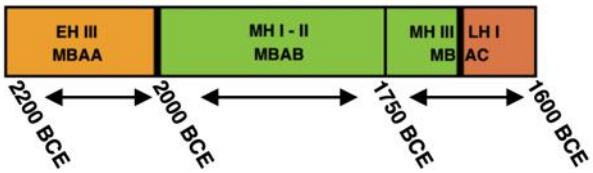
The pottery sequences (phases D, E, F) of the EH III period are unevenly represented in the archaeological record. Although phase D ceramic evidence is sparse, EH II Korakou culture forms are replaced by tankards and cups as well as some incised and impressed wares produced locally. Bass bowls, a novel form, are best represented among phase E assemblages along with, "one-handled cups and tankards, as well as medium-sized, belly-handled jars" (Berger and Gauss 2016, 217). Although little or no ceramic evidence for Kolonna VI was associated with the new fortification wall (see above), excavations begun in 2002 in the Inner City (C on plan) revealed sequential layers of ceramic phases E and F. The F phase ceramics (late EH III) display a variety of new shapes and decorative motifs unknown from earlier levels (Gauss and Smetana 2007a, 454). Along with traditional Aeginetan wares (kantheroi and Bass bowls), phase F pattern-painted vessels (matt-painted do not occur until the MH period) display new motifs including cross-hatched triangles and rectangles on a narrow-necked jar (not illustrated) and a row of dots on a rim-handled bowl. Also significant are locally crafted, beaked and narrow-necked jugs whose shapes clearly indicate Cycladic influence (ibid., 454-456).



EH III Phase F Pottery - Kolonna VI
Berger & Gauss 2016, 218 Fig. 5:1,2 (a., b.)
Gauss & Smetana 2007b, 69 Fig. 1 (c.)
Gauss & Smetana 2007a, 462 Fig. 9: 2,4 (d., e.)
Archaeological Museum of Aegina

a. Narrow-necked Jug **b. Beaked Jug** **c. Rim-handled Bowl** **d. Kantheros** **e. Bass Bowl**

The later EBA record at Kolonna includes temporary setbacks but it is also one of settlement growth and increasing economic strength (Gauss 2010, 737). Even at the critical EH II - EH III juncture, as Lerna is destroyed, the settlement on Aegina attests to "continuous habitation" (ibid., 743). The continuity at Kolonna is exceptional at what is a cultural tipping point across the Aegean. Yet despite the contrasting trajectories of the various Aegean regions, a series of social transitions in the subsequent five centuries culminate with the consolidation of a number of economic and political centers across the mainland that shape the Mycenaean period.



Periodization: Wace and Blegen 1918; Blegen 1921
Periodization: Rutter 2017, 17 Table 2.1 (Groningen Oct. 2013)

Between the Peaks - MH Ups and Downs

Various archaeologists have proposed schemata for best conceptualizing the broad trends and transitions between the end of the corridor house era and the shaft grave period. Rutter astutely suggests revisions to the EH III - LH I era that combine the five traditional periods into three Middle Bronze Age periods: MBAA, MBAB, and MBAC respectively (2017e, 16-18). In his foundational work, *The Origins of Mycenaean Civilization*, Dickinson (following Howell) employed pottery phases: Proto- and Early Minyan, Decorated Minyan, Mature Minyan, and Late Phase to characterize the periodization of EH III - MH III (1977, 19-23). While the focus of Dickinson's volume is the shaft grave/early Mycenaean era, his overview of the conditions and developments on the mainland preceding the interments of Grave Circles B and A at Mycenae largely reflect the present consensus. To summarize, this includes an initial period of depopulation, isolation, and economic stagnation continuing into the 2nd millennium BCE——albeit accompanied by a number of innovative cultural elements in some regions. A period of gradual, if at times sporadic, recovery follows in concert with increasing contacts within the greater Aegean——most especially with Crete. By the transition to the pre-Mycenaean LBA era, the shaft grave burials attest to an established elite with significant wealth——clear evidence for social differentiation that presumes, among other changes, a consolidation of authority, increased agricultural production, and a series of technological advances and refinement of craft skills. Such generalizations, however, omit well documented local and regional disparities. While ongoing excavations continue to clarify the material record, contemporary scholarship is equally concerned with understanding the factors that underlie these changes.

The collection of papers, *Social Change in Aegean Prehistory*, focus on the southern mainland during the MH period (Wiersma and Voutsaki 2017). In their introductory comments the editors characterize a number of the challenges, both material and theoretical, to understanding the MH——an era Sofia Voutsaki and Eleni Milka describe as, "caught between two peaks of economic prosperity, social differentiation and cultural connectivity, the Early Helladic and Mycenaean periods" (2017, vi-xiii; 98). Along with the mismatch of cultural transitions and traditional chronological periods discussed above, understanding the MH has been hampered by the lack (until recently) of scholarly attention. Taken as a whole the period is one of extreme contrasts——beginning with widespread social and economic contraction and ending with

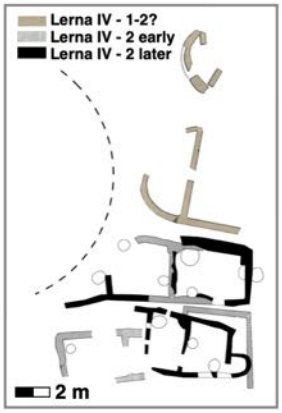
a distinct minority enjoying unprecedented wealth and privilege. This disparity alone poses questions that distill and reflect the prehistorians quandary. An entirely different set of difficulties have their origins in problematic theoretical assumptions regarding state formation. While understanding the emergence and formation of complex social and state institutions is clearly desirable, a number of the previously adopted models (eg. Renfrew's subsistence - redistribution hypothesis or Halstead's concept of surplus storage) have proved to be at odds with the excavated evidence——albeit varying in degree regionally (ibid., ix-x). Ultimately, a complex mix of both geophysical and behavioral factors, including climate and agricultural practices, patterns of interaction within and between communities, local resources, and strategies for establishing and maintaining increased status were likely involved in the success or failure of a given community. John Cherry's summation, *Middle Helladic reflections*, revisits a number of these issues (2017, 168-184). Cherry goes to some lengths to sound a cautionary note that——"We should be very wary of scouring the archaeological record, for the 'seeds' of what actually did happen in LH I and later," and likewise that, "a satisfactory explanation will not emerge from simply citing antecedent circumstances as causative" (ibid., 171). This is an important point and may be symptomatic of a well-intentioned inclination for prehistorians, in particular, to create a coherent narrative when none is warranted by the known evidence. The actual clusters of evidence in the archaeological record are often widely separated, one from another, across lengthy temporal spans and/or wide geographical distances. Despite this reality, there is a temptation to connect the dots in a way that suggests or implies that later events followed seamlessly *from* earlier ones. Rather than revealing some insidious intent, this seems to be a natural inclination——perhaps even a cognitive predisposition and Cherry is right to call to call our attention to the misplaced use of teleological mechanisms as historical explanations. On the other hand, he may have misconstrued Dickinson's rationale for his characterization of the MH. Dickinson rightly describes much of the period as stagnant but to suggest, as Cherry does, that this projects a "gloomy" perspective resulting from "disappointed" expectations seems misplaced (Dickinson 1977, 107; Cherry 2017, 170). In fact, both in *Origins* and elsewhere Dickinson identifies a period in the late MH when, "The improvement in mainland prosperity forms the background for the appearance of the Shaft Graves." In addition, he credits Sofia Voutsaki and Jim Wright with suggesting credible mechanisms in the late MH that anticipate the social revolution attested by the shaft graves (Dickinson 1977, 107; 2014, 148-149; Voutsaki 2010a 107-108; Wright 2010, 814-815).

The transition to the Mycenaean era (MH III - LH I or Rutter's Middle Bronze Age C) has been a focus recent of Aegean scholarship. One approach to understanding this period is Rutter's three-tiered model describing relative levels of development for various sites. Kolonna stands alone on the top tier as attested by its expanded settlement, growing commercial reach, and economic success. The second tier sites include coastal Lerna and Asine, both attesting to meaningful domestic building projects during the period as well the presence of a variety of imported goods indicating some access to regional trade. Among the third tier sites is Tsoungiza, described by Rutter as a modest inland 'hamlet' and a site with a pattern of abandonment and reoccupation during the Early Bronze Age. Tsoungiza and similar communities typically had small populations (ca. 50±) whose residents eked out a subsistence living from small plots to raise grain supplemented by a few goats and sheep (2001, 130 -131). However, EH and MH evidence from these sites reflect a number of the pertinent social changes that appear to have contributed to the formation of early Mycenaean society. Inextricably tied to changes on the mainland are contemporary developments in the greater Aegean.

Although the direct archaeological evidence is meagre, the later MH period likely witnessed the transition from traditional longboat transport to the age of sail. A literal "sea change"——as sail-powered boats would have increased not just the potential for material commerce but a concurrent exchange of ideas as well. Together, the increased presence of exotic material goods, adoption of innovative technologies, and indications for foreign visitors, perhaps even colonists——all contributed to a reinvigorated and redirected mainland society. The cumulative effect of these changes would be most apparent in the LBA but sail very likely played an essential role in later MBA affairs.

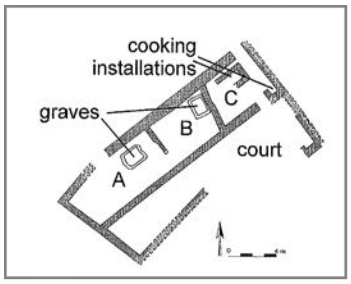
Corien Wiersma's research of EH III - LH I domestic dwellings has established a number of fundamental characteristics for mainland households (2017, 75-80). In summary, her findings suggest a widespread, but not exclusive, change from apsidal to rectangular dwellings along with a concurrent increase in both the external dimensions and interior divisions of domestic structures (Ibid., 76 Fig. 5.3). While the composite plan (a.) below, illustrating a small group of EH III Lerna IV, Phase 2 (early to late) structures, may not support all of Wiersma's observations, it does appear to indicate increasing complexity over time. Wiersma describes EH III dwellings as free standing and small (on average 40 m^2) suggesting settlements with little evidence for organizational planning (ibid., 75). Throughout MH I - II, however, there is an apparent increase in both "paved" streets and drains at Lerna, Kolonna, and Eutresis. The MH I trend for an increasing number of internal divisions continues in MH II and appears to indicate the partitioning of domestic activities. Wiersma also notes enclosure walls defining outdoor facilities——perhaps an early indication of property or ownership (ibid., 81).

a.



Lerna III Phase 2 Sequence
after Wiersma 2017, 77 Fig. 5.4
from Rutter 1995, Plan iv

b.



Krisa MH II House A
Wiersma 2010, Fig. 3
after Jannoray & Van Effenterre 1937, Fig. 3

Asine: Nordquist & Voutsaki

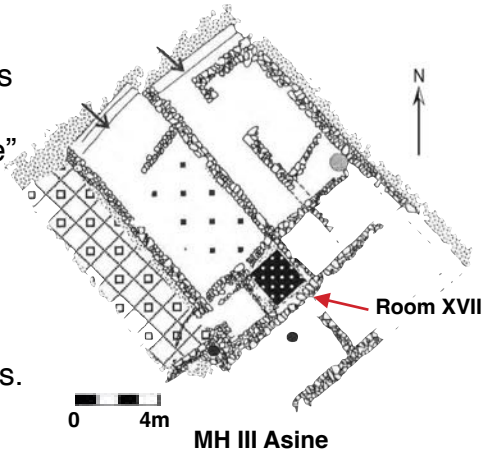
Sofia Voutsaki was a prime mover in the 5-year (2003 - 2008) *Middle Helladic Argolid Project*. The remains of ancient Asine——in particular the domestic and mortuary spheres, have been a focal point of her research. Although Gullög Nordquist's work at Asine described contrasts in various dwellings, prior to the late 20th century the general consensus was of an undifferentiated and unchanging MH (Nordquist 1987, 108-109; Voutsaki 2010b, 2). A series of rectilinear, free-standing structures on Terrace 3 in Asine's Lower Town——each well documented by Nordquist, suggest a different scenario. Among the dwellings also described by Voutsaki is House T——one of several structures on Terrace 3 connected by a narrow gravel path. The larger of its two rooms is partitioned, the smaller room abutting an external porch or courtyard. To judge from the layout and the location of various finds, similar domestic activities (eg. cooking and storage) took place in each of the rooms and thus there is little evidence for "compartmentalization." Voutsaki characterizes House T as a self-sufficient domestic residence (2010b, 6). The ceramic group shown below, recovered from House T, is



MH I Gray Minyan - Asine, House T
a. pedestal-footed cup,
b. two-handled bowl, c. cup, d. kantheros
Nafplion Archaeological Museum

representative of MH I Gray Minyan wares. Although not made at Asine, Gray Minyan vessels were likely produced at one of several mainland Argive potteries of unknown location (Nordquist 1987, 48). Decoration on these hand-made pots is typically restricted to incisions or grooves although some have matt-painted motifs. While House T is particularly well documented, Voutsaki refrains from characterizing the structure as "typical for the period" given the absence of contemporary dwellings with comparable documentation. Fortunately, the MH III - LH I period is better represented at Asine, and as Voutsaki shows, the evidence allows for meaningful temporal comparisons (2010b, 6-7).

Although the Lower Town's House D is significantly larger then House T (192 m^2 compared with 50 m^2), each of its three units, like the earlier dwelling, exhibits a 'megaron' plan——an axial, "combination of main room, a porch, and/or a room at the back of the house" (ibid., 9). Noting the functional repetition of various spaces (eg. for food preparation and storage) and separate entrances, Voutsaki concludes the structure was likely designed for and used by three related families. Perhaps of particular significance is the storage room XVII located at the juncture of the 3 units. Apparently accessible only by ladder from the roof, Voutsaki speculates that the room may have held stores in common for the House D complex, a suggestion that holds implications for social differentiation as discussed below (ibid., 9-12).



MH III Asine
Lower Town House D
after Voutsaki 2010a, 17 Fig. 3

The numerous ceramic vessels, sherds, and other artifacts, found in and around Asine's domestic dwellings, are essential to understanding the MH settlement. Nordquist's detailed inventories, based on excavations in the 1920s and 1970s, have enabled later researchers to analyze and interpret that data (1987). Voutsaki agrees with Nordquist's initial conclusion that despite the increased size and complexity of MH III dwellings, and aside from imported pottery, there is no apparent, "accumulation of wealth," within specific dwellings. However, there is a good deal of evidence for numerous, "manufactured or imported items," at various locations within the settlement. The broad distribution of these items, however, does not suggest any focal points for specialized craft workshops but rather, in Nordquist's words, that 'household industry' was practiced across the settlement (Voutsaki 2010b, 10-12). Nordquist itemizes twelve categories of 'small objects' (eg. bone objects, worked shells, bronze objects) comprising 433 artifacts (1987, 112-127). Along with the Gray Minyan illustrated above Nordquist catalogued similar but later Yellow Minyan (Argive Light Ware) vessels, some with matt-painted decoration. Imported ceramics included numbers of Aeginetan vessels and lesser quantities of Minoanizing lustrous decorated pottery (1987, 47-50). Although the

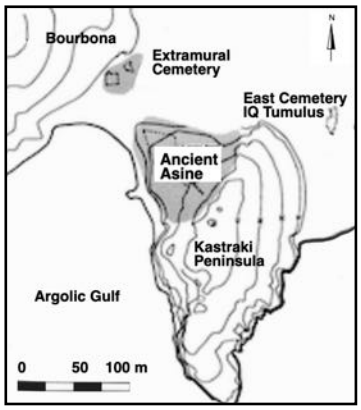
differences are subtle a careful analysis of structural details and material finds from Asine suggest at least a degree of social asymmetry. A primary focus of Voutsaki's work is the analysis and identification of, "differentiation and social change in the Middle Helladic." Understanding the details of the settlement's organization as well as the characteristics of individual dwellings, ceramics, and small finds, she argues, provides a basis to, "reconstruct social relations within communities [and] to document processes of change in the domestic sphere" (2010b, 3). Voutsaki argues that details of the Asine settlement indicate social differentiation during the MH period. As noted, what is not apparent at Asine are instances of accumulated wealth concentrated at specific locations. To the contrary, despite the increase in size and complexity of domestic dwellings from MH I to MH III, there is no evidence for such items as exotic jewelry or precious metals. In fact most of the small finds that have a high "use-value" such as manufactured and imported tools are widely distributed across the site and typically are not found in dwellings. This suggests to Voutsaki ongoing exchange between the settlement families, a practice that may, in fact, have worked to discourage wealth accumulation. However, in the later MH III period imported pottery is found in greater abundance in the larger dwellings. Voutsaki associates this with the potential for occupants of multi-household dwellings with relatively large common storage area to accrue a measure of economic advantage. As seen in House D, several nuclear families (kinship groups) likely shared agricultural stores. This arrangement, argues Voutsaki, may well have resulted in an economic advantage——one reflected in the abundance of imported pottery. This leads Voutsaki to conclude that, "kinship and family ties become a motor for social differentiation and asymmetry" (2010b, 11-13).

Mortuary Narratives

Voutsaki also documented differentiation in mortuary practices at Asine. During MH I - II intramural neonate burials were located in or between house ruins while adults were typically placed on the outskirts of the settlement. By late MH II some Asine families begin using an extramural burial ground——the East Cemetery and tumulus (2010c, 88 Table 5.1). During the same period a large intramural cemetery is used at Lerna. In her comparison of Lerna and Asine, Voutsaki notes the overall homogeneity of MH I - II mortuary practices with some exceptions noted between age categories (ibid., 87). Significantly, tomb embellishments and valuable grave goods——traditional measures of status, are not attested in the Argolid during MH I - II. This supports Voutsaki's contention that, "*the main organizational principle in the MH period was kin rather than status*"——a practice consistent with maintaining a close connection between the living and the dead (ibid., 92; emphasis, S. V.). At Lerna, in a repeated pattern, abandoned dwellings sites (later to be overbuilt) served as burial grounds (Milka 2010, 438-439).

The East Cemetery (EC), including the IQ Tumulus, at Asine represents a clear shift in mortuary practices. East of the Kastraki, on relatively flat terrain where no domestic dwellings are attested until the later Mycenaean period, interments seem to have been initiated late in the MH II and continued throughout the MH III - LH IA/LH II period (Voutsaki et al. 2011, 446-448). Radiocarbon dating confirms the EC is one of the earliest extramural cemeteries in the Argolid. The cemetery's perimeter (ca. 15 m in diameter) may have been bounded by a circular enclosure of small stones within which the tumulus (ca. 8 m in diameter) is defined by two, stone-capped circular areas, the upper somewhat intact, the lower in poor condition. Cist graves were located both inside and outside of the tumulus (ibid. 448-449). Voutsaki's analysis compares interments

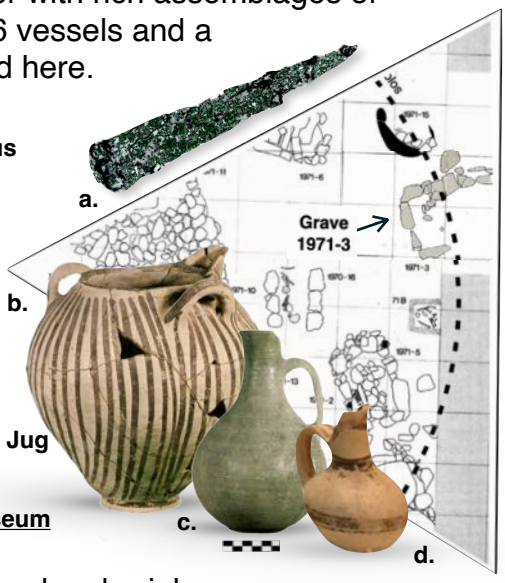
from three areas at Asine: Kastraki, Barbouna, and the EC. As compared with Kastraki, during the early phase of use, interments at EC use cists and pithoi rather than pits and jar burials. The contrasting practices increase during the later (MH III - LH I) phase when cist graves predominate in the EC——a number with rich assemblages of grave goods (including two gold objects).Three of 16 vessels and a dagger from the richest grave (1971-3) are illustrated here.



Asine after Nordquist, 1987

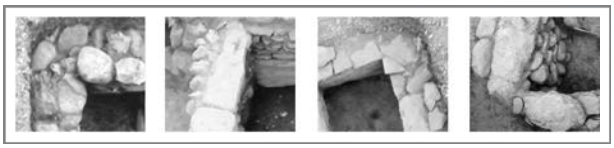
East Cemetery IQ Tumulus
a. Bronze Daggar
LH I - Grave 1971-3

b. Matt-painted, Bridge-spouted Jug
c. Wheel-made, Gray Minyan Jug
d. Matt-painted Jug
Dietz, 1975 162
Nafplion Archaeological Museum



The novel practices of reusing tombs as well as secondary burials were also introduced at Barbouna during this period (Voutsaki et al. 2011, 455). While the evidence recounted here is only a fraction of the total, it is representative of the characteristic domestic architectural and mortuary practices at Asine from the MH through the early LBA. Based on the totality of evidence Voutsaki makes the following points. Over time, an increasing structural complexity of domestic dwellings at Asine is accompanied by an elaboration of funerary practices. While there is a general temporal trend to these transitions, the change is not linear, either at Asine or across the Argolid. This, she argues, is a reflection of the instability caused by the essential social and cultural transitions occurring during the period. At Asine, indications of differentiation in the settlement's early period (MH I - III) are largely based on kinship ties among at least some family groups. However, with increasing frequency during the later phase (MH III - LH I), social asymmetry becomes a function of the relative abundance and display of material wealth within the increasingly complex sphere of mortuary practices. Underlying Voutsaki's interpretation of the later period is her conviction that, "conspicuous consumption at death had become a major social strategy for the *creation* of power and prestige" (ibid., 455). As she explains, traditional interpretations of mortuary practices treat tombs and grave goods as a *reflection* of social reality. Thus, the ostentatious display of multiple bronze weapons, gold adornments, and imported ceramics found in the Mycenaean Grave Circles is said to reflect the status (as measured by both the wealth and authority/power) of the interred. While this is no doubt correct, such recognition doesn't address Voutsaki's earlier question——"why and how did this group emerge from the MH background" (1999, 106). Voutsaki suggests that finding answers to these questions requires an understanding of, "the meaning of the new mortuary forms and practices." To this point, she views "mortuary ritual as *creating* rather than mirroring social reality, of shaping people's perception of the world and of their position in it" (1998, 44). While architectural and mortuary complexity are the outward manifestations of the transition, conflict plays a significant role in the outcome. In opposition are the two, "competing organizing principles," kinship with its internal differentiating mechanism and status——in which relative degrees of prominence are measured by wealth and power (ibid. 47).

Part of Voutsaki's analysis of changes in mortuary practices during the transition to the Mycenaean period is based on excavated findings from the North Cemetery at Ayios Vasileios in Laconia (Moutafi & Voutsaki 2016; Voutsaki 2016). Although the cemetery is adjacent to the recently discovered and notable palatial remains, Voutsaki's focus is on the earlier burials dating to the transitional period from the late MH to early LBA. As previously stated——during the late MH period interment practices in general moved from single, intramural pit burials to extramural cemeteries comprising both pit and cist tombs. Changes attested at Ayios Vasileios also suggest a "scaling up" trend——in this case as reflected by improvements in the quality of construction materials and masonry.



9 3 7(8) 21



cs

Cist Graves (9, 3, 7-8) Built Tomb (21), Cover Slabs (cs) - Ayios Vasileios
Sofia Voutsaki - From Ayios Stephanos to Ayios Vasileios
November 2016 - Aegean Lectures: Society For Aegean Prehistory

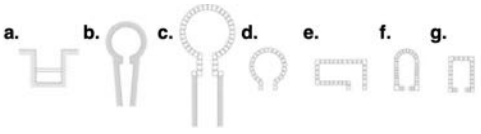
Three cist graves 9, 3, and (7)8 at Ayios Vasileios demonstrate increasing levels of effort and expertise in the treatment of individual stones, the joins, and the overall symmetry of the grave. Parts of grave (7)8, not apparent in the illustration, are enhanced with blue-tinted stone. Voutsaki points out that considerable time and effort was involved in gathering and transporting stones, many of considerable weight, from relatively distant locations (Voutsaki 2016). Grave 21 is the sole built tomb and employs a blocking wall similar to ones used at the entrance to later rock-cut chamber tombs. There are also indications that one area in the cemetery——a platform-like structure south of Grave 3 littered with numerous fragmented ceramics, may have been a gathering place for participants during mortuary rites. The cumulative evidence of these refinements reflect not only increasing attention to mortuary practices but also a centralized administrative presence capable of organizing the planning and use of the cemetery as well as the mobilization of personnel to complete the work. Other data derived from the physical evidence includes increasing numbers of secondary and adult burials (as compared to infant and child interments) and some slight increase in grave offerings (Moutafi & Voutsaki 2016, 4). The variety of mortuary practices at the North Cemetery suggests to the authors essential changes in the community members' perspective with regards to the death of at least some of their members. This variation may, in the co-authors' words, "inform us on the re-definition of social relations at death, or shifting notions of the self" (ibid., 1). Significantly, the physical evidence has prompted the researchers to ask and suggest answers to questions about the meaning, both social and psychological, implied by these changes. While the political context within which the transition to the LBA occurred is somewhat obscured by a lack of evidence the results of that transition are more firmly established.

It is generally agreed that during the period of transition numerous small, kinship/family groups competed for land, trade, and even allies to bolster their efforts to prevail in one region or another. It is likely that this process——at least at times, was both hostile and combative. Unfortunately, there is no direct evidence for these contests. As Dickinson points out, "it remains easier to see what happens over the long term than to explain it" (2014, 143). In summarizing the changes Voutsaki states, "the largely egalitarian, kin-based, materially austere and culturally introverted Middle Bronze Age (or Middle Helladic: MH) societies of the southern Greek mainland," are transformed, "into the competitive, expansionist, and cosmopolitan polities of the early Mycenaean (or Late

Bronze Age, Late Helladic: LH) period" (2012, 164; Table 7.1). Voutsaki argues that the archaeological evidence at Asine and Ayios Vasileios reflect the waning of the early MH kinship-based social organization rooted in traditional family priorities. Furthermore, the ensuing disruption engendered by the introduction of novel practices ultimately leads to the adoption of a competitive social order with prominence given to the display of wealth and authority. The timing of this period of disruption——the seedbed for the essential changes that lay just in the future was critical and as Voutsaki points out this coincided with, "the peak of Minoan power and of Minoan expansion in the Aegean" (1998, 46). Expanding trade, both from Crete and the Cyclades, "introduced onto the mainland the idea of differentiation by means of specialization and aesthetic elaboration in material culture," as well as the exotic products of this trade that provided a select group of mainlanders with, "a new mode of *creating* and expressing prestige" (ibid. 47; emphasis added). We cannot say exactly how this newly won prestige expressed itself in the daily lives of Mycenaeans, however Voutsaki——in concert with her earlier historical studies, focused on the material and social context of the mortuary realm——for example, the tholos tomb as an informative interpretive proxy. In brief, we know that at the time the winners were in place at Mycenae (LH IIIA late) the tradition of building tholoi for elite interments was limited to select palatial centers. Between MH III and LH II, however, the numbers of tholoi increased across much of the Peloponnese. In general, the grave goods placed in Messenian tholoi were noticeably less rich as compared to those in the Argolid——a trend that became increasingly asymmetrical (Voutsaki 1998, 53-55).

Perhaps most informative, however, are Mycenae's shaft graves. Both the tombs and their grave goods, explains Voutsaki, "signal the emergence of a social elite" (2012, 166). As a group, the most prominent aspect of the interments are the increasing numbers of highly valuable grave goods. Elaborating on the hypothesis that the consumption of exotic grave goods enhanced the status and reputation of the interred (see Asine above), Voutsaki suggests that the benefits of such acts may ultimately accrue to kin and clan members as well. "Conspicuous consumption at death," she proposes, "is a crucial attempt to contain the drift of meaning and value and to counteract the disintegration of personal identities—during the very process that dissolves persons into ancestors" (2012, 160). In part, this hypothesis rests on Voutsaki's analysis of value *vis-a-vis* the objects of gift exchange and their conspicuous consumption. Inspired by Malinowski's foundational work and the concept of *kula* (1922), measures of material value were traditionally seen as a function of movement within gift exchange networks together with consumption——for example, the interment of grave goods with the recently deceased. With regards to value——the former are transitory, the latter fixed. However, as Voutsaki points out, while *destruction* in the context of a potlatch ceremony is total, Shaft Grave *depositions* with the interred established a context where, "mourners can retain a symbolic "ownership" of the goods, even while seemingly giving them away, sacrificing them, and denying their materiality" (Voutsaki 2012, 161). Over time, the ancestral relationships impart value among kith and kin. Although there seem to be clear risks to inferring details of how individuals perceived such transformations, there can be little debate about the significant changes in mainland mortuary practices during the MH III - LH I period. See *Mycenaean I* for details of Shaft Grave Circles A and B.

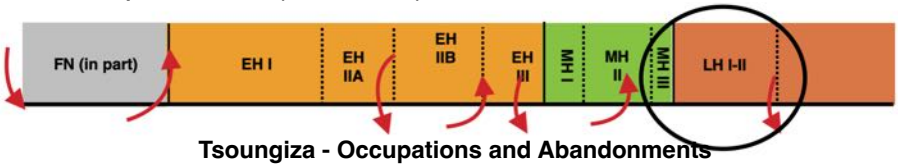
Tomb Types: MH III - LH IIA
Papadimitriou 2016, Fig. 1



a. shaft grave
b. rock-cut chamber tomb
c. tholos
d. tholos-like tomb
e. - g. built chamber tombs

Return to Tsoungiza

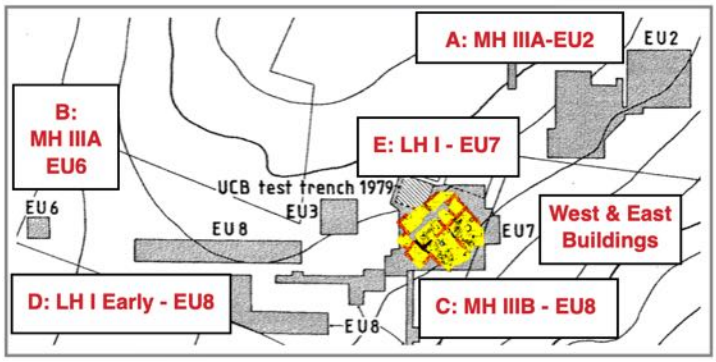
Tsoungiza provides additional, albeit indirect, evidence of the transition to Mycenaean culture. After being abandoned in the EH II period Tsoungiza was occupied during the brief EH III period, abandoned, and then reoccupied early in MH III and remained so through LH II. Limited overbuilding following its final occupation permitted excavators to obtain significant evidence associated with a non-elite community peripheral to Mycenae during the shaft grave era (Rutter 2015, 207). Although structural evidence was scarce, the remains of the similar West and East Buildings (the latter apparently a replacement for the former) at EU 7, provided substantial amounts of pottery—including both whole and restorable pots. However, even more ceramic evidence, albeit largely fragmented sherds, came from a number of homogeneous surface scatters and pit deposits. Significantly, detailed collecting regimes by the excavators provided a record of precise find spots for each of the numerous sherds and thus enabled subsequent evaluations and interpretations (ibid., 209).



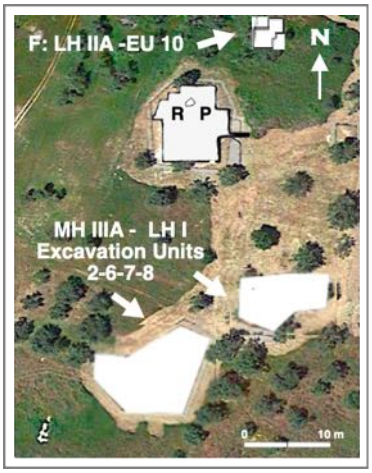
Tsoungiza - Occupations and Abandonments

Rutter's analysis of six ceramic groups (A - F) display "four discrete phases," MH IIIA, MH IIIB, LH I, and LH IIA. Notable differences in fabrics, shapes, decorative motifs, paints, as well as production methods and origins reflect a variety of suppliers and ceramic preferences (ibid, 207). Generalized ceramic categories attested at Tsoungiza include table wares, cook wares, and a small number of pithoi. In addition to the imported vessels, the absence of evidence for a kiln or ceramic practice pieces suggests "local" pottery came from a neighboring settlement whose location is unknown (ibid., 209). More specifically, Rutter's ceramic groups A and B (MH IIIA) comprise a variety of course, hand-made drinking vessels——for the most part produced locally. Changes in the sherd composition for group C (MH IIIB) are few but do reflect increasing numbers of smaller drinking vessels along with two Minoan-type, wheel-thrown cups with lustrous decoration, likely from Crete itself or Kythera (ibid., 210).

Tsoungizan Surprises - Jeremy B. Rutter 2013
ATHENS OPEN MEETING - ASCSA
Tsoungiza Ceramics MH IIIA - LH IIA



Tsoungiza Ceramic Evidence MH IIIA - LH I
Pottery Group - Period - Excavation Unit

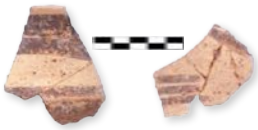


LH I brings major changes——both among locally crafted pots but more significantly imported wares. Local, plain and matt-painted vessels are now produced in finer fabric, new shapes, and greater variety. Nearly all large cookware is imported from Aegina although smaller versions of similar shapes for storage were now produced locally.

Most noticeable, however, across the LH I horizon (D, E) is the exponential increase in imported ceramics. As Rutter explains, the Tsoungiza community is, “suddenly given access to an astonishingly different array of ceramic containers . . . abundantly represented by Group D and some of Group E” (ibid., 213). Sources include Aegina, Kythera (or coastal Laconia), Northern Corinthia, Boeotia, and the Cyclades. In addition to cookware, Aegina——whose exports comprise the largest group of non-local pottery, also contributed goblets and kraters. In general, the smaller shapes were imported from the relatively more distant locales mentioned above. Each of these imports finds counterparts in the contemporary Grave Circle B (GCB) interments at Mycenae (see representative examples below). Significantly, the early LH I trend indicating diverse sources for Tsoungiza’s pottery seems to have been curtailed rather abruptly sometime in the latter part of LH I (ibid., 221). Subsequently, by LH IIA all imported pottery is either from Aegina or a mainland source (perhaps Berbati) producing lustrous decorated Mycenaean wares——likely under the authority of Mycenaean elite. Rutter hypothesizes that the changes in ceramics reflect the gradual development and consolidation of a mainland pottery——with Mycenae ultimately in control of both production and distribution (ibid., 221-222).

Illustrations: Tsoungiza & GCB
Tsoungizan Surprises - Jeremy B. Rutter 2013
Archaeological Museum of Mycenae
Archaeological Museum of Nemea

A & B: MH IIIA - EU 2,6



local, course fabric / all handmade tablewares matt-painted, linear motifs two handled: goblets & kantheroi

small jugs & jars
Miniature Jug - EU2
Rutter 1990, Pl 70-22







Pedestal Foot Goblet (GCB Ξ)
Miniature Kantheros (GCB A)

C: MH IIIB - EU 7

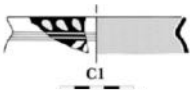




local / handmade, absent matt-paint
jugs & jars
kraters and goblets crudely incised



Goblet - EU 7



Minoan inspired
wheel-made, lustrous decorated
Semiglobular Cup - EU7
Rutter 2015, 212 C1

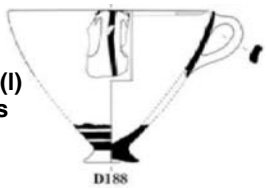
Lerna import



D: LH I Early - EU 8 - refuse from West Bldg.?
E: LH I - EU 7 - 27 complete / fully restorable pots from West Bldg. and later East Bldg.



Straight-sided (l)
Panel (r) Cups



Minoan inspired but local, hand-crafted fine plain or matt-painted one-handled cups
Rutter 2015, 212

Vapheio Cup (GCB Γ)



Panel Cup (GCB Γ)



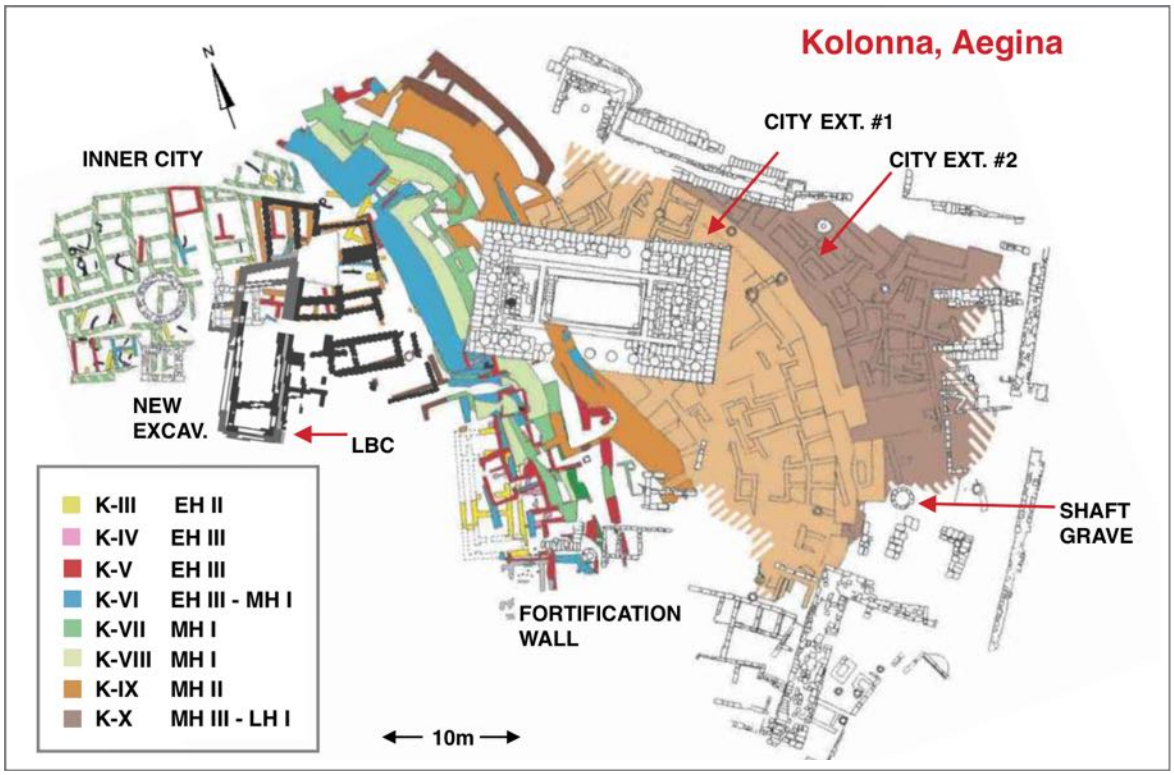
Kantheros
Dipper

plain (pale burnished) tablewares: also Goblets after display
Archaeological Museum of Nemea

much imported pottery by LH I with cooking vessels nearly all imported from Aegina



Wide-mouthed Cookware - EU7
Archaeological Museum of Nemea

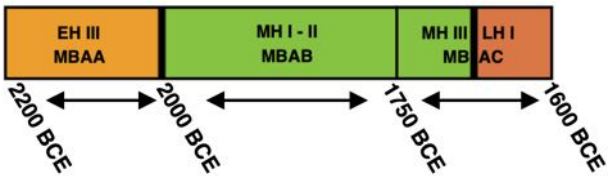


Kolonna Composite Plan Detail
after Berger & Gauss 2016, 211, Fig. 1.
and Gauss & Smetana 2010, 172 Fig. 1.

Prevailing in the Middle

The archaeological record of Kolonna, spanning the five centuries of Rutter's "Middle Bronze Age: A, B, C" (EH III - LH I), attests to a degree of continuity and growth of a different order than contemporary mainland sites (2017, 27). This success may be due to the community's ability to define an economic niche that successfully integrated its own needs within the growing prominence and reach of Minoan Crete. Although Aegina experienced a number of disasters during the EH II - III period, Kolonna settlements VI - X (MH - LH I) were afforded a unique degree of protection by the community's fortification system. While early MBA fortifications are known from Samos in the eastern Aegean and at Ayia Irini on Kea, the Kolonna defenses received significant enhancements and additions during the early 2nd millennium and are considered without parallel in the Aegean (Gauss 2018, 52; see also 235-239). Following the redesign and strengthening of bastions and gates during Kolonna phases VII and VIII, Kolonna IX defenses were significantly enhanced by the addition of an entirely new wall protecting an eastward expansion of the settlement (City Ext. #1 above). This afforded the Inner City three separate lines of defense (Gauss 2018, 52). Significantly, the MH II Kolonna IX settlement is contemporary with the emergence of Minoan palatial authority. Thus, at the very time Minoan Crete was establishing its primacy in the Aegean, Kolonna was redoubling its own efforts to provide for the settlement's defense. Concurrently, while potters on Aegina were skillfully applying Minoan ceramic techniques to replicate a number of Cretan vessels they were also producing Aegina's own "branded" ceramics ("Gold Mica Fabric") for export——an enterprise underpinning the community's commercial success. Ultimately, the archaeological record of MH Aegina suggests a hybrid culture——one whose dual cultural elements are apparent, albeit the balance of political authority on Aegina is far from certain.

Much of Aegina's MBA Minoan character is associated with the Large Building Complex (LBC). Construction of this "mansion-like" (33 x 8 m) structure was begun in late MH I and for much the subsequent five centuries the LBC's monumentality was unequalled on the mainland. Large limestone blocks supported the building's massive walls that in LBC's mature phase included Minoan-type ashlar masonry. A series of excavations carried out during the twentieth century mention the LBC but often as an adjunct to other Kolonna structures (Gauss et al. 2011, 76). Nevertheless, by the 1990s both Rutter and Niemeier had called attention to the unique aspects of Kolonna and the site's preeminence among mainland settlements (Rutter 2001, 126-130; Niemeier 1995, 74-76). During the first decade of the 21st century excavations at Kolonna confirmed the significance of the LBC (Gauss et al. 2011, 76-78). Numerous finds associated with the LBC reinforce the Cretan-Aeginetan connection. In addition to Barbara Niemeier's earlier recognition of an ashlar block inscribed with a double-axe mason's mark, Minoan finds include stone vases, a loom weight, a ceremonial stone hammer, and jewelry (Niemeier 1995, 80; Hiller 1993, 199). Forstenpointner's analysis of bioarchaeological material provides another layer of evidence (2010, 734-736). Typical field crops (wheat, barley, and pulses) were present as well as evidence for grapes, figs, and olives. Along with domestic livestock (mainly sheep and goats but some cattle), excavators collected the remains of an interesting mix of game animals including red deer, wild boar, possibly aurochs, and most surprisingly the leg bone a lion (736-738). While the researchers question the provenance of the deer and lion (Aegina's size seems inappropriate for these species) they are certain the game animals were destined for the table. Given the context——the monumental residence of what must have been a high ranking group (family?), an unavoidable, if speculative, scenario emerges——a privileged Minoanized elite feasting on venison and boar, the cherished prizes of their successful hunt. While uncertainties remain, Forstenpointner declares, "one aspect is clear: interpretation of these finds has to be carried out in terms of prestige and the activities of an elite, because noble game belongs to noble men" (ibid., 739).



Periodization: Wace and Blegen 1918; Blegen 1921
Periodization: Rutter 2017, 17 Table 2.1 (Groningen Oct. 2013)



Gold Pendant
Kolonna, Aegina
MET Museum

Viewed from Aegina, EH III or Rutter's "Middle Bronze Age A," is a significant point of divergence. At the time much of mainland Greece is entering a period of stagnation, Kolonna is marshaling a variety of resources that will ultimately lift the community to a place of prominence in the Aegean surpassed only by Minoan Crete. Towards the end of the EBA the Aeginetans had consolidated their domestic dwellings is a series of "insulae" behind the settlement's first substantial line of fortification. To judge from the subsequent destruction, the defensive concerns were well justified. Within the debris layers of Kolonna V excavators recovered a substantial hoard of jewelry (Felten 2020). Included in the cache were finely worked, miniature silver and gold pieces, beaded necklaces strung on silver wire, as well as semiprecious carnelian and rock crystal. The presence of this treasure at Kolonna speaks not only to significant wealth and privilege at an early date but also to the occupants access to a trade networks providing exotic materials from as as far away as Mesopotamia and perhaps even the Indus Valley (Reinholdt 2003, 260).

By the MH II period Aegina's connections with the dominant and wealthy Minoan culture seem clear. In fact, the totality of evidence suggests a case for Minoan colonists at Kolonna——perhaps solely as visiting artisans but, given the finds associated with the LBC, it seems more than likely that a small group of well heeled elite Minoans were in residence as well. Strengthening this conjecture is the Kolonna IX shaft grave burial——a luxurious internment that foreshadows elite warrior burials at Mycenae (Kilian-Dirlmeier 1997). The placement of the tomb, abutting a fortification wall and adjacent to one of the gates seems deliberate and although the monument lacks the deep shaft typical of Grave Circles A and B at Mycenae, the occupant——a young adult male, was honored in death with an abundance of gold trappings and bronze weapons. Additional grave gifts of Minoan and Cycladic ceramic vessels are indicative of contemporary Aeginetan ties (Rutter and Gonzalez-Major 2011 - 2013).



Kolonna IX - Shaft Grave
Minoan Kamares & Cycladic Matt-painted Wares
Boar's Tusks, Type A Sword, Dagger, Spear Point
after Kilian-Dirlmeier 1997
Foundation Hellenic World

A third deposit of wealth, the Aegina Treasure, is both the richest and the most mysterious. In a tale involving sponge merchants, smuggling, and not surprisingly the British Museum——the hoard of exquisite gold and lapis rings, necklaces of cornelian, jasper, and gold, and elaborate earrings worked in gold, was sold to the British Museum at the end of the nineteenth century. Despite the seller's statement that the treasure had been dug up on Aegina, the extraordinary craftsmanship and diverse iconography initially led scholars to suggest a diversity of dates and origins——including Crete. In any case the extensive settlement of Kolonna was unknown throughout the first half of the 20th century (Fitton 2009). At mid-century there was no consensus on either the origins or the dating of the Aegina Treasure (Higgins, 1957). Recent revelations on Aegina including the monumental LBC residence of a Minoan or Minoanizing elite, the Kolonna IX shaft grave, and the Kolonna V hoard have led a number of scholars to contend that many of the items could well have been crafted at Kolonna (Hiller 2009). Along with an Aegean provenance, the iconography of the Aegina Treasure also suggests Egyptian, Anatolian, and Near Eastern origins. For example Kelder describes the gold ring with lapis lazuli inlay as styled after an Egyptian reef knot but crafted in an Aegean manner (2018, 49). No doubt the final word on the Aegean Treasure has not been written. However, the apparently varied chronology of the individual pieces suggest the treasure (at least for now) is ill-suited as useful evidence for the early history of Kolonna.

MH I - II Aegina Treasure
necklace of carnelian, lapis, & gold
breast ornament, ear jewelry
bracelet, and ring (x2)
Trustees of British Museum

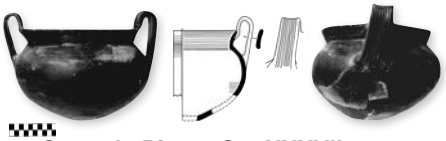


On the other hand, the variety of ceramics recovered during the LBC excavations are especially informative. During the Middle Bronze Age (Kolonna VI - Kolonna X settlements) the ceramic diversity includes clear evidence of stylistic and technical influences from the mainland, the Cyclades, and from Crete. This is best attested by the adoption of innovative shapes and decorative motifs for locally made wares but often by the imported pots as well. In the case of Minoan ceramics, Aeginetan potters skillfully replicated a number of Cretan wares using local clays. While the Minoan copies are wheel-made, local Aeginetan ceramics continue to be handmade in the traditional manner and are nearly always incised with distinctive potters' marks before firing.

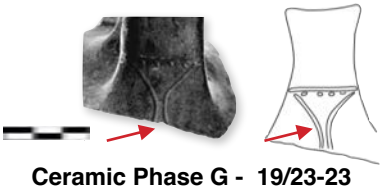
	MH I				MH II	MH III	LH I
Kolonna Stages	VI	VII	VIII	VIIIA	IX	X	X
Ceramic Phases	G	G	H	H	I	J	K
Local Innovations	*+Gray Minyan (loc. & imp.) Bass bowls & kantheroi potters' marks*		*matt-painted linear motifs red-colored solid & burn. Cycladic/Minoan imitations*		*Minoan copies matt-painted curvilinear*		*polychrome painted*
Initial Import	*Lustrous Decorated Mainland matt-painted Cycladic*		*Minoan*				*mainland polychrome Lustrous Decoraterd*

Kolonna Ceramic Landmarks: Chronology, Local Phases VI-X, Ceramic Phases G-K
Gauss and Smetana 2007a, 452 Fig. 2

Ceramic phase G is characterized by a greater number of Gray Minyan Bass bowls, both imported and Aeginetan-made. Locally crafted pots are often slipped, highly burnished, and decorated with incised grooves on the neck and/or handles. Also notable for the period is the initial use of potters' marks——a practice that becomes a characteristic feature of Aeginetan-made wares. Phase G ceramics also include small numbers of imported matt-painted (mainland) and Lustrous Decorated (Minoanizing) vessels. Significantly, in subsequent periods, Aeginetan potters produced large numbers of matt-painted vessels for local use——but also as a major component of Kolonna's export industry (Gauss and Smetana 2007b, 60-61).



Ceramic Phase G - XXXVII-1
Kantharos matt-painted with grooves
Walter and Felten 1981, 175 cat. 442; pl. 121, 442



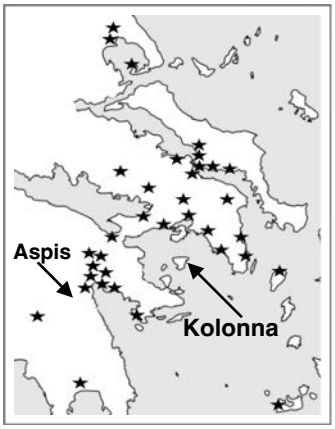
Ceramic Phase G - 19/23-23
Bass Bowl Handle with Potter's Mark
Gauss and Smetana 2007a,468 Fig. 15, 4

In his comprehensive review of the pre-Mycenaean Bronze Age Rutter describes four areas of research that had proved especially fruitful during the final decades of the twentieth century. Along with evidence from Lerna, Asine, and Tsoungiza, Rutter highlights finds associated with Kolonna——both on Aegina itself but also the widespread evidence of Kolonna's ceramic exports (2001, 126-130). Carol Zerner's work at Lerna V strengthened the case for the expansive distribution of both Aeginetan matt-painted pottery as well as storage and cooking vessels (1986).[11] By Ceramic phase H locally produced examples of matt-painted wares, along with red slipped and burnished bowls, are attested from Kolonna VIII settlement levels. Concurrently Minoan imports are found at Kolonna and at least one locally produced shape (handless cup) exhibits either Cycladic or Minoan influence (Gauss and Smetana 2007b, 61-63; 66).

* As their names imply matt-paint (manganese-based) is distinguished from lustrous paint (iron-based) by their relative degree of shine or gloss.

11. Also significant are Zerner's parallel analysis and description of Lustrous Decorated pottery, the Minoanized ceramics thought to be from Kythera and essential to the development of Mycenaean wares.

The map at right illustrates a number of the known find spots (as of the late 20th century) for Aeginetan pottery. A detailed assessment of a single site, Aspis in Argos, was published by Anna Philippa-Touchais. Motivated by suggestions that imports from Kolonna comprised as much as 40 percent of the matt-painted pottery at Lerna V and 19 percent of the same wares recovered at the Barbouna Hill in Asine, Phillipa-Touchis and Gilles Touchis reaccessed previously collected pottery from the Aspis site (Phillipa-Touchis 2007; Zerner et al. 1993; Nordquist 1987). Although earlier collecting and archival methods prevented precisely quantifiable results, a large enough sample of the pottery was available to indicate the significance of Aeginetan pottery for the MH settlements at Aspis. In general, Kolonna exports were relatively more common in the earliest (MH I - II) of three occupational phases at Aspis. Based on one group of catalogued sherds Phillipa-Touchis suggests, "that Aeginetan comprise about 35 to 40 percent of the total matt-painted pottery" with bowls, narrow-necked jars, and barrel jars the more common imports (Phillipa-Touchis 2007, 99). The researchers also thought it likely that most kantheroi crafted from fine clays were of Aeginetan origin (ibid., 103). A number of ceramic characteristics can be used to confirm the Aeginetan origin of sherds and pots. These include golden mica inclusions in the clay, potter's marks, vessel shape, and decorative motifs.



Kolonna Pottery Find Spots
MH III - LH I
after Rutter, 1993



Kolonna - Various Phase H Kantheroi
Matt-painted Rectilinear Motifs in Bands
Black Slipped & Burnished
Unpainted & Burnished
Archaeological Museum of Aegina



Matt-Painted Barrel Jar Sherds from Apis
Illustrations (partial) of Aeginetan Barrel Jars
Philippa-Touchis 2007, 107 Pl. 10
Archaeological Museum of Aegina



Aeginetan Matt-Painted Kantharos
Aphrodision of Argos - Daux 1968, 1037, fig. 31.
Apis Sherd
Philippa-Touchis 2007, 104 Pl. 7



Large Bowl & Pedestal-footed Bowl
Aspis Phase III (MH I - II) Aeginetan-made
Philippa-Touchis 2007, 100 Plts. 1, 2



Red Bowl XXVII-38
Solidly Painted,Carinated Rim
Lindblom et al. 2012, Fig. 4



Red Bowl XXVII-35
Solidly Painted, Incurved Rim, Λ Lugs
Lindblom et al. 2012, Fig. 4

A diversity of potting traditions are represented during Ceramic Phase I (MH II) at Kolonna. The island's hand-crafted, matt-painted wares are enriched with a variety of new shapes and decorative motifs including one handled cups and carinated kantheroi——often decorated with novel curvilinear motifs. Footed goblets and kantheroi enhance the locally made Gray Minyan ceramics——pottery that continues to be hand-made on Aegina while elsewhere it is wheel-made. Additionally, vessels from both Crete and the Cyclades are imported during Ceramic Phase I. Alongside, but seeming isolated from, the diverse productions of Aeginetan potters is the presence of either Minoan or Minoan-trained craft workers using the potter's wheel to create Cretan-type ceramics. The material finds of these Minoanized products are largely associated with the LBC and thus with the elite residents of the monumental structure (Gauss and Smetana 2007b, 63-65).



Matt-painted Beaked Jug
Gauss and Smetna 2007b, Fig. 6 XXXV-3
Lindblom et al. 2015, 230 Fig. 4



Matt-painted Carinated One-handled Cups
Gauss and Smetna 2007b, Fig. 6 XXXV-8; Fig. 7 12a /11-6
Archaeological Museum of Aegina



Gray Minyan Footed Goblet
Gauss and Smetna 2007b, Fig. 6 XXXV-4
© SIEM 2000

In his discussion of the relative degrees of adoption of Minoan ceramic traditions on Kythera, Aegina, and in the Argolid, Lindblom characterizes Minoanized pottery on Aegina as represented by a limited number of shapes present during a relatively short period——and notably, a tradition ultimately rejected by the Aeginetans (2012, 228-232). While it is clear that local clays were employed to produce limited numbers of Minoan-type, wheel-made vessels during MH II period, neither "Minoan" or Aeginetan potteries seem to have been influenced by the other.



Cycladic (Kea) Footed Goblet
Slipped & Burnished Solid Red
Gauss and Smetna 2007b, Fig. 6, XXXV-10
© SIEM 2000



a.

Aeginetan wheel-made Minoanized Pottery
a. Cup with Flaring Rim - Q3/90-6
b. Rounded One-handled Cup - Q6/42-11
c. Handleless Straight-sided Conical Cup - Q3/90-11
Lindblom et al. 2015, 230 Fig. 4



b. **c.**



Minoan Jug Solid Red Paint
Gauss 2011, Fig. 8 Q3 /181-5
© SIEM 2000

The final MBA period and Ceramic Phase J (MH III) is sparsely documented at Kolonna. An increased use of curvilinear, matt-painted motifs is evident and includes S-hooks (new), circular patterns, garlands, and wavy bands while spiral patterns, common on the mainland, are scarce on Aegina. Panel cups, local and imported (Cyclades), are first attested in Kolonna X levels. Examples of these and other Aeginetan vessels—— including a number from Ceramic Phase I, were recovered from the elite Grave Circle burials at Mycenae (Gauss and Smetana 2007b, 65).



Aeginetan Stamnos, Hydria, and Panelled Cup
Mycenae Grave Circle B
Nat'l. Arch. Mus. & Archaeological Museum of Mycenae

Various MH III Sherds
Ceramic Phase J
Archaeological Museum of Aegina



Aeginetan Stamnos
Asine Lower Town
Archaeological Museum of Nafplion

If the 1876 announcement by Heinrich Schliemann of his spectacular finds at Mycenae was the big bang of Aegean prehistory, the culture represented by the material and human remains of the shaft graves was itself unanticipated. The interments record the growth and establishment of a warrior culture of extraordinary wealth and undoubted authority, perhaps within a single century (Dickinson 1977, 50). What Alan Wace termed the 'Shaft Grave Dynasty' seems to have materialized rapidly and in a manner not fully understood (1921, 248). However, as we have seen, the reputed stagnation of the MH period is a generalization that seems less tenable in the face of recent evidence. Mainland sites and mortuary findings during the last half century have confirmed significant cultural changes——albeit often unevenly distributed and with decidedly regional characteristics. Nevertheless, even rural hamlets in isolated areas such as Tsoungiza in the Nemea Valley attest indirectly to changes mediated by developments of a regional nature. At Asine, a slightly larger and better connected coastal settlement, at least one segment of its population seems to taken advantage of familial and generational cohesiveness to improve their material well being. A number of individuals at Kolonna clearly enjoyed an even greater degree of success.

Yet despite the abundant physical evidence from Aegina's MH period, essential aspects of Kolonna's narrative remain frustratingly unanswered. We cannot say with certainty to what degree, if any, the physical presence of Minoans accounts for the preeminence of Aegina during the Middle Bronze Age. It can hardly be a coincidence that construction of the LBC was initiated at the same time the first palaces were built on Crete. Nor is it possible to ignore the numerous Minoan and Minoanized material finds associated with the LBC. However, Kolonna's early rise to prominence in the archaeological record predates the events of the MH. During the EH Kolonna's The andesite trade, its participation in the advances of the corridor house era, and the early history of its

fortifications all suggest generation after generation with the will and the wherewithal to establish and maintain its community as something other than average (Rom 2013, 47). Even at the time when Minoan influence seems most prominent Aeginetan potters relied on native wares to assure their commercial success and economic well being. And despite the sense that the aforementioned banquet of boar and venison may have taken place among Minoan trappings the feast itself, including the spectacular remains of a lion hunt, are clearly more at home on the mainland.

Keeping in mind Cherry's caution that recitations of historical antecedents should not necessarily be taken as causative (see 240), Kolonna X settlements (MH III - LH I) are contemporary with the Shaft Grave interments at Mycenae. Ultimately the Mycenaean rise to prominence would be reflected on Aegina. However, even during LH I (Kolonna's Ceramic Phase K) Aeginetan potters continue to innovate and export their wares. Mainland polychrome is first attested on Aegina during LH I and soon thereafter Aeginetan's bichrome painted pottery is produced for both local use and export. Vapheio cups and teacups, representative of Minoan/Mycenaean Lustrous Decorated (LD) pottery, are also recorded on Aegina at this time. Small numbers of LD vessels are attested on the mainland early in the MH and represent the vanguard of a ceramic assemblage that would dominate the Aegean LBA and constitute no small part of the Mycenaean economic engine (Gauss and Smetna 2007b, 65-66). While significant questions posed by the Mycenaean ascendancy remain unanswered, LD and Aeginetan ceramics provide important contemporary evidence bearing on the transition to Mycenaean. One focus of pertinent research is a pair of LH I shaft graves——not at Mycenae but at Lerna. Michael Lindblom has been charged with publishing *Lerna VI*, and although this is a work in progress Lindblom's preliminary findings notably feature pottery crafted on Aegina (2007; 2015).

Lernian Memories

Lerna's two shaft graves, lying in strata above the remains of the northeastern section of the House of Tiles, were excavated by Caskey's team in 1954 and 1955 respectively. While it was soon realized that the original interments had been removed, the significance of "great quantities of shattered but very fine pottery [found] in the filling above the grave," was acknowledged by Caskey who suggested these were— "remains of funeral offerings" (1955, 33). Subsequent analyses of the fill from the shaft graves (SG I, SG II), notably abundant and homogeneous, provide a unique body of evidence including at least 15,000 fragments——largely LH I fine painted Aeginetan wares and LD ceramics (Lindblom 2007, 115-119). Lindblom's reconstruction of the deposition suggests a single LH III event consisting of the removal of the human remains followed closely by an infilling of the shafts with sherds and animal bones from the original, LH I interments. Joins were regularly found between fragments from different graves leading Lindblom to consider the fill a unitary deposit (ibid., 117-119). Comparisons with contemporary pottery assemblages reinforce the unique aspects of the deposition. While typical Aeginetan exports (for example at Asine) are mostly unpainted and unburnished kitchen wares, finely painted Aegina pottery is abundant in the Lerna shaft graves fill while LD ceramics are eight times as common as at contemporary sites where they are considered no more than a novelty (ibid., 119-120). Martha Wiencke, reflecting on the presence of two partial kylikes sequestered in a niche during the LH III redeposition, recalled another unusual interment at Lerna——a horse burial accompanied by similar vessels. Evidence from SG 2 suggested to Wiencke, "some intentional ceremony," and likely one representing, "a suitable rite in honor of the dead," (1998, 201).

Lerna LH I - SG I, SG 2 Ceramics & Comparanda

Mainland Polychrome

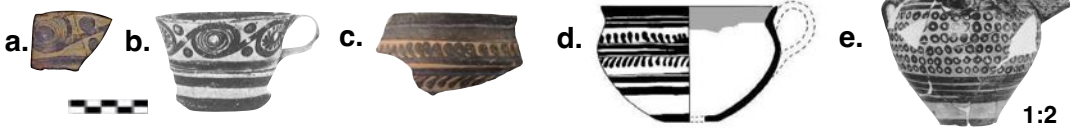


Vessels From Original Interment in SG 2
LH I - Semiglobular Cup & Vapheio Cup
Michael Lindblom - Uppsala University



Shaft Grave 2
Lerna VI - LH I
photo by author

Mycenaean Lustrous Decorated: largely D on L; many fewer L on D burnished



a. Lerna Sherd - Lindblom et al. 2012, 234 Fig. 7 - P309
b. Thera Vapheio Cup (4216) Marthari 1993, Pl. 31 b.
c. Lerna Sherd - Lindblom et al. 2012, 234 Fig. 7 - P358
d. Lerna Semiglobular Cup - Lindblom 2007, 121, Fig. 6
e. Lerna Hole-mouthed Jar - Caskey 1955, Pl. 16 c.
f. d. Lerna Illustration - Lindblom 2007, 121, Fig. 6



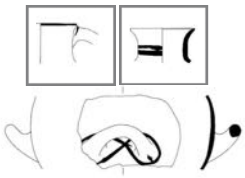
Aeginetan



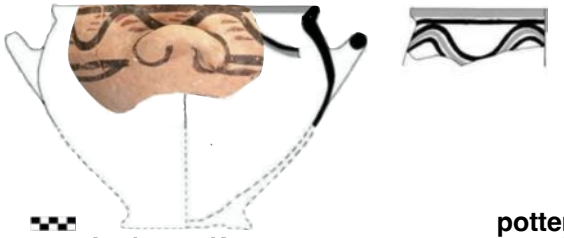
Aeginetan Wide-mouthed Cooking Jars
unpainted medium tempered
Klebinder-Gauß & Gauß 2015, 72 Fig. 6



Aeginetan Hydria
National Archaeological Museum



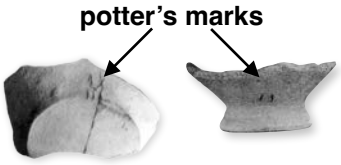
Narrow-necked Jar Variations
matt-painted
Lindblom 2007, 129 Fig. 12



Aeginetan Krater
bichrome matt-painted
Lindblom 2007, Fig. 14



Aeginetan Low-stemmed Goblet - SG2
red-slipped & burnished
Caskey 1957, Pl. 39 h.



Caskey 1955, Pl.15 d. & f.

Approximate Percentage By Class of Total Ceramic Deposition for Lerna SI and S2

Mycenaean Lustrous Decorated	**9.0 %**
Aeginetan Matt-painted (plain)	**16.5 %**
Aeginetan Bichrome	**13.5 %**
Aeginetan Painted & Burnished	**11 %**
Aeginetan Cookware	**14.0 %**

Lindblom 2007, 122 Fig. 7

A MH Koine?

Philippa-Touchais has noted that the distribution of MH Aeginetan pottery not only attests to an expansive commercial trade network, it also suggests, "the existence of a *network of common references*" (her emphasis). As the vessels represented by the sherds in the Lerna Shaft Graves' fill exhibit——Aeginetan forms dominate the ceramic wares. While the exact details of what this assemblage meant or symbolized for the users may not be recoverable, their recognition and familiarity must have represented, in Philippa-Touchais' words, "an ideological coherence, a sort of MH 'koine' " (2007, 112). Lindblom, like Wiencke, sees the specific evidence from the Lerna shaft grave fill as representing a feasting ritual honoring the interred. Given the numbers of vessels, Lindblom estimates several hundred to as many as one thousand participants may have taken part in the celebration. Furthermore, this is not an isolated incident as similar, if less grand, scenarios have been identified——for example by Gullög Nordquist at Asine and Tsoungiza (Lindblom 2007, 125-126; Nordquist 2002, 119-135). While acknowledging the complexity of assigning values to material remains, Lindblom concludes, "The importance and long history of hospitality, and of the ability to provide for guests, can be tentatively suggested on the basis of funeral assemblages and floor deposits" (ibid.). This theme is a prominent one in recent archaeological publications and is treated in detail in the following section.

Although Kolonna's influence and prosperity wane with the ascendency of Mycenae, Klebinder-Gauß and Gauß draw an interesting set of parallels between the Kolonna communities of the Bronze Age and the Archaic-Classical (A-C) periods. Despite Aegina's lack of natural resources (eg. no water and little soil) and generally inhospitable climate, the islanders of both periods created enviable economies based largely on mercantile trade (2015, 70-73). Interestingly, local pottery production played a key role in each of the communities. However, the number and variety of exotic archaeological finds as well as the widespread distribution of BA Aeginetan pottery and A-C coinage suggest Aegina's success derived in part from the islanders acting as middlemen for a wide variety of regional trade enabled by an established maritime network (ibid. 73-75; 79-81). In any case, Kolonna's BA economy was ultimately marginalized by Mycenaean growth while the late 5th century BCE rise of the Athenian empire curtailed Kolonna's later successes (ibid., 77; 82).



Longboats
Strofilas, Andros
Final Neolithic



Longboat
Orchomenos, Boeotia
Early Helladic



Warriors Aboard Boat
Aegina
Middle Helladic

References

Berger, L. and W. Gauß 2016. “Early Bronze Age Aegina Kolonna. A View from a Southwest Aegean Centre.” In *Studia Troica Monographien 8*. Bonn.

Blegen, Carl W. 1921. *Koracou: A Prehistoric Settlement near Corinth*. Athens. American School of Classical Studies.

___. 1927. “Excavations at Nemea 1926.” *American Journal Of Archaeology* 31, 421–40.

___. 1928. *Zygouries. a prehistoric settlement in the valley of Cleonae*. American School of Classical Studies at Athens. Cambridge. Harvard University Press.

Caskey, John L. 1955. “Excavations at Lerna, 1954.” *Hesperia* 24, 25–49.

___. 1956. “Excavations at Lerna, 1955.” *Hesperia* 25, 147–73.

___. 1957. “Excavations at Lerna: 1956.” *Hesperia* 26, 142–62.

___. 1958. “Excavations at Lerna, 1957.” *Hesperia* 27, 125–44.

___. 1959. ”Activities at Lerna, 1958-1959." *Hesperia* 28, 202-07.

___. 1960. “The early Helladic period in the Argolid.” *Hesperia* 29, 285-303.

Caskey, J. and E. T. Blackburn. 199. *Lerna in the Argolid*. A Short Guide Prepared by members of the Lerna Publications Committee. American School of Classical Studies at Athens

Caskey, John L. and Elizabeth G. Caskey. 1960. "The Earliest Settlements at Eutresis Supplementary Excavations, 1958." *Hesperia* 29, 126-67.

Cherry, John. 2017. “Middle Helladic Reflections.” In *Social Change in Aegean Prehistory,* edited by Corien Wiersma and Sofia Voutsaki. Oxford. Oxbow Books.

Coleman, John E. 1985. “ ‘Frying Pans’ of the Early Bronze Age Aegean." *American Journal of Archaeology* 89, 191-219.

Dabney, Mary K., Susan E. Allen, Anne Kugler, Anastasia Papathanasiou, and James C. Wright. 2020. "The Neolithic Settlement on Tsoungiza at Ancient Nemea.” *Hesperia* 89, 1-65.

Dickinson, O.T.P.K. 1977. *The Origins of Mycenaean Civilization*. *SIMA* 49. Göteborg. Åströms.

___. 2014. “The Mainland Bronze Age: The Search For Patterns.” 2014. *Pharos* 20.

Dietz, S. 1975a. “A Bronze Age Tumulus Cemetery in Asine, Southern Greece.” *Archaeology* 28, 157–63.

Dousougli, A. 1987. “Makrovouni, Kefalari Magoula, Talioti. Bemerkungen zu den Stufen FH I und II in der Argolis.” *Praehistorische Zeitschrift* 62, 164–220.

Driessen J. 2002. “The King Must Die: Some observations on the use of Minoan Court Compounds.” In, *Monuments of Minos. Rethinking the Minoan Palaces,* edited by J. Driessen, I. Schoep, and R. Laffineur. Proceedings of an International Workshop held in Louvain la-Neuve, 2001. Aegaeum 23, 1-15. Liège. Université de Liège.

Ekroth, Gunnel, and Michael Lindblom. 2016. “Heroes, Ancestors or Just Any Old Bones? Contextualizing the Consecration of Human Remains from the Mycenaean Shaft Graves at Lerna in the Argolid.” In *Metaphysis. Ritual, Myth and Symbolism in the Aegean Bronze Age,* edited by E. Alram-Stern et al. Leuven. Peters.

Felten, Floens. 2020. Aegina Kolonna The History of a Greek Acropolis.

Fiandra, Enrica. 1968. “A che cosa servivano le cretule di Festos?” In, *Proceedings of the 2nd International Cretological Congress*, 383–97. Athens. University of Crete.

Fitton, Leslie ed.. 2009, *The Aigina Treasure: Aegean Bronze Age Jewellery and a Mystery Revisited*. London. British Museum Press.

Forsén, J. 1992. *The Twilight of the Early Helladics: A Study of the Disturbances in East-central and Southern Greece towards the End of the Early Bronze Age*. Studies in Mediterranean Archaeology and Literature Pocket-book 116. Jonsered. Paul Åströms Förlag.

Forstenpointner, G., A. Galik, G. Weißengruber, S. Zohmann, U. Thanheiser, W. Gauß. 2010 “Subsistence and More in Middle Bronze Age Aegina-Kolonna: Patterns of Husbandry, Hunting and Agriculture.” In *Mesohelladika. The Greek Mainland in the Middle Bronze Age*, Bulletin de Correspondance Hellénique Supplement 52, edited by A. Philippa-Touchais, G. Touchais, S. Voutsaki, and J. Wright. Athens. De Boccard.

___. 2002. “The Early Bronze Age at Berbati.” In *New research on old material from Asine and Berbati,* edited by Berit Wells. ActaAth 8º: 17. Stockholm.

Gauss, Walter. 2010. “Aegina Kolonna.” In *The Oxford Handbook Of The Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press. Kindle.

___. 2018. “Fortification Systems Of The Aegean Bronze Age. The Early And Middle Bronze Age.” In *Understanding Ancient Fortifications Between Regionality And Connectivity,* edited by Ariane Ballmer, Manuel Fernández-Götz and Dirk Paul Mielke. Oxford. Oxbow Books.

Gauss, Walter, Michael Lindblom, and Rudolfine Smetana. 2011. “The Middle Helladic Large Building Complex At Kolonna. A Preliminary View.” In, *Our Cups Are Full: Pottery And Society In The Aegean Bronze Age. Papers Presented To Jeremy B. Rutter On The Occasion Of His 65Th Birthday,* edited by Walter Gauß, Michael Lindblom, R. Angus K. Smith, And James C. Wright. Oxford. Archaeopress.

Gauss, Walter and Rudolfine Smetana. 2007a. “Early And Middle Bronze Age Stratigraphy And Pottery From Aegina Kolonna.” In *The Synchronisation Of Civilisations In The Eastern Mediterranean In The Second Millennium B.C. III,* edited by Manfred Bietak and Ernst Czerny. Proceedings Of The SCIEM 2000 – 2nd Euroconference Vienna, 28th of May – 1st of June 2003. Wein. Österreichische Akademie Der Wissenschaften.

___. 2007b. “Aegina Kolonna, the Ceramic Sequence of the SCIEM 2000.” In, *Project* in *Middle Helladic Pottery and Synchronisms,* edited by Florens Felten, Walter Gauss and Rudolfine Smetana. Wien. Österreichische Akademie der Wissenschaften.

___. 2010. “Aegina Kolonna in the Middle Bronze Age.” In *Mesohelladika. The Greek Mainland in the Middle Bronze Age*, Bulletin de Correspondance Hellénique Supplement 52, edited by A. Philippa-Touchais, G. Touchais, S. Voutsaki, and J. Wright. Athens. De Boccard.

___. 2011 “F1415 Stratigraphic Project Aegina Kolonna” with contributions by M. Lindblom, K. Pruckner (Ceramic Sequence, Stratigraphy, Statistics), E. Kiriatzi (Petrography, Pottery Production), P. Steier, F. Weninger and E. M. Wild (14C Data And Sequencing). Sciem2000 Project 15.

Gere, Cathy. *Knossos And The Prophets Of Modernism*. Chicago. University of Chicago Press.

Goldman, Hetty. 1931. *Excavations at Eutresis in Boeotia*. Cambridge. Harvard University Press.

Haegg, R. and Konsola, D. eds. 1985. *Lerna IV. Plans of apsidal houses. Early Helladic III. Early Helladic Architecture and Urbanization. Proceedings of a Seminar Held at the Swedish Institute in Athens, June 8, 1985*. SIMA LXXVI. Goeteborg. Paul Astroms Forlag.

Haider, P. 1980. “Zum frühhelladischen Rundbau in Tiryns.” In *Forschungen und Funde: Festschrift Bernhard Neutsch*, edited by F. Krinzinger, B. Otto, and E. Walde-Spenner. Innsbruck.

Halstead, Paul. 1981. "Counting Sheep in Neolithic and Bronze Age Greece.” In *Pattern of the Past: Studies in Honour of David Clarke,* edited by I. Hodder, G. Isaac, and N. Hammond. Cambridge. Cambridge University Press.

___. 2011. “The Faunal Remains.” In Pullen, *The Early Bronze Age Village on Tsoungiza Hill (Nemea Valley Archaeological Project I)*. Princeton. American School of Classical Studies at Athens.

Harrison, Steven. 1995. “Domestic Architecture in Early Helladic II: Some Observations on the Form of Non-Monumental Houses.” *The Annual of the British School at Athens* 90, 23–40.

Heath, Martha C. 1958. "Early Helladic Clay Sealings from the House of the Tiles at Lerna." *Hesperia* 27, 81-121.

Hemingway, Seán. 2011. “Early Helladic Vases from Zygouries in the Metropolitan Museum of Art.” In *Our Cups Are Full: Pottery and Society in the Aegean Bronze Age,* edited by Walter Gauß, Michael Lindblom, R. Angus K. Smith, And James C. Wright. Oxford. Archaeopress.

Higgins, R. 1957. “The Aigina treasure reconsidered.” *Annual of the British School* 1, 52.

Hiller, Stefan. 1993. “Minoan and Minoanizing Pottery on Aigina.” In *Wace and Blegen. Pottery as Evidence for Trade* in theAegean Bronze Age 1939–1989, edited by C. Zerner, P. Zerner and J. Winder. Amsterdam.

___. 2009. “Ornaments from the Warrior Grave and the Aigina Treasure.” In *The Aegina Treasure: Aegean Bronze Age Jewellery and a Mystery Revisited,* edited by J. L. Fitton. London. British Museum Press.

Katsonopoulou, Dora aand Stella Katsarou. 2017. “Mainland Cosmopolitanism And The Rise Of Personal Prestige: New Evidence From The Coastal Early Helladic Town Of Helike, North-West Peloponnese, Greece.” *The Annual Of The British School At Athens*. Athens. British School At Athens.

Kilian–Dirlmeier, I. 1997 *Das mittelbronzezeitliche Schachtgrab von Ägina*. Alt-Ägina IV. 3. Mainz. Philipp von Zabern.

Klebinder-Gauß, Gudrun and Walter Grauß. 2015. “Opportunity in Scarcity: Environment and Economy on Aegina.” In *Mutiple Mediterranean Realities*. Paderborn. Schöningh.

Lindblom, Michael. 2007. “Early Mycenaean Mortuary Meals at Lerna VI with Special Emphasis on their Aeginetan Components.” In, *Middle Helladic Pottery and Synchronisms* [Agina-Kolonna Forschungen und Ergebnisse I], edited by F. Felten, W. Gauss, and R. Smetana. Vienna. Austrian Academy of Sciences Press.

___. 2011. “The Early Helladic Period.” In *Mastos in the Berbati Valley An Intensive Archaeological Survey,* edited by Michael Lindblom and Berit Wells. Stockholm. Stolkholm University.

Lindblom, Michael, Walter Gauß, and Evangelia Kiriatzi. 2015. “Some Reections on Ceramic Technology Transfer at Bronze Age Kastri on Kythera, Kolonna on Aegina, and Lerna in the Argolid.” In, *The Transmission of Technical Knowledge in the Production of Ancient Mediterranean Pottery*, edited by Walter Gauss, Gudrun Klebinder-Gauss. Wien. Österreichisches Archaeologisches Institut.

Malinowski, Bronislaw. 1922. *Argonauts of the Western Pacific*. London. Routledge & Kegan Paul LTD.

Manning, Sturt. 1997. *“*Cultural Change in the Aegean c. 2200 B . C .*”* In *Third Millennium B.C. Climate Change and Old World Collapse,* edited by H. Nüzhet Dalfes, George Kukla, and Harvey Weiss. NATO ASI Series I: *Global Environmental Change* 49. Berlin. Springer.

___. 2010. “Chronology And Terminology” In *The Oxford Handbook Of The Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press.

___. 2017. “Comments On Climate, Intra-Regional Variations, Chronology, The 2200 B.C. Horizon Of Change In The East Mediterranean Region, And Socio-Political Change On Crete.” In *The Late Third Millennium In The Ancient Near East Chronology, C14, And Climate Change,* edited By Felix Höflmayer. Chicago. Oriental Institute.

Marisa Marthari. 1993. “The Ceramic Evidence for Contacts between Thera and the Greek.” In Wace and Blegen. P*ottery as Evidence for Trade in theAegean Bronze Age 1939–1989*, edited by C. Zerner, P. Zerner and J. Winder. Amsterdam.

Milka, Eleni. 2010. “Burials Upon The Ruins Of Abandoned Houses In The Middle Helladic Argolid.” *Bulletin De Correspondance Hellenique* Suppl. 52. Athens. École Française D’Athènes.

Moutafi, I. and Voutsaki, S. 2016. “Commingled burials and shifting notions of the self at the onset of the Mycenaean era (1700-1500 BCE): The case of the Ayios Vasilios.” *Journal of Archaeological Science* 10, 780-790.

Nakassis, Dimitri, William A. Parkinson, and Michael L. Galaty. 2011. "Redistribution in Aegean Palatial Societies. Redistributive Economies from a Theoretical and Cross-Cultural Perspective." *American Journal of Archaeology* 115, 177-184.

Niemeier, W. -D. 1995. “Aegina - first Aegean state ouside of Crete?” In *Society and State in the Aegean Bronze Age,* edited by R. Laffineur and W. -D. Niemeier. *Aegaeuum* 12. Liège. University of Liège.

Nilsson, Monica. 2014. “A Note On Domestic Vs Communal Grain Storage In The Early Helladic Period.” *Opuscula* 7, 223–239. Stockholm.

Nordquist, Gullög C. 1987. “A Middle Helladic Village: Asine in the Argolid.” In, *Studies in Ancient Mediterranean and Near Eastern Civilization* 16. Uppsala. Boreas.

___. 2002. “Pots, prestige and people. Symbolic action in Middle Helladic burials.” *Opuscula Atheniensia*, Vol. 27.

Pantelidou Gofa, M. 2005. *Τσέπι Μαραθώνος.Το προτοελλαδικό νεκροταφείο (Βιβλιοθήκη της εν Αθήναις Αρχαιολογικής Εταιρείας*, 235). Athens.

Papadimitriou, Nikolas. 2016. Structuring Space, Performing Rituals, Creating Memories: Towards a Cognitive Map of Early Mycenaean Funerary Behaviour.” In *Staging Death - Funerary Performance, Architecture and Landscape in the Aegean*. Belin/Boston. de Gruyter.

Perlès, Catherine. 2001. The Early Neolithic In Greece - The first farming communities in Europe. Cambridge.Cambridge University Press.

Peperaki, O. 2004. “The House of Tiles at Lerna: Dimensions of 'Social Complexity.” In *The Emergence of Civilisation Revisited,* edited by J.C. Barrett and P. Halstead. Sheffield Studies in Aegean Archaeology 6. Oxford. Oxbow Books.

Philippa-Touchais, Anna. 2007. “Aeginetan Matt Painted Pottery at Middle Helladic Aspis, Argos.” In *Middle Helladic Pottery and Synchronisms,* edited by Florens Felten, Walter Gauss, and Rudolfine Smetana. Wien. Verlag der Österreichischen Akademie der Wissenschaften.

Poursat, Jean-Claude, 2010. “Malia: Palace, State, City.” *British School at Athens Studies* 18, 259–67.

Prezioli, Donald and Louise Hitchcock. 1999. *Aegean Art and Architecture*. Oxford. Oxford University Press.

Pullen, Daniel J. 2007. Review. *Τσεπι Μαραθόνοσ: Το πρωτοελλαδικό νεκροταφείο* by Maria Pantelidou Gkofa. *American Journal of Archaeology* 111, no. 3.

___. 2008. “The Early Bronze Age in Greece.” In *The Cambridge Companion to the Aegean Bronze Age*, edited by Cynthia Shelmerdine. New York. Cambridge University Press.

___. 2011a. *The Early Bronze Age Village on Tsoungiza Hill (Nemea Valley Archaeological Project I)*. Princeton. American School of Classical Studies at Athens.

___. 2011b. "Redistribution in Aegean Palatial Societies. Before the Palaces: Redistribution and Chiefdoms in Mainland Greece." *American Journal of Archaeology* 115, 185-195.

Reinholdt, Claus. 2003. “The Early Bronze Age Jewelry Hoard from Kolonna, Aegina.” In, *Art of the First Cities: The Third Millennium B.C. from the Mediterranean to the Indus,* edited by Joan Aruz. New York. Metropolitan Museum of Art.

Renfrew, Colin. 1972. *The Emergence of Civilisation : the Cyclades and the Aegean in the Third Millennium BC*. London. Methuen. 2010, 2nd Edition. Oakville, Conn, Oxford. Bannerstone Oxbow.

Renfrew, Colin and John Cherry. 2011. *The Emergence of Civilisation : the Cyclades and the Aegean in the Third Millennium BC*. New edition reprinting the original text supplemented with a Preface and Introduction (2010) by the author and a Foreword (2010) by John Cherry. Oxford. Oxbow Books.

Renfrew. C and J.F. Cherry eds. 1986. *Peer Polity Interaction and Socio-Political Change*. Cambridge. Cambridge University Press.

Rom, I. 2013. "Aegina Kolonna: A case study on resilience within changing networks during the Greek Bronze Age (c. 3000-1000 BC)." In Raemaekers, D.C.M. (Ed.) *A kaleidoscope of maritime perspectives: Essays on the archaeology, art history and landscape history of the maritime world view*. Groningen, University of Groningen / Groningen Institute of Archaeology

Runnels, Curtis. 1981. *A Diachronic Study and Economic Analysis of Millstonesfrom the Argolid, Greece*. Ph.D. dissertation Indiana University.

___. 1988. ”Early Bronze-Age Stone Mortars from the Southern Argolid." *Hesperia* 57, 257-272.

Runnels, Curtis and Tjeerd H. Van Andel. 1987. "The Evolution of Settlement in the Southern Argolid, Greece: An Economic Explanation." *Hesperia* 56, 303-334.

Rutter, Jeremy B. 1979. “Ceramic Change in the Aegean Early Bronze Age: The Kastri Group, Lefkandi I and Lerna IV. A Theory Concerning the Origin of EH III Ceramics.” Occasional Paper 5. Los Angeles. UCLA Institute of Archaeology.

___. 1982. “A Group of Distinctive Pattern-Decorated Early Helladic III Pottery from Lerna and Its Implications.” *Hesperia*, 51, 459–88.

___. 1993. “A Group of Late Helladic IIA Pottery from Tsoungiza.” *Hesperia* 62, 53-93.

___. 1995. *Lerna. A Preclassical Site in the Argolid III: The Pottery of Lerna IV*. Princeton. American School of Classical Studies at Athens.

___. 2001. “Review of Aegean Prehistory II: The Prepalatial Bronze Age of the Southern and Central Greek Mainland” and “Addendum: 1993–1999” In *Aegean Prehistory: A Review*, edited by T. Cullen, 95–147 and 148–155. Boston. Archaeological Institute of America.

___. 2012. “Migrant drinking assemblages in Aegean Bronze Age settings.” In, *Materiality and Social Practice TransformatIve Capacities Of Intercultural Encounters,* edited by Joseph Maran and Philipp Stockhammer. Oxford. Oxbow Books.

___. 2013. "“Minding the Gap” - From Filling Archaeological Gaps to Accounting for Cultural Breaks. A 2013 Perspective on a Continuing Story." *American Journal of Archaeology* 117, 593-97.

___. 2015. “Ceramic Technology in Rapid Transition. The Evidence from Settlement Deposits of the Shaft Grave Era at Tsoungiza (Corinthia).” In *The Transmission Of Technical Knowledge In The Production Of Ancient*

Mediterranean Pottery, edited by Walter Gauss, Gudren Klebinder-Gauss, and Constance Von Rüden. Wien. Österreichisches Archäologisches Institut.

___. 2017. "The temporal slicing and dicing of Minyan Culture: a proposal for a tripartite division of a lengthier Greek Middle Bronze Age and the issue of nomadism at its beginning." In *Social Change in Aegean Prehistory,* edited by Corien Wiersma and Sofia Voutsaki. Oxford. Oxbow Books.

Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013. Aegean Prehistoric Archaeology. Project sponsored by Dartmouth College.

Schofield, Louise. 2007. *The Mycenaeans*. Los Angeles. Getty Museum.

Shaw, Joseph W. 1987a. "The Early Helladic II Corridor House: Development and Form." *American Journal of Archaeology* 91, 59–79.

___. 1987b. "Sequencing the EH II 'Corridor Houses'." *The Annual of the British School at Athens* 102, 137-51. http://www.jstor.org/stable/30245248.

——. 1990. "The EH II `Corridor House': Problems and Possibilities," In *L'Habitat égéen préhistorique,* edited by P. Darque and R. Treuil. *BCH Supplement* XIX.

___. 2007. "Sequencing the EH II 'Corridor Houses.'" *The Annual of the British School at Athens* 102, 137–51.

Siedentopf, H. 199. *Alt-Agina IV.2: Mattbemalte Keramik der Mittleren Bronzezeit*. Mainz

Spyropoulos, Th. and H. Tzavella-Evjen. 1973. "Lithares: An Early Helladic Settlement Near Thebes." *Athens Annals of Arcaeology:* VI, 3.

Tomkins, Peter. 2011. "Behind the Horizon: Reconsidering the Genesis and Function of the 'First Palace' at Knossos (Final Neolithic IV–Middle Minoan IB)." In *Back to the Beginning Reassessing Social and Political Complexity on Crete during the Middle and Early Bronze Age,* edited by Ilse Schoep, Peter Tomkins, and Jan Driessen. Oxford. Oxbow Books.

Tzavella-Evjen, Chara. 1985. "Lithares: an early Bronze Age settlement." *Boeotia*. Los Angeles. Institute of Archaeology. University of California.

van Andel, T.H., C.N. Runnels, and K.O. Pope. 1986. "Five Thousands Years of Land Use and Abuse in the Southern Argolid, Greece." *Hesperia* 55, 103–28.

Vermeule, Emily and Vassos Karageorghis. 1982. *Mycenaean Pictorial Vase Painting*. Cambridge. Harvard University Press.

Voutsaki, Sofia 1998. "Mortuary evidence, symbolic meanings and social change: a comparison between Messenia and the Argolid in the Mycenaean period." In C*emetery and society in the Aegean Bronze Age,* edited by K. Branigan. Sheffield Studies in Aegean Archaeology 1, 41-58. Sheffield.

___. 1999. "The Shaft Grave offerings as symbols of power and prestige." In, *Eliten in der Bronzezeit: Ergebnisse zweier Colloquien in Mainz und Athen,* edited by Kilian-Dirlmeier, I. and Egg, M. Mainz. Monographien des Römisch-Germanischen Zentralmuseums.

___. 2010a. "Mainland Greece." In, *The Oxford Handbook of the Bronze Age Aegean*, edited by E. Cline. Oxford. Oxford University Press. Kindle.

___. 2010b. "The domestic economy in Middle Helladic Asine." In *Mesohelladika. The Greek Mainland in the Middle Bronze Age*, Bulletin de Correspondance Hellénique Supplement 52, edited by A. Philippa-Touchais, G. Touchais, S. Voutsaki, and J. Wright. Athens. De Boccard.

___. 2010c. "From The Kinship Economy To The Palatial Economy: The Argolid In The Second Millennium BC." In, *Political Economies of the Aegean Bronze Age,* edited by Daniel J. Pullen. Oxford. Oxbow Books.

___. 2012. "From Value To Meaning, From Things To Persons: The Grave Circles Of Mycenae Reconsidered" In *The Construction of Value in the Ancient World,* edited by John K. Papadopoulos and Gary Urton. Los Angeles. The Cotsen Institute of Archaeology Press.

___. 2016. "From Ayios Stephanos to Ayios Vasilios: mortuary practices in pre-palatial Laconia." *Aegean Lectures*. Aegeus - Society For Aegean Prehistory. https://www.youtube.com/watch?

Voutsaki, Sofia, Anne Ingvarsson-Sundström, and Søren Dietz. 2011. "Tumuli and Social Status a Re-examination of the Asine Tumulus." In, *Ancestral Landscapes*. TMO 58, Maison de l'orient et de la Méditerranée. Lyon.

Voutsaki, Sofia and Eleni Milka. 2017. "Social Change in Middle Helladic Lerna." In, *Social Change in Aegean Prehistory,* edited by Corien Wiersma and Sofia Voutsaki. Oxford. Oxbow Books.

Wace, A.J.B., and C.W. Blegen. 1918. “The Pre-Mycenaean Pottery of the Mainland.” *Annual of the British School at Athens* 22, 175–89.

Wace, A.J.B., W.A. Heurtley, W. Lamb, L.B. Holland, and C.A. Boethius. 1923. “The Report of the School Excavations at Mycenae, 1921-1923 [Corrected Title: The Report of the School Excavations at Mycenae, 1920-1923].” *The Annual of the British School at Athens* 25, 1–434.

Walter, Hans, and Florens Felten. 1981. *Die vorgeschichtliche Stadt: Befestigungen. Häuser. Funde. Alt-Ägina III.1*. Mainz. von Zabern.

Weiberg, Erika. 2007. *Thinking the Bronze Age Life and Death in Early Helladic Greece*. Ph.D. dissertation University of Uppsala.

___. 2013. “An early Helladic burial—connecting the living and the dead.” In *Perspectives on ancient Greece,* edited by Ann-Louise Schallin. Stockholm. Swedish Institute at Athens.

Weiberg, Erika and Michael Lindblom. 2014. "The Early Helladic II–III Transition at Lerna and Tiryns Revisited: Chronological Difference or Synchronous Variability?" *Hesperia* 83, 383-407.

Wells, Berit, C. Runnels, E. Zangger. 1990. “The Berbati-Limnes Archaeological Survey: The 1988 Season.” *Opuscula Atheniensia* 18, no. 15, 207–238.

Wiencke, Martha Heath. 1969. "Further Seals and Sealings from Lerna." *Hesperia* 38, 500-21.

___. 1989. “Change in Early Helladic II.” *American Journal of Archaeology* 93, 495–509.

___. 1998. “Mycenaean Lerna.” *Hesperia* 67, 125 – 214.

___. 2000. *Lerna, a Preclassical site in the Argolid: results of excavations conducted by the American School of Classical Studies at Athens*. Vol. IV The architecture, stratification and pottery of Lerna III. Princeton. American School of Classical Studies At Athens.

___. 2011. “Ceremonial Lerna.” In, *Our Cups Are Full: Pottery and Society in the Aegean Bronze Age,* edited by Walter Gauß, Michael Lindblom, R. Angus K. Smith, And James C. Wright. Oxford. Archaeopress.

Wiersma, Corien. 2010. “Early Helladic III - Late Helladic I House Architecture And Social Relations.” Nijmegen: Radboud University.

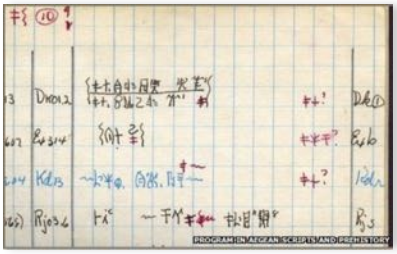
___. 2017. “Domestic Architecture: a means to analyze social change on the Bronze Age Greek mainland.”In *Social Change in Aegean Prehistory,* edited by Corien Wiersma and Sofia Voutsaki. Oxford. Oxbow Books.

Wiersma, Corien and Sofia Voutsaki. 2017. “Introduction: Social Change in Aegean Prehistory.” In *Social Change in Aegean Prehistory,* edited by Corien Wiersma and Sofia Voutsaki. Oxford. Oxbow Books.

Wright, James C. 2010. “Towards a social archaeology of Middle Helladic Greece.” In *Mesohelladika. The Greek Mainland in the Middle Bronze Age*, Bulletin de Correspondance Hellénique Supplement 52, edited by A. Philippa-Touchais, G. Touchais, S. Voutsaki, and J. Wright. Athens. De Boccard.

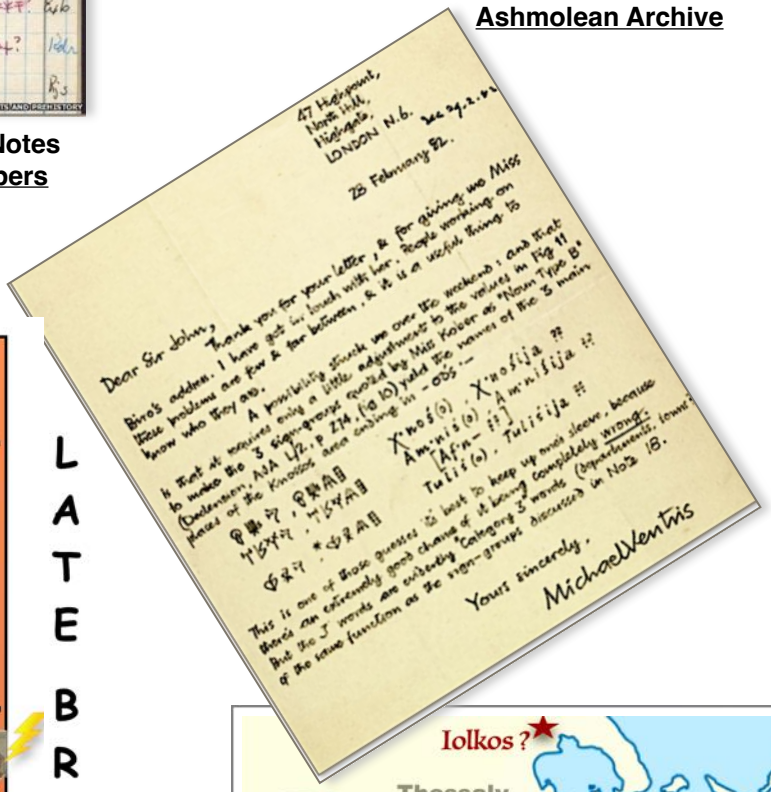
Wright, James C., John F. Cherry, Jack L. Davis, Eleni Mantzourani, Susan B. Sutton, and Robert F. Sutton. 1990. “The Nemea Valley Archaeological Project a Preliminary Report.” *Hesperia* 59, 579–659.

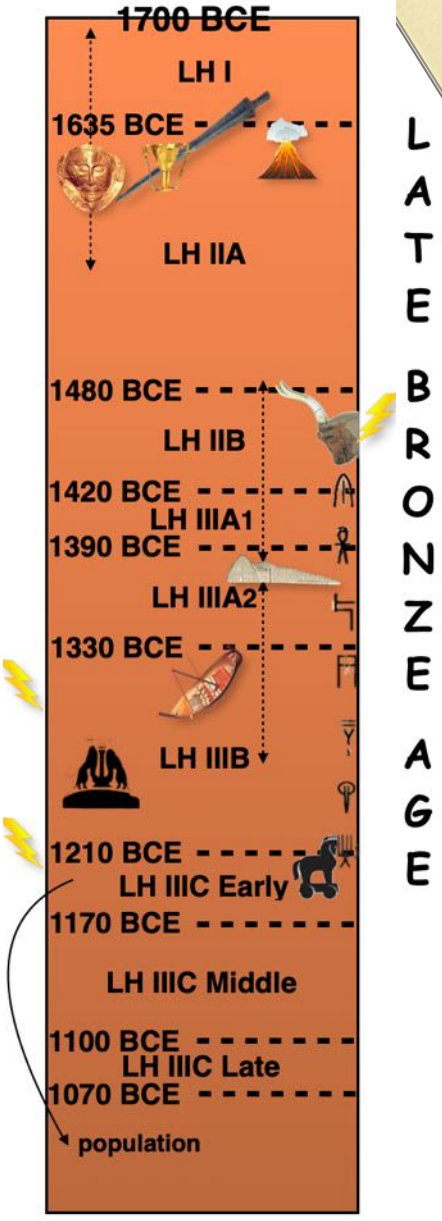
Zerner, C., Zerner, P. and Winder, J. 1993. *Wace and Blegen: Pottery as Evidence for Trade in the Aegean Bronze Age 1939–1989*. Amsterdam. J. C. Gieben.



Alice Kober Linear B Notes
UT Alice E. Kober Papers

Michael Ventris to Sir John Myers
28 February 1952
MV applies Kober's triplets
Ashmolean Archive







First Impressions

Narratives about the Mycenaeans and the discovery of their long forgotten world are full of distractions. Many of us have grown up with tales of heroic mortals and fickle gods, of absolute power and inexorable fate——often infused with brutality and the allure of eroticism. Aeschylus's *Oresteia* provides a smorgasbord of such Mycenaean traditions including the original blood bath. Tempting also are biographies of idiosyncratic archaeologists and accounts of their extraordinary finds. Of course each of these at times bizarre, often spectacular, and even salacious elements are in fact part of the Mycenaean story writ large. The risk is that such sideshows become a focus that distracts us from a broader understanding of Mycenaean culture. A contributing, perhaps primary, factor underlying much of this misdirection has been the absence of written documentation. For three quarters of a century, following Schliemann's excavations, accessible and contemporary written accounts relating to Mycenaean culture were limited to a handful of documents from Egyptian and Hittite sources, often of questionable import. This virtual void became, in effect, a *tabula rasa*——inviting interpretations ranging from reasonable conjecture to unfounded fictions. Perhaps as pernicious as any of these ill-conceived interpretations, however, was the affect of another Aegean narrative——one founded on the hypothesis of Eurocentric cultural evolution as championed by Arthur Evans. During the early decades of the 20th century Evans's extraordinary successes on Crete cast its shadow over mainland culture. The result was an ill-considered caricature of Mycenaeans as Minoan vassals, their culture largely cloned from a Cretan original. At the same time Schliemann and Evans are justly credited with revealing the monumental architecture, art, and arsenals of ancient peoples that continue to engage both the scholarly community and the public.

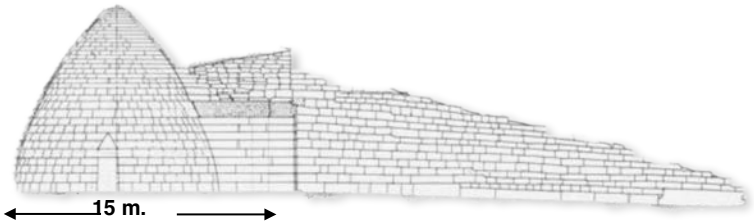
In the latter decades of the 20th century significant new evidence as well as changing scholarly perspectives reframed our understanding of both Minoan and Mycenaean society. With increasing frequency archaeologists adopted a multidisciplinary approach that integrated the perspectives and the tools of both the physical and social sciences. New excavations and the reanalysis of older sites along with data generated from the innovative methodologies such as intensive survey archaeology have each played their part. Most significant, however, was the mid-century decipherment of the Linear B script and the subsequent decades of scholarship. See Appendix B, *Minoan Scripts and Mycenaean Greek*. It is hard to overstate the importance of these administrative records——contemporary accounts that replaced speculation with documentation. As a group, the tablets have given scholars a sound basis for understanding the roles and relationships of key individuals directing Mycenaean society——most specifically at Pylos. The tablets also provide details of territorial boundaries, economic and political functions, the characteristics of pastoral and agricultural activities, as well as indications of the nature and importance of ritual practices. While the new material finds and the deciphered scripts are significant, so too are the Aegeanists' attitudes and self criticisms. The impetus for this introspection began with a critique of Evans's world view and its imposition (along with the assumptions of cultural evolution) on both Minoan and Mycenaean cultures.[1] This in turn led to a growing awareness that interpretation is inevitably colored by one's own cultural assumptions. Our own biases influence our perceptions of distinctly different, distant, and yes, prehistoric Aegean cultures.



Chariot krater 52-491, LH III sherd
illus. by Piet de Jong
Univ. Cambridge - Mycenae Archive

1. For example: Prezioli and Hitchcock 1999; Driessen 2002; Hamilakis 2002; Papadopoulos 2005; Schoep 2018.

George Grote's widely accepted characterization of Aegean prehistory as, "a past that never was present," was firmly contradicted by Schliemann's 1870s excavations, first at Troy and then Mycenae (Bain 1873, 10). Nonetheless the archaeologist's romantic attachment to Homeric epic as well as a number of his unfounded pronouncements left ample room for a more considered and scholarly interpretation of this new world.[2] It was Arthur Evans's vision from Knossos that initially filled the void. Early on Evans made clear his opinion that mainland culture, at least in its more 'advanced' manifestations, largely reflected Minoan accomplishments. Fine ceramics excavated at mainland sites, said Evans, "must be taken to imply a wholesale implantation of such types at the hands of Minoan potters, in the wake of a very real wave of Conquest," and furthermore, "it is reasonable to infer that at this time Cretan potters, trained in the insular schools of their craft, had followed on the heels of the military bands and were practicing their art in the new Mainland centers of Minoan dominion" (Vol. IV, Part I 1935a, 283). Of particular interest to Evans were the spectacular Mycenaean tholos tombs first described by Schliemann and then Tsountas with a more comprehensive treatment by Wace (1878, 42 - 49; 1897, 115-130; 1949, 26-46). The tombs' architectural embellishments were, according to Evans,"only one evidence out of many of a much wider indebtedness," and in fact represented, "a series of decorative elements supplied by the 'Middle Palace' at Knossos that repeat themselves in the facades of the 'Atreus' and 'Clytemnestra' Tombs" (ibid., 222). Mainland tholoi became central to a controversy involving Evans and Alan Wace——the latter having begun a series of excavations at Mycenae in the 1920s. Ultimately, Wace's interpretations challenged a number of Evans's assumptions. Resorting to tortured interpretation in the cause of Minoan dominance, Evans first criticized Wace's conclusions and then, asserting his considerable authority, had the excavations at Mycenae shut down (Fitton 1995, 154 - 155).



Treasury of Atreus
Wace et al. 1921, Pl. LVI
illus. by Piet de Jong



Treasury of Atreus
Dromos & Entrance
Walton 2019

However, Wace was not a man easily put off and he would eventually return to Mycenae to continue his work. His earlier collaboration with Carl Blegen at Korakou resulted in an important publication outlining the first reliable mainland pottery sequence. Their adoption of the term Helladic to characterize Mycenaean culture and chronology clearly signaled that the mainland deserved to be studied in its own right (Wace and Blegen 1918). During subsequent decades it became clear there were distinct Aegean cultures and while Minoan influence (not subjugation) on the mainland was acknowledged there was also evidence of Mycenaean preeminence in the Late Bronze Age. Just prior to WW II Blegen, collaborating with Konstantinos Kourouniotis, located Pylos——the traditional site of Nestor's Palace, on Englianos Ridge in Messenia. The archaeological team's first day of excavation yielded the initial finds of Linear B tablets from the mainland. Despite these advances, at the mid-point of the 20th century, and shortly before the decipherment of Linear B, there remained many more questions than answers regarding the basic nature of Mycenaean culture.

2. See *Introduction.*

Two perennial debates——'the coming of the Greeks' and the historicity of the traditional literature (Homeric epic) were among points of contention. At the time, the standard answer to the first matter was based on the Haley-Blegen proposal that combined linguistic and archaeological evidence to support the hypothesis that a group of Indo-European, Greek speaking peoples arrived from Anatolia at the juncture of the EH and MH periods (ca. 2000 - 1900 BCE). Their analysis also purported to show that Crete was not affected by this event (Haley 1928, 150 - 151).[3] In contrast to the Haley-Blegen idea, Evans argued that the Minoan-Mycenaean ethnic group comprised a pre-Greek culture. While admitting that small groups of Hellenic (Greek) enclaves existed on the mainland, Evans characterized these as a subjugated minority that rose to prominence only after the demise of the Minoan-Mycenaean culture (Dickinson 2016, 7; Schoep 2018, 3).

Two mid-century publications, H. D. F. Kitto's *The Greeks* and George Mylonas' *Ancient Mycenae*, engaged with both the 'Homeric Questions' and 'the coming of the Greeks' (Kitto 1960; Mylonas 1957). Soon after publication, Kitto's volume became the standard Greek history. Kitto's summary of prehistoric Aegean cultures largely followed Evans——the rise of a 'flourishing' and 'brilliant' Minoan culture (ca. 2800 BCE), the beginnings of its decline and the ascendancy of a Mycenaean 'heir' (ca. 1600 BCE), and the final 'sack and destruction' of 'Cnossos' (ca. 1400 BCE) culminating with the 'decaying Mycenaean Age' in the late 12th century BCE (1960, 14 - 20; 24). With the intention of not repeating Grote's error, Kitto suggested there were some good reasons to refer to traditional sources (eg. Homer, Herodotus, and Thucydides). Having recounted the mythological tale of the establishment of the Pelopid line as rulers of Mycenae and of Atreus's sons, Agamemnon and Menelaus warring on Troy, he pondered the possibility that these Achaeans may have been the first Greek-speaking peoples on the mainland (ibid., 15 - 17). Ultimately Kitto regarded much of the evidence as vague and concluded, "It is impossible to say much here about this civilization," albeit adding, "In general, we get the impression of a gay, aristocratic culture, with hunting, bull bating and acrobatics well to the fore"——clearly conflating Minoan and Mycenaean traditions. Kitto saw Minoan art as the one anchor point. "Their art speaks to us directly, nothing else speaks at all, except indirectly, through inferences" (ibid., 20 - 21). Kitto's critique of the art was predictable——a version of art as the poster child for the Greek 5th century BCE miracle at Athens (the epitome of Western culture).[4] A brief tip of his hat to Cretan artistic traditions is followed by a, somewhat puzzling, thumbs down verdict—— "The best of Minoan art has all the qualities that art can have - except [a] consuming intellectualism" (ibid., 26). Kitto's cryptic declaration seems related to his conviction that the Minoans and Mycenaeans were not Hellenes, i.e. not Greek speaking peoples. And this, contended Kitto, was a fatal flaw——for in "the Greek language - in its very structure - are (to be) found the clarity and control, the command of structure, which we see preeminently in Classical Greek art and miss in the earlier" (ibid., 26).

3. Although their suggested dates for the arrival of Greek speakers is within the current consensus, the totality of the evidence is more detailed and nuanced then the Haley-Blegen analysis suggests. It should be noted that this movement——whether invasion, incursion, or migration, did not refer the later 'Doric Invasion'——the region-wide destructive raids that some scholars interpret as signaling an end to the Bronze Age (ca.1100 BCE).

4. Winckelmann's *The History of Art in Antiquity* (1764/2006) is the origin of this widely held opinion——one that played a part in the early miscalculations of Aegean BA chronology. See Fitton 1995, 29 - 31.



Polychrome Storage Jar
Grave Circle B - Grave O

Type A Bronze Sword
Grave Circle B - Grave A

Grave Stele
Grave Circle B - Grave Γ

Archaeological Museum of Mycenae - Greek Age of Bronze

One senses George Mylonas is also frustrated by what is missing——albeit as an archaeologist and scholar intimately connected with Aegean prehistory, and for decidedly different reasons. In 1951 during the restoration of the 'Tomb of Clytemnestra' at Mycenae a piece of an ancient stele led to the discovery and excavation of Grave Circle B (1957, 128). Together with the somewhat later burials from Schliemann's Grave Circle A, they provide the best evidence for the era of Mycenaean emergence. As one of the principle excavators, Mylonas's account is among the first comprehensive descriptions of the finds from Grave Circle B. The volume also summarizes the previous excavations at Mycenae including the work of Schliemann and Tsountas as well as the early efforts of Mylonas's contemporary Alan Wace. Having spent three seasons excavating the Circle B shaft graves, both an intricate and intimate experience, Mylonas's reflections, the final words of his *Ancient Mycenae*, may be somewhat unexpected. His 'Epilogue' reflects a distinct sense of frustration that significant aspects of the Mycenaean people remain a puzzle. While assuring his readers that future reports, "will contain a complete description of the graves and objects unearthed, the observations made, and the conclusions reached," still, Mylonas laments, "It will give little indication of the thoughts which kept crowding our minds as the excavation proceeded and of the feelings which increased the beat of our hearts. Objects fashioned centuries ago, which gave victory to their bearers, vases which contained nourishing food or priceless ornaments; and with them the bones of those who used them! Who were they? What did they think? What were their deeds?" (ibid., 175 - 176).

Both Mylonas's questions and his frustration are understandable. However, the reality is that some aspects of the lives of ancient peoples (including those we refer to as Mycenaeans) are not recoverable while others——for instance the subtle nuances of certain social behaviors, may be inexplicable even to their practitioners. A variety of peoples and individuals from relatively well documented historical periods remain, in many ways, puzzling. As Mary Beard points out, "Classicists are still struggling to work out what the horribly difficult Greek of Thucydides means (we're doing better, but we're not there yet), and we are still disagreeing about how important Cleopatra really was

in the history of Rome, or whether the Emperor Caligula can be written off as simply bonkers" (2014, ix - x). But Kitto's complaints regarding the necessity to rely on inferences and Mylonas's desire to know something of Mycenaean deeds are different in kind from the interpretive matters Beard mentions. At about the same time Kitto and Mylonas published their works Michael Ventris announced (June of 1952) that he had deciphered Linear B. The script, to the surprise of many (including Ventris), recorded an early dialect of Greek. Ventris's decipherment and the subsequent scholarship would revolutionize Aegean studies and, at least to a degree, begin to respond to Kitto's and Mylonas's concerns.

Ventris had solved a problem that had plagued Aegean studies for half a century. A loner by nature, Ventris never felt a part of Oxbridge academia and this, in part, may explain his decision to announce his breakthrough on the BBC. In fact the story of his decipherment appeared on the front page of *The Times*——albeit somewhat below the same day's coverage of the coronation of Elizabeth II and the summiting of Everest by Hillary and Tenzing. Ultimately the decipherment of an unknown script in an unknown language was judged to be of even greater significance than the initial ascent of Everest——at least by some (Pope 1975, 9). Scholarly reactions in 1952, however, ran the gamut from disbelief to cautious optimism; Ventris himself was tortured by repeated episodes of self-doubt. However, Ventris's collaboration with John Chadwick, a philologist and classics scholar, strengthened the case for decipherment. An important piece of the puzzle was provided by Carl Blegen. In 1952, while excavating at Pylos, Blegen had found what is now referred to as the 'Tripod Tablet' (P641). The tablet was inscribed with various Linear B signs and, critically, at the end of each word grouping the scribe had included an ideogram——pictographs () for the objects (tripod) referred to by the preceding phonetic signs. When Ventris' sound values were substituted for the tablet's signs each item provided a striking confirmation of his decipherment.



Pylos Linear B Tablet P641
National Archaeological Museum

Looking back from the 21st century it is evident that the decipherment of Linear B was neither a quick fix for illuminating Aegean prehistory nor a guarantee that subsequent interpretations would necessarily be useful. Real progress in understanding the implications of the script would take decades of research and successive generations of scholars. In addition, and with the benefit of hindsight, we now know that soon after its decipherment a number of hypotheses suggested by Linear B were misleading, at best. Important changes were taking place across Aegean studies in the decades after Linear B was deciphered——initiated in large part by Renfrew's publication of the *Emergence of Civilization* (1972 / 2011). A significant aspect of Renfrew's agenda was the adoption

of anthropological concepts and methods. One aspect of this approach was reflected in research focusing on identifying and defining significant socio-economic components and processes underlying the rise of Aegean cultures. At the time an influential voice in the conversation was M. I. Finley. His, *The World of Odysseus*, published within months of Ventris's announcement was, in part, polemic——arguing that few if any useful historical links existed between Homeric epic and Bronze Age Mycenaeans (1954/ 2002). Finley was a frequent commentator on BBC broadcasts——not uncommonly on topics relating to the Aegean Bronze Age. In one such program, focusing on the publication of Ventris and Chadwick's *Documents In Mycenaean Greek*, Finley proclaimed that despite the fact that Linear B recorded a form of the Greek language, "The most striking thing about Mycenaean society is that it was not Greek" (Smith 1957, Third Programme; Ventris and Chadwick 1956). On the face of it his pronouncement seems paradoxical, perhaps even bizarre, but for Finley Mycenaean society was kin to Near Eastern authoritarian regimes with highly centralized economies——polar opposite to the participatory democracy of the polis and the economic hubbub of the Athenian agora. Furthermore, said Finley, the Linear B records, with their emphasis on administrative inventory and control, clearly supported his hypothesis (Nakassis et al. 2011, 179 - 180). By early in the 21st century a number of scholars were questioning Finley's disassociation of Homeric epic and Mycenaean culture as well as his economic model for the early Aegean states. Ironically these revised viewpoints were largely the result of a more informed analysis and nuanced understanding of Linear B content (ibid; Palaima 2008a, 2008b).

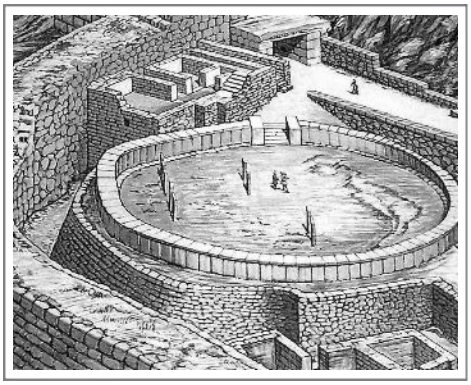
> For a long time I thought that Etruscan might afford the clue we were looking for. But during the last two weeks, I have come to the conclusion that the Knossos and Pylos tablets must, after all, be written in Greek—a difficult and archaic Greek, seeing that it is 500 years older than Homer and written in a rather abbreviated form, but Greek nevertheless . . .
>
> -Michael Ventris, 1 June 1953, BBC Third Programme

> The most striking thing about Mycenaean society is that it was not Greek. Some members of the society spoke and wrote the Greek language . . . But the civilization was not in any significant or proper sense that which we know as Greek.
>
> -Sir Moses Finley, 6 March 1957, BBC Third Programme

> Nonetheless, there is a clear similarity between the portrayal of Nestor and the kingdom of Messenia in Odyssey Book 3 and the picture derived from the Pylos Linear B tablets and the iconographical program of the Palace of Nestor.
>
> -Thomas Palaima, Mycenaean Religion 2008a, 348

Schliemann, Shaft Graves, And The Raising Of The Dead

Heinrich Schliemann's excavations at Troy brought him both fame and fortune; not all the notoriety, however, was flattering——as some said the treasure ("Priam's Treasure") he had uncovered at Hissarlik was of dubious provenance, if not ill begotten. Whatever the truth of the matter, in 1873 Schliemann packed up "his" treasure and made a rather hasty retreat to Greece. Close on Schliemann's heels were Turkish authorities in pursuit of their country's rightful heritage. But Schliemann's gaze was firmly set on Mycenae, a site he had first visited in 1868 and unlike Troy, the site of Agamemnon's palace was well known. Famously set by Homer "in a nook of horse-pasturing Argos," Mycenae had been visited by numerous 19th century adventurers and even a few archaeologists (*Od.* 3.263). The adventurous had only to follow the directions in Pausanias's Roman-era Baedeker——taking the road to Argos from Corinth past Cleone and the cave at Nemea (of Herakles and the lion fame), they would soon come upon the ruins of the fabled site (1918, XV: 2.15.1 - 3). With Pausanias as his guide and an unshakeable faith in Homer, Schliemann arrived at Mycenae in 1874 with high expectations. However, he would immediately meet with a series of discouraging setbacks——nearly all of his own making. Having hired a crew of local laborers, an impatient Schliemann forged ahead with excavations despite having exceeded the conditions of his permit. The authorities wasted little time in shutting down his ill-advised effort and Schliemann accomplished little more than adding to his already questionable reputation. Nearly two years would lapse as Schliemann sought to disentangle himself from Turkish lawsuits. In 1876, having finally obtained permission to restart excavations, Schliemann found himself on a fairly short leash. Restrictions had been placed on the size of his workforce and, more significantly, he was required to excavate under the supervision of Panagiotis Stamatakis——the eyes of the Greek Archaeological Service (Fitton 1995, 72 - 73). Although Schliemann chafed at Stamatakis's presence, the contributions of the Greek archaeologist would ultimately prove invaluable (Dickinson et al. 2012, 163 - 164). At the time Schliemann did his best to ignore Stamatakis and directed his passion into the Greek earth——soon confirming what Homer knew. Mycenae was not just "rich in gold" but appeared to be the resting place of Agamemnon himself. Between mid-November and early December, amid a frenzy of digging and discovery, Schliemann uncovered what many consider the most significant finds in the history of Greek prehistoric archaeology.

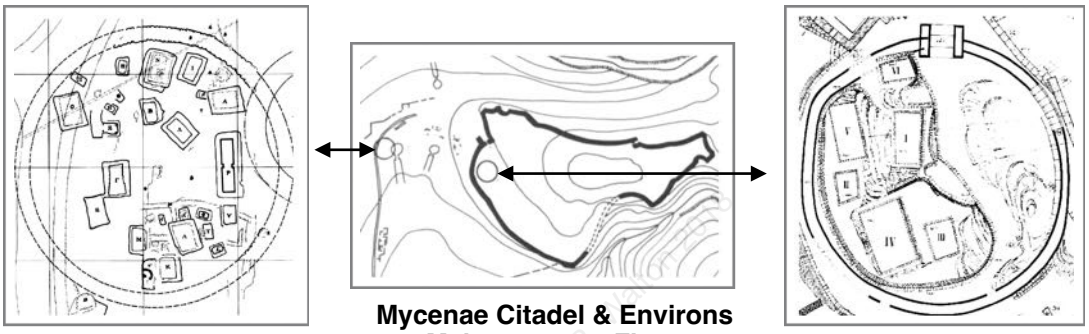


Grave Circle A Reconstruction
Wace et al. 1921-1923, Pl. XVIII
George Dexter & Piet de Jong



Grave Circle A Stele (width 106 cm)
Grave V
National Archaeological Museum

Schliemann's 1876 news may not have received quite as much notoriety as Carter's 1922 excavation of Tutankhamen's mortuary site but each find is among the marvels of the ancient world whose announcement caused an instant sensation. Mycenae in particular and more generally Aegean prehistory has continued to engage the public as it has successive generations of academics. Not a few scholars, however, have noted that Schliemann's impatience and an inclination to have his eyes ever on the prize had consequences. His journal (*Tagebuch*) frequently omits significant details while his publications and public presentations often recast specific events so as to support his cherished opinions (ibid., 166 - 168). Despite such failings, few fault his instincts or his luck and nearly all concur on the momentous importance of his accomplishments. Schliemann's excavations of five shaft graves in the late fall of 1876 marked the apogee of his archaeological career. Together with a sixth interment uncovered by Stamatakis, the tombs of Mycenae's Grave Circle A rewrote Greek history. As noted above, three-quarters of a century after Schliemann's excavations, fragments of a grave stele led to the discovery of the adjacent Grave Circle B (Mylonas 1957,128 - 129). Together, the interments and contents of Grave Circle A (GCA) and Grave Circle B (GCB) led to a reimagining of early Mycenaean society.



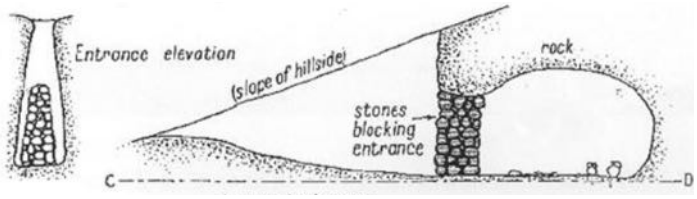
Grave Circle B
Mylonas 1957, Fig. 87
D. Theochares

Mycenae Citadel & Environs
Mylonas 1957, Fig. 3

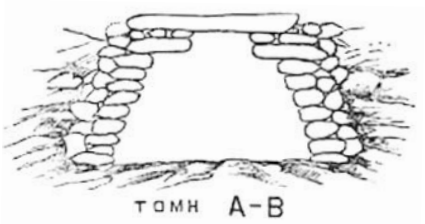
Grave Circle A
Wace et al. 1921 - 1923, Pl. I
Piet de Jong

Inhumation of the dead was standard practice across the Aegean throughout the Neolithic and Bronze Ages. Although mainland caves such as those at Franchthi and especially at Alepotrypa attest to an abundance of human remains these are mostly disarticulated bones found in secondary burials. Few Early Neolithic (EN) primary interments have survived intact (Papathanasiou, 2009). The 17 pit graves with well preserved human remains from Mavropigi in western Macedonia are an exception (Karamitrou-Mentessidi, 2005). Neolithic and early Bronze Age burial practices have traditionally been characterized as simple pit graves within settlements——with interments placed either beneath the floor of domestic dwellings or between adjacent structures. Such basic tombs typically contained a single individual buried in a contracted position with few or no grave goods. Clay jars were often used for a child's burial. A renewed interest in pre-Bronze Age Aegean studies has led to increasing numbers of excavations of Neolithic settlements in southern and central Greece. Psimogiannou's work at Proskynas, a mainland site on the North Euboean Gulf, describes seven FN or Chalcolithic pit graves that, along with human remains, contained burnt pottery, shells, and obsidian (2012, 188 - 189). Psimogiannou also excavated additional pits dug in proximity to the interments that contained fragmented vessels consistent with ritual drinking and feasting. Referring to these associations as 'mortuary areas', as distinguished from cemeteries, Psimogiannou lists a number of like finds from Thessaly south though the Peloponnese. This trend may in fact represent the

initial use of extramural sites for funerary purposes (ibid., 190 - 192). By the MH period pit graves continued in use along with increasing numbers of cist, (after κίστη) the Greek word for box or coffin, graves. The basic cist is a box-shaped pit with rock-lined walls——fitted with one or more rock slabs for a roof. Not uncommonly, pebbles were spread across the floor of cist tombs (Dickinson 1983, 56 - 59). On the mainland extramural cemeteries are attested during MH III while similar practices are attested during the Neolithic on several Cycladic islands (Dickinson 1977, 33 - 34). The FN Kephala cemetery on Keos (Kea) may have been the first of its kind in the Aegean. Notable are the multiple interments (up to 13 individuals) in a single cist——most likely kin groups spanning several generations (Coleman 1977, 45). The large Cycladic cemetery at Chalandriani on Syros is known for its corbelled cists. Along with a possible enclosure wall, a cluster of recently excavated EC IIA interments revealed a variety of rich grave goods suggesting tombs of elite individuals (Marthari 2017a; 2017b, 152 - 154). During this same period at Manika on Euboea——a site known for its cultural affinities with the Cyclades and Anatolia, a cemetery of rock-cut chamber tombs with multiple inhumation was excavated in association with a well developed settlement (Rutter and Gonzalez-Major 2011 - 2013).



Rock-cut Chamber Tomb
Chrysanthi Gallou 2005



Corbelled Cist - Chalandriani, Syros
Christos Tsountas 1899

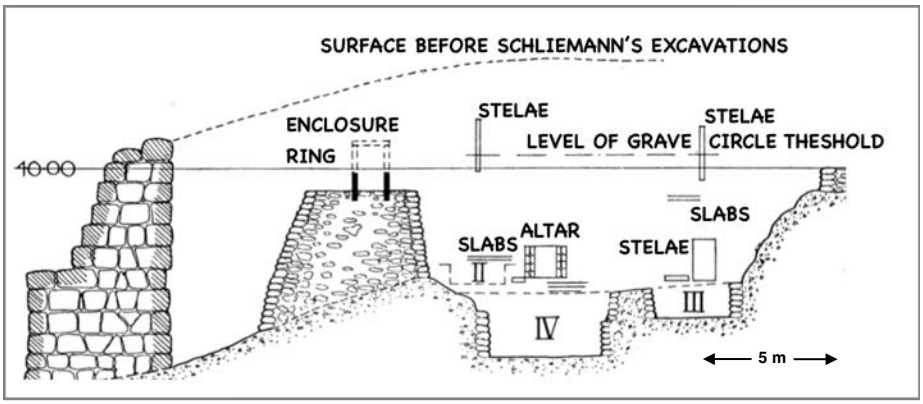
The three sections of the chamber tomb: the approach (dromos), the entrance (stomion), and the burial chamber are also characteristic of later tholos tombs. By LH IIA chamber tombs had become, in Dickinson's words, "canonical for most of the Mycenaean world" although earlier, during the 16th century BCE, "the tholos tomb spread, to become the Mycenaean princely tomb par excellence" (1983, 60 - 61). Previous to these developments, in MH III, the tumulus became established in Messenia and throughout much of the western Peloponnese. These artificial hillocks seem to have been anticipated in EH II - III at Steno on the island of Lefkas. Like other collective burial structures tumuloi are attested in a variety of forms but early examples from Lefkas are between 3 and 9 meters in diameter at the base with a stone wall enclosing a layer of dirt and pebbles——topped by a earthen mound within which interments in cists and large pithoi are typical. Ash along with burned fragments of bone (human and animal) have led some researchers to suggest cremation although Müller-Celka interprets this as residue from a secondary burial ritual (2012, 418).

If Psimogiannou is correct in her association of ritual practices accompanying FN pit burials in dedicated 'mortuary areas' (for example at Proskynas in East Locris), even the earliest evidence for the transition to extramural interment sites includes indications for various funerary rituals and practices (2012, 188 - 192). In fact, Papadomitriou in his discussion of MH III-LH IIA interments, makes the argument that there was a direct relationship between the experimentation that led to the various collective mortuary structures and the rituals themselves——burial monuments and practices that both honored the dead while also imparting to the mourners their own distinctive identity (2016, 344). See below and *EH I-LH IIA Mainland*, 245.

Even this brief survey of early mainland tombs makes clear that various groups of tombs (eg. pit-cist and chamber-tholos) have common characteristics. In fact, given a large enough sample of the known tombs, any attempt to strictly delineate specific types for given periods is challenging. Dickinson puts it this way, “There is far less uniformity in tomb-types over the Mycenaean area than is often suggested; regional variants obstinately persisted, and single sites can have associated tombs of varying types” (1983, 66). Mainland elite funereal practices do seem to display an increasing visual presence——at least through the period when “royal” tholoi were current. This change is roughly associated with the move from individual burials in intramural tombs to the collective burials of extramural cemeteries. During the Mycenaean period a range of memorializing signs and signals from simple grave markers, stelae, and boundary stones to the monumental aspects of tumuli and tholoi suggest that the dead have become not just the particular concern of the elite but a matter of significance for the community as well. This may, in part, reflect an awareness of and identification with the increasingly influential mainland cultural centers.

Schliemann, ever a talented observer, was alert to these visual markers as he began excavations at Mycenae in 1876——but it may have been another of his gifts that ultimately brought him the prize. Schliemann’s luck was such that even his mistakes seemed to point him in the right direction. Having misinterpreted Pausanias’ description for the location of Agamemnon’s grave he instructed his workmen to begin digging two trenches just inside the Lion Gate (Fitton 1995, 77 - 79). Shortly after work commenced two grave stele were uncovered (Schliemann 1878, 80). Several days later Schliemann records that just inside the massive Cyclopean fortification he had, “brought to light a second wall of smaller stones, 12 feet high, which runs parallel with the great circuit wall, and thus forms a curve of about the third part of a circle.” This was a section of the retaining wall that also served as a foundation for, “two parallel rows of large, closely-joined slabs of a calcareous stone” (ibid., 87 - 88). The upright slabs and capstones formed one segment of the enclosing ring for a cemetery that would famously become known as Grave Circle A. It is now thought that, in their original state, both grave circles were ringed by stone markers. What Schliemann had in fact uncovered were elaborate replacement structures——constructed as part of a later memorialization of the burial ground.

While there is some temporal overlap (during LH I) between the two groups of interments, early Circle B graves (eg. A_1, A_2) date to the MH III period, the latest Circle A graves (eg. I) to early LH IIA. Each grave circle, in fact, had a decidedly different history. Initially both were part the ‘Prehistoric Cemetery,’ an extensive area occupying the slope and knoll southwest of the citadel walls. This was the site of numerous earlier interments, mostly pit and cist graves typical of the MH period. At some point early in the 17th century BCE burials at Grave Circle B (GCB) were discontinued in favor of GCA. Unused and neglected, the older grave circle was eventually forgotten while a number of its interments were later damaged during the construction of an adjacent tholos tomb. In contrast, during the LH $IIIB_2$ period GCA underwent extensive renovations and was afforded pride of place when the citadel’s main fortifications were rerouted to bring the grave circle within the walls (Dickinson 1977, 39 - 40).



Circle A Grave IV Cross Section - Wace 1921 - 1923 et al., Pl. XVII after Piet de Jong

The outer wall and enclosure ring in de Jong's drawing of Circle A relate to the LH IIIB2 alterations. The shaft graves (III and IV shown above) are essentially cist tombs placed at the bottom of a shaft (of considerable depth) cut through the earth and soft rock (ibid., 42). Individual tombs held multiple burials encompassing several generations of Mycenaean elite. Following each interment a temporary roof was constructed of wooden beams supporting a layer of plant material and clay; ledges built into the side walls of the tomb supported the roof's considerable weight. However, it was not their structural idiosyncrasies that set these graves apart but rather the extraordinary abundance of rich and varied grave goods——a treasure unmatched in the prehistoric Aegean era. In nearby Lerna two similar tombs were excavated. While their abundant ceramic material is of interest, additional grave goods were absent (Lindblom and Manning 2011, 140). A shaft grave at Kolonna on the island of Aegina is also notable. Although lacking the typical shaft, Rutter describes the grave, "as the earliest royal burial attested within the Helladic cultural sphere," with grave goods including, "a bronze sword, gold diadem, and fine decorated pottery of both Minoan and Cycladic (Melian and possibly Kean) manufacture" (2001, 126). See *EH I - LH IIA Mainland*. A recently discovered grave at Pylos held even more spectacular artifacts. The details are discussed below but structural differences with the GCA tombs are worth mentioning here. Although a number of the GCA shafts reached a depth of over 30 feet, the bedrock base of the Griffin Warrior's stone-built chamber was only 5.25 feet below the surface. In addition, the Pylos tomb lacks the side wall insets described above. This is consistent with the fact that the 'Griffin Warrior' was the sole occupant of his tomb and was interred in a wooden coffin. Large stone slabs were used to seal the interment—an entirely impractical solution for a tomb that was to be reused (Davis and Stocker 2016, 628 - 630). Although the analysis and publication of the Pylos shaft grave is a work in progress, the numerous objects buried with the Griffin Warrior suggest new details regarding Minoan influences on mainland culture. At the same time the interpretive value of the evidence is enhanced by the tombs relatively intact condition——in part attributable to not having been subjected to the inevitable dislocations typical of multi-use tombs. In contrast to the Griffin Warrior's tomb, Mycenae's shaft graves were used and reused over a period of several generations——thus adding significantly to the material dislocations as well as the interpretive complexity. Also, as mentioned, GCB was impacted by later construction while GCA graves were subject to the affects (purposeful or inadvertent) of the LH IIIB2 refurbishments. Fortunately, Mycenae's grave circle interments had not been looted and remained more or less intact for well over thirty five hundred years.

The Goods Interred With Their Bones

The wealth represented by the shaft grave goods, most particularly the artifacts recovered from the later interments, is truly astonishing. Precious vessels from GCA include 122 gold, silver, copper, and bronze vessels——cups, goblets, rhyta and the like, with the gold artifacts alone weighing approximately 30 pounds (Karo 1930 -1933). Mycenae was indeed *rich in gold*, and Homer's pronouncement prompts an important question. What exactly were the origins of the abundant wealth at Mycenae. One hypothesis is suggested by the elite Mycenaeans impressive arsenal and their apparent marshal preoccupation. To judge from the chronological evidence of the shaft graves, Mycenaean wealth and weaponry increased in tandem. For example, a majority of the richest artifacts were recovered from GCA graves III, IV, V; these three interments held 88 sword blades, numerous daggers, knives, spears, and spear points (Dickinson 1977, 39 - 48; Harrell 2014, 5 Fig. 2). If the increase in weaponry reflects an actual increase in military prowess, does this account for the Mycenaeans' burgeoning wealth? A major objection to this hypothesis is the fact that at the time of Mycenae's richest interments Minoans controlled trade across the Aegean as well as access to Egypt. It is considered unlikely, therefore, that Mycenaean piratical raiders would have been successful against either Minoan commercial shipping or land-based targets or that Mycenaean mercenaries became wealthy in the service of Egyptian pharaohs (Dickinson 1977, 53).



Grave Circle A, Grave IV
Type II Bronze Dagger Inlaid With Gold & Silver
National Archaeological Museum

Ellen Davis's inspired approach to this perennial puzzle began with an analysis of Minoan and Mycenaean vessels recovered from the shaft graves. This led to a number of unanticipated findings and to her hypothesis (in agreement with Hänsel) that the mainlanders may have acquired large amounts of gold bullion from the Transylvanian region of modern-day Romania (Hänsel 1982; Davis [1983] 2015, 458). Davis observed that while the Minoans often crafted precious vessels from silver, their artisans rarely used gold except to alloy with other metals. On the other hand the numerous gold vessels from the shaft graves indicate Mycenaean craft workers had access to an abundance of gold (ibid; 457 - 458). Citing both artifactual evidence and the contemporary "intensification of gold mining in the region of central Rumania," Davis suggested that the Mycenaeans may have established a highly profitable trading venture by offering metallurgical skills and technology——largely expertise in smelting and casting bronze weapons, in exchange for gold bullion (ibid., 459). Evidence from subsequent research, although not confirming all the details of Davis's hypothesis, demonstrates she may have been looking in the right place for a solution to the puzzle of the economic underpinnings for Mycenae's emergent elites. Additional evidence has come, not from the gold grave goods, but rather from the silver artifacts in Mycenaean graves.



During the last half century, Oxford Archaeological Lead Isotope Database (OXALID) researchers have applied isotope analysis to establish an important database correlating specific lead isotope signatures with a number of Bronze Age artifacts as well with known sources of metalliferous ores (OXALID; Stos-Gale et al. 1995; Gale and Stos-Gale 2000).[5] During the 1980s OXALID testing confirmed the supposition that much of the silver used during the Aegean Bronze age came from the Lavrion mines in Attica——the same source of silver that centuries later funded the Athenian trireme fleet that defeated the Persians at Salamis (Stos-Gale and Gale 1982). Some, but not all, samples from shaft grave artifacts were determined to be "most probably consistent with the silver from Lavrion" although at the time few comparable data sets existed (Stos-Gale 2014, 195). By the second decade of the 21st century OXALID researchers, using newer and more effective computer technologies, had greatly expanded the number of data sets of isotope signatures for mining sites ranging from Europe to the Middle East. Recent retesting of 32 samples of silver vessels from Mycenaean shaft graves indicated the lead isotope composition of 24 vessels (along with 6 from other LH mainland sites) is most consistent with gold-silver ores from the south-east Carpathian Mountains, specifically the Baia Mare district. Davis observed that, “The consistency of the majority of the Bronze Age silver objects with the ores from Romanian silver-gold deposits is striking" (ibid., 199). Stos-Gale also refers to another data set——this one based on skeletal analysis of eleven shaft graves interments. Strontium isotope signatures indicated that three individuals, including one female, formed an atypical group and were judged to be ‘non-native.’ (Nafplioti 2009, 286; 289; Stos-Gale 2014, 205).



Stos-Gale’s archaeometric findings have also contributed to a more general theory of Europe’s Bronze Age political economies——one that suggests a model for understanding how elite classes may have empowered and enriched themselves (Earle et al. 2015). Although gold and silver have a part in this story, the Bronze Age trade in copper and tin are paramount. Earle and colleagues propose that the differential control of the various aspects of bronze production and distribution played a major role in establishing the social asymmetry that developed in Europe during the 2nd millennium. At the local level control over agricultural resources may have initially empowered kinship groups or clans whose authority was then extended to one or more aspects of the long-distance trade in copper and tin. Key to this process, the authors state, is “controlling the bottlenecks of commodity chains”——for instance the appropriation of expertise, transport, or exchange by elite factions (ibid., 9).



5. Most gold and silver occurs in lead ores and therefore the precious metals need to be extracted from the ore. Cupellation, first used in the Bronze Age, is a technique that employs heat to oxidize the lead——a process that separates the litharge (lead oxide) from the pure metal.

Davis' hypothesis regarding Mycenaean skill in metallurgy and Stos-Gale's proposal that mainland traders obtained Carpathian tin (less available than copper and thus relatively more valuable) are both consistent with Earle's hypothetical model. However, most critical, in Earle's opinion, were, "control over the actual routes and the means of transport" (ibid., 635 - 640; 648). Inland across much of eastern and central Europe this related to riverine routes. By contrast the eastern Mediterranean deep water and coastal routes had their own unique challenges. Geography bequeathed opportunity for mainland Greece (most especially for the Peloponnese)——albeit the demands of manning and navigating seaworthy vessels and protecting valuable cargoes were numerous. Yet there is a fair amount of evidence, albeit largely indirect, that mainland mariners were likely to have had the skills and experience necessary to meet these challenges. See also *Mycenaean II*

Whatever one chooses to believe about the relationship, or lack thereof, of Homeric epic's maritime milieu to history or of the reliability of Thucydides suggestions of a Minoan thalassocracy, Edith Hall seems justified in her statement that, "It is incontestable that the ancient Greeks were enthusiastic seafarers" (2014, 2). In their analysis of the Theseus myth, Nagy, a classicist, and Koh, an archaeologist, both interpret the ascendency of Athens over Minoan Crete as the transfer of sea power (Nagy, 2015a; Koh, 2016). Obtaining Melian obsidian, a critical resource attested across much of the Greek mainland during the Neolithic, clearly required maritime skills. In fact many of the original farming groups that migrated to Greece from Anatolia in the 7th millennium seem to have arrived via coastal maritime routes (Özdoğan 2014, 33). Maran makes the case for three horizons of Mediterranean "interconnections" during the 3rd millennium and states that the third and most consequential network (2200 - 2000 BCE), "seems to have been of crucial importance for the development of maritime connectivity" (2007, 8 - 19). At first glance the timing of such developments seem unlikely given that EH III (the period following the destruction of corridor house societies) is often characterized as a time of stagnation across much of the mainland. However, Maran proposes that it would have been just such conditions that, in part, allowed for an influx of, "a seafaring population specialized in maritime exchange" whose origins, he suggests, were the eastern Adriatic (ibid., 16).

The EH III period also marks a beginning for the remarkable rise to prominence of Kolonna on the island of Aegina. For more than five centuries Kolonna's ceramics production and distribution fueled a resilient and growing economy that led to an expansive fortified settlement with monumental architecture——one that Niemeier judged to be the "first Aegean 'state' outside of Crete" (1995, 73 - 78). See *EH I - LH IIA Mainland*. It is notable that a number of the details of Earle's proposal seem to be reflected in findings from Kolonna. Florens Felten, a principal investigator of Aegina, has described a group of FN figures from Kolonna as representing, "inhabitants of the headland settlement characterized as warriors imply[ing] a seafaring occupation - that means in all probability sea trade, possibly connected with piracy" (2020, 4 - 5). History is replete with accounts of state sponsored piracy——a characterization not completely at odds with the Athenian empire and reflected in Greece's epic traditions as well. More than once Odysseus needs to clarify that he is not a pirate and as Earle points out the dual roles of protector and pirate are not incompatible (*Od.* 9: 252 - 255; Earle et al. 2015, 646). See also piracy in *Collapse and Aftermath*.

While Earle can and does define the specifics of commodity chains, bottlenecks, and hierarchies he is well aware that actual prehistoric evidence varies by region and will be fragmentary in the archaeological record. Given the presence of artifactual evidence, however, it is reasonable to suggest hypotheticals that allow for verification or revision. Based on her archaeometric data and the shaft grave findings, Stos-Gale has suggested that, "At this point one can ask if the story of these gold and silver rich graves is connected with the forays of the Mycenaean warriors into the region of Transylvania, bringing back many kilograms of gold and silver, and the brides" and significantly that "this imported silver was perhaps just a by-product of a lucrative import of tin and gold from the Carpathians" (2014, 205). Future findings are certain to refine our understanding of the origins of Mycenaean wealth and authority. In the mean time it seems highly unlikely that the elite members of Mycenae's early community amassed their wealth without having appropriated some control of critical resources.



Shaft Grave Jewelry
Necklace with Amber Beads
Silver Earrings, Únětice culture?
National Archaeological Museum



Necklace
Grave Circle A, V
Nat. Arch. Mus.



Nestor's Cup
Grave Circle A, IV
Nat. Arch. Mus.



Grave Circle A, IV
Burial Mask
Natl. Arch. Mus.

In 1876 the wealth represented by the grave finds at Mycenae was both surprising and unexpected——not just for the general public, but notably for academia and the scholars who studied ancient Greece. Initially, the vast treasure and the culture it played a part in revealing seemed to appear out of nowhere and there was little certainty about even its proper historical context. Although decades of scholarship and field work have refined our understanding of Aegean prehistory, the origins of Mycenaean society remain controversial and important questions remain unresolved. While the decipherment of Linear B has shown a light on Mycenaean society during the palatial period, the earliest use of the script on the mainland was approximately two centuries after the shaft grave period (Driessen 2008, 73 - 76). Despite these difficulties, progress continues to be made aided by reanalysis of earlier excavations, new finds, and intensive surveys. For example, the recent rediscovery of human remains from GCA along with Stamatakis' original notes and the discovery of the Griffin Warriors tomb at Pylos have both advanced early Mycenaean studies (Dickinson et al 2012; Davis and Stocker 2016, Stocker and Davis 2017).



Shaft Grave Silver: bowl; large vase; "siege" rhyton; mug; cup
cat. # after Karo 2, 1930

It is estimated that the shaft graves were in active use for a period of between 100 and 150 years——involving between four and five generations (Dickinson 1977, 50 - 51). Skeletal remains of just over 50 individuals were recovered from 32 tombs (the 26 graves from GCB included a number of less elaborate pit/cist burials). Although

individual interments occurred in both grave circles (a single instance in GCA), multiple burials were more frequently attested——variously comprising adult and subadult males and females as well as children (Schofield 2007, 33 and 39). Forensic analysis of Grave Circle B individuals (nearly all Grave Circle A human remains had decomposed) attest to generally taller, stronger, and healthier individuals when compared to those from the earlier graves at nearby Lerna (ibid., 35). Statistical data aside, the Mycenaeans inhabited a world whose certainties included hard physical labor, episodes of extreme danger, and a relatively short life. Adult females faced the ever-present dangers associated with complications during pregnancy and childbirth and given the high rate of infant mortality each would likely have suffered the loss of two children during their childbearing years (Nordquist 1987, 107 - 111). Male skeletons commonly show signs of injuries and stress that, along with the numbers of weapons interred with their bodies, likely reflects their hunter-warrior lifestyle (Schofield 2007, 35). Relatively recent aDNA analysis in combination with earlier facial reconstructions strengthen the hypothesis that at least some of the individuals from the same tomb were closely related (Bouwman et al. 2009, 2583 - 2584). There is also evidence that more than one family or clan are represented by the interments. In any case, the labor intensive tomb structures, the rich grave goods, and the later memorializing of GCA all indicate a relatively small group of elite individuals (and perhaps their relatives and/or retainers) set apart from and likely over ordinary Mycenaeans (ibid., 2583; Dickinson 1977, 39 - 40). And while various interpretations have been offered with regards to how these individuals exercised their power and prestige on a day to day basis the shaft grave interments make an unambiguous statement about the clan's practice of memorializing their leaders' exalted status in death.

One of the more useful aspects of Mycenae's shaft grave evidence is its diachronic nature. While the spectacular grave goods of the richest tombs (GCA: III, IV, and V) are deservedly highlighted, the contrasting assemblages of material finds across the range of interments elucidate important changes during the early Mycenaean period——both on the mainland and across the Aegean. During the final quarter of the 20th century defining such changes became integral to Aegeanist efforts to understand the process of state formation. In general, such transitions were characterized as local or regional with significant endemic contributions rather than change punctuated by invasion or migration. This was also compatible with a the post WWII trend that deemphasized large population movements. To a degree, however, negative attitudes towards migration theory were based, not on archaeological evidence, but on reactions to radical National Socialist Party ideologies that merged concepts of migration and ethnicity into a tool that not only facilitated ultra-nationalist propaganda, but also provided a rationale for Nazi atrocities. Given what for many remains a living and painful memory, it was perhaps inevitable that early aDNA evidence confirming significant and consequential population movements would revive such concerns. As Joseph Maran has argued, the synthetic concept of archaeological "cultures" has been and remains susceptible to misuse——when it subsumes ethnic characteristics (2022, 10-11). Maran's argument is not with the data——that may in fact, "add significantly to our knowledge of history and patterns of mobility," but with the attribution of ethnicities to terms such as "Indo-Europeans", "Corded Ware people" or "Mycenaeans" (ibid., 17). In fact, aDNA evidence documents the repeated pattern of population replacement throughout the Last Glacial Maximum—— ca 25 - 19 kya (Reich 2018, 87-92). Later migrations impacting Aegean prehistory directly include the influx of Anatolian farmers at the onset of the Neolithic as well as a smaller FN admixture associated with Iranian Neolithic / Caucasus HG-like

peoples (Haak et al. 207 - 211; Lazaridis et al. 2017). The latter two findings are reflected in the genetic makeup of both Minoans and Mycenaeans. See *Paleolithic & Mesolithic*, 54 - 55 and *Neolithic Mainland* 80 - 82. An additional genetic component in aDNA samples from MBA individuals occupying the northern mainland and not present among Minoans, is, “the higher proportion of 'European HG-like' ancestry.” This finding, “supports the hypothesis that populations from the Pontic-Caspian Steppe contributed to the ancestry the Helladic-Logkas MBA individuals” (Clemente et al. 2021, 2571 - 2573). How and if this third event might have played a part in the EH III - MH I decline of mainland culture and/or the contemporary rise of Minoan palace-centered society is an open question. Additionally, recent genomic research describes, “Biological and cultural connectedness within the Aegean,” attested by, ”the finding of consanguineous endogamy practiced at high frequencies, unprecedented in the global ancient DNA record” (Skourtanioti et al. 2023, 290). While it is clear aDNA will play a significant role in future interpretations of Aegean prehistory, how the data will inform regional transitions is largely unknown. What is fairly certain is that what was once defined as a unitary, linear, and even inevitable process of cultural development is now seen as both contingent and variable.

In his discussion of state formation, Nakassis points out that the Mycenaean state arose in the dynamic context of other active polites—both minor (Minoan) and major (Egypt). As a “secondary state” Mycenae inevitably defined itself, at least in part, by competition with as well as emulation of neighboring states (Nakassis et al. 2010, 240). The Shaft Grave period (SGP) marks the early stages of this process on the mainland——several centuries before the consolidation of the Mycenaean palatial culture. To clarify, the earliest evidence of the canonical Mycenaean palatial structures occurs at Tiryns in the late 15th century BCE, while the early use of Linear B script, a key administrative tool of the palaces, dates to the latter half of the 14th century BCE (Driessen 2008, 75). It is generally agreed (but see below) that at the beginning of the 17th century BCE Mycenae itself was a relatively small community with limited territorial boundaries——perhaps controlled by an hereditary chieftain. The shaft graves make it clear that the display of wealth, prestige goods, and weapons were important symbols of the leader’s individual power and furthermore that his family or clan benefited from their relationship to the leader (ibid., 349). The number of females——bedecked in gold and honored with shaft grave burials, suggest that they too may have shared in or even occupied leadership roles. Although it is clear that the Mycenaean clan would, by the end of the SGP, extend its territorial control and ultimately become a regional power, it was not the sole mainland power. Along with Tiryns and Midea, similar kin groups in Messenia and Lakonia in the southwestern Peloponnese and Boetia, were likely attempting to consolidate their own centers of control. However, the sheer abundance of grave goods at Mycenae at the time, both locally crafted and imported, was unprecedented and unmatched in the Aegean. Conversely, the paucity of Mycenaean goods attested from foreign lands may suggest reciprocal commercial trade was not a factor during the shaft grave era (Shelmerdine 2001, 353). However, the majority of perishable (eg. textiles) and commonly repurposed (eg. metal) items leave no evidence.



Shaft Grave Artifacts attest to the superior skill of Minoan artisans
GCA III Minoan silver pin with gold head / GCB I Mycenaean crafted gold ornament
National Archaeological Museum

Many of the finely crafted objects, including the silver items discussed above, are Minoan——either made on Crete or created by Minoan artisans on the mainland. Given Minoan involvement in Aegean trade, other 'exotic' objects likely arrived on the mainland via Crete. Various scenarios have been put forward to explain the relationship between Crete and the mainland during this period. One well received idea is that at least some Mycenaean elite had established a special relationship with influential Minoans——perhaps even elite members of Knossos' ruling class. Wright and others have framed this in the context of secondary state formation (Wright 1995; 2004b; but see also Nakassis et al. 2011 below). In brief, this scholarly effort is a complex endeavor that involves associating specific archaeological finds with various anthropological theories addressing the means by which elite 'rulers' establish, consolidate, and retain their positions of power and control (Wright 1995, 64). The hereditary chieftain, described above, is one such model and in one scenario the leader secures and maintains his authority by controlling food supplies. As it turns out, however, the vagaries of year to year crop production in the Aegean appear to make this an unreliable means of control (ibid., 67). Consequently the chieftain may have turned to more symbolic (and predictable) methods to retain his authority. Access and display of prestige items thus becomes a significant aspect of the elite's (and his clan's) persona (ibid., 68 - 69). The evidence of Minoan ceramic imports and stylistic influence during the MH period suggests an established conduit for Minoan goods. In Wright words, "the consistency with which much of the material from the shaft graves (notably graves Gamma, III, IV, and V) can be compared to that from palace sites such as Knossos and Zakros——suggest[s] a strong, if not direct, connection of the owners of those items to persons of high rank and authority in the Minoan palaces" (ibid. 70).

In a task not yet complete, successive generations of Aegean scholars have worked to sort, analyze, and interpret the shaft grave evidence. The complexity of this task had in fact been signaled by Schliemann. Within days of beginning excavations at Mycenae Schliemann describes finding 'thousands' of painted sherds with 'variegated' and 'complicated' motifs——all of which have, "never been found before' (1878, 64 - 65).[6] Finds from each of the five tombs tombs presented Schliemann not only with this chaos of sherds but the bones of multiple skeletons and the near innumerable material possessions that proclaimed the elite status of the interred. With each new interment a large portion of the shaft grave contents had been rearranged——and, along with the human remains and grave goods of the final burials, subjected to the inevitable collapses and compacting as the tons of overburden shifted this way and that across the ensuing millennia. A look at even a portion of the finds from a single tomb may provide some sense of the complexity of the excavation process but equally for subsequent interpretations. As described above, the tombs of GCB were initially excavated in 1952, 1953, and 1954 under the auspices of the Greek Archaeological Society with the first substantial report of the findings published by George Mylonas in his *Ancient Mycenae - The Capital City of Agamemnon* (1957). The excavation, however, was just the beginning and thus it is perhaps not surprising that over a half-century later findings continue to be published. Most recently the skeletal remains of GCB have undergone a thorough re-examination (Moutafi and Voutsaki 2016). Among the results, not yet fully published, are skeletal descriptions of four individuals whose

6. In his report on *Schliemann's Mycenae Albums* Hood describes forty plates, some never published, of "well over a thousand fragments of decorated pottery" (Hood 1960, 65).

remains had not previously been recorded (Triantaphyllou, S., 2010, 444). Grave Gamma (Γ) is one of the later and richer GCB shaft graves. The group also includes graves Alpha, Delta, Epsilon, Nu, and Omega——all more or less contemporary with the early interments in GCA. Several stele marked tomb Γ including a decorated stone for the initial interment——see 269 (Dickinson 1977, 45). Five adults, including positive identifications for one adult female and two adult males, were interred in Grave Gamma.[7, 8] Artifacts of special interest include the earliest of the death masks (electrum), a feature of later GCA interments, and a unique amethyst portrait seal (Dickinson 1977, 45 - 46). Increasing numbers of ceramic vessels are attested during the period of GCB interments and Grave Gamma and the associated fill held a particularly rich assortment of pots. The pottery inventory for each tomb comprises two groups: the pots and sherds found *in situ* (10 vessels from Grave Gamma)——that is within the tomb itself, and those pots and sherds recovered from the fill (37 vessels for Grave Gamma) around and above the tomb (Dietz 1991, 108 -111). It is generally assumed that the *in situ* material comprises the ceramics from the later or final interment while the fill pottery is from the earlier burials. Following this reasoning the pottery *in situ* accompanied Skeleton 4 although it has also been suggested a portion of the ceramic vessels may also be associated with Skeleton 3 (Graziadio 1988, 346 - 348). Unlike the pottery, it is believed the skeletons and grave goods including weapons, gold and silver cups, jewelry, and body or clothing adornments, as well as various containers, seals, and grooming items were left in the tomb. The table below provides a summary of select categories of grave goods. Illustrations of a sample of the weapons and pots from Grave Gamma follows.

Grave Circle B: Grave Γ
after Leith 2013 Vol. II Table 5.1



Amethyst Sealstone

Category	Examples / Types (Quantity)
weapons	bronze: swords (6), daggers (4), spearhead (1); knives (2)
gold objects	drinking cups (2), band (1), diadem (1), girdle (1)
bone / ivory	comb (1), plate (1), pommel (2)
precious materials	faience, glass, electrum, amethyst
unique / unusual	electrum face mask (only GCB example); amethyst seal (high quality Minoan-type)

7. Four of five skeletons were originally described by Mylonas (1957, 137) and Dickinson (1977, 45 - 46).

8. Leith's 2013, 2016 comprehensive analysis of shaft grave artifacts and traditional interpretations associating weaponry and warrior kits exclusively with adult males raises important questions regarding gender roles and the suggestion that, based on the current evidence, elite female warriors cannot be excluded from the possible scenarios for early Mycenaean culture. See *Mycenaean II.*

Grave Circle B - Grave Γ partial ceramic finds ◆ *in situ* ◆ fill



Γ 262 -Type B Sword



Γ 267-Type II Dagger



Γ- Group B Spear Point



Γ 265-Type A Sword



◆ Gold Cup Γ-358



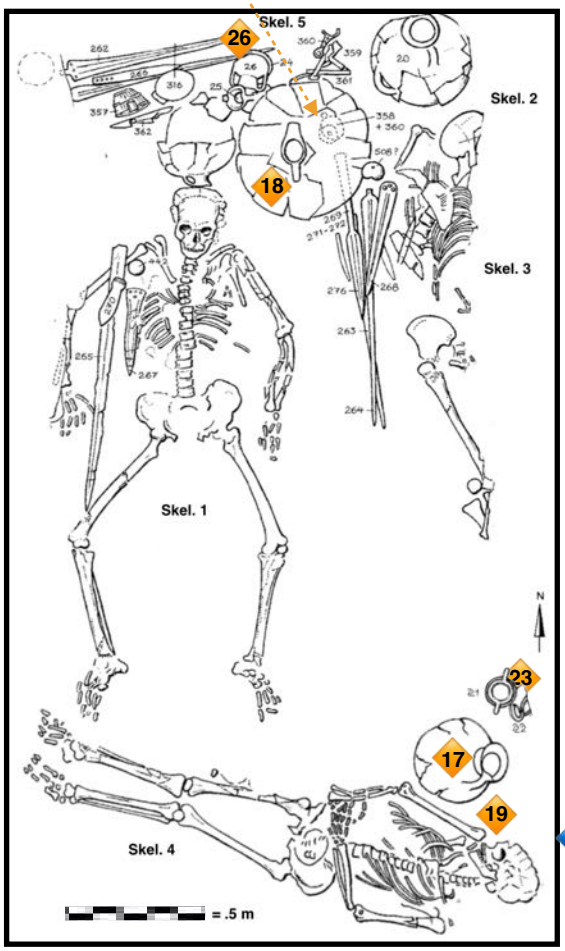
◆ Carinated Kantheros Γ-23



◆ Kantaros Γ-52



◆ Squat Jug Γ-19





◆ Vapheio Cup Γ-53



◆ Amphoriskos Γ-26



◆ Panelled Cup Γ-60



◆ Hydria Γ-17



◆ Beak-spouted Jug Γ-31

Dietz, Søren 1991, 109 Fig. 32
National Archaeological Museum
Archaeological Museum of Mycenae



◆ Jug Γ-18



◆ Beak-spouted Jug Γ-34
◆ Spouted Bowl Γ-61

North Section
Shaft Grave Γ
Mylonas 1957, Fig. 46
Compare with
Dietz Fig 32 above





Gold Cup
recovered from
Grave Γ
beneath Jug Γ-18
Natl. Arch. Museum.

While the recently discovered Griffin Warrior Grave (LH IIA) at Pylos is rightly touted for its intact condition and rich grave goods, it represents a singular, albeit important, interment at a specific point in time. Conversely, the GCB and GCA tombs and their contents provide an unusually large, relatively intact, body of material evidence from the Mycenaean formative period——a window on several generations of Mycenaean elite during a period of approximately a century to a century and a half (Dickinson 1977, 51). Grave Gamma itself offers a trove of useful evidence that suggests a good deal about the lives and lifestyles of both the interred as well as those who celebrated the deceased. The value of this evidence, however, is greatly enhanced by its larger context——the contents of the earlier and later shaft graves. Despite its often shattered state (some intentional breakage is thought likely) the copious ceramic evidence is considered among the more informative. Even a cursory look at the ceramics from Grave Gamma reveals a diversity of shapes and decorative styles; less obvious are ceramic characteristics that indicate various connections to regional neighbors. Dickinson stresses the first point in calling attention to the heterogeneous nature of GCB finds (ibid., 53). Although Dickinson highlights the unique mainland attributes of many grave finds he also indicates regional influences. The diversity of grave finds, in particular the pottery evidence, reveals Mycenae's connections, direct or indirect, with Aegina, the Cyclades, and Crete and through their regional neighbors some degree of familiarity with the products and styles from the more distant lands of Egypt, the Levant, and Anatolia. Decades of work, in large part with stratified deposits of pottery, has allowed researchers to construct a reasonably accurate chronology for the SGP and relative temporal assignments for many of the individual tombs. This provides an empirical basis for various interpretive hypotheses. Dietz has characterized a number of important trends attested by the ceramic assemblages. "It is shown", states Dietz, "that relations with the Cyclades, both in the Argolid and in Attica, were substantial during the formative phase of the Mycenaean society—during MH III in Mainland terminology," and furthermore, "Minoan influences are discernible (again) in full strength during the early part of LM IA and early LC I in the Cyclades" (1998, 9). These influences are attested directly with imported vessels but are also suggested indirectly when mainland potters apparently adopt and adapt characteristic ceramic styles and shapes from other Aegean pottery traditions. Defining assemblages of similar groups of pottery and relating these to specific chronological periods, determining production centers, identifying the origins of shapes, styles, and decorative designs and then attributing the various influences has the complexity of the Minotaur's lair. In lieu of tracing the numerous lines of inquiry the following section illustrates a number of the major wares in use during the MH III - LH IIA period (a number clearly predating the interments) with select ceramic vessels from GCB. Descriptions include some details on regional relationships of the various pottery traditions but note this is a transitional period marked by change.[9]

9. Attributions for decorative motifs, shapes, and ceramic techniques are based on the preponderance of evidence but often without absolute certainty.

Grave Circle B Ceramic Types [10]

References and footnote on following page.

MINYAN



Goblets: Y-233, Π-218, I-102

Monochrome, burnished Gray Minyan wares likely developed from EH III (Tiryns culture) wares. Widespread across the mainland during the MH, Minyan wares remained in general use into the early LH. Goblets and kantheroi in Grey, Black/Argive, Red, and Yellow forms are typical. MH II - III goblets have a tall, ribbed (Y-233) or incised (I-102) stem that by the latest MH phase display short, smooth stems (Π-218) at times with shallow incisions. Black/Argive Minyan, common in the Peloponnese is often Incised and stamped. Later MH II-III Yellow Minyan ware's light-colored fabric offered an especially suitable ground for dark matt-painted decorative motifs.

MATT-PAINTED (M-P)



Amphoriskos Y-237



Vaphio Cup Γ-53



Semiglobular Cup H-93



Aeginetan Hydria Γ-17

Despite its lack luster character, matt-painted elements were well suited for the popular dark on light style pottery. Initially motifs were rectilinear; later, following Minoan and Cycladic practices, curvilinear and naturalistic designs were adopted. The amphoriskos with M-P reversed spirals and bands date to MH IIIA. M-P Aeginetan wares such as the Hydria were produced at a Kolonna pottery as part of the island's significant MH export trade. The hydria's leaf-like motif is typical of the later naturalistic decorative designs. Gold-mica inclusions indicate the vessel's origin. One reason for the adoption of the magnesium-based paint may have been its consistent appearance even when firing temperatures varied.

POLYCHROME MATT-PAINTED (PM-P)



Ovoid Jug ΛI-114



Two-handled Jar Λ-116



Cut-away Neck Jug K-110

Mainland PM-P pottery, like the jug (K-110) at left, is first attested early in the Late Bronze Age (LH I). Red and black paints used in concert to create three-part horizontal or vertical bands are characteristic. Such tripartite designs (compare with other polychrome & bichrome wares) decorate Yellow Minyan and other lightly burnished ceramic vessels. The ovoid jug (Λ1-114) is typical of Cycladic "Black and Red" ware in "Temple Repository Style." The antithetical bird motif decorating the two-handled jar is unique but thought to be Cycladic.

Grave Circle B Ceramic Types (cont.)

IMPORTED LUSTROUS DECORATED (LD)

Semiglobular Cup Γ-55



Askos M-154 Stamnos A-3

A number of LD imported Minoan (MM-LM) vessels, including the askos (M-154), were recovered from GCB. Similar, dark-on-light pottery (Γ-55) termed "minoanizing," has a comparable lustrous sheen imparted by a solid coat of iron-based paint, typically embellished in matt-white (A-3) or purple. It is generally believed "minoanizing" LD wares were first produced (MM IA) at the Minoan colony on Kythera, however, the presence of mainland and/or Cycladic ceramic elements alongside Minoan influences also suggest a secondary pottery production center on the mainland.

IMPORTED GOLD-MICA FABRIC (G-MF)

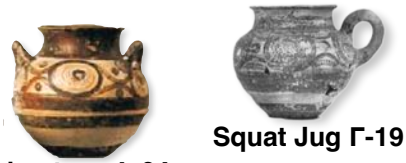


Kitchen Cup 0-205

Shoulder-handled Jar 0-196

A second group of imported wares is known to have been produced on Aegina, most likely at a Kolonna pottery. Named for their fabric's mica inclusions, G-MF ceramics were widely exported to central Greece, Attica, and Argolid and eventually (LH I) across the southern mainland. The diverse forms of G-MF vessels included red-slipped and burnished bowls and goblets, cook wares, and numerous matt-painted table and storage vessels. See also Γ-17 above.

MYCENAEAN DECORATED (MD)



Alabastron Δ-64 Squat Jug Γ-19

MD lustrous painted pottery combines various Aegean elements. Its earliest forms comprise six relatively small shapes (see below). The hole-mouthed jar and the semiglobular and Vaphio cups were introduced in the MH from Crete. The alabastron (Δ-64) and squat jug (Γ-19) and the piriform jar combine MH mainland shapes with MM and MC features. By LH III MD wares had achieved a remarkable degree of uniformity. At the same time the pottery became a mainstay of Mycenaean commerce across the eastern Mediterranean.

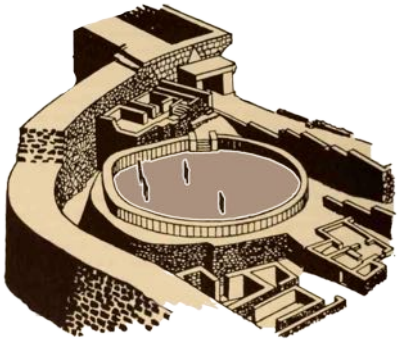
Mycenaean Decorated LH I Shapes



10. Buck 1964; Rutter and Rutter 1976; Mountjoy 1986; Graziadio 1988; Dietz 1991; Zerner 2008; Mathioudaki 2010; Rutter and Gonzalez-Major 2011-2013, Lessons 9, 16; Rutter 2015; Lindblom et al. 2015. Illustrated ceramics from Mycenae Archaeological Museum and the National Archaeological Museum.

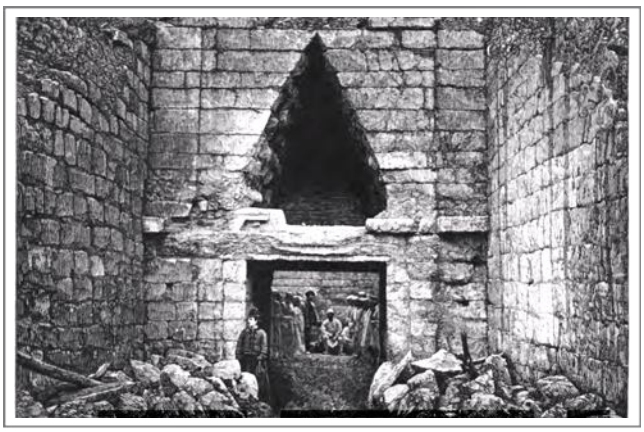
From Mycenae To Mycenaean

Mycenae's shaft graves tell us much of what we know of the beginnings of Mycenaean culture. Two centuries after the final interment in GCA a major expansion of the site's outer walls resulted in the entire grave circle being protected by and positioned within Mycenae's fortifications. This extraordinary act of memorialization suggests a cultural continuity that is not always apparent in the archaeological record. Major alterations to the temenos (sacred space) included a large stabilizing wall inside the western enceinte as well as a double-walled and capped enclosure ring. See 276. Reverence does not seem too strong a word for describing how later generations of Mycenaeans treated the resting place of their elite ancestors and apparently no other structures were built on what was likely considered sacred ground. This evident cultural continuum——one that must surely have included a colorful and detailed oral component, reminds us that significant aspects of Mycenaean life are unrecoverable. Similarly, the Mycenaean Palatial period (ca.1475 - 1200 BCE) attests to outcomes of earlier contingencies but not to the specific events that decided winners and losers. The intervening centuries most likely included pitched battles, sporadic raids, competition for control of productive agricultural areas and/or trade routes and perhaps even peaceful political negotiations. In truth, however, the details can be attested only indirectly. In his *Origins*, Dickinson speaks of, "a shadowy M.H. aristocracy," suggesting that the early rulers, "established their power to a great extent by successful warfare, using weapons and armor of types developed in Crete and perhaps adopted first by the Shaft Grave group" (1977, 108). However, as Dickinson points out elsewhere, the numerous swords, daggers, spear points, and other accoutrements of battle may indicate the probability of armed conflict but conclusive, direct evidence for their use is lacking (Dickinson et al. 2012, 181). Alternative and/or complementary scenarios emphasizing technology transfer (bronze metallurgy) and/or control of material resources (metals including tin and silver) have been proposed as critical to Mycenae's initial success. These may or may not have included an element of force typical of raiding and piracy. Given Minoan control of maritime routes during the mainland's prepalatial period it seems highly unlikely that the Mycenaean elite amassed their wealth solely as merchants or brigands. At present, however, no single interpretation is supported.



Grave Circle A Reconstruction
Wace et al. 1921 - 1923, Pl. XVIII
after George Dexter & Piet de Jong

Sometime in LH IIA, perhaps concurrent with the latest shaft graves, the construction of tholoi and chamber tombs mark a significant shift in mortuary practices in the Argolid. As mentioned previously the earliest mainland tholoi were built in Messenia but their use and architectural design came to full fruition at Mycenae and Tiryns in LH IIIB. The early accounts of Schliemann, Tsountas, and Manatt of the Mycenaean tholoi were followed by A. B. Wace's detailed treatment early in the 20th century (1878; 1897; 1921 - 1923). Although Heinrich Schliemann's reputation for self aggrandizement seems well deserved he gives due credit to Sophia Schliemann, his young Greek bride, for her work



The Treasury Close To the Lion's Gate. Excavated By Mrs. Schliemann. Frontispiece [11]
Schliemann 1878. London. John Murray

on several tholoi. Sophia is featured on the frontispiece of his *Mycenae; A Narrative of Researches and Discoveries at Mycenae and Tiryns* where she poses in the foreground beneath the massive relieving triangle above the stomion. Behind her, within the tomb vault itself, are men from the local Charvati work crew (1878, Plate V). Mycenae's Treasury of Atreus[11] along with the Lion Gate have been the most persistent images in the historical memory of early mainland culture. While illustrations of the Lion Gate are found on the cover of numerous popular accounts of Mycenae, the structure itself was likely buried and out of sight for centuries. Mycenae, however, may never have been entirely forgotten as even its destruction by the citizens of Argos in 468 BCE is testimony to its legendary fame. The tholoi were in fact not "treasuries" (an impression left by Pausanias) but tombs for elite Mycenaeans——a fact generally accepted by the late 19th century and reported by Tsountas (1893 / 1897, 117). The tholoi named for Atreus and Clytemnestra, date to LH IIIB, and are among the latest of nine such tombs constructed at Mycenae. One of the more insightful early modern accounts of these structures is Lady Elgin's (Mary Hamilton Bruce) narrative of her visit to the "tomb of Agamemnon" in May of 1802 (Hunt and Smith 1916, 213).

> *On entering the great plain of Argos we made about half an hour's deviation to the left to see the ruins of the City of Mycenae. Great Masses of the Walls of the ancient Citadel still remain. They are said to be the work of the Cyclops. At a short distance from these Ruins is a stupendous Vault which is supposed by some to be the tomb of Agamemnon, and by others the Treasury of the Kings of Mycenae. Two long walls of massive masonry lead to the doorway of the subterraneous building; but so much soil has been washed into it by the mountain torrents, that it required no common courage to crawl through the Hole by which alone it could be entered. I went in after some hesitation on all fours, and was fully gratified with the scene. The Stone which forms the Architrave of the door is of a dimension that exceeds everything in magnitude that I had seen at Athens. We measured it and found it twenty four feet long, seventeen feet thick, and near five feet high.*[12] *The form of the Vault is that of an immense hollowed Sugar loaf, and composed of Hewn stone. We light[ed] a large fire in it, and crept through a subterraneous passage into another Dome of much ruder work.*

11. This tholos is referred to both as the *Treasury of Atreus* and the *Tomb of Agamemnon*.

12. Tsountas recorded the lintel's dimensions as 29' 6" x 16' 6" x 3' 4" and the weight at nearly 120 tons (1897, 119). Given the conditions she encountered, Lady Bruce gives a reasonable approximation of the size of this megalith.



Tomb Cutaway
Brown University, Wikimedia Commons

Mary Bruce's words capture an essential truth for those gazing backwards across the millennia. Aside from the tholoi, Cyclopean walls, and perhaps Homeric epic, very little remains of the Mycenaean civilization that is truly monumental. The Treasury of Atreus is unique as it is perhaps the singular place where one can still experience the magnificence of the mainland's ancient civilization. Curiously, as Tsountas pointed out long ago, the monumental structure does not call attention to itself——in fact as one approaches the tomb, surprise may add to the overall affect (1897, 121). On retracing the footsteps of Mycenaean mourners beneath the walls of the dromos and passing through the stomion, one enters the towering vault——here the Treasury of Atreus speaks for itself.

Nearly all tholoi across the Peloponnese and north to the "Treasury of Minyas" at Orchomenos were robbed and/or mined for construction materials. Fortunately two intact tholoi, at Vaphio (Laconia) and Dendra (Argolid), provide at least a sample of the original grave goods. Tsountas found and described the Vaphio tholos that, "can," in French's words, "be taken as an example of what might have been" (Tsountas and Manatt 1897, 130; French 2002, 41, 44). The numerous bronze, silver, and gold items along with artifacts in stone, amethyst, and alabaster, like the finds from the shaft graves, demonstrate that Mycenaean taste and excellence is as often attested by the diminutive as it is by the monumental (ibid., 44). Although three tholoi are known with sizable side chambers (including the Treasury of Atreus) most interments were placed either on or beneath the floor of the vault. The Vaphio finds came from a buried cist whose stone slab enclosure had protected the contents over the millennia (Tsountas and Manatt 1897, 144 - 145).



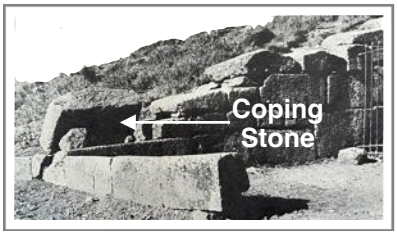
Details: Necklaces & Octopus Cup Dendra Tholos (Argolid)
Details: Vaphio Cup; Ring Vaphio Tholos (Laconia)
National Archaeological Museum



Dendra Tholos

Alan Wace divided the tholoi into three groups of three and arranged them chronologically according to general improvements in building techniques and the treatment of the stone. These included the increasing use of ashlar cut masonry in lieu of the typical rough cut limestone and limestone rubble. Uniquely at Mycenae conglomerate was used for finished stone blocks——the surfaces initially hammer-dressed and later sawn. A variety of combinations of stone blocking walls as well as wooden doors were placed at various locations along the dromos as well as at the stomion. Novel architectural embellishments included colored stone, marble, and gypsum, half columns, and sculpted surfaces and friezes (1949, 26 - 48).

A focus of Nikolas Papadimitriou's informative study of the transitions of mortuary structures during the MH to early LH era is the dromos. By LH IIA, "most collective tombs," he states, "were provided with a space, which was specifically intended for ritual processions: the dromos" (2016, 345). Noting that the original impetus for the dromos was a series of structural experiments, "aimed at the creation of an efficient system of access to collective sepulchers," Papadimitriou elaborates on both the practical and symbolic aspects of the approach to the stomion. As constituted in their later forms a number of dromoi (eg. Vapheio at 29 m and Clytemnestra at 30 m) were clearly longer than was practically necessary and it is hard to fault Papadimitriou's observation that, "the dromos should be seen as a performative space par *excellence*" (ibid., 346). While admitting to the speculative nature of his interpretations regarding the details of such displays, Papadimitriou's survey of mortuary changes also outlines, in part, changes in tomb wall construction on the mainland. Significantly, a number of these tombs offers early evidence for Minoan ashlar masonry, a form that replaces rubble wall construction——with ashlar becoming a signature feature of mainland monumental architecture prominently on display at palace centers. Early uses of ashlar masonry on the mainland for terracing and retaining walls is attested at Pylos as well at Mycenae's Petras House and as part of select tholoi (Wright 2021, Lecture). See 306 below.



Dromos Entrance
Treasury of Atreus
Wace 1949, Fig. 40

Voutsaki has shown that although tholoi were more numerous in Messenia, as a group these were smaller and often crudely built. In addition she argues that the contrasting manner in which changes in mortuary practices occur at Messenia and in the Argolid explains a good deal about the nature of the apparent societal differences——most particularly in the early LH. At Mycenae the shaft grave period attests to a rapid increase in the number and value of tomb gifts——a reflection of the growing asymmetry in the social order. This centralization of both authority and wealth at Mycenae continues at the time tholoi are being constructed. Early tholoi were built at a number of sites across the Argolid but the latest and most advanced tholoi are restricted to Mycenae and Tiryns (1995, 59 - 60; 1998, 50 - 52). The contemporary and continuing spread of chamber tombs, on the other hand, is accompanied by a decrease in the number of rich grave goods across nearly all levels of society (1995, 62). Superficially these changes may look linear——as the inexorably rise to power of Mycenae and perhaps Tiryns. However, Voutsaki sees both the increasing richness of material goods and the escalation of display represented by larger and more splendid tholoi as, in part, indicative of competition among various kinship groups that, for a time, led to increasing instability in the social order. While some of the same changes in mortuary practices occurred in Messenia, Voutsaki sees a less rapid rate of change, a more modest level of wealth, and less intense competition among factions (1998, 55 - 56). A final point emphasized by Voutsaki is her conviction that the mainland's interactions with Minoan Crete were an important stimulus for social change. Voutsaki is not suggesting that the mainland is necessarily emulating specific Minoan social practices or material culture, although this did occur at times (as with ashlar masonry), but rather that there was a growing awareness of individuals on the mainland that the acquisition and display of material resources and goods could be used to elevate their own status and authority. In Voutsaki's view the corollary to these new possibilities is the resistance to change based on the disruption of the inherent stability in the egalitarian society of the MH (1998, 47). The "big picture" of the mainland transition, from the dawn of the Mycenaean

era to established Mycenaean states (MH III - LH IIA), may be that there is no single big picture. If Aegina's success and developments in Attica, Boetia, and Thessaly are ignored, the contrast between the Argolid and Messenia is striking. While Voutsaki and her colleagues have shown that changes in mortuary practices reflect significant transformations in the social order across much of the mainland, the most informative insights illuminate local changes such as those at Mycenae and Lerna (2012, 165 -166).

Minoan Aegean

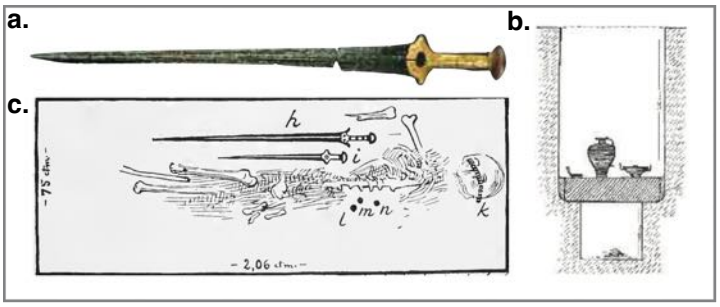
It is useful to keep in mind that the interpretations of Voutsaki and her contemporaries are informed by a century and a half of archaeological excavation and research. Schliemann and Evans, on the other hand, faced a *terra incognita*. Arthur Evans characterized his initial efforts at Knossos as, "entering on what was then in fact a wholly unexplored world," and that his, "Every step forward was in the dark" (1921, v - vi). Additionally, prior to the 20th century there was little basis for assigning even an approximate chronology to prehistoric Aegean civilizations. Given Schliemann's engagement with Homer he naturally focused his attention on identifying plausible connections between Mycenaean artifacts and the Atreidae. However, the personae of the Greek heroic age were defined by their roles in epic poetry and drama not by their temporal context. In any case, during the final quarter of the 19th century CE many well educated individuals, classicists included, deferred to biblical accounts as the basis for historical chronologies. The initial informed interpretations of the Mycenaean grave finds were suggested by Charles Newton and Flinders Petrie. See *Homer's Odyssey*. Although Newton was wrong in his estimate of Mycenaean chronology, his archaeological experience on Rhodes and familiarity with "archaic" Aegean finds in general enabled him to suggest comparative material for several classes of Mycenaean artifacts. For example, Newton observed that gem stones with intaglio images from Shaft Grave III were comparable to ones from, "Rhodes, Melos, Krete, Santorin, and Cyprus." He notes that one displays an agrimi, "the wild goat with very large horns, which still inhabits Krete," and a second, "two warriors fighting, one of whom is armed with a very long oblong shield" (1878, 279 - 280). Although the details of a Mycenaean - Minoan connection awaited Evans's efforts and later critiques, Newton's perceptive observations were on the right track.



Sardonyx & Amethyst Lentoid Gems
Schliemann 1878, 202 Nos. 313, 315

Arthur Evans's excavations of Knossos early in the 20th century revealed the earliest of the Aegean's prehistoric civilizations. And although Evans's vision of Mycenaean vassalage proved unfounded, it is clear that mainland culture cannot be understood without reference to the Minoans——their rise to prominence just prior to beginning of the 2nd millennium BCE and the subsequent dissolution of their society around the mid-point of the fifteenth century BCE. During the palatial era Cretan influences and perhaps even colonial enclaves are attested across the Aegean with some exported goods reaching Egypt. A Minoan presence is well documented at Miletus on the western coast of Anatolia, on Thera, Melos, and Kea in the Cyclades, on Aegina and Kythera, as well as at adjacent Laconian sites. By 1450 BCE Minoan preeminence had declined, and while climate change as well as volcanic and seismic activity were likely involved, the subsequent Mycenaean presence on Crete is well documented. Malcolm Wiener has summarized the evidence in, *The Mycenaean Conquest Of Minoan Crete* (2015). The "replacement" of the Linear A with Linear B—the script used for recording Mycenaean

Greek, is among the more significant indicators of the transition. Notable as well, tablets inscribed with Linear B are attested from Knossos and Chania (LM IIIA1), the two sites on Crete exhibiting a clear change in mortuary practices in LM II. The new cemeteries seemingly replaced typical Minoan multiple chamber tombs with individual pit and shaft-like graves——many replete with the arms and accouterments of warriors (ibid., 131 - 134). Arthur Evans and Duncan Mackenzie excavated a number of these tombs including “The Chieftains Grave” north of Knossos (1912, 51 - 59).



Chieftain’s Grave 36 - Zapher Papoura
a. Type D Cruciform Sword 0.61 m
Weiner 2015, Fig. 3 Photo: I. Papadakis
b. shaft grave section c. grave detail
Evans 1912, Figs. 10, 65
Illustrations: H. Bagge

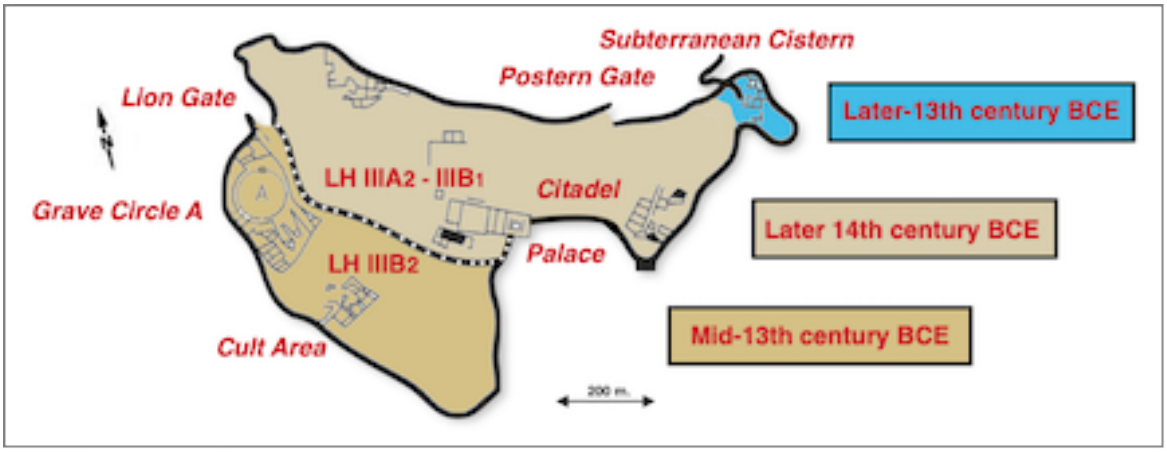
At the same time, Minoan trading outposts across the Aegean rather abruptly took on the cultural characteristics of the Mycenaean mainland (Wiener 2015, 135 - 136). As with much of Aegean prehistory, mythological traditions seem to reflect, if not exactly mirror, events in the archaeological record. In this case a significant transition——the tipping point at which Cretan prominence gave way to mainland interests is reflected in the Theseus myth. See *Homer’s Odyssey.*

There is little at the onset of the LBA that one might call “Mycenaean” in any general sense. Even at Mycenae, the first of the palace-centered sites to consolidate its authority, LH I was a time of factional competition and an uncertain future. Maran makes the related point that, given the numerous disruptions, discontinuity is a more useful bias than continuity when viewing the transformations that occur during this period (2015, 277). The Argolid in particular seems to be characterized by a growing asymmetry among social classes and the likely attendant competition among a number of factions. The latest GCA graves, the early tholoi at Mycenae, and the initial chamber tombs fall within LH I to early LH IIA (1675 - 1550 BCE), all putative Mycenaean periods. However, construction on the early palatial structures at Tiryns and at Mycenae does not begin until sometime in LH IIIA2 or during the transition from the 15th to 14th century BCE. At Mycenae the first stage of the fortification wall was built at this time and includes the critical terracing that supported the southeast corner of the palace megaron (French 2002, 57). At about the same time earlier structures on Tiryns’ citadel were, according to Maran, “razed and leveled,” in order, “to create the unified space needed to construct the first Great Megaron” (2010, 725). Previous structures had in fact been built on each of the citadels, some with claims to palatial characteristics, albeit little remains to permit definitive descriptions. The factional competition that characterized the transformation to the Mycenaean Period must have subsided to an extent during the latter 15th century BCE——perhaps as the result of decisive battles over the limited agricultural areas and/or the establishment of exclusive access to one or more profitable trade routes. Some measure of relative stability would have resulted as elite families consolidated their authority and control of local agricultural and pastoral resources. Having established defensible territories with sizable populations whose individuals displayed a measure of allegiance and/or obligation (perhaps based on a combination

of self-interest and force), the ruling elite at Mycenae were in a position to muster and direct what must have been a sizable workforce to construct the final three tholoi and complete the first stage of the Cyclopean fortification walls. The ruling faction also likely sponsored and directed cadres of specialized craft workers to produce a range of desirable and useful products for both local consumption by palace elite but just as critical for commercial trade.

If Voutsaki's hypothesis is correct and exemplars of wealth and prestige from Minoan Crete caught the eye of ambitious mainlanders, the increasing numbers of fine Minoan grave goods attested in the later shaft graves may, in part, reflect the outcome. At the same time, the Neopalatial floruit of Minoan civilization and the island's domination of commercial trade in the eastern Mediterranean likely restricted the possibilities for economic growth on the mainland. If so the widespread destructions on Crete early in the 15th century BCE (LM IB / LH IIB) would have removed a significant obstacle to the rise of Mycenaean civilization. In any case, subsequent developments on the mainland suggest that the Mycenaeans were presented with new opportunities. The consolidation of palace centers and the success of Mycenaean civilization during the latter half of the second millennium BCE (LH III A-B) is clear in the archaeological record. The primary evidence, however, comes not from the realm of the dead but rather from the architectural remains and material objects associated with palace centers, residential dwellings, workshops, cult buildings, and even the occasional ship wreck. Two structures at Mycenae, constructed in LH IIIA, can be seen to represent this watershed moment——one standing at the end of a lengthy earlier tradition, the other a beginning and representative of things to come. The Treasury of Atreus marks the culmination of a period of transformation and change——an era reflected largely in mortuary practices and display, while Mycenae's initial fortification walls are an early manifestation of an era that is best, although not uniquely, expressed in the palatial centers of the Peloponnese. Critical to our understanding of this latter period is the written record. Despite the brevity of their temporal scope as well as their focus on a relatively narrow slice of Mycenaean society, Linear B tablets have proved invaluable in the hands of scholars with the expertise and ingenuity to extract their meaning and suggest interpretations.

One aspect of the tholoi tombs, in particular those at Mycenae, does in fact seem in concert with the characteristic pomp of the palatial period. A majority of MH and early LH tombs are subterranean and thus hidden. Although the extraordinary wealth represented by the grave goods of the later shaft graves is often referred to as ostentatious, all such ostentation was buried in the ground. This may seem a curious manner of *display* although, at the time, for those relatives of a specific kinship group or clan this practice presumably advertised their wealth and elite status while confirming their identity and authority within their community (Voutsaki 1998, 47). As compared with shaft graves, the Mycenaean tholoi are distinctly more visible monuments to the elite's wealth and power displayed, at least in part, in the full light of day. In contrast to the relatively inaccessible nature of the shaft grave, the lengthy dromos and monumental vault suggest participation by a greater portion of the community while the tholos itself had a continuing visible presence on the landscape. This can be seen as part of a trend that begins with the earlier move to extramural cemeteries and tumuli often delineated with conspicuous stone boundaries and with stelae marking individual graves. The culmination of this process is realized, in part, with the memorialization of GCA——the act of a mature Mycenaean culture putting its lengthy heritage on prominent display.



Mycenae Fortifications Phases
after Wace 1949 and French 2002

Mycenaean Palatial Centers

The renown of mainland "palaces" is as ancient as Western civilization's founding epics. The stuff of myth yes, but never airy castles lacking substance. Mycenae, Tiryns, Pylos, and Thebes were very real places sung by Homer, with a number referenced in the histories of Herodotus and Thucydides and each having important roles in the dramas of Aeschylus and Sophocles. Nor were these places entirely forgotten as Alexander swallowed up the known world and set the stage for the Hellenistic period. As we have seen, Pausanias included a number of the more famous Mycenaean sites on his itinerary. During the last century and a half many of these same sites have taken on a new reality as the combined efforts of archaeologists, anthropologists, geologists, paleobotanist, and philologists, among others, have revolutionized our understanding of Mycenaean civilization.

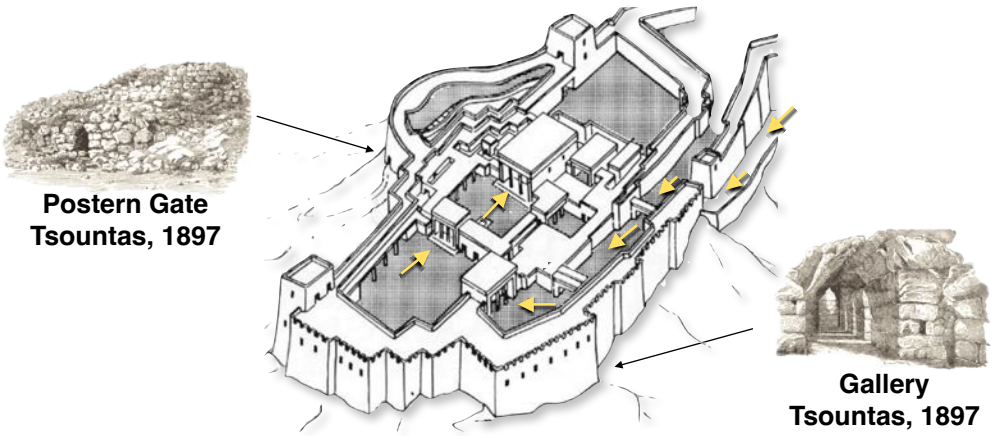


Mycenaean Palatial sites

The map at right shows the locations of 9 mainland (also Iolkos of questionable status) and 2 Cretan sites with palatial architecture. Mycenae, Tiryns, and Pylos are notable for shared LH IIIB2 architectural features although the details of extant remains (for example fortifications) vary among sites. It seems reasonable to suggest that at least some Greeks of the Archaic and Classical periods had first hand knowledge of these ancient ruins——perhaps even Homer himself. Yet there is scant evidence the ancients were aware that the Mycenaeans had used writing. Today, however, our understanding of Mycenaean society has as much to do with interpretations of Linear B documents as with Cyclopean walls and megara. Linear B tablets and their fragments have been found at the three major Peloponnesian palace centers as well as at Midea and most recently Ayios Vasileios. The Pylos archive and Knossos' deposits are of particular note. Thebes on the mainland and Khania on Crete are among other sites with significant numbers of Linear B documents.

The major palace centers are thought to have been a locus for political and economic policy while also hosting important ritual and religious practices. Various formal architectural elements, including propyla, courtyards, and megara were common to the mainland palace centers at Mycenae, Tiryns, and Pylos. Overall planning and design also addressed the more practical side of palatial interests with the inclusion of numerous storage and workshop spaces. While the various physical spaces met both ceremonial and functional needs, like all such structures, each palace delivered an unspoken message——one that would not have been lost on the visiting supplicant, emissary, or merchant. This aura of both magnificence and threat seems especially true for Tiryns and an imagined visit is instructive. See *Appendix A*.

Approaching the citadel would have been a humbling experience for first time visitors. The sheer size of the fortification walls would have made a unique impression——one whose affects surely was magnified as our visitor made his way up the approach ramp and turned east though the main entrance. Beneath the enclosing shadows cast by the massive walls and tower our visitor may quickly have sensed his movements were dictated by design——an impression only strengthened by the architecture's not so subtle threat of entrapment to uninvited intruders. The well guarded main gate, framed by immense puddingstone posts, likely remained closed until one's identity and business were confirmed. Directed along the ramp, through doubled doors, and into the roofed outer gallery, our visitor at last approached the first of the formal entranceways with its view eastward across an expansive outer court. Well aware of the palace's monumental size, the visitor now came face to face with its opulence. Dressed gray limestone and the selective use of conglomerate blocks complemented the columned porticos and colonnades——the latter adding an air of extravagant spaciousness. Pausing to await a summons, our visitor may have been escorted into a small waiting room and likely offered a cool drink. Such an interlude would also have born a not so subtle message of precisely who was waiting upon whom. At the proper moment the guest would have been directed across the great court and through the double-columned outer porch into the vestibule. It was here the visitor's attention would have irresistibly been drawn to the large and colorful wall paintings——at once alien to his everyday experience yet images picturing the very songs he may have learned as a child. Gazing across the portal into the heart of the megaron would have been a highly charged experience. Dominating the main room and framed by columns, the massive central hearth would likely have been ablaze——a mesmerizing experience as leaping flames spread their dazzling light across the dark inner sanctum while casting shadows upwards against the face of the brightly decorated clear-story. Yet the stunning affect of this entire display may have vanished from our visitor's mind with his awareness of the presence of the wanax.



Postern Gate
Tsountas, 1897

Gallery
Tsountas, 1897

Tiryns LH IIIB2 - Reconstruction
© Christopher L. C. E. Witcombe

Clearly the previous description is an imagined one, albeit in the framework of the archaeological realities. Some may demur, yet lacking imagination archaeology itself would dry up and blow away. It is not imagination that threatens the constructs of archaeology but rather how well the details and generalities of a particular hypothesis (in part, a product of the imagination) conform with the evidence. Perhaps surprisingly many of those most intimately connected with the Mycenaean world have referenced evidence not just from the soil but also in the traditional narratives of ancient Greece.

From Christos Tsountas and J. Irving Manatt, *The Mycenaean Age, A Study Of The Monuments And Culture Of Pre-Homeric Greece*

> *Among all the sheltered bays of the Peloponnese, no other cuts so deep as the Gulf of Argos. Nothing but the mountain ranges, with their eternal 'thus far and no farther,' fence it off on either side, but at the head it has left a bit of a plain with a sunny southern exposure to break the rugged mountain circuit. It is this bay and this plain which formal Greek history first associates with the commerce of the East. In the opening pages of Herodotus, we find the peddling buccaneers of Tyre holding their bazaar on this coast and winding up their week's business by kidnapping the king's daughter and some of her maids. Thus broke out the eternal Eastern Question, in which the siege of Troy is a mere episode, as are Marathon and Salamis and Navarino (1897, 13 - 14).*

From Alan J. B. Wace *Mycenae, An Archaeological History and Guide*

> *This book is intended as an introduction to Mycenae and its civilization and, though Homeric illustrations are quoted, its main concern is the accurate description of archaeological facts. The legends, particularly those relating to the family feuds of the House of Atreus, are omitted. I should like to say, however, that I believe Agamemnon to have been a historical character who flourished at Mycenae about 1200 B.C. (1949, Preface).*

From George Mylonas *Ancient Mycenae, The Capital City of Agamemnon*

> *From Mycenae's fallen walls, her burned-out Palace, and her vaulted tombs, the memories of the past arise to haunt and enfold the visitor. The quietude of the rugged and barren mountains, the wild impressiveness of the gorges leading to the multi-colored Argive Plain, the evidence of past power and splendor met at every step, fill the human soul with awe and bring to the lips of the initiated the prophetic words of Priam* (sic) *spoken for a rival city:*
>
> ἔσσεται ἦμαρ ὅτ' ἄν ποτ' ὀλώλῃ Ἴλιος ἰρὴ
> καὶ Πρίαμος καὶ λαὸς ἐϋμμελίω Πριάμοιο [13]
>
> (1957, 20)

13. *The day shall come when sacred Ilios shall be laid low, and Priam and the people of Priam with good spear and ash* (transl. A. T. Murray). In fact the "prophetic words" were spoken by both Agamemnon (Il.4.164) and Hector (Il.6.448) not by Priam as the city in question is Ilios, the king Priam. The reference cited in Mylonas (1957, 20) should have been to Agamemnon's prophecy or Hector's premonition about his own city's fate. Interestingly, Polybius portrays Scipio as quoting these same words as he watched in anguish the burning of Carthage (146 BCE). As Polybius clarifies, Scipio is quoting Homer in recognition of, "the mutability of human affairs," perhaps with his own premonition that the same fate likely awaited "The Eternal City." (*Polybius Histories* 39.5).

Each boar's tusk, sherd, and bead becomes truly meaningful only in a given context. Making sense of the innumerable associated artifacts and architectural remains from a given tomb or citadel as elements of a living community requires a degree of imagination. And traditional narratives have provided one source mined for suitable contexts. Tsountas found in Herodotus's account of the kidnapping of Io the origins of East-West conflict that continues to this day. Wace accepted, as Aeschylus did long before, the machinations of the house of Atreus as a fit model for the type of civil strife that remains all too familiar in contemporary news. And Hector's premonition was found a suitable metaphor, not only by Mylonas, but also by Polybius the Greek historian who witnessed the holocaust inflicted on Carthage by Rome. The burden of "proof" for such scenarios, however, still rests on the available evidence——evidence that will likely be enhanced and thus support new interpretations over time.

Tsountas's *The Mycenaean Age*, the first comprehensive treatment of mainland culture begins his account of Tiryns ("The Fortress City") with an imagined scenario that conforms to the traditional view (1886).[14]

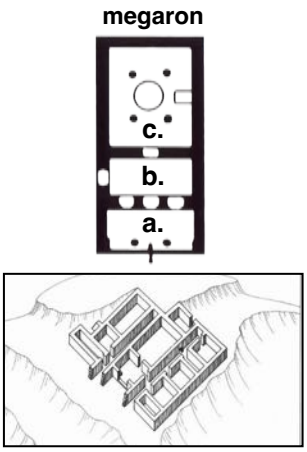
> *. . . the hilltops of Hellas, often forbidding enough by nature, were turned into frowning castles, each the seat of a Basileus lording it over a realm sometimes as wide as he could readily watch with his own eyes, sometimes — as in Argolis — with two or three rival royal perches within the range of vision* (ibid., 12).

Like Wace and Mylonas who followed him, Tsountas lacked the Linear B evidence that was available to Pia De Fidio who wrote her overview at the beginning of the 21st century.

> *The existence of the palaces as the principal political and economic centre within a given territory constitutes the most significant historical feature which, despite peculiarities and differences of scale, is the common factor that the Mycenaean kingdom shared . . .* (2008, 81).

The two scenarios, their creators separated by more than a century, paint what appear to be similar generalized pictures of the Mycenaean world. Yet Tsountas envisioned this world as, "veritable history newly added to the record of the Greek race," and the beginnings of, "a distinct and homogeneous civilization" predating but illuminating the Homeric Age (1897, 4; 10). De Fidio, however, deconstructs this narrative——at least in part. Chastened by the misuse of race and aware of the synchronic nature of the Linear B documents, De Fidio makes clear the absence of evidence (contemporary diachronic records of events) required for an historical account while "Hellenic heroic saga," she suggests, "can only be interpreted with caution" (2008, 82). De Fidio also addresses the nature of the palace-centers themselves. While shared architecture and iconography may suggest, "royal power steeped in the sacred," the proposition that, "trade was controlled and administered directly by the palaces," may ignore the evidence for, "private initiative" (ibid., 91-92). Recent scholarship has advanced this more nuanced view. Rather than a top-down monolithic structure, economic and social models describe a number of groups and individuals with an interest in and at least partial control over a variety of commercial ventures and ritual practices that formerly were thought to be the exclusive purview of the palace hierarchy or the wanax. Similarly, Nakassis argues that the palace model tends to obscure rather than illuminate the reality of the various Mycenaean centers (Nakassis et al. 2011, 180 - 181). See 341, 353.

14. Republished in English in 1897 with J. Irving Manatt and including an introduction by Wilhelm Dörpfeld.



Mansion I
Catling 1976, p. 28. Fig. 5

The canonical architectural form of the later Mycenaean palaces is the megaron, a rectangular structure comprising a two-columned porch (a.) opening on a vestibule (b.) that fronts the throne/hearth room (c.). The inner sanctum's large central hearth was framed by four large columns with the throne placed against the right hand wall. Several earlier structures attest to megaron-like architecture. On the mainland, Mansion I, the LH IIB - IIIA1 phase of the Menelaion in Laconia has been considered a forerunner of palatial design although current interpretations of developmental trajectories stress regional contingency rather than the inevitability of any sequence of designs (Catling et al 2009a, 448 - 450; Wright 2006; Pantou 2010).

Layers Of Contingencies

In his chapter, "The Formation of the Mycenaean Palace," James Wright (following Klaus Kilian) explains that the megaron was derived from the typical MH mainland dwelling within the "evolving socio-political structure of the Mycenaean state" (2006, 7). Wright describes a process that played out over centuries, not decades, beginning with a period of competition among would-be elites leading to a period in which the winners consolidated their holdings——territories that were ultimately transformed into the various Mycenaean states, each exercising a degree of economic and political control from their palace centers. In large part the extant remains and ruins that are visible today represent the culmination of that process and as such, according to Wright, "are the product of peer polity interaction and which in architectural terms are manifest in a uniform Mycenaean architectural style" (ibid, 41). Uniformity yes, but one in which the elaborations of structural components (ashlar blocks), monumentality, and decor often display Minoan influence——if not origins, and in the final synthesis are as elemental and characteristic as the mainland megaron.

Although the initial Bronze Age excavations on the mainland are best known from the publications of Schliemann and Tsountas, the efforts and expertise of architect and archaeologist Wilhelm Dörpfeld at Tiryns played an essential role in early accounts and were foundational to the ongoing research at Tiryns (Schliemann 1878; Tsountas 1893, 1897). Joseph Maran and Alkestis Papadimitriou have directed recent excavations at Tiryns and in summarizing the development of monumental architecture at the site Maran describes the following benchmarks. The most notable feature of the EH period (2500 - 2200 BCE) was the Roundhaus——a uniquely shaped monumental structure with an unknown function contemporary with the mainland corridor houses. In Maran's view——following its destruction the remains of the Roundhaus were memorialized with a tumulus (see circular outline overlaying central area of Upper Citadel illustrated below) whose location seems to have influenced the placement of palatial structures nearly a millennium later 2016b, 157). Although evidence has been uncovered for significant 15th century BCE structures on the Tiryns citadel, sometime late in LH IIB - IIIA1, most traces of these buildings were erased as the citadel was cleared and leveled in preparation for structures expressing an entirely new architectural approach. This building phase included paired megara and the enclosing of the citadel with Cyclopean walls. The initial fortification of the upper citadel was completed in LH IIIB1. However, it is during the latter half of the 13th century BCE (LH IIIB2) that the most ambitious

building project was carried out on the citadel——one realizing the floruit of palatial culture. Although both early megara were replaced, the Great Megaron's size and location indicated its paramount importance. The spacious southern porch led to a colonnaded great court with altar and on to the entrance of the tripartite Great Megaron whose northern terminus, the very heart of the palace, featured a massive central hearth surrounded by four columns. Interior surfaces were finished in plaster, the walls lavishly decorated with brightly colored frescos, the borders and floors embellished with a variety of patterned designs (Maran 2010, 723 - 726). Early LH IIIB2 innovations bolstered the citadels defenses with the fortification of the lower citadel along with the construction of the Western staircase. Also added were various corbelled features including the east and south galleries and the subterranean tunnels——providing protected access to extramural cisterns (Maran 2015, 282). This building phase was soon followed by the construction of the Kofini damn——a project enabling the development of the northern Lower Town——an area whose significance was signaled by the construction of a North Gate. While the development of the Lower Town would play an especially important role in the postpalatial period, excavations of the area just inside the North Gate (Room XI) provided critical evidence for the final palace period. Following work initiated by Klaus Kilian in the 1980s, Kostoula and Maran reported a series of Cypriot and Levantine finds including Cypriot wall brackets, zoomorphic faience vessels, and a collection of tools and scrap metals suggesting an artisans workshop (2012, 193 - 195). Although the authors' suggestion that, "Building XI was the seat of Cypriote or Levantine specialists" may seem speculative, they cite a number of sources that strengthen the case for the exchange of foreign craft workers during the LBA (ibid., 217). Additional evidence of international connections at Tiryns are fragments of Canaanite vessels and transport stirrup jars. The latter include sherds inscribed with Linear B and many appear to have originated at Khania in western Crete (Day et al. 2016, 146). There is little doubt that Tiryns was among the more important mainland ports during the LBA——most probably in the service of Mycenae. Ironically, Tiryns enjoyed a period of relative prosperity even after Mycenae's downfall——evidence that informs the postpalatial period. See also *Mycenaean II*, *Appendix A Palaces*.



Conglomerate Gate Post
Processional Reconstruction
Rodenwaldt 1912, p. 8.



Tiryns LH IIIB2
Upper & Lower Citadels
W. Dörpfeld & M. Kostoula

Although no written liturgies or prayer texts exist that describe sacred practices, Linear B administrative tablets reference religious festivals, name specific deities and their sanctuaries, record inventories of ritual paraphernalia, and identify animals intended for sacrifice. And while it may be fruitless, even misguided, to attempt to define specific dogmas it is possible (following Renfrew) to identify the material objects and images repeatedly found in ritual contexts and also to suggest at least some common Mycenaean ritual practices (Renfrew et al. 1985, 12 - 19; Maran 2016a, 581 - 584). Maran has suggested the concept of "Performative Spaces" as a useful framework for understanding the macro contexts in which rituals may have been enacted during the Mycenaean palatial period. As was recounted in the imagined visit to Tiryns, the architectural layout of the palace itself necessitates a centripetal path, punctuated by repeated 90^0 turns, when moving from the Main Entrance to the Great Megaron. Additionally, beginning at the main gate (illustrated in part above) massive (> 5 tons) conglomerate blocks, quarried at Mycenae, punctuate important entrances and thresholds (Maran 2017, Ventris Memorial Lecture). This is not by chance, explains Maran, but rather design intended to enhance and confirm the significance of specific locations. This is best understood in the context of a ritual procession. Palatial period wall painting at Tiryns, as well as at Pylos, Mycenae, and Thebes, indicate the importance of formal processions. Lyvia Morgan adds that unlike the male dominated Minoan processions, females are invariably the actors of mainland processional wall paintings (2005, 29). Maran conjectures that the palace itself provides an important performative space, in which the celebrants process in a predetermined manner towards the "heart of all ritual activity at Tiryns"——the space between, "the round altar in the court and the round ceremonial hearth inside the throne room" (2016a, 587; 2017, Ventris Memorial Lecture). While certainty may be beyond our reach, this or a similar scenario seems to be consistent with the available evidence.



Tiryns Hunting & Bull Sport Frescos
National Archaeological Museum

The excavation history of Tirynthian frescos is of interest as recent finds and new research have enhanced our understanding of ancient Tiryns. Early evidence from the palatial site was notable for the scarcity of fresco material. Although Schliemann and Dörpfeld uncovered elaborately painted floors, contemporary wall decorations were unexpectedly absent. This initial impression changed early in 20th century when excavations uncovered a trove of fresco fragments in the area of the Western Staircase. These included fragments of the life-sized processional figures as well as from hunting scenes. Additional finds in the 1950s and 1990s added to what is known about the thematic subjects of the wall painting and to a degree their original placement. Currently most fragments from the secondary deposits are believed to be from the final phase (LH $IIIB_2$) of the palace. Most likely those engaged in erecting Building T in LH IIIC relocated the remains of the frescos along with other destruction debris while clearing the megaron area prior to construction. Given the predominance of fragments related to processional imagery, Maran believes most of the original paintings decorated the halls of the Great Court and/or Great Megaron (Maran et al. 2015, 99 - 102). One recently



Processional Fresco Reconstruction from Papadimitriou et al. 2015, 180, Fig. 3

recovered processional groups includes a small, child-sized figure. A suggested interpretation associates the imagery with te-o-po-ri-ja (θεοφορία), the "carrying of the gods" festival cited in Linear B tablets from Knossos (Papadimitriou et al. 2015, 202). As shown below, substantial evidence from both Pylos and Mycenae reinforces the apparent significance of such ritual practices during the mainland's palatial era. No less significant are ritual sacrifice and feasting attested in both the documentary and artifactual record from Mycenaean palaces. In addition to the processional imagery associated with the central megaron described above, cult rooms and their adjacent courtyards also played a part in the spiritual life of the community. In fact, the totality of evidence suggests that religious practices in general were an integral part Mycenaean palatial culture.

Seismic Pylos - A Messenian Gem

Pylos has been, in many ways, the most informative of the Mycenaean palace centers. Despite, or perhaps because of, its fiery destruction (ca. 1180 BCE) much of ancient evidence was preserved *in situ*. This may suggest that Pylian remains, having been consumed by a conflagration and buried in the earth for over 3,000 years, would at present have a degree of stability and permanence. And while this is largely true at the material level, our understanding of Mycenaean Pylos is a thing in constant motion. Much of this shape shifting can be attributed to two revolutions——each quite literally shaking and redefining Aegean prehistory.

For present purposes, the excavations and subsequent publications related to Pylos can be defined by two eras. Phase 1: Pylos Found and the Blegen Vision. The location of Pylos, by tradition the Palace of Nestor (PN), was not confirmed until 1939 when Carl Blegen and William A. McDonald, acting on information shared by Konstantinos Kourouniotis, identified the site north of the Bay of Navarino on the Englianos Ridge.[15] Initial excavations, halted by the onset of WW II, resumed in 1952 and continued through 1970 under the direction of Blegen and Marion Rawson. Phase 2: Following two decades of sporadic attention, coordinated work at Pylos was resumed in 1990 under the auspices of the University of Minnesota and subsequently the University of Cincinnati. Various Phase 2 projects included——Messenia survey and mapping, site conservation and preservation, as well as documentation of the massive (and long forgotten) collection of artifacts from Blegen's excavations warehoused in the basement of the Chora Museum (3.75 km northeast of the palace). Presently, Phase 2 work at Pylos continues with new excavations of the palace perimeter directed by Sharon Stocker and Jack Davis.

15. The Mycenaean palace on the Englianos Ridge in western Messenia is 14 km north of the town of Pylos (Πύλος) and is referred to variously as Pylos, Palace of Nestor, and/or Ano/Epano Englianos.

At the very time Blegen and Rawson, along with Mabel Lang and co-authors, were putting the finishing touches on their multi-volumed, comprehensive account of Pylos, the methods and goals of archaeology itself were being sharply critiqued and reimagined. While the subsequent changes were consequential and varied, these included the adoption of an anthropological perspective that seeks to understand how and why cultures change as well as the social practices suggested by the material artifacts. See *Introduction*, 10 - 21; Wright, 320. The second consequential development is, in part, based on the corpus of Linear B documents from the mainland——largely from Pylos. Although Blegen's 1939 first day magic——the find of Linear B tablets at Pylos, and Ventris's 1952 announcement of the decipherment of the Mycenaean script made headlines, the subsequent efforts of several generations of scholars have illuminated Mycenaean culture through their textual analyses and interpretations. In fact, in light of relatively recent textual revelations and excavated artifacts, it does not seem unreasonably to speak of a Pylian Renaissance of sorts——one that has revised the architectural and cultural history of the palace and its people, enhanced and critiqued the fresco program, while also revealing a wealth of artifacts from newly excavated areas. Although interpretations based on the documentary evidence require acknowledging the brevity of the tablets perspective, the texts confirm that Pylos clearly shared a number of mainland traditions while also exhibiting significant Minoan influences. The unique and abundant evidence from Pylos has positioned the site as an exemplar for a number of generalizations about Mycenaean culture. At the same time, recent finds once again make the case that future evidence will inevitably impact current, even consensus, positions.

Blegen's Vision

In Michael Nelson's view, Blegen and Rawson's *The Palace of Nestor at Pylos in Western Messenia I: The Buildings and their Contents* treats the 13th century BCE palace, "as, essentially, a single-period LH IIIB building" (Blegen and Rawson 1966; Nelson 2017, 283). The following description summarizes this perspective. While it was understood that the ridge at Englianos had been occupied in the Middle Bronze Age, clearing and leveling of the site prior to palatial construction marked a new era (Blegen et al. 2001, 6 - 8). The various structures were built on the southwestern half of the ridge-top placing an emphasis on topography as the main line of defense against a potential attack. The LH IIIB Pylos complex comprised two structures that mirrored each other in a number of ways. It was thought that the larger and later of the two, the Main Building, replaced the earlier Southwestern Building and so duplicated architectural features considered essential to palatial functions and status. Each grouping included residential quarters and rooms of state, storage and food preparation areas, as well as a wine magazine (Blegen and Rawson 1967, 5 - 26). In any case, as Blegen remarked, "both parts certainly continued to be occupied up to the time of the fire that destroyed the entire establishment" (1956, 96). Finds from a third structure—— the Northeastern Building, including spare parts for chariots, indicated a workshop. Wall construction was characterized as a timber framework with rubble-filled interiors while exteriors were faced with poros limestone blocks laid in ashlar fashion. Both the interior walls and floors were plaster-coated and often ornately decorated (Blegen and Rawson 1967, 27 - 29). Rooms 7 and 8, just inside the main entrance, served as the palace's administrative center. Together, the Portico (4), the Vestibule (5), and the Throne Room (6) constitute the megaron whose central location, relative size, and architectural embellishments indicate its importance. The inner sanctum's massive central hearth

(the smoke vented through the clearstory) was framed by four, fluted wooden columns, of which only the bases survived, although the flame-shaped and spiral motifs encircling the hearth remained visible. The throne (not extant) was placed against the righthand wall adjacent to a basin-like hollow in the floor joined to a second depression by a 2 m V-shaped channel. This was assumed to have been used for the pouring of libations and compliments the plaster covered table of offerings found next to the hearth (ibid., 8 - 11). Halls on either side of the megaron provided access to a number of pantries as well as wine and oil storerooms. A bathroom and stairs to second story residential rooms were located in the southeastern section of the Main Building.



Palace of Nestor
after J. Travlos 1960

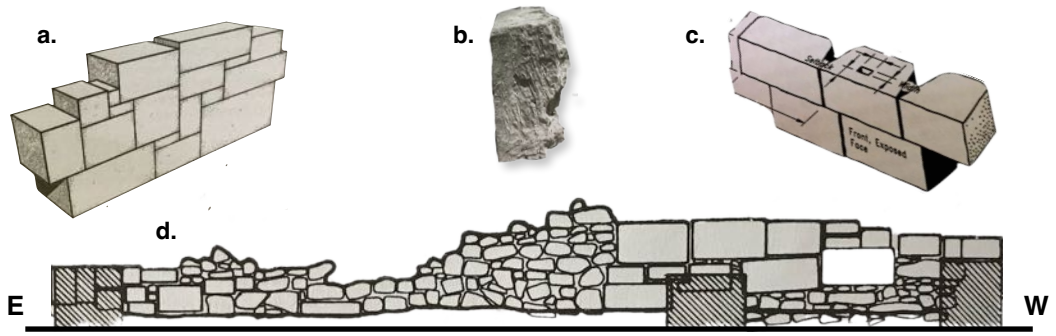
1. & **2.** Propylon **3.** Court **4.** Portico **5.** Vestibule **6.** Throne Room (4,5,6 = megaron) **7.** & **8.** Archives Complex **9.** Pantry **10.** Waiting Room **19.** Kylikes Pantry **23.** & **24.** Olive Oil Storage **27.** & **32.** Storage **43.** Bathroom **44.** Colonnade **46.** Queen's Hall **47.** Storage **50.** Floor Paintings **63.** Court **64.** Entrance Hall **65.** Room of State **93.** & **94.** Cult Room? **100**. Armory

The brief summary above giving the architectural outlines of PN's main features is intended solely to suggest the generalized context within which Blegen and Rawson framed the LH IIIB palace. Only their 2 volume work along with Lang's 3rd volume does justice to their extraordinary efforts and detailed reports (1966 and 1973; 1969).* Subsequent research at Pylos has significantly broadened our understanding of PN but also of the Mycenaean period in general. One of the more significant contributions is the work of Michael Nelson. From 1990 - 1998 Nelson played a key role in the University of Minnesota's project to create PN state plans——"detailed, stone-by-stone drawings of

*The final and fourth volume was published as the present project was nearing completion. Bennett, Emmett L et al. 2025. *The Palace of Nestor at Pylos in Western Messenia: Vol. IV: The Inscribed Documents*.

the *in situ* remains" (2017, 283). Ultimately Nelson would reinterpret the structural history of the PN by defining a chronological series of contrasting combinations of techniques and materials used for wall construction. A major challenge faced by Nelson was the absence of a clear record of the stratigraphy uncovered by Blegen. Despite the excavator's detailed notes, the lack of precise grid references meant Nelson could not correlate Blegen's stratigraphic findings with his own observations. A workaround was required——one Nelson dubbed the "stratigraphy of walls" (ibid., 349). By combining his analysis of the building phases, the law of superposition, and observations of bonding and abutting characteristics, Nelson was able to establish a relative chronology for five different building systems.They are summarized as follows: the first, "employed cut ashlar blocks; second, pseudo-ashlar masonry, which reused blocks from the first phase; third, orthostat construction; fourth, the ashlar style, which included ashlar shell wall construction; and fifth, pier-wall construction" (ibid., 349).

The common denominator of the PN masonry is the use and reuse of poros limestone blocks. The shape and finished surface(s) are indicative of specific masonry styles. Ashlar blocks are wedge-shaped and contrast with the brick-shaped blocks of pseudo-ashlar masonry. In both cases the external faces are smoothed. An orthostat ("standing straight") block is cut so as to be placed with its longer side in an upright position. While orthostat masonry defines Nelson's third building phase at PN, it is seldom attested elsewhere on the mainland. On the other hand, ashlar block——a characteristically Minoan element, was commonly used for the exterior of free-standing walls in combination with one or more timber courses and plaster coated, rubble-filled interior. When reused, ashlar blocks of variable sizes create irregular courses (ibid., 303 - 318).



after Nelson 2017

a. pseudo-ashlar courses (306-3.16) b. orthostat (304-3.13) c. ashlar blocks (304-3.12)
d. sw facade elevation, Building X - pseudo-ashlar wall, irregular courses at E and W

Davis's laudatory review highlights two aspects of Nelson's contributions (2017). The first is significant for its relevant insights, not just at Pylos, but for the mainland's palatial period as a whole. As detailed above, discussions of Mycenaean palatial architecture often focus on, or at least anticipate, the iconic tripartite megaron of the LH IIIB period. Although a number of researchers have pointed to Minoan influences——specifically related to decorative characteristics and construction methods, the evidence for the early palatial period is sparse and fragmented. Nelson's identification of a sequence of 5 building systems makes explicit the various criteria that define each building phase at Pylos. When compared with palatial developments on Crete, the early wall building systems at PN, as Davis points out, "evolved at Englianos roughly in the same chronological order as on Crete, whence the styles derived their inspiration" (ibid.). Nelson's illustrations below indicate locations of early structural features from LH I (the pseudo-ashlar building phase) and LH IIIA walls (employing ashlar and ashlar shell building techniques) as well as the modular components used for LH IIIB walls.

LH I



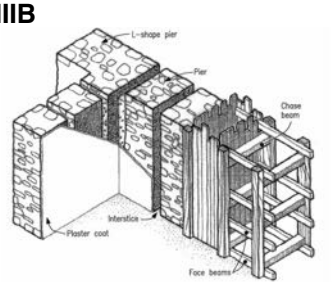
southwestern section PN
after Nelson 2001, fig. 79

LH IIIA



southwestern section PN
after Nelson 2001, fig. 81

LH IIIB



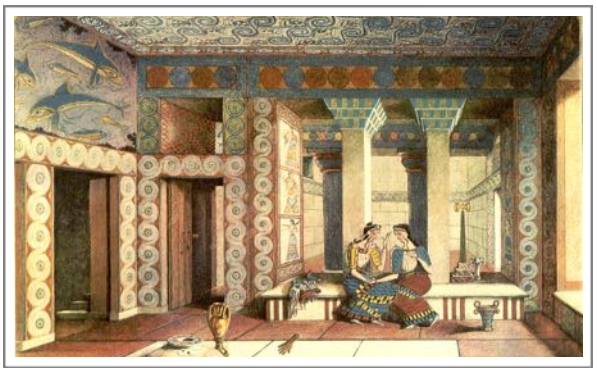
phase 5 pier-wall process
after Nelson 2017, 339 fig. 3.54

Rutter notes that the LH IIIA building phase is of particular interest. Given Nelson's demonstration that ashlar-built walls of the period are exclusively exterior walls, the generalized plan, "in LH IIIA," explains Rutter, "consisted of at least three separate structures clumped around a large open space" (2005, 26 - 27). This is clearly a reflection of Minoan court-centered planning and given the subsequent developments at Pylos, illuminates the overall trajectory of palatial developments at Pylos. The destructive fire following LH IIIA marks a turning point in the architectural history of PN. As Nelson has demonstrated, LH IIIB——his pier-wall building phase, institutes a novel approach to masonry as well as the full-scale adoption of the mainland's characteristic megaron-based planning (2017, 361- 362). Davis' review also points out that the LH IIIB innovative pier-wall construction method, Blegen's *xylodesia*, is "similar to the methods of modern builders who work with concrete" (2017). One might imagine a time-traveling Mycenaean engineer nodding his head in both approval and understanding with the contemporary use of prebuilt forms and poured concrete. A final point in Nelson's analysis of LH IIIB is the recognition that late in the period limestone slabs replaced pier-wall construction. It is likely that economic/commercial considerations played a part in the contemporary concern to increase storage space (ibid., 365).

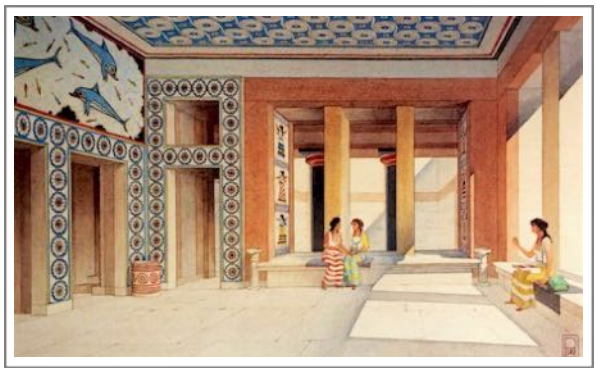
Picture Puzzles

As Nelson's work demonstrates the analysis and interpretation of architectural features is a potentially rich source of evidence——and architectural drawings are a powerful tool for representing that evidence. Such drawings are, in fact, reconstructions——illustrations that may or may not represent reality. Arthur Evans's *The Palace of Minos at Knossos* (*PM*) is a work lavishly illustrated with a variety of architectural drawings (1928 - 1935). Giorgos Sofianos has studied a number of these illustrations and described the ways *PM* drawings contrast with the accepted criteria for architectural illustrations. Ground plans are, by convention, intended to indicate *Form*——basic outlines and measurements of the structural remains revealed in the excavation. However, as Sofianos points out, *PM* illustrations, "diverge from the original aim of this type of architectural illustration," by adding interpretive elements that, "denote[s] the *Function*, and sometimes the *Meaning*, of architectural spaces" (2015, 11 - 12). While naming structural spaces may seem innocuous, just such a practice——for example, *Treasure House*, *Initiatory Area*, *Royal Pottery*, and *Theatral Area*, introduces an interpretive bias——subjective conjectures that may or may not accord with the space's original

function. See Evans *PM* 1935 Vol. IV: Part I, Preface xxvi. Another class of illustrations, termed “free perspective” by Sofianos, comprise images recreating three-dimensional spaces. Such pantings are at once the most captivating as well as potentially the most misleading of illustrations. For example, commenting on Gilliéron’s painting of the Queen’s Megaron Sofianos states, “*PM*’s free perspectives depict finds from different



Émile Gilliéron, fils - Queen’s Megaron
Evans 1930, Frontispiece (Plate XXVI)



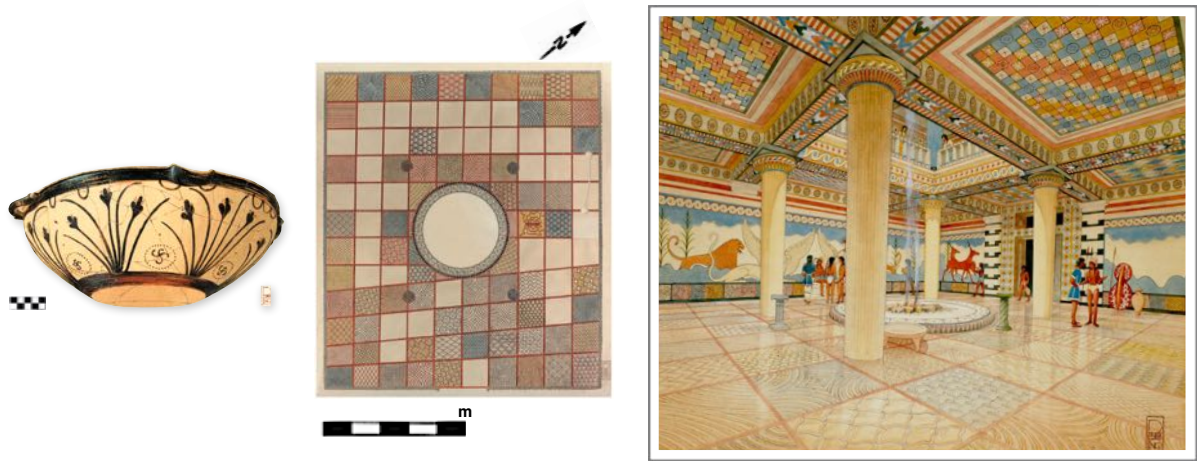
Piet de Jong - Queen’s Megaron
Heraklion Museum

archaeological contexts together, placing them in specific rooms whose *Function* and *Meaning* were previously determined by Evans. Their ultimate goal is to strengthen Evans’ interpretation for such architectural spaces” (ibid., 15). While these criticisms seem justified, Evans saw the interpretive aspects of his illustrations as one part of the Minoan narrative he was weaving——a vision he believed in and vigorously defended. Thus the Gilliéron drawing includes an alabastron and two-handled goblet actually found elsewhere. In a similar vein, Sarah Immerwahr suggests the dolphins included in both Gilliéron’s and de Jong’s restorations above may have occupied a later palace while citing scholars who believe the original fresco was likely a floor decoration (Sofianos 2015, 14; Immerwahr 1990, 171). Assuming the placement of the dolphins is in error this suggests another potential pitfall of “creative” illustrations——the replication of errors.

Piet de Jong is closely associated with the Blegen era at Pylos and as John Papadopoulos has observed, “Much of our image of Aegean prehistory and Classical archaeology has been consciously or subconsciously defined by de Jong’s illustrations and their style” (2006, 2). Between 1920 and 1966, the year before his death, de Jong collaborated with nearly all the leading archaeologists excavating prehistoric Greek sites beginning with Alan Wace (ibid., 9). Piet de Jong applied his wide-ranging talent, many would say genius, to Minoan and Mycenaean site plans, large scale architecture, decorative embellishments, ceramics, jewelry, and a series of charming caricatures of himself, his friends and fellow archaeologists.

While the artistic merit of de Jong’s work seems clear, the measure of its archaeological value is a complex matter. Despite Pylos’ well deserved reputation as one of the better preserved of the Mycenaean palaces it suffered a devastating fiery destruction. Both the structure and its contents fed the flames. Wood was used for columns, wainscoting, and door frames but also, as we have seen, as an element of the walls themselves. When the palace was torched these features would have quickly become involved as the

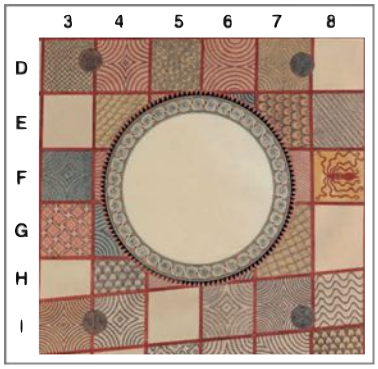
blaze was accelerated by untold liters of olive oil——creating a conflagration that would swiftly have compromised the supporting structures of the second story. Collapsing walls as well as falling furniture, fittings, and textiles simply added fuel to the inferno (Blegen 1967, 19). The plaster surface of the lavishly decorated floors and walls was initially incinerated then fragmented as structures collapsed one atop another. Subsequently, repeated soakings by rainwater caused the plaster to crumble——a disaster for the painted images that were destined to be further degraded as they lay buried in the earth for over three millennia. Fortunately the pottery, while often fragmented, faired better than the painted plaster. In any case, de Jong was presented with a different set of challenges with each of his projects. The task of illustrating individual ceramic vessels——often not reconstructions per se, was relatively straightforward. And de Jong's watercolors of ceramic vessels clearly display his artist genius——often in ways not immediately obvious. The perspective of the bowl pictured below illustrates his concern for showing each of the diagnostic details that are technically significant (for example, the base, the decorative motifs, and the handle shape) while also creating an aesthetically pleasing image. Anne Hooton explores de Jong's painting technique in detail in Papadopoulos' lavishly illustrated catalogue, *The Art of Antiquity: Piet de Jong and the Athenian Agora* (2006, Chapter 2).



Mycenaean Bowl from Kea - Pylos Throne Room Floor - Detail of Pylos Throne Room, Papadopoulos 2006, 16 Fig. 20; 4, Fig. 2c; 4, Fig. 2a

Although artistry plays a part, the focus of de Jong's reconstruction of the throne room floor was to preserve the evidence. While initially published in black and white, copies of de Jong's original watercolor (Chora Archaeological Museum), have subsequently been widely circulated——including the image above from the Papadopoulos catalogue (Blegen and Rawson 1966; 2006, Fig. 2c). Emily Catherine Egan's thesis, "Nestor's Megaron" includes a comprehensive analysis of the megaron floor and of de Jong's illustration (2015). Along with her site studies in 2012 - 2013, a handwritten plan—— "Pylos, Megaron Floor, July, 1952," from George Mylonas's Pylos Field Notebook was arguably one of Egan's most useful resources. The plan itself is attributed to Demetrios Theocharis and includes entries by Carl W. Blegen and Eugene Vanderpool, and most significantly, annotations by Piet de Jong (Theocharis GEM 1952). The excavators' initial evidence for floor painting in the Portico (4), Vestibule (5), and Throne Room (6) as well as subsequent related scholarship is summarized in Egan (2015, 233 - 245).

The floor paintings themselves consist largely of geometric and figural designs executed within grids outlined in red and incised in the plaster floor surfaces (often evident in multiple layers). The largest grouping of these designs is located in the Throne Room (6) and includes 100 whole squares (1.08 m on a side) and 12 partial squares. See, in part, at right. Egan describes 10 different patterns originally identified by the excavators——forms often attested elsewhere in Mycenaean and/or Minoan iconography (ibid. 250). Although questions have been raised about the accuracy of de Jong's reconstruction, the artist spent over a week at Pylos in 1953 studying the Throne Room floor and his initialed annotations noting specific colors and patterns on the Theochris plan are an indication of these efforts. While a certain portion of the floor had been badly charred, Egan's on-site evaluation convinced her that while de Jong's field sketches were "suggestive" rather than detailed, "the watercolor is finely rendered," and that, "de Jong's painting was a final reconstruction, intended as an "as-accurate-as-possible" restoration of the floor's decoration for scholarly circulation" (ibid., 247).



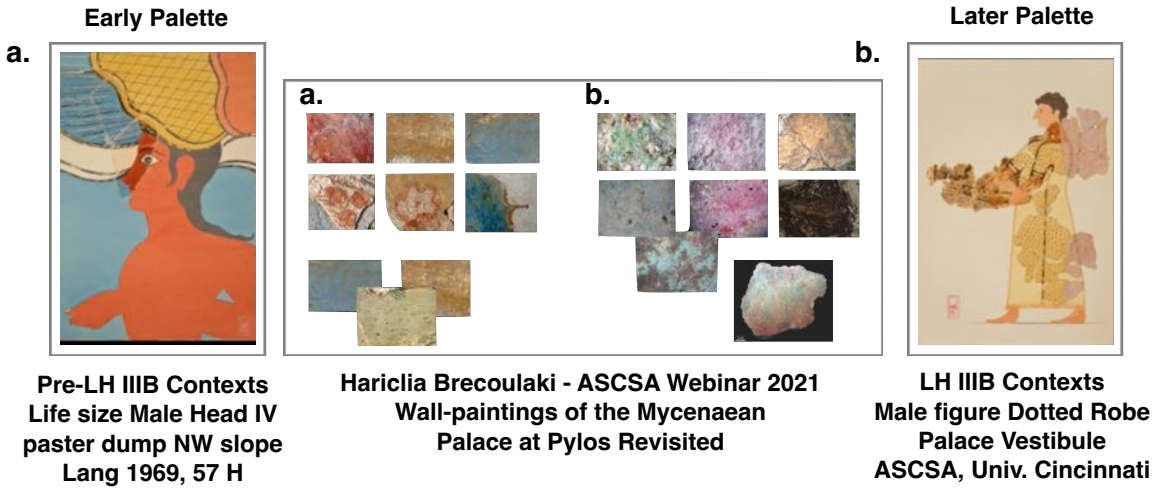
Piet de Jong Reconstruction Detail, Pylos Throne Room Floor as above, Photo by C. Mauzy with alphanumerics added after Egan 2015, Fig. 5.46

Various interpretations of the throne room floor paintings (also found at Tiryns and Mycenae) have been put forward. A number of scholars have suggested the patterns are meant to represent stone or textile; Egan suggests the floor creates a hybrid design of both stone (eg. the parallel lines of E8) and textile (scale-like E4, E7, H4) patterns (ibid., 252, 290 - 291). This is consistent with her overall interpretation that the floor is intentionally designed to engage the visitor in a number of ways. In brief, the purposefully unordered arrangement and contrasting hybrid patterns, Egan suggests, were meant, "to attract and stimulate the viewer's eye," while the asymmetrical grid pattern would, "compel the visitor to approach the throne" (ibid., 288 - 291; Thaler 2012, 200). This "Kinesthetic Address" shares certain characteristics with Maran's analysis of Tiryn's architecture and processional movement. New interpretations of the Throne Room floor painting are inevitable and the evidence recorded by Blegen, Rawson, Lang, de Jong, and Egan will remain fundamental to evaluating all such suggestions.

Piet de Jong's reconstruction of the Pylos Throne Room (309), appeared as the *frontispiece* for *PN I* and is one of the better known images representing Mycenaean culture (Blegen and Rawson 1966). Three decades after the initial excavations and long after many of de Jong's Pylos paintings had been published by Lang a fresh look at the "frescos" from Pylos was instituted (Lang 1969; Brecoulaki et al. 2008, 363 - 364). HARP (Hora Apotheke Reorganization Project) was tasked with a variety of projects related to the vast archive of largely unpublished artifacts from Blegen's excavations now held at the Archaeological Museum in Chora. Hariclia Brecoulaki began directing work on HARP's wall paintings in 2000 and by 2015 over 17,000 painted plaster fragments had been cleaned and inventoried——an effort that led to the publication of important new fresco fragments (Brecoulaki et al. 2015b, 257 - 261). Perhaps the most significant results of these efforts are the fresh insights that have resulted from the reexamination of Pylos palatial wall painting. While current HARP projects are ongoing, previous studies and reconstructions are largely represented by the work of Piet de

Jong and the interpretations of Mabel Lang. Early in the initial excavations at Epano Englianos it was recognized that along with the numerous fresco fragments from within the ruins of the palace, a second rich source of painted plaster was a series of dumps to the north of the main building (Blegen 1956, 101). Commenting on these sources and their contrasting characteristics Lang concluded, “the apparently somber and subdued coloring of the palace plaster in comparison with that found outside, which was not burned, is certainly a result of the fire and not a chronological difference” (1969, 8 - 9). Lang’s observations and opinions had important consequences——in particular for Piet de Jong’s published reconstructions. While Lang was correct in observing that the fire that destroyed the LH IIIB palace had darkened the wall paintings in place at the time, Brecoulaki’s analysis suggests that exposure to fire was not the fundamental cause for the different hues of the two groups of fragments (2016, 392 - 393).

In contrast with Lang’s analysis——one largely focused on the iconographic and thematic groupings of Pylos wall paintings, Hariclia Brecoulaki investigations are based on her understanding of pigments and ancient polychromy. Significantly, Brecoulaki’s analysis of the various pigments demonstrates that two very different color palettes had been employed by Mycenaean artists. The fresco fragments from the various external dumps are associated with an earlier palette——one characterized by the triad of primary colors: red, blue, yellow. These are the typical colors found in early mainland wall painting and characterized by the artist’s use of Egyptian blue, a synthetic pigment often applied as a background, red and yellow ochre (both naturally occurring minerals), in addition to charcoal black and calcite white (2018, 392).



The palette associated with the LH IIIB paintings is significantly different and is best characterized by the more subtle hues of lavender, pinkish, tan, and even green, rendered in part with new pigments. While Lang believed these colors were generated by a variety of transformations when the paintings were subjected to fire, Brecoulaki employed a series of tests to define exactly how and to what degree fire would affect the individual pigments. The test results did not sustain Lang’s hypothesis. Also of note was Brecoulaki’s observation that Egyptian blue continued to be used in the LH IIIB period although infrequently. Perhaps the most significant innovation of the later Pylos painters was the introduction of a purple pigment derived from *Murex trunculus* shells, albeit in a restricted manner as it was mainly found in Pylos wall painting fragments from the Throne Room, the Vestibule, and Room 64 (2018, 393 - 399).

The work of the archaeological illustrator is fraught with potential pitfalls as all such images are inevitably an approximation of their ancient reality and it is useful to understand the process of reconstruction. de Jong's approach began with a pencil drawing of the extant fragments positioned by the archaeologist/artist in a way that was thought to resemble the original image. The next step involved filling in the color according to the observable characteristics of the fragments at hand. Numerous watercolor were completed in this manner by de Jong and are a testament to his artist talent as well as his skills as an observer. As de Jong's Throne Room watercolors illustrate, the artist also painted comprehensive reconstructions——illustrations that add missing parts and/or alter the coloring to match what was thought to be the original hues. Based on their experience with a variety of Mycenaean wall painting (including the Pylos material from the external dumps) de Jong and Lang shared a preconceived idea about the "look" of mainland painting. This, together with Lang's convictions about the affects of the fire, led to reconstructions that applied the earlier color palette to the LH IIIB wall paintings. The watercolors of the well known 'Lyre player and the bird' whose original fragments were recovered from the Throne Room exemplifies such a reconstruction (Brecoulaki 2018, 392 - 395). Note that de Jong's initial watercolor employs colors in line with Brecoulaki's findings.



Detail, Lyre player and bird
Piet de Jong - Colors Preserved
ASCSA, University Cincinnati

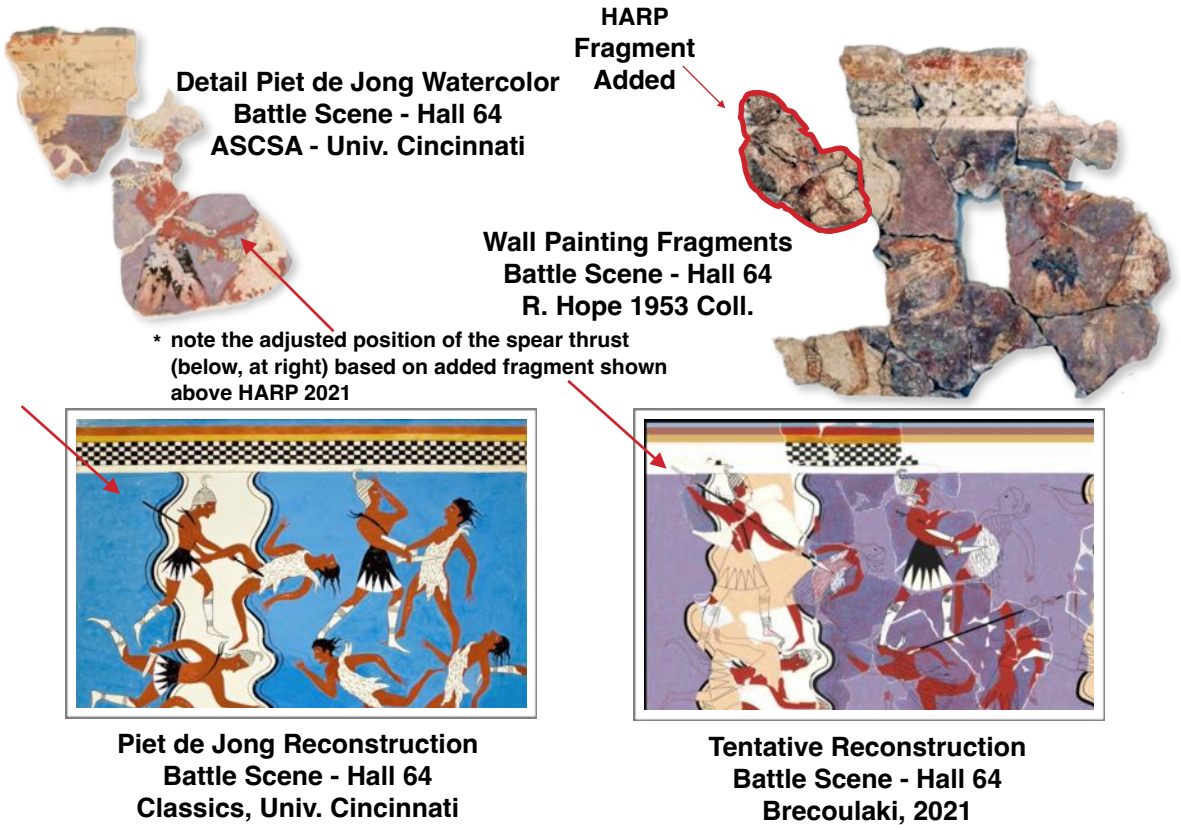


Lyre player and bird - Throne Room
Piet de Jong Reconstruction
Classics, University Cincinnati



Detail, Lyre player and bird
Tentative Reconstruction
Brecoulaki, 2021

Another illustrative example of the transformation from found fragments to final reconstruction is the "Battle Scene." It exemplifies how Brecoulaki's studies of Pylian wallpaintings and ancient polychromy as well as Nelson's architectural analysis informs our understanding of Mycenaean culture. The "Battle Scene" fragments were excavated by Blegen, "from the southwestern hall," in 1953——a year de Jong and Lang were also working at Pylos. Not surprisingly the reconstruction was rendered in the same manner as the lyre player. Despite the purplish hues in the fragments and in de Jong's initial watercolor, the final reconstruction adopts the Egyptian blue background common to the early paintings. Blegen had suspected the Southwestern Building was older than the main palace building but it was Nelson's analysis of wall structure that confirmed Building A occupied the location in LH IIIA. In any case, Brecoulaki argues that the fresco fragments from Room 64 should be associated with the LH IIIB period as they were in place at the time of the final destruction (2015a, 263). The use of murex purple, not attested before the final palace period, also confirms its later date.



Much of the potency of visual images, most especially those including human figures, derives from the narratives they elicit. Blegen seems to have created the initial story related to these particular fragments. In describing the wall painting fragments recovered by Rosemary Hope he states, “a warrior wearing a helmet made of boar’s tusks stands upright, surrounded by human bodies in contorted attitudes, apparently precipitated from above. This scene of mass carnage, we thought might possibly depict the capture of a hill town or citadel from which the vanquished defenders are being hurled to death below” (1956, 95). Certainly Blegen’s story line is possible but it seems clear both the notion of "mass carnage" or that the attackers are victorious come from Blegen's active imagination. Such narratives often take on a life of their own and may influence subsequent scholarship. Additional fragments from Hall 64 are similar to those described above and were reconstructed by Lang adjacent to the “Battle Scene” in a suggested horizontal frieze for the northeast wall (Brecoulaki et al. 2015a, 259). An excavation catalogue of de Jong’s watercolors describes one such group as, “Fragments preserving warriors in various stages of battle. Three figures at top, first male figure falling (?), other two men locked in combat” (Vogeikoff-Brogan, ASCSA #12). However, a more recent reconstruction by Robertson indicates no actual weapons are pictured and suggesting the fragments may depict wrestlers or the like (Brecoulaki 2021). Brecoulaki points out that following Lang’s publication of *PN II* some scholars made the case that, “Iconography became scenery in a theater of power that was only completed by the presence of human actors for one or more of the frescos.” However, such interpretation, based on Lang’s conclusions, argues Brecoulaki, were often speculative and——“all suffer from the same shortcoming: the data on which they rely is incomplete” (2015b, 258). However, in her analysis of the “Naval Scene,”—— the most important of the recently reconstructed frescos by the HARP group, Brecoulaki

shows she is not averse to plausible conjecture when based on demonstrable evidence. See below. Thus, in large part the iconographic elements of the “Naval Scene” reference comparable decorative elements, hull shapes, and rigging known from Minoan and Cycladic vessels represented in murals, seals, ceramics and the like. With regards to paint pigments Brecoulaki’s attention focuses on the use of murex purple for the sea—a sharp contrast with other Mycenaean pictorial representations that invariably use Egyptian blue pigment. Noting that early Aegean sailors often travelled by night to make use of the stars for navigation, Brecoulaki observes, “In Homer, ships usually sail out of sight of land at sunset, at a time when the sea is reddened by the setting sun and before the stars come out. Perhaps a purple color for the sea, whether οἶνοψ or πορφύρεος, was a good omen then, as it is today, forecasting a clear night” (Ibid., 283). Speculative yes, but also consistent with the unique pigmentation of the “Naval Scene.” Perhaps, along with the nautili, the fresco may have conveyed maritime excellence as intrinsic to Pylian authority and power.

Margaretha Kramer-Hajos makes a number of interesting comments regarding the prevalence of nautical frescos at Pylos. While in general, representations of ships and marine themes are absent from mainland wall paintings, the known examples are nearly all from Pylos. Of note also, and as is the case with the “Naval Scene,” the hull design (crescent-shaped) and the rigging (boom-footed) is similar to the earlier Minoan-type ships rather than the contemporary LH IIIB Mycenaean oared galley (Kramer-Hajos 2016, 128 - 130). See also *Collapse and Aftermath*. As Kramer-Hajos explains, references to rowers on Linear B documents from Pylos indicate they served as crew for a fleet of the new oared galleys seemingly designed for speed and maneuverability at the expense of the vessel’s capacity to carry cargo (ibid., 131). Palaima gives details of the Linear B series PY An 1, An 610, and, An 724 that document ca. 600 rowers with connections to important palatial personnel including the *ra-wa-ke-ta* thought to be the military commander. It is also significant that the “master scribe” (Pylos Hand 1) created these records as he is generally associated with high level palatial administrative tasks (1991, 285 - 286). While it seems clear the Pylian maritime fleet comprised the swifter galleys, their iconographic regime seems to have reflected their longstanding ties to Minoan art forms.



Detail, Three overlapping ships. Hall 64
Brecoulaki, Stocker, Davis and Egan 2015b, Fig 8 a-b
Department of Classics, University of Cincinnati. R. J. Robertson.

The argonaut (*Argonauta argo*) or paper nautilus (ναυτίλος) is another maritime element copiously represented at Pylos, and unlike images of ships, widely attested on wall decoration on both Crete and the mainland (Egan 2015). At Pylos, wall painting fragments of these marine creatures have been found both outside (northwest dump) and within palatial structures (the Propylon and the Hall 64). Perhaps most interestingly argonaut fragments, attributed by Lang to a frieze, are now thought to have decorated the hull of a ship associated with the "Naval Scene" (Brecoulaki 2015b, 266). The location and prominence of the argonaut suggest to Egan and Brecoulaki that it may well have been emblematic of Pylian maritime prowess (2015, 292 - 213).





Argonaut Hull Decoration LH IIIB
Pylos Hall 64
Brecoulaki, Stocker, Davis and Egan 2015b, Fig. 7b

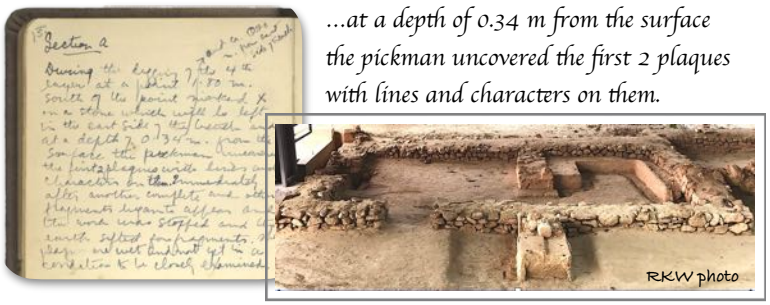
Mycenae - Argonaut Frieze Fragment
W. Lamb and A. Wace 1921 - 1923, 171
Hemingway 2000

One of HARP's early successes was Brecoulaki's publication of two fresco fragments picturing the arm and bow of a female archer. While the iconography is unique, the painted plaster may be more significant for what it reveals about the painting techniques of Mycenaean artists (Brecoulaki et al. 2008; 2012).The larger of the two joined fragments illustrated here was recovered by William McDonald during excavations at Pylos in 1939. The smaller join was located at the Chora museum by HARP researchers aided by McDonald's excavation notes as well as Lang's publication (McDonald 1939; Lang 1969; Brecoulaki et al. 2008, 363 - 365). Significantly, the paint on the Archer fragments is unusually bright with none of the typical effects of scorching and exposure to moisture. Lang argued the fragments may have been removed from the wall shortly before the fire and perhaps used as fill in a relatively more protected space (Brecoulaki 2008 et al., 371). As it turns out, confirmed images of archers are rare, perhaps even unknown, among Aegean wall paintings although they are illustrated on rings, vases, and as inlays on Mycenaean swords (ibid., 372). Even this partial image has the potential to provide iconographic information on dress and gender. However, ultimately what may prove most informative about this small segment of wall painting are the results of the X-ray analyses performed by the HARP team. Information on the pigments (Egyptian blue, red ochre, charcoal, and calcite) and paint layering revealed details of the artist's materials and methods. Of particular note are indications of the artist's use of egg as a binder (ibid., 384). A series of tests confirmed the researchers' suspicions that this was not unique to the Archer fragment but, "that tempera and *a secco* painting techniques were widely, if not exclusively, practiced by Mycenaean painters at Pylos and contrary to the general belief that the *buon fresco* constituted the major painting technique of Bronze Age wall-paintings" (Brecoulaki et al. 2012, 2875). This had previously been suggested but not confirmed. Furthermore, the authors point out, "The importance of the results is further emphasized by the fact that during the Classical and late Hellenistic periods the same organic binders were still used almost exclusively by Greek painters" (ibid., 4875). This may be seen as yet another cultural link in the significant body evidence that connects the Mycenaean world with the Classical period.



Archer Fragments
Pylos - Room 27
Tentative Reconstruction
Brecoulaki 2008 et al., Figs. 1, 10

As the reconstructed wall paintings at Pylos demonstrate, the fiery destruction (ca.1200 BCE) paradoxically preserved enough evidence to inform a new era in the history of the palace——one that began in 1939 CE and continues to the present. The legend of the Phoenix may suit this narrative and if so the rebirth can be located within two small rooms immediately inside the palace entrance (Blegen 1967, 7). Throughout the first half of the 20th century the extraordinary material finds on Crete and mainland Greece had in large part remained mute. Finds were published and narratives woven——but by individuals three millennia removed from the prehistoric Aegean. In stark contrast to the 19th and early 20th century decipherments of a variety of ancient scripts, the three Aegean scripts (known only from Crete) remained both undeciphered and unavailable to most scholars. However, Blegen's arrival in Messenia, at a time when some scholars still considered the Mycenaeans as servile and backward pawns of the Minoans, was to have seismic consequences. And if there was ever to be a day and a place in the history of Greek archaeology that matched, some would say surpassed, Schliemann's seemingly magical successes, a leading contender is surely April 4,1939, the place Englianos Ridge. Nor should one discount Blegen's experience in his decision to lay out the initial trench exactly where he did. William McDonald would later recall that what followed was, "the dramatic stuff of which movies are made" (McDonald and Thomas 1990, 234). Barely a foot below the surface, in the initial section of Blegen's first trench (I-A) lay a cache of Linear B tablets—on what was the floor of Room 7 in the now famous Archives Complex. Previously unknown from the mainland, the Linear B tablets from Pylos would reshape the landscape of Aegean studies (Blegen 1967, 7). The tablets together with a number of other finds from the Archive Complex are also the basis for a relatively recent and illuminating analysis that presents a microcosm of Mycenaean palatial culture.



Pylos 1939 WAM^{C}D
W. McDonald's Excavation Notebook - April 4, 1939
Pylos Archives Complex: 7, 8

Feasting:Sacred Or Profane?

Even before the tablets began to give up their secrets finds across the Aegean suggested that the sharing of drink and food played an important role in each of the early cultures. *Prima facie* evidence for feasting is suggested by a variety of material objects as well as by the iconography. Jim Wright is one of a number of researchers to elucidate the evidence. His analysis suggests formalized commensal ceremonies in contrast to everyday practices. Feasting serves a number of functions, Wright observes, largely relating to an agenda that maintains and strengthens the ruling elite's authority. Yes, the sharing of food and drink promotes social cohesion but more importantly it reinforces status distinctions implicit in host - guest relationships within a context that clarifies and confirms individual identities and their roles in the current hierarchy (2004a, 133 - 135). One indication of these rituals is the abundance of associated vessels in the



Kylix - Shaft Grave IV [16]
Karo, G. 1930 - 1933, Pl. CXII, 390

16. The silver-alloy (85 - 95% silver with small amounts of tin and gold) used to make this vessel is known to have been used by Syrian craftsmen (Demakopoulou 1995, 152; 137).

archaeological record. During the Shaft Grave period these occur frequently among other items of mortuary display——presumably signifying their importance for those individuals or kin groups competing for elite status. Large quantities of ceramic drinking wares recovered from palace centers (for example at both Knossos and Pylos) are thought to be associated with ritualized events bearing the imprimatur of palatial authority. Wright inventoried mainland wares and highlighted changes that occurred during the MH III to LH III period. By early in the Mycenaean period imported shapes such as the Vapheio cup had been added to the traditional MH mainland ceramic wares (goblets, straight-sided cups, and kantheroi). Gold and silver drinking wares are especially notable among the later shaft graves. While many of the gold vessels were made on the mainland the finest wares were imported from Crete or perhaps created on the mainland by Minoan metalworkers. By LH IIIA (the early mainland palatial period) the kylix, a shape that had developed from the mainland goblet, had become the drinking vessel of choice (ibid., 138 - 142). In a single pantry (19) at Pylos, Rawson inventoried 2,853 of these cups (Blegen and Rawson, 1967, 12). Nearly a dozen kylikes were also found in Room 7 but unlike those in the pantry they are miniature vessels, ill-suited for normal use. In their paper, *Animal Sacrifice, Archives, and Feasting at the Palace of Nestor*, Stocker and Davis express their uncertainty about the exact use of the miniatures but point out that these vessels are typically found either in situations were feasting rituals were likely or with finds related to rituals as detailed below (2004, 190 - 191).

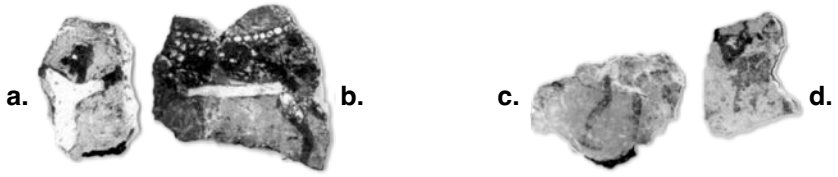


Miniature Kylix - Pylos 7
HARP Archive

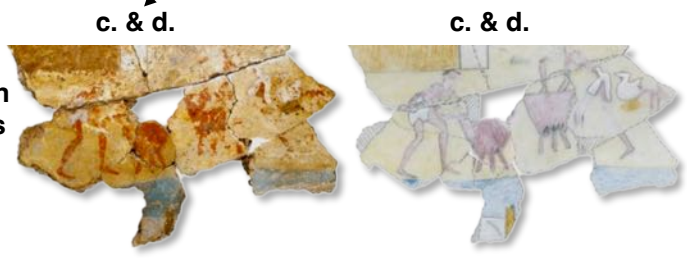
Wright also describes a group of bronze vessels associated with food preparation and serving—his “Feasting Equipment.” Vessels such as kettles and pitchers are found in mortuary and domestic contexts both on Crete (LM I - IIIA) and the mainland (MH III - LH IIIA), although they are less common in Mycenae’s shaft graves than drinking wares. Tripods, kettles, and a variety of vessels associated with feasting are, however, particularly well attested in the later tholoi and in chamber tombs on both Crete and the mainland (2004a, 146).

Evidence for feasting rituals, cited by Wright and others, is——in part, based on wall painting iconography (ibid., 161). Lyvia Morgan has researched and written about ancient paintings from across the eastern Mediterranean. Her introduction to, *Aegean Wall Painting: A Tribute To Mark Cameron* discusses Mycenaean wall paintings within the wider scope of similar works from Crete, the Cyclades, Egypt, and the Levant (2005). A unique aspect of Aegean wall paintings, explains Morgan, is their placement in both public (palaces) and private (villas and town houses) buildings. This practice is virtually unknown in Egypt (Amarna is the exception) where such paintings are typically found in tombs (2005, 21). Several of the best known Aegean wall paintings are large and expansive palatial frescos depicting processions——a theme, Morgan describes as, “a characteristic feature of Mycenaean paintings from the mainland” (ibid., 29). Another genre, the miniature frescos, are thematically diverse and attested from across the eastern Aegean. These friezes create, “a miniature world of human and animal activity,” whose stories says Morgan, “transport[ing] the mind to times, places, and situations of significance” (ibid., 26). Dating from the early LBA, miniature frescos are attested from several sites on Crete as well as the Cycladic islands——most famously Thera but also from Melos and Kea. A number of these small paintings include images of hunting, food preparation, and processions (ibid., 40). Fresco fragments from the Northeast Bastion at

Ayia Irini portray a hillside town with its residents engaged in a variety of pursuits. Illustrated below are four fragments from the fresco described by Abramovitz as: a man with arms raised (one of a group of men dancing), a fallow deer (from a scene depicting men with hunting dogs and a herd of these deer), and men at tripods (presumably in the act of cooking). Abramovitz also describes a procession of 19 men carrying various jars and sacks (1980, 57 - 59; 61 - 62). Each of these themes is also attested at Pylos—— that together with Mycenae, Tiryns, and Thebes are the sites having the majority of mainland wall paintings. The most prevalent images in Mycenaean fresco art explains Morgan are, “Hunting, in which men with dogs pursue deer and wild boar, chariots and battle scenes” (2005a, 30).



Ayia Irini - Northeast Bastion
dancer, fallow deer; man over tripod (2 fragments)
Abramovitz 1980, Pl. 4: a-59, Pl. 6: d-106, a-90



Ayia Irini - Men at Tripods
Fresco Fragment & Reconstruction
Morgan 2015, Arch. Soc. of Athens

Morgan and Wright both stress that an established chronology is critical to any thematic analysis of wall paintings. For example, despite superficial similarities the processional wall paintings from Mycenaean mainland palaces were created two to three centuries after those at Knossos. House A at Ayia Irini dates to LH II and thus predates the mainland palatial period by a century or more. Later wall decorations and the famous sarcophagus from Ayia Triada, however, are dated to LM IIIA, a period when Mycenaean authority had supplanted Minoan control of Crete (2005a, 29; 2004a, 155 - 156).



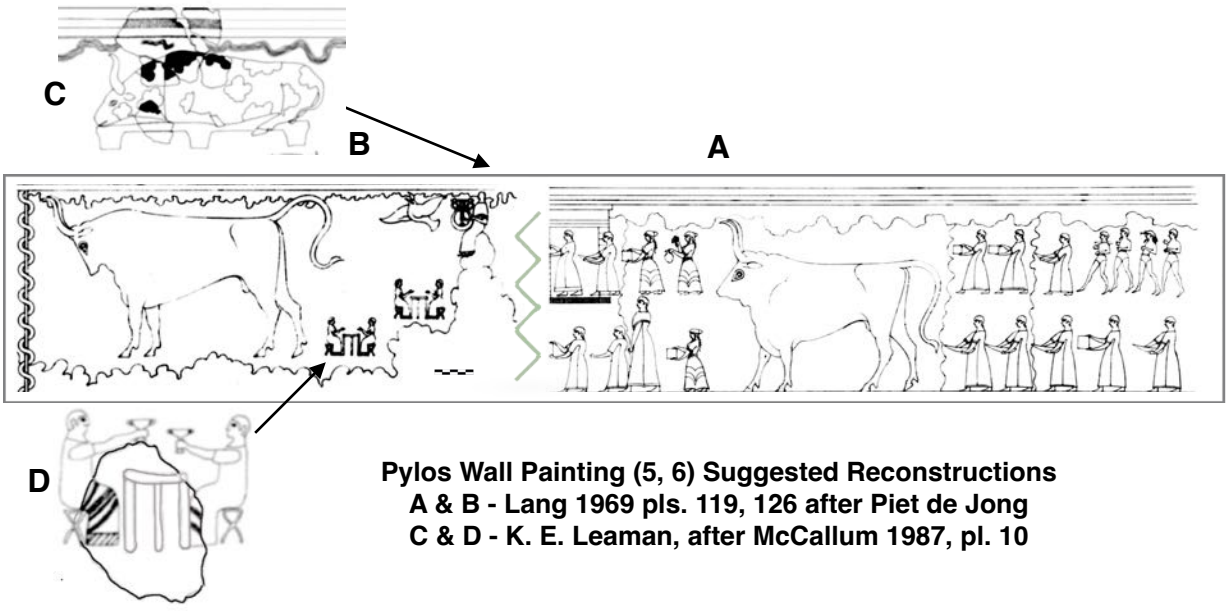
Ayia Triada, Crete
Processional with Sacrificial Goats
Heraklion Museum





Pylos Palace Second Floor Rooms
Men with Hunting Dogs & Tripods and Stag Hunting
Piet de Jong Reconstruction - Chora Arch. Museum

Two wall paintings from Pylos have played a significant role in discussions about feasting at Mycenaean palaces. The larger of the illustrations below combines wall paintings from the east side of the megaron's (A) vestibule and (B) throne room. A traditional interpretation is based on the assumption that the images in A and B represent sequential events with a common time line. Thus A: a bull is escorted by groups of individuals bearing a variety of contributions (edible or potable and perhaps ritual) towards the inner sanctum, and B: the inner sanctum where a number of individuals are participating in commensal feasting and perhaps sacrificial rituals in the presence of a bard with lyre. How might we judge the accuracy of this reading and does the architectural proximity indicate narrative continuity? We can say with some certainty a procession is depicted, one with several distinct groups, For example, at top right 4 males (perhaps bull dancers) are preceded by 3 female figures carrying boat- and cube-shaped objects. The bull's massive size is clearly emphasized but is he headed for the blade or for the bull court? Is the door at top left in A the entrance to the throne room? Consensus may be possible on the identification of individual elements but among the experts there are striking differences of opinion regarding the big picture. The fragmentary nature of the evidence is fundamental. Given Morgan's estimate that the restorer would likely have a mere 5 - 10% of the original composition, each rendering is necessarily a matter of opinion and often a bit too much opinion for some scholar's tastes. Morgan put it this way, "Our perception of these wall paintings is therefore inevitable steeped in the vision of those who re-create ancient images for our contemporary eyes" (2005a, 23). One interpretation of a segment from the throne room fresco was reconstructed as a bull, trussed and laid on an altar (C). This was perhaps suggested by a similar pose clearly delineated on the Minoan Ayia Triada sarcophagus. More recent restorations suggest no such image existed and given the paucity of evidence more than one scholar has opted not to suggest a restoration. There are questions as well about the individuals on camp stools sitting at three-legged tables. The extant fragment (D, in part) shows only the lower bodies of figures—but neither include the arms extended in a toast or the chalices. Wright turns to a well known Minoan image, the Campstool Fresco from Knossos, for comparison. One dilemma in this case focuses on whether or not the image refers to a religious or secular event. Wright's review of the various restorations in the Minoan example lead him to conclude, "alternative interpretations caution against adopting any single one" (2004a, 162 - 165).



Pylos Wall Painting (5, 6) Suggested Reconstructions
A & B - Lang 1969 pls. 119, 126 after Piet de Jong
C & D - K. E. Leaman, after McCallum 1987, pl. 10

Wright's analysis, cited above, is based in part on his contribution to “The Mycenaean Feast”——papers given at the 2002 Annual Meeting of the Archaeological Institute of America in Philadelphia (2004a). Wright also edited and wrote the introduction for the *Hesperia* special-theme publication that included reworked papers from the 2002 meeting together with additional contributions on feasting (2004). Wright's summary of the 2002 Philadelphia meeting is notable (2004b). The central theme of the meeting——Mycenaean feasting, is a multifaceted social practice and one that at that time, as Wright explained, was a somewhat questionable investigation into unfamiliar territory. “Addressing these issues,” said Wright, “has required overcoming skepticism about the limits of archaeological inquiry, and the development of methods of analysis that move beyond traditional concerns with typology, chronology, and distribution” (2004b, 122). Wright’s summary of his own analysis of wall painting exemplifies this shift in perspective. “Aegean frescoes,” he concluded, “provide a rich but fragmentary and generalized picture of feasting across cultures and over generations” (2004a, 167). While the totality of evidence does seem to affirm feasting, this and similar generalizations contrast sharply with the specificity of evidence that Wright and other archaeologists have traditionally found acceptable——for example, documenting the chronology of ceramics based on physical attributes (eg. paste, shape, and motifs) and stratigraphic measurements. Although typology and stratigraphy data is typically subject to verification, the specific use of a given pot or group of artifacts may suggest more than one interpretation. However, affirmation of behavioral practices may also reasonably be supported given defined and accepted criteria. See Renfrew 1985. Significantly, several papers in “The Mycenaean Feast” propose that evidence for social practices may be sought in non-traditional areas——including the literature and history of post-Mycenaean Greece. For example, elements of the Old English epic *Beowulf* clearly mirror aspects of Homer.

491 *Then a bench was cleared in that banquet hall*
so the Geats could have room to be together
and the party sat, proud in their bearing,
strong and stawart. An attendant stood by
with a decorated pitcher, pouring bright
helpings of mead. And the minstrel sang,
filling Heorot with his head-clearing voice,
gladdening the great rally of Geats and Danes.

Beowulf, Seamus Heaney 2000

The Mycenaean *wanax* (king), *lāwāgetās* (commander), and *ko-re-te* (mayor) would likely have sensed kindred spirits could they have looked in on Heorot. It also seems likely that somewhere on the Greek mainland bards raised their lyres to sing the fame (κλέος) of Mycenaean heros at important feasts in the LBA. In his insightful, *Why Homer Matters*, Adam Nicolson, refers to the Pylian throne room lyre player and dove fresco as, “one of the most extraordinary visualizations of poetry ever created” (2014, 4). Some would say Homer created the archetype of just such a scenario, for example with the bard Demodocus at the court of Alcinous (*Odyssey,* 8.61). Others, including Nicolson, ponder the details——seeking the origins and nature of such gatherings. In any case, a more palpable record of the type of feast where such bards would have plied their trade was located just inside the entrance to Nestor’s palace. The Pylos Archives Complex and the documents found therein may bring us closer to the truth. Wright put it this way——“It is perhaps the strength of the textual evidence for the Mycenaean feast that gives the greatest credibility to the collection of papers in this volume” (2004b, 124).



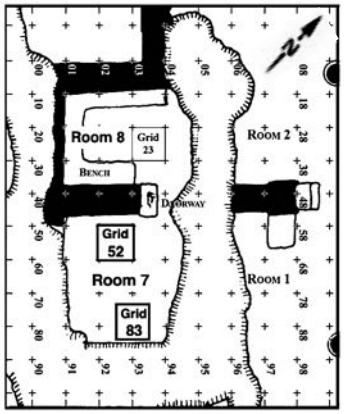
Lyre Player & Dove - Piet de Jong
Pylos Throne Room
after Lang 1969, pl. 126



Feasting Paraphernalia - Karo 1930, Cat. Nos.
a. Meat Fork; b. Tripod; c. Ritual Hatchet
National Archaeological Museum

Thomas Palaima - The Hand That Writes

A number of pertinent details for feasting are recorded on the Linear B tablets excavated at Thebes, Pylos and Knossos, and Thomas Palaima, among others, has shown that understanding the archaeological context for those documents significantly enhances their interpretive value (2004, 217-218). That such an approach is possible rests on the efforts of generations of researchers beginning with Blegen. Much of that history is described by Palaima in his overview of Aegean paleaeography——an effort in which he has played no small part (2011). Emmett Bennett, Jr., in addition to his role in the original decipherment with Kober and Ventris (see *Appendix B: Minoan Scripts and Mycenaean Greek*), pioneered work that identified individual scribes and their responsibilities (ibid., 49-56; Bennett 1947). Bennett also suggested the importance of defining the find spots for tablets (not incidentally those from rooms 7 and 8 at Pylos) with a grid——a system that was subsequently improved by Kevin Pluta (Palaima 2011, 60-63; Pluta 1997). Based in part on these preliminary efforts, Palaima was able to identify two important categories for Linear B documents found in palatial settings: *central archives* and *deposits* (Palaima 2011, 77-78).



Pylos Archive Complex Grid
after Pluta 1997, 238 fig. 6
Palaima 2011, 61, fig. 12.15

The Archive Complex (AC) at Pylos itself fits Palaima's *central archive* category——as a processing and storage area holding documents covering multiple subjects and written by a number of different scribes. As mentioned above this particular locale gained immediate notoriety on the first day of Blegen's excavation. Over the course of the next half century the material finds together with the Linear B documents would magnify the importance of the AC——particularly with respect to the contention that sacrificial rituals and commensal feasting played a significant role in Mycenaean cultural life.

In her contribution to "The Mycenaean Feast" Susan Sherratt states that, "Feasting appears as arguably the single most frequent activity in the *Odyssey* and, apart from fighting, also in the *Iliad* " (2004, 301). A well known passage from the *Odyssey* describes Telemachus' arrival at, "Pylos, Neleus' citadel," where townsfolk are gathered

on the shore, "sacrificing sleek black bulls to Poseidon" (*Odyssey,* 3.4-6). An epic event in any age, Homer refers to 81 bulls and 4,500 attendees. Clearly, heroic rituals and the attendant feasting required a ready supply of beef on the hoof. Moving from myth to material finds——Linear B documents record various aspects of what appears to be ceremonial feasting: records of individual animals designated for sacrifice, quantities of food pledged by specific individuals or groups, and inventories of banqueting supplies including cooking ware, furniture, and cult instruments (Palaima 2004, 218).

In 1982 a unified set of sealings referencing the provisioning of animals intended for sacrifice were recovered at Thebes (Killen 1994, 71).[17] Forty-seven sealings from this group (with the designation “Wu”) refer to individual animals including sheep, goats, pigs, and cattle. Personal names are included on some sealings that may indicate the provider or the individual responsible for the care and feeding of the animal prior to the sacrifice (Palaima 2004, 221 - 223). Sealings were typically attached to goods being sent from one place to another and Killen suggested the information on such sealings would be ultimately be transferred to a second type of document related to feasting and sacrifice at the locale where the animals were shipped (1994, 73).

Pylos tablet Un 718 is a listing of types and quantities of provisions for a ceremony honoring Poseidon at a site with the place name *sa-ra-pe-da*. Palaima suggests that this may be a site associated with the ruler of the Mycenaean state or a sanctuary dedicated to the god (Palaima 2004, 230 - 231). The tablet itself has been the subject of considerable scholarship beginning with the publication of *Documents in Mycenaean Greek* (Ventris and Chadwick 1956). The authors were the first to suggest that *e-ke-ra*$_2$- was the personal name of the ruler or *wanax*. This is now generally, although not universally, accepted.



Pylos tablet Un 718
Palaima 2004, 224 Fig. 1
Univ. Texas and Univ. Cincinnati

Following the consensus interpretation, Un 718 refers to the personal donation of the ruler and the *lāwāgetās* as well as allotments from two groups——the *damos* and the *worgioneion ka-ma* representing two, "general citizen populations/landowners," the former native Messenians the latter non-native residents (Palaima 2004, 230). Of particular significance are the the proportions of provisions from each of the contributors. Unlike the Thebes Wu sealings listing animals, the Un 718 tablet refers mainly to barley, wine, cheese, honey, and anointing oils. Two sheep and a single bull are the only animals mentioned. By far the largest contribution to the ceremony is made by the individual identified as the ruler; this includes the bull and 50% of the total wine provided (ibid., 231). This generous contribution of the ruler is consistent with Palaima’s summary of the function of such ceremonies. “Commensal ceremonies are meant to unite communities and reinforce power hierarchies by a reciprocal process that combines both generous provisioning by figures close to the center of power or authority and participation in the activities of privileged groups by other individual” (ibid., 220).

17. In this case, small, three-sided clay lumps (nodules) stamped, inscribed, and affixed to the pertinent object with a string. Sealings typically included information on ownership and origin.

The Ta series of tablets from Pylos demonstrate the value of knowing the archaeological context as well as the scribal hand that created the tablets. Each of the Ta tablets is part of an inventory of furniture, vessels, and ceremonial objects. Significantly, all the vessels (eg. ewers and tripods) are metallic and therefore highly valuable. Of equal significance are records of sacrificial knives and stunning axes (ibid., 233 - 234). That this is no ordinary collection of kitchenwares is reinforced by the evidence that this series of tablets is assigned to Hand 2. This particular official is known to have been responsible for managing the accounts of critical economic and religious activities and material objects including provincial tax records, bronze allotments for military weapons, and perfumed oils distributed to both major deities and the wanax (ibid. 233). But the Ta tablets are not simply an inventory——more importantly they are a record confirming that a specific individual, one *pu2-ke-qi-ri*, had personally inspected the items. This was no ordinary palace functionary but rather one of the so-called collectors, "who are attested in documents from more than one Mycenaean palatial territory and hint at aristocratic or dynastic association among elites in different districts" (ibid., 234).[18] Given the value of the objects inspected it is not surprising that this matter was handled by an official at the highest levels of the Pylian ruling hierarchy. Palaima's description of one item from Ta 713.1 makes the point——"a single nine-footed table composed of stone with ebony support elements and ivory inlaid decorative elements" (ibid., 234 - 235).



Pylos tablet Ta 716 - pu2-ke-qi-ri (Hand 2)
.1 pa-sa-ro , ku-ru-so , a-pi , to-ni-jo 2 wa-o *232 2 (top line of tablet)
two double axes braced with gold rivets over the surface (of the handle)
Deciphered by Gretchen E. Leonhardt

The record seems clear——important ceremonies, at times of epic proportion, were a reality at Englianos Ridge during the Mycenaean period. And much of the evidence comes from the AC. Both the Un 718 tablet and the Ta series were excavated by Blegen in the area designated as Room 7. With the added precision gained through the use of Bennett-Puta coordinates, it seems likely the tablets were found in close association in grid 83 on the southeast side of Room 7 (see above). Understanding the implications of this evidence requires an appreciation of Palaima's hypotheses about the workings of the bureaucracy and specifically the physical movement of Linear B records within the palace proper (2011, 63 - 64). Palaima suggests tablets were composed in outlying 'deposits' (where a variety of craft, repair, or storage areas were located) and subsequently brought in baskets to the 'central archive'——specifically to grid 52 in Room 7. Numerous basket labels were located at this grid reference and Palaima suggests this was a convenient location for scribes to work with and label the tablet collections. After processing it seems the tablets were then taken to Room 8 where they were either filed or marked for disposal or recycling (ibid., 63 - 64). With respect to Un 718 and the Ta series Palaima argues that their find spot in grid 83 meant they had not yet been processed and may have been among the last tablets moved to the central archive before the palace was destroyed by fire (ibid., 66). Although the tablets treat different practices and content: an inspection inventory of banqueting paraphernalia and foodstuff pledged by individuals and political entities, their close association in Room 7, their contemporaneous deposition, and their shared relationship to sacrifice and feasting suggest to Palaima an actual event.

18. Palaima's footnote (104) to his comments on collectors references Killen, J.T. 1979. "The Knossos Ld(1) Tablets." and Olivier, J. -P. 2001. " 'Le collecteurs': Leur distribution spatiale et temptelle."

Bones Of Contention

Additional evidence from Room 7 buttresses the case for specific commensal ceremonies involving sacrifice. And once again 21st century insights and expanded interpretations rest on Blegen and Rawson's methodical excavation practices, detailed documentation, and determination to preserve their finds. Despite their best efforts, however, a good deal of what Blegen's team dug out of the ground in the 1950s was archived and forgotten. Fortunately Sharon Stocker's 1997 hunt for ceramic material led her to a neglected subterranean storeroom at the Archaeological Museum in Chora. However, it was not long forgotten sherds that dominate this part of the story but dust covered boxes of bones——rediscovered amidst barrels of artifacts excavated by Blegen at Pylos and placed in storage (Fleischmann, 2002). The initial inventory of the bones by Jack Davis and Paul Halstead was followed by Halstead's and Valasia Isaakadou's analysis of what turned out to be a sizable (over 600 pounds) assemblage of bones and bone fragments dated to LH IIIB. It soon became clear that the bones were finds from specific deposits——largely located outside the walls of the palace (Stocker and Davis 2004, 180-183). Also of significance, most were cattle bones——specifically mandible (jaw), humerus (upper foreleg), and femur (upper hind-leg) parts and notably nearly all showed signs of having been thoroughly burnt as well as having been worked with a knife (ibid. 182). The bones from one deposit——boxed and labelled by Blegen, came from the western side of Room 7 and consisted of remains from 10 animals (ibid., 183-184). Blegen had noted that this particular deposit was adjacent to what he referred to as "diminutive votive kylikes"——an observation prompting him to suggest that room 7 might have been a shrine (1953, 63). Blegen, however, lacked the critical information from the tablets he himself had found. Five decades on, however, Thomas Palaima was in a position to look at the combined evidence of the bone deposit, kylikes, and significantly the documentation from the associated Linear B tablets. Aided by the grid system described above, Palaima suggests a scenario for the finds that would surely have been a revelation to Blegen (2004). Along with the sacrificial paraphernalia such as the stunning axes recorded on Ta 716 and described above, other tablets in the Ta from Room 7 enumerate furniture that Palaima suggests may be associated with, "elite seating and table arrangements for a related feasting ceremony" (ibid., 235). These included tables (11), stools (16), and thrones (6). Fully aware he was entering the realm of conjecture, Palaima imagined 22 participants sitting in pairs while sharing ritual toasts with the 11 miniature kylikes recovered from Room 7 (2004, 235). Speculative yes, but this imagined scene does correspond to actual artifacts and specific inventories in the archaeological record as well as with more than one well considered reconstruction of palatial iconography. See also 340-341.



Miniature Kylikes from Room 7
Chora Archaeological Museum
Excavation Photo Room 7
Stocker and Davis 2004, 187 Fig. 8

What is not speculative is the closing gap between Homeric epic and the real world of the Mycenaeans. The corresponding elements no longer seem attributable to vague memories or miscellaneous archaisms. Yes, there are the indisputable Iron Age references in the poems but there are also significant parallels with both material objects and cultural practices attested from the Late Bronze Age. But what of Homer's beach banquet at Pylos with its nine companies of 500 men each? More than one scholar has wondered if the beach would even have been large enough for such a

crowd. Yet based on a Hellenistic inscription from Keos, Stocker and Davis suggest the meat from the ten head of cattle represented by the bones deposited in Room 7 would feed one thousand families—including, no doubt, a fair portion due Poseidon (2004, 192). Much like the early rhapsodists who "stitch together songs," 21st century archaeologists are gradually stitching together evidence for a Mycenaean world.

Although every Aegean archaeologist knows the tales of Schliemann and Blegen—— how each of these men caught lightning in a bottle, all are also keenly aware that such experiences are vanishingly rare. In May of 2015 when Jack Davis and Sharon Stocker arrived at Pylos it must have been excitement enough to know they were beginning excavations at this famed site following a hiatus of nearly a half-century. Yet in a most improbable repetition of Blegen's first day fortune in 1939, a trench laid out by Davis and Stocker on their first day of excavation in 2015 intersected what has come to be known as the tomb of the Griffin Warrior (Stocker and Davis 2016, ASCSA Videocast). Although the rich and varied grave goods of the Pylos tomb are comparable to those found in the spectacular Mycenaean shaft graves there are significant differences in the interment details. The structural comparisons are discussed above. The Griffin Warrior interment is dated to late in the LH IIA period——perhaps a century after the Grave Circle A burials. Of significance are the numerous metallic (bronze, silver, and gold) vessels and the total lack of ceramic wares——attesting to an apparent shift in elite' tastes (Davis and Stocker 2016, 635). Many of the grave goods await publication, however, among the finds reported by the excavators are 4 gold signet rings, "in incontrovertible association with a single individual," and an assemblage, "unexpected and unprecedented for the Greek mainland" (ibid. 627). As the authors point out both the iconography (eg. bull leaping, 7 figures - mainly goddesses, a shrine, and birds) and the design of the rings are Minoan. However, the placement of the rings and numerous seals (to the warrior's right) and the bronze weapons (to the warrior's left), suggest mainland traditions (ibid., 649 - 652). While it would seem unlikely that a single object might outshine gold, the undoubted "star" of the Griffin Warrior's tomb is the "Combat Agate" sealstone. This tiny (L. 3.6 cm) gem's exquisitely detailed imagery reveals unparalleled artistic genius. In what might otherwise be considered hyperbole, the authors claim that, "it is arguably the finest work of Aegean glyptic ever discovered," seems fully justified. Most extraordinarily, this masterpiece is engraved on hard-stone agate at a scale where details can only be appreciated with photo-microscopy (Stocker and Davis 2017, 584). And given the epic subject matter it is not surprising the excavators response reminded them of Schliemann's unbridled enthusiasm at Mycenae and his perhaps naive associations with Homer. Yet as the authors state the Combat Agate, if nothing more, suggests familiar heroic elements——ones (I would add) that might reasonably be recognized as Homeric (ibid., 588). See also, http://www.griffinwarrior.org



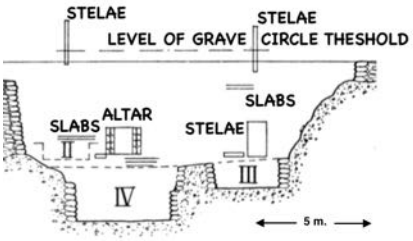
Combat Agate - Pylos Griffin Warrior Tomb
Drawing Figure 1. T. Ross - Enhanced Photograph Figure 9. J. Vanderpool
Stocker and Davis 2016

In Search Of The Sacred

While Coleridge's dictum—— "the willing suspension of disbelief" is certainly appropriate for readers of epic, it is, as intended by the poet/philosopher, applicable to aspects of religious beliefs as well (1817). In any case, it is clearly an untenable attitude for the archaeologist. Despite aspects of Mycenaean religion that are unknowable, various related artifacts can be described in objective terms and likely practices inferred. Based on his research at Phylakopi, Colin Renfrew suggested conditions that would satisfy the requirements of identifying religious practices and their material components (Renfrew et al.1985). Joseph Maran argued in turn that because religion relies on active participation by its celebrants, characteristic rituals become of paramount importance and these typically include physical components (2016, 584). Nevertheless, initial attempts to describe Mycenaean religion faced significant obstacles. Despite the wealth of finds from Mycenae's grave circles (MH III - LH I, ca. 1700 - 1550 BCE), some suggesting possible religious practices, Dickinson noted that much of the mainland evidence was influenced by Minoan traditions (ibid., 115). Ultimately, Dickinson held that prior to the late palace period there was no clear evidence for Mycenaean religion (1994, 264). As the title of his early volume (*Mycenaean Tree and Pillar Cult*) illustrates, Arthur Evans was convinced that religious practices on the mainland and Crete referred to a single Aegean culture (1901). Only later did the excavator of Knossos adopt the name "Minoan" for his findings on Crete——albeit continuing to argue that mainland culture was largely a Minoan offshoot (1901). While Evans intransigency lasted a lifetime, the consensus opinion gradually shifted as scholars embraced the idea of separate and distinct Minoan and Mycenaean cultures. Ironically, Linear B tablets, first excavated at Knossos by Evans, played a major role in the reformulation of Aegean cultural characteristics. Beginning at the midpoint of 20th century the decipherment of Linear B added a critical tool for understanding Mycenaean culture——contemporary documentation of named deities and tablets attesting to known material finds and suggested practices. While Minoan cultural origins and language(s) continues to be debated, it was not Greek; Mycenaean culture was Helladic and was peopled with speakers of Greek. Nonetheless, given the Minoan influences on the mainland it is useful to note practices unique to Crete. Characteristic Minoan architectural features, not found on the mainland and assumed to have religious functions, include lustral baths and pillar crypts while one of the more prominent features of Minoan worship, not attested in Mycenaean culture, is the epiphany——wherein a deity appears to celebrants (Lupack 2010, 270).

Archaeological indications for religious practices are associated with both structural and funerary contexts——specific artifacts (eg. benches, figures and figurines, libation vessels, and bone deposits) as well as with iconography (frescoes, signet rings, and seals). Linear B documents name individual deities and cult sites while also suggesting specific cultic practices. The tablets time frame (ca. LH IIIA - IIIC Early), however, limits their interpretive value for early Mycenaean culture. In any case, as Wright observes, "formalization of religious activity in Mycenaean society was largely a phenomenon of the period of the palaces" (1994, 38). Nonetheless, a number of early practices and related artifacts appear to be documented in the later Linear B texts. For example Voutsaki's analysis of late MH - LH II mortuary changes at Ayios Vasilios' North Cemetery includes a reference to an open area or "platform" with numerous sherds that perhaps served for funerary rituals (2016, 22:17). While excavating GCA Schliemann reported, "an almost circular mass of Cyclopean masonry," and concluded, "I at once

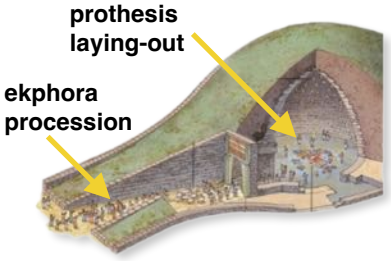
recognized in this curious monument a primitive alter for funeral rites" (1878, 212 - 213). Figurines——among the more abundant Mycenaean artifacts, have commonly been associated with religion. Furumark named these for their similarity to the Greek letters Tau-T, Phi-Φ, and Psi (ψ) (French 1971, 102 - 103). Schliemann, for one, associated these with the Shaft Grave period. However, French attributed them to Minoan models, and dated their initial mainland presence to, "the end of L.H. II——in absolute dates about 1430 BCE" (ibid., 103 -106). The increasing numbers of precious drinking vessels in later GCB and GCA interments have also be associated with religious rites. Finally, the design of the tholos tombs is strongly suggestive of ritual. The dromos invites the interpretation that it served as a processional way during funeral rites while the multiple burials within the main chamber have led some scholars to posit ancestor worship or a cult of the dead. Toasting and libations, votive figures and/or representations of a goddess, processions, and cultic practices are all standard aspects of Mycenaean religion during the palatial period. However, absent contemporary Linear B documents, many of the earlier findings may simply have been matters of elite display and/or expressions of aesthetic appreciation.



Circle A Grave III, IV, Altar
Wace 1921 - 1923, Pl. XVII
after Piet de Jong



Tau & Phi Figurines
Mycenae
MET Museum



Artist's Reconstructed Cutaway
Mycenaean Tholos
Stream of Time

Future historiographers may well mark the recent turn of the millennium as something of a watershed in Aegean studies. In retrospect, the publication of the first human genome early in the 3rd millennium CE is most notable. Somewhat less revolutionary, but also significant, are the various insights into local Aegean prehistories that coalesced early in the 2000s——in part the result of efforts to better understand Mycenaean ritual and religion. The collection of papers published in *The Mycenaean Feast,* referenced in part above, exemplifies this process (Wright, 2004a). See 316 - 320. Wright's *Introduction* to the volume notes that understanding "complex social processes" requires engaging with non-traditional interpretive ground as well as the skeptic's questions regarding the "unbridgeable maw that separates the material past from the present" (2004b, 122). While it is clear researchers must assume common ground with ancient peoples, it appears this leap of faith is hardly novel (2004b, 122). A pot may be objectively described in each of its physical details, but adding "drinking" or "storage" may reflect an interpretive judgment. However, as Wright points out, "If archaeology is ever to contribute to our understanding of the past, it is necessary that we employ analogy" (ibid.). No Minoan or Mycenaean narrative accounts, assuming they may have existed, have survived.* Evidence for Mycenaean religion is therefore necessarily indirect and suggestive rather than direct and certain. Thomas Palaima also engages with the dilemma of missing evidence. "For help," Palaima advises, "we may look backward, sideways, and forward from Mycenaean religion" (2008a, 343). In other words, we may find some useful guideposts in Hesiod and Homer, in the contemporary religious practices of Aegean neighbors, as well as from later Greek practices.

* See note 27.

Susan Lupac's "sideways" analysis of Aegean Bronze Age religion rests on both archaeological insights and textual interpretations (2023). The contrasting features of Mycenae's palace-center and the dominant architectural structure at Knossos, she argues, suggest different social priorities (2023, 70-76). The focal point of Minoan monumental architecture is the central court (at Knossos ca. 1100 m^2)——an expansive area designed for large group rituals, while the decidedly intimate megaron (at Pylos ca.143 m^2) serving as the seat of the wanax, exemplifies the hub of Mycenaean centers. However, the centrality of both the Minoan court and Mycenaean megaron is clear. Following Driessen, Lupac describes, "the more communal characteristic of Minoan society," comprising matrilineal family groups or clans in which cooperation and social parity are the norms while competition is not ruled out (ibid., 72). The Minoan fresco below suggests an hetarchical social system——one where elements are unranked or flexibly ranked. Lupac stresses that among the numerous women (30+ in the full Grandstand Fresco) all are of equal stature with similar grooming and dress (ibid., 74). Both the iconography and the architectural design at Pylos speak to a different set of mores. On the mainland community is replaced by hierarchy and the festive nature of the Minoan gathering with scenes of combat and hunting (ibid. 76-78).



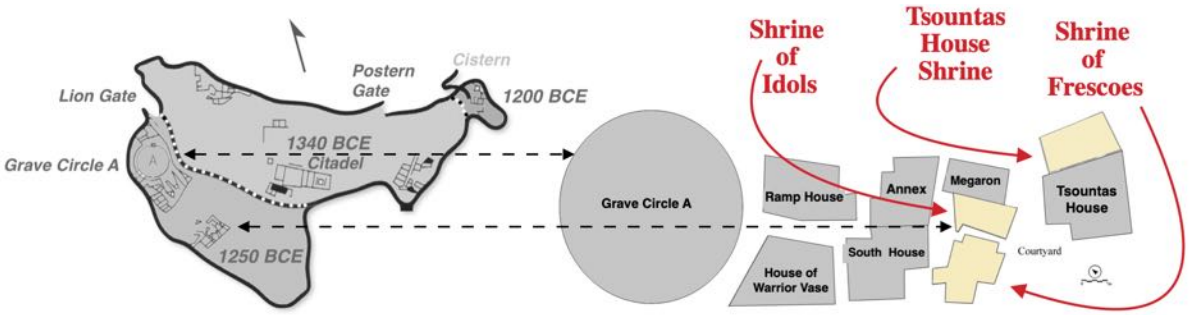
Grandstand Fresco (in part) after Emile Gilliéron, fils Arthur Evans - The Palace of Knossos 1930 Vol. III. 48



Hand-to-Hand Combat (in part) after P. de Jong Pylos - Hall 64 Depart. of Classics, Univ. of Cincinnati

Foundational to Lupac's analysis is the local character of Greek religion. As she observes, "From its very origins, Greek religion took on its recognizable form through interaction with its specific locale" (ibid., 67). Although elements of early Mycenaean iconography (bulls and female deities) and libation vessels (anthropomorphic and conical rhyta) reflected Minoan traditions, by the early LBA distinct mainland cultural styles are also apparent (ibid., 69). Somewhat later (ca. 1450) a Mycenaean presence on Crete is strongly signaled by the replacement of Linear A by Linear B. And as Lupac also explains the deities named on the early Room of the Chariot Tablets (RCT ca. 1390 BCE), including a-ta-na-po-ti-ni-ja (Potnia of of Athanas) and po-se-da-o-ne (Poseidon) are Greek (ibid., 87). Within 60 years, however, Knossos tablet Fp 1 suggests the Mycenaeans have accepted at least some Minoan religious traditions as Zeus has, "become Diktaian Zeus, Zeus of of Mount Dikte – a very local, Cretan manifestation of of the Greek god" (ibid., 90 -91). The Greeks had clearly brought "their" local gods to Crete, but the strength of local religious traditions is also apparent and was adopted in part by the newcomers.

While palatial and mortuary features were an early focus of Mycenaean religious studies, the significance of dedicated cult centers and shrines is now recognized. Important sites include the five structures of the Cult Center at Mycenae, the West and East Shrines at Phylakopi on Melos, Lower Citadel cult rooms at Tiryns, and on Kea the cult temple at Ayia Irini. The situation at Pylos is interesting for several reasons. Palaima cites Pylos tablet (PY Tn 316), "which records ceremonial "gift-giving" of sacred heirloom ritual vessels by the palatial center" (2004, 219). The same tablet lists one district and five specific locales where such ceremonies take place and where worshippers would be in the presence of one or more of the Mycenaean deities including Zeus, Hera, and Poseidon. Despite the specificity of Tn 316 Palaima notes that “None of these sanctuaries has been located on the ground” (ibid.).

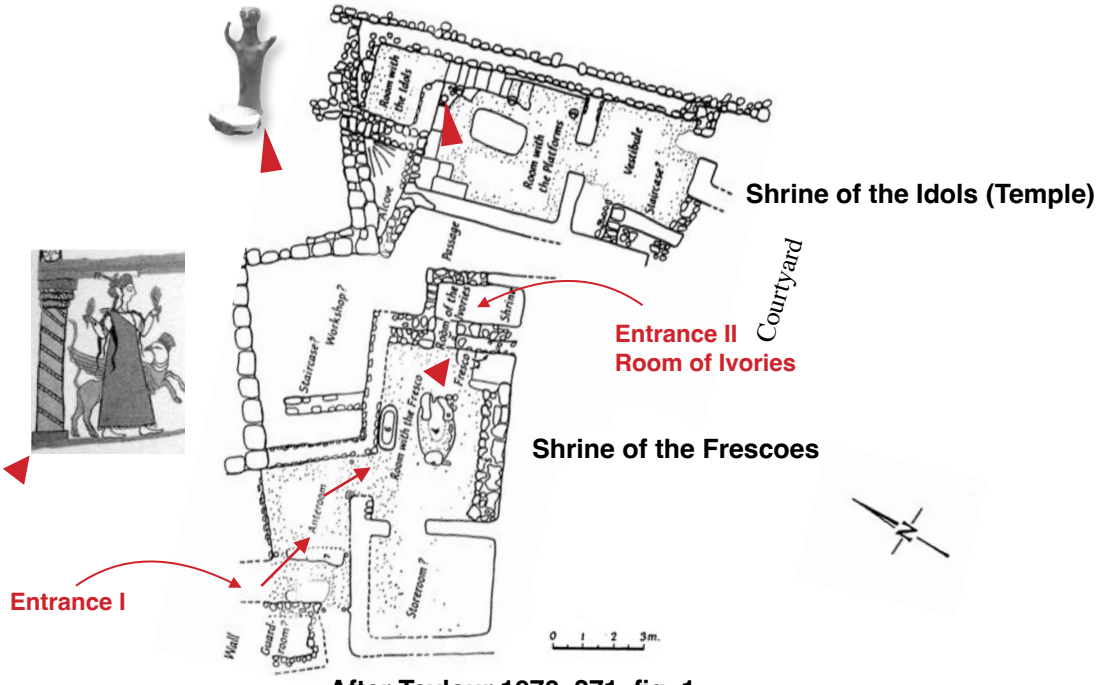


Mycenae Fortifications Phases after Wace 1949 and French 2002

Mycenae West Slope Cult Structures After K. A. Wardle 2015, p. 578 Fig. 1

The Cult Center at Mycenae, on the other hand, has been studied intensively——first recognized as such in the 1960s by George Mylonas following Tsountas's earlier excavations (French 2002, 84 - 85). Interpretation of the various structures is complicated by a number of factors including the relationship between and among the different units, one that changed over time as a result of intentional modifications and seismic damage. Wardle's schematic diagrams the pertinent area during the early 13th century BCE (2015). French makes the general comment that, "There is surprisingly little evidence for anything built between 1450 and 1300 BC" (2002, 63). However, established ceramic chronologies have informed the various arguments to a degree. The three phases of Mycenae's fortification walls offer a general chronology for developments on the citadel including a mid-13th century BCE date for the important addition that enlarged the encircling wall and memorialized Circle A interments. Although there is a general consensus date of ca.1250 BCE for this work, opinions differ vis-à-vis the state of the Cult Center and the expansion of the fortification wall. In general agreement with the work of Lisa French and Kim Shelton (the archaeologists most recently engaged in studying the West Slope of the Citadel), Wardle makes the case that the major structures comprising the Cult Center: the Megaron, Shrine Γ (Tsountas House), the Shrine of the Idols (Temple), and the Shrine of the Frescoes were completed and in use before the final addition to the wall. This sequence is critical to Wardle's hypothesis that, contrary to earlier opinions, the Cult Center was accessible and used by members of the greater Mycenaean community up until the extended fortification wall prevented general access. Wardle argues that earthquake damage was the impetus for repairing and lengthening the fortifications. Following the enclosure, Wardle suggests, the communal use and access to the Shrine of the Frescoes likely ceased and activity at the Shrine of the Idols (Temple) was curtailed. At this point what was left of the Cult Center and the associated ritual practices was restricted to palatial use (2015, 577 - 579). An impediment to basing this hypothesis concerning religious practices on architectural features is the lack of ceramic (or other) evidence to precisely date the final alterations to the fortification wall. As Wardle acknowledges, "the construction dates for some of the buildings are based on inference rather than evidence" (ibid., 580). Knowing whether religious practices were limited to the elite is clearly germane to discussions about Mycenaean religion but any conclusive answer would appear to require documentation of a type absent at present. Note that the alternate use of the designation "Temple" for the Shrine of the Idols may be misleading. These rooms are not spacious enough for any sizable gathering of worshippers——thus the importance of the adjacent courtyards. The so-called "Temple" and other cult rooms were in fact sanctums or shrines, large enough to store ritual objects and allowing access to a small number of celebrants and perhaps, at times, as places for initiations or other rites involving one or two individuals.

A closer look at the Shrine of the Frescoes and the Shrine of the Idols brings us face to face with a number of the unique aspects of religious practices at Mycenae. Some of the associated material finds are striking. It is worth keeping in mind, however, that even in the case of contemporary religions with living adherents, personal testimonies, and written documentation, statements about belief are typically grounded as much in mystery as in objective evidence. But there are alternate ways to engage with this topic and Lyvia Morgan, an expert on late Bronze Age iconography, offers a number of interesting insights into Mycenae's Cult Center (2005b). Rather than narrowly parsing the individual artifacts and structures of the Cult Center Morgan suggests, "It is perhaps time to re-examine the issue in relation to the shrine complex as a whole" (ibid., 166). What, she asks, are the commonalities of the structural characteristics and the iconography. Significantly, some of the themes and architectural arrangements she suggests for Mycenae find counterparts across the Mycenaean cultural landscape.



After Taylour 1970, 271, fig. 1

Like most scholars Morgan sees the memorialization of GCA as a watershed moment in Mycenaean history. In a burst of innovation the main citadel entrance is reimagined and repositioned in a way that gives visual prominence to the newly installed monumental Lion Gate sculpture. At the same time the Great Ramp was positioned to pass by the newly memorialized interments of GCA and to merge onto the Processional Way—— providing access to the Cult Center to the right as well as to the Palatial structures atop the citadel. Morgan notes that the fresco finds "Ladies at Windows" and "Bull Sports" dating to LH I - LH II suggest an early Ramp House shrine (ibid., 161). By the time the fortification wall was extended the Tsountas House Shrine (Γ) was in active use together with the Cult Center. With a focus on the Shrine of the Frescoes and the Shrine of the Idols, and contra Wardle, Morgan stresses that critical to her view is, "access in mid-LH IIIB, when these two lower shrines were in use, with the upper shrine, known as 'Tsountas' Shrine', and hence ultimately with the Causeway and the Processional Way" (ibid., 160, note 6; 162). Also essential to Morgan's



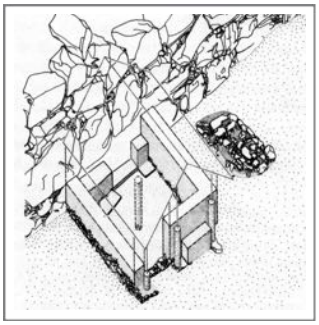
Ladies at Widows LH I-LH II
National Archaeological Museum

interpretation is the evidence that the Shrine of the Frescoes originally had two doorways: the main Entrance I crossing the unique conglomerate threshold and Entrance II on the east (see Taylour plan above). The iconographic focal point of the shrine was located on the eastern wall adjacent to Entrance II. Work on these lower shrines was completed by the mid-13th century BCE and before the Room of the Ivories blocked direct access (Entrance II) between the original shrines. Morgan focuses on the symbolic similarities among Mycenae's iconography but also sees as significant organizational and structural similarities of the LH IIIB shrines. Each of the three shrines: Tsountas House, Shrine of the Frescoes, and Shrine of the Idols, explains Morgan, "had a central hearth or altar and each had an open air court for outdoor rituals associated with the cult" (ibid., 163). The import of this arrangement is strengthened by Morgan's observation regarding Mycenaean cult areas in general——"The patterning of these shrines——two or more temples, open-air courtyard, located next to the fortification wall——is repeated at Phylakopi and Kition" and is similar to cultic structures within Tiryns' Lower Citadel (ibid., 164).

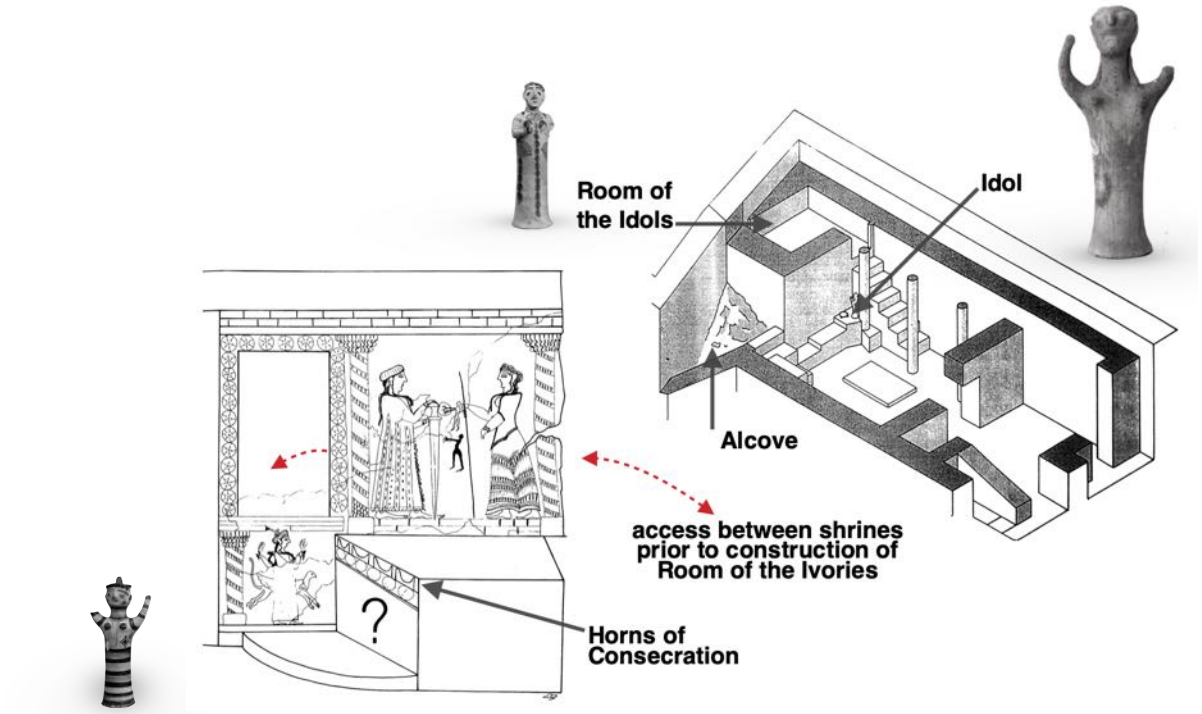
Phylakopi Shrines
after Renfrew et al. 1985, Fig. 2.1 detail



Tiryns Room 117
Kilian 1981, fig. 4



The original entrance (Entrance I) to the Shrine of the Frescoes accessed the main (west) room with its large central hearth. Although the dating is uncertain, a large bathtub-like larnax and objects associated with ritual washing were also located here (ibid., 166). Visually, one's attention would have been drawn to the large frescoes on the eastern wall. The most noticeable feature of the frescoes are its two distinct levels (see below). This split-level aspect of the imagery is reinforced by the architectural components of the frescoes. On the lower portion a single figure stands next to a column. On the face of the adjacent platform-altar is the representation of a building's "beam-ends" section——topped by horns of consecration. Aside from the figures and associated imagery, the top level includes an additional two columns, a large door frame, and brick-work. As Morgan points out, the architectural aspects of both the platform-altar and the fresco seem to depict an actual space——and remarkably this space corresponds with structural features in the adjacent Shrine with Idols. In the second shrine we find three (actual) columns in a room, as depicted in the frescoes in the adjacent room, as well as two levels. Additionally, the fresco figure with raised hands next to a column is repeated in the Shrine of the Idols by a clay figurine between an offering table and a column (2005b, 168). Given the totality of the evidence, and Morgan refers to several other parallels not mentioned here, it seems difficult to fault her observation that, "Though not a one-to-one correlation, it is more than one might expect. Columns, levels, platforms, offerings, figures—surely these correspondences are more than a coincidence." Of course the crux of the matter is the meaning or as Morgan asks, "What then is the significance of these correspondences and what does the action of the painting imply?" (ibid. 168).



Shrine of the Frescoes
Fresco Reconstruction
after Marianatos 1988, fig. 3

Shrine of the Idols (Temple)
Isometric Drawing
Taylour 1970, 273, fig. 2

Quirky seems an apt description for the Shrine of the Idols. Even with the help of Taylour's useful isometric drawing (above at right) one's eye needs to wander back and forth over the various levels and surfaces to become familiar with the room's rather unique layout. Oddities include the triangular-shaped alcove tucked into the northwest corner, the multilevel platforms at the north end, and the stairs along the east wall, reaching nearly to the ceiling and giving access to a storage space now known as the Room of the Idols (Room 19). When the main room was initially excavated the scant finds included the single idol with raised hands plastered into the platform next to an offering dish. Additional excavations of both the storeroom and the alcove, however, revealed a group of exotically strange, though shattered, figures (19 Type B and 3 Type A) as well as a number of clay snakes. The figures and the snakes, along with cups, kylikes, offering tables, and numerous beads had been sequestered in a jumbled and seemingly hurried manner, in both the alcove and upper room after which the storeroom was sealed and plastered shut.



Type B Figures
Room of the Idols / Alcove
Archaeological Museum of Mycenae



Snakes, Type B Figure - Temple
Type A Figure - Shrine of Idols
Arch. Mus. of Mycenae

One thing is certain——objects from both caches are contemporary (Wardle 2015, 590). The impetus for sequestering the objects may have been their destruction as the result of an earthquake or threatened hostilities in early LH IIIB (Lupack 2010, 266). In any case, it is reasonable to assume these finds are associated with the the Shrine of the Idols at the time it was an active center for cultic practices along with the Shrine of the Frescoes. Not surprisingly various interpretations have been suggested for the Type B figures. The known artistic skills of Mycenaean ceramicists and fresco painters are a clear indication that the bizarre——seemingly transfixed gazes, of the Type B terracotta figures are something other than accidental or benign.[19] Morgan uses the terms "menacing" and "ferocity" to characterize their demeanor and suggests, in agreement with Taylour, that their association with numerous clay snakes indicates that as cult objects they are chthonic (related to death and the underworld) in nature (2005b, 166). This however, is just part of the picture, and it is Morgan's analysis of the fresco that guides her interpretation of the overall nature of the Cult Center in the LH IIIB period. Symbolic aspects of the female figure in the lower panel are not altogether straightforward. According to Morgan the horns of consecration (on platform at right), the figure's garment, plumed hat, and upraised hands suggest a priestess; given the context (next to the platform-altar) the grain is likely a votive offering. However, if the animal behind her (the painted fragments are mostly missing) is a lion or griffin this would tend to suggest a goddess (ibid., 167 - 168).



Reconstruction
Shrine of Fresco - Plates 2005, Plate 24
Photograph by Lyvia Morgan
Archaeological Museum of Mycenae

19. With a few notable exceptions, figural sculpture is largely absent from both Minoan and Mycenaean artistic repertoires.

There is an ambivalence about the two upper figures as well, but on balance Morgan interprets the two as divine. Two male figures, both curious and unusual, are suspended like puppets between the goddesses. Both reach out towards (or for) the over-sized sword held point down by the deity on the left. Morgan is in agreement with Nanno Marinatos that these figures represent souls and furthermore, after Egypt's New Kingdom tradition, the use of contrasting red and black figures in the fresco signify the living and the dead respectively (ibid., 169). Morgan's familiarity with not only Egyptian but Hittite iconography informs her interpretation. From a sanctuary at Boğazköy, the Hittite stronghold in central Anatolia, both sculpture and religious texts connect swords and divinities——specifically gods of the underworld (ibid.). This brings us closer to Morgan's main thesis, one that places an emphasis on duality——an interpretation based not only on symbols but also on context. The Cult Center itself is situated above the large prehistoric cemetery and adjacent to GCA, a direct connection to the world of the dead that is echoed in the numerous cult figures as well as elements of the fresco. But just as the main fresco has images symbolic of death——souls reaching out for the sword as symbolic of underworld deities, the priestess with grain represents fecundity and life (ibid., 169). Additional fresco fragments, found near the Tsountas House also suggest religious imagery——with connotations of life and death. The two illustrated below are of a helmeted goddess with griffin and genii or daemon (the latter also



Warrior Goddess with Griffin
Kritseli-Providi 1982, pl. 2a
Natl. Arch. Mus.



Genii
Tsountas house
Natl. Arch. Mus.



Tiryns Ring
CMS I No. 179
Natl. Arch. Mus.

represented on a signet ring). Morgan suggest that the goddess with griffin may parallel the figure on the lower section in the Room with the Frescoes (assuming the undetermined animal is a griffin). In any case Morgan explains that griffins, "are another creature with dual symbolic power, in this case not only in Aegean art, but throughout the ancient world. They may be protectors (of rulers, deities and priests); or they may be killers (of animals, in the hunt and (uniquely) of sacrifice)" (ibid., 170). The donkey-like figures (genii or daemons) carrying a rope are a Mycenaean version of a Minoan adaptation of the Egyptian New Kingdom Taweret or hippopotamus goddess (Weingarten 1991, 3). This is another icon with dual status as the bringer of fertility and the bearer of sacrificial animals (2005b, 170). Sacrifice itself has an internal duality and may be seen as a way the death of the sacrificial animal may also enhance the life and well-being of the celebrant or community. Seen also on the Tiryns signet ring, but as lion-headed daemons, the genii approach a goddess carrying vegetation in one hand——symbolic of life.

Inanna-Ishtar Enki-Ea



Adda Seal 2300 BCE Sippar?
© Trustees of the British Museum

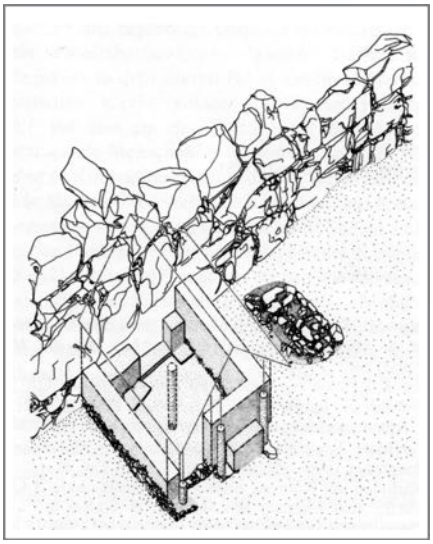
In her concluding paragraphs Morgan points out that, “Such duality is not restricted to Mycenaean culture. Indeed, the existence of a female deity whose sphere of action encompasses both war and fecundity is iconic in the ancient Near East” (ibid., 171). The central figures of the Mesopotamian seal impression are Ianna (at left) goddess of erotic love and war and Enki-Ea (at right) a male deity whose realm is the underworld but who is also the bringer of animating water.

For Morgan the Mycenaean Acropolis ring, found near the Cult Center, is a near perfect expression of this life and death duality. Her clarifying point is a significant one——“By this I mean not a polarity, but the constituents of the continuum of being.” Represented at the left are a goddess, children, a fruit tree, and the sun (life). At right are the moon, a figure-of-eight shield, and a series of skulls (death). At the center a sacrificial axe, “which kills to give life” (ibid. 171).



Gold Signet Ring
Mycenae Acropolis
Natl. Arch. Mus.

As mentioned above, structural characteristics of Mycenae’s cult rooms and adjacent spaces along with other known mainland and Cycladic island cultic areas share a number of notable characteristics (Morgan 2005b, 164). At Tiryns the best preserved architectural features associated with cults are from the Postpalatial (LH IIIC) period. Given the fact that virtually all the Mycenaean palaces, including Tiryns, had suffered massive destruction at the end of LH IIIB the building program itself was unique. As Maran puts it, “the Mycenaean community at Tiryns must have faced its most severe crisis in the immediate aftermath of the collapse of the palatial system, when some of its members are likely to have played a major role in transforming, and in certain ways also reinventing, Mycenaean culture” (2015, 283). Kilian excavated 3 cult rooms in Tiryn’s Lower Citadel dating to the LH IIIC period (2015, 136 - 137). Each is “freestanding” and characteristically small and narrow (> 3 x 2 m.) but finished with attention to detail. Room 117 is typical and includes stucco covered floors with indications of one or more posts / columns as well as a bench-altar with niche. As is the case at Mycenae, the room’s diminutive size indicates restricted use but an adjoining courtyard would have enabled public participation; in addition, and as indicated by the plan, Room 117 abuts the fortification wall. In addition to the various terracotta figures recovered from the Tiryns’ cult rooms, numerous animal bones were found in association with the structures (ibid. 138). See also *Collapse and Aftermath.*



Tiryns - Cult Room 117
Mühlenbruch 2015, p. 136 Fig. 5

As illustrated above, terracotta anthropomorphic forms in a variety of sizes, shapes, and styles are associated with cult sites.[20] In addition to the Phi-Φ, Psi-Ψ, and Tau-T figurines, similar-sized terracotta mammals, birds and other animals both real and imaginary are fairly common. Figurines were among the first artifacts Schliemann found in quantity at Tiryns——11 "terra-cotta cows" and 9 "female idols" (1878, 10). At Mycenae, in his first two week of excavating, Schliemann reported, "more than 200 terra-cotta idols of Hera, more or less broken, in the form of a woman or in that of a cow" (ibid. 71). Never reluctant to offer an interpretation, Schliemann confidently associated the figurines with Hera (Argive Hera). In a lengthy note based on his account from Troy he enumerated the goddess' connections with Iö and all manner of bovid lore including the epithet, βοώπις——cow-eyed (ibid., 19 - 22). Schliemann's attribution, based largely on his own active imagination, exemplifies the challenges and pitfalls of assigning meaning to artifactual materials.



Schliemann 1878 MYCENÆ
"Terra-cotta Idols from Mycenae"
Pl. B Figs. e. and f.
Terra-Cotta Idols
Pl. XVII No. 95

French's analysis of mainland figurines established an updated stylistic typology and chronology (LH II to mid-LH IIIC) based on ceramic dating (1971,109). Following Picard (1948) she attributed a, "generalized religious interpretation," to the figurines themselves (ibid., 108). However, in her summary French cautioned, "The interpretation of these elusive, fragmentary pieces is the major archaeological problem remaining in the study of figurines" (ibid., 177). Ioulia Tzonou-Herbst addressed elements of this challenge in her detailed study of more than 4,500 female-form figurines by focusing on where these artifacts had been found and how they were used (2002). Two prevalent interpretations are based on the assumption that figurines are religious objects: 1. that they served as markers for religious contexts and 2. figurines were children's toys with apotropaic (protective) qualities (2002, 12 - 13). Following her analysis, however, Tzonou-Herbst argues "that the meaning of the figurines changed from context to context depending on the people who used them and the activities in which they used them throughout their life histories" (ibid., iii). Yes, the figurines have been found in children's graves but based on funerary contexts there is no apparent gender, sex, or age bias for the interred. And while figurines have been found in cultic areas they are also regularly found in a range of settlement contexts including households, workshops, and refuse dumps (ibid., 296 - 298). Clearly figurines are at times associated with places and/or practices with religious associations, however their ubiquity——as Tzonou-Herbst demonstrates, suggests a multitude of possible interpretations rather than any exclusive meaning. While certainly not out of place at cultic sites where some may have served votive purposes, on their own they are not reliable markers for religious practices.

20. Note that the term 'figurine' is used for the smaller (avg. height .12 m) anthropomorphic Phi-Φ, Psi-Ψ, and Tau-T and zoomorphic terracottas. At Mycenae the term 'figure' is reserved for the larger Type A (ca. .32 - .55 m) and Type B (ca. .35 - .69 m) anthropomorphic forms.

Like the figurines, Type A and Type B figures are also terracotta anthropomorphic forms. For Morgan's interpretation of Type B figures see above. While Type B figures are restricted to Mycenae, Type A figures have been found at various mainland sites as well as on several of the Cycladic islands. French and Tzonou-Herbst are in general agreement about Type A Mycenaean terracottas——the figures are both larger and much less common (17 are known) than figurines and are thought to represent a goddess or idol (Tzonou-Herbst 2010, 211). While figurines are hand crafted, figures are wheel-made in part and finished by hand and typically exhibit a good deal of artistic attention to details (French 1985, 209 - 215). Of particular significance——from an interpretive standpoint, is the specificity of find spots for figures. In sharp contrast to the ubiquity of figurines, "The figures were in rooms with platforms," explains Tzonou-Herbst, "standing on them or in close proximity to them, or stored in areas associated with such rooms. The finds in the assemblages are usually precious and of a ritual nature while the figures are generally preserved in very good condition" (2002, 299).



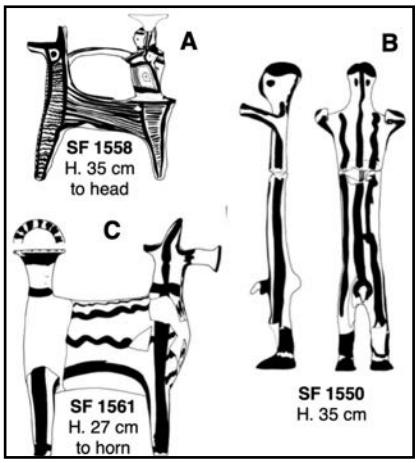
Mycenaean & Cycladic Figures - Cult Goddesses?

Cult sites on the Cycladic islands of Melos and Kea have produced unusual groups of figurative forms. The terracottas at Phylakopi on Melos are extraordinarily diverse and include male types (rare across the entire Aegean during the Late Bronze Age) as well as numerous large and small bovids. French described and published 283 figures and figurines from the two shrines at Phylakopi (Renfrew et al.1985, 209 - 279). See plan 331. She noted the figure at right is unique as female genitalia are indicated (ibid., 211). The figure shown above, thought to be the main cult goddess, was recovered from the larger West Shrine (LH IIIA1) that shares a courtyard with the smaller and later East Shrine. Significantly, one of nearly identical or closely related type pairs (female, bovine, male, driven ox, and

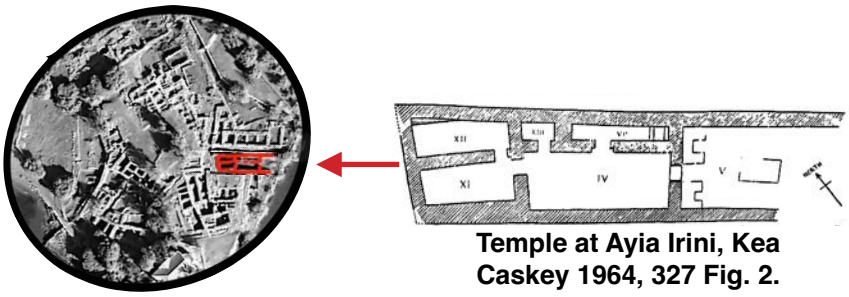


Phylakopi, Melos West Shrine
French in Renfrew et al. 1985
213, Fig. 6.3

small animals) was recovered from each of the shrines (ibid., 276 - 277). The male figures themselves were in two separate groups with two of the three (one is only a fragment) from assemblage A seemingly designed to stand upright and carry unknown objects (ibid., 223 - 225). Renfrew suggested the tall (35 cm) male figure from assemblage G was possibly a cult figure (ibid., 225 - 227). A total of nine large wheel-made bovid figures were recovered from the two shrines, six from the West Shrine. Four of these consisted of pairs of bovids that were distributed as described; two, perhaps three of these large figures were fitted with vessel-shaped attachments that could have held liquid but did not function as rhyta (ibid., 236 - 240). Another significant group included chariots and driven oxen. Although the majority of terracottas from Phylakopi were made locally, French suggested figure A (illustrated above) was imported. Note the attachment above the driver's head——thought to be fitted with parasol (ibid., 252). Various figurines were also imported and their Minoan and Mycenaean influences are clear while the less common "larger figures are elaborately made using the techniques of the potter," with some sections turned on a wheel and others fashioned by hand (ibid., 209).

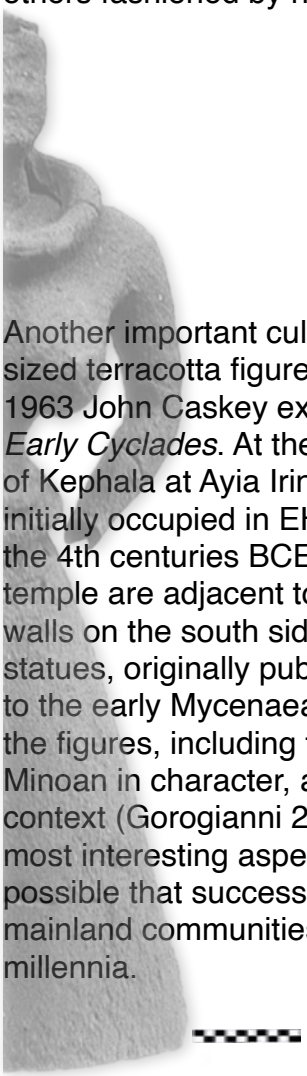


Phylakopi, Melos - West Shrine
A. Chariot Group p. 253 Fig. 6.25
B. Male figure p. 229 Fig. 6.14
C. Bovine figure p. 246 Fig. 623
French 1985



Temple at Ayia Irini, Kea
Caskey 1964, 327 Fig. 2.

Another important cult site, known for its uniquely large——half to three-quarters life-sized terracotta figures, is the Ayia Irini temple on the island of Kea. Between 1960 and 1963 John Caskey excavated an early (FN - EC I) Cycladic cemetery at Kephala. See, *Early Cyclades*. At the same time Caskey and others began work two kilometers south of Kephala at Ayia Irini. Based on pottery finds, the later Mycenaean-era complex was initially occupied in EH II while the temple was used continuously from the 15th through the 4th centuries BCE (1964, 317). The original rooms (XI and XII) comprising the temple are adjacent to a monumental building (area A) and close by the fortification walls on the south side of the settlement. The shattered remains of the 32 terracotta statues, originally published by Miriam Caskey, were found in room XI (1) and are dated to the early Mycenaean - Late Palatial Minoan periods (1998, 123 - 138). The styling of the figures, including their flounced skirts and tight bodices with bared breasts, is Minoan in character, albeit at least one of the figures was recovered from a LH III context (Gorogianni 2011, 640). Aside from the unusually large statues, perhaps the most interesting aspect of the cult rooms at Ayia Irini is the temple's longevity. It seems possible that successive generations of celebrants, members of local and nearby mainland communities, engaged in sacred practices at Ayia Irini for approximately a millennia.



Terracotta statue - Ayia Irini, Kea
Room 1 (XI) - Temple Complex
Gorogianni 2011, Figure 1 (a)

In addition to Mycenaean and Cycladic cult centers and shrines there are a number of sacred sites collectively referred to as open-air sanctuaries. Rutherford mentions Mount Oroson on Aegina and Mount Kynortion near Epidaurus (2015, 264). The well studied sanctuary on Mt. Lykaion in Arcadia has been especially informative——including the lower sanctuary comprised of hippodrome, stadium, bath house, and *xenon* (administrative building) the site of the later Panhellenic Lykaion Games (Romano and Voyatzis 2014, 569 - 572). Following initial excavations at the turn of the 19th century, research begun in the early 21st century has revealed new details about the site's upper sanctuary——an open-air ash altar and *temenos.*[23] Of particular significance are the finds associated with cultic practices honoring Zeus including a series of artifacts confirming the continuity of religious practices from the LH to the Late Classical period (ibid., 569). The Arcadian Sanctuary of Zeus is frequently mentioned in the classical literature of the Greek and Roman eras including a lengthy passages by Pausanias in his *Description of Greece* (2019*,* 8.38.2 - 8.38.10).

David Gilman Romano (Co-director and Field Director of the Mt. Lykaion Project) reports that current residents of the nearby village of Ano Karyes are familiar with a number of the ancient stories associated with the site (Romano and Voyatzis 2010, 10). Rival claims of the mainland (Arcadia's Mt. Lykaion region) and Crete (Mt. Ida) for bragging rights as the birthplace of Zeus exemplify the continuing importance of myth. Like similar squabbles elsewhere there is a good deal of name calling. Early on Kallimachus' *Hymn To Zeus* branded the Cretans as "liars" with regards to this important episode in Greece's creation story. Both sides concur, however, that the sacred cave where Rhea gave birth to Zeus provided protection for the infant who would ultimately play a major role in Hesiod's foundational story of patricide, cannibalism, and the Titanomachy leading to Zeus' victory and ascension to the head of the Greek pantheon (Hesiod *Theogony* 456-484).



Zeus with Lightning Bolt Frontispiece, Church 1879

Although Hesiod's tale is replete with the marvelous, unlike many creation myths, Greek gods and mortals issue from the natural world. Perhaps this makes it less surprising that evidence for early cult practices recently unearthed on Mt. Lykaion are reflected in the current mythology. The lightning bolt, Zeus' weapon *par excellence,* is the force that assured victory over the Titans while also assuring Zeus' continuing dominance over gods and mortals alike. And as a number of the villagers presently living on the slopes of Mt. Lykaion testify, the frequent and violent electrical storms in some sense replay this ancient drama. (Romano and Voyatzis 2010, 11). Pausanias' use of *temenos* (from Greek, τέμενος; also Linear B *te-me-no* (𐀳𐀍𐀜) describes a place where mortals, under penalty of death, are forbidden to enter (8.38.6). And although Romano and Voyatzis catalogued over a hundred finds (a portion representative of numerous similar objects) in their initial excavation report, the six trenches excavated in the area of the *temenos* were barren. As the co-authors put it, "It is curious that we found virtually no objects at all in our excavations in and around the *temenos*" (2015, 585 - 626).[21]

21. Although *te-me-no* (𐀳𐀍𐀜) is attested in Linear B, unlike the later temenos, it may have a political as well as religious meaning.

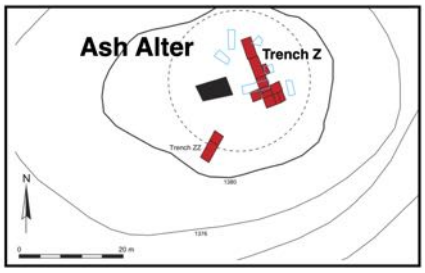


Fulgurite - Ash Altar
Mt. Lykaion - Arcadia
Romano and Voyatzis 2010, 15

No doubt, all this adds to the mystery of a chunk of fulgurite (often referred to as “petrified lightning”) found while excavating the ash altar. However, George Davis, a geologist working at the Sanctuary, identified the find and indicated the fulgurite was likely an offering carried to the site, as the sand which was vitrified when struck by lightning does not occur locally (ibid 15). Aside from local traditions and ancient lore, exactly what convinces the excavators that the Upper Sanctuary at Mt. Lykaion is a cult area? One aspect of their characterization relates to the relatively recent but substantial body of evidence for Mycenaean cult practices at other sites. Presently, a significant and growing body of evidence exists that is useful for comparative purposes. Although the summit area at Mt. Lykaion has no large structural remains, several categories of physical evidence are critical to the researchers’ judgment. Trench Z cuts across the Ash Altar at the summit. In one section of the trench numerous sherds dating from the Bronze Age through the Classical period were found. At bedrock the material is mainly Mycenaean and dates from LH IIIA2 to LH IIIB. Significantly most of the sherds are fragments of kylikes——the majority unpainted but a few showing typical Mycenaean motifs. Smaller numbers of bowls and dippers are also attested but clearly the entire assemblage of vessel shapes is closely associated with (ritual) drinking (ibid., 590). Soon after beginning excavations of Trench Z the workers realized that the sediments, “ashy, greasy, black soil,” were in fact, “pulverized bone from burned animal sacrifice.” This material covers, “the entire southern peak of the mountain, an area of approximately 700 m^2” (ibid., 579). For those steeped in Homer but not in Aegean archaeology such evidence may seem unremarkable. However, until quite recently, the scholarly consensus envisioned burnt sacrifice as solely the stuff



Animal Figurine MTL 328
Mt. Lykaion - LH IIIB
Urbanus 2018, p. 47



Detail - Mt. Lykaion Upper Sanctuary
Romano and Voyatzis 2014, p. 576



Askos (banded) C-Z-148-32
Mt. Lykaion - LH IIIB
Urbanus 2018, p. 47

of myth with little or no convincing archaeological evidence from the prehistoric period. And this takes us back to Pylos and the box of long forgotten bone fragments excavated in the 1950s by Belgen’s team and brought to light by Sharon Stocker while searching for artifacts in the basement of the Chora Museum. As discussed above, this rediscovered cache held the first known evidence for the tradition of burnt sacrifice in the Bronze Age. See 324. The analysis of the Pylos bone deposits and the evidence from Mt. Lykaion is similar. In the area of Trench Z described above, large numbers of heavily burned sheep and goat bones were found. Significantly, a high percentage of the bones are femurs, patellas, and tails (Romano and Voyatzis 2014, 614). The selective nature of the burned bones (at Pylos these are femur, tibia, and jaw bones from cattle), the numerous drinking vessels, as well as clay figurines (both human and animal) dating to the LH period strongly suggest cultic activity. As Romano and Voyatzis point out, the Mt. Lykaion finds from the Upper Sanctuary, “are consistent with the sorts of materials found in Mycenaean cult centers, such as at Mycenae, Tiryns, Pylos, Phylakopi, Maleatas, and Asine” (ibid., 582).

Generalizations about Mycenaean society nearly always refer to its militaristic nature. Given that the *Iliad* is the near universal entrée to the Mycenaeans, this emphasis is understandable. The prominence of weaponry among shaft grave finds reflects the epic tradition——a warrior culture and a wealthy one at that. We can follow this theme up to and through the Mycenaean floruit. Elements of the architecture (cyclopean fortifications designed for tactical advantages during hostilities) and iconography (images of combat and the hunt on wall paintings, seals and the occasional ceramic vessel) add to the evidence. However, Dickinson's cautionary reminder of the absence of first hand documentation should not be ignored. Yet, given the sizable body of indirect evidence, it seems reasonable to assume that individual Mycenaeans engaged in man-to-man combat where death and mortal injuries would have been inevitable and where victory would certainly have brought a degree of status and renown (Peatfield 2008). There is perhaps no more powerful image of the heroic Mycenaean warrior than that one represented on the Combat Agate. See 325. Not surprisingly then, even the briefest overview of these early mainland Greeks is certain to mention their militaristic disposition. What one is not likely to find in such brief sketches are references to the Mycenaean's religiosity. However, the evidence——architectural, iconographic, and artifactual, seems as robust for the sacred as it is for the profane. In fact, the Linear B texts——albeit late in the Mycenaean period, provide documentation for aspects of religious practices in greater detail than for martial matters.

Scholars disagree about exactly what evidence is germane to interpretations of ancient religion. Not a few Aegeanists point to the potential pitfalls of characterizing Mycenaean religion by extrapolation from classical period beliefs and practices (Renfrew et al. 1985, 3; Dickinson 1994, 257). On the other hand, and with the understanding that specific belief systems are unrecoverable, Dickinson agrees with Renfrew that archaeological evidence may support, "the identification of sites, symbols, and representations," as religious in nature (Dickinson 1994, 257). Palaima begins with the material evidence as well but also argues, "we can cautiously use the Linear B tablets and our understanding of historical Greek religious practices, including those reflected in the traditional texts of Hesiod and Homer, to reconstruct Mycenaean religion" (2008a, 343 - 344). As noted, Dickinson strongly questions the usefulness of evidence from the historical period, but he and Palaima share similar ideas regarding the wellspring of Mycenaean religious practices. The Mycenaeans, they concur, assumed the existence of supernatural entities (their gods) capable of influencing, for better or worse, the lives and livelihoods of all mortals. Furthermore, mankind was obliged to propitiate these deities on a regular basis and in a suitable manner. Failure to comply with the perceived expectations of the gods would surely have dire consequences. To address their perilous existence, mortals identify specific individuals (both political and priestly) with responsibilities for organizing and hosting community ceremonies and carrying out specific rituals in fulfillment of religious obligations. Palaima attributes the Mycenaeans' fundamental religious tenets largely to the conditions inherent in Greece's natural environment——a land whose limited resources has perennially dictated competition among its inhabitants (ibid., 345). Dickinson suggests the concerns and preoccupations of Neolithic Aegeans, like those of contemporary Near East societies, would have initially focused on making a living as farmers and thus the quality of the land they occupied (1994, 258). As detailed above, archaeological evidence for Mycenaean religious practices is found in diverse locations——variously within the citadel's megaron or adjacent to palatial fortifications, at extramural built cultic sites, and at open-air sanctuaries. The previous discussion of sacrifice and feasting at Pylos exemplifies interpretations of both religious and political activity supported by a synthesis of the archaeological and textual data. Feasting,

particularly at the scale imagined in Homer and suggested by the hundreds of drinking vessels in Pylian pantries, may have been nurtured by political and social factors as well as traditional religious practices. As discussed above, Wright and others describe such festivities as an effective means to reinforce hierarchical status and strengthen social cohesion (2004, 133 - 135). Other evidence at Pylos, however, including the textual references to sacrificial knives and stunning axes as well as the iconography and finds of burnt bones suggest religious practices, in particular sacrificial rituals (Palaima 2004, 233 - 234; Stocker and Davis 2004, 181 - 182). The question then arises, who took the lead for each of these significant aspects of Mycenaean society.

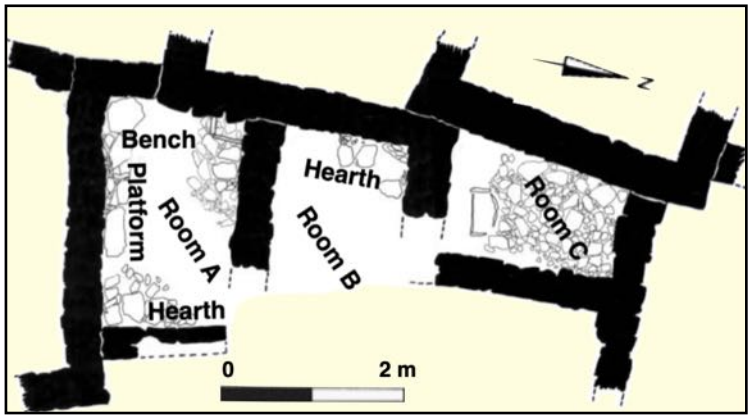
During the first decades of the latter half of the 20th century, following the decipherment of Linear B, a strictly hierarchical model for Mycenaean society was proposed. M. I. Finley was an influential proponent of this perspective and he interpreted the Linear B tablets as evidence for an "elaborately organized palace economy of a broad type well attested and thoroughly documented across the ancient Near East" (1957, 134). Three years after the decipherment Finley concluded that, "the discontinuity between the Mycenaean world and the Greek was so great that it is fruitless to look to the latter for guidance in the former" (ibid., 140). Finley indicated his position regarding authoritarian monarchies applied both to Crete and mainland Greece. Redistribution was central to his model, wherein the elite members of the hierarchy, with the *wanax* at the top, control the production and distribution of all goods and wealth——generated in large part by the labor of working classes (Nakassis 2010, 244). While various forms of redistribution continue to be considered as characteristic of early Aegean states, relatively recent scholarship makes it clear that "a unitary top-down model" is not a good fit. In fact important differences in the Minoan and Mycenaean states tend to be masked by this generalized model. Even at the level of the individual state, as Nakassis puts it, "we ought not to be discussing whether a given society is redistributive or not, but how it is redistributive," and to focus, "on describing the multiple systems embedded within the economy of a given society" (Nakassis et al. 2011, 180 - 181). As Linear B studies progressed a more nuanced picture of the Mycenaean states and the roles played by individual members of the elite began to emerge. Significantly, it was questioned whether the *wanax,* clearly at the top of the palace hierarchy was, in Palaima's words, "simultaneously commander of the army, chief priest, and guarantor thereby of the prosperity of the community" (1995, 130). It is now generally, although not universally, thought that the *lāwāgetās* was likely the military leader or commander (Shelmerdine 2008, 129 - 130). Palaima makes the case that at Pylos*,* "the *wanax* had primarily religious functions," and as detailed above, acted in his role as king but also as an individual named member (eg. *e-ke-ra*$_2$*-wo*) of the community. As we have seen, *e-ke-ra*$_2$*-wo* was the major contributor to sacrificial banquets, as attested by tablet Un 718 honoring Poseidon (Palaima 1995, 130 - 131). Palaima also looks to the iconography of the vestibule (Room 5) and megaron (Room 6) at Pylos to buttress his contention that the central structure of the Pylos megaron and the focus of sacrificial rituals is the hearth, not the ruler's throne that is set to one side (ibid., 133).

Although scholars have cautioned against the potential pitfalls of reading historical events as mirrors to prehistory, it appears to be misguided as well to totally ignore the nature and course of Greek religion. Tim Whimarsh's *Battling the Gods* surveys the history of belief and disbelief in the ancient world to illuminate the roots of atheism in the west (2015). In rehearsing the well known political and social diversity of the the Greek city-states he notes that, "Greek religion too was an expression of these multiple regional identities"; not only were the major deities know by their local names (eg.

Apollo as “Pythian,” “Sminthian,” and “Cynthian”) but, “in almost every case, a god was associated with a particular building in a particular location” (ibid., 20). A comparable diversity and specificity is reflected in the concept of the ‘*Potnia’* (Linear B *po-ti-ni-ja*), a term associated with local deities and characterized by Palaima as, “the most conspicuous feature of religious belief that the Mycenaean Greeks derived from early cultures” (2010, 352). The various epithets of *potnia* are associated with names for specific cult places as well as individual aspects of various deities (eg. ‘Mistress of the Labyrinth’ [?] and ‘Mistress of horses’ [?] (Hiller 2011, 188). Most striking is the theonym *Athana potnia* from Knossos tablet V 52, a term later used by Homer (ibid., 183). If site specificity characterized deities of Greek cult places, sacrifice was the defining practice of Greek religion. As Whitmarsh puts it, “The Greeks devoted an extraordinary amount of energy to keeping the gods happy” and the responsibility for this fell to the priest whose job was to sacrifice (2015, 21). This concern with propitiating the gods through burnt sacrifice, once thought to have been an Iron Age rather than Bronze Age practice, is now indicated at a number of Mycenaean sites. The initiation ceremony mentioned above and associated with the *wanax* at Pylos is located in the *pa-ki-ja-ne* district (Sphagiānes, literally “place of the slaughter”)——understood to be the main holy district for Pylos (Palaima 2011, 349). Although this site is yet to be identified, excavations at Ayios Konstantinos on the Methana peninsula have uncovered evidence that offers a new perspective on Mycenaean sanctuaries.



Ayios Konstantinos- Room A
Piglet Rhyta (length = 13.5 cm)
Piraeus Archaeological Museum



Ayios Konstantinos
Main Sanctuary
Hamilakis and Konsolaki
2004, p. 139 Figure 3

Rescue digs, excavations responding to current construction activities that have uncovered (and often threaten) ancient ruins, are responsible for revealing a number of important Bronze Age sites. This was the case in 1990 when restoration work was begun at the church of Ayios Konstantinos. The church occupies a hilltop perch on the eastern side of Methana, a mountainous (volcanic) peninsula in the southeastern

Argolid nearly surrounded by the Saronic Gulf. During the 1990s Elani Konsolaki-Yannopoulou worked with a number of her colleagues to excavate, analyze, and publish the architecture and material finds from the Mycenaean sanctuary (LH IIIA - LH IIIC, early) at the site of the modern church (2001, 2002, 2004). Although the architecture of cult Room A along with its diverse material finds are the focal point, a number of adjoining rooms as well as separate structures are spread across a sizable portion of the Methana hilltop (2002, 25 - 27). As is typical of Mycenaean cult structures (also referred to as “bench shrines”), Room A is relatively small (4.30 x 2.60 m). Various canonical cult features are represented by the large stone threshold, a hearth, a bench constructed with stone slabs and supplied with three low steps and an additional low platform on the facing wall. While the majority of the floor area consisted of packed earth sprinkled with pebbles, the excavator described an area between the stepped bench and platform fitted with, “stone slabs forming a low dais or podium” (ibid., 27 - 28). Material finds within the room consistent with cultic functions included a spit stand, saddle quern, tripod cauldrons, and other cook wares as well a number of kylikes (ibid., 28 - 29, 31). Given the site’s relatively remote location it would seem reasonable to assume the cult facility may have been associated with the local rural community. However, Konsolaki-Yannopoulou (following Hägg and Killian) asserts this is “an official rather than a popular cult” (2004, 68). This characterization, the author suggests, rests on the extraordinary number and variety of additional finds in Room A. These include approximately 150 figurines——mostly bovine but uncommon or unique types as well, including a series of miniature drinking vessels (recalling those at Pylos), cook wares, and furniture, and an extraordinary rhyton in the shape of a piglet’s head (ibid., 64 - 66). The figurines were found on and around the stepped bench in the northwest corner of Room A. Eight full-sized kylikes, several miniature ceramics, and a large triton with a clipped end were located on and around the bench (Konsolaki-Yannopoulou 2001, 213 - 214). Notable among the figurines is the relatively large bull-jumper——suggesting, in combination with other evidence, a male cult deity and the single Psi figurine, perhaps as the female consort. The multiple horse and bull figurines support the author’s characterization of the site as a Poseidon cult——suggested elsewhere during Mycenaean times and a deity venerated at Ancient Troizenia in later periods (Konsolaki-Yannopoulou 2004, 63 - 64). With the exception of the bull-jumper and the Psi terracottas, the figurines are thought to be votive (in the nature of a gift offered by the supplicant with a prayer——a tangible reminder of one’s request).



Figurines Ayios Konstantinos in Methana - Konsolaki-Yannopoulou 2016b
Psi 40(05); Horse & Rider 46(14); Bulls 46(12), 42(09); Charioteer 40(4); Bull-Jumper 44(10)

Numerous finds from Room A suggest the pouring of libations was also an important aspect of cultic activities at Ayios Konstantinos. Evidence includes both rhyta and kylikes (standard sized and miniature) and the unique piglet's head rhyton. A number of researchers have suggested that animal-head rhyta as a group may be associated with blood libations poured into the earth——an action that here would be especially appropriate if the cult's connection with Poseidon is correct (Konsolaki-Yannopoulou 2017, 146 - 147).



Priest with Conch
Lentoid - Idean Cave
Evans 1901, p. 142, Fig. 25

A conch shell, found next to the stepped bench, suggests a number of cultic associations. Illustrated at left is a lentoid published by Evans that was recovered from Crete's Idean Cave——the storied refuge of Zeus's childhood (contra the mainlanders' claim stated above). Arthur Evans proposed that similar conchs, "performed a ritual function in summoning the divinity" and furthermore, "[were] still in common use" in his day as a means of alerting the villagers (1901, 142). And the conch, even in its natural form, readily produces a sonorous tone well suited to religious rituals. Additionally, as Konsolaki-Yannopoulou explains, the conch's association with the pouring out of sea water is a recognized cultic practice suggesting fertilization and regeneration——one associated with Poseidon as lord of the seas in later times (2001, 214). Clearly the architecture, votive figurines, and numerous finds associated with libation all make a strong case for cultic activity at Ayios Konstantinos. The zoo-archaeological evidence is yet another significant factor. Yannis Hamilakis' analysis of bone fragments largely from the ashy residue of hearths in Room A and two adjoining rooms provides strong evidence for burnt sacrifice (Hamilakis and Konsolaki 2004, 138 - 141). Most of the bones studied were from Room A and the results give added significance to the unique rhyton mentioned above. Hamilakis reported that approximately 54% of the bones from Room A were those of juvenile pigs with an additional 34% identified as either sheep or goats (ibid., 139, 141 - 142). Skeletal analysis also established the sheep and goats bones (the major component of the total sample) were largely from the meaty parts of the animals while the entire complement of skeletal bones from young pigs were represented (ibid. 141). Filleting marks found on some bones indicate the meat was cut away from the bone——most likely for human consumption and consistent with the standard practice for traditional burnt sacrifice in later periods (ibid., 143). These results along with additional analyses led Hamilakis to conclude that the bone evidence from Room A (including the deliberate burning of most bones) strongly suggests ritual practices while the evidence (many unburnt bones) from the other rooms (B and C) is, on balance, more consistent with, "a 'non-ritual' context in this period" (ibid., 143 - 144).

Mycenaean religion has taken a prominent place in Aegean studies during the last half century. The present survey has focused on several representative sites and associated material finds but is by no means a comprehensive treatment of the sacred places or religious practices of the Mycenaean people. Rather than expanding the account with additional sites it may be more instructive to focus on the underpinnings for what we think we know with regards to Mycenaean religion. Renfrew's long term involvement with excavations on the Cycladic islands of Melos and Keros engendered an important discussion about approaches to studying ancient religion. His *The Archaeology of Cult: The Sanctuary at Phylakopi* addresses a number of the fundamental questions that arise in dealing with cultic practices as well as proposing specific methodologies to bring

to the task (Renfrew et al.1985). Renfrew rejects the notion that the evidence for "religious institutions and spiritual life" is somehow particularly obscure but also stresses that the essential first step is, "to make explicit some of the concepts, and distinctions between concepts, which lie implicit in any discussion of religion and cult" (ibid., 11). Renfrew's exposition is a lengthy one and my aim here is not to summarize his account. Rather, I want to expand on several of his main points that are particularly germane——that is, ones that appear to provide a degree of confidence that certain classes of evidence can be differentiated from speculative assumptions about Greek religion.

Framing these ideas around a specific group of similar artifacts may be useful. For example, asking the question——what is the meaning of the conch shell found in Room A at Ayios Konstantinos? Any meaningful response to this general question presupposes an answer to Renfrew's initial query, "How do I know this artifact had a ritual significance?" (ibid., 3). Jeremy Montagu's volume *The Conch Horn, Shell Trumpets of the World from Prehistory to Today* summarizes the conch's history worldwide——in part, demonstrating that for Europe we have, "more secure datings and earlier archaeological evidence than for anywhere else." However, as the author also points out, the conch functions in various ways, "for purposes of ritual, signaling, and music," in different contexts (2018, 9). Montagu's research includes a number of references to conchs themselves as well as skeuomorphs (conchs fashioned of ceramic, stone, and other materials) from the Late Bronze Age Aegean. From Crete he mentions Knossos, Mt. Ida (including Evans's lentoid find mentioned above), Phaistos, Haghia Triada, and Malia as well as records from Thera, Rhodes, and the mainland (ibid., 25 - 26). Montagu also sketches the conch's mythological traditions including *C. tritonis*——a gastropod whose species epithet references the Tritons, "half-men and half-fish sea godlings, the sons and heralds of the Greek sea god Poseidon" as well as a direct association with Poseidon as sea-god and perhaps, at an earlier period, horse-god (ibid., 24). The author also suggests the collection of stone conch skeuomorphs held at the Ashmolian Museum may either have been used as rhyta to pour libations or simply as decorative items (ibid., 25). It is clear from Montagu's survey that conchs have commonly been assumed to have a ritual function——a record abundantly attested both in myth and ethnographic accounts.



Montagu 2018, a. 53-55, Fig. 3.1; b. 132-134, Fig. 5.7; c. 61-63, Fig 3.2

a. *T. pyrum* serves as a war trumpet for both Vishnu and Krishna in the *Bhagavat-Gita.*
b. *C. cornuta* used in Pacific islands by Christian missionaries to call natives to worship.
c. *T. pyrum* used by Tibetan monks in Buddhist rituals.

While Montagu's volume confirms the long and varied history of conch use, including in the Aegean, its ritual attribution is largely anecdotal——leaving Renfrew's initial question unanswered. Renfrew accepts the general view of Mycenaean religion as one assuming both natural and supernatural elements with a significant focus on the transcendent such that it incorporates into religious practices what is referred to as "liminal" spaces where mortals and deities interact (1985, 11 - 12). Given this view, Renfrew argues that while "we cannot observe beliefs," there should be evidence of the believers practices or, "the results of actions which we can plausibly interpret as arising *from* religious beliefs" (ibid., 12). These "results" are the material forms whose symbolic characteristics should be identifiable as religious and as distinguishable from other cultural art and artifacts. Two conditions, referred to by Renfrew, appear to be the necessary ones for

pushing the investigation forward. An assemblage of images and/or objects that can be identified as symbolic of religious ideas or practices and their repeated association in identifiably characteristic spaces. Renfrew puts it this way, “An important help here is the frequency of redundancy (repetition) in human symbolic expression, particularly in the field of religion” (ibid., 14). And to reinforce his point——“In practice the recognition of cult must be on the basis of *context*: single indications are rarely sufficient in themselves” and “The issue of the *scale* of the context under consideration is in fact a crucial one” (ibid., 15). In sum, Renfrew’s approach eliminates the unknowable and stresses redundancy of evidence and recognizable religious contexts. On the assumption that we have a reasonable representation of the evidence, conch finds seem to satisfy Renfrew’s criteria as one element of the assemblages found with some regularity in identified cult structures or sanctuaries. Examples are illustrated below.[22]



1. Phylakopi East Shrine Assemblage L - Organic Conch, Renfrew 1985, Pl. 62 SF 170
2. Knossos Treasury - Triton-shaped Stone Rhyton, Heraklion Archaeological Museum
3. Mycenae GCA, grave III - Triton-shaped Faience Rhyton, National Archaeological Museum
4. Malia - Steatite Triton with incised Minoan Taweret, Arch. Mus. Agios Nikolaos
5. Methana - Ayios Konstantinos Sanctuary - Triton Shell, Konsolaki-Yannopoulou 2016b, Fig. 6
6. Myrtos EM IIA Settlement - Organic Conch, Warren 1972 Pl. 84 D (right)
7. Palaikastro - Ceramic Triton-shaped Rhyton - Heraklion Archaeological Museum

A Hundred Visions And Revisions[23]

There is another aspect to understanding Mycenaean religion, one that is part of a much broader discussion about meaning itself. Prezioli and Hitchcock the co-authors of *Aegean Art and Architecture* point out that meaning can be 1) perceived as embodied in the artifact itself—often within a specific context and/or 2) attributed to the perception of the user/viewer of that artifact (1999). The authors suggest there are plausible reasons to accept that aspects of an artifact’s meaning may derive from each of these domains. Thus we might adopt Renfrew’s methodology to elucidate an artifact’s contextual meaning while at the same time acknowledging that even in its “original state” the object may have had a variety of meanings——ones that also may have changed over time. Thus the conch found in Room A at Ayios Konstantinos may once have been used to pour out a libation or to produce sounds enhancing the celebrants awareness of liminal space while engaged in sacred ritual. The celebrant’s understanding of the conch will certainly differ from the perceptions of a modern-day museum visitor and most probably in ways we cannot fully ascertain. The point Prezioli and Hitchcock want to make is that ultimately the significance of a given artifact or iconographic representation is, “a complex function between it and its (potentially very varied) users” (ibid., 26). Clearly this is not a formula for certainty. And this, in fact, may be the essential insight. How we understand Mycenaean religion has to be malleable, not solely because there is much about Mycenaean belief systems that is unrecoverable, but also to allow for the inevitability of new evidence.

22. It is perhaps worth questioning whether there is a circularity to Renfrew’s solution for confirming religious contexts.

23. *And time for all the works and days of hands . . . And for a hundred visions and revisions*——from *The Love Song of J. Alfred Prufrock* (T. S. Eliot 1915).

Revisions to our understanding of Mycenaean religion may also have as much to do with Aegeanists' changing perspectives and methodologies as with revelations from new excavations. Returning to Ayios Konstantinos will provide a useful overview of recent trends. In her contribution to the 2014 *Aegaeum* Conference, Konsolaki-Yannopoulou considers the present site's use in light of its deep history (2016a). The Mycenaean cult rooms, she points out, lie beneath the modern day Christian church dedicated to the male and female saints Ayios Konstantinos and Ayia Eleni. This, says Konsolaki-Yannopoulou, "is an intriguing phenomenon and perhaps we may wonder whether this is really a mere coincidence" (ibid., 57). Is this pure speculation or is there some basis in fact for the author's musings? A line of evidence supporting a version of this hypothesis can be traced through various arguments made in a number of the papers presented at the *Aegaeum* Conference. Importantly, Konsolaki-Yannopoulou is not suggesting a process of cultural evolution whereby there had been some inevitable progression from Late Bronze Age cultic practices through the sacred rituals of the Classical period to contemporary Greek religion—this was Evans's and others' misguided assumption. Konsolaki-Yannopoulou is, in contrast, addressing similar elements and related themes in both the historical and Mycenaean periods that exemplify the conservative nature of religious ideologies and practices. In the author's words, "Ancient religious tradition has often proved surprisingly resistant to fading into oblivion" (ibid., 57). The evidence cited above for a Mycenaean sanctuary at Ayios Konstantinos centers on cult Room A and attests to material objects suggesting religious rituals of sacrifice (bone evidence), libation (rhyta), and votive offerings (figurines). The nature of the unusually large assemblage of figurines with a preponderance of equine and bovine zoomorphic types, many with attached male forms, and the single female Psi figurine is consistent with cultic practices associated with a male deity and perhaps a female consort. Although the sanctuary itself is relatively isolated, Konsolaki-Yannopoulou presents evidence that it most likely fell under the jurisdiction of Mycenaean Troezen, about 10 kilometers to the south (ibid., 55 - 56). In this and subsequent publications the author provides details of the cults and shrines in the Troezenia region during the historic period (Konsolaki 2002; Hamilakis and Konsolaki, 2004; Konsolaki-Yannopoulou 2016a, 2017).



Ποσειδᾶνος Φυταλμίου
Inscribed Boundary Stone
Oga, Methana
Konsolaki-Yannopoulou
2017, 149 Fig. 11

At Oga just north of the sanctuary, evidence for cultic activity during the Archaic and Classical periods includes an inscribed boundary marker, a stone altar, and numerous miniatures. The inscription——Poseidon *Phythalmios* ("nurturer"), is of particular interest as the god with this epithet was also worshipped at Troezen but is otherwise unknown from the Peloponnese. Pausanias (2nd century CE) reported that local legends related how Troezen's villagers had once angered Poseidon who in turn punished them by salting their crops. Once supplicated, however, Poseidon became the nurturer—— *Phythalmios* (2.32.8). There is, in fact, a salt lake north of Troezen that accounts for the heavy local salt content of the soil and is, according to Konsolaki-Yannopoulou, the likely source of the myth. The author explains further that attributing, "vegetative functions, associated primarily with the watery element fertilizing the earth," to Poseidon may relate to a primordial characterization of the deity (2017, 150). If so, such an attribution is comparable to the Mesopotamian god Enki (Ea) who ruled from Absu or a freshwater underworld associated with fertility and life. See 335.

Pausanias associated Poseidon with the sanctuary of Kalaureia on Poros——explaining that the god came to be worshipped here after negotiating with Apollo to swap the Delphic location for the coastal cult site (2.33.2). The Roman era writer also recorded that Poseidon's sanctuary was, "served by a maiden priestess until she reaches an age fit for marriage" (ibid.). Presumably Poseidon was worshiped at Kalaureia in his later and typical role as god of the seas—a location associated with a maritime league during the historic period (Konsolaki-Yannopoulou 2017, 152). Significantly, in each of the local cults known from the Archaic and Classical periods Poseidon is paired with a female deity. At Oga a cult of Aphrodite is attested, at Troezen Poseidon and Demeter shared a temple while Poseidon and Athena served as the city's patron deities, and at Kalaureia, close by the sanctuary of Poseidon, a statue base bears an inscribed dedication to Aphrodite (ibid., 148 - 154). The Swedish Institute at Athens has conducted extensive excavations at the Kalaureia sanctuary during the last two decades and their work has revealed a series of architectural remains and material finds dating from the Late Bronze Age through the Classical Period. See Ancient Kalaureia. Konsolaki-Yannopoulou reports that at least one structure seems to have been occupied continuously during the period from the end of the Bronze Age to the early Iron Age. The material evidence Konsolaki-Yannopoulou has documented from the cult at Ayios Konstantinos and from the Troezenia region during the 1st millennium BCE demonstrate comparable cultic themes and similar material finds. These include sanctuaries with cultic sites where both male and female deities are venerated, votive offerings, and evidence for sacrifice and libations. Two finds at Ayios Konstantinos——the conch and a partial boat model also suggest a maritime connection, one that is clearly represented during the historic period in the religious sphere by the prominence of Poseidon. Given Troezenia's location and its leading role in a maritime league, the region's economic and commercial interests must also have relied on the Saronic Gulf and the wider Aegean Sea for both food and trade (Konsolaki-Yannopoulou 2017, 152). However, what the evidence at Ayios Konstantinos does not confirm, at least to date, is that a Mycenaean Poseidon per se is convincingly and directly associated with the cult activities at Ayios Konstantinos during the LH IIIA to LH IIIC (early) period. The circumstantial evidence, however, is suggestive and what is also clear is that a Mycenaean Poseidon (*po-se-da-o-ne*) is attested by documentary evidence from Pylos. Nonetheless, the Linear B tablets leave unanswered questions about the nature of this deity and his worship in the Late Bronze Age.

Cynthia Shelmerdine's paper given at the 2014 *Aegaeum* Conference addresses these questions in two ways——what, she asks, does the evidence actually show and what might be adduced from reasonable speculation (2016, 276). Linear B tablets indicate that Poseidon and his female counterpart Potnia are the foremost deities at Pylos. They are worshipped at an important sanctuary and place of sacrifice and, Shelmerdine argues, at the palace as well. Sizable areas of land are held in Poseidon's name and resources from these holdings provide a large portion of the provisions for certain banquets. Poseidon's consort is also documented on a Linear B tablet and may suggest the pair are the focus of a festival related to sacred marriage (ibid., 279). Despite Poseidon's prominence at Pylos (he is also attested from Mycenae) and his clear association with sacrificial practices and with sacred ceremonies, the extant Linear B tablets are mute as regards the characteristic attributes that will define the god with the same theonym in the Iron Age. Shelmerdine points out that nearly all the traditional attributes of Poseidon are first attested in the Homeric poems and thus textually centuries later than the Mycenaean era (ibid., 279). For example, it is on the shore at

Pylos itself that Telemachus comes upon the great festival honoring Poseidon the earth-shaker with a sacrifice of eighty-one bulls (*Odyssey* 3.4-6). And it is Poseidon, the master of the seas and no lover of Odysseus, that hounds the hero to the point of destruction on his decade-long journey from Troy to Ithaca (*Odyssey* 5.365-464). The *Iliad* also establishes Poseidon's association with horses and charioteering——for example, the deity's own team as well as his gifts to Antilochos related to skill in chariot racing (*Iliad* 13.17-24; 23.302-307). While there are no textual links between p*o-se-da-o-ne* and these later attributes, each is on display among the diverse Pylian iconographic features. Wall and floor paintings from various rooms incorporate marine, equine, and bovine subjects. For example the octopus in front of the throne (Room 6), floor paintings of dolphins and fish (Room 50), and a freeze embellished with argonauts (Room 2).[24] One of the earliest imagined narratives woven from Linear B threads is of the kingdom of Pylos facing an unknown but existential threat. McDonald and Thomas spoke of, "hints that all was not well just before the fire," and that, "rowers were stationed; watchers are dispatched," suggesting as well, "unprecedented offerings" (1990, 449). Although this interpretation is currently considered unlikely there is no doubt about the Linear B evidence for the naval component of Pylian culture. Relatively recent reconstruction of wall paintings from the Southwestern Building (perhaps the original palace building) have raised awareness of and given greater prominence to naval iconography. The central images are representations of three Mycenaean boats——one embellished with argonauts, an animal emblematic, argue the authors, of the Pylian *wanax*', "political strength, naval prowess, and perhaps piety" (Egan and Brecoulaki 2015, 297, 303).



Reconstructed Nautilus [sic] [25] Frieze Southwestern Building (60)
Lang 1969 Plate R
***Agronauta argo* Verany 1851, Pl. 17**

Equine and bovine iconography are also attested at Pylos. Lang reconstructed a horse atop the aforementioned frieze although her chariot fresco (Hall 64) is questionable given the available evidence (1969, Pl. R, Pl. 123). Egan's find of a bovid horn in the Southwestern Building was matched with two other terracotta fragments from earlier excavations in a reconstruction of a large wheel-made bovid figure (2015, 69 - 70). Figural terracottas of any kind are relatively uncommon at Pylos and thus add to the significance of this bovid figure. Shelmerdine points out that among the deities worshipped at Poseidon's shrine at Pylos is Gwowia, 'the bovine one' (2016, 277).[26]



Pylos Bovine Figurine
Rump (P-369) & Horn (P-370)
Egan 2015, p. 510; Pl. 37c, e



Pylos Naval Fresco Reconstruction
after Brecoulaki et al. 2015A, 297



Pylos Bull and Barley Ring
J. Davis and S. Stocker
Univ. Cin. & Gk Cult. Min.

24. See p. 305 for room reference numbers.

25. The marine cephalopod illustrated in the frieze is an argonaut (as illustrated in Verany's drawing) not a nautilus. Nautiluses are restricted to the Indo-Pacific Region on either side of the equator.

26. The reader may recall Schliemann's association of the numerous figurines he uncovered at Mycenae with Hera, a goddess associated with 'Euboea', meaning a place 'rich in cattle.'

Perhaps the best know bovine representation at Pylos is the outsized bull accompanying the processional figures at the entrance to the hearth/throne room (Room 5). Clear parallels to this image suggesting bull sacrifice are documented in Linear B tablets and are attested as well by excavated bovid bones showing evidence of burnt sacrifice (Stocker and Davis 2004, 181 - 183). Referring to such finds at Pylos Shelmerdine notes, “Here is an actual Mycenaean version of the many thigh-pieces offered to the gods in Homeric epic” (2016, 281). *Enesidāōn*, ’Earth-shaker’ is attested on Linear B documents at Knossos but not, according to Shelmerdine, in association with Poseidon (2016, 275). The author suggests *Enesidāōn* was a separate deity——one not subsequently attested at Pylos and therefore may support the hypothesis that Poseidon became identified as ‘earth-shaker’ late in the Mycenaean period (ibid., 282). Poseidon’s prominence in the textual evidence at Pylos, the widespread iconographical representations of horse-drawn chariots, bulls, and marine subjects, and the correspondence of Mycenaean sacrificial practices with those described by Homer, is not likely to be fortuitous. As Shelmerdine concludes, “The textual and archaeological evidence from Pylos, I think, makes a strong cumulative case that the origins of Poseidon’s later identity lie in the Mycenaean period” (2016, 283).

In his *Endnote* to the published proceedings of the *Metaphysis* Conference Joseph Moran had the challenging task of summarizing the thoughts of 100 Aegean scholars who contributed papers and posters on diverse aspects of Minoan-Mycenaean religion (2016, 581 - 591). Maran points to the game changing influence of Linear B studies that essentially transformed their subject——one that initially had been based on Nilsson’s characterization of “a picture-book without text” (1950, 7). Nonetheless, Maran opines, the original lack of and present limited nature of textual documents has focused Aegeanists on the archaeological finds and, in general, this has had a salutary affect (2016, 581). In part, this relates to the nature of the task——although beliefs may be largely unrecoverable, religious practices leave their traces, more or less, in the material world. Because religion relies on participation and action by its celebrants, characteristic rituals become of paramount importance and these rituals typically include physical components. Their material presence in the archaeological record leads to Maran’s question, “how, on the basis of material remains, we can make inferences about the nature of those practices of which these remains originally formed part” (ibid., 584). Maran answers by paraphrasing Renfrew’s suggestion that, “we can only attempt to do so by recognizing patterns of relationships among certain features in their context” (ibid., 584; Renfrew 1985, 24 and others).

With the proviso that allowances need to be made for a diversity of interpretations regarding the material residue of ritual——even changes in meaning over time, Maran focuses on a specific aspect of ritual that he has investigated——“how archaeology can perceive landscapes, sites and monuments as interrelated parts unified in the macro-context of performative spaces” (2016, 287; also 2012, 121 - 130). For example, the architectural lay out of palatial elements may be interpreted as consciously designed to promote regulated movements. Such movements might then be related to defined rituals (eg. processions). In addition, the dimensions of the various spaces may act to include or exclude the types of rituals and/or the numbers and ranking of celebrants (2016, 287 - 288). Although this approach was not covered in the discussions above it is reflected in the created scenario of a hypothetical visitor to a palatial site. See 297. More specifically, Egan provides an example in her doctoral thesis that addresses the floor decoration and central hearth flame patterns in the megaron at Pylos. Following Clarke’s concept of “kinesthetic address,” Egan suggests that the intentional diagonal

lines of the floor pattern would initially encourage a movement toward the throne while the prominent flame motif of the hearth would indicate a clockwise direction around the hearth (Egan 2015, 288 - 200; Clarke 1979, 20, 29; Thaler 2012, 194 - 196). See 309. While there are grounds for questioning whether a given architectural design or decorative patterns was intentionally created to move individuals this way or that, it has to be admitted that such practices themselves are not uncommon and thus may offer an innovative approach to thinking about ancient, and largely undocumented, ritual. Communal religious practices happen in three dimensional spaces and are typically accompanied by actions as well as physical objects. It is a near certainty that Mycenaeans had no written liturgy or sacred texts and thus expressions of their beliefs were likely performative. As Maran explains, it is through, "repetitive face-to-face communication," "oral transmission," "participation," and, "learning how to act" that the individuals expressed their orthodoxy. "By focusing on ritual as a central category of social communication" explains Maran, "METAPHYSIS has pointed to the need for an explicitly anthropological approach to religion and emphasized the importance of shifting away from a view of religion that sees it exclusively as a system of belief to one that regards it as a system of practice" (2016, 590).

Interlude

If the reader has followed this account as presented there is a reasonable possibility that its sequential nature may have nurtured one or more unintended misconceptions. The artifactual and other evidence has generally been presented in a chronological manner and/or as successive stages or forms (eg. architectural, ceramic). This may suggest a series of interconnected events in an ordered temporal sequence, in other words a Mycenaean history. In fact, we have few if any documents describing specific individuals and the events of which they were a part, no biographical accounts, nor extant narratives recorded by Mycenaeans who might have experienced such events.[27] There is no Mycenaean Herodotus, no Cicero or Polybius to present, for better or worse, an "eye witness" account. In fact, the most useful "contemporary voices" are administrative documents——copious in details but limited in content and chronological span. Furthermore, despite the fact that written accounts, including this one, refer to the *Mycenaeans* in a manner comparable to the use of such terms as *Egyptians* or *Hittites,* this is a matter of convenience rather than a reference to specific individuals or to a well defined people. We can, however, say what is meant by the term *Mycenaean*——as, for example, Jim Wright's working definition:

> *By "Mycenaean" I mean the assemblage of artifacts that constitutes the characteristic archaeological culture that originates on the mainland of Greece in the late Middle Bronze Age, finds its fullest expression in the palaces during Late Helladic (LH) IIIA–B, and can be traced through the postpalatial LH IIIC period* (2004, 134)

It is clear, however, that the totality of the material and documentary evidence suggests individuals in a variety of roles (eg. kings, governors, and military commanders as well as rowers, craftsmen, and shepherds) associated territorially with the various elite-centers. Notably, however, this emphasis is an artifact of where the evidence has been looked for and collected and by no means is it uniform across sites. In the following section, *Mycenaean II - Variations on a Theme*, we will look at significant aspects of the evidence on the periphery of the palace-center sites as well as additional evidence in locales not associated with these centers. As background, it will be useful to review how Aegeanists have, in general, framed and defined the palace-centers themselves.

27. Although see the Ahhiyawa Texts in *Mycenaean III*, 423-425.



The structural architecture of the palace-centers has been a central focus of Aegean studies and although the final palatial period (LH IIIB2) remains of the mainland centers exhibit a number of canonical features: a propylon entrance, open courtyard, and megaron with main hearth room, wall paintings, and storage/workshop areas, fortifications are absent at one or more of the palace-centers. Together with the early interpretations of the contents of Linear B documents, the monumental aspects of these sites lent a certain credibility to their initial characterization as similar to the Near Eastern temple-cities. Additionally, the then current socio-economic concepts such as “chiefdoms” and “redistribution” were consistent with a top-down monolithic model that held sway for much of the 20th century. See Finley 1957 and Nakassis 2011 above. While the palace-centered model has not been abandoned, recent interpretations——of documentary evidence in particular, offer a different perspective. Cynthia Shelmerdine has surveyed the work of a number of scholars that together paint a more variegated, multi-layered picture of Mycenaean society (2011). In addition to Paul Halstead’s and De Fidio’s suggestions that at least some economic aspects are undocumented and thus may have been in non-palatial hands, Shelmerdine describes, “individuals and groups involved in various ways and to various degrees with the central palatial administration, from full dependence to greater or less interaction to no contact at all” (Shelmerdine 2011, 19-28; Halstead [1993] 2013, 57-86; De Fidio 1992, 173-196).

One aspect of this complexity relates to compensation. For example, while some craft workers were paid with food rations other individuals received land grants for similar work (Shelmerdine 2011, 19 - 21). Access to land (even if not direct ownership) suggests enterprising individuals might have profited in various ways——a suggestion consistent with the analysis of Linear B documents conducted by Dimitri Nakassis and his successful identification of individuals by name and occupation (2006). Having established specific identities, Nakassis demonstrated that numerous individuals identified as “bronzesmiths” were also (among other roles) herders with responsibilities for palatial flocks of sheep, goats, and pigs (ibid., 282). In a related observation, Halstead suggested the possibility that rather than owning sheep tended by a herder, the palace held the right to the wool/meat from a certain number of sheep in flocks owned and maintained by individual herders. Furthermore, the herder was responsible for replacing losses in the “palace” flocks——implying that he owned or controlled at least some land as well as additional flocks——pasturage and sheep unencumbered by palatial restrictions (2001, 38 - 50). Nakassis in turn realized that such an arrangement suggested a number of important details about the socio-economic workings of the Pylian state. If Halstead’s assumptions are correct, a number of the individual herders identified by Nakassis might have profited by switching their own less desirable animals for healthier “palatial” sheep thus benefitting their individual entrepreneurial projects producing, for example, commercially valuable wool and meat (2006, 317 - 318). Nakassis characterizes this as a win-win arrangement as, “the palace both relied upon the private holdings of herders to maintain the palatial sheep rearing system and benefited from the administrative simplicity of assigning tasks to individuals capable of executing these tasks” (ibid., 317). Similar arrangements regarding metallurgy and other commercially valuable commodities are also indicated——thus establishing the palace-centers as both producers and consumers in the overall economy.

An additional example illustrative of the value of Linear B studies and their impact on our understanding of Mycenaean society concerns the Mycenaean word 𐀓𐀍, *da-mo* (δᾶμος). Nakassis discusses this word at length explaining that the *da-mo* is, “a local administrative body dealing with land and agricultural products” (ibid., 75-78). This is another indication that, in certain case, the local community (not the palace proper) governed economic aspects of food production. NB. These interpretations are based on documents from the Pylos archive and may or may not represent the same or similar arrangements at other palace centers. To this point the focus has been on evidence relating to the emergence of Mycenaean culture as well as the transition to and characterizations of Mycenaean palatial centers. Additionally, a variety of artifactual and textual evidence has suggested a number of insights into social practices. However, little has been said about relationships between and among Mycenaean communities and not much about Mycenaean foreign relations. Quite a bit is known about the latter and we will look at some of these details in a subsequent section. With regards to relationships among the major mainland palace-centers on the mainland (Mycenae, Tiryns, Pylos, and Thebes) and on Crete (Knossos) there is little direct evidence. There are several Linear B tablets referencing textiles meant for exchange and one recording a shipment of textiles from Mycenae to Thebes but these are the exceptions as the limited textual record typically doesn’t address interstate matters (Killen 2008, 183 - 185). This void suggests a cautionary approach to assuming that what is attested at one palace center is necessarily the case at others.

As mentioned above, there is a natural inclination to create an historical narrative for Mycenaean culture——even when there is an absence of documentation (perhaps also as a result of that absence) upon which to base such an account. A related pitfall is the tendency to conflate temporal periods. Much of what is known about the Mycenaeans relates to the shaft grave and palatial periods. The intervening 100 to 150 years (LH IIB - LH III A_1), however, are less well known—particularly with regards to the body of evidence from the citadels themselves. In large part this is a result of the success of the palace centers themselves and the repeated building and rebuilding of the various structures occupying the limited available space on each citadel. Thebes presents a worse case scenario as the Mycenaean ruins largely lie beneath the modern city. Yet even at Mycenae and Pylos, late Bronze Age construction eliminated much of the earlier evidence. Fortunately, excavations outside the citadels and elsewhere on the mainland have, to a degree, filled in the gaps. While current evidence does not support a comprehensive Mycenaean history, any attempt to understand early Aegean cultures requires positing some measure of shared ground between us and these ancient peoples. That we are justified in doing so is, in part, supported by our understanding of the basic necessities of life and the seemingly universal inclination of at least some individuals within a given society to distinguish themselves. Our rationale may also be strengthened by a shared admiration for the skills of Mycenaean/Minoan craftworkers and artists or a universal sense of pathos in the presence of an infant burial——along with a desire to express, in some form, our spiritual nature. Some would also point to a common emotional response to Homeric epic. However, absent acceptance of what are admittedly a range of significant assumptions the entire enterprise collapses. This is not to say we can or should not use what evidence we do have to judge our own and others’ characterizations of the world of the Mycenaeans. Some interpretations are surely more accurate than others as measured against the current universe of evidence and expertise. One thing is certain, new evidence and more insightful interpretations will alter——perhaps in a radical manner, how best to understand Mycenaean culture.

References

Abramovitz, K. 1980. “Frescoes from Ayia Irini, Keos. Parts II-IV.” *Hesperia* 49, 57–85.

Allentoft, M.E., Sikora, M., Sjo¨gren, K.G., Rasmussen, S., Rasmussen, M., Stenderup, J., Damgaard, P.B., Schroeder, H., Ahlstro¨m, T., Vinner, L., et al. 2015. Population genomics of Bronze Age Eurasia. *Nature 522*, 167–172.

Bain, Alexander. 1873. *The Minor Works Of George Grote*. London. Murray.

Beard, Mary. 2014. *Confronting the Classics: Traditions, Adventures, and Innovations*. New York. Liveright.

Bennett, E. L., Jr. 1947. *The Minoan Linear Script from Pylos*. Ph.D. dissertation, University of Cincinnati.

Bennett, Emmett L., Jr., José L. Melena, Jean-Pierre Olivier, Dimitri Nakassis and and Thomas G. Palaima (eds.). 2025. *The Palace of Nestor at Pylos in Western Messenia: Vol. IV: The Inscribed Documents*. Published For The University Of Cincinnati. Columbus. Lockwood Press.

Blegen, Carl W. 1953. “The Palace of Nestor Excavations at Pylos, 1952.” *American Journal of Archaeology* 57, 59–64.

___. 1956. “The Palace of Nestor Excavations of 1955.” *American Journal of Archaeology* 60, 95–101.

Blegen, C. W. and M. Rawson. 1966. *The Palace of Nestor at Pylos in Western Messenia Vol. I: The Buildings and Their Contents*. Princeton. Princeton University Press.

Blegen, Carl W. and M. Rawson. 1967. *A Guide To The Palace Of Nestor*. Third Printing With Corrections. Cincinnati. University of Cincinnati.

Blegen, C.W., M. Rawson, J.L. Davis, and C.W. Shelmerdine. 2001. *A Guide to the Palace of Nestor: Mycenaean Sites in Its Environs and the Chora Museum*. Athens. American School of Classical Studies at Athens.

Blegen, Carl W., Marion Rawson, Lord William Taylour, and William P. Donovan. 1973. *The Palace of Nestor at Pylos in Western Messenia III: Acropolis and Lower Town, Tholoi and Grave Circle, Chamber Tombs, Discoveries Outside the Walls*. Princeton. Princeton University Press.

Bouwman, Abigail S., Keri A. Brown, Terence A. Brown, Elizabeth R. Chilvers, Robert Arnott, and A.J.N.W. Prag. 2009. "Kinship In Aegean Prehistory? Ancient Dna In Human Bones From Mainland Greece And Crete.” *The Annual of the British School at Athens* 104, 293-309.

Brecoulaki, Hariclia. 2015a. “Marine Iconography at the Palace of Nestor and the Emblematic Use of the Argonaut.” In *Mycenaean Wall Painting in Context. New Discoveries, Old Finds Reconsidered*, edited by Hariclia Brecoulaki, Jack L. Davis, and Sharon R. Stocker. ΜΕΛΕΤΗΜΑΤΑ 72. Athens. National Hellenic Research Foundation / Institute of Historical Research.

___. 2018. “Does Colour make a Difference? The Aesthetics and Contexts of Wall-painting in the “Palace of Nestor” at Pylos.” In *Paintbrushes. Wall-painting and vase-painting of the 2nd millennium BC in dialogue*, edited by A. Vlachopoulos. Athens. Society for the Promotion of Theran Studies.

___. 2021. *In Search of Contexts: The Wall Paintings of the Mycenaean Palace at Pylos Revisited*. American School of Classical Studies at Athens Webinar. Athens

Brecoulaki H., A. Andreotti, I. Bonaduce, M.P. Colombini, A. Lluveras. 2012. “Characterization of organic media in the wall paintings of the ‘Palace of Nestor’ at Pylos, Greece: evidence for a secco painting techniques in the Bronze Age.” *Archaeological Science* 39, 2866 - 2876.

Brecoulaki, Hariclia, Sharon R. Stocker, Jack L. Davis, and Emily C. Egan. 2015b. “An Unprecedented Naval Scene from Pylos: First Considerations” In *Mycenaean Wall Painting in Context: New Discoveries, Old Finds Reconsidered,* edited by Hariclia Brecoulaki, Jack L. Davis, and Sharon R. Stocker. ΜΕΛΕΤΗΜΑΤΑ 72. Athens. National Hellenic Research Foundation / Institute of Historical Research.

Brecoulaki, H., C. Zaitoun, S.R. Stocker, J.L. Davis, A.G. Karydas, M.P. Colombini, and U. Bartolucci. 2008. “An Archer from the Palace of Nestor: A New Wall-Painting Fragment in the Chora Museum.” *Hesperia* 77, 363–97.

Buck, Robert J. 1964. "Middle Helladic Mattpainted Pottery." *Hesperia* 33, 231-313.

Caskey, J.L. 1964. “Excavations in Keos, 1963.” *Hesperia* 33, 314–35.

Caskey, Mary. 1998. “Ayia Irini: Temple Studies.” In *Kea-Kythnos, History and Archaeology: Proceedings of an International Symposium,* edited by L. G. Mendoni and Mazarakis Ainian. Athens. Research Centre for Greek and Roman Antiquity.

Catling, H. W. 1976. “Excavations at the Menelaion, Sparta, 1973-1976.” *Archaeological Reports*, no. 23, 24–42.

Catling, H.W., H. Hughes-Brock, N. Brodie, G. Jones, R.E. Jones, and J.E. Tomlinson. 2009a. “Sparta: Menelaion I: The Bronze Age. Volume 1: Text.” *The British School at Athens. Supplementary Volumes* 45, iii–487.

___. 2009b. “Sparta: Menelaion I: The Bronze Age. Volume 2: Figures and Plates.” *The British School at Athens. Supplementary Volumes* 45.

Clarke, J. R. 1975. “Kinesthetic Address and the Influence of Architecture on Mosaic Composition in Three Hadrianic Bath Complexes at Ostia,” *Architectura* 5, 1–17.

Clemente, F et al., 2021 The genomic history of the Aegean palatial civilizations. Cell 184: 2565–2586.

Coleman, John E. 1977. *Kephala: A Late Neolithic Settlement and Cemetery*. Princeton. American School of Classical Studies at Athens.

Coleridge, Samual Taylor. 1817. *Biographia literaria*. British Library. https://www.bl.uk/collection-items/biographia-literaria-by-samuel-taylor-coleridge

Davis, Ellen N. (1983) 2015. “The Gold of the Shaft Graves: The Transylvanian Connection.” In *Temple University Aegean Symposium A Compendium,* edited by Philip Betancourt. Philadelphia: INSTAP Academic Press. (Originally published in *TUAS* 8: “Gold in the Aegean Bronze Age”, pp. 32-38.

Davis, Jack. 2017. Review of *The Minnesota Pylos Project. 1990-98. BAR International series, S2856 Part II “The Architecture of the Palace of Nestor”* by Michael C. Nelson. *Bryn Mawr Classical Review* October 2017.

Davis, J.L., and S.R. Stocker. 2016. “The Lord of the Gold Rings: The Griffin Warrior of Pylos.” *Hesperia* 85, 627–655.

Davis, Jack and Sharon Stocker. 2022. *A Greek State in Formation - The Origins of Mycenaean Pylos*. Oakland. University of California Press.

Day, P.M., Kardamaki, E., Tenconi, M. Maran, J., Papadimitriou, A. 2016. “Transport stirrup jars in Late Mycenaean Tiryns: Maritime Transport Containers and commodity movement in political context.” In *Maritime Transport Containers in the Bronze-Iron Age Aegean and Eastern Mediterranean*. Uppsala. Astroms.

De Fidio, Pia. 1992. ‘Mycènes et Proche-Orient, ou le théorème des modèles’, in *Mykenaïka. Actes du IXe colloque international sur les textes mycéniens* edited by J.-P. Olivier. *Bulletin de Correspondance Hellénique* Suppl. XXV. Athens.

___. 2008. "Mycenaean history." In *Linear B: Mycenaean Greek Texts and Their World*, Volume 1, edited by Anna Morpurgo Davies, Yves Duhoux, Peter Van Alfen. Bibliothèque des Cahiers de l'Institut de linguistique de Louvain Antiquité 120. Louvain-la-Neuve/Dudley, MA. Peeters.

Dickinson, O.T.P.K. 1977. *The Origins of Mycenaean Civilization*. *SIMA* 49. Göteborg. Åströms.

___. 1983. “Cist Graves and Chamber Tombs.” *The Annual of the British School at Athens* 78, 55–67.

___. 1994. *The Aegean Bronze Age*. Cambridge World Archaeology. Cambridge. Cambridge University Press.

___. 2016. “The Coming Of The Greeks And All That.” In *Archaeology Of Greece And Rome: Image, Text And Context*. Stu*dies In Honour Of Anthony Snodgrass,* edited By John Bintliff And N. Keith Rutter. Edinburgh. Edinburgh University Press.

Dickinson, O.T.P.K., Lena Papazoglou-Manioudaki, Argyro Nafplioti, and A.J.N.W. Prag. 2012. “Mycenae Revisited Part 4: Assessing The New Data.” *The Annual of the British School at Athens* 107, 161–88.

Dietz, Søren. 1991. *The Argolid at the Transition to the Mycenaean Age. Studies in the Chronology and Cultural Development in the Shaft Grave Period*. Copenhagen. National Museum of Denmark.

___. 1998. “The Cyclades and the Mainland in the Shaft Grave Period - a summary.” In *Proceedings of the Danish Institute at Athens • II,* edited by Søren Dietz & *S*igne Isager. Aarhus. Aarhus University Press.

Driessen J. 2002. “The King Must Die: Some observations on the use of Minoan Court Compounds.” In *Monuments of Minos. Rethinking the Minoan Palaces,* edited by J. Driessen, I. Schoep, and R. Laffineur. Proceedings of an International Workshop held in Louvain la-Neuve, 2001. *Aegaeum* 23, 1-15. Liège.

___. 2008. “Chronology of the Linear B Tablets.” In *A Companion to Linear B Mycenaean Greek Texts and their World, Vol. I Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. Antiquité 120,* edited by Yves Duhoux And Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

Earle, Timothy, Claes Uhner Johan Ling Zofia Anna Stos-Gale, Lene Melheim. 2015. “The Political Economy and Metal Trade in Bronze Age Europe: Understanding Variability in Terms of Comparative Advantages and Articulations.” *European Journal of Archaeology* 18, 633-657.

Egan, Emily Catherine. 2015. *Nestor’s Megaron: Contextualizing A Mycenaean Institution At Pylos*. Ph.D. dissertation, University of Cincinnati.

Egan, Emily Catherine. 2019. "A Wheelmade Bovid from the Palace of Nestor at Pylos." *Hesperia*: 3, 421-446.

Egan, E. C. and H. Brecoulaki. 2015. “Marine Iconography At The Palace Of Nestor And The Emblematic Use Of The Argonaut.” In *Mycenaean Wall Painting in Context: New Discoveries, Old Finds Reconsidered,* edited by H. Brecoulaki, J. Davis, and S. Stocker. *ΜΕΛΕΤΗΜΑΤΑ* 72. Athens . National Hellenic Research Foundation / Institute of Historical Research.

Evans, A. J. 1901. “Mycenaean Tree and Pillar Cult and Its Mediterranean Relations.” *The Journal of Hellenic Studies* 21, 99–204.

___. 1906. *The Prehistoric Tombs of Knossos*. London. Quaritch.

___. 1921 - 1936. T*he Palace of Minos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*. Vol. I: 1921; Vol. II: Part I 1928a, Part II 1928b; Vol. III: 1930; Vol. IV: Part I 1935a, Part II 1935b; Index 1936. London. MacMillan and Co.

Felten, Floens. 2020. Aegina Kolonna The History of a Greek Acropolis. Antique Pottery (online)..

Finley, M.I. 1957. “The Mycenaean Tablets and Economic History.” *The Economic History Review* 10, 128–41.

___. 2002. *The World of Odysseus* with an introduction by Bernard Knox. New York. New York Review Book.

Fitton, L. 1995. *The Discovery of the Greek Bronze Age*. Cambridge. Harvard University Press.

Fleischmann, John. 2002. “Homer’s Bones.” *Discover Magazine*.

French, Elizabeth. 1971. “The Development of Mycenaean Terracotta Figurines.” *The Annual of the British School at Athens* 66, 101–87.

___. 1985. “The Figures and Figurines.” In *The Archaeology of Cult. The Sanctuary at Phylakopi by* C. Renfrew et al. London. Thames and Hudson.

___. 2002. *Mycenae, Agamemnon’s Capital, The Site in its Setting*. Gloucestershire. Tempus.

Gale, N.H., and Z.A. Stos-Gale. 2000. “Lead isotope analyses applied to provenance studies’”. In *Modern Analytical Methods in Art and Archaeology,* edited by Ciliberto E, Spoto. New York. G. Wiley.

Gallou, Chrysanthi. 2005. *The Mycenaean Cult of the Dead*. BAR S1372. Oxford. Archaeopress.

Gorogianni, E. 2011. “Goddess, Lost Ancestors, And Dolls: A Cultural Biography of the Ayia Irini Terracotta Statues.” *Hesperia* 80, 635–55.

Graziadio, G. 1988. “The Chronology of the Graves of Circle B at Mycenae: A New Hypothesis.” *American Journal of Archaeology* 92, 343–72.

Haak, W., Lazaridis, I., Patterson, N., Rohland, N., Mallick, S., Llamas, B., Brandt, G., Nordenfelt, S., Harney, E., Stewardson, K., et al. 2015. “Massive Migration from the Steppe Was a Source for Indo-European Languages in Europe.” *Nature* 522, 207–11.

Haley, J.B. 1928. “The Coming of the Greeks: I. The Geographical Distribution of Pre-Greek Place-Names.” *American Journal of Archaeology* 32, 141–5.

Hall, Edith. 2014. Introducing the Ancient Greeks: From Bronze Age Seafarers to Navigators of the Western Mind. New York. Norton.

Halstead. P. [1993] 2013.“The Mycenaean palatial economy: making the most of the gaps in the evidence.”’ *Proceedings of the Cambridge Philological Society* 38. Cambridge. Cambridge University Press.

___. 2001. "Mycenaean Wheat, Flax and Sheep: Palatial Intervention in Farming and its Implications for Rural Society.’ In *Economy and Politics in the Mycenaean Palace States*, edited by S. Voutsaki and J. Killen. Cambridge. Cambridge Philological Society.

Hamilakis, Yannis, ed. 2002. Rethinking 'Minoan' Archaeology. Oxford. Oxbow Books.

Hamilakis, Yannis, and Eleni Konsolaki. 2004. "Pigs for the Gods: Burnt Animal Sacrifices as Embodied Rituals at a Mycenaean Sanctuary." *Oxford Journal of Archaeology* 23, No. 2.

Hänsel, B. 1977. "Zur historischen Bedeutung der Theisszone um das 16. Jahrhundert v. Chr." In Jahresber. Inst. Vorgesch. Frankfurt University.

Harrell, K. 2014. "The Fallen and Their Swords: A New Explanation for the Rise of the Shaft Graves." *American Journal of Archaeology* 118, 3–17.

Heaney, Seamus. 2000. *Beowulf*. New York. Farrar, Straus, Giroux.

Hemingway, Seán. 2000. "Historic Images of the Greek Bronze Age." New York. The Metropolitan Museum of Art.

Hesiod. 1993. *Hesiod Works and Days & Theogony* translated by Stanley Lombardo with an introduction by Robert Lamberton. Indianapolis. Hackett.

Hiller, Stefan. 2011. "Mycenaean Religion and Cult." In *A Companion to Linear B Mycenaean Greek Texts and their World,* Vol. 2, edited by Yves Duhoux and Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

Homer. 1990. *Homer, The Iliad*. Translated by Robert Fagles. With an Introduction and Notes by Bernard Knox. New York. Penguin.

___. 1996. *The Odyssey*. Translated by Robert Fagles with an Introduction and Notes by Bernard Knox. New York. Penguin Group.

Hood, M.S.F. 1960. "Schliemann's Mycenae Albums." *Archaeology* 13, 61–5.

Hooten, Anne. 2006. "Le style c'est l'homme: Piet de Jong as Artist." In *The Art of Antiquity: Piet de Jong and the Athenian Agora*. Athens. American School of Classical Studies at Athens.

Hunt, Philip, and A. H. Smith. 1916. "Lord Elgin and His Collection." *The Journal of Hellenic Studies* 36, 163–372.

Immerwahr, S.A. 1990. *Aegean Painting in the Bronze Age*. University Park. The Pennsylvania State University Press.

Karamitrou-Mentessidi, G. 2005. "Mavropigi and Komonos." *Archaeological Museum of Thessaloniki* 19, 511 - 539. Thessaloniki. Aristotle University of Thessaloniki.

Karo, G. 1930 - 1933. *Die Schachtgräber von Mykenai*. 1. Text. 2. Tafeln. München. F. Bruckmann Ag.

Killen, J. T. 1979. "The Knossos Ld(1) Tablets," in *Colloquium Mycenaeum. Actes du sixième Colloque international sur les textes mycéniens et égéens tenu à Chaumont sur Neuchâtel*, ed. E. Risch and H. Mühlestein, Neuchâtel, pp. 151–181.

___. 1988. "Ausgrabungen in Tiryns 1982/83. Bericht zu den Grabungen." *American Archaeology* 105–151.

___. 1994. "Thebes Sealings, Knossos Tablets And Mycenaean State Banquets." *Bulletin Of The Institute Of Classical Studies* 39, 67-84.

___. 2008. "Mycenaean Economy" and "Appendix I, Trade." In *A Companion to Linear B Mycenaean Greek Texts and their World,* Vol. I, edited by Yves Duhoux And Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

Kiriatzi, Evangelia. 2010. 'Minoanising' Pottery Traditions In The SW Aegean During The MBA: Understanding the social context of technological and consumption practices." In *Mesohelladika. The Greek Mainland in the Middle Bronze Age,* edited by Anna Phillipa-Touchais, Gilles Touchais, Sofia Voutsaki and James Wright. Athens. De Boccard.

Kitto, H. D. F. 1960. *The Greeks*. Baltimore. Penguin Books.

Koh, Andrew J. 2016. "Mycenoan Crete—Archaeological Evidence for the Athenian Connection." In *Classical Inquiries*.

Konsolaki, Eleni. 2002. "A Mycenaean Sanctuary on Methana." In *Peloponnesian Sanctuaries and Cults,* edited by Robin Hägg. Stockholm. Svenska Institutet in Athen.

Konsolaki-Yannopoulou, Eleni. 1999. "A Group of New Mycenaean Horseman from Methana." In *Meletemata*, 427–33.

___. 2001. "New Evidence For The Practice Of Libations In The Aegean Bronze Age." In *Deities and Religion in the Aegean Bronze Age,* edited by R. Laffineur and R. Hagg, *Potnia*. Aegaeum 22.

___. 2004. “Mycenaean Religious Architecture. The Archaeological Evidence From Ayios Konstantinos, Methana.” In *Celebrations. Sanctuaries and the Vestiges of Cult Activity,* edited by M. Wedde. Bergen.

___. 2016a. “The Symbolic Significance of the Terracottas from the Mycenaean Sanctuary at Ayios Konstantinos.” In *Metaphysis Ritual, Myth and Symbolism in the Aegean Bronze Age, Aegaeum 39*. Peeters, Leuven.

___. 2016b. *Mycenean Sanctuary at Methana* (in Greek). *Archaeology and Arts* Vol. 121.

___. 2017. “The beginning and the development of Poseidon's cult in Troezenia.” In *Helike V,* edited by Dora Katsonopoulou. Athens. The Helike Society Publications.

Kostoula, M. & J. Maran 2012. *“*A group of animal-headed faience vessels from Tiryns.” In *All the wisdom of the East. Studies in Near Eastern archaeology and history in honor of Eliezer D. Oren,* edited by M. Gruber, S. Aḥituv, G. Lehmann & Z. Talshir. Fribourg. Vandenhoeck & Ruprecht.

Kramer-Hajos, Margaretha. 2016. *Mycenaean Greece and the Aegean World. Palace and Province in the Late Bronze Age*. Cambridge. Cambridge University Press.

Kritseli-Providi, I., 1982. *Wall paintings in the religious center of Mycenae* (in Greek). Athens.

Lamb, W., and A.J.B. Wace. 1919. “Excavations at Mycenae.” *The Annual of the British School at Athens* 24, 185–209.

Lang, M., 1969. *The Palace of Nestor at Pylos in Western Messenia*, *Vol. II. The Frescoes*. Princeton. Princeton University Press.

Lazaridis, Iosif, Mittnik, Alissa, Patterson, Nick Mallick, Subhashis, Rohland, Nadin, Pfrengle, Saskia, Furtwängler, Anja, Peltzer, Alexander, Posth, Cosimo, Vasilakis, Andonis et al. 2017. “Genetic Origins of the Minoans and Mycenaeans.” Nature 548, 214–218.

Leith, Kristen E. 2013. *Expressions of Gender in Mortuary Behaviour from Middle Helladic and Mycenaean Burial Samples in the Aegean*. Ph.D. dissertation, University College London.

___. 2016. “‘Manly Hearted’ Mycenaeans (?): Challenging Preconceptions of Warrior Ideology in Mycenae’s Grave Circle B.” *Journal of Greek Archaeology*. Oxford. Archaeopress.

Lindblom, Michael, Walter Gauß, and Evangelia Kiriatzi. 2015. “Some Reections on Ceramic Technology Transfer at Bronze Age Kastri on Kythera, Kolonna on Aegina, and Lerna in the Argolid.” In *The Transmission of Technical Knowledge in the Production of Ancient Mediterranean Pottery*, edited by Walter Gauss, Gudrun Klebinder-Gauss. Wien. Österreichisches Archaeologisches Institut.

Lindblom, Michael and Sturt Manning. 2011. “The Chronology of the Lerna Shaft Graves.” In *Our Cups Are Full: Pottery and Society in the Aegean Bronze Age. Papers Presented to Jeremy B. Rutter on the Occasion of his 65th Birthday.* Oxford. Archaeopress.

Lupack, Susan. 2010. “Mycenaean Religion, The Foundations Of Mycenaean Religion.” In *The Oxford Handbook of the Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press.

___. 2014. ʹOfferings for the *Wanax* in the Fr Tablets: Ancestor Worship and the Maintenance of Power in Mycenaean Greece.ʹ In *Metaphysis Ritual, Myth and Symbolism in the Aegean Bronze Age. Aegaeum 39.* Leuven. Peeters.

___. 2023. "Mycenaean Greek Worship In Minoan Territory." In The Local Horizon Of Ancient Greek Religion edited by Hans Beck And Julia Kindt. Cambridge. Cambridge University Press.

Maran, Joseph. 2007. “Seaborne Contacts between the Aegean, the Balkans and the Central Mediterranean in the 3rd Millennium BC: The Unfolding of the Mediterranean World,” edited by I. Galanaki, H. Tomas, Y. Galanakis, and R. Laffineur. *Aegaeum* 27.

___. 2010. “Tiryns.” In *The Oxford Handbook of the Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press.

___. 2012. “Ceremonial Feasting Equipment, Social Space and Interculturality in Post-Palatial Tiryns,” in J. Maran and P. Stockhammer, *Materiality and Social Practice: Transformative Capacities of Intercultural Encounters* 121-130.

___. 2015. “Tiryns and the Argolid in Mycenaean times. New clues and interpretations.” In *Mycenaeans up to date. The archaeology of the northeastern Peloponnese—current concepts and new directions,* edited by Ann-Louise Schallin and Iphiyenia Tournavitou. Stockholm. Swedish Institute in Athens.

___. 2016a. “Towards an Anthropology of Religion in Minoan and Mycenaean Greece.” In *Metaphysis Ritual, Myth and Symbolism in the Aegean Bronze Age. Aegaeum 39*. Leuven. Peeters.

___, 2016b. “The Persistence of Place and Memory: The Case of the Early Helladic Rundbau and the Mycenaean.Palatial Megara of Tiryns.” In *Von Baden Bis Troia. Ressourcennutzung. Metallurgie Und Wissenstransfer* edited by Martin Bartelheim, Barbara Horejs, and Raiko Krauß.

___. 2022. “Archaeological Cultures, Fabricated Ethnicities and DNA Research: “Minoans” and “Mycenaeans” as Case Examples.” In *Material, Method, and Meaning - Papers in Eastern Mediterranean Archaeology in Honor of Ilan Sharon* edited by Uri Davidovich, Naama Yahalom-Mack, and Sveta Matskevich. Munich. Zaphon.

Marinatos, N., 1988. “The Fresco from Room 31 at Mycenae: Problems of Method and Interpretation.” In *Problems in Greek Prehistory,* edited by E. B. French and K. A. Wardle. Bristol. Bristol Classical Press.

Marthari, Marisa. 2017a. “Figurines in Context at the Chalandriani Cemetery on Syros.” In *Early Cycladic Sculpture in Context,* edited by Marisa Marthari, Colin Renfrew and Michael Boyd. 2017. Oxford. Oxbow Books.

___. 2017b. “Aspects of pictorialism and symbolism in the Early Bronze Age Cyclades: a “frying pan” with longboat depiction from the new excavations at Chalandriani in Syros.” In *Studies In Mediterranean Archaeology In Honour Of Nota Kourou,* edited by Vicky Vlachou and A. Gadolou. Brussels.

Mathioudaki, Iro. 2010. “Mainland Polychrome Pottery : Definition, Chronology, Typological Correlations.” In *Mesohelladika. The Greek Mainland in the Middle Bronze Age,* edited by Anna Phillipa-Touchais, Gilles Touchais, Sofia Voutsaki and James Wright. Athens. De Boccard.

McCallum, L. R. 1987. *Decorative Program in the Mycenaean Palace of Pylos: The Megaron Frescoes*. Ph.D. dissertation, University of Pennsylvania.

McDonald, William. 1939. Pylos 1939 WAMᶜD. Unpublished excavation notes. American School of Classical Studies at Athens. PylosExc_Box_01_Notebook_03.pdf

McDonald, William and Carol Thomas. 1990. *Progress into the Past*, 2d ed. Bloomington. Indiana University Press.

Mee, C. 2010. “Death And Burial.” In *The Oxford Handbook of the Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press.

Montagu, Jeremy. 2018. *The Conch Horn, Shell Trumpets of the World from Prehistory to Today*. Hataf Segol Publications.

Morgan, L. 2005a. “New Discoveries and New Ideas in Aegean Wall Painting.” *British School at Athens Studies* 13, 21–44.

___. 2005b. “The Cult Centre at Mycenae and the Duality of Life and Death.” *British School at Athens Studies*. 13, 159–71.

___. editor. 2005c. “Aegean Wall Painting: A Tribute To Mark Cameron.” *British School at Athens Studies* 13.

Mountjoy, P.A. 1986. “Mycenaean Decorated Pottery: A Guide to Identification.” *Studies in Mediterranean Archaeology*, Vol. LXXIII. Göteborg. Paul Forlag Astroms.

Moutafi, I., 2015. *Towards a Social Bioarchaeology of the Mycenaean Period: A Multi-Disciplinary Analysis of Funerary Remains from the Late Helladic Chamber Tomb Cemetery of Voudeni, Achaea, Greece*. Ph.D. dissertation, University of Sheffield.

Moutafi, I. and Voutsaki, S. 2016. “Commingled burials and shifting notions of the self at the onset of the Mycenaean era (1700-1500 BCE): The case of the Ayios Vasilios.” *Journal of Archaeological Science* 10, 780 - 790.

Mühlenbruch, Tobias. 2015. “Power and cult in LH IIIC Tiryns.” In *Mycenaeans up to date. The archaeology of the northeastern Peloponnese—current concepts and new directions,* edited by Ann-Louise Schallin & Iphiyenia Tournavitou. Stockholm. Swedish Institute in Athens.

Müller-Celka Sylvie. 2012. “Burial Mounds and ‘Ritual Tumuli’ of the Aegean Early Bronze Age.” In *Ancestral Landscape. Burial mounds in the Copper and Bronze Ages*. Proceedings of the International Conference held in Udine, May 15th-18th 2008. Lyon . Maison de l'Orient et de la Méditerranée Jean Pouilloux.

Mylonas, George E. 1957. *Ancient Mycenae: The Capital City of Agamemnon*. London. Routledge & Paul.

Nafplioti, A. 2009. “Mycenae Revisited 2. Exploring the Local versus Nonlocal Geographical Origin of the Individuals from Grave Circle A: Evidence from Strontium Isotope Ratio (87 Sr/ 86 Sr) Analysis.” *Annual British School Athens* 104, 279–291.

Nagy, Gregory. 2015. "The idea of 'finders keepers' as a signature for two sea-empires." In *Classical Inquiries*.

Nakassis, Dimitri. 2006. *The Individual and the Mycenaean State: Agency and Prosopography in the Linear B Texts from Pylos*. Ph.D. dissertation, University of Texas.

Nakassis, Dimitri, William A. Parkinson, and Michael L. Galaty. 2011. "Redistribution in Aegean Palatial Societies. Redistributive Economies from a Theoretical and Cross-Cultural Perspective." *American Journal of Archaeology* 115, 177-184.

___. 2008a. "Mycenaean Religion" in *The Cambridge Companion to the Aegean Bronze Age,* edited by Cynthia Shelmerdine. New York. Cambridge University Press.

___. 2008b. "The Significance of Mycenaean Words Relating to Meals, Meal Rituals, and Food" given at 12th International Aegean Conference.

Nakassis, Dimitri, Michael L. Galaty, William A. Parkinson. 2010. "State And Society." In *The Oxford Handbook of the Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press.

Nelson, Michael C. 2001. *The Architecture of Epano Englianos*. Ph.D dissertation, University of Toronto.

___. 2017. "The Architecture of the Palace of Nestor." In *The Minnesota Pylos Project 1990-98*. Part II., edited by by Frederick A. Cooper and Diane Fortenberry. *BAR International series*. Oxford.

Newton Charles T. 1878 (1890). "Dr. Schliemann's Discoveries at Mycenae" in *Essays on Art and Archaeology*. London. Macmillan.

Nicolson, Adam. 2014. *Why Homer Matters*. (Published in England as 'The Mighty Dead'). New York. Henry Holt and Co.

Niemeier, W. -D. 1995. "Aegina - first Aegean state ouside of Crete." In *Society and State in the Aegean Bronze Age,* edited by R. Laffineur and W. -D. Niemeier. *Aegaeuum* 12. Liège. University of Liège.

Nilsson, Martin P. (1927) 1950. *Minoan-Mycenaean Religion, and Its Survival in Greek Religion*. London. Biblo & Tannen Publishers.

Nordquist, Gullög C. 1987. "A Middle Helladic Village: Asine in the Argolid." In *Studies in Ancient Mediterranean and Near Eastern Civilization* 16. Uppsala. Boreas.

Olivier, J.-P. 2001. "'Les collecteurs': Leur Berlin distribution spatiale et temporelle." In *Economy and Politics in the Mycenaean Palace States,* edited by S. Voutsaki and J. Killen. *Cambridge Philological Society* Suppl. 27, 139-157

Özdoğan, M. 2014. "A New Look at the Introduction of the Neolithic Way of Life in Southeastern Europe. Changing Paradigms of the Expansion of the Neolithic Way of Life." *Documenta Praehistorica* 41, 33–49. doi:10.4312/dp.41.2

Palaima, Thomas G. 1991. "Maritime Matters in the Linear B Tablets," In *Thalassa. L'Égée préhistorique et la mer,* edited by R. Laffineur and L. Basch. Aegaeum 7. Liège. University of Liège.

___. 1995. "The Nature of the Mycenaean Wanax. Non-Indo-European Origins and Priestly Functions". In *The Role of the Ruler in the Prehistoric Aegean,* edited by Paul Rehak. Aegaeum. 11. Liège. Université de Liège, Histoire de l' art et archéologie de la Grèce antique; Austin. University of Texas at Austin, Program in Aegean Scripts and Prehistory.

___. 2004. "Sacrificial Feasting in the Linear B Documents." *Hesperia 73, No. 2, No. 2*, 217–46.

——. 2008a. "Mycenaean Religion" in *The Cambridge Companion to the Aegean Bronze Age,* edited by Cynthia Shelmerdine. New York. Cambridge University Press.

___. 2008b. "The Significance of Mycenaean Words Relating to Meals, Meal Rituals, and Food" given at 12th International Aegean Conference. http://hdl.handle.net/2152/63793

___. 2010. "Linear B" in *The Oxford Handbook of the Bronze Age Aegean,* edited by Eric Cline. Oxford. Oxford University Press.

___. 2011. "Scribes, scribal hands and palaeography." In *Linear B: Mycenaean Greek Texts and Their World* Volume 2, edited by Anna Morpurgo Davies, Yves Duhoux, Peter Van Alfen. Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. *Antiquité 120*. Louvain-la- Neuve/Dudley, MA. Peeters.

Pantou, P.A. 2010. "Mycenaean Dimini in Context: Investigating Regional Variability and Socioeconomic Complexities in Late Bronze Age Greece." *American Journal of Archaeology* 114, 381–401.

Papadimitriou, Alkestis, Ulrich Thaler, and Joseph Maran. 2015. “Bearing The Pomegranate Bearer: A New Wall-Painting Scene.” *In Mycenaean Wall Painting in Context: New Discoveries, Old Finds Reconsidered,* edited by Hariclia Brecoulaki, Jack L. Davis, Sharon R. Stocker ΜΕΛΕΤΗΜΑΤΑ 72. Athens . National Hellenic Research Foundation / Institute of Historical Research.

Papadimitriou, Nikolas. 2016. Structuring Space, Performing Rituals, Creating Memories: Towards a Cognitive Map of Early Mycenaean Funerary Behaviour.” In Staging Death - Funerary Performance, Architecture and Landscape in the Aegean. Belin/Boston. de Gruyter.

Papadopoulos, John. 2005. “Inventing the Minoans: Archaeology, Modernity and the Quest for European Identity.” *Journal of Mediterranean Archaeology* 18.1.

Papadopoulos, John. 2006. *The Art of Antiquity: Piet de Jong and the Athenian Agora*. Athens. American School of Classical Studies at Athens.

Papathanasiou, A. 2009. “Mortuary Behaviour in the Alepotrypa Cave: Assessments from the Study of the Human Osteological Material.” *British School at Athens Studies* 16, 21–8.

Pausanias. 1918. *Description of Greece* translated by W. H. S. Jones and H. A. Omerod. Loeb Classical Library. Cambridge. Harvard University Press.

Peatfield, Alan. 2008. “Warfare in the Aegean Bronze Age - Minoan and Mycenaean Warfare.” In *The Ancient World at War,* edited by Philip DeSouza. London. Thames and Hudson.

Pluta, K. 1996. “A Reconstruction of the Archive Complex at Pylos: Preliminary Progress Report.” *Minos* 31-32, 231-250.

Polybius. 1889. *The Histories of Polybius* translated from the text of F. Hultsch by Evelyn S. Shuckburgh. London. Macmillan.

Pope, Maurice. 1975. *The story of archaeological decipherment : from Egyptian hieroglyphs to Linear B*. New York. Scribner.

Prezioli, Donald and Louise Hitchcock. 1999. *Aegean Art and Architecture*. Oxford. Oxford University Press.

Psimogiannou K. 2012. “Creating identities in the mortuary arena of the Greek Final Neolithic: a contextual definition of practices in Central and Southern Greece,” *Documenta Praehistorica* XXXIX.

Renfrew, Colin. 1972. *The Emergence of Civilisation : the Cyclades and the Aegean in the Third Millennium BC*. London. Methuen. 2010, 2nd Edition. Oakville, Conn, Oxford. Bannerstone Oxbow.

Renfrew, Colin and John Cherry. 2011. *The Emergence of Civilisation : the Cyclades and the Aegean in the Third Millennium BC*. New edition reprinting the original text supplemented with a Preface and Introduction (2010) by the author and a Foreword (2010) by John Cherry. Oxford. Oxbow Books.

Renfrew, Colin, P. A. Mountjoy, Elizabeth French, John G. Younger, John F. Cherry, Alec Daykin, Jennifer Moody, Lyvia Morgan, Nick Bradford, Callum Macfarlane, Robin Torrence, Clive Gamble, And Todd Whitelaw. 1985. "The Archaeology Of Cult: The Sanctuary At Phylakopi." *The British School at Athens. Supplementary Volumes* 18, I-513.

Rodenwaldt, G. 1912. “Die Fresken des Palastes.” In *Tiryns: Die Ergebnisse der Ausgrabungen des Instituts II*. Athens.

Romano, David Gilman and Mary E. Voyatzis. 2010. “Excavating the Birthplace of Zeus. The Mt. Lykaion Excavation and Survey Project.” *Expedition* 52.

___. 2014. "Mt. Lykaion Excavation and Survey Project, Part 1: The Upper Sanctuary." *Hesperia* 83, 569-652.

___. 2015. "Mt. Lykaion Excavation and Survey Project, Part 2: The Lower Sanctuary." *Hesperia* 84, 207-76.

Rutherford, Ian. 2015. “Mycenaean Religion.” In *The Cambridge History of Religions in the Ancient World,* edited by M. Salzman. Cambridge. Cambridge University Press.

Rutter, Jeremy B. 2001. “Review of Aegean Prehistory II: The Prepalatial Bronze Age of the Southern and Central Greek Mainland” and “Addendum: 1993–1999” In *Aegean Prehistory: A Review*, edited by T. Cullen, 95–147 and 148–155. Boston. Archaeological Institute of America.

___. 2005. “Southern Triangles Revisited: Laconia, Messenia, and Crete in the14th - 12th Centuries B.C.” In *Ariadne’s Threads: Connections between Crete and the Greek Mainland in the Postpalatial Period (LM IIIA2 to LM IIIC), edited by* A. L. D’Agata and J. Moody. 17-50.

___. 2015. “Ceramic Technology in Rapid Transition: The Evidence from Settlement Deposits of the Shaft Grave Era at Tsoungiza (Corinthia).” In *The Transmission of Technical Knowledge in the Production of Ancient Mediterranean Pottery*, edited by Walter Gauss, Gudrun Klebinder-Gauss. Wien. Österreichisches Archaeologisches Institut.

___. 2017a. “Archaeology of Middle Helladic Greece.” In *Brewmate: a bold blend of new ideas*. http://brewminate.com/archaeology-of-middle-helladic-greece

___. 2017b. “Mycenaean Tholos Tombs and Early Mycenaean Settlements.” In Brewmate: a bold blend of new ideas. http://brewminate.com/mycenaean-tholos-tombs- and-early-mycenaean-settlements/

Rutter, J. B. and Sarah H. Rutter. 1976. “The Transition to Mycenaean: A Stratified Middle Helladic II to Late Helladic IIA Pottery Sequence from Ayios Stephanos in Lakonia.” Los Angeles. Institute of Archaeology, University of California.

Rutter, Jeremy B. and JoAnn Gonzalez-Major. 2011-2013. Aegean Prehistoric Archaeology. Project sponsored by Dartmouth College.

Sampson, Adamantios. “Manika and Mainland Greece in Early Helladic III: Ceramic evidence for relations with Aegean and Anatolia.” In Proceedings of the International conference *Wace and Blegen. Pottery as evidence for trade in the Aegean Bronze Age 1939-1989* edited by Carol Zerner, Peter Zerner and John Winder. Amsterdam. J.C. Gieben.

Schliemann, Henry. 1878. *Mycenae ; A Narrative of Researches and Discoveries at Mycenae and Tiryns*. London. Murray.

Schoep, Ilse. 2018. “Building the Labyrinth: Arthur Evans and the Construction of Minoan Civilization.” *American Journal of Archaeology* 122, 5–32.

Schofield, Louise. 2007. *The Mycenaeans*. Los Angeles. Getty Museum.

Shelmerdine, C.W. 2001. "Review of Aegean Prehistory VI: The Palatial Bronze Age of the Southern and Central Greek Mainland” and “Addendum: 1993–1999” In *Aegean Prehistory: A Review,* edited by Tracey Cullen, 329-377 and 378-382. Boston. Archaeological Institute of America.

___. 2011. “The Individual And The State In Mycenaean Greece.” *Bulletin of the Institute of Classical Studies* 54, 19–28.

___. 2008. "Society.” In *A Companion to Linear B Mycenaean Greek Texts and their World,* Vol. 1 edited, by Yves Duhoux And Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

___. 2016. “Poseidon, pa-ki-ja-na and Horse-Taming Nestor.” In *Metaphysis Ritual, Myth and Symbolism in the Aegean Bronze Age*. Aegaeum 39. Leuven. Peeters.

Sherratt, Susan. 2004. “Feasting in Homeric Epic.” *Hesperia 73, No. 2*, 301–37.

Smith, Prudence. 1957. “Documents in Mycenaean Greek” on Third Programme: 6 March 1957. BBC.

Sofianos, Giorgos. 2015. “Imaging 'The Palace of Minos': A view from the Architectural Drawings.” *The Institute for European and Mediterranean Archaeology*. Buffalo. The State University of New York.

Stocker, S.R., and J.L. Davis. 2004. “Animal Sacrifice, Archives, and Feasting at the Palace of Nestor.” *Hesperia 73, No. 2*, 179–95.

___. 2016. *Lord of the Gold Rings: The Grave of the Griffin Warrior of Pylos*. Videocast. American School of Classical Studies at Athens.

___. 2017. “The Combat Agate from the Grave of the Griffin Warrior at Pylos.” *Hesperia* 86, 583–605.

Stos-Gale, Anna Zofia. 2014. “Silver vessels in the Mycenaen Shaft Graves and their origin in the context of the metal supply in the Bronze Age Aegean.” In *Metals of power – Early gold and silver*. Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt. Halle. Landesmuseum für Vorgeschichte.

Stos-Gale, Z. A. and N. H. Gale. 1982 “Sources of Mycenaean Silver and Lead.” *Journal Field Archaeology* 9, 467–485.

Stos-Gale, Z.A., Gale, N.H., Houghton, J. and Speakman, R. 1995. “Lead isotope analyses of ores from the Western Mediterranean.” *Archaeometry* 37, 407-415.

Taylour, W.D. 1970. ‘New light on Mycenaean religion.’ *Antiquity* 44, 270–280.

Thaler, U. 2012. “Going Round in Circles: Anmerkungen zur Bewegungsrichtung in mykenischen Palastmegara,” in *Bild-Raum-Handlung: Perspektiven der Archäologie,* edited by O. Dally, S. Moraw, and H. Ziemssen (Topoi 11). Berlin.

Theocharis, Demetrios. with additions by P. de Jong. GEM 1952, back pocket. Unpublished.

Triantaphyllou, S. 2010. “Prospects for Reconstructing the Lives of Middle Helladic Populations in the Argolid: Past and Present of Bone Studies.” In *Mesohelladika. The Greek Mainland in the Middle Bronze Age*, Bulletin de Correspondance Hellénique Supplement 52, edited by A. Philippa-Touchais, G. Touchais, S. Voutsaki, and J. Wright. Athens. De Boccard.

Tsountas, Christos. 1893. “Μυκήναι και Μυκηναίος πολιτισμός.” Athens. Perri.

___. 1899. “Kykladika II.” *Archaiologike Ephemeris* 1899: 74–134.

Tsountas, Christos and J.Irving Manatt. (1886) 1897. *The Mycenaean Age: a study of the monuments and culture of pre-Homeric Greece*. London. Macmillan.

Tzonou-Herbst, Ioulia 2002. *A Contextual Analysis Of Mycenaean Terracotta Figurines*. Ph.D. dissertation, University of Cincinnati.

___. 2010. “Figurines.” In *The Oxford Handbook of the Bronze Age Aegean,* edited by E. Cline. Oxford. Oxford University Press.

Urbanus, Jason. 2018. “A view fron the Birthplace of Zeus.” *Archaeology*. Boston. Archaeological Institute of America.

Ventris, M., and J. Chadwick. 1956. *Documents in Mycenaean Greek: Three Hundred Selected Tablets from Knossos, Pylos and Mycenae with Commentary and Vocabulary*. Cambridge. Cambridge University Press.

Verany, Jean Baptiste. 1851. *Mollusques mediteraneens*.

Vogeikoff-Brogan, Archivist. Pylos Excavation Records. Series V. Piet de Jong’s Watercolors of Pylos Frescoes. American School of Classical Studies at Athens.

Voutsaki, Sofia. 1995. “Social and political processes in the Mycenaean Argolid: the evidence from the mortuary practices.” In *Politeia: Society and State in the Aegean Bronze Age,* edited by R. Laffineur and W-D. Niemeier. *Aegaeum* 12. Liège. University of Liège.

___. 1998. “Mortuary evidence, symbolic meanings and social change: a comparison between Messenia and the Argolid in the Mycenaean period.” In *Cemetery and society in the Aegean Bronze Age,* edited by K. Branigan. *Sheffield Studies in Aegean Archaeology* 1, 41-58. Oxford. Oxbow Books.

___. 2012. “From Value To Meaning, From Things To Persons: The Grave Circles Of Mycenae Reconsidered” In *The Construction of Value in the Ancient World,* edited by John K. Papadopoulos and Gary Urton. Los Angeles. The Cotsen Institute of Archaeology Press.

___. 2016. “From Ayios Stephanos to Ayios Vasilios: mortuary practices in pre-palatial Laconia.” Aegean Lectures. Aegeus - Society For Aegean Prehistory. https://www.youtube.com/watch?

Wace, A.J.B. 1949. *Mycenae An Archaeological History and Guide*. Princeton. Princeton University Press.

Wace, A.J.B., and C.W. Blegen. 1918. “The Pre-Mycenaean Pottery of the Mainland.” Annual of the British School at Athens 22, 175–89.

Wace, A.J.B., W.A. Heurtley, W. Lamb, L.B. Holland, and C.A. Boethius. 1921 - 1923. “The Report of the School Excavations at Mycenae, 1921-1923 [Corrected Title: The Report of the School Excavations at Mycenae, 1920-1923].” *Annual of the British School at Athens* 25, 1–434.

Wardle, K.A. 2015. “Reshaping the past: Where was the ‘Cult Center’ at Mycenae?” In *Mycenaean up to Date: The archaeology of the northeastern Peloponnese–current concepts and new directions,* edited by Ann-Louise Shallin and Iphiyenia Tournavitou. Stockholm. Swedish Institute at Athens.

Warren, Peter. 1972. “Myrtos: An Early Bronze Age Settlement in Crete.” *The British School at Athens. Supplementary Volumes* 7, iii–355.

Weingarten, Judith. 1991. “The Transformation of Egyptian Taweret into the Minoan Genius. A study in cultural transmission in the Middle Bronze Age.” *Studies in Mediterranean archaeology*. Göteborg. Paul Forlag Astroms.

Whitmarsh, Tim. 2015. *Battling the Gods: Atheism in the Ancient World*. New York. Alfred A. Knopf.

Wiener, Malcolm H. 2015. “The Mycenaean Conquest Of Minoan Crete.” In *The Great Islands: Studies of Crete and Cyprus presented to Gerald Cadogan,* edited by Colin MacDonald, Eleni Hatzaki, and Stelios Andreou. Athens. Kapon Editions.

Winckelmann, Johann Joachim and Alex Potts. 2006. *History of the art of antiquity. Texts & documents*. Los Angeles. Getty Research Institute.

Wright, J.C. 1994. “The Spatial Configuration of Belief: The Archaeology of Mycenaean Religion.” In *Placing the Gods: Sanctuaries and Sacred Space in Ancient Greece,* edited by Susan E. Alcock and Robin Osborne, 37–78. Oxford. Clarendon.

___. 1995. "From Chief to King in Mycenaean Greece.” In *The Role of the Ruler in the Prehistoric Aegean*: Proceedings of a Panel Discussion Presented at the Annual Meeting of the Archaeological Institute of America, New Orleans, Louisiana, 28 December 1992, with Additions. *Aegaeum Series* Vol. 11. Boston. Archaeological Institute of America.

___. 2004a. “A Survey of Evidence for Feasting in Mycenaean Society.” *Hesperia 73, No. 2*, 133–78.

___. 2004b. “The Mycenaean Feast: An Introduction.” *Hesperia 73, No. 2, No. 2*, 121–32.

——. 2006. “The formation of the Mycenaean palace.” In *Ancient Greece: From The Mycenaean Palaces To The Age Of Homer,* edited by Sigrid Deger-Jalkotzy and Irene S. Lemos. Edinburgh Leventis Studies 3. Edinburg. Edinburg University Press.

——. 2021. The Archaeological History of the Mycenaean Palace by James C. Wright-Part 2. Lectures in honour of Prof. Robin Hägg. Swedish Institute at Athens.

Wright, J.C., ed. 2004. *The Mycenaean Feast*. American School of Classical Studies at Athens. Princeton.

Zerner, C. W. 1978. The Beginning of the Middle Helladic Period at Lerna. PhD dissertation, University of Cincinnati.

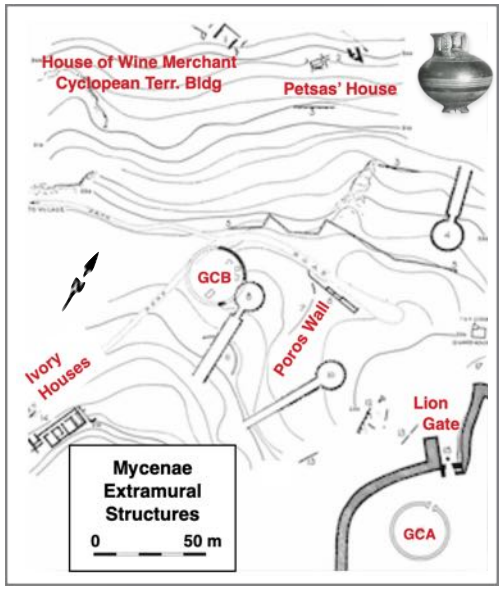
___. 2008. “The Middle Helladic pottery, with the Middle Helladic wares from Late Helladic deposits and the potters’ marks.” In *Ayios Stephanos: Excavations at a Bronze Age and Medieval Settlement in Southern Laconia* edited, by W. D. Taylour and R. Janko. *British School at Athens Supplementary Volume* 44. London.

The initial focus of Aegean prehistory was, and to a degree continues to be, palace-centered culture. However, recent research on the extra-palatial aspects of both the Mycenaean and Minoan cultures has broadened our understanding of the Late Bronze Age. On the mainland, regional surveys have identified a number of previously unknown settlements in the hinterlands (Dickinson 2016). While many were small, relatively isolated villages, other more substantial settlements occurred on the periphery and some appear to have adopted alternative social solutions to those associated with palatial authority. Additionally, excavations in the 1950s initiated efforts that have illuminated the post-palatial period——an era of depopulation and abandonment but also one in which some communities survived and even prospered following the collapse of the palatial system. See *Collape and Aftermath*. Still another group of sites, physically adjacent to the Mycenaean palace citadels, have added additional insights. In the latter cases, however, both proximity and chronology are complicating factors as the earlier archaeological evidence was often disturbed or even destroyed by the overbuilding and expansion that occurred once centralized control had been established. Mycenae is illustrative as significant chronological benchmarks remain uncertain.

Beyond The Walls

In the 1920s at the behest of Arthur Evans and Christos Tsountas——a time when Aegean archaeology was largely focused on Crete's Minoan civilization, Alan Wace assumed responsibility for excavations at Mycenae. With the benefit of hindsight, it is evident that Wace's findings played a central role in redefining our understanding of Aegean cultures during the 2nd millennium BCE. While Schliemann's spectacular revelations from GCA had put the mainland's Late Bronze Age on the archaeological map, Tsountas's 19th century excavations of Mycenae's citadel established the presence of a number of the important structures comparable to those at Tiryns (Fitton 1996, 104-105). Yet despite Tsountas's efforts and Mycenae's early notoriety, at the time Wace began excavations, the site lacked a secure chronology for the LBA——essential for interpreting its disparit elements and creating a coherent narrative for the site. Over the course of four field seasons (1920 - 1923), Wace gathered evidence that established a temporal framework for the major palatial structures including the fortifications, clarified construction phases, and proposed typologies and temporal sequences for the shaft graves, tholoi, and chamber tombs. Somewhat surprisingly, the ceramic evidence indicated a relatively late date for a number of Mycenae's defining characteristics. Wace argued that the Lion Gate itself was an integral part of the LH IIIB2 fortification extensions——a major building phase that included the enclosure of the much earlier (late MH III - LH IIA) GCA. Wace also clearly demonstrated that the "Royal" burials of GCA had originally been part of the sprawling Prehistoric Cemetery west of the citadel. The burial ground, first explored by Tsountas and later by Wace also held numerous MH cist and rock-cut tombs (Wace et al.1921-1923, 9-13). Although something of a foot note to the 1923 season, Wace described exploratory excavations of structural remains outside the walls including the Cyclopean Terrace Building——a wall (15 m in length) built, "in Cyclopean style with large blocks of limestone" (ibid., 403-406). A single adult interred in a large pithos (h = 1.70 m) along with two stirrup jars and a jug was one of several burials recorded in the vicinity of the Cyclopean wall. Wace noted the wall was, "part of a large and important structure dating at latest from the beginning of L.H. III," and significantly was, "the first big building at Mycenae not definitely a tomb so far discovered outside the acropolis wall" (ibid., 407).

Wace clearly understood the import of these finds although three decades would pass before the Cyclopean Terrace Building could be placed in its proper context. This and a number of other extramural structures, including Petsas House and the Ivory houses, were to play critical roles in establishing the economic foundation for a site that became a major center of Mycenaean culture in the Peloponnese. In the early 1920s, however, Wace was at the center of a political firestorm, one engendered by the accumulated evidence suggesting an independent Mycenae and a mainland culture that played a major role in shaping Aegean prehistory. While Wace's interpretation would ultimately be vindicated, it also incurred the wrath of Arthur Evans who wielded his considerable power to strip Wace of his position as Director of the British School at Athens and shut down the excavations at Mycenae (Wace et al. 1921-1923; Fitton 1996, 150-155). Although Evans's investment in Minoan primacy never wavered, ultimately the evidence from both the mainland and Crete confirmed Wace's conclusions regarding the chronology of Mycenae but just as significantly buttressed a body of evidence that pointed to a tipping point in Aegean prehistory when Minoan authority was replaced by the rising tide of Mycenaean interests. Wace returned to Mycenae in 1939 but the threat of war in western Europe led to the suspension of work at the end of that season. Nevertheless, his excavations were highlighted by work on the House of Columns, the Treasury of Atreus, and the Prehistoric Cemetery. Wace also continued to explore the relationship between the GCA and elements of the LH IIIB2 building phase (1939, 210-212). The most spectacular news of 1939, however, was Blegen's discovery of "Nestor's Palace" in Messenia and his excavation of a cache of Linear B tablets at Pylos——the first from the mainland and documents that were destined to enrich our understanding of the LBA and, together with Wace's efforts at Mycenae, play a significant role in reframing Aegean studies.



Mycenae Lower Town - Wace 1952, 2 Fig. 1
Wace 1950, 205 Fig. 1 Stirrup Jar
Archaeological Museum of Mycenae

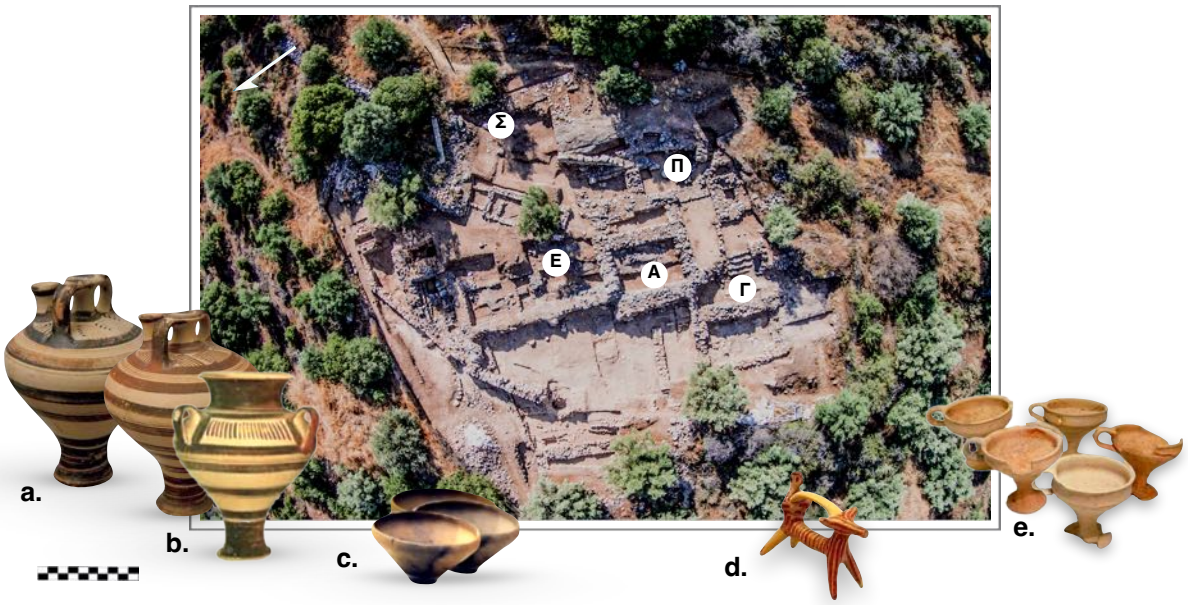
It is difficult to overstate the importance of the 1950s with regards to the history of Aegean studies including our understanding of the development of Mycenae itself. Overshadowing all was the June 1952 announcement by Michael Ventris that he had deciphered Linear B. To the surprise of Ventris and the academic community as well, the tablets recorded an archaic form of Greek. Alan Wace's return to Mycenae in 1950 was also noteworthy——both professionally and personally. Wace's mid-century work at Mycenae would strengthen the case for his overall narrative of the site as well as for the general trajectory of Aegean prehistoric culture. See *Appendix B*. In January of 1952 the Greek Archaeological Society's J. Papademetriou and George Mylonas had began excavations of Grave Circle B (Mylonas 1957, 128-129). While George Mylonas' volume, *Ancient Mycenae: The Capital City of Agamemnon* focuses on GCB, it includes an account of the previous extramural excavations at Mycenae (1957). Along with Wace's 1923 investigation of the Cyclopean Terrace Wall and later excavations of the adjacent House of the Wine Merchant (HWM) complex, Mylonas briefly describes Petsas House——named for P. Petsas who, along with J. Papademetriou, made the initial discovery of the building's remains in 1950. Petsas House lies approximately 200 meters north of the Lion Gate. See map above. Mylonas noted that one of four

storerooms held a cache of five hundred unused vases. Also of note, a Linear B tablet recovered just south of the ruins was the first to be found at Mycenae (ibid., 70-71). In 2000, Kim Shelton working under the aegis of the Archaeological Society of Athens, renewed excavations at Petsas House while also conducting pertinent museum studies in a project that has stretched over two decades. Preliminary papers have provided an overview of the excavation team's findings while major publications are a work in progress (Shelton 2018).

Shelton's contribution to *Political Economies of the Aegean Bronze Age* offers an overview of the Petsas House and one that begins by highlighting the significance of the temporal setting (2010, 184-189). The 14th century BCE (LH IIIA2), explains Shelton, is a time of growth, expansion, and increasing stability. Notably, the period is the product of LH II, an era of instability fueled by competing kinship groups——each with eyes on the citadel. Despite the later depredations of grave robbers, extraordinary numbers of rare and precious grave gifts from a series of LH II chamber tombs and early tholoi provided a wealth of evidence for the period just prior to the Petsas House (ibid., 186-187). The contrasting evidence——on the far side of LH IIIA2, is clear. The practice of honoring the elite with an abundance of material wealth had been curtailed and a near absence of grave goods in LH IIIB chamber tombs strongly suggests sumptuary laws enforced by those in positions of power. Victors of the earlier strife also sought to consolidate their control and advertise their successes——in part with new construction projects. One consequence was the dismantling of early structures as well as overbuilding——resulting in the destruction of much of the evidence contemporary with Petsas House (ibid., 188).

In the midst of this ongoing consolidation of central authority——one given visible presence by the early fortification walls (LH IIIA2) and palatial structures on the citadel, the newly constructed, extramural Petsas House appears to have been occupied by a single family of well to do, if not elite, members of the Mycenaean community. Partially cut into the hillside bedrock and finished with ashlar corner blocks and frescoed interior walls (Σ), Petsas house would have evinced privilege, wealth, and industry. See image on following page. Other structural details, including ramped entrances to facilitate deliveries and shipments (east of Σ), built storage areas (A, E, Π, Γ), and ceramic workshop(s) (Π) attest to Petsas House as a "ceramic production and storage complex." While its elite status and economic importance suggests the imprimatur of palatial authority, the Petsas House and similar complexes pose questions about the relative degree of palatial control (ibid., 188-193).

The abundant pottery, uncovered by Papademetriou and Petsas, clearly exceed the requirements for local domestic use. Shelton focused on the fine ware jars, kylikes, conical cups, and figurines——each providing a different perspective on LH IIIA2 Mycenaean culture. In the author's opinion, the approximately 500 fine ware vessels recorded from Storeroom Alpha——largely pedestalled-piriform and -stirrup jars, exhibit the hand of a *master potter* (ibid. 191). Just such vessels were among the standardized ceramics that established Mycenaean pottery's appeal not solely on the mainland but across the eastern Mediterranean (Mountjoy 1986, 51-66; 2001, 63-70). And as Shelton suggests, the Petsas potter's unusual skill and artistry indicates that both the containers and their contents were commercially valuable commodities (2010, 196). In sharp contrast, the innumerable plainwares in Storeroom Epsilon are characterized by Shelton as including, "a huge number of rather carelessly produced carinated kylikes" (ibid., 191-192). Both their poor quality ("throw aways") and numbers——one post-destruction



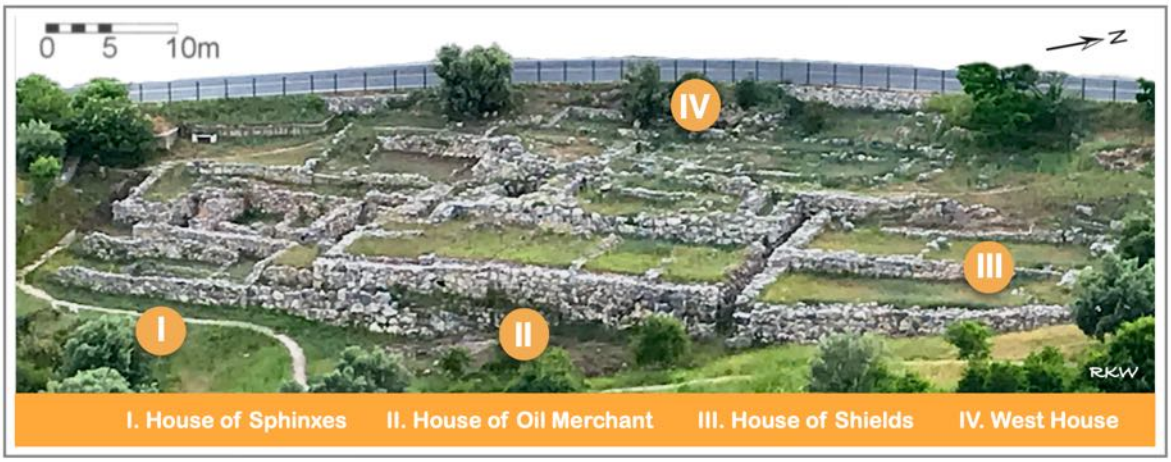
Petsas House - Mycenae LH IIIA
Archaeological Museum of Mycenae & UCLA, Classics
Plan details after Mitrovgeni & Price in Shelton 2016, Fig. 20.1
a. stirrup jars b. piriform jar c. conical cup d. charioteer e. kylikes

deposit estimates 8,000 kylikes, strongly suggest something other than everyday use while also indicating the need for a ready supply of drinking vessels for relatively large gatherings (Shelton 2016, 14). A comparable abundance of kylikes found in Pylos pantries strengthens the conviction that such drinking cups had a role in commonplace ritual practices (Shelton 2010, 194). It is likely not a coincidence that large numbers of figurines were also found in the ruins of Petsas House. Ioulia Tzonou-Herbst records 150 individual figurines from the Petsas site encompassing a wide range of types (including numerous female Phi B, a charioteer or ploughman, as well as assorted furniture of a similar scale)——all dated to LH IIIA and thus contemporary with the pottery (2002, 136-140). Tzonou-Herbst comments that given the “unused” condition of many of the figurines, they were, “probably stored awaiting to be sold” (ibid., 140). And this begs the question——sold for whose benefit? Was the Petsas House residence an independent commercial enterprise run by a particularly gifted potter and his/her family? While this seems a reasonable possibility, both the figurines and the numerous plainwares——indeed the Petsas House itself, may well have been “wholly owned” and controlled by the central palatial authority. Shelton takes the middle ground using the term “palatially motivated” to suggest that Petsas House is, “a cottage industry,” but one that is, “in the process of being absorbed into the palatial sphere” (2010, 195).

Although the kylikes and perhaps the figurines are likely associated with palace-related cult or religious practices, the numerous conical cups seem connected to more practical concerns. An analysis has shown that most hold approximately 250 milliliters of grain, an amount that researchers associate with rations (ibid., 196). Given the “industrial” aspects of the Petsas House, it is assumed laborers, perhaps slaves, would have been an integral part of the workforce. The LH IIIB1 Ivory Houses described below, like the Petsas House, are also multi-function structures (outside palatial walls), attesting to habitation, production, and storage——and notably, the locale where numerous (56) Linear B tablets were recovered (Tournavitou 1995, 257-277 with ack. J. T. Killen). Among the general categories recorded on the documents (Au, Ue, Ui, V) from the West House are lists of personnel and rations (ibid., 258).

Although Petsas House is a relatively small slice of Mycenaean life with full publication to come, it stands out as an informative and unique site——set somewhat apart from the citadel but also rising with the tide. Ironically, Petsas House's destruction have been especially meaningful for mainland studies. Shelton suggests an earthquake and attendant fires were the immediate cause of the catastrophe that demolished not just Petsas House but various structures both on the citadel and in the lower town as well (2010, 199). The comprehensive building programs that followed erased much of the LH IIIA evidence from the citadel and adjacent areas where it might have proved most informative. Although a salvage project of Petsas House was apparently begun in early LH IIIB1 it seems to have been abandoned——a fortuitous turn of events for twenty-first century excavators as it left much of the ruins and their important evidence buried and relatively undisturbed.

While reports of architectural details and characterization of pot sherds typically omit the human element, excavated evidence may also bring us face to face with an unmistakable reminder of our shared humanity. Soon after construction of the Petsas House was complete an infant was buried beneath the floor of room Σ——a section of the structure cut into the hillside rock. To judge from the room's frescoed walls, this was part of the domestic quarters and thus it seems likely the child was a member of the elite family that had recently taken up residence. While imagination and conjecture necessarily play a part in appreciating such events, the grave goods accompanying the infant are not significant solely as physical objects. Among the items placed with the infant were miniature vessels, a goblet embellished with ivy motifs and fitted with a lid and mouthpiece as well as precious beads of lapis, gold, and blue glass (ibid., 190).



Ivory Houses - Mycenae

Situated approximately 50 meters southwest of Grave Circle B and 200 meters west of the early fortification walls, the LH IIIB1 "Ivory Houses" include the West House (WH), the House of Shields (HSh), the House of Sphinxes (HSp), and the House of the Oil Merchant (HOM)——the last a.k.a. Blegen House and the House of the Stirrup Jars. The contemporary Panagia Houses I, II, III, to the south and adjacent to the Treasury of Atreus, are often contrasted with the Ivory Houses as overall smaller and constructed with fewer architectural details. Additionally, while the Panagia group appear to have been domestic dwellings, the Ivory Houses are notable for their singular concentration of high value goods——especially finely crafted ivory pieces (mostly as miniature decorative inlays) and ceramic fine wares and faience vessels. Also unique is the secondary archive of 56 Linear B documents referencing receivables, personnel, and rations. Their similarity to contemporary palatial documents suggest the administrators in charge acted at the behest of the central authority while perhaps conducting some

business of a private nature as well. Recent dating suggest the Ivory Houses were destroyed in early LH IIIB2——very likely by an earthquake (Tournavitou 2017, 1-2 with additional references from Tournavitou 1995 and Shelmerdine 1997, 1999). Although it is not certain precisely what aspects of production occurred in one or the other of the Ivory Houses, it seems likely that "in-resident" artisans——perhaps including foreigners with specialized skills such as carving and cabinet making, were engaged in finish work (French 2002, 104-107). Cynthia Shelmerdine in her contribution to the forum *Crafts, Specialists, and Markets in Mycenaean Greece* makes the point that palatial control varied regionally——for example, between Messenia and the Argolid, with regards to individual commodities. Thus for certain classes of commercially valuable products the palace might be both a producer and consumer (for on site use and/or export) while for others it may have supported independent craft makers, again to a greater or lesser degree (2013, 447-450).



House of the Oil Merchant Basement →
Wace 1958, 27 Fig. 26

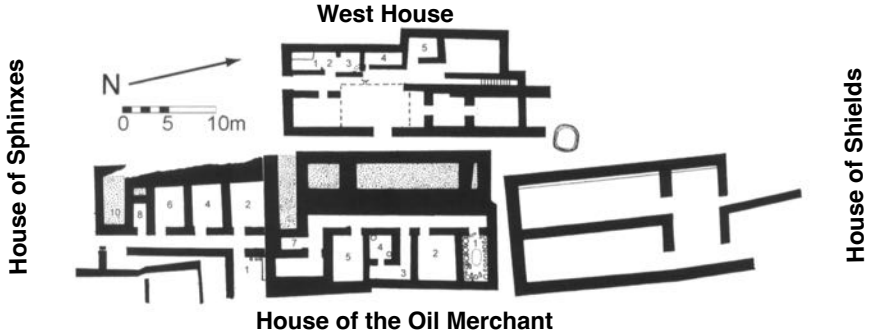
← House of Sphinxes South Lobby & Corridor
Wace 1958, 34 Fig. 44



The results of the excavations and research focusing on the Lower Town's Petsas House and Ivory Houses reveal a number of striking similarities——albeit characteristics unusual if not unique among mainland palace-centers. While their extramural location is notable, it is also clear that the abundant material finds are unrelated to the basic necessities required to sustain or defend this Mycenaean community. Nevertheless, the evidence consists of goods and merchandise that appear to be related in one way or another to palatial interests. Even the innumerable "throw away" kylikes from the Petsas House suggest palace-sponsored feasting. More typically, however, objects were made from rare and precious materials and/or crafted by artisans whose skills enhanced the value of their creations. In any case, the quantities alone suggests commercial trade in furniture, various oils, and wine. At the same time, all such high value commodities might also have been consumed by the local elite as well as being used as barter, including for export via merchants with international connections. Shelton recorded nearly 500 fine ceramic vessels in a single storeroom (A) at Petsas House while Tournavitou notes 8,994 pieces of worked ivory from the aptly named Houses of Ivory (2010, 191; 1995, 288). Of equal interest to researchers are contrasting aspects of these two "lower town" sites. Their sequential temporal contexts reveal Mycenae's increasing access to high value materials that in each case necessitated the talents of skilled craft workers. By LH IIIB1 the workforce included not only experienced potters but artisans capable of designing, carving, and finishing high quality goods in a variety of materials——often in miniature as embellishments for ornate furniture. Although it is uncertain both where and by whom many of exquisite Ivory Houses items were initially created, their presence attests to the economic reach of Mycenae and perhaps not exclusively to home grown talent or local production. At the same time, the present consensus among Aegeanists suggests a political economy characterized by elite control during the LH IIIA - LHIIIB period——albeit the mechanisms of that control are debated (Shelmerdine 2013, 449).

Although N. M. Verdelis originally described the WH as comparing favorably with the finer residential houses within the palatial walls, Iphiyenia Tournavitou's more recent and detailed analysis suggests a good deal more complexity. She frankly admits that overbuilding together with the limitations of the original notes and plans hinder precise interpretation——with the extant evidence often falling short of supporting the rosy scenario suggested by Verdelis (2006, 217-221). In any case, Tournavitou concluded the WH was, "chiefly [a] residential unit with administrative functions," related to the Ivory Houses as a group (ibid., 261). The Linear B tablets, "dealt exclusively with personnel and the distribution of rations," including named individuals also associated with the HOM (Tournavitou 1995, 285-287). The HSh was notable among the four structures for its absence of domestic artifacts. To judge from the finds, the large, undivided rooms served principally for temporary storage and secondary workshops. Included in the inventory of small finds are finished faience vessels as well as an abundance of ivory (both elephant and hippopotamus) including 3,692 ivory inlay and appliqué strips, triangles, and discs (ibid., 124-129 with ack. O. H. Krzyskowska and R. D. G. Evely). The single Linear B tablet from the HSh may be unique if the supposition is correct that it documents inter-regional trade in cloth garments (pu-ka-ta-ri-ja) between Mycenae and Thebes (ibid., 261-262). The basement (Room 1) of the HSp held over 1,000 ceramic vessels——mostly unpainted, open shapes comprising 13 different types. It is conjectured that a number of sealings found in the doorway to Room 1 may have secured large wooden storage cabinets. An abundance of ivory pieces recovered from the basement are thought to have fallen from the ground floor as a result of the conflagration that destroyed this and the other Ivory Houses. As the ivories were largely finished pieces (much as the clay pots), it is suggested the HSp served in part to warehouse commodities offered though commercial sales (ibid., 290-291). Other material finds, including numerous pieces of used pumice, suggest workshop activities similar to those at the HSh. Rooms devoid of artifacts may have served as storage areas for perishables——a possibility suggested by Linear B taxation documents recording herbs and spices (Bennett 1958, 100; 107; Killen 1981, 216-232).

Even this brief summary account of three of the Ivory Houses makes clear the complex was not solely a storage facility or a workshop; it was both, but it was also the residence of administrators with close ties to, if not members of, the palatial elite. Individuals who likely interacted with day laborers and craft workers as well as suppliers, traders, and shippers while maintaining the various documents and accounts associated with both personnel and products. As we will see in a more detailed account of the HOM, by the early decades of the 13th century BCE Mycenae had established a diverse and well organized commercial enterprise——one apparently designed to move wealth from across the eastern Mediterranean to the Argolid.



Ivory Houses - Mycenae
after French 1967, Fg. 1



Domestic Wares
Amphora FS 67, Tripod Cooking Pot FS 320
Cooking Pot FS 74, Deep Bowl FS 284
Tournavitou 1995, Pl.10: b, c; Pl.14: a, e



Painted Fine Wares
Stirrup Jars: tall-conical FS 167,
globular FS 173; Piriform Jars FS 48
Arch. Mus. of Mycenae

West House



Ivory Plaque
Arch. Mus. of Mycenae



Ivory Embellishments
House of Shields

House of Sphinxes
Arch. Mus. of Mycenae



Ivory Warrior
Natl. Arch. Mus.

House of Sphinxes



Pithos
French 1962, 33, Fig. 63

House of Shields



Stone Bowls
Arch. Mus. of Mycenae





Pithoi FS 13, Storage Jar FS 58
Tournavitou 1995, Plates 9: a, c



Faience Ryton & Goblets
Mycenae Archive: Piet de Jong
French 2002, Pl. 11: A,B,D

In The Trenches

The descriptions and illustrations of Petsas House and three of the Ivory Houses given above offer a partial overview of one aspect of Mycenaean culture within a fairly circumscribed period (ca. 1390 - 1260 BCE). The interpretive scenario is based on the excavated artifacts and structural remains as well as the archaeologists' understanding of the larger context——a horizon that includes the contemporary mainland, the Aegean islands, Crete, and the eastern Mediterranean. A recently created online resource offers the possibility of engaging, albeit virtually, with a number of the pertinent excavations. The *Mycenae Archive* (MA), a section of the University of Cambridge - Cambridge Digital Library (CDL) makes accessible the, "notebooks, drawings, plans and photographs of the archaeological endeavors of the British School at Athens at Mycenae in 1920 -1923, 1939, and 1950 -1957 under the directorship of Alan John Bayard Wace (1879-1957)." In other words, the essential work product of the archaeologists. As stated on the *Mycenae Archive* website, "Cumulatively, these notebooks provided the bedrock of evidence on which the rigorous academic publication of the site was built. Yet they also, in their unedited entirety, provide glimpses of a real-time experience of archaeological excavation in Greece during the first half of the twentieth century."

The CDL provides details not found in published accounts. What follows is a small but representative sample of the CDL materials relating to the HOM——the first of the four Ivory House structures to be excavated. Elizabeth French, a prominent archaeologist in her own right and daughter of Alan Wace, related that the discovery of multiple Linear B tablets at the HOM and their subsequent decipherment, were the highlights of her father's storied career (French et al. 1980, i-iii). In fact, the 1950s Mycenae excavations were, in part, a family affair with Alan and Helen Wace and their daughter Lisa (Elizabeth) Wace French all involved. One of the more interesting sets of notebooks in the MA are those kept by Helen Wace. As described in the online summary the volume includes, *daily occurrences, visitors and their dates of arrival/departure, records who undertook different duties during the excavations and references major finds, social events such as the visit of the King and Queen of Greece to the site and Alan Wace's 71st birthday, illnesses and trips away from the site are also mentioned* (MA).

Helen Wace's entry for July 13th, 1950——the occasion of her husband's birthday, relates a significant event in the narrative of the Ivory Houses, specifically the perusal of the Lower Town and the decision as to where to put a shovel in the ground. Among the luminaries that gathered for the celebration was Carl Blegen, Alan Wace's longtime colleague and frequent co-author (the duo respectfully referred to as the "Govs"). Among other accomplishments Blegen was well known for his first day fireworks at Pylos in 1939. See *Mycenae I*. Unsurprisingly then, as recorded by Helen Wace——

Carl was taken around to pronounce on various points. He suggested investigating a Myc. wall near Clytie [the tholos Tomb of Clytemnestra] *running parallel to the road which Lisa and Marca* [Josephine Margaret Dow] *will begin on tomorrow as their work in the Clytie dromos is almost over* (HW 1950, 033, 6).[1, 2]

1. Elisabeth Wace and Margaret Dow were classmates at Newnham College, Cambridge.

2. While the *Archive* records cover the period between 1920 and 1957 the account given here focuses on the 1950 and 1952 excavation seasons at Mycenae. References to the *Archives* online materials are cited using a abbreviated form of the unique alpha-numeric assigned by the CDL and the online page number. For example, MCNE-1-1-067, 3 is given here as (AW II 1950, 067, 3 or simple 067, 3) and refers to the initial notebook entry for Thursday, August 10th in *Mycenae 1950 A.J.B.W. II* - the 1950 Director's Daybook volume II compiled by A.J.B. Wace.

Blegen's suggested placement for the initial trench was directly informed by the results of Wace's longterm efforts at the site. Wace's familiarity with the totality of Mycenae's remains——including the citadel's structures and fortification walls as well as the Lower Town's "Prehistoric Cemetery," monumental tholoi, and various extramural structures, informed his unique perspective and deftly guided excavations. (Wace 1950, 221-227; Mylonas 1957, 70-73). The ensuing excavation of the HOM yielded a wide variety of artifacts (see 378) that together with finds from the other Ivory Houses revealed a unique aspect of Mycenae's culture during LH IIIB1- IIIB2 (early)——the initial period of the floruit of the Mycenaean culture. The online MA resources offers the opportunity to follow the course of the excavations on a day to day basis. Readers interested in immersing themselves in this process will be well served by the rich contents of the CDL. Here, we follow a single strand of evidence——one with a focus on the transport stirrup jars that were uncovered early in the HOM excavation.

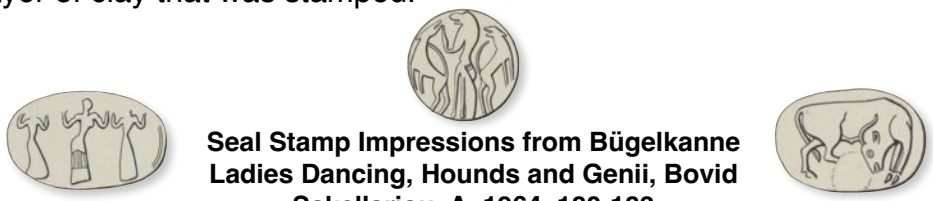
Even a cursory look at one of Alan Wace's Director's Day Books for 1950 (AW I 1950, 032, AW II 1950, 067) demonstrates his simultaneous involvement with a variety of concurrent excavations at Mycenae. Along with a workforce of dozens of laborers—— some experienced and expert excavators in their own right, individual excavations were assigned a manager. Margaret (Marca) Dow acted in this role for the HOM during the 1950 (MD 1950, 026) and 1952 seasons (MD 1952, 036). Daily entries in Wace's and Dow's field notebooks are the primary sources for the HOM excavations. In hindsight we can identify the critical decisions and finds by Wace and Dow, however, their contemporary perspectives and the challenges they faced during the excavation were an entirely different matters. Once the trial trench was established, by no means a guarantee of success, there began a complex process of probing first this way and then that—guided by each day's evidence and Wace's unique experience. Wace is constantly evaluating the soils, determining the relevancy of structural remains, while also examining and dating sherds and other small finds. Together they inform Wace's decisions about extending and/or deepening the trench as well as when and where to begin additional trenches and in what direction.

The initial excavations (1950) of the HOM (aka Blegen's House and the House of the Stirrup Jars) revealed the outline of the structure's basement——the only substantial portion of the building that remained more than three millennia after its occupation. The original structure is assumed to have had two additional ground floor rooms, one above the basement and a second to its west. The basement's main corridor or gallery was approximately 20 m in length and parallel to the north/south line of the Cyclopean terrace wall. An additional seven rooms were situated along the eastern side of the corridor. The original trench's east to west orientation, fortuitously, intersected Room 1 and the northern end of the corridor. See plan on 378.

Marca Dow noted excavations began on 14 July 1950. *A trench 150 cm (wide) was started across the terrace above the Mycenaean terrace wall to the S.W. of the Tomb of Clytemnestra* (MD 1950, 026, 14). Dow's notebook includes a sequence of field sketches illustrating the original trench and the succession of extensions (MD 1950, 026, 14 to 65). See also Sinclair Hood's drawings (SH 1950, 029, 33-50). NB - The three dimensional aspect of the excavation is represented by "section" views with numeric indications of depth——typically measured from ground level. See plan on 377.

On 16 July Alan Wace characterizes the initial ceramic finds, including deep bowls with triglyph patterns and Zygouries-type kylikes as *generally LH IIIB*. These, but also pottery that is absent, prompts his notebook entry——*This fits with 1939 finds which had no IIIC [pottery],* followed by his query*, Did something happen before the end of IIIB which wrecked some houses outside the walls* (032, 34). This evidence is consistent with Wace's chronology that establishes the destruction (LH IIIB2 early) of the Ivory Houses as prior to the final improvements on the citadel——including the addition of the Lion Gate and the fortification wall enclosing GCA. Among the ceramics Wace identified on the 16th were sherds from stirrup jars——the vessels whose presumed contents would suggest the renaming of the house itself.

On the 19th, as Dow continued to excavate the original trench she described, *the end of what seemed to be a pipe of coarse pottery*. As digging continued, however, Dow realized the 'pipe' was in fact the neck of a ceramic vessel, apparently a 'large pithos' but ultimately identified as a stirrup jar. Dow's notebook edits——"pot (B.C.)" reflects this reappraisal (026, 19). Often referred to as 'bugle cans' (from the German Bügelkanne), numerous stirrup jars in fine fabric were located in the Petsas House as well as in the Ivory Houses, including in Room #4 of the HOM. However, the stirrup jars in HOM's basement corridor were larger coarse wares——vessels given the designation FS 164 and FS 170.[3] As excavation continued Dow noted additional details. A number of the relatively intact stirrup jars were found to be closed with a clay plug and capped with an additional layer of clay that was stamped.



Seal Stamp Impressions from Bügelkanne
Ladies Dancing, Hounds and Genii, Bovid
Sakellariou, A. 1964, 180-183

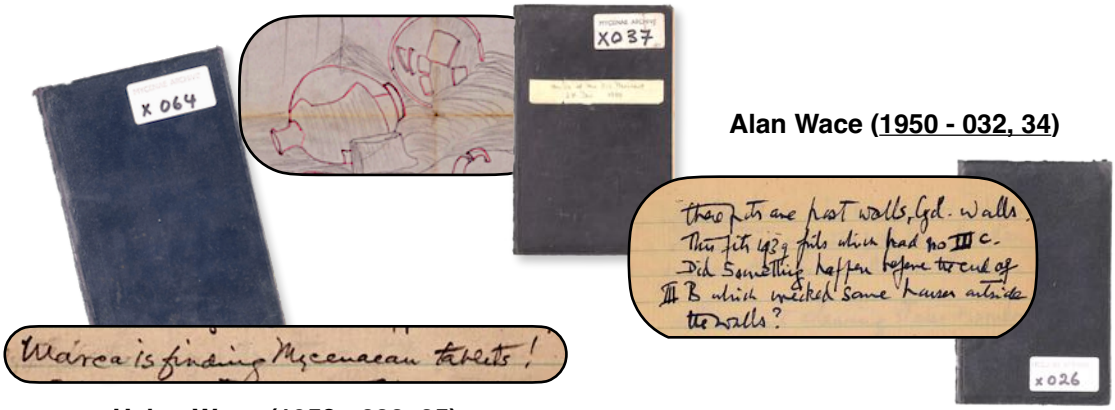
On the 21st Dow states, *the big cans were about .45 m. high . . .The clay stopper of one bugle can, almost intact, and covered with small but fairly clear seal impressions of an animal, possibly a cow with the head turned back* . . . (026, 23). On the following day Dow noted, *Remains of at least 5 more clay stoppers were found, some actually, in the mouths of the cans, and several having seal impressions remaining. One or two showed clearly the method of construction. The best specimen covered the neck of the can outside as well as the top of the actual stopper; and another showed that the clay covering was applied after the stopper was in place* (026, 24 & 25).

Ultimately, fragments of 30 stirrup jars (27 FS 164, 3 FS 170) were located at the northern end of the corridor. During the initial weeks of the excavation the team also uncovered the shattered remains of pithoi from Room 1. Approximately one meter in height, eleven pithoi had been spaced evenly around the walls, their bases stabilized with clay supports. Additional finds in the room included a central sump to contain spillage and a provision for heating the liquid contents of a pithoi. Numerous fragments of plaster recovered from both the corridor and individual rooms indicated that a number of the walls and floors of the HOM had been plastered. The totality of evidence, including the oily residue saturating many of the sherds, supported Wace's interpretation that this section of the basement served as a warehouse for oil storage and processing while the volume and number of the pithoi and the numerous sealed

3. FS stands for Furumark Shape, a notation used in Arne Furumark's typology of Mycenaean pottery (1941). LH IIIB1 stirrup jars include both fine wares and larger, liquid storage vessels such as FS 164 and FS 170 often referred to as transport stirrup jars. See Haskell 1981.

transport stirrup jars suggested a commercial enterprise. By season's end Wace had formed a hunch as to what might lie ahead. Referring to 'The House of Stirrup Jars'——a site "of the first importance," Wace's season summary includes his prediction that, "it may well be that then the records on clay tablets of the Mycenaean oil merchant who occupied it may come to light" (Wace 1951, 257). And on July 8th, 1952 just as excavations were getting underway Helen Wace records——*Marca is finding Mycenaean tablets!* (033, 35). The first from Room 1 was followed by 37 additional Linear B tablets found in Room 2. Significantly, Tablet Fo101 from Room 1 was incised with the ideogram for oil (Bennett 1958, 96).

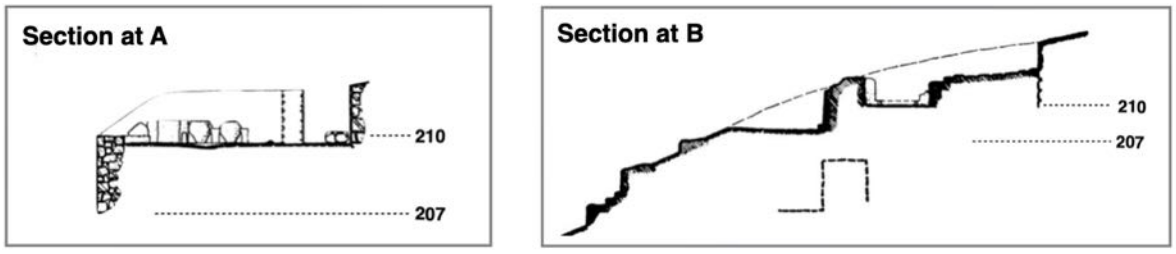
Marca Dow (1950, 026, insert)



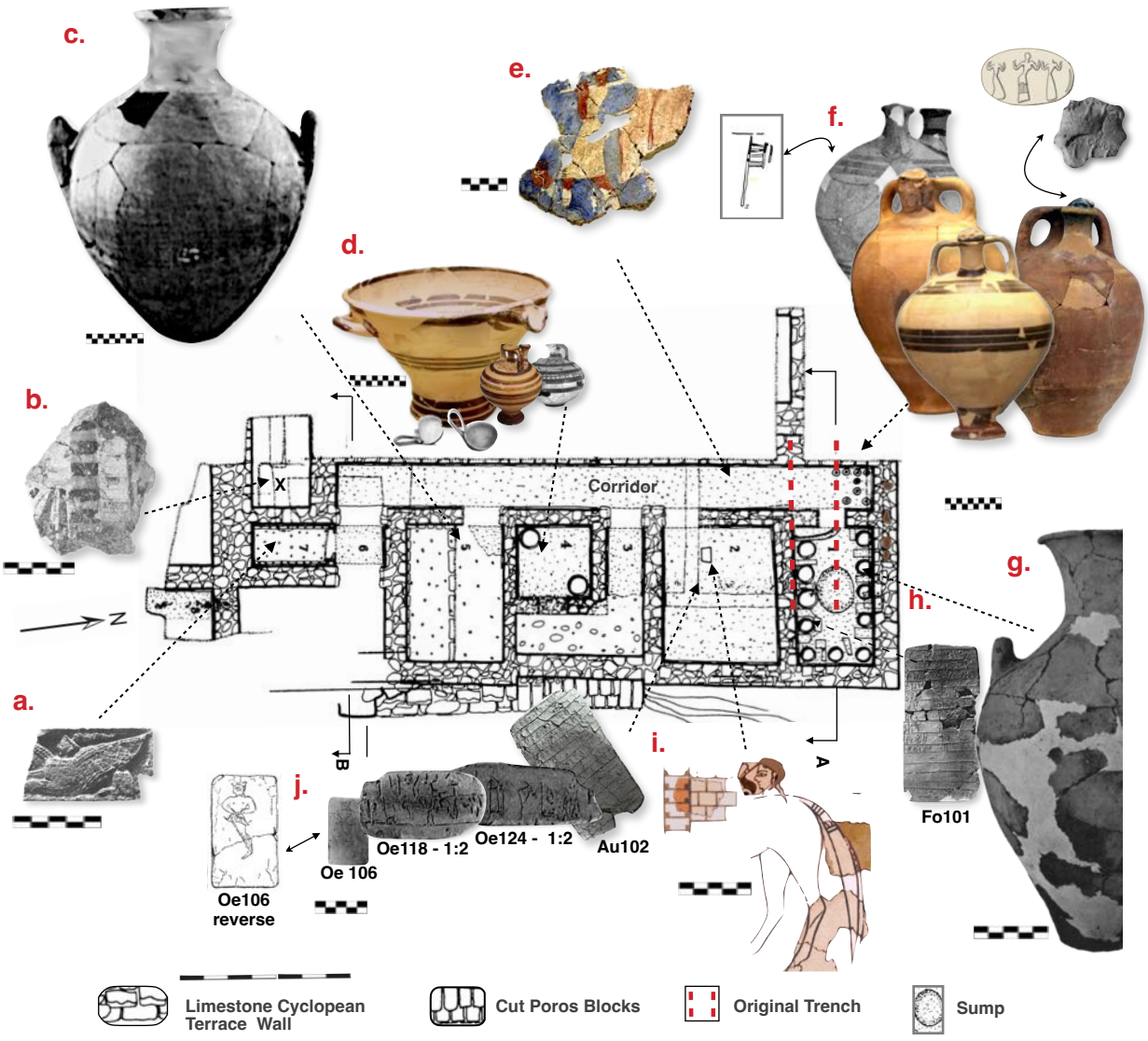
Alan Wace (1950 - 032, 34)

Helen Wace (1952 - 033, 35)

The homepage commentary of the *Mycenae Archive* (CDL) focuses on——*the sequence of use of the various areas outside and within the fortification walls*, and offers the following appraisal. *Although these discoveries may seem less spectacular in a way than Schliemann's rich graves, their fundamental significance is that they helped establish the basis on which the chronology – and therefore the intelligible history – of Mycenae, and subsequently of Mycenaean civilization, came to be founded* (*CDL - Mycenae Archive*). Iphiyenia Tournavitou's later summary, in accord with the above, cites the singular significance of the Ivory Houses (aka the West House group). "The unique position of this group of buildings in the 'Lower Town' is reflected not so much in the architectural and constructional methods involved, as in their contents, a remarkable and truly unusual concentration of capital wealth expressed in luxury, mostly imported materials or objects unparalleled at Mycenae or elsewhere" (1995, 296).



House of the Oil Merchant
Sections at A and B (refer to plan below)
French et al. 1980, 11 Figs. 3, 4 after Marian R. Holland



House of the Oil Merchant - after plan drawn by Marian R. Holland

clockwise from bottom left

a. Ivory Plaque - Sphinx - French et al. 1980, Pl. 9c; b. Triglyph & Half Rosette Painted Plaster (in fill) - Chadwick 1962, 31 Fig. 59; c. Storage Jar - Tournavitou 1995, Pl. 9b; d. Conical Krater, Stirrup-Jar - Arch. Mus. of Mycenae, Stirrup-Jar - French 1967, 152 Fig. 2 52-213; Dippers - Tournavitou 1995, Pl. 12 c; e. Fresco LH IIIA (below corridor) Arch. Mus. of Mycenae; f. Coarse Ware Stirrup Jars: with Linear B inscription - Bennett 1958, 63 Z 300 and Haskell 1981, Pl. 44 a, 3 shown from Natl. Arch. Mus., sealing (dancers) from cap - French et al.1980), Pl. 9 d; g. Unpainted Storage Jar - French 1967, Pl;. 39 d; h. Linear B Tablet Fo101 - Bennett 1958, 48; i. Fresco Fragments - Mycenae Archive Piet de Jong MCNE-2-3-11, 3a, b; j. Linear B Tablets: Au102 - Bennett 1958, 50, Oe124, Oe118 - Bennett 1958, 58, Oe106, and graffiti illustration on reverse - Bennett 1958, 52, 53

Although the West House was excavated in 1957 following Wace's death, Verdelis's description carried forward many of the opinions expressed by Wace (Verdelis 1962, 13-29). But see also Tournavitou above. The suggestion the structures were individually owned dwellings originated with Tsountas, and as paraphrased by Verdelis, "the inhabitants of Mycenae lived outside the acropolis on the surrounding ridges in small hamlets or groups of houses, which remained unfortified and were probably each inhabited by a single clan, that is, by a number of families descended from the same ancestor and consequently kinsfolk" (ibid., 28). However, Burns makes the case that, "Rather than conceive of the buildings as a series of individual 'houses', one can see them as a single group's living and working space that expands over time," and that, "the actions of all builders and social agents of this time should be understood in relation to the expansion of central authority from within the citadel" (2007, 111). Burns is also critical of conjectures that adopt certain typologies, typically based on passages from Homeric epic, to characterize specific designs——for example, tripartite megara and additional floors when actual evidence is vague or lacking (ibid., 113-114). Although Burns raises plausible alternatives, given the available evidence, it is likely that determining precise social groupings or exact affiliations remains problematic. On the other hand, the West House added meaningful artifactual evidence to the earlier finds while also strengthening the suggestion that their *raison d'être* was commerce. Stirrup jars in particular have been particularly informative. The significance of their production and distribution as well as their contents is best understood within the context of craft specialization and commercialization and more generally as an element in the shifting balance of economic power in the Aegean. As Dickinson observed of Crete, at about the mid-point of the 15th century BCE (LM II / LH IIB) or the end of the Second Palace period, a widespread decline leaves Knossos as the sole seat of power across much of the island (1994, 73-75). The term Monopalatial reflects this change——one with a Mycenaean presence——if not control, that continues through LM IIIA2 with the final destruction of Knossos and an end to the administrative use of Linear B in LM IIIB on Crete (Rehak and Younger 2001, 441-442). Among the more meaningful changes occurring during the transition was the "replacement" (LH IIIA) of the Linear A script, presumably recording the native Minoan language, by Linear B——recording the archaic form of Greek spoken on the mainland. More generally there is an an increasing presence of mainland culture on Crete. Not coincidentally, the flourishing of mainland Mycenaean states occurs during the LH IIIA to LH IIIB period. Jeremy Rutter has illuminated one aspect of this transition as reflected by contemporary changes on Kythera, an island southwest of Cape Malea at the southern tip of the Peloponnese. A number of archaeological surveys on the island have documented areas where Minoan culture displaced the native one——presumably the result of increasing numbers of immigrants. By the Neopalatial (Second Palace) period Kythera was essentially a Minoan colony——one whose influences are particularly noticeable along the southern coast of Messenia and at Pylos. Indicative of conditions on Crete during LM II and LM IIIA1 are steep declines in Minoan exported pottery——contemporary with a rather abrupt decrease in Minoan presence on Kythera and elsewhere across the Aegean (2005, 35-38). See *Mycenae I* .

Containers, Contents & Craft-based Economies

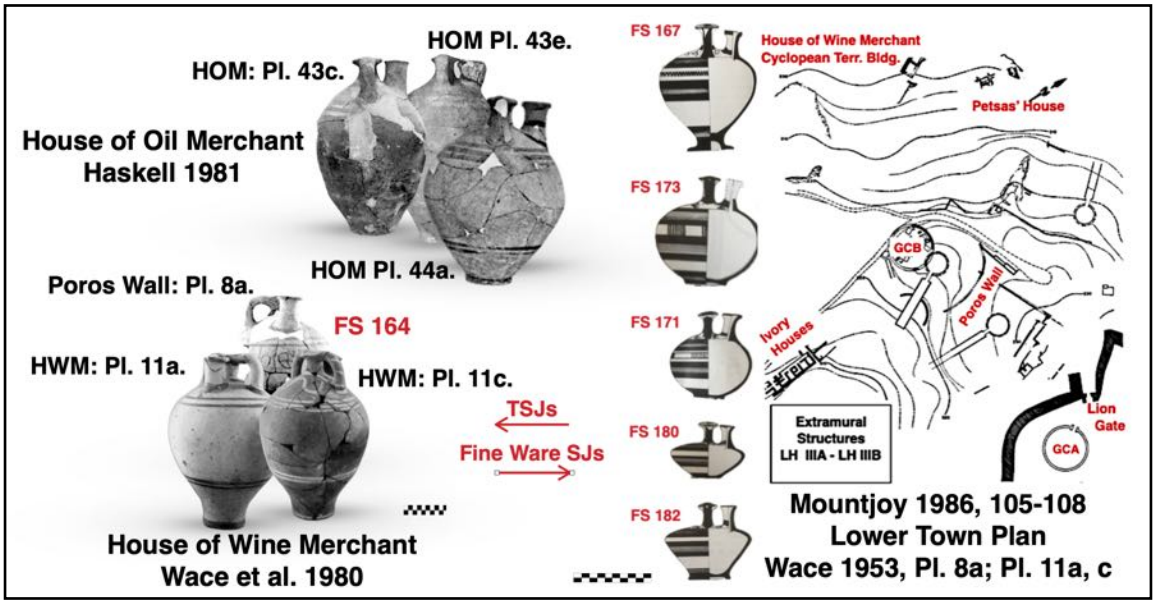
In their study of mainland Bronze Age craft specialization Parkinson and Pullen describe the regionally variable nature of where and by whom specific classes of goods were produced and consumed (2014, 74). Their analysis of obsidian and ceramics production in the LBA confirms a number of contrasting patterns. In general, obsidian tool production was carried out by independent, part time craft workers, typically at coastal

locations. Characterized as one of the “mundane industries,” the authors report palatial officials had little or no direct interest in the procurement or distribution of obsidian products (ibid., 78-79). Ceramics were an entirely different matter. The specifics of palatial interests, however, were not the same at Pylos as at Mycenae. The differences, as explained by the researchers, derived from the contrasting political economies of the two Mycenaean polities. At Pylos kylikes served as——“critical props in negotiating and demonstrating social alliances and hierarchies,” in the course of palatially administered and hosted drinking and feasting rituals (ibid., 78). It is thought that both the obligations incurred and the prestige accrued through such rituals played important roles in defining and maintaining the social hierarchy. The abundant kylikes recovered during the Pylian excavations attest to their importance as does the evidence that they, “were produced by attached specialists with workshops at the Palace of Nestor (ibid., 77; Galaty 1999). At Mycenae the production of certain ceramic vessels along with craft industries relating to precious items (eg. gold and ivory objects), also appears to have been controlled by the central authorities. However, while palace-centered control was a common factor, Parkinson and Pullen argue that in the case of ceramics, “The palatial administrators at Mycenae were focused on export consumption of particular vessels, not local consumption, while those in Messenia were focused on local consumption” (ibid. 78).

Mycenae commercial success is attested, in part, by the widespread occurrence of LBA mainland ceramics across much of the central and eastern Mediterranean Basin. A critical component of that success would have been the potters’ ability to produce useful and artistically pleasing fine wares on a consistent basis. Along with their contents, Mycenaean koine ceramics——in present-day terms, established itself as a reputable, high quality brand in a lucrative market. Although the end result is attested by the excavated evidence, how the necessary quality control was sustained is not clear. Along with Cycladic pottery, Minoan ceramic traditions influenced both the shapes and decorative motifs of mainland wares through LH IIA. Also notable is the numerical prevalence of MH forms during the early LBA. See *Mycenaean I*, 287-288. By LM II/LH IIB, widespread turmoil and destructions on Crete resulted in a sharp decline in Minoan influence. However, as Penelope Mountjoy points out——during the LM IIIA1 phase some Minoan pottery is still exported to the mainland, notably——at the same time Mycenaean pottery appears on Crete (2001,13). Mountjoy also notes that the real sea change occurs during LM IIIA2 when, “Mycenaean pottery now spread over central and south Greece and the Aegean islands,” and significantly that, “it was mass produced, extremely homogeneous and of very high technical quality” (ibid., 15).

Although documentary testimony might be expected for this key element of Mycenaean commerce——perhaps even supposed critical to maintaining the level of quality control suggested by Mountjoy, no such records are known. In fact, Bernabé and Luján, state “The Mycenaean tablets provide no information about the actual production of pottery” (2008, 115; 2008, 223). The Linear B script does include ideograms for a variety of vessels (more than 2 dozen)——albeit these likely refer to metal rather than clay forms. However, a tablet from Knossos (KN K 700) is of interest as it gives quantities of stirrup jars—— **210* ^{VAS} + *KA* (ideogram  + phonetic ligature for *ka-ra-re-we*) that total 1800, suggesting clay rather than metal vessels (ibid.). And as we have seen from the studies of the Lower Town at Mycenae, various forms of stirrup jars are associated with the remains of structures apparently housing commercial ventures. Stirrup jars can be grouped into two broad classes: relatively small to medium fine wares (h = 8 - 30 cm) and larger coarse ware vessels (h = 38 - 47 cm). Small, three-handled, stirrup jars originated on Crete in late MM III and were being fabricated on the mainland by LH IIA.

During LH IIIA1 two-handled stirrup jars replaced earlier versions and by LH IIIA2 these vessels had become one of the common closed-shaped ceramic forms in the Aegean (Haskell 1981). The four typical LH IIIB1 fine ware stirrup jar types are: tall conical-piriform (FS 167), globular (FS 171, 173), squat (FS 180), and conical (FS 182) (Mountjoy 1986, 30, 77-80, 105-108, 302). The larger, coarse ware stirrup jars——FS 164, are either undecorated, painted with linear designs, or exhibiting an octopus motif. A small subset, notably from Thebes, are inscribed with Linear B. While the smaller vessels are associated with domestic consumption, the larger Transport Stirrup Jars (TSJs), including the inscribed variety (ISJs / ITSJs), are typically associated with bulk transport of oil and perhaps wine. The TSJs from Mycenae were published by Wace and his co-workers and subsequently described in detail in Hal Haskell's Mycenae catalogue (Wace in French 1980; Haskell 1981). Over 50 TSJs were recovered from the HWM and an additional 27 from the HOM. Haskell noted the HWM TSJs, while variable, are mostly piriform (pear-shaped with noticeably narrow bases) to ovoid-piriform and the HOM TSJs are mostly ovoid. Haskell dates the HWM group to LH IIIA late or IIIA-B and the HOM to LH IIIB——consistent with the dates (LM IIIA and LM IIIB) for Minoan TSJs (Haskell 1981, 226-235). While noting the preliminary nature of his conclusions, Haskell states that, "a large number of stirrup-jars were at some point imported to Mycenae from West Crete and possibly also from the Knossos region" (1981, 236-237).



Efforts to establish the provenance of excavated material finds, including ceramic vessels, is a pursuit as old as archaeology itself. As the abbreviated title (*Pottery as Evidence for Trade*) of a Wace and Blegen paper suggests, the goal of such research is often the elucidation of commerce (1939). The initial interest in Aegean TSJs, however, related to the chronology of ISJs——and specifically to the dating of Linear B documents and the implications for the political disposition of LM IIIB Knossos (Driessen et al. 2015, 59). Along with typologies, early efforts to identify origins turned to archaeometry and the use of optical emission spectroscopy (Catling and Millet, 1965). Haskell argues that such efforts were hampered, in part, by the assumed (but unproven) accuracy of experimental technologies as well as by studies in which, "archaeological agenda was driving the analytical program" (Haskell 2016, 3). Although the origin(s) of ISJs continues to be of interest, much current research relates more broadly to a variety of ceramic classes (including TSJs) and to issues of production, provenance, and LBA trade across the eastern Mediterranean. Haskell's subsequent comprehensive study of TSJs explains that, "full integration of typological, chemical, petrographic, and

epigraphic analyses," enhanced the evidence for aspects of the production, origins, and the movement of TSJs (Haskell et al. 2011; 2016). "Virtually all TSJs that travelled significant distances from their places of manufacture," noted Haskell, "were made on Crete" (2011, 4). William Gilstrap (among other researchers) has also employed diverse technologies to compare and contrast regional clays and production strategies to identify specific sites as well as more general territories associated with various LBA pottery (2015). In a study with Peter Day and Vassilis Kilikoglou focusing on ceramic production on Aegina and at Kontopigado Alimou in Attica the researchers showed, "distinctly contrasting practices in pottery manufacture during LHIIIB-IIIC Phase 1 for cooking vessels on the one hand, and tubs and table wares on the other" (Gilstrap et al. 2016, 9). This and similar studies have illuminated a number of *chaînes opératoires* for prehistoric pottery production. For example, LBA mainland pictorial pottery was produced on a regional basis with Mycenae/Berbati and Tiryns/Asine identified as Argolid production centers. Interestingly, exported pictorial pottery located across the eastern Mediterranean was found to be largely associated with the Mycenae/Berbati pottery (Schallin, 2002; Mommsen and Maran 2001, 95).

Inscribed Transport Stirrup Jar
Eleusis - EL Z 1
Petrakis 2014, Cover



EL Z 1
*1. da-*22-to*
2. da-pu$_2$-ra-zo , wa ,

Ben-Schlomo, Nodarou, and Rutter have employed the characteristics of Minoan TSJ and their use as bulk commodity exchange vessels to illuminate established relationships between specific——often relatively distant sites, across the eastern Mediterranean (2011). Aegean TSJs are widely and unevenly distributed from Italy to sites along the eastern Mediterranean coast as well as in lower Egypt and Cyprus. Among these, the authors identified two Levantine concentration points. To the north Ras Shamra (Ugarit) and its major port Minet el-Bieda and to the south Tel Abu Hawam (ibid., 335-337). While the sample sizes are relatively small (a total of approximately 72 vessels), between 75-80% of all records for TSJs in the Levant are from the two coastal sites mentioned above. Tel Abu Hawam is notable for having about twice as many TSJs as Ugarit. Typological characteristics and archaeometric analysis strongly suggest two-thirds of the vessels from Tel Abu Hawam were produced on Crete with another 10-25% of Mycenaean origin (ibid., 337). As the authors point out, the Tel Abu Hawam evidence, "is intriguingly mirrored at Kommos by a closely comparable pattern," with nearly 90% of all Canaanite jars known from Crete (late 15th to mid-13th centuries BCE) found at Kommos (ibid., 347). This suggests the distinct possibility that Kommos and Tel Abu Hawam may have established, "direct trade and commodity exchange links" (ibid., 348). Petrography has enabled researchers to define fabric groups——suites of rock types, mineral inclusions, and additional attributes that characterize the clay components of vessels. Petrographic testing of Tel Abu Hawam TSJs indicate a central or south-central Crete production area——a result contrasting with the west Cretan origin suggested for many of the TSJs from Mycenae's HOW and HOM (ibid. 347).

Similar studies of maritime transport containers (TSJs and Canaanite jars) at Tiryns also suggest directed shipments between the mainland site and Chania as well as from the western Mesara (Kommos - Ayia Triada - Phaistos) on Crete (Kardamaki et al. 2016, 160). At Tiryns, two-thirds of a deposit of transport containers and their fragments——dating to LH IIIB2 (just prior to the final destruction of the LBA palace), were determined to be from the two coastal areas on Crete mentioned above (ibid. 145). Notably, the authors argue that the evidence may represent tribute shipped to Tiryns from Minoan vassals while also indicating a possible shift in Argolid power (ibid.,161).



MY Fo101 - Line 9 Ideogram for Oil
Bennett 1958, 49



Taken together the evidence from recent provenance studies and the excavations of the Petsas and Ivory Houses offer tantalizing clues about what was behind the very real and substantial efforts leading to the construction of multiple storerooms stocked, in part, with an abundance of transport jars. Of the nearly sixty tablets from the HOM and the HSp, one (Fo101) was inscribed with the ideogram for oil, others refer to wool (Oe series), while another set of tablets (Ge series) list a variety of herbs and spices. In summarizing the first of the tablets to be read, Emmett Bennett Jr. anticipated that as Linear B signs became better understood——"we may expect to know what business was transacted by the occupants of these buildings far more precisely through their records than we may through the debris of their furniture" (1958, 96).[4] Yet ultimately Bennett was clearly puzzled by the absence of evidence. "We should," he explained, "expect more tablets dealing with oil and the record of transactions involving far greater quantities if oil were in fact the principal business of the House, but we cannot argue with the chance of survival" (ibid, 97). The excavation of the West House in 1958 uncovered additional tablets recording rations (wheat, olive, wine, and figs) assigned to specific individuals, including some of the same individuals referred to in the HOM tablets. However, John Chadwick's comment that, "None of the tablets are commercial documents," reinforced Bennett's earlier concern (1962, 54).

While not documenting commercial transactions, "the chance of survival" of Linear B documents at Pylos and Knossos did provide many of the production details for one oil-based product lacking at Mycenae. In their chapter on *Mycenaean Technology* Alberto Bernabé and Egenio Luján state, "The production of perfume was one of the most important industrial activities in Mycenaean time, as the tablets show" and, according to the authors, the two most signifiant series of tablets are KN Fh and PY Fr (2008, 227).

Profiting From Perfumes

Although the extramural Petsas and Ivory Houses were on the periphery, most researchers agree that their associated economic efforts——in one way or another, were tied to palatial concerns. Not surprisingly then, much of the evidence for understanding a number of these enterprises was excavated within the walls——not on Mycenae's citadel, but at Pylos and Knossos. Cynthia Shelmerdine has played a major role in elucidating the Mycenaean perfume industry. While her experience working at Pylos, expertise in the field of Mycenaean ceramics, and her knowledge of Linear B have each played a role, her methodological approach has been critical as well (1985; 2008a, 101-109). During the last five decades advances in both Aegean archaeology and paleography have enriched our understanding of Pylos and Mycenaean culture in general. In particular, Bennett's early work with Linear B pointed the way for an appreciation of understanding tablets in their specific find context and, where possible,

4. The comments and observations in both papers need to be understood as preliminary as they were written and published in the same decade that Linear B was deciphered.

Both Emmett Bennett, Jr. and John Chadwick played important roles in the decipherment and early exposition of the Linear B script. Bennett and Alice Kober compiled the initial signary for Linear B while Chadwick's philological expertise helped to legitimatize and inform Ventris' decipherment. One of Bennett's more important contributions was his analysis of handwriting styles that led to the identification of individual scribes. This in turn resulted in more detailed and accurate interpretations (Palaima 2011, 55-56). An example of the application of these insights is given below. See also *Mycenaean I* and *Appendix B Scripts*.

identifying the work of individual scribes. In a relatively early characterization of this methodology Palaima and Shelmerdine stated, “The most important principle is to treat the tablets not only as texts but also as archaeological artefacts” (1984, 78). Using this approach Shelmerdine has been able to closely define aspects of the perfume industry including the details of the *chaîne opératoire*. For example, the Archive Complex (Rooms 7 and 8) seems to have been the administrative center at Pylos——not solely for internal palatial matters (eg. sponsored feasts and rituals) but also for a number of commercial ventures——including the scented oils industry. Several archive tablets, for example Un 267, provide details of the allocation of specific ingredients to named craft workers as well as indications of the individual’s role in the production——in one case Thyestes, is identified as an unguent-boiler. As Shelmerdine explains, the perfume’s olive oil base is initially treated with astringents (eg. coriander and cyperus) to increase the liquid’s capacity to absorb rose and sage aromatics——agents that were then steeped in the prepared oil over a period of several days. Additional tablets from Knossos also deal with aromatics while Knossos K 700 (see also above) records 1800 transport stirrup jars——an indication of the size and economic importance of the scented oil industry. Pylos Fr 1184, also from the archives, records one delivery of 518 liters of oil that, given the quantity, would likely have been held in the large, built-in storage vessels that lined the walls of Rooms 23 and 24 (2008a, 101-104).

Another significant factor informing interpretations of the commercial oil business is Nelson’s analysis of the building phases of Pylos. See *Mycenae I*. Nelson demonstrated that late in LH IIIB there was a significant change in building practices including the use of limestone slabs to construct new structures and remodel older ones (2017, 362-365). The majority of modifications increased the overall storage capacity at Pylos——likely an indication of an increasing emphasis on commercial endeavors. In several instances documents recovered from the same rooms where oil was stored provide additional details of the palace oil business. Room 47, a late addition to the palace, suggests a brisk trade in perfumed oils “packaged” in finely finished, personal-sized stirrup jars. Along with basic inventories, tablets record allocations of oil. Recipients include the wanax, perhaps to distribute to faithful retainers, as well as various other individuals, possibly in payment for services rendered. Specific quantities of oil are also allocated for religious purposes, in at least one case to a goddess (Shelmerdine, 2008a, 106-107). The ability of Shelmerdine and other researchers to identify individual scribes (eg. Hand 2) has added details to our understanding of the Pylos oil industry. While one scribe’s ubiquitous “presence” (Hand 2) on palatial documents suggests senior administrative responsibilities, other scribe’s records were associated with a single storage area, suggesting their duties were restricted to a specific domain (ibid. 107-109). Palaima points out that Hand 2 is likely the “close associate” of Hand 1—the “master scribe” at Pylos (2011, 70).

The comprehensive picture of the Mycenaean scented oil industry——largely gathered from evidence (both material and documentary) at Pylos and Knossos, also informs the more fragmentary evidence from Mycenae. One interpretation suggests that the commercial interests of Mycenae’s rulers, along with ceramics, focused on high value commodities such as precious metals and jewelry (objects likely to have been plundered and, in any case, leaving a relatively small archaeological footprint) and thus intentionally limited its participation in the overall production and distribution of scented oils. Nonetheless, the abundant finds of stirrup jar——both fine wares and TSJs, indicate Mycenae had a significant stake in what must have been a lucrative enterprise.



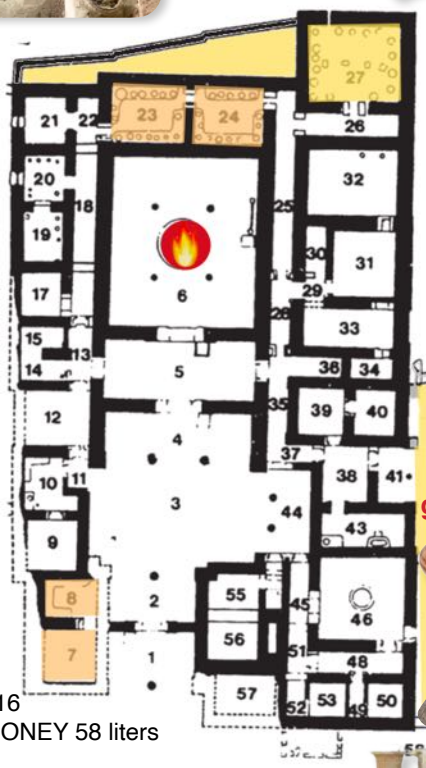
e.



f.

d. **PY Fr 1184**

.1 Kokalos delivered so much olive oil
.2 to Eumedees OIL 518 liters
.3 from/with Ipsewas oil jars 38



c. **Knossos K 700**



b. **PY Un 267**

.1 Thus Alxoitas gave
.2 to Thyestes the unguent-boiler
.3 aromatics for unguent
.4 destined for boiling
.5 coriander AROMATIC 576 liters
.6 cyperus AROMATIC 576 liters **157* 16
.7 FRUITS 240 liters WINE 576 liters HONEY 58 liters
.8 WOOL 6 kilograms MST 58 liters

g.

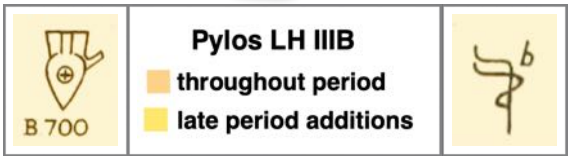




a.

h.





Blegen et al 2001, Plan of Palace of Nestor after J. Travlos & W. B. Dinsmoor, Jr.

clockwise from bottom left - rooms indicated with numerals as in plan above

a. pithoi, LB AMC; AR 7, 8
b. LB-PY Un 267, Shelmerdine 2008a,103; AR 7,8
c. LB-K 700, Shelmerdine 2008a, 104; A. Evans 1935B, 734 Fig. 719 Knossos
d. LB-PY Fr 1184, Shelmerdine 2008a, 104; AR 7,8
e. LB (4); 23
f. 3 TSJ, Blegen et al. 2001 and *PRAP*, 2 SJ; 32
g. 4 SJ, LB; 47
h. 2 TSJ; 53
i. ideograms, A. Evans 1952, Table V

abbreviations
*Linear B tablets (**LB**) - Archives Rooms (**AR**) - Archaeological Museum of Chora Link (**AMC**)
Transport Stirrup Jar (**TSJ**) - Fine Stirrup Jar (**SJ**) Pylos Regional Archaeological Project (**PRAP**)
Ceramics: Archaeological Museum of Chora

At first glance the association of a culture often characterized by the weapons of its warriors seems an odd match for the perfume industry. In fact, Dickinson argues that the militaristic aspect of Mycenaean society, well documented for the Shaft Grave era, cannot be broadly applied to the LBA (2016). However, if one looks to the mortuary evidence on Crete as described by Malcolm Wiener, the significant changes in LM II attest to Mycenaean grave good assemblages replete with daggers and swords. One such grave is characterized by Wiener as of, “a high-ranking warrior.” Another interment includes an ivory comb and bronze mirror (2015, 133-134). See *Mycenaean I*. This is consistent with the traditional association of Bronze Age warriors’ concern with personal grooming and reinforced by the variety of combs, mirrors, and tweezers attested from their internments (Treherne 1995, 110). Perfume as well would not be out of place here, but not always in its most familiar context. Shelmerdine broadens the issue in her discussion of the Linear B evidence from Pylos. A tablet alluded to above is one of several documents referring to allocations of oil to cult sites associated with deities.

PY Fr 1226
.1 to the Lousian field for the gods, sage-scented OIL 4.8 liters
.2 [line empty]

PY Fr 1225
.1 olive oil to hupoio Pontia
.2 as ointment for robes OIL 9.6 liters.

Shelmerdine observes that Fr 1225 referencing the goddess *Pontia* and the allocation of, “ointment for robes,” recalls Homer’s description of men’s chitons (woolen tunic) as “shining with olive oil” (2008a, 106-109; Il.18.594). As detailed in *Mycenaean I*, the recent and truly spectacular finds from the Griffin Warrior’s grave at Pylos has also provided evidence for an elite warrior whose grave goods, including grooming paraphernalia and rich adornments, have much in common with Homeric heroes (Stocker and Davis 2016, ASCSA Videocast). While speculative, it would not be surprising to find that the Griffin Warrior had often availed himself of his “hometown’s” own brand of perfumed oil——produced by a community that lavishly honored him in his final resting place. The business of perfumed oils was just one facet of Mycenaean economic success, and both the artifactual and documentary evidence for the production phase of the commercial enterprise in perfumed oils is clearly substantiated in the archaeological record.



Ivory Comb, Gold Necklace (agate & faience beads), Bronze Mirror
Tomb of the Griffin Warrior - Pylos - LH IIA (16th century BCE)
Excavated by Jack Davis and Sharon Stocker 2015
A. Curry 2019, 23-31. Images © Univ. Cincinnati

The wreck of the Uluburun (see below) is one of the clearest mirrors on the LBA economies of the eastern Mediterranean. And an outstanding feature of the Uluburun’s cargo is that it comprises largely raw materials——bronze, tin, terebinth resin, glass, and precious timber. These are exports from a number of the powerhouse states, presumably being imported by Aegean entities where they would have been transformed into innumerable desirable products by Mycenaean craft workers. Wines and oils exported from the Aegean in TSJs may also be understood as raw materials. As Broodbank remarks, wine and olive oil, “offered great scope for creating more exclusive or simply differentiated products through refinement” (2013, 378). Like the components of bronze, the Aegean wines and oils could be transformed into byproducts that appealed to local markets and suited the latest trends. The economic value of providing such universally consumed yet malleable exports is clear and likely played a significant role in Mycenaean economic success.

Pylos, located by Blegen's in 1939, has proved to be an extraordinarily rich site that continues to surprise——and it would seem the possibilities are not exhausted. In addition, recent excavations at Ayios Vasileios, just south of Sparta, strongly suggest it is the long sought for palatial site in Laconia. Various criteria have been devised to define these important centers including monumental architecture (palatial structures, fortification walls, and tombs), a central megaron, wall paintings, and most especially Linear B archives——the latter being well represented at Ayios Vasileios. This list is not exhaustive but it would be hard to make a case for a site lacking Linear B documents or without significant architectural elements.



Not Quite Palatial?

The extramural sites at Mycenae clearly demonstrate that excavations of secondary locales associated with palace centers may be uniquely informative. A third group of Mycenaean sites, larger than the many small villages found in the hinterlands, but often with at least some palatial characteristics are not uncommon on the mainland. While individually these sites are of interest in themselves, as a group they attest to a degree of heterogeneity in Mycenaean society and suggest the regional nature of Mycenaean culture over the course of LH IIIA - IIIB. Wright's paper, *The Formation Of The Mycenaean Palace*, offers one perspective for understanding the architectural transitions that occurred from the late MH to the high point of palace-centered success (2006). While crediting Klaus Kilian's insights, including for the hierarchical socio-economic structure of Mycenaean culture, Minoan influences, and megaron organizing principal, Wright cautions against assuming that events followed a predetermined course. While one may trace the purely formal aspects of Mycenaean architecture from circular-pit and apsidal-shaped structures to the monumental corridor houses and other largely rectangular dwellings of the late MH to the megaron-centered palaces, "the process that led to the uniform plan was neither orderly nor direct," but in fact, "vary according to local circumstances and traditions" (ibid., 7-8). There are, however, a number of well known architectural 'forerunners' to mainland palatial planning. Wright mentions structures at Tsoungiza, Lerna, and the Menelaion, fortified towns such as Malthi, Peristeria, and the Aspis at Argos, as well as the increasingly elaborate mortuary structures leading to chamber tombs and tholoi. Underlying all such material transitions is, and Wright stresses this point, "a particular social behaviour that is tied to the emergence of a form of leadership that grows out of communities where lineages predominate" (ibid., 8-18). Ultimately a contest ensued between rival kinship groups for control of the limited resources and territory——as Wright puts it, for "dominance at strategic locations" (ibid., 11). To judge from the premium placed on fortifications, this competition that was not altogether peaceful. While the winners are well represented in the archaeological record, a number of secondary sites offer evidence for a variety and complexity that was not necessarily lost even as palace centers consolidated their authority.

Few sites in Greece have a longer records of excavation than Sesklo and Dimini on the Bay of Volos in the Pegasetic Gulf. At the beginning of the 20th century the efforts of Tsountas and Wace established the significance of these and other Neolithic sites on the northern mainland (Tsountas 1908; Wace and Thompsen 1912). Dimini, perhaps best known during the LN period for its elegant pottery, seems also to have been an important locus for the widespread trade in *Spondylus* jewelry. Although opinions differ, its well developed LN citadel may have been partially fortified while the site's overall plan attests to a least a degree of social differentiation if not hierarchy (Halstead 1992). See *Neolithic Mainland.* As Aegean studies matured, the early 20th century interest in the Greek Neolithic was soon supplanted by a growing enthusiasm for BA sites and for Minoan and Mycenaean palatial centers in particular. This refocused much of the attention on the mainland southward to the Peloponnese. Both Wace's and Blegen's careers exemplify this trend. In fact, even as late as the final decade of the 20th century the *American Journal of Archaeology's* reviews of Aegean prehistory emphasizes the north-south divide of Mycenaean culture (Cullen ed. 2001). However, excavations in the latter decades of the 20th century revealed a significant BA Mycenaean presence in the north and once again the coastal area at the head of the Bay of Volos became a focus (Andreou et al. 2001).



The sites of Dimini, Kastro-Palaia, and Pefkakia, each has significant LH II - IIIA and LH IIIB2 - IIIC remains. As was the case during the Neolithic period, the location offered diverse natural resources (terrestrial and marine), suitable agricultural lands, as well as opportunities for commercial ventures related to trade passing through the Euboean Gulf. While various scholars have identified Dimini or Kastro as the palatial site of ancient Iolkos, aspects of the evidence have led others to question this designation. For example, while a small number of Linear B documents are attested no archive *per se* has been found in the area. Although Dimini's megara are consistent with palatial architectural forms the structures themselves are relatively small and the basic construction materials, mud-brick on stone socles, as well as an absence of fortifications, contrast with recognized features of palatial centers. And while there is clear evidence for elite sponsored communal feasting and drinking, there is a notable scarcity of high value artifacts (but see Adrimi-Sismani 2007a., 169-171) associated with palace-centered social hierarchies (Panatou 2010, 383). According to Zangger, at the end of the Neolithic, erosional depositions from Mt. Pelion created an alluvial plain spreading south and eastward from Dimini's citadel (1991). Vasiliki Adrimi-Sismani uncovered extensive LBA architectural remains just below the surface of this plain and southeast of two tholoi known since the nineteenth century (2000). Although the site is best known for the MN and early LN settlement, two building phases: LH IIIA and LH IIIB/LH IIIC, have been the focus of the recent excavations. Architectural remains and small finds come from an area of domestic dwellings as well as from two megaron-type corridor buildings. A paved road, 4.5 m wide and 95 m in length, while not serving the domestic quarters, accessed Megaron A and Megaron B. In the area adjacent to the southern terminus of the road a number of residential dwellings were excavated (2007b., 25). For example, each of five free-standing, rectangular houses (60 - 80 m^2) had two rooms, a well, and an adjacent courtyard. Also constructed of mud brick on stone socles, each also

featured a bath——the last perhaps associated with recovered fragments of a drainage system. A somewhat more elaborate structure (House K) featured two small back rooms fronted by a main room with hearth. A bull figurine and possible altar——suggesting a domestic shrine, was excavated in a corner of one of the back rooms. Renovations and/or additions are also attested. About 10% of the *in situ* pottery was fine wares decorated in a style similar to contemporary Argolid ceramics (2006, 465-467; 2007a.).



Dimini Megaron B
after Adrimi-Sismani 2007a., fig. 15.2

Megara A and B, covering a total area of ca.1000 m^2 are contemporary with the domestic dwellings although their significantly larger size and more complex design present a sharp contrast with the typical residential houses. Constructed on opposite sides of what may have been a connecting courtyard and fronted by a propylon, their "corridor" building design included two main wings on either side of a corridor. Storage rooms 4, 5, and 6 in Megaron B's north wing held numerous ceramic vessels, mostly plain but some decorated——characterized by Adrimi-Sismani as suitable for drinking and feasting as well as for food preparation (2007a., 164-165). Included among the plain vessels were an Aeginetan tripod cooking pot, kylikes, amphoras, and bowls. Decorated wares consisted of deep bowls (groups A & B), ring-based kraters, mugs, and two types of alabastra. Storage vases suitable for oil and wine as well as a large pithoi, perhaps used for grain storage, were among the material finds from the storerooms. Adrimi-Sismani makes the point that the abundance and distribution of kylikes throughout Megaron B suggests relatively large numbers of individuals involved in communal feasting. Based on the assumption that the large H-shaped slab on the floor of Room 1 (prodromos) is an altar, Adrimi-Sismani conjectures that the space served as a cult room. The sixteen figurines at the entrance to Room 3 may strengthen her argument as she suggests that a number of the actual cult objects may have been moved (eg. mugs containing burnt bones) before the destruction of the building (ibid., 166). Radiometrics and pottery typology indicate Megaron B was destroyed between the end of LH IIIB and the beginning of LH IIIC or 1292-1132 ± 32 BCE (ibid.). While acknowledging differences, Adrimi-Sismani argues that along with the tholoi (see below), the built roads, two large megaron structures, and "storage areas, workshops and sacred spaces, [and] where Linear B script was in use," compare favorable with, "the Mycenaean centres of Southern Greece" (2007b., 28).


Lamiospito Tholos at Dimini
Ancient-Greece.org

LH IIA tholos tombs at Dimini, Kastro, and Kazanaki as well as the elaborate built tombs at Pefkakia are clear evidence that individuals, perhaps families or clans, had in some manner established unusually high status. We do not know how this was accomplished or to what degree wealth and/or authority accompanied such status but the occurrence of contemporary tombs at multiple sites is meaningful. Panagiota Pantou characterizes these elite tombs as substantially similar in their architectural details, construction materials, and grave goods. Other than a single copper dagger no other bronze or copper weapons were found. Small numbers of glass and gold beads, small amounts of ivory, and a gold ring were recovered from each of the tombs. Pantou suggests that the individuals interred in these relatively extravagant tombs, "were social peers at least at the beginning of the

Mycenaean period" (2010, 385-386). Contemporary, even allied, elite groups from the same region are known on the southern mainland during the LH II period when tholoi were fairly widespread. Dickinson dates six of the nine tholoi built at Mycenae to the LH IIA period, suggestive that at least several of these represent contemporary tombs for more than one elite group (1977, 62-63). However, subsequent to LH II the numbers and locations of tholoi decrease sharply and, in fact, provide one measure of the consolidation of power in the south. At Mycenae significant architectural enhancements of both the cyclopean fortifications and palatial buildings also reflect the centralization of authority. Another face of this transition is the gradual differentiation of Mycenae from its regional neighbors. While Tiryns may seem to contradict this argument, the site is generally thought to be a satellite of Mycenae. Other sites including Lerna, Asine, and Argos become less important during Mycenae's ascendancy (Voutsaki 2010, 93- 99).

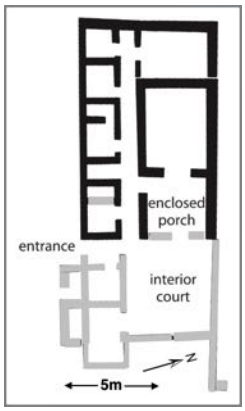
Pantou's analysis of the LBA structures on the Bay of Volvos draws a sharp contrast with the transitions that took place on the Peloponnese. Much as the tholoi at Dimini and Kastro and the built tombs at Pefkakia show little differentiation, subsequent architectural developments at these sites, she argues, also have much in common, albeit each community attests to individual characteristics as well (2010, 386-395). While Pefkakia is less well known than its neighboring sites, it appears that during the LH IIIB period megaron-type axial structures, in one instance with walls to 1.3 m thick, occupied the coastal promontory in a settlement that by LH IIIB was 8 ha in extent; Dimini, at 10 ha, was even larger while Kastro at 12 ha was the largest of the three communities. Significantly, there is no evidence the settlements were fortified. Pantou agrees with Adrimi-Sismani that the megara and attendant finds at Dimini suggest elite sponsored communal activities were purposefully inclusive. Pantou envisions a two-tier social hierarchy, perhaps comprising a ruling (priest) class residing in the corridor buildings and craft workers and farmers occupying the domestic dwellings but concludes that, "What is missing is evidence for an individual leader" (ibid., 389).

Structure & Function

In a subsequent publication Pantou addresses additional early Mycenaean sites in an analysis that, "shifts the focus from the traditional dichotomous scheme of 'palatial' and 'nonpalatial' Mycenaean architecture to the ways in which the new built environment, and the corridor buildings in particular, shaped social interaction, influenced particular behaviors, and ultimately transformed sociopolitical structures" (2014, 369). Building on her premise that there were significant differences in the social trajectories leading to the palatial centers and those associated with the LH II - IIIA1 Mycenaean corridor buildings, Pantou offers an in depth analysis of the Menalaion's LH IIB Mansion 1 in Laconia and the LH IIIA1 Phylakopi Megaron on Melos (Catling et al. 2009a; Renfrew et al. 2007; Pantou 2014, 372- 377). In sum, the evidence suggests to Pantou that not only is there, "a clear distinction between the early corridor buildings and the exclusionary architecture of the palaces and corridor buildings of the LH IIIB period," but that over time the structural evidence from Mansion 1 and the Phylakopi Megaron suggest, "important differences in the social use of architecture" such that, "despite their common architectural features the two buildings served different social purposes" (Pantou 2014, 371-372). Pantou's conclusions regarding the contrasting social contexts of Mansion 1 and the Phylakopi Megaron rest on her analysis of the functional aspects of key architectural elements including porches, interior rooms, thresholds, and exterior boundaries——their presence or absence, relative size, and how these changed over time. Fixed features such as hearths and the evidence of small find assemblages are also of considerable importance (ibid., 382-388). As the totality of such evidence varies

from site to site and among similar structures Pantou's conclusions rest on, "the available architectural, settlement, and regional data" (ibid., 394). While the formal similarities among megara are clear, understanding the details of each structure's architectural elements and how these change during subsequent building phases refocuses attention to their differences. In summarizing her conclusions, Pantou writes, "While the Menelaion Mansion 1 functioned as a stage for social distinction and competition among powerful individuals in the middle Eurotas Valley, the Phylakopi Megaron facilitated social integration and the establishment and promotion of community order" (ibid., 392).

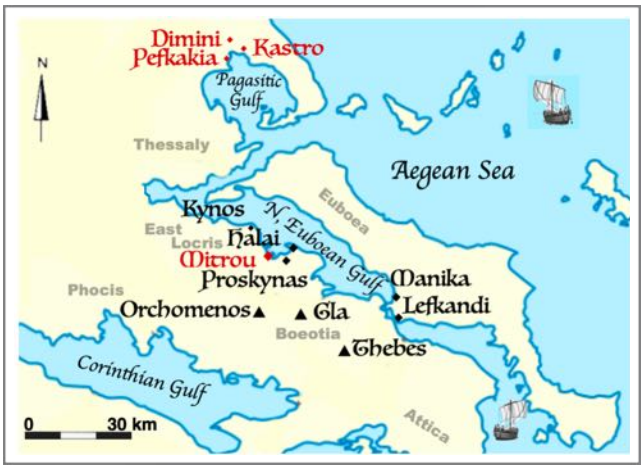
Pantou's analysis of the Menelaion and Melian structures also informs her interpretation of Dimini's LH IIIB megara. The initial building phase of Megaron A (LH IIIB-early in black) offered relatively unrestricted access——an open porch, lacking any barriers, led directly into the largest room in the structure. With the remodeling of Megaron A (LH IIIB-late plus grey) the porch became a semi-enclosed interior space with spur walls while the large interior court——added to the eastern end of the building, closed off the earlier open entrance. Access to Megaron A was thus restricted with a new and much smaller southern entrance (ibid., 382). Similar architectural changes to other corridor buildings in LH IIIB, explains Pantou, resulted in a transition "from shared ceremonial centers to something closer to a "palace through a series of exclusionary architectural strategies" (ibid., 395).



Dimini Megaron A after Pantou 2014, 385 Fig. 14, redrawn

The hill of Pyrgos on the western shore of the North Euboean Gulf is generally agreed to be the location of Kynos, a town mentioned in the *Iliad* and the homeland of Locrian Ajax (the lesser of the Ajax duo)——a warrior distinguished by both his fame and infamy (*Il.* 2.531-533). Opous——the capital of Opountian Locris, was also familiar to the ancients, albeit its location remains a matter for debate (Dakronia 1993, 117-119). As Fanouria Dakoronia, 14th Ephorate of Prehistoric and Classical Antiquities, stated in 1989, "Until quite recently theories about the identification of the cities of East Lokris mentioned by Homer relied entirely on the notices of ancient authors and on surface finds. No major excavations had been conducted, and few scholars had engaged themselves with the historical problems of this part of Greece" (ibid., 115). Subsequently, Dakoronia's efforts put a number of ancient East Locrian sites on the archaeological map but perhaps more significantly her efforts have played an important role in redefining the epilogue of the Mycenaean era.

Much of Dakoronia's work has involved rescue operations in and around the plain of Atalante. For example, on the Kynos / Pyrgos hillside she recorded two MH cist graves below Mycenaean remains as well as a "large complex" (LH III) with rooms comprising a "manufacturing area"——equipped with clay bins, pithoi, and two kilns. These storerooms or workshops were used in successive phases of the dwelling——a structure apparently destroyed twice in LH IIIC. At the northwest corner of the plain of Atalante, interments on the citadel of Palaiokastra include "two Mycenaean chamber tombs," as well as, "many rich graves of the Classical period" (ibid., 125-126). Even this small sample of East Locrian finds attests to the longevity of occupation and the rich artifactual record of a region of Greece largely passed over for much of the 20th century. It also confirms the wisdom of Dakoronia's prescient advise that, "the interest of scholars should be directed not only to the large and famous centers of antiquity but also to the outlying regions and to those areas still unexplored" (ibid., 126-127).



Fortunately, over the last quarter of a century, a number of archaeologists have taken an active interest in the region and Mitrou, situated on the western shore of the North Euboean Gulf, has been one focus of their efforts. The remains of Mitrou, once occupying a coastal headland, are presently confined to a small island (3.6 ha) at the head of the Bay of Atalanta and, despite the ongoing tidal erosion, the site has added measurably to our understanding of the region's history. Both surface and geophysical surveys were completed at Mitrou in preparation for a series of excavations carried out between 2004 and 2008 (Kramer-Hajos and O'Neill 2008 with John Coleman and William Murray; Tsokas et al. 2012). Preliminary data from the surveys suggested substantial remains as well as occupancy over a lengthy period——factors confirmed by excavation. As Aleydis Van de Moortel has summarized, a significant aspect of Mitrou is the uninterrupted occupation from EH IIB through the Late Protogeometric phase (ca. 2500/2400 - 900 BCE)——a sequence of occupations represented by well defined stratigraphy that in turn has served as a basis for, "a very refined chronology" (2020, 878).

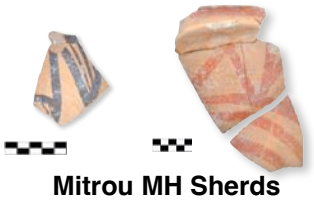
Inside Passages

It is difficult to overemphasize the potential significance of Mitrou's location. As both Hesiod and Homer relate, the Aegean is a fickle sea, and the advantages of an inland passage through the Euboean Gulf placed Mitrou on a major maritime trade route. Material finds attest to this trade from the Neolithic onward. Elani Zahou†, a principal investigator at Mitrou, described the dynamic relationship among communities that are geographically affiliated through their shared proximity to marine trade routes (Van de Moortel, Zahou, and Rutter 2018, 172-177).[5] Like Lerna and Tiryns in the Argolid, Manika in Euboea and Pefkakia in Thessaly, the settlements of Proskynas and Mitrou in East Lokris were well situated to take advantage of mercantile commerce transiting the Euboean Gulf. While some settlements may have profitably acted as entrepôts others likely supplied agricultural and craft goods for the trade itself. In either case the material finds from known sites variously represent contacts with the southern mainland, the Cyclades, Anatolia, Crete and occasionally more distant lands. Common ceramic assemblages and their associated social practices (eg. drinking and eating wares with communal feasting and rituals) reflected shared cultural traditions among regional sites while the details of unique and exotic objects (eg. frying pans and figurines) and/or craft traditions often expressed contrasting local tastes even among close neighbors (ibid., 174-177).

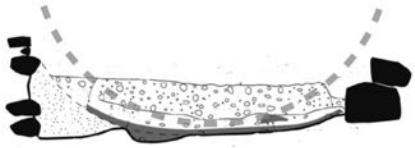
Aspects of the Middle Bronze Age——most especially Mitrou's ceramic evidence, has been especially informative. Based on excavated material, Chris Hale has suggested a refined MH typology for both painted (Matt Painted and Dull Painted) and plain (Fine Gray Burnished) pottery——ceramic groups from Central Greece that previously were

5. Zahou's previous work at Proskynas documented various structures including storage and workshops areas as well as indications of specialized pottery production. Rena Veropoulidou's subsequent comparative study of *Spondylus* use at Proskynas and Mitrou may be pertinent to the present discussion as her analyses of shell use at Proskynas indicates numerous shell-tools and, perhaps significantly, find spots for such tools consistently in association with what Zahou describes as "high value" pottery (Zahou, 2009; Veropoulidou 2011, 193-198).

less well defined (2014, 31-57; 2016, 234-295). Another significant find from Mitrou's Middle Helladic period are the tracings of what was apparently an "expanded longboat." All that remained of the craft——the wood having entirely disintegrated, was a shadow-like profile of black stained soil. Nonetheless, given the rarity of Aegean Bronze Age boats——this is one of only four (and the earliest) remains with substantial indications of the hull——adding useful, if limited, data to the existing body of evidence (Van de Moortel 2012, 17-26; 2017, 263-268).

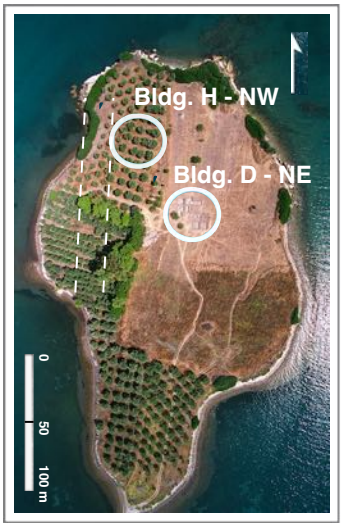


Mitrou MH Sherds
Matt Painted (MH-P151) and Dull Painted (MH-P100)
Hale 2014, 40 Fig. 3 in part



Suggested Cross-section of Boat
Length 5.5 - 6 m, Max. Width 90 cm
from Van de Moortel 2012, 18 Fig 3.4

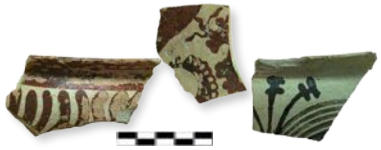
The presence of extensive structural remains at Mitrou was apparent early in the excavation sequence. Van de Moortel has focused on wall and floor characteristics, the development of roadways, as well as tomb structures and the apparent changes in mortuary practices over time. Rubble wall construction was evaluated based on socles, overall wall thickness, relative size of stones, and proportion of rubble core to stone faces. The resulting wall typology documents temporal trends including the progressive use of larger stones and increasing numbers of "interlocking" and "stretcher" stones——the latter equal in width to the wall (2020, 877-881). Panagiotis Karkanas' analysis of the floors indicates a composition of clay, gravels, and lime additive. Various floor levels in MH remains were repeatedly patched and resurfaced, while floor surfaces above MH destruction levels in Building K included a sub-flooring of calcareous pink daub. Floors of late MH and LH structures were surfaced with white lime plaster and rather than being patched were repeatedly resurfaced (Karkanas and Van de Moortel 2014; Van de Moortel 2020).



Mitrou
Van de Moortel & Zahou, 2004, 42 Fig. 3

In a recent publication on the Late Bronze Age architecture at Mitrou Van de Moortel describes, "how Mitrou's emerging political elite at the beginning of the LH period used architecture as a tool for conveying and constructing their increasingly elevated status in society" (2020, 877). This reiterates a theme she and Elani Zahou proposed following the initial five seasons (2004 - 2008) of excavation at Mitrou. Such "clear evidence for an emerging political elite as early as the LH I phase," they observed, "coincid[ed] with the formative period of Mycenaean palatial society," and notably, related to an overall reorganization of the settlement——attested in part by significant architectural advances (Van de Moortel and Zahou 2012, 1133). The latter evidence includes Building D (Bldg. D) and Building H (Bldg. H)——albeit each structure was only partially excavated: 600 m^2 of an estimated 750 m^2 for Bldg. H and 230 m^2 of an otherwise unknown total size for Bldg. D (ibid., 1133 -1135). Both property ownership issues and the terms of the research permit (Greek Dept. of Culture) restricted the extent of excavations. This in turn has impacted, in part, Van de Moortel's documentation of the architectural evidence (2020, 877-878). Bldg. H, for example, refers to structural evidence that may or may not be associated

with a single building. In describing remains in the NW sector the authors observed that, “At least 2 rooms belong to a new LH II structure, building H, of which the full extent is yet unknown. However, at no point in LH I or LH II is it clear whether this was a single structure, as suggested by the 2005 geophysical survey, or whether it was always a cluster of structures” (Evely et al. 2007, 58). In fact, the excavated architectural elements of Bldg. H appear to lack “monumentality” in any sense. As the authors observe, “Building H does not have impressive walls, [but] it has several finds that show elite connections” (Van de Moortel and Zahou 2012, 1135). Two pieces of a Balkan horse-bridle crafted from deer antler were recovered from the LH I destruction level of Bldg. H. These rarities suggest to the researchers that Mitrou was connected to an exchange network associated with the rise of a warrior elite as similar items were found in Shaft Grave V at Mycenae (Maran and Van de Moortel 2014, 535-540). Also excavated at Mitrou were a number of deposits of *Spondylus gaederopus.* Both the purple dye extracted from the shells as well as the edible portion of this shellfish are associated with elite use. Veropoulidou’s study of this material, in part associated with Bldg. H, concludes that most (57%) *S. gaederopus* were found together with other food items including animal bones and other species of edible shellfish, while a smaller portion (34%) “related to small-scale dye production” (2011, 199-202). *Spondylus* attribution as a specialty food item is consistent with the large assemblage of ceramic finds recovered from Bldg. H often associated with elite classes. These include, “LH I, LH IIA, and LH IIB table ware and South Aegean pottery imports, indicative of elite drinking and dining” (Van de Moortel and Zahou 2012, 1135-1136).



Mitrou LH II Sherds
Mitrou Archaeological Project
Van de Moortel - Univ. Tennessee

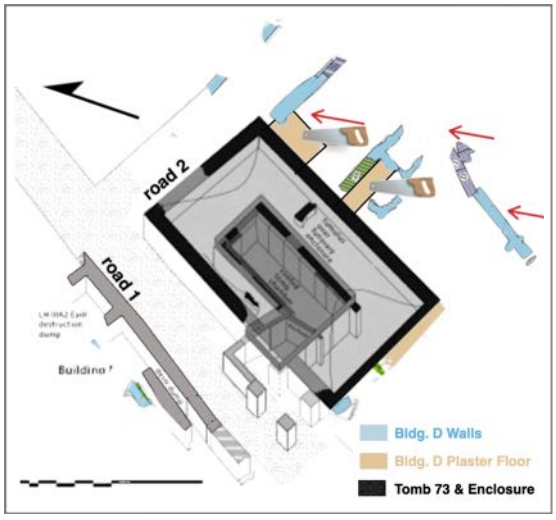


Horse-bridle Piece
Maran and Van de Moortel 2014, 534 Fig. 7
after, S. Turner



Spondylus gaederopus
from Mitrou assemblage
Veropoulldou 2011, 199 Fig. 9

The interpretation of the architectural evidence of Bldg. D is somewhat cryptic. In a 2006 report Zahou and Van de Moortel describe MH/LH I I transitional remains as, “a rectangular monumental structure, labeled building D,”—constructed with roughly cut rectangular stones measuring, on average, 1 m in thickness, with overall dimensions of 13.5 m by 8.25 m (in Whitley et al. 2006, 40). These dimensions are, in fact, those of the enclosure for Tomb 73 (see at right) as is reflected by a later revision stating that the 13.5 m by 8.25 m rectangular enclosure of Bldg. D, “belonged only to the second and third architectural phases of the building” and furthermore that in, “its first LH I phase, building D was a sprawling complex with mostly thin walls,” lacking, “deposits with which to characterize the activities practiced” (in Morgan et al. 2009, 92). However, in a subsequent co-authored paper, the MH/LH I Bldg. D is again elevated to “elite status” based on the building’s overall size (230 m^2)



Bldg. D walls & Tomb 73 & Enclosure
LH I - LH IIIA2 Early
adapted from Van de Moortel 2016, 94 Fig. 3

and improved wall construction (width to .75 m) set on stone socles (Van de Moortel and Zahou 2012, 1135). Various published reports seem to conflate the details of Bldg. D with Tomb 73 and its enclosure. Additionally, the terms “building” and “building complex,” are, at times, used interchangeably——thus increasing the confusion. See, for example, Van de Moortel and Zahou 2012, 1135. In any case, the initial construction of Bldg. D apparently occured during the MH/LH I transitional phase (or the first phase LH I) with the subsequent revisions and additions prior to and following major destructions in LH III A1 (Van de Moortel 2016, 104-107).

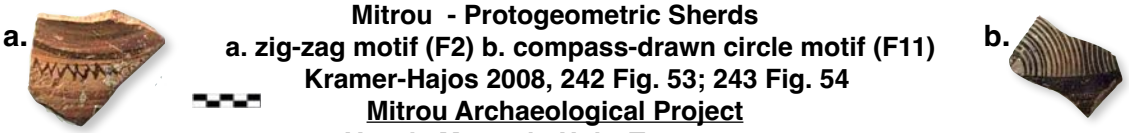
Clearly Tomb 73 whose, “chamber and dromos were lined with finely cut orthostates made of greenish sandstone not seen anywhere else at the site” displays monumental attributes (Van de Moortel et al. 2018, 277). At the same time, however, there are indications that the tomb builders went to some lengths to physically separate (note cuts in Bldg. D, E-W walls) elements of the two structures and to rework early elements of Bldg. D to their purposes. Although the analysis and publication of four LH I ceramic phases is a work in progress Salvatore Vitale’s preliminary comments addressing Tomb 73 pottery provide indications of the relative chronology of Tomb 73 (Van de Moortel et al. 2019, 288-290). As discussed below and noted by Vitale in an earlier paper, the major shift in the Mitrou pottery assemblage from LH I to LH IIA is from an earlier abundance of Polychrome Matt Painted (PMP) wares to increasing amounts of Mycenaean Lustrous Decorated (MLD) pottery (2012, 1147). Of the 9 vessels closely associated with Tomb 73 and dating from LH I Phase 3 or 4 to LH IIIA1 only one——a jar decorated with spirals (and the earliest of the group) was a PMP vessel. Also of note and highlighted by Vitale was the LH IIA shift in Mitrou elites’ apparent preference, “from the distribution of the vessels possibly manufactured in central Greece,” to, “vessels possibly imported from the northeast Peloponnese” (Van de Moortel et al. 2019, 289-290). The small finds recovered from the tomb and enclosure seem to be incidental pieces left by looters. Along with the pottery, Items from the mortuary structure include: 6 boar’s tusk fragments; bronze: an arrow-head and a ring; obsidian: an arrowhead; amber: 2-4 beads; gold: 11 items including a small ring, fragments of two bracelets, a pinhead, and gold foil; faience: a small spindle whorl (Van de Moortel 2016, 106).



Tomb 73: gold ring with blue glass paste, faience spindle whorl, obsidian and bronze arrow-heads; perforated boar’s tusk segments, an amber bead, gold nail from dagger or sword
Van de Moortel Lecture - Univ. of Tennessee 2019

Despite unanswered questions about the relationship between Bldg. D and the unique chamber tomb and the scant nature of the enclosure's small finds it seems clear that some members of the prepalatial Mitrou community had obtained elevated status. This, in fact, is Van de Moortel’s main premise——albeit her focus is on the structural remains. In the summary of a recent publication she states, “By the LH IIB phase it [Mitrou’s elite population] may have emulated the elite architecture of the Mycenaean heartland as part of an aggrandizing strategy to link itself with this increasingly powerful region in a voluntary process of Mycenaeanization” (2020, 882). Closely associated with elite status, she explains, are built roads of various widths and composition. Once again, however, the small total area excavated (2.2%) limits interpretations. Although often modified with conditional wording (“apparent,” “presumably,” and “may have been”) Van de Moortel suggests the roads exclusively served Mitrou’s elite, perhaps for ceremonies featuring chariots, a novel form of elite transportation (2016, 95-96).

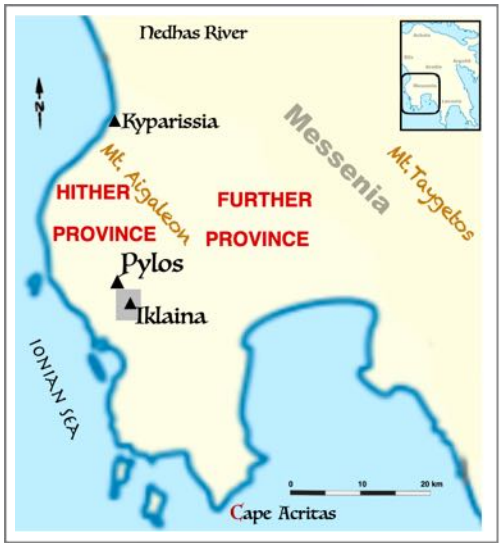
Aside from tomb 73 and its enclosure (perhaps of Minoan influence), the most telling evidence for the various southern influences——assuming the interpretive consensus associated with elite cultural practices, are the ceramic finds. The rich ceramic record from Mitrou in well stratified deposits has informed our understanding of both the MH (see Hale above) and LH periods at Mitrou but more widely as well. Vitale's study of the typology and use of LH pottery at Mitrou focuses on three periods: LH IIA (Prepalatial period), LH IIIA2 Early (Final Prepalatial period), and LH IIIB2 Late (Final Palatial period). Vitale explains that as the prevalent LH I Mainland Polychrome Matt-Painted wares decrease the LH IIA period attests to a, "remarkable increase of Mycenaean lustrous decorated pottery," and a, "noteworthy increase of imported Aeginetan pottery" (2012, 1147). In summarizing the import of these changes Vitale notes the emphasis on ceramic types (Mycenaean, Aeginetan, and perhaps Cycladic) associated with feasting and suggests this, "likely represents the expression of an emerging elite group showing its status through an assertive display of exotic items during communal eating and drinking events" (ibid., 1148). Interestingly, the origin of this rich deposit is unclear. Vitale records that the, "pottery was found lying on top of a sloping earthen surface," and that, "it may represent a disturbed floor deposit," or alternately, "may have been dumped in its final find-spot after having been used somewhere in the vicinity" (ibid.). Vitale's publications of LH IIIA2 pottery informs Mitrou's chronology but even more significantly suggests a more precise typology for this period across the Greek mainland. A majority of these deposits were excavated from Road 1——in part adjacent to "Building D." Apart from ceramic connections previously mentioned, Vitale notes the presence of goblets also known from neighboring Phocis (2011, 331-344). The third assemblage or LH IIIB2 deposit was located in, "a dump unrelated to any presently known architectural feature," but significantly included Rosette deep bowls and a number of roof tiles——both uncommon at non-palatial sites (2012, 1150-1151). Mitrou's pottery assemblage attests to a fairly wide network of connections during the LH I - III periods with clear indications of influences typical on the southern mainland——albeit for the most part the LH deposits cannot be tied directly to specific architectural structures. It is worth reiterating that Kramer-Hajos and O'Neill's analysis of the surface survey directed by John Coleman and William Murray demonstrate that the settlement was occupied in the post-palatial LH IIIC period, the Protogeometric period, and into the Iron Age (2008, 244 - 246). See *Collapse and Aftermath*.



Mitrou - Protogeometric Sherds
a. zig-zag motif (F2) b. compass-drawn circle motif (F11)
Kramer-Hajos 2008, 242 Fig. 53; 243 Fig. 54
Mitrou Archaeological Project
Van de Moortel - Univ. Tennessee

Mycenae's Lower Town, the Volos Bay sites, and Mitrou each provides a different perspective on Mycenaean culture during the LBA. This is also true of Iklaina (Traghanes) in Messenia, however, the related documentary evidence and rich archaeological finds of this southern site provide a uniquely detailed record of its developmental trajectory——albeit interpretations of that evidence are not without controversy (Cosmopoulos 2006, 2019; Cosmopoulos and Shelmerdine 2016; Shelmerdine 2016, 2022). Building on the data from the University of Minnesota Messenia Expedition (UMME 1961-1968) and the Pylos Regional Archaeological Project (PRAP 1991-1995), the Iklaina Archaeological Project (IKAP) was initiated in 1998 under the leadership of Michael Cosmopoulos (McDonald and Rapp 1972; Davis et al. (1998) 2008; Cosmopoulos 2006). From the project's inception Cosmopoulos has focused on elucidating the manner in which Iklaina informs our understanding of the LBA political landscape of southwestern Messenia (2006, 205).

Early work by Carl Blegen and Spyridon Marinatos put Pylos and Messenia on the archaeological map. At the same time that Blegen was making history at Pylos, Marinatos was combing the hinterlands. Although his discovery of the tombs at Routsi and Peristeria highlighted this era in Marinatos's storied career, he briefly excavated at Iklaina in 1954 where he observed Cyclopean walls, numerous fine ceramic sherds, and fresco fragments (Davis and Bennet 2008, 48; Cosmopoulos 2006, 219-220). Despite these promising finds Iklaina received little attention until Cosmopoulos scouted the area in 1997 and 1998 in anticipation of a closely focused research project.



Iklaina - Questions Of Status

The Pylos Linear B archive, excavated by Blegen in the spring of 1939, is foundational to Aegean archaeology; it is also a primary source for understanding the ancient history of Messenia. Early studies of these texts suggested that the state of Pylos comprised two administrative units, Hither Province and Further Province——each divided into districts populated by towns with unique toponyms (Chadwick 1963).[6] It is important to emphasize the significance of these place names as ancient toponyms are unknown



View West from Ayios Vasileios to Mt. Taygetos

for many prehistoric sites——including culturally significant sites (Cosmopoulos 2006, 208-212). Several toponyms are associated with locations with similar names in the historical period. In the majority of cases, however, no such correlation exists and establishing the proper connection between names and locations has involved the efforts of numerous researchers over the last half-century (Blintliff, 1977; Bennet 2011, 137-168). Critical Linear B evidence includes documents with toponyms associated with recognizable geographic features, tablets listing numbers of women and children at specific sites, as well as listings of contributions to palatial operations (eg. quantities of flax) from named towns and villages. Several documents, for example Ng 319, specifically refers to both the Hither and Further provinces. Another important key is the acceptance that the textual order of toponyms on certain tablets reflects the site's relative north to south geographic positions. These conditions are met with the so-called "standard list" tablets (Cosmopoulos 2006, 208-210). For example, standard list-Vn 20 lists wine (𐀷𐂊, οἶνος) allocations for the 9 named principal towns in the Hither Province. In addition to town toponyms the tablets record additional place names within the Pylian territory——traditionally referred to as villages. A number of these occur with relative

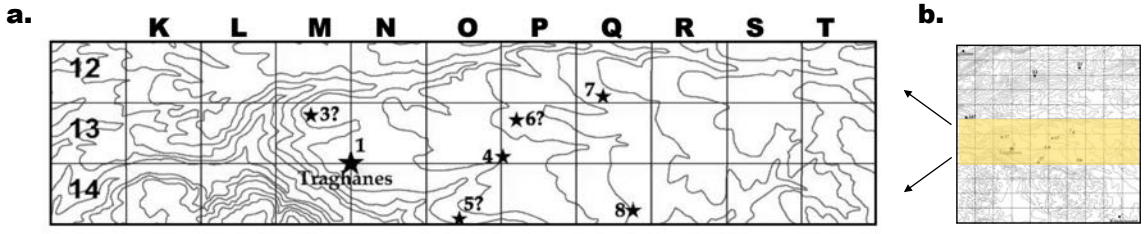
6. The provinces are roughly located east and west of the Mt. Aigaleon range while the Pylian "state" is bounded by Cape Acritas, the Ionian Sea, the Nedhas River, and the Mt. Taygetos range.

frequency in the documents while some are associated with the production of specific goods (eg. textiles). Analyses have isolated 12 villages in the Hither Province that, "appear to have been the object of special interest for the palace" (Cosmopoulos 2006, 208-212; Carothers 1992, 276 –277). The totality of relevant Linear B evidence suggests a four-tiered hierarchy for the LH III Pylian state. Cosmopoulos' outline of the Hither Province traditional hierarchy is as follows:

A. **Central Palace** *pu-ro*	-political and economic center of the state -administrative, financial, and political functions
B. **9 Towns** or **district capitals**	-local governor / mayor *ko-re-te* ; deputy *po-ro-ko-re-te* -metallurgy, agriculture, stock-raising
Γ. **12 Villages**	-specialized economic activity with palatial interest
Δ. **# Villages**	-not of direct interest to palatial concerns

(Cosmopoulos 2006, 110)

Cosmopoulos arrived at Iklaina shortly after the completion of PRAP——a survey covering a total area of 40 km^2. Previous to PRAP surveys tended to evaluate the relative importance of sites based solely on size. The addition of other criteria (eg. nature of architectural remains) resulted in a refined measure of hierarchy and one that was a good match for the ranking derived from the Linear B documents as described above (Cosmopoulos 2006, 214-215). Compared to earlier surveys, Cosmopoulos's plan envisioned a more focused approach. Consequently, the IKAP survey was limited in scope to the Iklaina plateau north to the palatial site on Ano Englianos——an area of 17 km^2 (ibid., 219). See shaded area indicated on map on 397 and a. and b. below. The IKAP five year intensive survey and geophysical mapping was completed in 2005. Surface survey results indicated that the first substantial occupation of the area occurred during the MH period. Of the five certain settlement areas identified on the Iklaina plateau (a. below) the abundant MH I-III ceramics and significant architectural remains at Traghanes (1 on Iklaina Plateau shown below) indicated the site was the oldest and largest of the period. Three other MH sites on the plateau: Dendra (3), Iklaina Village (4), and Panagitsa (7) are thought to have been smaller agricultural villages. The numerous finds of slag at Katsimigas (8) suggest it may have been an early LH center of metallurgy. While the number of sites increased during the LH I - II period, Iklaina (Traghanes) maintained its position as the dominant settlement during the Early Mycenaean period. Also significant was evidence for the continued occupation in LH III of the majority of early Mycenaean sites (Cosmopoulos and Shelmerdine 2016, 203-205). In any case, according to Cosmopoulos, throughout the MH and into LH IIIA1 the settlement at Iklaina appears to have been either the dominant site or co-equal with Pylos. Questions remain, however, as to the relative positions of authority and chronology as they related to Iklaina and Ano Englianos. For two views see discussion below and Shelmerdine 2022 (159) contra Cosmopoulos 2019 (370-374).



a. IKAP Survey - Iklaina Plateau Section MH Site Distribution b. IKAP Survey Area
Cosmopoulos and Shelmerdine 2016, 204 Fig. 114

A primary goal of the IKAP survey was to assess the possibility that Iklaina was one of the district capitals of the Hither Province (Cosmopoulos 2006, 205). This was initially suggested by the Linear B evidence (based on standard list tablets and tax records) and the site was tentatively associated with **a-pu$_2$*.[7] Results of IKAP clearly strengthened this hypothesis, however, the final piece of the puzzle rested on the archaeological evidence. Guided by the results of the surface and geophysical surveys and a number of visible structural elements, excavation at Iklaina began in 2006.

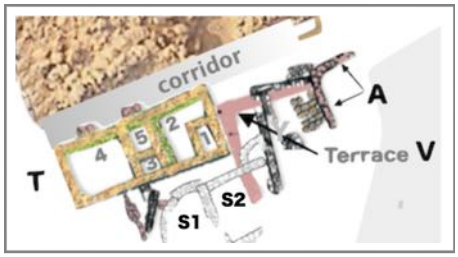
As early as the 1950s Marinatos had described a number of artifacts and architectural elements that suggested Iklaina's prominence——a picture reinforced by the IKAP survey. The Mycenaean pottery (LH IIIA - IIIB) was both abundant and widespread——covering an area of 12 ha and centered on the mound that dominated the site. One large group of burned sherds was a match for similar sherds at Pylos. Additionally, the geophysical mapping of the site produced imaging with wall-like features (Cosmopoulos 2006, 219-220; Boyd, 2002). While the project is ongoing, Cosmopoulos's summary indicates the remarkable diversity of the excavated structures. "The importance of this site has been confirmed by the excavation, which has brought to light a monumental building complex (presumably the administrative part of the settlement), a religious area, houses, and workshops," and in conclusion states, "The commanding setting and large size of this site, the quantity and quality of the finds, the architectural remains, and the lack of any other comparable settlements in the target area are compatible with the identification of Traghanes as a major center and support its identification as a district capital, very likely **a-pu$_2$*" (Cosmopoulos 2016, 207).

Even before excavation began it was clear Iklaina had the potential to provide a wealth of new evidence germane to understanding the settlement's political relationship with Pylos. Between 2007 and 2019 a series of seasonal excavations and study periods illuminated the MH - LH history of Iklaina including the sites' chronology, architectural features, and material finds. Continuing studies will no doubt add details to our understanding of Iklaina as this is a work in progress. However, based on the 2007 - 2019 findings, and with the advantage of hindsight, it is now possible to outline the research results of the Iklaina team and to highlight various interpretive positions. Excavations at Iklaina suggest an initial period of occupation during the mid- to late MH period followed by four Mycenaean phases ranging from the early to late LBA. Significant destruction horizons occur at the end of the MH occupation and near the midpoint of LH IIIB (ca. 1250 BCE)——the latter episode characterized as a deliberate act. Excavated evidence also indicates a short-lived, post destruction phase after which the site was abandoned (Cosmopoulos 2019, 364-365).

Three general sectors were excavated at Iklaina: the Monumental Building Sector (MBS), North Sector (NS), and the East Sector (ES). See State Plan below for NS and MBS. Although the IKAP survey recorded MH I - III ceramics, the MBA excavated remains (located largely in the NS) date mainly from MH II to the MH III/LH I period. Despite an absence of architectural features (the walls having been destroyed by fire) an area of packed earth and pebbles as well as a hearth indicated the location of a MH domestic dwelling. Spindle whorls and chert flakes suggest the occupants wove cloth and crafted a number of basic tools for their own use while the bones of sheep, goats,

7. Of the nine towns (presumed district capitals) documented in the Hither Province, 3 were situated north of Pylos, one in the immediate vicinity of the palace, with 3 of the remaining 5 sites south of Pylos situated in coastal locations. Of the remaining two Iklaina seemed the best fit for **a-pu$_2$*. See Cosmopoulos 2006, 209- 210 for details and specific research by Chadwick, Shelmerdine, and Bennet.

and pigs reveals something of their diet and the pastoral aspect of their livlihood. An additional floor area indicates a second dwelling, perhaps with two separate rooms, although the intense fire at the end of MH III destroyed the dwelling's walls and erased much of the evidence. Included among the pottery were Gray Minyan Ware cups and large storage jars that, despite the coarse appearance of the latter, were likely indispensable to the day-to-day existence of the residents as both larders and water tanks (Cosmopoulos IKAP-IN 2008, 2-3).



Iklaina State Plan V (Y), A, T
MBS (in part)

The initial evidence for the LBA occupancy, Phase 1 (LH IIA - IIB/IIIA1), consists of Terrace V (initially referred to as Building Y), the remains of two walls of Building A (as distinct from House A in the NS), a multi-roomed structure designated as Building T, and sections of a flagstone courtyard. The partial remains of an apsidal structure S were also excavated in this area. Based on ceramic finds these structures, "seem to have been in use from LH I/II to LH IIIA1, although a few MH coarse sherds were also found (Cosmopoulos IKAP-IN 2010 , 5). The ceramic wares included, "fine kylikes, bowls, and goblets, as well as storage vases of the early Mycenaean period." Somewhat unexpected were fragments of figural frescos and a segment of a clay offering table (Cosmopoulos IKAP-IN 2009, 14). Also of note in this and other excavated areas at Iklaina were a number of orthostates (standing limestone slabs), invariably reused from wall elements no longer extant. Nelson's analysis of the various construction techniques for Pylos building phases associates the use of orthostates with Minoan-influenced LH II structures at Ano Englianos. This suggest the possibility of a one or more similar structures at Iklaina in LH II (Rutter 2005, 25 -26; Cosmopoulos 2019, 357-359).



LH IIB Painted Pottery - Vicinity of Terrace V
Cosmopoulos IKAP 2011 Report, 3 Fig. 4

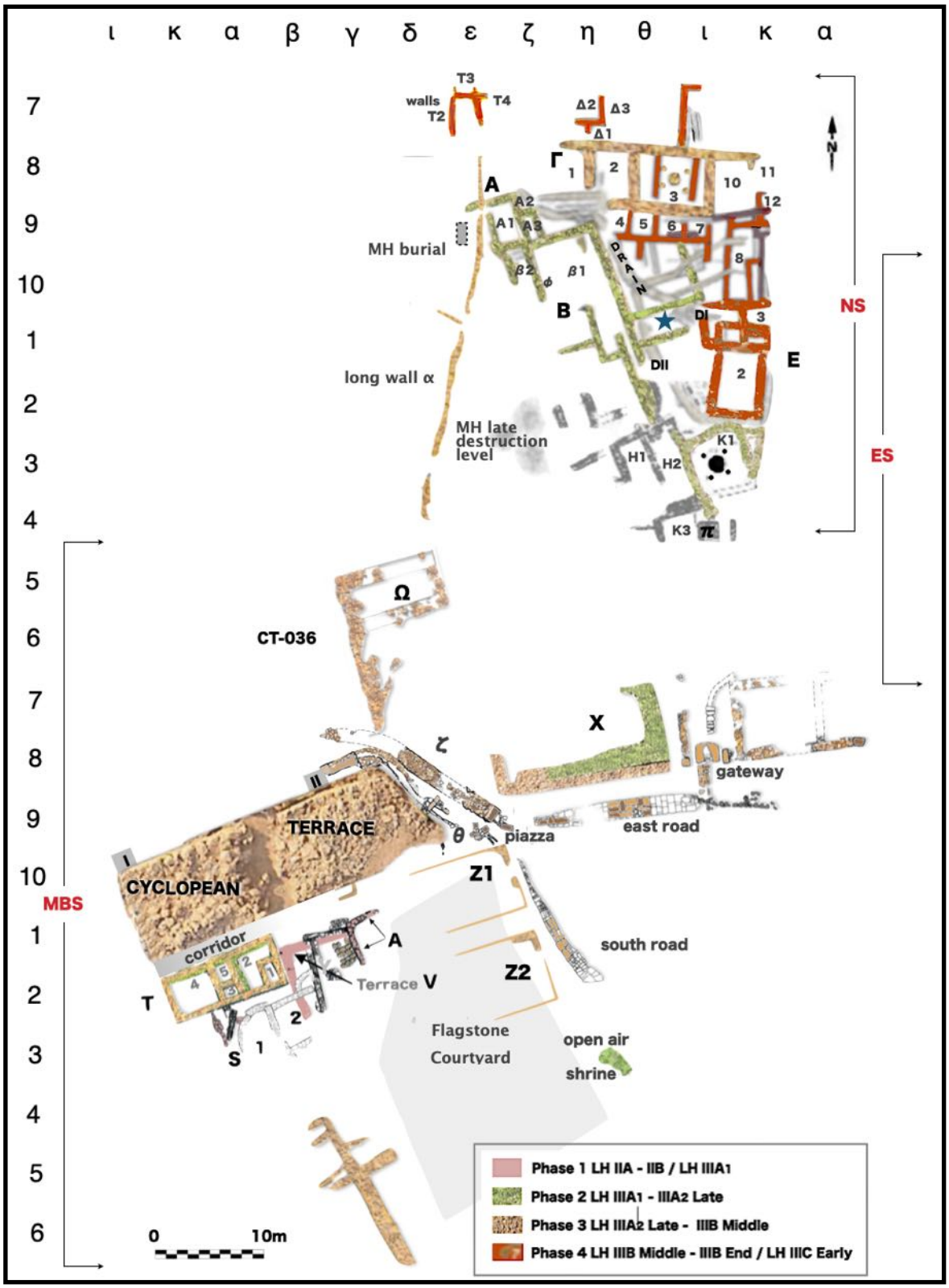


Fragment of Offering Table - Building T
Cosmopoulos IKAP 2009 Report, 14 Fig. 33

Terrace V continued in use during Phase 2 (LH IIIA1 - IIIA2 late) when the adjacent Building T, a 5-room structure (T1 - T5)——initially configured as three rooms (T1, T2, and T3), was redefined. Approximately twenty meters to the southeast of Terrace V an elliptical pit (4.5 x 3 m) with fragments of a curved wall (a bench?) yielded artifacts commonly associated with ritual feasting and drinking as well as the probable remains of sacrificial offerings. Finds included burned and unburned sheep/goat and pig bones, segments of an offering table, animal figurines, and numerous conical cups and kylikes dated to LH IIIA1 - IIIA2. Germane to the Open Air Shrine evidence is Cosmopoulos' reminder that Mycenaean cult activities are associated, not with temples or other elaborate buildings, but more typically with open areas such as courtyards (Cosmopoulos IKAP-IN 2012, 2; 2015a, 41-48). Structure X, a large (8 x 15 m) rectangular area dated to the end of this phase or the beginning of Phase 3, "served as a platform" according to the excavators, (2019, 357).



Pottery from Open Air Shrine
Cosmopoulos 2015a, 45 Fig. 6



State Plan - Iklaina (Traghanes), Messenia
North Sector & Monumental Building Sector
Cosmopoulos 2011 State Plan
after drawings by Michael Nelson

Significant features of Phase 2 (NS) include several large dwellings (House B, House A, and Unit K) to the east of long wall α. Room A1 (House A) exhibited two architectural phases with the later, northerly wall segments, distinguished by the use of mortar as a binding agent. The walls of late phase Room A2 were constructed of, "four horizontal courses of large and medium-sized stones, connected with clay and interlocked with smaller flat stones" (Cosmopoulos IKAP-IN 2008, 4). The smallest of the three rooms, A3, was likely used for storage. The charred stones of a partially preserved horse-shoe-shaped structure located in the southern part of Room A1 attests to the fire that destroyed the earlier architectural features. LH IIIA2-IIIB plain wares, including bowls and kylikes were part of the destruction debris covering the floor of A1, while LH IIB - LH IIIA1 ceramics were found in the substrate. Most of the walls of House B, Room B1 are similar to those of the late phase House A, however, wall θ is constructed of, "a single course of large stones, ending in the southeast in an anta" (ibid., 6). Notable features of Room B2 included the remains of a curved wall and a bench constructed of large flat stones. The multiple building phases and destructive fires associated with both House A and House B have precluded a clear definition of individual rooms/phases but it seems likely the extant Phase 2 remains rested on earlier structures. In general, however, the overall plain ceramic wares indicate domestic quarters. Perhaps the most surprising find, a Linear B tablet fragment, came from a pit to the east of B at a depth of about one meter (Cosmopoulos IKAP-IN 2010, 11). See blue star on State Plan. In terms of structural architecture Room K1 at the southern end of the NS has features lacking elsewhere. Covering an area of 20 m^2 portions of the walls are preserved to .60 m. A round hearth was situated in the center of the room around which were five flat stones that presumably served as the bases for columns supporting a ceiling that functioned in part to vent smoke (Cosmopoulos IKAP-IN 2015, 4).

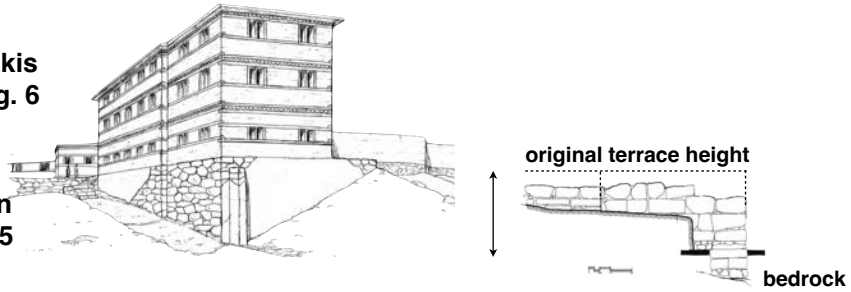


Linear B Tablet (LH IIIA2) Fragments - Room B2 Pit
Archaeological Society of Athens - *Cronique*

Phase 3 (LH IIIA2, late - IIIB, middle) is characterized by the "monumentalization and formalization" of Iklaina's architecture—the key extant feature being the MBS Cyclopean Terrace (CT). Although the superstructures of the original buildings were entirely destroyed, enough of the terrace, foundations, and associated structures of the Cyclopean Terrace Building (CTB) are extant to confirm the general plan of what was likely a multi-storied main building with attached wings partly enclosing an open courtyard. The excavated Cyclopean Terrace, initially described as a mound and mostly buried, measures approximately 23 x 8 m whose walls were faced with plaster coated, limestone ashlar blocks——to 1 m in length and weighing 4-5 tons. The built terrace reaches it maximum height at its northwest corner and extends southeastward to join a flat ridge (Cosmopoulos 2019, 360). A trench opened in the northwest corner revealed the maximum hight of the terracing (base to ground level) to be 7.30 m. The massive size of the terrace foundation, among other evidence, supports the suggestion that the original building was multi-storied. Not coincidentally, the terrace's northwestern corner provides a direct line of sight to both the Ionian Sea and the palatial site at Ano Englianos. Additional features of the terrace include a 7-meter-wide central scar—— relatively recent bulldozer damage, as well as an expansive area (12 x 8 m) of flagstones at the terrace's eastern end (Cosmopoulos IKAP-IN 2009, 11 - 13); Cosmopoulos IKAP-IN 2011, 4).

CTB from Northwest
Reconstruction by Iannis Nakis
IKAP 2013-Field Report, 5 Fig. 6

Terrace Construction
Drawing by Michael Nelson
Iklaina 2011 Report, 5 Fig. 5



Despite the absence of preserved architectural features (above the level of the CT) *in situ,* small finds from the CTB and adjacent MBS structures provide a wealth of contemporary evidence. For example, over 1,000 fragments of decorative wall paintings were recovered in the excavated area adjacent to the southwest corner of the CT.[8] Cosmopoulos described fragments representing a marine/naval theme——a boat with crew and a pair of dolphins, and what may be fragments from the depiction of a procession with two female figures. Stylistic analysis indicates Minoan influences as well as mainland idiosyncrasies with specific similarities in the use of colors, especially Egyptian blue, with Pylos wall decorations (2015b, 249-259). Georgios and Palamara Tsairis's analysis also confirms the use of a second blue pigment (2017, 107-109). Cosmopoulos references Cameron's suggestion that mainlanders may have first encountered the Minoan art form on either Kos or Thera (2015b, 254-257).



Iklaina Fresco Fragments - Processional (?) and Naval Themes
Tsairis 2015, Fig. 2 - Cosmopoulos 2015b, Figs. 2,3,4
illustration layers: reconstructions over fresco fragments

At the end of the third excavation season (2009) the evidence at hand prompted a preliminary hypothesis for the historical development of the site based on the contrasting compass orientations of two architectural groupings. Outlined in the "Conclusion" sections of the 2009 and 2010 IKAP-IN reports, the orientation of LBA Mycenaean structures were characterized as: 1. 'early-Skewed' (LH II - LH IIIA2 early) and 2. 'later-Cardinal' (LH IIIA2 late - LH IIIB2). At the time Cosmopoulos stated that, subject to future evidence, the critical transition seems to have occurred in LH IIIA2 when the SW-NE orientation of structures largely built in LH II (eg. CTB) were replaced by buildings having an E-W orientation (eg. Megaron Γ and Building E). At the time it was clear that maintaining the proposed LH IIIA2 benchmark prompted questions relating to Iklaina's history——most significantly the site's relationship with the palatial center at Ano Englianos. Did this, Cosmopoulos asked, signal a LH IIIA2 hostile takeover of Iklaina (**a-pu*$_2$) and the ascendency of Pylos (*pu-ro*) at Ano Englianos to palatial preeminence? Among the implications for this scenario are the unexpectedly early date for state level complexity at Iklaina and a relatively late date for annexation by Pylos. Evidence collected during the 2011 and 2012 seasons, however, raised significant questions about this hypothesis and the implied narrative (Cosmopoulos, IKAP-IN 2009 - 2012).

8. Mycenaean wall paintings are generally referred to as fresco art. However, Hariclia Brecoulaki analysis of a number of "fresco" fragments from Pylos demonstrated that *a secco* (a technique using egg as a binder) rather than *buon fresco* may have been typical (Brecoulaki et al. 2012).

In fact, the “orientation hypothesis” was at odds with evidence associated with the corridor between Building T and the CT as it appeared that the corridor served as a ramp between the lower structures to the south and those of the elevated CTB, suggesting Building T’s late phase may have been part of the CTB. While some of the pottery recovered from the corridor was dated as early as LH IIB, a significant portion comprised LH IIIA2/IIIB1 ceramics. This would be consistent with the evidence from the excavated fill from T that included the numerous fresco fragments (mentioned above) and fine wares, resulting from a later destruction of the CTB and upper floors of Building T. Additional trenches (I, II) were opened on the northern perimeter of the CT confirming LH IIB - LH IIIA1 pottery from the lowest levels with LH IIIA2 - IIIB ceramic fragments found beneath the topsoil of trench II. This later deposit was traced northeast to the southern end CT-036——a wall constructed of massive blocks (to 0.90 × 0.70 × 0.30 m). Soundings along the western face of this wall also produced LH IIIA2 - IIIB ceramic material. Additional findings of note in the area between trench II and CT-036 were, “pieces of slag, fragments of bronze, and the head of a male bronze figurine” (Cosmopoulos IKAP-IN, 2011, 6).

Dating of these small finds suggested strongly that the CT and related structures dated to LH IIIA2/IIIB1 rather than LH II——a conclusion fundamental to subsequent interpretations and to understanding Iklaina’s relationship with Pylos. In Cosmopoulos words, “the date of the construction of the Cyclopean Terrace is crucial to the history of the site,” and the new evidence suggested a very different Iklaina history than initially proposed (IKAP-IN 2012, 2-3).







Figurines in Bone and Bronze
Trench II IKAP Report, 6 Fig. 9
Cosmopoulos IKAP-IN, 2011, 6

Ashlar Blocks
Cosmopoulos IKAP-IN 2015, 6

At the southeastern perimeter of CT elements of several intersecting walls built of large (to 0.75 x 0.60 m.) stone blocks may have been terracing elements for an expansive courtyard that spread across the MBS’s southeastern area. Two additional structures associated with the CTB——Z1 and Z2, employed ashlar blocks in the construction of antae of a size suggesting buildings of more than one story while to the east a series of orthostat slabs has been reused to create a paved area that bordered the aforementioned courtyard. Also significant were the paved roads bordering Building X, the latter provided with an ashlar masonry facade during this phase. One road to the south ended in what appears to be a formalized Gateway, an area Cosmopoulos suggested, “marked a clear transition between the area with the formal and monumental buildings and the North Sector with residential buildings” (2019, 364).

A number of structures located in the NS also attest to a significant transition——one punctuated by the purposeful destruction of much of the MBS preceding Phase 4 (LH IIIB, Middle - IIIB, End / LH IIIC Early). The two architectural phases of NS Megaron Γ exemplify the transition: the earlier “core” rooms Γ1, Γ2, and Γ3 together with three peripheral rooms Γ10, Γ11, and Γ12 (indicated in buff on the Site Plan) with later additions Γ4 - Γ7, and Γ8 indicated in red). Early phase Room Γ3 is notable for its outsized walls——thought capable of supporting a second story, as well as for an oval hearth surrounded by four column bases. These features fell into disuse with the Phase 4 subdivision of Γ3. While the plaster coated floor of Γ3 was constructed above fill

containing early and late Mycenaean pottery, the ceramics on the floor itself date to LH IIIA1 - LH IIIA2. Excavation of the later phase additions Γ5 - Γ7 revealed 2 floor levels with late period Mycenaean ceramics (LH IIIA2 to IIIB) including a, "large number of kylikes and deep bowls, as well as fragments from pithoi and coarse storage jars, a fragment from a rhyton, fragments from animal and human figurines, all mixed with animal bones and fragments of white plaster" (Cosmopoulos IKAP-IN 2009 Report, 4-7).



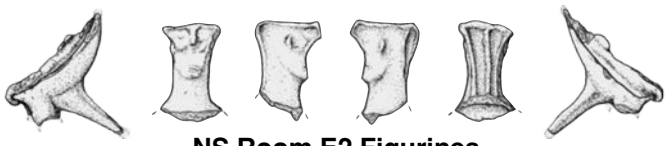
Megaron Γ a. Figurines b. Late Mycenaean Pottery
Cosmopoulos IKAP-IN 2009 , 10 Fig. 22 d, f, g; Fig. 10

The three rooms of Unit Δ are largely unremarkable although Δ 3 was filled with fragmented pottery, mostly LH IIIA1/IIIA2, mixed with white plaster and fragments of human figurines, while a number of LH IIIB sherds were found in the surrounding area. Similar pottery and an animal figurine was recovered from Unit E——a structure most notable as the starting point for Drain I (DI)——one of a number of such constructions that network across various areas of the site. DI follows a northwesterly trajectory from the western edge of E1, merges with a similar structure DII, and ultimately reaches a paved area next to the NE corner of A1. DII was constructed of, "large, flat limestone blocks, faced on both sides with small cobbles, and covered with large slabs,"—— paralleled along its entire length by a smaller terracotta pipe. Additional drains issue from the Megaron Γ's late phase including a relatively massive drain (DB) from Γ2.



DII Terracotta Pipe 2009, Fig. 16 - Unit A 2008, Fig. 9 - Walls T1-T3 & Pottery 2009, Figs. 17, 21
Cosmopoulos IKAP 2008 Report, IKAP 2009 Report

As the full extent of the drainage system became evident it raised the distinct possibility that, beginning in the LH IIIA, at least some areas of the NS functioned in an industrial capacity (Cosmopoulos IKAP 2009 Report, 7-9, IKAP 2010 Report, 15). Excavations In 2010 revealed additional NS structures including the large, rectangular Room E2 with features suggesting a workshop. These included drain DII mentioned above, that begins at the southwest corner of E2, as well as the unusual channel built into the floor that may have fed another drain. A variety of human and animal figurines were also recovered from Unit E (Cronique Iklaina 2010; Cosmopoulos IKAP 2010 Report, 12-13).

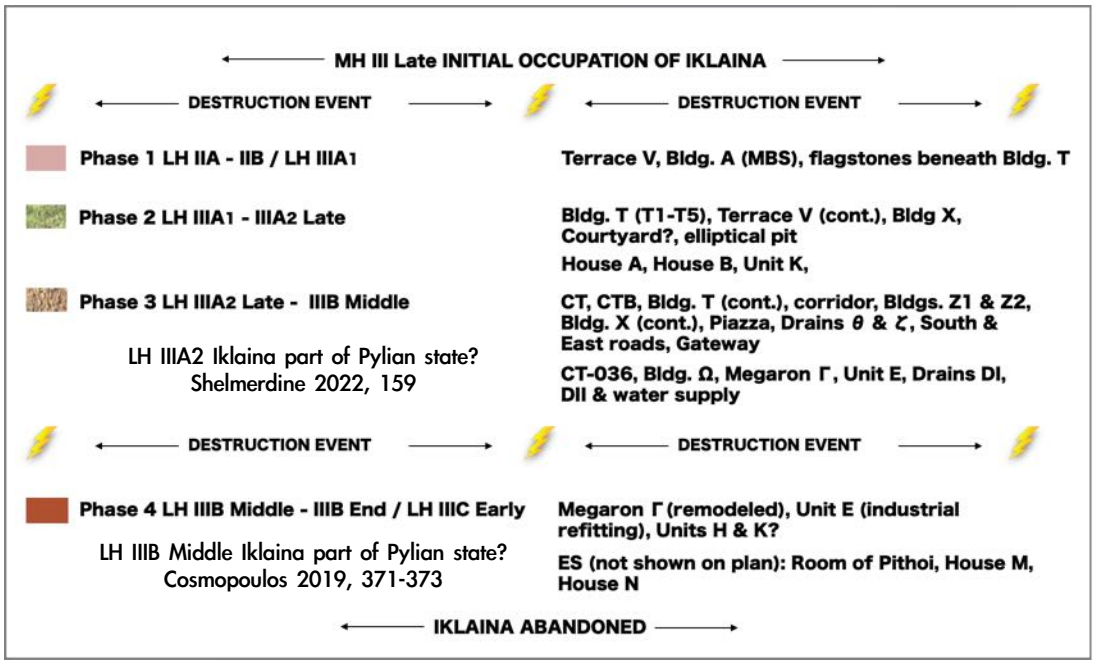


NS Room E2 Figurines
Cronique Iklaina 2010, Fig. 7 - Athens Archaeological Society

Also described as part of the industrial area are structures H1, H2, and K3 southwest of E2. A raised platform was excavated on the north side of H2 and a bathtub towards the center of the room. While the bathtub may seem more appropriate in a domestic or ritual setting, similar installations are known to have been used in the Near East for processing textiles (Cosmopoulos IKAP 2015 Report, 3-4). The area south of E2 is though to have been an open courtyard. Excavated within the intersecting east-west

drain and the pebble and plaster floor of structure K3 were ceramic fragments dating to LH IIIA - IIIB suggesting a Phase 4 date. A stone platform (Π) measuring 4.3 x 3.1 m was excavated on the eastern side of K3 (Cosmopoulos IKAP 2016 Report, 3-4).

A "New Plot" (ES, not illustrated on State Plan above) to the east of the NS was purchased in 2016. Subsequently, two areas (M, N) of a residential nature were partially excavated. Ceramic finds (undecorated wares but also significant amounts of painted pottery) dating to the LH IIIB period suggest a Phase 4 occupancy while spindle whorls, figurines (both anthropomorphic and zoomorphic), as well as storage jars and pithoi also suggest domestic dwellings (Cosmopoulos IKAP 2016 Report, 11-14).



Iklaina Revised Chronology - Color codes follow the State Plan on 401

The significance of Iklaina was first suggested by Marinatos's explorations in 1954. Three decades later Hope Simpson tentatively identified the site as **a-pu₂*, referenced in Linear B documents as one of the district capitals of the Pylian state (1981, 147). The details of Iklaina's history, however, have been significantly enhanced by excavations conducted during the early 21st century——field work that resulted in archaeological evidence that transcends supposition but raises new questions as well. The monumentality of the CTB, fresco remains, the surprising Linear B find, as well as evidence for industrial activities attest to Iklaina's developmental phases. As excavations at Iklaina proceeded the accumulated evidence suggested contrasting interpretations to the traditional 4-tier model of the Pylian state. Cosmopoulos argues for, "a forced integration [with the Pylian State] in the second half of the 13th century," (following the destruction ending Phase 3)——but significantly one, "preceded by a long period in which Iklaina and Ano Englianos followed parallel trajectories as top-tier administrative centers and capitals of micropolities." Cosmopoulos points out that from a wider perspective, "the Iklaina evidence demonstrates the degree of diversity in the character and development of Mycenaean polities and the divergence of their paths toward socio-political complexity" (2019, 373). Cynthia Shelmerdine has proposed an alternative narrative——one suggesting the possibility that Iklaina may have been part of the Pylian state as early as LH IIIA2 Early. Shelmerdine bases her hypothesis, in part, on the Linear B evidence dated to LH IIIA. Even if this doesn't conclusively tie Iklaina to the Pylian administration, "it seems unlikely," she observes, "that there was a second regional power complex enough to require written records, especially at this early stage of palatial administration" (2022, 159).

References

Adrymi-Sismani, Vassiliki. 2000. Το Διμήνι Σταν Εροχή Τομ Χακρού. 1977 - 1997. 20 Χρόνια Ανασκαψών Ph.D. Dissertation, Aristotle University of Thessaloniki.

___. 2006. "The Palace Of Iolkos And Its End". In, *Ancient Greece. From The Mycenaean Palaces To The Age Of Homer*, edited by Sigrid Deger-Jalkotzy and Irene S. Lemos. Edinburgh Leventis Studies 3. Edinburgh. Edinburgh University Press.

___. 2007a. "Mycenaean Northern Borders Revisited New Evidence From Thessaly." In *Rethinking Mycenaean Palaces II: Revised And Expanded Second Edition* (Monographs Book 60). Los Angeles. Cotsen Institute Of Archaeology Press.

___. 2007b. "Iolkos: Myth, Archaeology And History." In *The Argonautica, And Ancient History*. Phasis 10: 20-32. Tbilisi. Institute Of Classical, Byzantine And Modern Greek Studies.

Andreou, Stelios, Michael Fotiadis, and Kostas Kotsakis. 2001. "Review of Aegean Prehistory V: The Neolithic and Bronze Age of Northern Greece." (259-319) and "Addendum: 1993-1999." (320-327) In *Aegean Prehistory: A Review*, edited by T. Cullen. Boston. Archaeological Institute of America.

Bachhuber, Christoph. 2006. "Aegean Interest on the Uluburun Ship." *American Journal of Archaeology 110, 345 - 363*.

Bennett, J. 2011. The Geography of the Mycenaean Kingdom." In *A Companion to Linear B: Mycenaean Greek Texts and Their World - Volume 2,* edited by Y. Duhoux, A Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

Bennett Jr, E.L 1958. "Epigraphic Commentary. 3. The Ideograms And The Interpretation Of The Tablets From Mycenae." In *The Mycenae Tablets II* edited by Emmett L. Bennett, Jr. Transactions of the American Philosophical Society 48, 1–122. Philadelphia. American Philosophical Society.

Ben-Shlomo, D., E. Nodarou, and J.B. Rutter. 2011. "Transport Stirrup Jars from the Southern Levant: New Light on Commodity Exchange in the Eastern Mediterranean." *American Journal of Archaeology 115, 329–53*.

Bernabé, Alberto and Eugenio R. Luján. "Mycenaean Technology." *In A Companion to Linear B: Mycenaean Greek Texts and Their World - Volume 2* edited by Y. Duhoux, A Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

Bintliff, J. 1977. *"Mycenaean Geography: Proceedings of the Cambridge Colloquium September 1976."* Leiden.

Blegen, Carl W., Marion Rawson, Jack Davis, and Cynthia Shelmerdine. 2001. *A Guide to the Palace of Nestor: Mycenaean Sites in Its Environs and the Chora Museum*. Rev. ed. American School of Classical Studies. Princeton. Princeton University Press.

Boyd, M.J. 2002. *Middle Helladic and Early Mycenaean Mortuary Practices in the Southern and Western Peloponnese*. Oxford. British Archaeological Reports.

Brecoulaki H., A. Andreotti, I. Bonaduce, M.P. Colombini, A. Lluveras. 2012. "Characterization of organic media in the wall paintings of the "Palace of Nestor" at Pylos, Greece: evidence for a secco painting techniques in the Bronze Age." *Archaeological Science* 39, 2866 - 2876.

Broodbank, Cyprian. 2013. T*he Making of the Middle Sea: A History of the Mediterranean from the Beginning to the Threshold of the Classical World*. London. Thames and Hudson.

Burns, B.E. 2007. "Life Outside a Mycenaean Palace: Elite Houses on the Periphery of Citadel Sites." *British School at Athens Studies* 15, 111–9.

Cadogan, G. 2004."Vronwy Hankey." In *Breaking Ground Pioneering Women Archaeologists*, edited by Cohen, Getzel and Martha Sharp Joukowsky. Ann Arbor. University of Michigan Press.

Carothers, J.J. 1992. *The Pylian Kingdom: A Case Study of an Early State*. Ph.D. dissertation, University of California, Los Angeles.

Catling, H. W. and Millet, A. 1965. "A study of the inscribed stirrup jars from Thebes." A*rchaeometry* 8, 3.

Catling, H.W., H. Hughes-Brock, N. Brodie, G. Jones, R.E. Jones, and J.E. Tomlinson. 2009a. "Sparta: Menelaion I: The Bronze Age. Volume 1: Text." *The British School at Athens. Supplementary Volumes* 45, iii–487.

___. 2009b. "Sparta: Menelaion I: The Bronze Age. Volume 2: Figures and Plates." *The British School at Athens. Supplementary Volumes* 45, iii–344.

Chadwick, John. 1962. "Texts and Commentary." In *The Mycenae Tablets III* edited by J. Chadwick. Transactions of the American Philosophical Society 52, 1–76. Philadelphia. American Philosophical Society.

___. 1963. "The Two Provinces of Pylos." *Minos* 7, 125–41.

Cosmopoulos, Michael B. 2006. “The political landscape of Mycenaean states: A-pu2 and the Hither Province of Pylos.” *American Journal of Archaeology* 110, 205–228.

___. 2015a. "A Mycenaean open-air cult place in Iklaina.” In, *Journal of Ancient Egyptian Interconnections* 7, 3.

___. 2015b. “A group of new Mycenaean frescoes from Iklaina, Pylos". In *Mycenaean Wall Painting In Context. New Discoveries, Old Finds Reconsidered* edited by Haricleia Brecoulaki, Jack L. Davis, and Sharon R. Stocker. ΜΕΛΕΤΗΜΑΤΑ, 72. Athens. National Hellenic Research Foundation / Institute of Historical Research.

___. 2016. “The archaeological survey.” In *The Political Geography Of A Mycenaean District* edited by Michael Cosmopoulos. Athens. The Archaeological Society At Athens Library.

___. 2019. “State Formation In Greece: Iklaina And The Unification Of Mycenaean Pylos.” *American Journal Of Archaeology* 123, 349–380.

Cosmopoulos, Michael B. and Cynthia Shelmerdine. 2016. “Mycenaean Habitation In The Region Of Iklaina.” In *The Political Geography Of A Mycenaean District* edited by Michael Cosmopoulos. Athens. The Archaeological Society At Athens Library.

Cullen, Tracey (ed.). 2001. *Aegean Prehistory. A Review*. Boston. Archaeological Institute of America.

Curry, Andrew. 2019. “World of the Griffin Warriors.” *Archaeology*. Archaeological Institute of America

Dakoronia, F. 1993. “Homeric Towns in East Lokris: Problems of Identification.” *Hesperia* 62, 115–27.

Davis, Jack L., Susan E. Alcock, John Bennet, Yannos G. Lolos, and Cynthia W. Shelmerdine. 1997. “The Pylos Regional Archaeological Project Part I: Overview and the Archaeological Survey.” *Hesperia* 66, 391–494.

Davis, J.L., and J. Bennet. 2008. *Sandy Pylos: An Archaeological History from Nestor to Navarino*. Athens. American School of Classical Studies at Athens.

Day, Peter, Patrick S. Quinn, Jeremy B. Rutter, and Vassilis Kilikoglou. 2011. “A WORLD OF GOODS: Transport Jars and Commodity Exchange at the Late Bronze Age Harbor of Kommos, Crete.” *Hesperia* 80, 4 511–58.

Dickinson, O.T.P.K. 1977. *The Origins of Mycenaean Civilization*. SIMA 49. Göteborg. Åströms.

___. 1994. “The Aegean Bronze Age.” In *Cambridge World Archaeology*. Cambridge. Cambridge University Press.

___. 2016. *Later LH IIIB. A last flourishing of Mycenaean civilisation, or an age of anxiety*? UC Louvain lecture. YouTube - https://www.youtube.com/watch?v=4SD94Oh9bd0

Driessen, Jan, Alexandre Farnoux, and Charlotte Langohr. 2015. “Two More Linear B Inscribed Stirrup Jars from Malia.” In *Ein Minoer im Exil Festschrift für Wolf-Dietrich Niemeier* edit by I. Kaiser, O. Kouka And D. Panagiotopoulos. Bonn. Dr. Rudolf Habelt Ltd.

Evans, Arthur J. Vol. I: 1921; Vol. II: Part I 1928A, Part II 1928B; Vol. III: 1930; Vol. IV: Part I 1935A, Part II 1935B; Index 1936. *The Palace of Minos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*. London. MacMillan and Co.

___. 1952. *Scripta Minoa II. The Written Documents of Minoan Crete with Special Reference to the Archives of Knossos,* edited by John L. Meyers. Oxford. Clarendon Press

Evely, Don, Heinrich Hall, Catherine Morgan, and Robert K. Pitt. 2007. “Archaeology in Greece 2007-2008.” *Archaeological Reports*, no. 54, 1–113.

Fitton, L. 1996. *The Discovery of the Greek Bronze Age*. Cambridge. Harvard University Press.

French E. B., 1962, ‘New work on the House of the Oil Merchant and House of the Sphinxes,’ In “The Mycenae Tablets III” edited by J. Chadwick *Transactions of the American Philosophical Society* 52, 1–76. Philadelphia. American Philosophical Society.

___. 1965. “Late Helladic IIIA 2 Pottery from Mycenae.” *The Annual of the British School at Athens* 60, 159–202.

___. 1967. “Pottery from Late Helladic IIIB 1 Destruction Contexts at Mycenae.” *The Annual of the British School at Athens* 62, 149–93.

___. 1980. ‘Introduction.’ In Wace, A. J. B., Marian Holland, M. S. F. Hood, A. G. Woodhead, and J. M. Cook “Mycenae 1939-1952.” *The British School at Athens. Supplementary Volumes*, no. 12: i-iii, 1–93.

___. 2002. *Mycenae, Agamemnon’s Capital, The Site in its Setting*. Gloucestershire. Tempus.

Furumark, Arne. 1941. *The Mycenaean Pottery: Analysis and Classification*. Stockholm. Victor Petterson.

Galaty, M.L. 1999. “Nestor’s Wine Cups: Investigating Ceramic Manufacture and Exchange in a Late Bronze Age “Mycenaean” State.” Oxford. British Archaeological Reports.

Galaty, Michael L. and William A. Parkinson. 2007. *Rethinking Mycenaean Palaces II*: Revised and Expanded Second Edition. Monographs Book 60. Los Angeles. Cotsen Institute of Archaeology Press. Kindle.

Gilstrap, W.D., et al., 2016. “Pottery production at two neighbouring centres in the Late Bronze Age Saronic Gulf: Historical contingency and craft organisation.” *Journal of Archaeological Science*. http://dx.doi.org/10.1016/j.jasrep.2016.03.004

Hale, Christopher. 2014. “Middle Helladic Matt Painted and Dull Painted Pottery at Mitrou: an Important Distinction in Central Greece.” *Melbourne Historical Journal* | 41, 31 - 57.

___. 2016. “The Middle Helladic Fine Gray Burnished (Gray Minyan) Sequence at Mitrou, East Lokris.” *Hesperia* 85, 243–95.

Halstead, Paul. 1992. “Dimini and the ‘DMP’: Faunal Remains and Animal Exploitation in Late Neolithic Thessaly.” *The Annual of the British School at Athens* 87, 29–59.

Haskell, H.W. 1981. “Coarse-Ware Stirrup-Jars at Mycenae.” *The Annual of the British School at Athens* 76, 225-238.

___. 2016. Retrospective: An Interdisciplinary and Integrative Analytical Study of Aegean Transport Stirrup Jars. unpublished.

Haskell, H.W., R.E. Jones, P.M. Day, and J.T. Killen. 2011. *Transport Stirrup Jars of the Bronze Age Aegean and East Mediterranean*. Philadelphia. INSTAP Academic Press.

Hawkins, J.D. 1998. “Tarkasnawa King of Mira ‘Tarkondemos’, Boğazköy Sealings and Karabel.” *Anatolian Studies* 48, 1–31.

Hope Simpson, R. 2014. *Mycenaean Messenia And The Kingdom Of Pylos*. Philadelphia. Instap Academic Press.

Judson, Ann P. 2013. “The Linear B Inscribed Stirrup Jars.” Kadmos 52, 1. Berlin. De Gruyter.

Kardamaki, Elina, Peter M. Day, Marta Tenconi, Joseph Maran and Alkestis Papadimitriou. 2016. In, *Transport Stirrup Jars in Late Mycenaean Tiryns: Maritime Transport Containers and commodity movement in political context*. Uppsala. Astroms forlag.

Karkanas, P. and A. Van de Moortel, 2014. “Micromorphological Analysis of Sediments at the Bronze Age Site of Mitrou, Central Greece: Patterns of Floor Construction and Maintenance.” *Journal of Archaeological Science* 43.

Killen, J. T. 1981. “On the Mycenae Ge tablets.” In, *Res Mycenae* edited by Heubeck and G. Neumann. Göttingen.

Kramer-Hajos, Margaretha and Kerill O'Neill. 2008. ”The Bronze Age Site of Mitrou in East Lokris: Finds from the 1988-1989 Surface Survey." *Hesperia* 77, 162-250. John Coleman and William Murray. Surface Survey 1988-1989. Cornell Halai and East Lokris Project (CHELP).

Leith, Kristin E. 2013. *Expressions of Gender in Mortuary Behaviour from Middle Helladic and Mycenaean Burial Samples in the Aegean*. Ph.D. dissertation, University College London.

___. 2016. “‘Manly Hearted’ Mycenaeans (?): Challenging Preconceptions of Warrior Ideology in Mycenae’s Grave Circle B.” *Journal of Greek Archaeology*. Oxford. Archaeopress.

Maran, Joseph and Aleydis Van de Moortel. 2014. “A Horse-Bridle Piece with Carpatho-Danubian Connections from Late Helladic I Mitrou and the Emergence of a Warlike Elite in Greece During the Shaft Grave Period.” *American Journal of Archaeology* 118, 529-548.

McDonald, W. A. & Rapp, G. R. 1972. *The Minnesota Messenia Expedition: Reconstructing a Bronze Age Regional Environment*. Minneapolis. University of Minnesota Press.

Mee, C. 1978. “Aegean Trade and Settlement in Anatolia in the Second Millennium B.C.” *Anatolian Studies* 28, 121–56.

Mommsen, Hans and Joseph Moran. 2001. “Production Places of Some Mycenaean Pictorial Vessels: The Contribution of Chemical Pottery Analysis.” *OpAth*. 25-26, 95-106. Sweden. Astrom Editions.

Morgan, Catherine, Robert K. Pitt, Dominique Mulliez, and Don Evely. 2009. “Archaeology In Greece 2009-2010.” *Archaeological Reports*, no. 56, 1–201.

Mountjoy, P.A. 1986. “Mycenaean Decorated Pottery: A Guide to Identification.” *Studies in Mediterranean Archaeology*, Vol. LXXIII. Göteborg. Paul Åströms Förlag.

___. 2001 Mycenaean Pottery: An Introduction. Monograph No. 36. Oxford. Oxford University School of Archaeology.

Mylonas, George E. 1957. *Ancient Mycenae: The Capital City of Agamemnon*. London. Routledge & Paul.

Nelson, Michael C. 2017. “The Architecture of the Palace of Nestor” in, *The Minnesota Pylos Project. 1990-98. Part II. “The Architecture of the Palace of Nesto*r edited by Frederick A. Cooper and Diane Fortenberry. Oxford. British Archaeological Reports.

Palaima, Thomas G. 2011. "Scribes, scribal hands and palaeography." In *A Companion to Linear B: Mycenaean Greek Texts and Their World* - Volume 2, edited by Y. Duhoux, A Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

Palaima, T. G. and Shelmerdine C. W. 1984. "Mycenaean archaeology and the Pylos texts." In *Archeological Review From Cambridge*. Vol. 3 No. 2, 75-89. Cambridge. The Department Of Archaeology.

Pantou, Panagiota A. 2010. "Mycenaean Dimini in Context: Investigating Regional Variability and Socioeconomic Complexities in Late Bronze Age Greece." *American Journal of Archaeology* 114, 381-401.

___. 2014. "An Architectural Perspective on Social Change and Ideology in Early Mycenaean Greece." *American Journal of Archaeology* 118, 369–400.

Parkinson, William and Daniel Pullen. 2014. "The Emergence of Craft Specialization on the Greek Mainland." In, *KE-RA-ME-JA: Studies Presented to Cynthia W. Shelmerdine*, edited by Nakassis Dimitri, Gulizio Joann, and James Sarah A., 3-16. Philadelphia. INSTAP Academic Press.

Petrakis, Vassilis. 2014 "The Inscribed Stirrup Jar (EL Z 1)." In *The Sanctuary of Demeter and Kore at Eleusis. The Bronze Age. Vol. 2, Pottery and Small Finds*. Appendix 1. Athens. Library of the Athens Archaeological Society.

Petrie, William M. F. 1891. "Notes on the Antiquities of Mykenae." *The Journal of Hellenic Studies* 12, 199–205.

Pratt, C.E. 2016. "The Rise and Fall of the Transport Stirrup Jar in the Late Bronze Age Aegean." *American Journal of Archaeology* 120, 27–66.

Rehak, P., and J.G. Younger. 2001. "Review of Aegean Prehistory VII: Neopalatial, Final Palatial, and Postpalatial Crete." In *Aegean Prehistory: A Review*, edited by T. Cullen, 383-465 and 466-473. Boston. Archaeological Institute of America.

Renfrew, C., N. Brodie, C. Morris, C. Scarre, R.L.N. Barber, J.F. Cherry, J.L. Davis, et al. 2007. "Excavations at Phylakopi in Melos 1974-77." *The British School at Athens. Supplementary Volumes* 42, v–521.

Rutter, J.B. 2005. "Southern Triangles Revisited: Laconia, Messenia, and Crete in the14th - 12th Centuries B.C." In *Ariadne's Threads: Connections between Crete and the Greek Mainland in the Postpalatial Period (LM IIIA2 to LM IIIC)* edited by A. L. D'Agata and J. Moody. Athens. Italian School of Archaeology in Athens.

Rutter, J. B. and Sarah H. Rutter. 1976. "The Transition to Mycenaean: A Stratified Middle Helladic II to Late Helladic IIA Pottery Sequence from Ayios Stephanos in Lakonia." Los Angeles. Institute of Archaeology, University of California.

Sakellariou, Agnes . 1964. *Die minoischen und mykenischen Siegel des Nationalmuseums in Athen. Corpus der minoischen und mykenischen Siegel*. Band I. Berlin. Verlag Gebr. Mann.

Schallin, Anne-Louise. 2002. "Pots for Sale: the Late Helladc IIIA and IIIB ceramic production at Berbati." *New Research on Old Material from Asine and Berbati: In Celebration of the Fiftieth Anniversary of the Swedish Institute at Athens edited by Berit Wells*. Stockholm. P. Aström.

Shelmerdine, C.W. 1985. *The Perfume Industry of Mycenaean Pylos*. Göteborg. Paul Aströms Förlag.

___. 1997. "Review of Aegean Prehistory VI: The Palatial Bronze Age of the Southern and Central Greek Mainland." *American Journal of Archaeology* 101, 537-585.

___. 1999. "Administration in the Mycenaean Palaces: Where's the Chief*?"* In *Rethinking Mycenaean Palaces: New Interpretations of an Old Idea* edited by M.L. Galaty and W.A. Parkinson. UCLA Mon 41.Los Angeles.

___. 2008a. "The Perfumed Oil Business." In *Sandy Pylos: An Archaeological History From Nestor To Navarino* edited by Jack Davis. Princeton. American School Of Classical Studies At Athens.

___. 2008b. "Mycenaean Society." In *A Companion to Linear B: Mycenaean Greek Texts and Their World* - Volume 1, edited by Y. Duhoux, A Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

___. 2013. "Crafts, Specialists, and Markets in Mycenaean Greece. Economic Interplay Among Households and States." *American Journal of Archaeology* 117, 447-452.

___. 2022. "Pottery and Stratigraphy at Iklaina in the 14th–13th Centuries BC." In *Synchronizing the destructions of the Mycenaean palaces* edited by Reinhard Jung and Eleftheria Kardamaki. Mycenaean Studies Vol. 36. Austrian Academy of Sciences.

Shelton, K. 2010." Citadel and Settlement: A Developing Economy at Mycenae, the Case of Petsas House." In *Political Economies of the Aegean Bronze Age* edited by D. Pullen. Oxford. Oxbow Books.

___. 2016. "Petsas House, Pottery Production, and the Mycenaean People in LH IIIA2." In RA-PI-NE-U. *Studies on the Mycenaean World offered to Robert Laffineur for his 70th Birthday* edited by Jan Driessen. AEGIS. Louvain. University Presses of Louvain.

___. 2018. “Petsas House, Mycenae. The Excavation of a 14th Century BCE Residential and Industrial Complex.” Abstract, Report, and brief Bibliography. The Center for Hellenic Studies, Research Bulletin. Cambridge. Harvard University Press.

Simpson, R. Hope. 1965. “A Gazetteer And Atlas Of Mycenaean Sites.” Bulletin Supplement (University of London. Institute of Classical Studies). Oxford. Oxford University Press.

Stocker, S.R., and J.L. Davis. 2016. *Lord of the Gold Rings: The Grave of the Griffin Warrior of Pylos*. Videocast. American School of Classical Studies at Athens.

Stockhammer, P. 2008. “Kontinuität und Wandel: Die Keramik der Nachpalastzeit aus der Unterstadt von Tiryns.” Ph.D. dissertation, Ruprecht-Karls-Universität Heidelberg.

http://www.ub.uni-heidelberg.de/archiv/8612/(2009)

Stubbings, F. H. 1947. “The Mycenaean Pottery of Attica.” *The Annual of the British School at Athens* 42, 1–75.

Tournavitou, Iphiyenia. 1995. “The ‘Ivory Houses’ at Mycenae.” *The British School at Athens. Supplementary Volume* 24, ii–341. London.

___. 2017. *The wall paintings of the West House at Mycenae*. Philadelphia. INSTAP Academic Press.

Treherne, Paul. 1995. “The Warrior's Beauty: The Masculine Body And Self-Identity In Bronze-Age Europe.” *Journal Of European Archaeology* 3, 1.

Tsairis, G., E. Palamara, N. Zacharias & M. Cosmopoulos. 2017. “A non-destructive technological study of three fresco fragments from Iklaina, Pylos, Greece.” *Science & Technology of Archaeological Research*, 3, 105-114.

Tsokas G.N., Van de Moortel A., Tsourlos P., Stampolidis A., Vargemezis G., Zachou E. 2012. “Geophysical Survey as an Aid to Excavation at Mitrou. A Preliminary Report.” *Hesperia* 8, 383-432.

Tsountas, Christos. 1908. *Hai proïstorikai akropoleis Dimēniou kai Sesklou*. Athēnai. Sakellarios.

Tzonou-Herbst, Ioulia 2002. *A Contextual Analysis Of Mycenaean Terracotta Figurines*. Ph.D. dissertation, University of Cincinnati.

van Alfen, P.G. 2008. “The Linear B Inscribed Vases.” In *A Companion to Linear B: Mycenaean Greek Texts and Their World* - Volume 1, edited by Y. Duhoux, A Morpurgo Davies. Bibliothéque des Cahiers de l'Institut de Linguistique de Louvain. Louvain-La-Neuve. Peeters.

Van de Moortel A. 2011. “The Bronze Age-Iron Age Transition at Mitrou, in East Lokris: Evidence for Continuity and Discontinuity.” In *The “Dark Ages” Revisited. Acts of an International Conference in Memory of William D.E. Coulson* edited by Ainian A. Mazarakis. Volos. University of Thessaly Press.

___. 2012. “The Middle Bronze Age Boat of Mitrou, Central Greece.” In *Between the Continents. Proceedings of the 12th International Symposium on Boat and Ship Archaeology, Istanbul 2009* edited by Nergis Günsenin. Istanbul. Zero Productions.

___. 2016. Van de Moortel, A. “Politics of Death at Mitrou, East Lokris,” In Staging Death: Funerary Performance, Architecture, and Landscape in the Aegean edited by A. Dakouri-Hild and M. Boyd. Berlin. De Gruyter.

___. 2017. “A New Typology of Bronze Age Aegean Ships: developments in Aegean shipbuilding in their historical context.” In, *Baltic and beyond Change and continuity in shipbuilding. Proceedings of the Fourteenth International Symposium on Boat and Ship Archaeology Gdańsk* edited by Jerzy Litwin. Gdańsk. National Maritime Museum.

___. 2020. “Middle Helladic Architectural Practices And The Formation Of Elite Architecture At Mitrou, East Lokris, Early In The Late Helladic Period.” In *Archaeological Work Of Thessaly And Mainland Greece 5 - 2015*. Proceedings of a scientific meeting. Volume I. Volos. University of Thessaly Press.

Van de Moortel A. and Zahou E. 2004. “2004 Excavations at Mitrou, East Lokris.” *Aegean Archaeology* 7, 39-48.

___. 2012. Five Years Of Archaeological Excavation At The Bronze Age And Early Iron Age Site Of Mitrou, East Lokris (2004-2008). Preliminary Results, Αεθσε 3, 1131-1146. Volos. University Of Thessaly Press.

Van De Moortel, Aleydis, Salvatore Vitale, Bartłomiej Lis, and Giuliana Bianco. 2019. “Honoring The Dead Or Hero Cult? The Long Afterlife Of A Prepalatial Elite Tomb At Mitrou.” In *MNHMH / MNEME: Past And Memory In The Aegean Bronze Age* edited by Elisabetta Borgna, Ilaria Caloi, Filippo Maria Carinci and Robert Laffineur. Aegeum 43. Louvain-La-Neuve. Peeters.

Van de Moortel, A., E. Zahou and J.B. Rutter. 2018. “Mitrou and Proskynas in Prehistoric East Lokris: Chronology, Interconnections, and Society.” In Pyrrha. *Meletes gia tin archaiologia stin Kentriki Elladha pros timin tis Fanourias Dakoronias*, edited by M. Papakonstantinou, H. Kritzas, and I.P. Touratsoglou. Vol. I. Athens. *Proistorikoi chronoi*.

Verdelis, Nicholas M. 1962. “The West House.” In *The Mycenae Tablets III* edited by John Chadwick. *Transactions of the American Philosophical Society* 52, 7.

Veropoulidou, Rena. 2011. "*Spondylus gaederopu*s tools and meals in Central Greece from the 3rd to the early 1st millennium BCE." In *Spondylus in Prehistory: New Data and Approaches Contributions to the Archaeology of Shell Technologies* edited by R. Ifantidis and M. Nikolaidou. Oxford. British Archaeological Reports..

Vitale, S. 2011 "Late Helladic IIIA2 Pottery from Mitrou and its Implications for the Ceramic Chronology of the Mycenaean Mainland." In *Our Cups are Full. Pottery and Society in the Aegean Bronze Age. Papers Presented to Jeremy B. Rutter on the Occasion of his 65th Birthday* edited by W. Gauß, M. Lindblom, A. Smith, and J.C. Wright. Oxford. British Archaeological Reports.

___ 2012. "Local Traditions and Mycenaeanization in North-Central Greece. A Preliminary Report on the Late Helladic II to Late Helladic IIIB Pottery from Mitrou, East Lokris, and Its Significance." In *From Prehistory to the Contemporary Period* edited by A. Mazarakis Ainian. Volos. University of Thessaly Press.

Voutsaki, Sofia. 2010. "From The Kinship Economy To The Palatial Economy: The Argolid In The Second Millennium BC." In *Political Economies of the Aegean Bronze Age* edited by Daniel J. Pullen. Oxford. Oxbow Books.

Wace, A.J.B. 1939. "Mycenae, 1939." *The Journal of Hellenic Studies* 59, 210–2.

___. 1950. "Excavations at Mycenae, 1939." *The Annual of the British School at Athens* Vol. 45.

___. 1951. "Mycenae 1950." *Journal Of Hellenic Studies* 71, 254 - 257.

___. 1958, "Introduction." In *The Mycenae Tablets II,* edited by E. L. Bennett Jr. *Transactions of the American Philosophical Society* 48, 1–122. Philadelphia. American Philosophical Society.

Wace, A.J.B. and C. W. Blegen, 1939. "Pottery as Evidence for Trade and Colonisation in the Aegean Bronze Age." *Klio*, 32, no. 32,131-147. Berlin. De Gruyter.

Wace, A.J.B., W.A. Heurtley, W. Lamb, L.B. Holland, and C.A. Boethius. 1921 - 1923. "The Report of the School Excavations at Mycenae, 1921-1923 [Corrected Title: The Report of the School Excavations at Mycenae, 1920-1923]." *The Annual of the British School at Athens* 25, 1–434.

Wace, A. J. B. And M. S. Thompson. 1912. *Prehistoric Thessaly*. Cambridge. Cambridge University Press.

Whitley, James, Sophia Germanidou, Dusanka Urem-Kotsou, Anastasia Dimoula, Iren E Nikolakopoulou, Artemis Karnava, And Don Evely. 2006. "Archaeology In Greece 2006-2007." *Archaeological Reports*, 53, 1-121.

Wiener, Malcolm H. 2015. "The Mycenaean Conquest Of Minoan Crete." In *The Great Islands: Studies of Crete and Cyprus presented to Gerald Cadogan* edited by Colin MacDonald, Eleni Hatzaki, and Stelios Andreou. Athens. Kapon Editions.

Wright, James C. 2006. "The formation of the Mycenaean palace." In *Ancient Greece: From The Mycenaean Palaces To The Age Of Homer* edited by Sigrid Deger-Jalkotzy and Irene S. Lemos. Edinburgh Leventis Studies 3. Edinburg. Edinburg University Press.

Zahou, Elani. 2004. "Die frühbronzezeitliche Siedlung in Proskynas/Lokris." In, *Die ägäische Frühze it: Die Frühbronzezeit in Griechenland,* edited by Eva Alram-Stern. Vienna. Verlag der Österreichischen Akademie der Wissenschaften.

___ . 2009. *The Early Helladic Settlement of Proskynas: Spatial Organization of the Settlement, Production and Consumption of the Pottery Assemblage*. Ph.D. dissertation, Aristotle University of Thessaloniki.

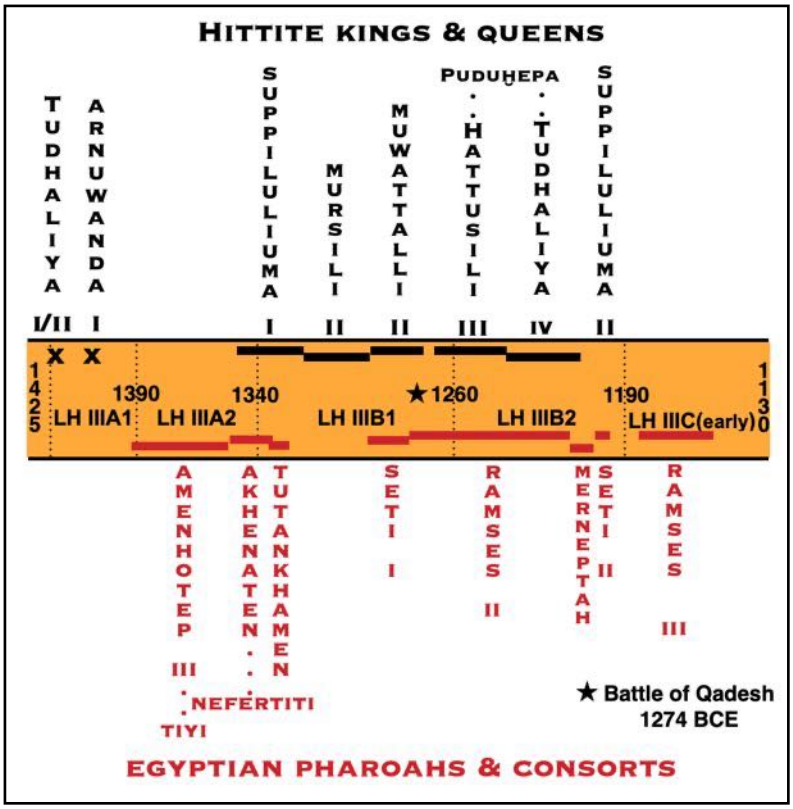
Zangger, E. 1991 "Prehistoric Coastal Environments in Greece: The Vanished Landscapes of Dimini Bay and Lake Lerna." *Journal of Field Archaeology* 18, 1–15. Thessaloniki. Aristotle University of Thessaloniki.



Eastern Mediterranean Late Bronze Age



"Tawagalawa" Letter (CTH 181)
Hattusili III? to King of Ahhiyawa
mid-13th century BCE



Hittite and Egyptian Royalty (in part)
after Cline 2021

The Rest Of The World

Understanding Mycenaean foreign relations requires a broader perspective than we have taken to this point.Two resources will be helpful: an ancient shipwreck and an exhibit catalog. Early in the 21st century The Metropolitan Museum of Art held two major exhibits——*Art of the First Cities: The Third Millennium B.C.* followed by *Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium B. C.* In his foreword to the second exhibit's accompanying volume, Philippe de Montebello enumerated the various countries that had lent, "treasures in their national collections," and were also representative of, "their ancient cultures" (Aruz, Benzel, and Evans 2008, vii). The artifact sources included Turkey, Syria, Lebanon, Egypt, Greece, Georgia, and Armenia. Montebello continued, without so much as a blush, to list London, Paris, Berlin, Turin, and Brussels as the locations of, "the museums of Western Europe" that contributed to the exhibit, "many of its most significant works" (ibid.). Montebello's country list comprises a geography of the sphere of influence and interaction of the LBA Mediterranean cultures. The contrasting locations of the European museums are notable. These are exclusively western institutions——often expanded to house and display eastern antiquities, many collected amidst the 19th century CE search for biblical roots, in what at the time were little known, even alien, territories. However, this acquisitive fervor contributed to the early development of the associated disciplines of archaeology and anthropology. Volumes have been written about the implications and juxtapositions of this east-west dynamic and prompt a reminder that an awareness of our own cultural perspectives is useful as we seek to understand and interpret the archaeological record of ancient peoples. Whatever we might think about the present disposition of the art and artifacts that were gathered at the Met in 2008, paging through the exhibit's publication is an extraordinary visual adventure. Illustrated below are exhibit artifacts from Qatna, Hatuŝas, Boeotian Thebes, and Cyprus. The lapis seal is one of 38 seals found adjacent to the Mycenaean palace (Kadmeion) at Thebes. It is unique among the group for the inscribed name, *Burra-Buriash* (II)——the Kassite king of Babylonia in the mid-14th century BCE. Burra-Buriash is perhaps best known for his communications with Amenophis II, Akhenaten, and presumably Tutankhamun——the Egyptian pharaohs of the Amarna Letters. While connections between the Greek mainland and Mesopotamia are uncommon, the Kassite seal excavated more than 2000 KM from Babylon suggests the interconnections of the LBA world (ibid, 281-282; Huehnergard 2014, 2).



Decorative Gold Duck Heads
Qatna Royal Palace
Natl. Mus. Damascus, Syria



Hittite Divinity - Shaushga?
Boğazköy
Çorum Mus., Turkey



Lapis lazuli Kassite Cylinder Seal
Palace workshop, Thebes
Archaeological Museum Thebes

Aruz, Benzel, and Evans 2008, *Beyond Babylon*
222 Fig. 129; 188 Fig 119; 281 Fig. 177c

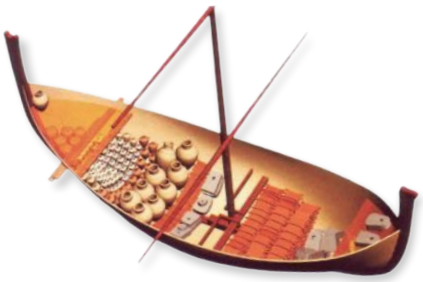


Copper Ingot (L. 77 cm) 308 Fig. 185a
Uluburun Shipwreck (Cyprus)
Bodrum Mus. of Underwater Arch.

Archaeological Evidence

In her popular account, *Mycenae, Agamemnon's Capital*, Elizabeth French makes a critical point about archaeological evidence. "Only certain materials survive from antiquity, so any description of artifacts produced by the Mycenaeans cannot avoid being unbalanced" (2002, 103). The physical characteristics of artifacts are fundamental to this imbalance. Food, textiles, and wood normally decompose rapidly and in any case may be totally destroyed by fire. Ceramic and metal items on the other hand may persist for centuries——even millennia. However, the corrosive and recyclable characteristics of metals has played a role in shaping evidence. "Survivability" is also a function of where an object is deposited. Highly perishable items have been recovered in situations that, by chance, impeded decomposition. French also points to chance as a significant variable. More than a century and a half after the "discovery" of Mycenae, mainland palatial sites continue to be unearthed; others doubtless remain unknown. Choice plays a role as well. Early adventurers and explorers, antiquities collectors, and excavators from the Aegean to Mesopotamia often focused on monumental statuary, luxury items and finely decorated, mostly intact ceramic vessels. French also points out that during the Palatial period artifactual evidence of Mycenae's wealth comes not from mortuary finds (as was true for the shaft grave era) but from non-funerary contexts. This appears, in part, to be related to sumptuary restrictions, presumably dictated by Mycenaean elite (ibid., 104). Not surprisingly a majority of the 145 objects listed in the Met's exhibit are luxury items. Typically, these are extraordinary and rare artifacts that draw crowds and enhance the reputation of museums. In fact, many of these same objects were rarities in the second millennium BCE——the property of the elite few for whom "dazzle" value was as important then as it is today. Fortunately, many contemporary museum exhibits, including those at the Met and the new site museum at Mycenae, also devote space to what French terms the "less striking" and "mundane" objects (ibid. 103-104). Another relatively new institution, the Bodrum Museum of Underwater Archaeology (BMUA) displays important evidence collected by nautical archaeologists related to LBA trade.[1] While the ingot illustrated above is relatively mundane, it comes from a cargo that is among the more informative sources for the LBA Mediterranean.

The Briny Deep: Uluburun & Gelidonya



Uluburun - Hold & Cargo View
Aruz, Benzel, and Evans 2008, Fig. 94
Metropolitan Museum of Art

The excavations of two shipwrecks——located off the southern coast of Turkey, provide direct evidence for the transport and trade of raw materials and finished goods during the LBA. The Cape Gelidonya wreck, the first to be excavated, opened the era of nautical archeology. Included among the pioneers of this new discipline were Peter Throckmorton, Honor Frost, and George Bass. Subsequently, between 1984 and 1994, Bass and Cemal Pulak directed the excavation of the Uluburun shipwreck. The contrasting dates (Uluburun ca. 1300 BCE and Gelidonya ca. 1200) and cargoes proved significant. While the Uluburun was in service at the peak of LBA commerce, the Gelidonya wreck occurred at a time when international trade had been severely disrupted. Based on the cargo (some bronze and tin, scrap metals, and metal tools), a number of scholars, including Pulak, characterized the Gelidonya's commercial enterprise as "tramping" or "cabotage" . . . "engaged in opportunistic trade" as contrasted with the Uluburun and her much larger cargo (raw materials and elite-style,

1. Among the BMUA exhibits are finds from the Uluburun shipwreck, excavated in large part by the Institute of Nautical Archaeology (INA) at Texas A&M University.

high-value object) indicating, “prestigious trade, occurring over long distances and involving items of great economic value” (2008, 297-299). The distinct differences in their cargos has played a part in discussions and debates relating to the categories of commercial trade and royal exchange discussed below. What is beyond debate is the significance of the Uluburun’s diverse and relatively well preserved cargo (Pulak 2008, 289-304). A Canaanite (or Phoenician) vessel of 20 tons burthen, the Uluburun was transporting a mixed cargo from assumed points of origin indicative of LBA states with whom Mycenaeans had either direct or indirect commercial contact. It is hypothesized the ship sailed north from a Mediterranean coastal entrepôt, perhaps Tell Abu Hawam——modern Haifa, along the Syro-Palestinian coast east of Cyprus, and turned west to follow a course along the southern coast of Anatolia on route to an assumed destination on the Greek mainland (Pulak 2010, 864). In addition to the Canaanite captain and crew, the ship carried several merchants (suggested by the sets of weights used in mercantile exchange) as well as two Mycenaeans (identified by mainland style personal goods including tableware, razors, swords, lentoid seals, and beads)——perhaps acting as envoys representing the interests of one or more elite rulers—the presumed recipients of the cargo (ibid., 871-872). See also Bachhuber 2006. Although the raw materials are of particular interest as evidence for commercial trade, a number of the finished goods are also noteworthy. A small gold scarab inscribed with the name of Nefertiti, daughter-in-law of Amenhotep III and wife of the heretic pharaoh Akhenaten, is of particular interest—the scarab being, “the first object naming Akhenaten or Nefertiti to be found in this area of the ancient world” (Weinstein 1989, 17).



Nefertiti Gold Scarab
Uluburun Shipwreck
Bodrum Mus. of Underwater Arch.

The now famous, but ill-fated, vessel foundered off the rocky Uluburun promontory. Although the material evidence is richly informative——a virtual “time capsule” (according to George Bass, 1991) of LBA products being bartered and/or exchanged, the precise nature of the ship’s commercial enterprise remains somewhat unclear. Much of the concurrent textual evidence (see Amarna Letters / Ugarit below) relates to elite transactions carried out by the king’s “messengers” and it is thought the Mycenaeans aboard the shipwreck may have been in the employ of a palace and/or hired mercenaries (Pulak 2008, 301). While individual entrepreneurs must have conducted local trade, Pulak makes the point that ventures such as those undertaken by the Uluburun would necessarily require access to large amounts of credit or capital. In any case, the fate of the Uluburun clearly demonstrates——this was a high risk business. Thus many scholars argue that such ventures would have needed both the backing and protection of a state-sized entity. While there was no accounting for the vagaries of weather, having Mycenaean muscle onboard might have deterred threats of piracy and lengthened the odds for a successful voyage (Pulak 2010, 869-870).

Aside from the 24 stone anchors and additional cobblestone ballast, raw materials make up the largest portion of the Uluburun’s cargo by both weight and volume. The 354 copper ingots (most “oxhide” shaped) and an unknown number of tin ingots with an estimated weight of eleven tons were the primary cargo. Cyprus is the confirmed source for the copper while the tin may have come from either Afghanistan or the Taurus Mountains in Anatolia. Perhaps surprisingly, the second largest component is terebinth resin, filling over 75 of the 150 Canaanite jars stored in the hold. One source for this resin is *Pistacia atlantica* (Pistacio tree or Atlantic Terebinth), known from the Dead Sea

region. A more recent analysis suggests the source of the resin transported by the Uluburun may have been *P. lentiscus,* a subspecies common on Crete (Beckmann, 2012). In any case, the resin may well have been intended for use in the production of perfumed oil as attested at Pylos. If there had been a manifest for the Uluburun, the 175 glass ingots weighing approximately 770 pounds would have received prominent mention (Pulak 2010, 865-867). This is one of a number of materials that suggest the importance of local craft industries——in this case jewelry making. The numerous finds at Mycenae in shrines, tombs, and settlement areas suggest to French that ornaments crafted from blue glass beads (faux lapis lazuli) were not subject to the typical sumptuary restrictions. Also attested from mainland sites are the the molds into which molten glass was poured to create various faience and glass ornaments (2002, 116). Unworked ivory, both elephant tusk and hippopotamus teeth, also survived its 3,000+ year submersion in the salt water. The ebony logs (African Blackwood - *Dalbergia melanoxylon*) fared less well and although several dozen, meter-long logs were recovered, an unknown number disintegrated——due in part to fungal growth and the numerous burrowing organisms that inhabit ocean water. Ebony and ivory are components of luxury furniture crafted in Egypt and mentioned in the Amarna Letters as exchange gifts. Pulak finds it remarkable that unfinished ebony was being exported, as, "this suggests that it was destined for a palace or other centralized entity capable of mobilizing the resources necessary to operate a workshop for the production of such luxuries" (2008, 294). But see Mycenae's Ivory Houses above. A number of other bulk goods including spices, olives, and almonds were onboard along with numerous finished goods. The raw materials, as detailed above, provide specific evidence for major items of trade. The materials alone, however, don't address directly who had organized and directed this enterprise. Monroe points out that while much of the Uluburun inventory is a close match for items mentioned in a number of the Amarna Letters——and thus is consistent with royal gift exchange, the recovered objects also include evidence suggesting commercial transactions (2009, 13-14). This matter is discussed in detail below. On the demand side, numerous sites across the Aegean provided ready markets as well as the skilled craftworkers capable of turning the raw materials into finished products.



Ivory Carving - LH IIIB2
Mycenae Room with Fresco
Arch. Mus. of Mycenae



Red Steatite Mold - LH IIIB2
Mycenae
Arch. Mus. of Mycenae





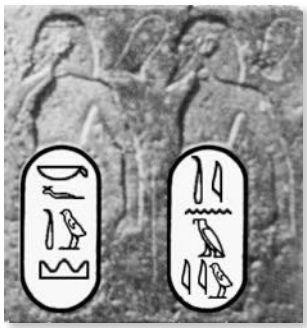


Hippopotamus Tooth **Ivory Figurine** **Copper Ingot Fragment**
Mycenae LH IIIB - early LH IIIC
Arch. Mus. of Mycenae

Orientalia

About a century and a half before the Uluburun sank the balance of power in the Aegean had shifted. Both natural disasters and Mycenaean aggression were likely involved in the decline of the Minoan civilization. Although Crete may never have established an absolute thalassocracy, by the early decades of the second millennium BCE Minoans dominated the Aegean. Evidence attesting to the significance of Minoan influence is not restricted to the mainland and Cycladic islands but is also evident in the

Dodecanese, western Anatolia, Cyprus, and the Levant. Egypt as well seems to have come under the spell of the Minoans (if for nothing else than their aesthetic tastes) as attested by the imported decorated pottery as well as the adoption of Minoan-style fresco paintings. The New Kingdom pharaonic courts of Thutmose II, Hatshepsut, and Thutmose III each attests to Minoan influences——the wall paintings at Tell el-Dab'a in the Nile Delta being a celebrated example. By the reign of Amenhotep III (ca. 1386 - 1353 BCE), however, a Mycenaean presence is evident alongside the well established Minoan connections with Egypt. Eric Cline has spent much of his professional career ferreting out the relationships between the LBA powers and we can follow Cline's trail to Egypt and in particular to Kom El-Hetan—the vast mortuary temple of Amenhotep III, situated across the Nile from Thebes (1994, 2009). Amenhotep III (ca. 1388 -1351 BCE) came to power at the pinnacle of Egypt's fortunes and influence. Following a period of Hyksos rule, the remarkable early pharaohs and consorts of the 18th Dynasty, including Ahmose I, Nefertari, Tutmose I and II and Hatshepsut, had consolidated Egyptian authority and expanded their territorial control northward to southern Syria. Significantly, Amenhotep III also had access to the natural resources of Kush (Nubia) including an abundance of gold as well as the plant and animal riches of tropical Africa. Absent the expenses, risks, and responsibilities of military engagements, Amenhotep III was free to engage in international diplomacy with all the advantages of "the great king" as well the inclination and wealth to institute large scale building projects with an aim of glorifying and memorializing his own, and to be fair, his Queen's excellence. And this brings us back to Kom El-Hetan and Cline's interest in what is commonly referred to as the "Aegean List." In 1987 Cline's attention was drawn to correspondences between artifacts associated with Amenhotep III and Queen Tiye found on both Crete and mainland Greece with one of a series of statues in the Peristyle Court at the pharaoh's mortuary temple (Cline and Stannish 2011, 6-7). Hieroglyphs carved into the bases of one group of statues at Kom El-Hetan were toponyms for a number of important Aegean sites as well as Egyptian vassalages in the eastern Mediterranean. By the mid-1960s it was recognized that Aegean place names were inscribed on the base of this statue. Hieroglyphs naming each geographic locations were placed within a "fortified oval," the Egyptian convention used to indicate a foreign town. Two of these, placed at the "head" of the list, were known from other inscriptions and wall paintings as hieroglyphs naming: *kftiw* - *Keftiu* - Crete (left oval below) and *tny* - *Tanaja* - Danaia or mainland Greece (right oval below). Drawing on observations made in the 1960s, the most recent site work between 2000 - 2005, and Cline's hypothesis that the association of Minoan and Mycenaean place names may suggest a shift in power from Crete to the mainland, Cline and Stannish gathered evidence in support of the possibility that the names wrapped around the base of the statue may in fact represented an actual itinerary (Cline 1998, 248; Cline and Stannish 2011, 6-7, 11).[2] Following the Keftiu and Tanaja "headings" shown at left, the suggested sequence of toponyms on the face and continuing along one side of statue PWV V is: 1) Amnisos, 2) Phaistos, 3) Kydonia, 4) Mycenae, 5) Thebes?, 6) Methana or Messana, 7) Nauplion, 8) Kythera, 9) Eleia or Ilios, 10) Knossos, 11) Amnisos, and 12) Lyktos. Three site names were unrecovered.



Statue Base E_N [PWN V]
Amenhotep III Mortuary Temple
Kom El-Hetan Peristyle Court

2. A number of scholars have worked on the "Aegean List" puzzle including Kenneth A. Kitchen, Elmar Edel, Vronwy Hankey, Hourig Sourouzian, Rainer Stadelmann, and Manfred Görg.

During the 1960s the statue in question was severely damaged and then painstakingly restored in 2005. This and the apparent re-carving of several hieroglyphs at the time the statue was created obscured parts of the inscriptions and has led some scholars to suggest alternative toponyms. Cline and Stannish maintain that even should this be the case, "we are still left with an east-west-east sequence of unique Aegean names*"* (2011, 12). Is it possible Amenhotep III, perhaps accompanied by his most favored wife Queen Tiyi, partook of an Aegean cruise——stopping off at Crete before sailing north to the head of the Argolic Bay and disembarking at Tiryns? The royal caravan might then have progressed from the port to Mycenae to be received by the *wanax* and his court. For Cline and Stannish——such a meeting (or perhaps a high level delegation) seems a distinct possibility. In fact, the toponyms on the base of PWN V are unique among Egyptian inscriptions and are also part of a larger body of evidence indicating a special, perhaps even personal, relationship between Amenhotep III and the *wanax* of Mycenae (ibid.,12).



Minoan Pottery Group
Lahun, Egypt - F. Petri
© Trustees of the British Mus.



Mycenaean Pottery Group
Tell el-Amarna, Egypt - F. Petri
© Trustees of the British Mus.

An Egyptian-Aegean connection was recognized early in Aegean studies. During the 1890s, while excavating in Egypt, Flinders Petrie recovered both Minoan and Mycenaean pottery. Finds from Lahun and Amarna respectively, led Petrie to suggest Aegean cultures dated to the second millennium BCE (1891, 199-205). Although Petrie's suggested chronology was initially met with skepticism, subsequent excavations across the eastern Mediterranean confirmed his view. Vronwy Hankey, a student of Alan Wace, was one among a small number of second generation Aegean archaeologists whose experience and expertise included the Levant and Egypt (Cadogan 2004). And it was Hankey who first suggested there might be a connection between Mycenaean ceramics at Amarna, Egyptian artifacts at Mycenae, and a possible maritime legation reflected in the Kom El-Hetan toponyms. Inspired by Hankey's proposal Cline undertook the monumental task of gathering the facts (1994, 2009). His collation of artifacts ("Orientalia"), in concert with iconography, textual references, and inscriptions, has been instrumental in defining the parameters of LBA trade as well as suggesting a number of specific relationships between and among the various states.



Amenhotep III Scarab "Text"
"prowess as Lion Hunter"
© Metropolitan Mus. of Art

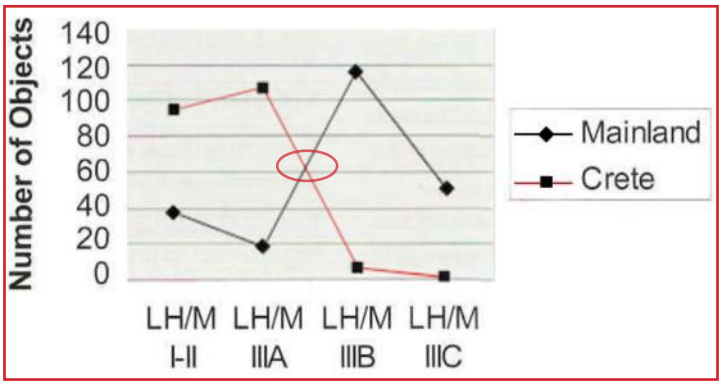
As noted above, Amenhotep III dedicated a good deal of his reign to self-promotion. Statuary was a specialty but he may also have recognized the utility of what we call "text messaging" (in the form of commemorative scarabs), brief communiques announcing his hunting prowess, upcoming wedding plans, and various public works projects. Scarabs similar to the one illustrated above have been found north to Syria and south beyond the Second Cataract. The "presence" of Amenhotep III

at Mycenae, however, takes an entirely different form——the faience plaque. Each of these plaques (6-8" x 4") bears the title of Amenhotep III. It is estimated that the various plaque fragments belong to at least nine originals. Significantly, Mycenae is the only site where such plaques have been found (Cline 2014, 48-49). Additional pharaonic finds at Mycenae include two scarabs bearing the name of Queen Tiyi and a vase stamped with the cartouche of Amenhotep III (Cline 1987, 24-25).



Amenhotep III Vase **Queen Tiyi Scarab** **Amenhotep III Faience Plaque**
Taylour collection
Cline 1978, Tab II Fig. 5; Tab I Fig. 4; Tab III Fig. 9

It is unlikely that the imagined voyage will be confirmed (or disproved) absent the discovery of textual evidence. However, the hypothesis itself has generated important advances by suggesting novel ways to contextualize the evidence at hand. Understanding the details of the commercial network operating during the LBA still poses many challenges, one of which relates to the the changing relationship between the mainland and Crete during the LBA . Cline has applied his "Orientalia" data is a way that illuminates one aspect of the Minoan-Mycenaean dynamic. His chart below graphs the numbers of imported artifacts for Minoan sites against those from Mycenaean sites over time (2007, 191-192). Cline points to the LH/M IIB-IIIA trend (suggesting Mycenaean ascendancy) while also cautioning that many of the Egyptian items may have actually been heirlooms——imported prior to their assigned date (based on the



LBA Eastern Mediterranean imports to Crete and mainland Greece.
after Cline 2007, P. 192 Figure 17.2

chronology of their find spots). This, says Cline, is especially probable in the case of Egyptian imports found at Mycenae and associated with Amenhotep III and Queen Tiyi (ibid., 194). And this goes to Cline's take home message. While "Orientalia" comprise a significant and useful body of data, " [it] can most profitably be used to supplement other data, in particular the textual and pictorial evidence from Egypt, Syria-Palestine, Anatolia, Mesopotamia, and the Aegean region itself. When utilized carefully in conjunction with documentary and iconographic data, Orientalia can help to clarify our picture of the international trade relations during the Late Bronze Age" (ibid., 199).

Amarna Letters

The Amarna Letters, also closely associated with Amenhotep III, are perhaps best known and named for their find spot——the site from which the heretical pharaoh Akhenaten presided over Egypt. Although neither Minoan or Mycenaean cultures are mentioned directly in these documents they provide an important window into foreign relations between Egypt and much of the eastern Mediterranean during the middle decades of the 14th century BCE. Nearly all of the 350 cuneiform tablets record the Akkadian language——the LBA diplomatic *lingua franca*,——with the majority addressed to one or another of the Egyptian pharaohs. One group of Amarna Letters (*EA* 1 - *EA* 44) are from the "great kings" of Egypt, Babylonia, Assyria, Mitanni, Arzawa, Alasiya, and Hatti. The remainder are from Egyptian vassals in the Syro-Palistine territory (Moran 1992, xvi). The first group, addressing as they do international matters, offer unique insights into the conduct of foreign affairs between the Egyptian empire and other important states. Correspondence between the great kings are distinguished from other documents by their standard greeting and the use of the term "brother" when one king addresses another.

> Say to Nibmuaria [Amenhotep III], King of Egypt, my brother, say: Thus says Tushratta, King of Mitanni, your brother. It is well with me. May it be well with you; with Kelu-Heba [Pharaoh's wife], my sister, may it be well; with your household, your wives, your sons, your nobles, your warriors, your horses, your chariots, and throughout your land may it be very well. [3]

As a group, Moran observes that the letters relating to international relations focus on marriage and the exchange of luxury goods (ibid., xxv). Nominally such arrangements were between equals. However, as things are hardly ever equal when a pharaoh is involved, the tone of these "brotherly" documents range from expressions of mutual admiration to thinly disguised reminders of status as well as blatantly obsequious requests. While certain circumstances suggest the symbolism of exchange was as significant as the actual value of the gift, "in the case of marriage the economic value was considerable, even staggering," (ibid., xxv). Thus the negotiations are often fraught as brotherly love yields to something more like sibling rivalry. To quote a chiding Amenhotep III, "It is a fine thing you give your daughters in order to acquire a nugget of gold" (ibid., EA 1, 2). At the same time both pharaohs and the "lesser" kings leave no doubt that gold is the preferred medium of exchange.

Like the cargo of the Uluburun, the "greeting gifts" and dowry lists provide an illuminating inventory of items of particular interest to the elite. Along with bags of gold and boatloads of copper (see below), precious minerals and jewels, chariots accompanied by teams of horses, along with furniture crafted from ebony and inlaid with ivory are listed in the documents from Babylonia (EA 3, EA 5). Given the massive transfer of wealth involved, these arrangements ultimately become matters of state and many such "gift exchanges" appear to be nothing less than long distance commercial negotiations. The Amarna Letters make it clear that obligations are incurred and reciprocity expected——albeit wrapped in the formal guise of gift exchanges among brothers. References to large quantities of unfinished goods indicate that important natural resources are occasionally involved. EA 31 is notable as one of only three tablets from the Egyptian court addressing another king. In the letter Amenhotep III writes to Tarhundaradu, the King of Arzawa, regarding arrangements for the

3. Cline 2014, 53-54. Translation (*EA-17*) following Singer 2002: 62. Variations on Mitanni include Mittani, and Mittanni.

pharaoh's marriage to a princess of Arzawa.[4] For openers Amenhotep III sends, "a sack of gold," and promises Tarhundaradu a good deal more as, "bride-price for the daughter," including another, "sack of gold, weighing 20 minas of gold," as well as "100 (beams of) ebony" (ibid., 101). This a fortune, perhaps a current value of approximately $367,000 / bag of gold and enough ebony (logs totaling 100 meter in length) to craft scores of luxury tables, chairs, and beds.[5] Again, wealth and raw materials in these amounts would seem to exceed what might normally be thought of as personal gifts and appear to rise to the level of commercial enterprise. It should be noted that a careful reading of *EA* 31 reveals that the pharaoh is negotiating with the Arzawa King, not solely for an Arzawan princess, but also for help in disrupting Hittite aggression——all part of doing business in the LBA. Amarna letter *EA* 35 is also significant for its commercial aspects. In what is framed as an apology, a King of Alasiya (Cyprus) begs pardon of the pharaoh for sending a mere 500 talents of copper as a "greeting gift." Assuming a talent of copper to be more or less equal to one of the Uluburun's oxhide ingots, this is a massive amount of the metal (ca. 12.5 tons) and, significantly, more than the total estimated copper cargo carried by the Uluburun. If the translation and conversions are correct this would seem to blur any distinction between a "greeting-gift" and a full blown commercial transaction. Royal correspondences aside, most of the Amarna texts relate to the less lofty but still critical matters of protecting Egypt's self-interests in the occupied Syro-Palastine territories. Among the important independent states north of Egyptian occupied territories during the Amarna Era were the Mitanni, the Hittites, and the Assyrians. Not surprisingly, the shifting dominance of each of these political entities directly affected Egypt and its northern vassalages.

Hittite Tablet - Bogazköy Hatti
Muwattalli II of Hatti & Alakšandu of Wiluša
© Trustess of the British Museum



Amarna Letter - Tell el-Amarna
Tushratta of Mitanni to Akhenaten
© Trustess of the British Museum

Hatti

Like Amarna, Hattusa (Hatuŝas / Boğazköy), the Hittite capital from the 17th - 12th centuries BCE, is justly famous for its ancient tablets. Documents from the Bogazköy archive, however, number in the thousands. The last of the great Bronze Age states to be rediscovered, Hatti and the Hittites are perhaps best known for their part in the Battle of Q(K)adesh in which King Muwattalli II and his Hittite charioteers were more than a match for the armies of Egyptian Pharaoh Ramses II. Another landmark of Hittite history preceded the battle by three centuries. In or about 1595 BCE the Hittite King Mursili I undertook a forced march of more than 1000 miles into the heart of Mesopotamia where he sacked Babylon——the city made famous by Hammurabi (1792 - 1750 BCE). For reasons known only to the Hittite king, Mursili I quickly turned on his heels and returned to his capital in central Anatolia. However, the damage had been done——and not just to Babylon. Mursili's absence had a devastating affect on the homeland and more than a century and a half later Hittite rulers were still engaged in stamping out a series of rebellions instigated by renegades and would-be kings in western Anatolia. It is during this period, in the midst of Hittite efforts to quell the ongoing rebellions, that we first hear mention of the Mycenaean presence in Anatolia (Macqueen 1986, 44-45).

4. The Amarna Letters date from the last years of the reign of Amenhotep III to (perhaps) the first years of Tutankhamun's reign. However, the chronology is obscured by a number of factors including possible co-regencies: Akhenaten and Amenhotep III and/or Smenkhkare and Akhenaten.

5. This assumes $1000.00 / oz. (gold values have fluctuated between ca. $300 and $1800 the oz. between 2000 and 2018) and 1 mina (18.35 oz.) = 50 shekels. The 1 meter/log estimate for the ebony follows the evidence used for the Uluburun finds.

The Ahhiyawa Texts: Hittites, Rebels, and Intruders

For much of the 20th century scholars debated a proposal made by Emil Forrer arguing that the term "Ahhiyawa" attested in Hittite documents from Hatussa referred to the Mycenaeans (Achaeans). This was confirmed, in the opinion of most Aegeanists, by Hawkins's reading of the Karabel relief that together with known Lewian Hieroglyphic inscriptions and Hittite cuneiform tablets clarified the map of southwestern Anatolia.[6] Specifically, the texts refer to Millawanda/Milawata (Miletus) as the western Anatolian outpost of the kingdom of Ahhiyawā, a land 'across the sea.' (Beckman et al. 2011, 1-2).[7] Dickinson's opinion is that Ahhiyawā, "was probably Mycenae although Thebes cannot be ruled out," adding, "That the Hittite king could write to the king of Ahhiyawā in the diplomatic style normal between the great kings of the Near East says a lot about the level of sophistication of the greatest Mycenaean centres" (2014, 155). The Ahhiyawa correspondence consists of two dozen documents——a small fraction of the massive Hittite archive. Although gift exchanges are mentioned and matters of foreign commerce implied, significant textual content addresses the often contentious, at times peaceful, foreign relations resulting from the Mycenaean ("Ahiyya" and "Ahhiyawa") presence in western Anatolia and their interactions with various Hittite rulers and vassals from the late 15th through the 13th centuries BCE (Beckman et al. 2011, 1-6).



The earliest citation——"the enemy ruler Ahhiya," is found in an Oracle report among various extispicies and auguries (AhT 22 §25). It is thought the Ahhiyawan is the same individual present at the time King Tudhaliya I/II was dealing with rebellious factions in western Anatolia (ibid., 281).[8] Although the "Indictment of Madduwatta" (AhT 3) was written during the reign of Arnuwanda I (late 15th - early 14th centuries BCE), the text recounts the earlier intransigency of the Hittite vassal Madduwatta during the reign of King Tudhaliya I/II (ibid., 69). The document refers to the aforementioned Ahhiyawan by name, one Attarissiya——who seems to have controlled a number of the off-shore islands and had his own interest in the western Anatolian territory. Significantly, Attarissiya's repeated attacks and capture of Madduwatta were at cross purposes with the efforts of Tudhaliya I/II to reign in his vassal and a coalition of rebellious states. On one occasion a Hittite commander drove Attarissiya "off to his own land" (AhT 3 §12; ibid., 81). Although Tudhaliya I/II repeatedly rescued Madduwatta from hostile Ahhiyawan forces, the incorrigible rebel showed no signs of bending under the yoke of Hittite rule and continued to agitate against the king. In fact at one point Madduwatta

6. Confirmation in this case is indirect and rests on a process of elimination. However, evidence for rejecting the references to "Ahhiyawa" as Mycenae or a Mycenaean state is slim (Beckman et al. 2011, 3-4).

7. *The Ahhiyawa Texts* referenced here*:* translations and transliterations by Beckman, textual commentary by Bryce, and comments by Cline on cultural and archaeological factors conveniently gathers these documents in one volume (Beckman, Bryce, and Cline 2011).

8. The designation Tudhaliya I/II is used as it is not clear if there were one or two early rulers in this regnal line.

seems to have gained control of much of southwestern Anatolia (ibid., 99). Curiously, Madduwatta may also have subsequently allied himself with Attarissiya and conducted joint raids against Alasiya (Cyprus) during the early 14th century BCE (ibid., 271). The events described in AhT 3 end during the reign of Arnuwanda I (ca. 1390–1380/1370 BC). Included in the context of the Hittite king's chastisements of Madduwatta is the king's acknowledgment that Attarissiya was an independent ruler. Additional texts relating to the Ahhiyawans in western Anatolia (AhT IA and AhT IB) indicate a period of friction followed by a gradual consolidation of Mycenaean authority along the coast and especially at Millawanda (Miletus). Hittite King Mursili II (late 14th and early 13th centuries BCE) also faced major disruptions across much of this territory. In his third regnal year he moved westward to subdue the Arzawa. The king's main target was the Arzawan king Uhha-ziti at Apasa (Ephesus). The text makes clear that the Ahhiyawan leader was an ally of Uhha-ziti and for a time provided sanctuaries to the rebels on coastal islands. Although military commanders under Mursili II managed to defeat a number of the hostile groups and take Millawanda, the king's control of the site was temporary. At some point during these struggles the Ahhiyawan king seems to have decided that negotiating with the Hittites would be in his best interests (ibid., 271-272). A later document, AhT 6 (early to mid-13th century BCE), also refers to the incidents related in the "Indictment" tablet——recalling the Assuwan Rebellion put down by Tudhaliya I/II (ca. 1430 BCE). Significantly, this text is from a king of Ahhiyawa to the Hittite ruler—most likely Muwattalli II. The Ahhiyawan writes to his "brother" making the case for his rightful claim on a group of coastal islands. According to the Ahhiyawan, previous dowry agreements——part of a diplomatic marriage between his ancestor and an Assuwan princess, included the rights to these islands (AhT 6 §3; ibid., 137-138).



LH II Type B Sword
Hatuŝas
Akkadian Inscription
Unal et al.; Anon.1992, 256-257



Boğazköy Pottery Fragment
Plumed & Horned Helmet
Çorum Archaeological Museum
Cline 1995, 147-148

Cline describes two material finds that relate to the historical record of the "Assuwan Confederacy" referenced in AhT 6. The Mycenaean-style sword illustrated above was found in 1991 near Hatuŝas and bears an inscription in Akkadian that clearly refers to Tudhaliya's victory over the Assuwan Rebellion. Also from Hatuŝas is a bowl fragment etched with the image of a warrior wearing a "plumed and horned" helmet——a style typical of Aegean Bronze Age battle gear (Cline 1996, 137-138; 147-148). The image above includes an artist's reconstruction. As Cline points out, many of the individual pieces of textual and material evidence might be seen as unrelated. However, as new finds and fresh interpretations have accumulated a reasonable case has been made for the Assuwan Rebellion being a significant historical event that was memorialized at the time but also one whose memory may be reflected at a later date in Greek epic (ibid., 149). Additional details of the same pottery fragments are discussed below.

The important "Tawagalawa" letter (AhT 4 - ca. early- to mid-13th century BCE) sent from the Hittite King Hattusili III to the Ahhiyawan king, is a request for help in dealing with the Piyamaradu, another renegade also destabilizing the area and threatening Hittite rule (Beckman et al. 2011, 101). The tone of the text clearly reflects the peer to peer status of the kings and although Hattusili III is miffed with the Ahhiyawan's

apparent assistance to Piyamaradu, the Hittite king is negotiating, not giving orders. The result of these negotiations is unknown; what is clear is a pervasive Mycenaean presence in western Anatolia with its center at Millawanda (Miletus)——a situation also attested in the archaeological record during the LH IIIA - LH IIIB period (ibid., 119-121). AhT 8 is also thought to have been written during the reign of Hattusili III——and at a time when the monarch seems at peace with both his Ahhiyawan neighbor and more importantly with Egypt. If the chronology is correct Hattusili III (successor to and brother of Muwattalli II) may have just come to terms with Ramesses II after the mutually destructive and justly famous battle at Qadesh. The letter itself (AhT 8) appears to be from a royal envoy and concerns, in part, the Hittite king's request that the envoy send gifts to, "the King of Ahhiyawa." In something of a bind, the envoy informs his king——"I have now taken a silver rhyton and [a rhyton] of refined [gold] from the diplomatic gift intended for Egypt, and I have sent [these to him] (AhT 8 §5; ibid., 149). Whether or not the envoy's diplomatic sleight of hand found favor with Hattusili III (or the rhyton's recipient) we do not know. The Milawata Letter (AhT 5), a late 13th century BCE text, lacks any reference to an Ahhiyawan king or to a Mycenaean presence in Hittite controlled areas of western Anatolia including at Milawata (Millawanda). Likely dispatched by Tudhaliya IV and notably at a time immediately preceding the Hittites abandonment of their capital and contemporary events leading to the destruction of the Mycenaean mainland centers (ibid., 131-133).

Although a number of scholars continued to question the Ahhiyawa-Mycenaean equation, the pendulum began to swing in the 1980s. Trevor Bryce (p. 423, n. 44), referencing the work of H. G. Güterbock, M. J. Mellink, and E. Vermeule, agreed that, "the combination of documentary and archaeological evidence led clearly and directly to the conclusion that Ahhiyawa was a Mycenaean Greek kingdom" (Güterbock 1983; Bryce 1989, 3). Bryce acknowledged the evidence is somewhat circumstantial, however——and to this point, he argued convincingly that if the kingdom of Ahhiyawa is not equated with a Mycenaean kingdom: Hittite texts would be devoid of any reference to Mycenaeans. Furthermore, the Hittite King Tudhaliya IV's reference to a LBA individual as, "ranking in importance with other major Late Bronze Age rulers - the kings of Egypt, Babylonia, and Assyria," would have no demonstrable counterpart in the archaeological record (1989, 3-4) .



Silver Stag "Rhyton"
GCA - Grave IV
Natl. Arch. Mus.

Although Hittite artifacts are attested from Egypt, as well as Cyprus, Mitanni, Assyria, and Babylonia, Cline points out, such objects are rare in the Aegean. According to one calculation the handful of Hittite artifacts found at Aegean sites amount to one percent of the total *Orientalia* from the same area (1991, 141). Even the silver stag "rhyton" from Mycenae's Grave Circle A, despite having a number of Anatolian characteristics, is considered as only "possibly" Hittite. Although the reason for the absence of Hittite artifacts in the Aegean is not clear, the Ahhiyawa texts may suggest one answer. Mycenaean interests in western Anatolia and Hittite efforts to control the same or adjacent territories are frequently at odds. The texts provide no mention of shared commercial interests, and in fact, a late 13th century BCE text includes the stipulation by the Hittite Tudhaliya IV that his treaty partner "[let no ship of Ahhiyawa go to [the Assyrians)]" (AhT 2 §15; Beckman et al. 2011, 279). This prohibition of Ahhiyawan shipping to Assyria may indicate an even more general Hittite embargo on Aegean commercial interests (Mee 1978, 374).

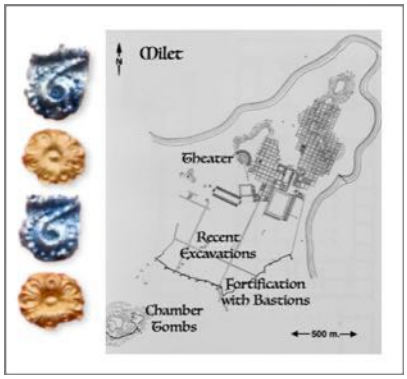
Miletus - Millawanda/Millawata

Despite the absence of Hittite artifactual evidence on the Mycenaean mainland, an Aegean presence is well attested along the western Anatolian littoral and among coastal islands from the Troad to the Dodecanese including Rhodes. In fact, some of the initial evidence for the existence of Mycenaean culture was found in tombs at Ialysus on Rhodes——a decade before Schliemann's revelations at Mycenae. See *Homer's Odyssey,* 46. Along with Troy, Miletus in southwestern Anatolia is one of the more thoroughly investigated sites and notably——one where the architectural and artifactual evidence is consistent with Hittite textual narratives. Located at the mouth of the Meander River, Miletus was well situated to act as an entrepôt for goods trading throughout the eastern Aegean islands and Crete inland to sites along the Meander Valley. Malcolm Wiener, in making the wider case for a Neopalatial thalassocracy, detailed the especially pervasive Minoan cultural influences on Melos, Kea, and Thera, but also noted evidence for Minoan settlements——"on the Anatolian coast at Miletos, Iasos and probably Knidos," and dating to MMII-III (1984, 180). Wolf-Dietrich Niemeier's recent excavations (1994 - 2004) published together with summaries of previous research at Miletus provide a useful overview (2005, 1-2).



Carinated Conical Cup LH IIIA2
Ialysus, Rhodes Tomb 38
© Trustess of the British Museum

Wiegand's excavation at Miletus in 1907 identified fortification walls as well as rock cut chamber tombs on the Değirmentepe hill southwest of the main site (Wiegand 1908). Additional excavations between 1930 and 1970 identified three LBA building phases with indications the site may have been occupied as early as the 4th millennium BCE (Niemeier 2005, 1). The Niemeiers confirmed the Chalcolithic occupation (Miletus I) but more significantly identified Miletus II-VI: strata with settlement evidence spanning the LBA (ibid., 2-16). The number and variety of Minoan and Mycenaean artifacts attest to the impact of Aegean cultures at Miletus. Both Wiener and Niemeier have argued that the Minoan presence at Miletus, well documented during both the early and new palatial periods, was largely motivated by a quest for Anatolian metals (Wiener 1984, 18; Niemeier 2005, 4).



Miletus after Wiegand 1908
with Değirmentepe Chamber Tomb
Glass Beads & Gold Rosettes (Tombs 2,8)
Niemeier 2005, Plates 20, 21

From Miletus III (MM IB-MM II) levels, the Niemeiers published Kamares pottery, two seals and a sealing——similar to Minoan items found on Crete and a Minoan-type cross-draught kiln (ibid., 2-3). Miletus IV (Minoan Neopalatial period) layers revealed fresco fragments, evidence for the use of Linear A, figurines, offering tables, and cut-marked, burnt bones——in part interpreted by the Niemeiers as evidence for Minoan cult practices. Of particular note is the abundance of locally made Minoan domestic pottery with 500+ intact conical cups along with numerous fragments of the same (ibid., 4-8). Wiener's reprise of his Minoan thalassocracy paper returns to his discussion of these



Minoan Seal with Agrimi
Miletus III
Niemeier 2005, Colour Plate 7



Minoan-type Domestic Pottery
Miletus IVa
Niemeier 2005, Colour Plate 11



Minoan-type Fresco
Miletus IVa
Niemeier 2005, Colour Plate 17

everyday wares. Much of his argument refers to evidence supporting the primacy of neopalatial Knossos including the contemporary Minoan conical cup, ubiquitous and abundant at both habitation and ritual sites on Crete (2013, 153-154). Wiener also cites Knappett and Hilditch who suggest, "the conical cup across the island occurs hand-in-hand with the emergence of Knossos as a supraregional power" (2015, 98). Coining the phrase *colonial cups,* they propose these plain wares are, "one of a series of new 'objects' that iconically cemented palatial power"——not solely on Crete but in a variety of ways at sites across the Cyclades and along the coast of Anatolia (ibid., 109).

Notably, the Niemeiers also documented a LM IB destruction level with tephra deposits consistent with the Thera eruption as well as a mid-fifteenth century BCE destruction level marking the divide between Minoan and Mycenaean presence at Miletus (ibid., 10). Miletus V-VI attest to the continuing significance of pottery production. However, nearly all the ceramic fragments excavated in LH IIIA levels are Mycenaean, comprising both locally crafted domestic wares and fine decorated pottery. Additionally, eleven potter's kilns are attested from LH IIIA-IIIB levels. Significantly, the majority are similar to earlier Anatolian kilns——a design previously adopted on the Greek mainland in the MH period, while two other kilns suggest typical Minoan practices (ibid., 10-12). Although little settlement architecture survived, Niemeier describes a Miletus VI structure as, "most probably to be reconstructed as a building of Heisel's type of Corridor House" adding that "Outside the Mycenaean world the Corridor House is unknown" (ibid., 12-13). Another architectural feature, one associated with the aftermath of the LH IIIA2 destruction, may relate to the "Ahhiyawa Texts" (Beckman 2011, AhT 1A and AhT 1B). The tablets document the Hittite King Mursili II's efforts to regain control of the Arzawa lands——a large territory ruled by Uhha-ziti from his capital at Apasa (Ephesus). At the time Uhha-ziti had allied himself with the the King of Ahhiyawa who seems to have controlled Millawanda (Miletus). The texts relate that Mursili II was able to defeat Uhha-ziti and his allies and and least temporarily regain control of Millawanda. The destruction level attested in the fourteenth century BCE may be attributable to Mursili II's attack on the city and it is proposed that a massive fortification wall, reinforced with Hittite-style square bastions, may have been built following Mursili II's successful campaign to take Miletus (ibid., 19-20).

Miletus I	Late Neolithic	3500 - 3000 BCE
Miletus II	EBA II	3000 - 2000 BCE
Miletus III	MM IB MM II	1925/1900 - 1900/1875 BCE 1900/1875 - 1750/20 BCE
Miletus IVa *destruction* Miletus IVb *destruction*	MM III - LM IA LM IB LM II	1750/20 - 1625/00 BCE 1625/00 - 1470/60 1470/60 - 1420/10
Miletus V *destruction* Miletus VI	LH IIIA1 LH IIIA2 LH IIIB1 - IIIB2 LH IIIC	1445/15 - 1390/70 BCE 1390/70 - 1320/00 BCE 1320/00 - 1200/1190 BCE 1200/1190 - 1075/50 BCE

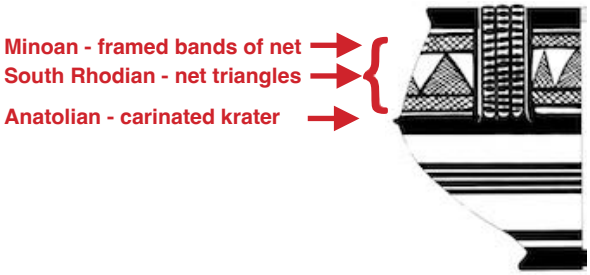
Despite the lack of a consensus (see Mountjoy below) Niemeier points to a combination of settlement architecture and material finds (especially domestic pottery), articles relating to Minoan ritual practices, craft technologies, and administrative tools (seals and sealings) to suggest Minoan colonization of Miletus. Christopher Mee also concludes that, "The presence of Cretan settlers at Miletus seems incontrovertible" (1978, 149). While suggesting that Mycenaean - Anatolian contacts were largely transitory, Bryce states "Miletos from LMII onwards (i.e. from c. 1450 onwards) became progressively Mycenaean in character. In the LH IIIA period (c. 1425-1300), the presence of Mycenaean settlers in Miletos is clearly indicated by Mycenaean-type domestic architecture and Mycenaean burials" (1989, 2). At the same time, Wiener's case for Minoan colonization during the period of Knossian primacy is convincing (1984, 2013).

Ceramic Divide

Mountjoy's 'East Aegean - West Anatolian Interface' encompasses coastal Anatolia from Troy to Rhodes (1998). With a focus on ceramics, Mountjoy describes contrasting cultural characteristics across the Upper Interface (Miletus to Troy) and Lower Interface (Miletus to Rhodes). Mountjoy's descriptions of regional trends during the LBA are consistent with Niemeier's findings at Miletus. That is to say, Minoan influences (Lower Interface only) attested during LM I-II (Miletus IVa and IVb) are largely eclipsed at the end of LM II / LH IIB and replaced by a widespread presence of Mycenaean-type ceramics lasting through the transitional LH IIIB - IIIC era. A final destruction date of ca.1185 BCE at Miletus is also supported (Mountjoy 2004, 199-200). Mountjoy and Niemeier, however, take different positions on the nature of the mainlanders' presence in western Anatolia. While agreeing that the possibility of colonial populations cannot be ruled out, on balance Mountjoy interprets the Aegean characteristics as the result of acculturation (1998,33; 36-37).



Following the mid-15th century destruction of much of Neopalatial Crete and the waning of Minoan influence in areas of the East Aegean - West Anatolian Interface, Mycenaean culture rapidly fills the void. At various sites including Ialysos on Rhodes and the Anatolian coastal sites of Musegebi, Iasos, Miletus, and Ephesus, both material culture and mortuary practices show strong influences associated with the Aegean mainland. Mountjoy suggests, "The cultural connections of the interface are particularly well illustrated by the pottery," with two distinct periods of Mycenaean influence during the LH period (ibid., 37).[9] LH IIIA2 "hybrid" ceramics are characterized by a mixture of Mycenaean (with underlying Minoan influences and Anatolian features) while on south Rhodes potters develop and exported their own unique style. Mountjoy notes that while Anatolian wares continue to be made by potters from north to south, available evidence points to a higher proportion of Mycenaean-type wares at Lower Interface sites. Following the destruction at the end of LH AIII2 Mycenaean ceramics continue to be made at Miletus and other sites in the Lower Interface, "with shapes and decorative syntax appearing which then became part of the LH IIIC Early and Middle East Aegean Koine" (ibid., 45). See *Collapse and Aftermath.*



Apollakia - LH IIIA2 South Rhodian Style
Mountjoy 1998, Fig. 2, 1

9. It is important to recognize that references to "Mycenaean pottery" in this context may indicate vessels imported from the mainland but perhaps more often pottery made in Anatolia in the Mycenaean style. At least some Mycenaean potters likely immigrated to Anatolia where native craft workers would have rapidly learned the techniques necessary to make the currently desirable vessels.

Among the more widely recognized iconographic representations of Mycenaeans—most particularly as combatants, is the troop pictured on the famed Warrior Vase. While the militant aspect of the culture is often overemphasized it is perhaps most characteristic of the beginning and end of the Mycenaean era. Despite the clear chronological mismatch between the Hatuŝas bowl fragment (15th - 14th centuries BCE) and the Mycenaean krater (mid-12th century BCE) there is a remarkable similarity in the plumed and horned helmets represented on both the bowl fragment and the krater. Like the Type B sword described above, there may be a meaningful connection. The Ahhiyawa texts affirm mainland influences in western Anatolia but also attests to the presence of Mycenaeans actively engaged with various Hittite rulers and rebels over a period of several centuries. This being the case, it is not surprising that a Hittite potter would be acquainted with the warriors that came from 'across the sea.'





Boğazköy Pottery Fragment
Plumed & Horned Helmet
Çorum Archaeological Museum
Cline 1995, 147-148

Reconstructed Warrior Images
Mycenaean Warrior Vase
12th century BCE
National Archaeological Museum

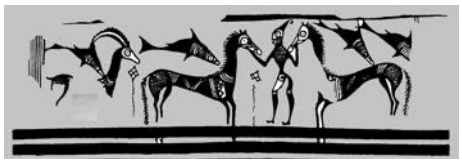
Synchronizing Aegean cultures with those of the Near East is fundamental to recreating a coherent narrative for the eastern Mediterranean Bronze Age. Arne Furumark's efforts are foundational to Mycenaean pottery studies and Mountjoy credits Furumark with setting the destruction date of Miletus at LH IIIB-C (1941; 2004, 189). Her review of recent ceramic research suggests a similar date for Ugarit's destruction. Mountjoy's analysis is based, in part, on the two vessels illustrated below—both thought to have been made in the same workshop at Miletus (2004, 190). Similarities and differences in ceramic motifs are essential to Mountjoy's analysis, but so too are her experiences with scores of similar pots, familiarity with firing techniques, as well as her knowledge of the various characteristics of different clays—each with its suite of mineral inclusions. While every ceramic vessel holds useful evidence, decades of dedicated research is required to read the history of a given pot.





Pictorial Style Mug with Triple Roll Legs
Miletus Destruction Level
Mountjoy 2004, 191 Fig. 1.1 (in part)

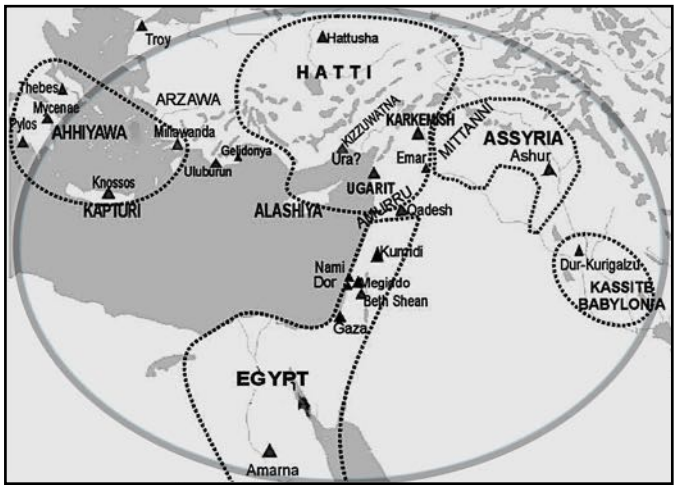




Pictorial Style Ampharoid Krater
Ugarit Transitional LH IIB-C Early
Mountjoy 2004, 193 Fig. 2 (in part)

A World Bound By Writing[10]

The archaeological evidence discussed above including aspects of the MET exhibits, the two shipwrecks, excavations in western Anatolia, along with the textual record——in particular the Hittite documents collectively referred to as the *Ahhiyawa Texts,* serve to strengthen the argument for Aegean involvement in the LBA economies of the eastern Mediterranean. At the same time, as Christopher Monroe's map illustrates, the Aegean was on the western periphery of the contemporary LBA states. Egypt and Hatti——the two regional super powers, defined the main spheres of influence——in part as each vied for control of the center and the territories of potential vassal states. These included Ugarit (Ras Shamra) whose rulers paid homage to Egypt's New Kingdom pharaohs and subsequently to great kings of the Hittite empire. At the same time, Ugarit played an out-sized role among the interwoven and thriving economies across the entire region (Yon 2006, 20-21). As the maritime features of the map suggest, the Mediterranean defined, in part, opportunities as well as impediments to trade among the LBA states. Fernand Braudel, a prominent voice of the mid-20th century *Annales School,* focused historians attention attention on the l*ongue durée,* the often ignored, slow-changing yet inescapable factors, such as geography and climate——elements that inevitably shape and disrupt the economic, social, and political trajectories of states including the best laid plans of even the most powerful monarchs (1949). Together with the work of Horden and Purcell, Braudel's approach reoriented, to a degree, the perspective of historians including some Aegeanists. As Cyprian Broodbank points out, [this] "reconfigured space to fix the marine basin, rather than the surrounding continents, at centre stage" (Horden and Purcell 2000; Broodbank 2013, 18). While elements of this perspective have become increasingly influential——for example the application of climate studies data to inform widespread draught during the LBA, documenting the actions of individuals and localized events in their relatively short-term temporal and spacial contexts remains critical. Ugaritic texts do just this as well as providing cultural details related to religion, law, and literature. Given the kingdom's essential role in LBA commerce, much of the scholarly focus has been on economic matters——specifically those of exchange and trade (Yon 2006, 19-21).



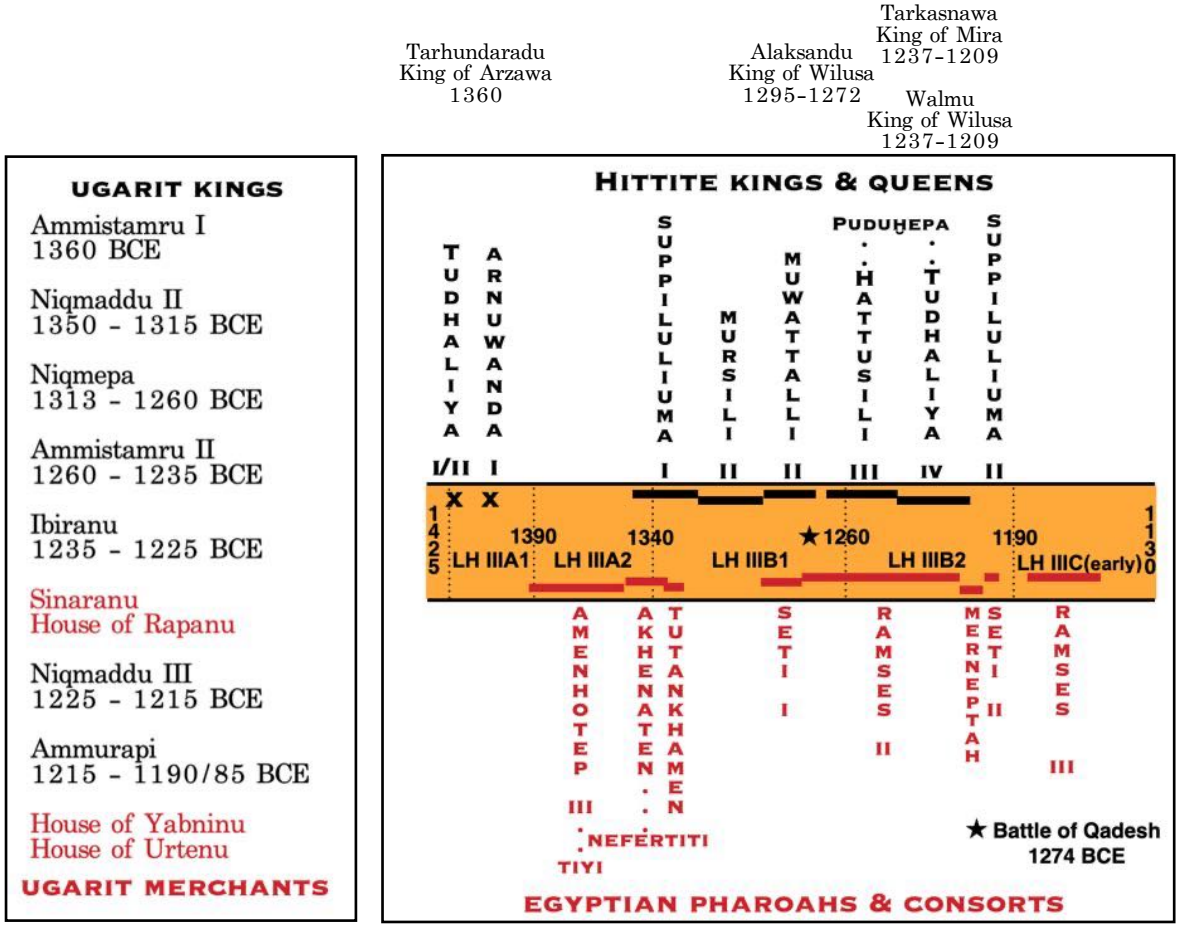
LBS Eastern Mediterranean
Figure 2.1 Key lands (caps), cities and sites. after Monroe 2009, 25

Hatti: Mover & Shaker

Although the Kingdom of Ugarit apparently exercised an unusual degree of independence, like other vassals, the state's fortunes were inevitable tied to those of their overlords. In part as a consequence of their geographic proximity, Ugarit's capacity to fuel the region's commerce was perennially affected by internal Hittite politics. What also seems certain is that the Hittite Empire was plagued by significant and recurring setbacks——in part due to aggression by external forces and military losses but equally the result of internecine conflicts leading to usurpations and frequent periods of chaos during transitions of royal authority and power (Singer 2011, x).

10. from Christopher Monroe's *Scales of Fate* (2009, 25)

However, by the mid-14th century BCE, the successful military campaigns of King Suppiluliuma I had eliminated threats from the Mitanni and several smaller kingdoms that——together with the weakening of Egyptian influence, brought a degree of stability (if not total pacification) to much of what is now northern Syria. The final piece of the puzzle fell into place when Suppiluliuma I appointed his sons viceroys at Aleppo and Carchemish. This reestablished control of territory eastward to the banks of the Euphrates and access to critical trade routes and Mesopotamian exports (Macqueen 1986, 44-47). Subsequently Ugarit's rulers, under the protective dome of the Hittite military, appear to have fulfilled their obligations as vassal without being overly inconvenienced by the Great King at Hatti or his viceroy at Carchemish——conditions that permitted Ugarit to exercise their essential economic role in LBA commercial affairs.



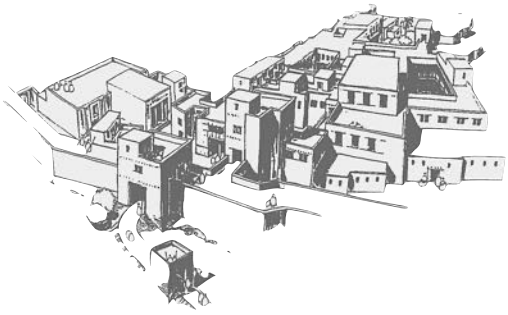
Hittite, Egyptian, and Ugaritic Royalty (in part) and Prominant Ugaritic Merchants after Yon 2006, Monroe 2008, and Cline 2021

The massive archive of Hittite tablets (in excess of 20,000 documents from Bogazköy) suggests an administration devoted to details——a record exemplified in part by the *Ahhiyawa Texts*. However, as Monroe observes, the Hittite documents themselves contain, "very little direct information on trade or economy" (2009, 29). Also puzzling is the general paucity of Hittite material culture in the archaeological record of other states. In contrast to the widespread occurrence of Egyptian, Cyprian, and Aegean artifacts, Hittite finds are vanishingly rare in the LBA record outside of Anatolia. Eric Cline's study of the twenty-three objects, assumed to be of Hittite origin, concludes that, "only eight cannot readily be excluded as being of origins other than Central Anatolian" (1991, 140). None of the presumed or possible Hittite artifacts studied by Cline was found in Ugarit. At the same time, Elena Devecchi, citing Genz and Glatz, explains that absent Ugarit's

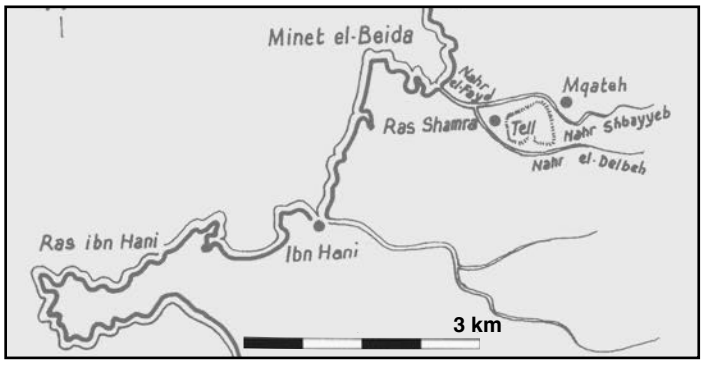
archives, “we would barely know that it was part of the Hittite kingdom, not only because of the paucity of references to the city in Hittite textual sources, but also because Hittite dominion over Ugarit is not reflected in the material culture of the site” (Devecchi 2019, 121; Genz 2006; Glatz 2013, 36-43). While it seems unlikely that either the paucity of Hatti exports or relative textual silence regarding trade is due to chance, given what we may not know, certainty remains elusive. Similarly, Wace’s excavation of Mycenae’s Ivory Houses revealed material evidence strongly suggesting commercial enterprise. For example, 30 sealed and stoppered transport stirrup jars, a pithoi storage facility, and a Linear B tablet inscribed with the logogram for olive oil (Wace 1958, 6-9). However, after reviewing the associated documents both Emmett Bennett Jr. and John Chadwick indicated the textual evidence from the site’s secondary archive does little to directly support the suggested commerce (Bennett Jr. 1958; Chadwick 1962). In fact, Palaima’s 1991 observation that, “The Mycenaean texts provide almost no direct evidence for the management of extra-regional trade whether by sea or land,” remains the case three decades on (276). The most pertinent direct textual evidence for Aegean trade comes, perhaps surprisingly, from Ugarit. See also *Mycenaean II*, 383.

Ugarit - The Jewel In The Middle[11]

Given the chronological and geographical expanse of LBA states, their cultural and political diversity, and the perennial changes in power and authority between rulers and vassals——the singular perspective of Ugarit, while inevitably omitting details, offers the best documented overview of the period. As Monroe observes, “Ugarit was by all accounts the jewel of the Late Bronze Age world” (2009, 31). Despite the not insignificant obligations to Egyptian pharaohs and Hittite kings, Ugarit’s rulers and merchants took advantage of their strategic location——not just as the “middle man” operating multiple ports, but also as the home base of entrepreneurs and merchants with ownership of, interest in, and/or access to both essential and elite products as well as fleets of privately controlled merchant ships. Monroe has shown that individual merchants——including Yabninu and Rapanu, controlled in part the means of production and delivery for significant elements of the LBA economy (ibid., 181-184, 280). A number of these same individuals served as court officials——acting as agents at the behest of royalty, an indication that neither a royal or privatized monopoly existed. It is also noteworthy that most of the international commercial activity at Ugarit was administered by the governor or prefect——“not a member of the royal family” (ibid.).



Ugarit Royal Palace Final Phase fortifications including secondary tower after Yon 2006, 35 Fig 19.



Region of Ras Shamra with Minet el-Beida (the main port) and the nearby settlement of Ras Ibn Hani after Yon 2006, 20 Fig 11.

11. from Christopher Monroe’s *Scales of Fate* (2009, 31)

Excavations at Ugarit (Ras Shamra) began in 1928 and, together with work at Minet-el-Beida and Ras ibn Hani, has continued into the 21st century. Marguerite Yon's overview of six decades (1978-1998) of research indicates Ugarit's complex and rich history.

> *Sixty years of research at this site have brought to light the urban quarters of a capital city, temples, the remnants of a fortification, an immense royal palace, and many private homes with textual archives-in Akkadian and Ugaritic, but also in several other languages (Hittite, Hurrian, Egyptian, and Cypro-Minoan)—along with a wide variety of archaeological artifacts, some of outstanding quality, but virtually all of significance* (2006, 8).

Brighter Then Gold, Archival Treasure

Many of the site's archives were recovered from private dwellings——albeit the size and architectural details of these structures were nothing less than palatial. Documents from two such residences——the House of Rapanu and the House of Urtenu, are directly pertinent to Aegean commercial history. Among the tablets recovered during the 1956-1958 excavations of *Maison de Rapanu,* the Text of Sinaranu ((RS 16.238+254 (PRU 3:107)), concerns one of Ugarit's well-placed merchants. Cline suggests the ship and cargo mentioned in the text is comparable to that of the Uluburun but perhaps most remarkably the document, "is confirmation that there were direct mercantile connections between northern Syria and Crete during the mid-thirteenth century BC" (2021, Location No. 1735; Nougayrol 1955).

> *[F]rom this day forth [A]mmištamru (II), son of Niqmepa, [ki]ng of Ugarit fre[es] from claim Ṣinaranu, so[n of Ṣi]gina; as [Šapšu] is clear, he is clear. His [gr]ain, his beer and his oil need not enter the palace. His [s]hip is free from claim. I]f his [s]hip comes from Kapturi (Crete), [he] will bring his gift [or observations] to the king, and the [h]erald will not [e]nter into his house. On account of the king, [his lord, Si]nara[nu] has worked hard, an[d] his house[hold] is car[ing for ch]ildren. May Ba'al, lord of Mt. Hazi, destroy whoever disputes these words [in the future] against the sons of [fore]ver.*
>
> -after Monroe 2009, 165-166

During the final quarter of the 20th century over 500 tablets were recovered from the House of Urtenu. Despite the fact that many of the documents were unpublished at the time, Itamar Singer† (1949-2012) characterized the Urtenu archive as, "the most important corpus pertaining to the very end of the Late Bronze Age" (2006, 242-243). Two of the tablets (RS 94.2530 and RS 94.2523) published by Sylvie Lackenbacher and Florence Malbran-Labat are companion texts sent from the Hittite King Suppiluliuma II and Benti-Sarruma (a member of the Hittite court) respectively. Each directs Ugarit King Ammurapi to provide ships to the Hittite agent Satalli in order to transport cargo to the "man of (A)hhiyawa" in the land of Lukka (Lackenbacher and Malbran-Labat 2005; 2016). Significantly, the authors and Singer published contrasting interpretation of the nature of the cargo based on their translations of the sign group PAD.MEŠ; Lackenbacher and Malbran-Labat, give *rations*, while Singer concluded *ingots* is the more likely reading (Singer 2006, 251-258). The argument has both linguistic and historical implications and, if nothing else, engages with a debate that makes clear the depth of knowledge and expertise required to offer informed comments on the differing interpretations. In either case, however, if the Ahhiyawa Texts do in fact pertain to Mycenaeans and if the *hiyawa-men / Ahhiyawa* equation is accepted, the letters provide a second direct link between Aegean maritime reach and the LBA eastern economies.[12]

12. *Ahhiyawa* becomes *Hiyau(wi)* through aphaeresis——the loss of one or more sounds or letters as with——*around* and *round*. While the association of the Mycenaeans with Ahhiyawa in Hittite texts is not universally accepted, it is the consensus opinion of scholars working in the pertinent fields. See above, Beckman et al. 2011.

While documents of a commercial nature confirming an Aegean/Near Eastern connection are notable, they are only a fraction of Ugarit's incomparable textual corpus. Despite a number of unpublished texts, the "official" publications (typically including tablet drawings/images, transliterations, and translations) and their various interpretations inform the history of the LBA in unique ways. Even a summary of the documentary evidence from Ugarit is beyond the scope of this project, however, details of the texts mentioned above are illustrative of aspects of the evidence that contributes to our understanding the economic and political connections and interactions across the Aegean and Near East during the LBA.



Sinaranu Text The View from Ugarit Reconstructed Chariot
14th - 13th centuries BCE

Along with archaeological evidence, texts from the houses of Rapanu, Urtenu, and other archives record Ugarit's ties to both Hatti and Egypt as well as to numerous others states, large and small. Unlike the Aegean polites of the LBA where inscribed statuary and monuments are absent and records of international or even inter-regional events are rare, the monarchs and high officials of Near Eastern states commonly recorded the details of a wide variety of events, both personal and commercial. While these are largely textual, inscribed material displays promoting personal prominence, if not idolization, are not uncommon. Less spectacular but equally valuable are the more mundane scribal records of commonplace transactions and day-to-day events that constituted the lived experiences of a larger segment of the population. While only a fraction of these texts and inscriptions survive, many inform present-day research. Fortunately a number of artifacts include temporal references or other characteristics suggesting their chronological context. Established synchronies related to regnal dates for Hittite, Egyptian, and/or Ugaritic monarchs are among the more intensively researched and useful benchmarks. See charts above. The Sinaranu Text mentioned above, a royal proclamation issued by Ammistamru II, can be dated to ca.1260 BCE with a degree of confidence.[13] As mentioned above, the territorial gains of Suppiluliuma I in the previous century had established Hittite suzerainty over Ugarit but also had opened trade routes to the east. Subsequently, as the Hittite's sought to expand their control southward Egypt's territorial ambitions focused northward——conflicting aims

13. The fact that some dates were literally "written in stone" does not, however, guarantee precision. Ancient dates are not infrequently adjusted based on new evidence.

that ultimately came to a head at Qadesh in 1274 BCE in the well-documented clash between the chariot and infantry armies of Ramses II and Muwattalli II often referred to as the Battle of the Chariots. Most historians judge the battle to have been a draw——a result perhaps reflected in the famous “Silver Treaty” ultimately agreed to and signed by Ramses II and Hattusili III in 1259 BCE (Cline 2021, Location No. 1749-1801). While there are no specific connections indicated by the proximity of dates for the treaty signing and the Sinaranu Text, is seems reasonable to conclude that at the time the political climate was one of détente. While vassals may have chafed at enriching the treasuries of Hatti and Egypt, their overlords provided a degree of stability, Singer’s *Pax Hethitica*——rapprochement that generally improved the climate for commerce, especially critical for Ugarit’s maritime trade (2011a, 8-9).

Christopher Monroe’s recent analysis of LBA trade attests to the interpretive complexity involved in understanding ancient economies. Given that his goal was, “to clarify and problematize the socioeconomic roles of entrepreneurs (including merchants, traders, creditors, and financiers) in Late Bronze Age societies,” Monroe identified a variety of assumptions and methodologies that impacted the evidence. For example, from its beginnings archaeological research and analysis has been influenced by one or more theoretical constructs——either stated or unstated. See *Introduction*. Both substantivism and formalism were influential 20th century models used to frame and define economic history. As relating to ancient societies, Monroe points to the work of Karl Polanyi and his fundamental assertion, “that the ancient Near East lacked markets, and that reciprocity and redistribution were the predominant modes of exchange” (Polanyi 1957; Monroe 2009, 4). Most Aegean prehistories employ the substantivists categories of reciprocity (guest/host relationships and gift exchange) and/or redistribution (storage, elite control of resources). In such models, the more familiar formalist concepts of profit, currency, and capitalism are absent. However, as Monroe points out, the numerous tablets excavated at Karum Kanesh (the Old Assyrian Merchant colony) attest to recognizable market forces early in the 2nd millennium (ibid., 7). See *By Land and By Sea*. How then do we characterize the LBA merchants of the ancient Near East? The complexity of Sinaranu’s role in Ugarit’s economy is difficult to pigeon-hole exclusively on either side of the substantivism / formalism debate. The exemption (see above) itself confirms what seems to have been an otherwise standard tariff or taxation placed on non-royal commercial activity by the palace. Clearly the palace would not be taxing its own property or enterprise. Sinaranu’s voyage to Crete and back is in fact entrepreneurial in nature and Sinaranu is not, in this case, an agent doing the palace’s business. Monroe cites the Sinaranu Text as confirmation that, “the king recognized Sinaranu’s ship as Sinaranu’s rightful property and “free from claim” ”(ibid., 95). We also learn that having inherited a significant amount of land from his father (PRU 3:101–02/ RS 15.138+), Sinaranu was in a position to profit from the production side of the equation (ibid.,116; Nougayrol 1955). As Monroe points out, the most successful merchants, “sought not only access to, but ownership of, the means for producing wine and oil, and possibly salt as well” (ibid, 269). While Ugarit royalty left much of the commercial activity to independent merchants, Sinaranu and other merchants also conducted business for the palace. Nor did this preclude the kings themselves from engaging in royal exchange when it suited their needs. Such was the case with Ammistamru II bargaining for two special horses with the brother of the king of Karkemish (ibid., 131). As Monroe’s analysis repeatedly shows, "either/or" choices don’t fit the data. While they may, “explain a specific subset of the limited textual evidence, Monroe concludes such models, “tend to dissolve as soon as one widens the data set or theoretical field of view” (ibid., 268).

Underlying theories and models are not Monroe's sole causes for concern. In fact, he begins his study with a series of cautionary reminders regarding the limitations of archaeological and textual evidence itself. Along with the interpretive problems raised by "the temporal and cultural distances between us and our subjects," Monroe echoes French's observations (see 415) regarding the fragmentary nature of the evidence—— i.e., even assuming a pristine, undisturbed site (not commonly the case), the researcher necessarily works with an unknown fraction of the evidence (ibid., 2). Because ancient texts are themselves artifacts, they are subject to many of the same limitations as other archaeological materials. Philologists and those working in related fields face additional dilemmas as well. For example, multiple languages and scripts complicate the ever present difficulties of assigning correct meaning——i.e., matching the original intent, to sign groups, words, and phrases. As Monroe states, "Akkadian and Ugaritic phrases are often ambiguous, and apparently well established facts are often subjected (sic) to a variety of readings" (ibid. 3). This last point is well demonstrated with the texts discussed above, each having alternative translations. The standard translation of the Sinaranu Text attributes a gift brought to the king as from Sinaranu. Monroe, on the other hand, suggests a reading attributing the gift to "the unnamed king of Crete, not Sinaranu" (ibid., 166). And as noted, the meaning of the sign group PAD.MEŠ, as *rations* (Lackenbacher and Malbran-Labat 2005, 2015) contrasts sharply with *ingots* (Singer 2006; Monroe 2009; Bell 2012). Such differences in interpretations may at times be largely academic but they may also imply contrasting perspectives on the document's contemporary historical reality. While the source of the gift in the Sinaranu Text is not unimportant, the translation of PAD.MEŠ in the "Ships to Lukka" texts takes on added significance as a result of the temporal framework. See *Collapse and Aftermath*.



Elephant Ivory - Mistress of Animals
Minet el Beida Tomb III
Louvre

The student of LBA Mycenaean studies reorienting their perspective eastward may sense they have entered a different realm. The material aspects of the pottery, bronze weapons and tools, and many of the architectural elements are familiar, so too is the prominence of a well-heeled elite. However, the rich textual documentation of the ancient Near East reveals individuals and their idiosyncrasies, their actions and reactions, and a range of human behaviors and attitudes that in the Aegean are, of necessity, typically based on assumption and speculation. At the same time, as Monroe suggests, the documentary corpus needs to be evaluated in the light of evidentiary limitations as well as the various factors influencing interpretations. Many texts and inscribed memorials, not surprisingly, exhibit the prejudices and points of view of the scribe's master. This is clearly demonstrated by a number of the more famous accounts, including those of the Battle of Qadesh and the Egyptian records of their clashes with the Sea Peoples. On the other hand, the high-profile memorialization of such events by contemporary artists and scribes likely does indicate their significance. Although 16 years would elapse following the battle, Singer observed that once the Silver Treaty was signed, "the international border ran more-or-less along the same frontier line as the one established by Muwatalli's grandfather, Suppiluliuma I, some seventy years earlier" (2011b., 5). As was the case when Suppiluliuma I signed a treaty with Niqmaddu II in the 14th century BCE, Hatti and Egypt's détente, "was particularly beneficial for Ugarit, who resumed her role as the hub of eastern Mediterranean trade" (2011b, 55).

Choosing Sides: Suppiluliuma I and Niqmaddu II

The dominant roles played by Egypt and Hatti during the 14th and 13th centuries BCE are well documented by contemporary texts from the archives at Amarna, Hattusa, and Ugarit (Moran 1987; Beckman 1999; Singer 2011a., 3). As vassal states Ugarit, along with Amurru and Qadesh, were perennially favored——in part, a result of their strategic locations. Given its regional role in enabling and initiating both commercial and palatial economic activity, Ugarit was of particular interest to the rulers of Egypt and Hatti. Singer explains that, "Ugarit's traditional close ties with Egypt, going back to the Amarna period at least, were only severed during the period of Hittite-Egyptian hostilities (from Suppiluliuma I to Hattusili III)" (Singer 2011a.,11). Furthermore, following Tukulti-Ninurta's defeat of Hittite forces under Tuthaliya IV at Nihriya, there are indications that Ugarit royalty sought to reestablish ties to Egypt (Singer 2011a, 11, 353-374). In any case, the initial submission of Ugarit to Hittite rule followed Suppiluliuma I's military successes ("One Year Campaign" in ca. 1340 BCE) against the Hurrians of Mitanni. At the time Ugarit under King Niqmaddu II (1350-1315 BCE) was closely allied with Egypt and any decision to break ties with their powerful and wealthy southern "overlord" must have been fraught. However, the combination of veiled threats by Suppiluliuma I and the active hostilities of neighboring pro-Egyptian vassals (Mukis, Nuhhassi and Niya) left Ugarit between a rock and a hard place. Ultimately Niqmaddu II bent his knee to the Hatti monarch. Despite the significant cost in "silver, gold, and bronze," Singer comments that, "Niqmaddu II witnessed the most important political development in the LBA history of Ugarit: the shift from the loose hegemony of Egypt to full integration into the Hittite Empire" (2011d., 47). Details of that transition are attested in the following treaty from Hattusa. A partial rendering of Text A - RS 17.340 (impressed with the stamp seal of Suppiluliuma) and Text B - RS 17.369A follows Beckman 1999: 34-35 §1-2.

Treaty between Suppiluliuma I of Hatti
and Niqmaddu II of Ugarit

> *§1 (A obv. 1-8) Thus says His Majesty, Suppiluliuma, Great King, King of Hatti, Hero: [there follows the names of the kings & countries of the pro-Egyptian vassals who] assembled their troops; captured cities in the interior of the land of Ugarit; oppressed(?) the land of Ugarit; carried off subjects of Niqmaddu, king of the land of Ugarit, as civilian captives; and devastated the land of Ugarit;*
>
> *§2 (A obv. 9-28; B obv. 1'-2') Niqmaddu, king of the land of Ugarit, turned to Suppiluliuma, Great King, writing: "May Your Majesty, Great King, my lord, save me from the hand of my enemy! I am the subject of Your Majesty, Great King, my lord. To my lord's enemy I am hostile, (and] with my lord's friend I am at peace. The kings are oppressing(?) me." The Great King heard these words of Niqmaddu, and Suppiluliuma, Great King, dispatched princes and noblemen with infantry [and chariotry] to the land of Ugarit. And they chased the enemy troops [out of] the land of Ugarit. [And] they gave [to] Niqmaddu [all of] their civilian captives whom they took (from the enemy). [And Niqmaddu, king of the land] of Ugarit [...] honored the princes and n*oblemen *very much. He gave them silver, gold, bronze,. . .*

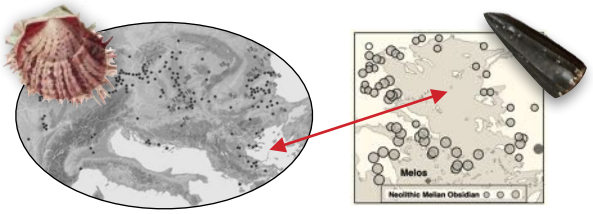
Although various forms of formal treaties were issued by Hatti most extant examples are, like the above, vassal treaties written in Akkadian and "imposed by the Great King" (ibid., 2). Parts of two (of six) sections are given above including: §1 *Preamble*, the names, titles and royal genealogy, and §2 *Historical Introduction*, a summary of previous interactions between the king and vassal. §3 describes the tribute the vassal swears to deliver to the king. As proof that there is little new under the sun, the fine print is contained in a separate document. *The Edict of Suppiluliuma I of Hatti* concerning the Tribute of Ugarit (A. RS 17.227 in part) includes contractual promises of significant

wealth, including both gold and textiles, for the king and queen as well as half a dozen palace officials (ibid., 166-167 §2-10). However, Beckman stresses that the two most important sections of such treaties are §V *List of divine witnesses* or the "binding" and §VI *Curses and blessings*. Together these summon the deities——as witness to the king's blessing and the vassal's pledge, but perhaps most pointedly as guarantors of divine retribution should the vassal default on his various obligations (ibid., 1-4). Clearly there is a boilerplate aspect to these treaties, nonetheless, as each relates to ɑ specific vassal and Hittite king——often within a known temporal context, the details are invaluable. While allowing for the potentially tendentious nature of the prologues (§2), Beckman observes they, "have served as a major source of information for modern students of Hittite history" (ibid., 3). Many such treaties reflect the personalities of the Great Kings——as might be expected and often with a decidedly imperious tone. Suppiluliuma I's treaty with Mitanni Prince Shattiwaza makes clear that any breach of the agreement will summon the gods——whose not inconsiderable wrath will be visited upon the Prince, his family, and his lands. Threats include the destruction of "Hurrians, together with your land, your wives, and your possessions," accompanied by the inevitable, "poverty and destitution." No doubt warnings such as, "[the] gods shall snap you off like a reed," also focused Shattiwaza's attention (Beckman 1999: 48, §15). Such admonitions may seem hyperbolic, even a bit comical to present day readers, but it would be presumptuous to assume that Shattiwaza found any humor in these words as he recited them in the presence of Suppiluliuma I——his lord and master.

Linear B and the Limitations of Lists

While Pia De Fidio's chapter in *A Companion To Linear B* is titled "Mycenaean History," the author promptly clarifies that, "it is not possible to write a 'history' of the Mycenaean world in the traditional sense" (2008, 82). Even had texts similar to those recovered from LBA Near Eastern archives once existed, they have "been irremediably lost," and the "legends" (the rich oeuvre of epic and myth) that have survived, De Fideo argues, are ill-suited to the task of recreating history. Thus she concludes, "Greek Bronze Age texts are lacking in what would enable us to trace the *events* of the period, or delineate the roles of individuals" (ibid.) De Fidio's depiction of the limitations of extant Linear B texts may be bleak but it is also realistic. Cynthia Shelmerdine's opening sentence in the next chapter of the same work, "The *raison d'etre* of the Linear B tablets is not society but economy" may at first glance appear somewhat more hopeful (ibid., 115). In fact, J.T Killen's contribution to the 2008 "Companion" volume has more bad news. The tablets, he states, "contain virtually no information, for example, about the external relations of the palaces," and thus, "we know nothing for certain about the mechanisms of the external trade of the kingdom" (idid., 162). While such pronouncements may resign the cynic to contemplating *what might have been*, Aegean prehistory has, from its beginnings, been a work in progress. Critiques of earlier assumptions, new evidence and new perspectives on old evidence, as well as advances in analytic methods and technologies——all play a part. For example, recent Messenian revelations such as those from Pylos, Iklaina, and Ayios Vasileios confirm the potential for new evidence to enhance what is known about Aegean cultures. At the same time the textual limitations cannot be ignored. For example, while the comprehensive excavations at Iklaina in Messenia have confirmed the importance of the site, Michael Cosmopoulos and Cynthia Shelmerdine draw different conclusions from the archaeological evidence. (2019, 373; 2022, 159). Their differences, in large part, relate to the chronology of essential changes in the respective roles of Iklaina and Pylos. It is not necessary to equate the relationships between vassal and king in contemporary Near Eastern states with their counterparts at Iklaina and Pylos, to appreciate the consequences of what is not

included in the extant documentation from the LBA Greek mainland. An absence of one aspect of the textual evidence, however, has neither deterred or discouraged continuing research or new publications related to trade between the Aegean and the Near East. In fact, largely on an assumption of maritime transport, Aegean studies have perennially given a degree of prominence to the topics of commerce and exchange. At the same time there is little direct evidence for the voyages of Mycenaean traders or for the fleet of the long heralded Minoan thalassocracy (Ward 2010). The Cycladic rock art and "frying pan" etchings are suggestive but date to the Neolithic——well before the advent of sail or the rise of mature Aegean societies whose robust economies relied, to a greater or lesser extent, on international trade. In any case, the facts on (and under) the ground seem to insist, at least indirectly, that much of Aegean prehistory played out along maritime routes——ones whose narrative origins, for better or worse, are most prominent in myth and epic. While the tales of Jason and Odysseus can not be discounted, there is a substantial factual basis for Aegean trade as well. The evidence is in large part indirect but it is convincing. The distribution of obsidian tools and *Spondylus* jewelry at FN to EBA sites indicates early and widespread down-the-line trade.

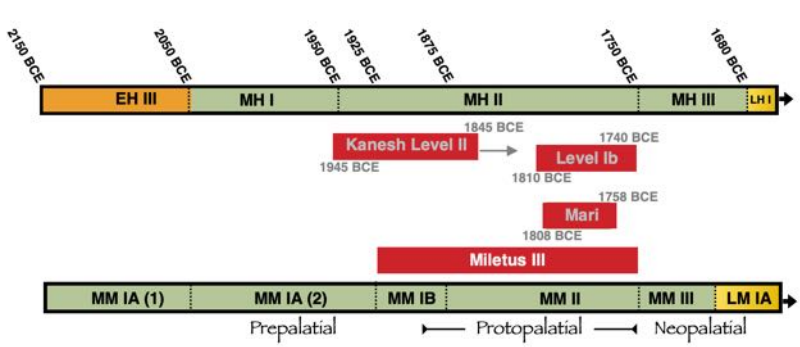


Spondylus gyderopus
Chenu 1824
Séfériadès 2010, 182

Obsidian - Volcanic Glass
Milić 2016, Fig. 5.2

Filling the Gaps

Although not attesting directly to Aegean markets or traders, archives from Kültepe (Kanesh) in south-central Anatolia document in detail a sophisticated commercial network early in the second millennia BCE. Based on the published tablets, Monroe characterizes our understanding of trade and "the Old Assyrian (OA) trade network," as without parallel prior to the Roman era (2009, 32). Relatively recent excavations at Miletus include levels contemporary with OA trade and appear to suggest Minoan traders may have obtained metals associated with that trade. The Niemeiers argue their find of a partial Cycladic marble figurine, "points to connections between Miletus II and the Cyclades" (2005, 2). This in turn relates to the notable expansion of trade (ca. 2500 - 2200 BCE) across the Aegean and eastern Mediterranean famously characterized by Renfrew's "international spirit" (1972). Minoan participation in this trade is well documented——see "Minoan Gateways" in *By Land and By Sea*. Miletus III (MM IB - MM II) dates to the early 2nd millennia, a period notable for a Minoan presence at Miletus as attested by a variety of domestic pottery and administrative tools well known on Crete. Included among the Niemeiers' finds are an incised pixis lid, an abundance of locally fabricated, Minoan-style domestic pottery, and a kiln design best known from Crete. Other "administrative" artifacts——with analogs from Crete, include seals (Archanes Script Group) and sealings (Mallia Workshop). In sum the Niemeiers conclude, "In the early 2nd millennium BC, at the beginning of Period III, we see the penetration of a strong Minoan element. The reason for this was most probably the same as that for the Cycladic and Crete connections with Miletus II: the acquisition of Anatolian metals" (ibid., 4). If the Niemeiers are correct it seems likely that at least some of the the tin and textiles that travelled OA trade routes may well have ended up on Crete via Miletus and perhaps a portion of the imported materials were transshipped to the Mycenaean mainland (Niemeier 2005, 3-4). As detailed above ("The Ahhiyawa Texts, Arzawa, & Western Anatolia"), the Niemeier excavations of Miletus IV & V attest to the mid-15th century BCE transition from a Minoan to a largely Mycenaean presence at Miletus.



Old Assyrian Merchant Colony at Kanesh
Garfinkle 2007, 65.

Caravan Tablet



MET

While we have no accounts of OA caravans off-loading tin and textiles from the backs of donkeys onto Minoan vessels, it seems certain that Minoans, Hittites, and various local groups were in contact early in the 2nd millennium BCE. Admittedly, interactions may have been hostile at times but there must also have been periods of détente and cooperation——conditions conducive to cultural exchange and trade. Although the uses of LInear B are restricted, the A- series tablets from Pylos use ethnic attributions (eg. forms of non-local toponyms suggesting Miletus and Knidnos) to describes resident women workers and as Palaima points out——7 of 8 such terms refer to western Anatolia (1991, 279 - 280). However, the absence of detail in the Linear B corpus leaves even named and titled Mycenaeans as largely anonymous, two-dimentional figures whose palatial or community role(s) may be clear but remain largely devoid of individual biographical details. Given the rich cast of characters in both myth and epic it is not surprising that Aegeanist may turn to Homer to fill the void.

In any case, while Miletus alone does not fully represent Mycenaean foreign relations, a number of Aegean connections via western Anatolia with the Near East are well documented throughout the LBA. Together, the archaeological finds and Hittite texts provide a unique picture of the mainlanders' eastward reach and expansion. While the artifacts are mute, the expertise and experience of numerous scholars——including the Niemeiers, Mountjoy, Singer, and Bryce——their knowledge of architectural details as well as specific craft technologies, assemblages, chronologies, and texts underpins a body of informed interpretations. Significantly, our understanding of LBA Miletus and neighboring sites is also enriched, and perhaps uniquely so, by ancient voices——both Hittite and Mycenaean. Assuming the attribution of the Ahhiyawa texts is correct, it is difficult to overstate the documents significance. The texts suggest that at least some Mycenaeans utilized their maritime and military prowess to forge territorial and economic ties along the Anatolian coast. Although the excavated finds are restricted to the material culture, they suggest a significant Aegean presence in Anatolia during the LBA. While the physical evidence is consistent with the Ahhiyawan narratives, the texts speak to the political tensions and accommodations between Mycenaean and Hittite interests during the critical time when alternating periods of conflict and stability would ultimately be overtaken by chaos as the LBA world of the eastern Mediterranean became unglued. The material finds define a context that may become more detailed as new evidence is uncovered; the text documents, albeit fragmented and incomplete, provide the actors and their actions——variously hostile, willful, petty, and even magnanimous, but always voices of humanity that are recognizable.

References

Aruz, Joan, Kim Benzel, and Jean M. Evans eds. 2008. *Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium B. C*. New York. Metropolitan Museum of Art.

Bachhuber, Christoph. 2006. "Aegean Interest on the Uluburun Ship." *AJA* 110, 345 - 363.

Bass, George F. 1991. "Evidence Of Trade from Bronze Age Shipwrecks." In *Bronze Age Trade in the Mediterranean* edited by N.H. Gale. Studies in Mediterranean Archaeology. Jonsered.

Beckman, G. 1999. *Hittite Diplomatic Texts*. Atlanta. Scholars Press.

Beckman, Gary, Trevor Bryce, and Eric Cline. 2011. *The Ahhiyawa Texts*. Atlanta. Society of Biblical Literature.

Beckmann, Sabine. 2012. "Resin and Ritual Purification: Terebinth in Eastern Mediterranean Bronze Age Cult." In Athanasia: *The Earthly, the Celestial and the Underworld in the Mediterranean from the Late Bronze and the Early Iron Age*. International Archeological Conference, Rhodes. Hērakleio, Panepistēmio Krētēs, Eidikos Logariasmos.

Bell, C. 2006. *The Evolution of Long Distance Trading Relationships across the LBA/Iron Age Transition on the Northern Levantine Coast: Crisis, Continuity and Change*. BAR International Series 1574. Oxford. Archaeopress.

Bennett, Jr., E. L. 1958. "Epigraphic Commentary. 3. The Ideograms And The Interpretation Of The Tablets From Mycenae." In *The Mycenae Tablets II* edited by Emmett L. Bennett, Jr. Transactions of the American Philosophical Society 48, 1–122. Philadelphia. American Philosophical Society.

Binford, Lewis R. 1962. "Archaeology as Anthropology." American Antiquity 28: 217-25.

___. 1972. An Archaeological Perspective. Seminar Press.

Branigan, Keith. 1981. "Minoan Colonialism." *BSA Annual* 76, 23–33.

Braudel, Fernand. 1949. L*a Méditerranée et le Monde Méditerranéen a l'époque de Philippe II*, 3 vols. Paris. Armand Colin.

Broodbank, Cyprian. 2000. *An Island Archaeology of the Early Cyclades*. Cambridge. Cambridge University Press.

___. 2008. "The Early Bronze Age in the Cyclades." In *The Cambridge Companion to the Aegean Bronze Age*, edited by Cynthia Shelmerdine. New York. Cambridge University Press.

___. 2013a. *The Making of the Middle Sea: A History of the Mediterranean from the Beginning to the Threshold of the Classical World*. London. Thames and Hudson.

___. 2013b. "'Minding the Gap': Thinking About Change in Early Cycladic Island Societies from a Comparative Perspective." AJA 117, 535–43.

Bryce, Trevor. 1989. " "The The Nature of of Mycenaean Involvement in Western Anatolia." *Historia: Zeitschrift für Alte Geschichte,* 38:1-21.

Cadogan, Gerald. 2004."Vronwy Hankey." In, *Breaking Ground Pioneering Women Archaeologists*, edited by Cohen, Getzel and Martha Sharp Joukowsky. Ann Arbor, University of Michigan Press.

Chadwick, John. 1962. "Texts and Commentary." In *The Mycenae Tablets III* edited by J. Chadwick. *Transactions of the American Philosophical Society* 52, 1–76. Philadelphia. American Philosophical Society.

Cline, E. H. 1987. "Amenhotep III and the Aegean: A reassessment of Egypto-Aegean relations in the 14th Century B.C." *Orientalia* 56, 1.

——. 1991. "Hittite Objects in the Bronze Age Aegean." *Anatolian Studies* 41, 133–43.

——. (1994) 2009. *Sailing the Wine Dark Sea: International Trade and the Late Bronze Age Aegean*. Oxford. BAR International Series 591.

___. 1996. "Aššuwa and the Achaeans: The 'Mycenaean' Sword at Hattušas and Its Possible Implications." *BSA Annual* 91, 137–51.

___. 1998. “Amenhotep III, the Aegean and Anatolia.” In *Amenhotep III: Perspectives on his reign* edited by D. O’Connor and E. H. Cline. Ann Arbor. University of Michigan Press

___. 2007. “Rethinking Mycenaean International Trade With Egypt And The Near East.” In *Rethinking Mycenaean Palaces II: Revised and Expanded Second Edition*, edited by Galaty, Michael L. and William A. Parkinson. Monographs Book 60. Los Angeles. Cotsen Institute Of Archaeology Press.

___. 2014. *1077 B. C. The Year Civilization Collapsed*. Princeton. Princeton University Press.

___. 2021. *1077 B. C. The Year Civilization Collapsed: Revised and Updated*. Princeton. Princeton University Press.

Cline, Eric H. and Steven M. Stannish. 2011. “Sailing the Great Green Sea? Amenhotep III’s ‘Aegean List’ from Kom el-Hetan, Once More.” *Journal of Ancient Egyptian Interconnections* 3, 6-16.

Cosmopoulos, Michael B. 2019. “State Formation In Greece: Iklaina And The Unification Of Mycenaean Pylos.” *American Journal Of Archaeology* 123, 349–380.

De Fideo, Pia. 2008. "Mycenaean history.” In, *A Companion To Linear B Mycenaean Greek Texts And Their World, Vol. I* Bibliothèque Des Cahiers De L'institut De Linguistique De Louvain. Antiquité 120 Edited By Yves Duhoux And Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

Devecchi, Elena. 2019. “A Reluctant Servant: Ugarit under Foreign Rule during the Late Bronze Age.” In *A Stranger in the House - the Crossroads III* edited by Jana Mynářová, Marwan Kilani, Sergio Alivernini. Proceedings of an International Conference on Foreigners in Ancient Egyptian and Near Eastern Societies of the Bronze Age held in Prague, September 10–13, 2018. Prague. Charles University, Faculty of Arts.

Dickinson, O.T.P.K. 2014. ”Late Helladic I Revisited: The Kytheran Connection." In, *Ke-Ra-Me-Ja: Studies Presented To Cynthia W. Shelmerdine*, edited by Nakassis Dimitri, Gulizio, Joann, and James, Sarah A. Philadelphia. Instap Academic Press.

Duhoux, Yves. 2008. “Mycenaean Anthology.” In, *A Companion To Linear B Mycenaean Greek Texts And Their World, Vol. I* Bibliothèque Des Cahiers De L'institut De Linguistique De Louvain. Antiquité 120 Edited By Yves Duhoux And Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

French E. B. 2002. *Mycenae, Agamemnon’s Capital, The Site in its Setting*. Gloucestershire. Tempus.

Furumark, Arne. 1941. The Mycenaean Pottery: Analysis and Classification. Stockholm. Victor Petterson.

Glatz, C., 2013. “Negotiating empire. A comparative investigation into the responses to Hittite imperialism by the vassal state of Ugarit and the Kaska peoples of the Anatolian Black Sea region.” In *Empires and Complexity. On the crossroads of archaeology, history and anthropology* edited by G. Areshian. Los Angeles. The Cotsen Institute of Archaeology Press.

Greaves, Alan M. 2010. “Western Anatolia.” In, *The Oxford Handbook of the Bronze Age Aegean*, edited by Eric Cline. Oxford. Oxford University Press.

Güterbock, Hans G. 1983. “The Hittites and the Aegean World: Part 1. The Ahhiyawa Problem Reconsidered.” *AJA* 87, 133–38.

Hankey, Vronwy. 1967. "Mycenaean Pottery in the Middle East: Note on Finds since 1951.” *BSA* 62, 107-47.

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

Huehnergard, John. 2016. “Writing Carefully: Letters from the King of Babylon to the King of Egypt.” Hyvernat Lecture, April 2 2014. The Catholic University of America.

Killen, J. T. 2008. Mycenaean Enonomy. In, *A Companion To Linear B Mycenaean Greek Texts And Their World, Vol. I* Bibliothèque Des Cahiers De L'institut De Linguistique De Louvain. Antiquité 120 Edited By Yves Duhoux And Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

Knappett, Carl and Jill Hilditch. 2015. "Colonial Cups? The Minoan Plain Handleless Cup as Icon and Index." In, Pots, Palaces and Politics: The Evolution and Socio-Political Significance of Plain Ware Traditions in the 2nd Millennium BC Near East and East Mediterranean edited by C. Glatz. Left Coast Press.

Lackenbacher, S., and F. Malbran-Labat. 2005. “Ugarit et les Hittites dans les archives de la " Maison d'Urtenu" , *SMEA* 47, 227-240.

___. 2016. “Lettres en Akkadien de la “Maison d’Urtenu” In *Fouilles de 1994. Ras Shamra-Ougarit XXIII*. Peeters: Leuven.

Macqueen, J. G. 1986. *The Hittites and Their Contemporaries in Asia Minor*. London. Thames and Hudson.

Malbran-Labat, F. 1995. “La d6couverte epigraphique de 1994 ä Ougarit (les textes Akkadiens).” *SMEA* 36,103-111.

Mee, C. 1978. “Aegean Trade and Settlement in Anatolia in the Second Millennium B.C.” Anatolian Studies 28, 121–56

Milić, Marina. 2016. “A Question Of Scale? Connecting Communities Through Obsidian Exchange In The Neolithic Aegean, Anatolia And Balkans.” In, *Of Odysseys and Oddities - Scales and modes of interaction between prehistoric Aegean societies and their neighbours,* edited by Barry P. C. Malloy. Oxford. Oxbow Books.

Monroe, C. M. 2009. *Scales of Fate: Trade, Tradition, and Transformation in the Eastern Mediterranean ca. 1350–1175 BCE*. Münster. Ugarit-Verlag.

___. 2015. “Tangled Up in Blue: Material and Other Relations of Exchange in the Late Bronze Age World.” In *Traders in the Ancient Mediterranean*, ed. T. Howe, 7–46. Chicago: Ares Publishers.

Moran, William L. 1992. *The Amarna Letters edited and translated by William L. Moran*. Baltimore. Johns Hopkins University Press.

Mountjoy, P.A. 1998. “The East Aegean-West Anatolian Interface in the Late Bronze Age: Mycenaeans and the Kingdom of Ahhiyawa.” Anatolian Studies 48, 33–67.

___. 1998. “The East Aegean-West Anatolian Interface in the Late Bronze Age: Mycenaeans and the Kingdom of Ahhiyawa.” Anatolian Studies 48, 33–67.

___. 2001 *Mycenaean Pottery: An Introduction*. Monograph No. 36. Oxford. Oxford University School of Archaeology.

___. 2004. “Miletus. A Note.” *BSA Annual* 99, 189–200.

Niemeier, W.-D. 2005. “Minoans, Mycenaeans, Hittites and Ionians in Western Asia Minor: New Excavations in Bronze Age Miletus–Millawanda.” In, *The Greeks in the East*, edited by A. Villing. Research Publication 157. London. British Museum.

Nougayrol, J. 1955. Le Palais Royal d’Ugarit III (PRU 3). Paris.

Palaima, Thomas G. 1991. "Maritime Matters in the Linear B Tablets," In *Thalassa. L'Égée préhistorique et la mer*, edited by R. Laffineur and L. Basch. Aegaeum 7. Liège. Université de Liège, Service d'histoire de l'art et d'archéologie de la Grèce antique.

—-. 2008. “Mycenaean Religion” in The Cambridge Companion to the Aegean Bronze Age, edited by Cynthia Shelmerdine. New York. Cambridge University Press.

Petrie, William M. F. 1891. “Notes on the Antiquities of Mykenae.” *JHS* 12, 199–205.

Podany, Amanda. 2022. *Weavers, Scribes, and Kings. A New History of the Ancient Near East*. Oxford. Oxford University Press.

Polanyi, K. 1957. “Marketless Trading in Hammurabi’s Time.” In *Trade and Market in the Early Empires: Economies in History and Theory* edited by K. Polanyi and H.W. Pearson. New York. The Free Press.

Pulak, Cemal. 2008. “The Uluburun Shipwreck and Late Bronze Age Trade.” In, *Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium B. C.* edited by Joan Aruz. New York. Metroploitan Museum of Art.

___. 2010. “Uluburun Shipwreck.” In, *The Oxford Handbook of the Bronze Age Aegean*, edited by E. Cline. Oxford. Oxford University Press.

Renfrew, Colin. 1972. The Emergence of Civilisation: The Cyclades and the Aegean in the Third Millennium B.C. London. Methuen.

Séfériadès, Michel L. “Spondylus and Long-Distance Trade in Prehistoric Europe,” translated by A.G. Brown. Centre National de la Recherche Scientifique. In *The Lost World of Old Europe The Danube Valley, 5000–3500 BC*. The Institute For The Study Of The Ancient World At New York University. Princeton. Princeton University Press.

Shelmerdine, C.W. 2008. "Mycenaean Society." In, *A Companion To Linear B Mycenaean Greek Texts And Their World, Vol. I* Bibliothèque Des Cahiers De L'institut De Linguistique De Louvain. Antiquité 120 Edited By Yves Duhoux And Anna Morpurgo Davies. Louvain-La-Neuve. Peeters.

___. 2022. “Pottery and Stratigraphy at Iklaina in the 14th–13 thCenturies BC.” In *Synchronizing the destructions of the Mycenaean palaces* edited by Reinhard Jung and Eleftheria Kardamaki. Mycenaean Studies Vol. 36. Austrian Academy of Sciences.

Singer, Itamar. 2002. *Hittite Prayers*. Atlanta. Society of Bblical Literature.

___. 2006. “Ships Bound for Lukka: A New Interpretation of the Companion Letters RS 94.2530 and RS 94.2523.” Altorientalische Forschungen 33: 242–62.

___. 2011. "Introduction, The Thirteenth Century B.C.E., The Age Of Complacency." In *The Calm Before the Storm, Selected Writings Of Itamar Singer On The Late Bronze Age In Anatolia And The Levant*. Atlanta. Society of Biblical Literature

___. 2011a. “Syria after the Battle of Qadesh.” In *The Calm Before the Storm, Selected Writings Of Itamar Singer On The Late Bronze Age In Anatolia And The Levant*. Atlanta. Society of Biblical Literature.

——. 2011b. “The Battle Of Nihriya.” In *The Calm Before the Storm, Selected Writings Of Itamar Singer On The Late Bronze Age In Anatolia And The Levant*. Atlanta. Society of Biblical Literature.

——. 2011c. “Western Anatolia in the Thirteenth Century B.C. according to the Hittite Sources.” In *The Calm Before the Storm, Selected Writings Of Itamar Singer On The Late Bronze Age In Anatolia And The Levant*. Atlanta. Society of Biblical Literature.

____. 2011d. “A Political History of Ugarit.” In *The Calm Before the Storm, Selected Writings Of Itamar Singer On The Late Bronze Age In Anatolia And The Levant*. Atlanta. Society of Biblical Literature.

Taracha, Piotr. 2018. “Approaches to Mycenaean-Hittite Interconnections in the Late Bronze Age.” In *Change, Continuity, and Connectivity: North-Eastern Mediterranean at the Turn of the Bronze Age and in the Early Iron Age* edited by Eukasz Niesiotowski-Spanò and Marek Wecowski. Harrassowitz Verlag. Wiesbaden.

Wace, Alan J. B. 1958. “Introduction. 5. The House of the Oil Merchant.” In *The Mycenae Tablets II* edited by E.L. Bennett. *Transactions of the American Philosophical Society* 48, 1–122. Philadelphia. American Philosophical Society.

Ward, Cheryl. 2010. “Seafaring In the Bronze Age Aegean: Evidence and Speculation.” In Political Economies of the Aegean Bronze Age, edited by D. Pullen. Oxford. Oxbow Books.

Wardle, Nicola. 2004. Centre And Periphery - The Impact Of Mycenaean Civilization On Its Neighbours. Phd Dissertation, University OfBristol.

Weinstein, James. 1989. “The Bronze Age Shipwreck at Ulu Burun: 1968 Campaign, Part 3: The Gold Scarab of Nefertiti from Ulu Burun: Its Implications for Egyptian History and Egyptian-Aegean Relations.” *AJA* 93, 17–29.

Wiegand, T. 1908. *Siebenter vorläufiger Bericht über die von den Königlichen Museen in Milet und Didyma unternommenen Ausgrabungen*. Berlin.

Wiener, M.H. 1984. “Crete and the Cyclades in LM I: The Tale of the Conical Cups.” In *The Minoan Thalassocracy: Myth and Reality, Proceedings of the Third International Symposium at the Swedish Institute in Athens* (31 May–5 June 1982) edited by Hägg and Marinatos.

___. 2013. Realities of Power: The Minoan Thalassocracy in Historical Perspective. ΑΜΙΛΛΑ: *The Quest for Excellence. Studies Presented to Guenter Kopcke in Celebration of His 75th Birthday.*

Wijngaarden, Gert Jan van. 2002. “Ugarit.” In *Use and Appreciation of Mycenaean Pottery in the Levant, Cyprus and Italy: (ca. 1600-1200 BC)*. Amsterdam. Amsterdam University Press.

Yon, Marguerite. 2006. *The City of Ugarit at Tell Ras Shamra*. Winona Lake. Eisenbrauns.

Old Assumptions and New Narratives

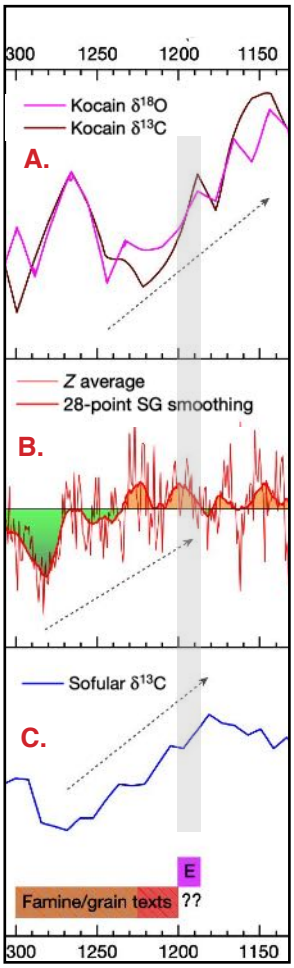
Given the significance of the historical event and perceived similarities with today's interconnected world, it is not surprising to find among the various characterizations of the "Late Bronze Age Collapse" both critical scholarship as well as musings from the fringe. Eric Cline's volume, *1177 B.C. - The Year Civilization Collapsed*, takes an evidence based approach to the late 2nd millennium BCE catastrophe (2014). Cline begins his account with what has become, deservedly so or not, the center piece for the collapse——the inscriptions on Ramesses III's mortuary temple at Medinet Habu relating the defeat of bands of marauding invaders, later to be collectively dubbed the "Sea People." Dated to the early 12th century BCE, these clashes signal the closing act of a much larger drama (to use Cline's metaphor)——"the end to three hundred and more years of the globalized economy that had been the hallmark of the Late Bronze Age in the Aegean and Eastern Mediterranean" (ibid., 102). In a swath crossing the Mycenaean mainland and Aegean archipelago to the Anatolian littoral, through Hatti's heartland and southward to the banks of the Euphrates and back across the lands of present-day Syria southward along the Levant and across the Nile Delta——a destructive scenario had been scripted with the Sea People in the role of villain——guilty or not. However, as Cline and others have illustrated, each ancient site has its own particular story——for example, Hattusa likely abandoned prior to the incinerating fires that engulfed Hittite temples, Ugarit utterly destroyed and left to the squatters, with changes at Ashkelon suggesting cultural transition rather than invasion. Even among the numerous sites raised and or abandoned, the final period of occupation is often a temporal mismatch with the marauding of the Sea People (ibid., 102-126). Although it is clear that hostile raiding——both from the land and the sea, played their parts in the devastation, other commonly cited causes include earthquakes, pestilence, and famine. In fact, any or all of these may have contributed to the disruption of trade, broken alliances, and/or local uprisings and rebellions that likely occurred as living conditions became untenable. Cline's 2014 edition details each of these possibilities and concludes, "it looks as though the best solution is to suggest that all of these factors together contributed to the collapse of what had been the dominant Bronze Age kingdoms and societies in these regions" (ibid, 164-165). Cline's recently "Revised and Updated" *1177 B.C.* is testament to the reality that new evidence and paradigm shifts rewrite history (2021). While such revisions to scholarly overviews are commonplace, less than a decade elapsed between Cline's editions of *1177 B.C.* The cautious student might be forgiven for wondering if this was a case of a savvy publisher looking to profit from Cline's popularity. In fact, recent climatological studies, newly published documents from Ugarit, as well as a closer look at a number of earlier excavation reports——while not providing a "silver bullet," suggest revised priorities for the factors contributing to the Collapse. Recently, more rigorous methodologies for using proxies to reveal patterns in ancient climatological conditions appear to confirm the onset of locally severe drought in the late 13th century BCE. The 2021 revision reflects these findings with Cline concluding, "while I would still posit multi-factor causation, I am inclined to think that this megadrought is likely to have been the principal driving force behind many of the problems that Late Bronze Age societies faced" (ibid., 163). Nevertheless, it is useful to keep in mind that 21st century inferences may be at odds with the lived experiences of the Aegean and Near Eastern peoples we seek to understand.* We can, however, imagine how such a drought might have affected those people and then evaluate our suppositions against the recovered evidence.

* For example see text F. below (448) and the King of Amurru's attribution of the death of his soldiers and nobles to the Storm God, Adad. How to understand such statements seems beyond reckoning.

Climate: 21st Century Perspectives on a 20th Century Proposal

> *To my thinking, after puzzling for many years over this, the greatest still unsolved problem in Mediterranean history, there is only one solution that will meet all the varied aspects of the case, and that answer is—famine, a dropping of the food supply below the critical level for subsistence. And by famine I do not mean an occasional failure of several consecutive harvests, but such an enduring and disastrous destruction of the annual yield as only a drastic climatic change could have occasioned.*
>
> -Rhys Carpenter 1968, 18

During the current decade, a number of studies have employed various proxies to model the increasing aridity across the eastern Mediterranean coincidental with the final years of the LBA. The evidence, gathered from various sources, includes: pollen, tree rings, lake-bottom sediments and ice cores, as well as speleothems (eg. stalagmites and stalactites). Half a century prior to these studies Rhys Carpenter had pointed to the same (pollen and tree rings) or similar (glacial measurements) proxies, as well as the Egyptian records and other contemporary documents to argue his case (1968, 16-19). Despite his convictions, Carpenter's proposal gained little traction.



However, as Cline's summary of the scholarly reassessment indicates, a significant shift in attitudes has followed recent studies generating climate data. Two publications exemplify that shift. In their 2016 review of evidence relating to "The End of the Late Bronze Age," Knapp and Manning expressed reservations about inferences drawn from climate studies. While impressed with the unanimity of certain conclusions (all researchers reported, "an increasing level of aridity during the 13th to 10th centuries B.C.E."), the co-authors cautioned that, "the effects will not have been uniform across this region" (2016, 138, 112). Furthermore, citing Finné et al. they agree, "that while socioeconomic crises may be closely fixed in time, the proposed climatic information can rarely be resolved adequately" (2011, 109). Six years later, Manning et al. also argued that, in general, "the precise details of synchronized climate and human-history-scale associations are lacking" (Manning, Kocik, Lorentzen, and Sparks 2023, 719). However, the same paper also noted juniper (*Juniperus excelsa* and *J. foetidissima*) ring width and stable isotope data ($\delta^{13}C$, $\delta^{18}O$) proxies revealed, "an unusually severe continuous dry period from around 1198 to 1196 (±3) BC," suggesting a degree of aridity that would have exceeded the margins of safety provided by traditional practices guarding against crop losses.* Thus the authors conclude the climate evidence, while not sufficient to indicate direct causation, "may well mark and form a key part of the circumstances that precipitated the collapse of the Hittite Empire" (ibid., 722).

Manning et al. 2023, 722 Fig. 2 (in part) - Gordion, Anatolia Sampling
A. Stable Isotope Values: Kocain Cave ($\delta^{13}C$ and $\delta^{18}O$) and C. Sofular Cave ($\delta^{13}C$)
B. Annual-scale Chronology: From Excavated (J*uniperus* spp.) Tree Ring and ^{13}C

*Annual variations in stable isotope ratios reflect relative amounts of precipitation (higher values indicate less rainfall) while measurements of tree rings indicate periods of greater or lesser aridity (episodes of substantially reduced growth likely indicate drier years). Chart at left indicates reduced precipitation (A. & C.) and increasing levels of aridity (B.) beginning in mid-13th century BCE.

Manning and his co-authors stress, "all proxy climate reconstructions are both approximate and limited," the affects varying among sites according to multiple factors including levels of crisis preparation, social and political decision making strategies, and access to external resources (2023, Methods). In any case, the authors propose that in central Anatolia a tipping point may have been reached following three consecutive years of drought and failed harvests. The authors acknowledge 13th and early 12th century BCE textual sources mentioning grain shortages and even famine (see below) but also state "the interpretation of this material lacks detail and context" (ibid., 720). It is notable, however, that a number of Egyptian inscriptions, including those at Medinet Habu mentioned above, became defining elements in 19th and 20th century CE narratives that conflated the actions of the Sea Peoples, the destruction of Hattusa and sites southward, and the more general LBA Collapse. This scenario, the creation of Emmanuel de Rougé and Gaston Maspero (see below), has been and to an extent remains, an influential element in scholarly analyses of the Collapse. Understanding the case for and against associating the Sea People with the Collapse narrative returns us to Ugarit. See Mycenaean III.

The View From Ugarit: Clear and Present Dangers / Business as Usual

Ugarit's unique archives provide what many consider the most comprehensively documented account of the *Collapse* for a single site. Yoram Cohen's recent article——"The 'Hunger Years' and the 'Sea Peoples'" focuses on a number of LBA texts——in part through the lens of Itmar Singer's recognition of the importance of the Urtenu Archive in elucidating the final decades of the LBA (2021, 50). Cohen sets the chronological horizon for the archive as, "between the closing decades of the thirteenth century to the first decades of the twelfth century," a temporal span consistent with a recent estimate for the destruction of Ugarit between 1190 and 1185 BCE as well as the 1198 to 1196 BCE drought period described by Manning (Cohen 2021, 51; Cline 2021,106; Manning et al. 2023, 719). As Singer suggested, the concurrence of the Urtenu archive with the final decades of the LBA is striking——particularly so when one considers the various concerns expressed in the ongoing communications between widely separated sites and persisting until just prior to the destruction of Ugarit itself (2011, 3). However, in addition to their diverse origins, the tone of the individual texts assembled by Cohen varies from business as usual to dire pleas for help. If many of the texts from the Urtenu archives speak to much needed grain, famine, and threats from hostile forces, Cohen stresses that others remain "preoccupied with Ugarit's international trading ventures" (2021, 51). The latter are exemplified by Kušmešuša's (the King of Cyprus) correspondence with Ugarit's king regarding the nearly ton of copper (33 ingots) he is sending Niqmaddu——clearly a commercial transaction albeit couched in the formal language of "gift exchange." (RSO 23:40–41, no. 16). See B. below. Similarly, a contemporary text (RS 94.2523: 12-20) from the Hatti King expresses his delight with the lapis lazuli sent to him via his viceroy in Karkamish——a portion of Ugarit's agreed upon tribute as vassal. To judge from subsequent texts, however, Suppiluliuma II's contentment may well have been short-lived (Singer 2006, 245).

Urtenu Archive letter (RSO 23:81–86, no. 40, ll. 21′–27′) in Akkadian from Tudhaliya IV to the king of Ugarit stipulating Hittite messengers were not to use Egyptian horses and Egyptian messengers were forbidden the use of Hittite horses. Roger Atwood *Archaeology Magazine* July/August 2021 Illustration - RMN-Grand Palais/Ar



C. Tasi (Hittite official) to gov. of Ugarit
Regarding what you wrote me, so you said: "If ships from Canaan can bring grain staples, then I will send (them) to you . . ." If there is any goodness in your heart, then send (even) the remainders of the staples I requested from you and thus save me. Wasn't it once that Ugarit was saved because of the grain staples provided by Siyannu?

D. unknown to King of Ugarit
Another thing, my lord: grain staples from you are not to be had! (The people of) the household of your servant will die of hunger! (D)y lord, give grain staples to your servant!

B. Kušmešuša King Alašiya to Niqmaddu
All is well with me, my households, my countries, my wives, my sons, my troops, my horses and my chariots. . . In exchange of the gift which you had sent me, I sent to you thirty-three (ingots of) copper: their weight is thirty talents and six-thousand and five-hundred shekels.

E. Banniya of Emar to Urtenu archive
there is famine in your house: we will die of hunger. If you do not quickly arrive here, we ourselves will die of hunger. You will not see a living soul from your land.

F. King of Amurru to King of Ugarit
Behold this matter which happened—how Adad** killed (many) of my forces and nobles! Release and do not detain the equipment of the forces of Ḫatti. Release for me (bow) strings, bows, leather shields and 10 clothes. If a man loves his wife, then he will release (her) for (any) ransom!



A. Pharaoh Merenptah* to Ammurapi of Ugarit
So you had written to me: "Could I not have demanded my needs [from] the Great King, the king of Egypt, my lord? I demand this request: [In] the land of Ugarit there is a severe hunger. May my lord save [the land of Ugarit], and may the king give grain to save my life ... and to save the citizens of the land of Ugarit.

G. king of Ugarit to ruler of Ashkelon
Regarding my request . . . which was disregarded, you replied thus: "Many are the ships which reach you (Ugarit), but so few are your boats which reach Ashkelon, indeed so few."
Really? How many (Ugarit) ships can be seen at Ashkelon! You are a dog!

Famine and Flight after Cohen 2021[1]
A. RSO 23:81–86, no. 40; B. RSO 23:40–41, no. 16; C. RSO 23:47–49, no. 21; D. RSO 23:184–85, no. 107; E. Emar, RS 34.152; F. RSO 23:95–96, no. 45* G. RSO 23:173–74, no. 97**

* also Merneptah ** Adad - the storm god, giver and taker of life *** Cohen 2021, 55-57 reading varies from *editio princeps*

While Cohen's intention was not to focus solely on Hittite matters, selection C above indicates Hatti's urgent need for grain——perhaps reflecting the drought conditions treated by Manning et al. above (2022). Singer references additional texts including one from the King of Hatti to the King of Ugarit——a stern reminder of his vassal's obligation to send a large grain shipment (2000 units of barley - perhaps 7.7 tons) to his lord, a demand the Hatti King bluntly states, "(It is a matter) of death (or) life!" (RS 20.212 = Ug 5, no. 33 - 2011, 114). Another Hittite request for grain (BO 2810) coveys the frustration and anger of a palace official (King?) attempting to stabilize the political situation in the midst of severe food shortages. Clearly overwrought the sender urges the addressee to, "hold on to the (rebellious?) lands and let none of them defect," and ends with the rhetorical (and decidedly sarcastic) question——"My son, do you not know that there was a famine in the midst of my lands?" (ibid, 115).

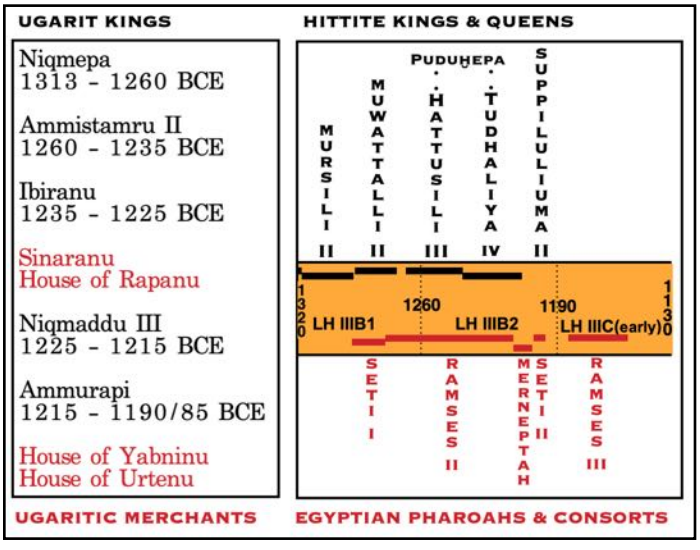
1. Each of these sites communicated with Ugarit during Cohen's "horizon" or the final decades of the LBA. The RSO 23 texts (written in Akkadian) were edited and published by Lackenbacher, S. and F. Malbran-Labat (2005; 2016). For Emar, RS 34.152 see Cohen and Singer 2006. All translations follow Cohen although a number of texts have been edited to emphasize the message. No additions or insertions were made.

The graphic on the preceding page indicates Ugarit's centrality as a hub for information during the LBA. While the Cypriot letter (B.) and others referred to by Cohen suggest normalcy——its pleasantries and "check is in the mail" assurances appear out of touch, even bizarre within the overall context. However, given the irregular and unpredictable delivery mechanisms and the absence of date stamped tablets——normal delays may well have left significant information gaps between even relatively close sites. In any case, several of the letters highlighted above suggest Ugarit——like its neighbors and more distant trading contacts, was also facing a crisis. Ultimately Ugarit was not only unable to assist others (D. above) but the response of Egyptian pharaoh Merneptah (1213-1203 BCE) to an earlier missive (A. above), recounts the King of Ugarit's request for grain and of the "severe hunger" in his own land. While no Egyptian grain was forthcoming, Merneptah did send, "boats laden with precious gifts: gold objects and large amounts of textiles," and perhaps more to the point, "seven thousand dried fish (of various sorts)" (Cohen 2021, 55).

Things fall apart; the centre cannot hold . . .*

Not surprisingly, close on the heels of famine was destruction——and this too is widely attested in the LBA record. Although scholars have questioned the degree and extent of the damage as well as the equating of all hostile forces with the Sea People, traditional scenarios have envisioned the Sea People as the agents of the destruction at numerous sites. The evidence, at least from Ugarit, appears to give credence to the extent of the site's damage. Singer made this case but also argued that a portion of the LBA evidence from Ugarit is in a class of its own. "Time and time again," he stated, "the publication of new texts from the 'house of Urtenu' in the southcentral area of Ras Shamra (Calvet apud Al-Maqdisi 2004:94) has shown this archive to be the most important corpus pertaining to the very end of the Late Bronze Age. At a time when other centres of scribal activity become increasingly sparse and introspective, the Akkadian letters of this rich corpus cover an 'international' orbit extending from Hatti to Egypt and from Aääur to (Ah)hiyawa, passing by Alasia, Lukka and the ships of the Sikila-people" (2006, 242).

Recent dating for the destruction of Ugarit rests in part on a letter from the Urtenu archive sent from Bey, the Egyptian chancellor, to King Ammurapi. As the date of Bey's execution is known to be 1191 BCE, the destruction necessarily must post-date this event and is currently set between 1190 - 1185 BCE (Cline 2021, 106-107). Marguerite Yon's experience as the director of excavations at Ugarit (1978-1998) provided her with impressions of both the good times and the bad. "Ugarit," she wrote, "owed its prosperity to its agricultural resources, its commercial activity and its industrial products. These activities enabled the city's upper classes, which included the royal family and its entourage, rich land owners and prosperous merchants, to enjoy a luxurious and refined lifestyle" (2000a, 188). Yon's starkly contrasting vision of Ugarit's end is



*W.B Yeats's - *The Second Coming*

characterized by an all consuming conflagration——a disaster leaving behind a layer of ash and rubble reaching a height of 2 meters in places. Although numerous arrowheads indicate hostile forces, the absence of human remains together with multiple caches of sequestered valuables indicate that much of the population may have escaped prior to the firing of the city (1992, 117-119). Yon also states, "The total and irrevocable disappearance of the civilization of Ugarit at the beginning of the twelfth century was not entirely due to enemy attacks and to the growing insecurity at sea, which probably caused some decline in commercial exchange. There were also domestic factors. Not only did the people of Ugarit lack a taste for war, but the demands of the palace with its fiscal system and its practice of patronage became increasingly burdensome to the populace. The peasants were compelled to desert the fields to the detriment of the agricultural resources" (2000a, 189). Yon's scenarios of Ugarit's prosperity and sudden demise are attested among the numerous texts recovered from the excavated archives. Prior to the Urtenu finds and to Yon's directorship, a tablet found in Courtyard V adjacent to the South Palace appeared to offer a detailed account of Ugarit's final days (Yon 2006, 44). The letter, from the king of Ugarit (Ammurapi?) to the king of Alasyia (Cyprus), reads in part:

> *My father, now the ships of the enemy have come. They have been setting fire to my cities and have done harm to the land. Doesn't my father know that all of my infantry and [chariotry] are stationed in Hatti, and that all of my ships are stationed in the land of Lukka? They have not arrived back yet, so the land is thus prostrate. May my father be aware of this matter. Now the seven ships of the enemy which have been coming have done harm to us. Now if other ships of the enemy turn up, send me a report somehow, so that I will know.*
>
> - RS 20.238 (*Ugaritica* 5.24) translation following Beckman 1996; original publication Nougayrol et al. 1968

Although it was suggested by Claude Schaeffer (initiated the excavations at Ras Shamra in 1929) that the tablet dated to, "the final phase of the kingdom," this could not be confirmed. In any case——even supposing an earlier date, the message provides a chilling account of the conditions faced by Ras Shamra's residents (Cline 2021, 107). Subsequent documents offer no indications that the situation improved. Singer considered the following, "perhaps the most dramatic amongst the last letters from Ugarit" while noting the translation of the initial section is controversial (2011, 122).

> *When your messenger arrived, the army was humiliated and the city was sacked. Our food in the threshing floors was burnt and the vineyards were also destroyed. Our city is sacked. May you know it! May you know it!*
>
> - KTU 2.61 = RS 19.011 = PRU 5, no. 114; Cunchillos and Vita 1993b

And in a letter that Cohen suggests, "probably never left Ugarit," Ammurapi pleads with his Hittite lord at Carchemish, saying:

> *To the king, my lord say, thus Ammurapi, your servant.… I wrote you twice, thrice, [new]s regarding the enemy! … May my lord know that now the enemy forces are stationed at Ra'šu, and their avant-guard forces were sent to Ugarit. Now may my lord send me forces and chariots, and may my lord save me from the forces of this enemy!*
>
> - RSO 23:33–35, no. 12. after Cohen 2021, 58

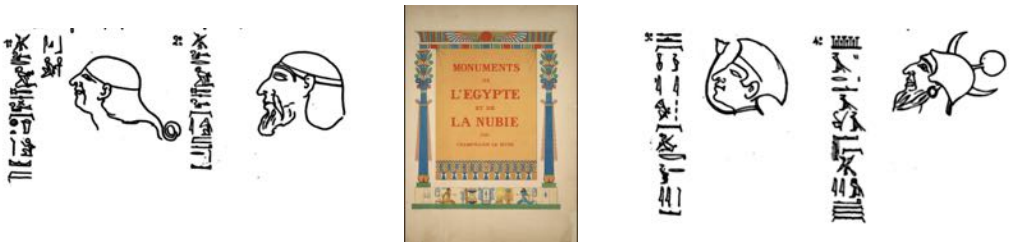
Understanding any such correspondences should not discount the context in which they were composed. As all foreign policy is self-interested, and most particularly so in times of stress, there may well be unrecognized nuances, even purposefully misleading statements intended to benefit one party (state)——at the expense of another. For example, during the final phase of the LBA, messages passing between Hittite royalty, the representatives of their interests, and Ugarit are replete with threats, recriminations, and not a few prevarications. The main dispute involved Hatti's repeated demands for Ugarit military units to respond to Hittite needs. A number of texts record Ugarit officials informing their lord that both their naval forces as well as their chariot and infantry are "out of town"——likely a ploy by Ugarit to retain some semblance of a home guard. Singer notes, the Ugarit king, "kept the best part of his army within the borders of his kingdom, as indeed any sensible ruler would do in a similar situation" (2011, 117-118). Another factor in play is "the fog of war" and the general understanding that contemporary reports of ongoing hostilities——even assuming the best intentions of the battlefield reporter, are suspect. Consequently, the 21st century historian, despite (or perhaps in some cases because of) the uniquely detailed Ugarit archives, is faced with an interpretive challenge fraught with difficulties——one where certainty seems unlikely. However, based on a combination of the archaeological and textual evidence, Singer argued convincingly for Ugarit's total destruction while also citing textual evidence implicating the Sea People (2011, 118-119; 121-126). With regards to the Sea People, Singer's position appears unequivocal as he stated that at least some of the marine raiders associated with the final destruction of both Hatti and Ugarit were elements of the same bands that took part in the "Battle of the Delta"——as infamously memorialized at Medinet Habu.

> *The foreign countries made a conspiracy in their islands. All at once the lands were removed and scattered in the fray. No land could stand before their arms, from Hatti, Qode, Carchemish, Arzawa, and Alasiya on, being cut off at one time. A camp was set up in one place in Amurru. They desolated its people, and its land was like that which has never come into being.*
>
> -Medinet Habu inscription of Ramesses III's 8th year

The temporal context for the collapse of both Ugarit and Hatti is concurrent with the reigns of Ammurapi and Suppiluliuma II. A series of texts from both capitals refer to the "Battle of Alasia," Suppiluliuma II's successful——albeit seemingly incongruous, marine campaign against forces associated with Cyprus (2011, 116-118). Bryce suggests that it is not at all clear who manned the enemy vessels (2005, 332). Singer, to the contrary, argues that Suppiluliuma II was engaged by, "[the] 'enemy of Alasia,' which must already refer to the 'Sea Peoples' who took over Cyprus or parts of it" (2011, 118). Continuing in this vein Singer states, "As a rule, the 'enemy' is not identified by name in the documents from Ugarit and Hatti, which only enhances the importance of the unique reference to the Ŝikila-people in a letter from the Urtenu archive found in 1973 (RS 34.129 = RSO 7, no. 12; Dietrich and Loretz 1978c; Lehmann 1979)." The Ŝikila-people had captured and ransomed to Ugarit a person of interest to the Hittites——but most notably and to his point, Singer again references Lehmann and states——"The Sikila 'who live on ships' are identified with one of the 'Sea Peoples' mentioned in the Egyptian documents, thus providing the first conclusive proof that the same seaborne enemy threatened both the Hittite and Egyptian empires." The pertinent cuneiform most likely reflects the *Skl/Sikila* (ibid., 118-119). While Singer's analysis——as applied to Ugarit, may be convincing, he and other scholars have taken contrarian views on a more general application of the two signature aspects of collapse theory: the role of the Sea Peoples and the degree of destruction.

Shapeshifting Sea Peoples

If Carpenter's proposal to take climate change seriously was largely ignored, the framing of the Sea People as the universal destroyers of LBA societies gained an inordinate degree of influence during the early 20th century CE. The Sea People——protagonists in the Battle of the Delta (1175 BCE), first entered the consciousness of 19th century CE scholars via the drawings of Jean-François Champollion and the imaginations of Emmanuel de Rougé (1835; 1855) and Gaston Maspero (1896). Much like the Rosetta Stone, however, behind the various inscriptions lay a good deal of pharaonic glorification alongside kernels of historic truth. See *EH I - LH IIA: Mainland*. Advocates for a revision of the traditional collapse narrative have often critiqued Robert Drews's work, *The End of the Bronze Age. Changes in Warfare and the Catastrophe ca. 1200 B.C.* Drews's concept of widespread destruction——his "Catastrophe," is summarized with a map keyed to the names and locations for 47 "Major sites destroyed in the Catastrophe" with only three singled out as "probable but not certain" (1991, 9 Figure 1.). Fire is indicated as the proximate cause for most destructions as evidenced by ash layers. Drews also proposed the success of the hostile forces was due to a reimagined role for infantry equipped with lighter, more effective defensive armor along with Naue Type II slashing swords——foot soldiers capable of successfully challenging elite chariot warriors who, for much of the latter LBA, had been the most effective combat units (ibid. 102-103). Drew most frequently refers to the Sea People indirectly, referencing works that attribute much of the destruction to these groups. For example, Drews comments that, "there is much to be said for Trevor Watkins's generalization that the sword as such was foreign to men of the eastern Mediterranean until "the Peoples of the Sea" brought it forcefully to their attention" (ibid., 193; Watkins, 1989, 25). There appear to be similarities between the Drews's catastrophe and John Caskey's proposal of hostile incursions resulting in widespread destructions on the Greek mainland between EH II and EH III (1960, 301). In the latter case, Jeannette Forsén's detailed study revealed numerous destructions but also major differences in both the degree and types of destruction as well as an absence of contemporaneity for many of the events (1992, 251).



Monuments de l'Egypte et de la Nubie
Champollion, Jean-François and J. J. Champollion Figeac. *1835–1845.*
Champollion, J-F Drawings - Sea People - Medinet Habu, base of the Fortified East Gate

Jesse Millek also questioned the degree of destructions and assumed attributions for the period of the "Collapse"——with a suggested focal point of 1200 BCE (2023, 15; 284-288). However, as Driessen's review of Millek's monograph points out, recent scholarship frames the collapse in broader terms, "*un siècle maudit* – that roughly covers the years between 1250 and 1150 BCE, a century during which major adverse events happened, dramatically shaping the future" (Driessen 2023, 451). Narrowly circumscribed causes such as Drews's are no longer considered tenable. As Driessen suggests, site specific reports by the excavators of record may reveal synchronies but also local variations on the details of destruction and/or abandonment (ibid., 452).

A. Bernard Knapp and Sturt Manning's detailed publication covering the final phase of the LBA also notes numerous mischaracterizations of the archaeological evidence for many site destructions. Three sites, Ras Bassit to the north of Ugarit and Ras Ibn Hahi and Tell Tweini (Gibla?) to the south each has evidence of destruction late in the LBA, however, each was also reoccupied soon thereafter (2016, 128-129). As noted above, Knapp and Manning critiqued a number of early climate studies—in part for adopting overly precise and suspect dating for various historical events. However, the authors are not questioning the possibility that some such events may have been related but that, "the chronological resolution is inadequate to support the precise historical argument" (ibid., 102-103). A series of papers by Kaniewski et al. and the site of Tell Tweini is a case in point (Kaniewski et al. 2011, 8 June; 2013, 14 August, fig. 2.). Commenting on these publications, Knapp and Manning stated that, "a major destruction evident in a fire-generated ash level (7A) over at least part of the site has been dated precisely, if rather uncritically, to 1192–1190 B.C.E. and attributed to the Sea Peoples" (2016, 129). While their critique seems justified it is worth pointing out that subsequent climate studies, including the one detailed above by Manning et al. do suggest climate as a significant contributing factor to at least some of the final LBA disasters. At the same time it is clear such studies provide little data for clarifying the role of the Sea People. Knapp and Manning report that Tell Kazel was, "destroyed by a 'fierce fire'—evident in a thick layer of ashes—dated to the very end of the Late Bronze Age," but much as other coastal sites, "was reoccupied in the Iron I period" (ibid.). In the southern Levant, there is no lack of evidence for destructions, however the authors agree with Cline's assessment that there is little clarity regarding when such events occurred or who was responsible (ibid., 130). In the cases of Megiddo and Lachish long histories of excavation and multiple destruction levels have obscured rather then clarified aspects of their histories. Consequently, "in neither case," Knapp and Manning state, "is there any clear evidence for the perpetrators of these disasters or whether they might have been Sea Peoples, Egyptians, Israelites, or other Canaanites" (ibid., 131). Nearly all analyses of the sites discussed above, including the one by Knapp and Manning, engage with speculations about and evidence for an Aegean or Mycenaean (Peleset? / Philistine?) presence following the dissolution of the once region-wide network. This topic is touched upon below. What seems clear from even this partial summary of secondary sources is the diversity in the degree of destruction as well as the absence of evidence identifying any single perpetrator or group with a high degree of confidence. While confining the events of the final phase of the LBA to an overly precise chronology and attributing responsibility to an ill-defined group may satisfy a "one size fits all mentality" or even the PR of one pharaoh or another, the position is untenable. What is clear is the enormity of the transition and the eclipse of what was an unprecedented community of states. At the same time, even the most detailed archaeological report may fail to capture the human aspect of such widespread social dissolution. The tragedies at the end of the LBA, however, were most acutely felt at the individual level——among acquaintances, neighbors, and within families.



Footprints at Emar - A Tragedy in Seven Tablets

Amanda Podany has written an innovative and captivating history of the ancient Near East——one that brings her readers closer to the lived experiences of individuals long gone from this earthly realm (2022). Inspired by Ea-nasir——the inept businessman from the 18th century BCE Ur and recent cause célèbre, Podany has utilized the material and textual finds from across the ancient Near East to recreate the biographies of both the lowly and the highborn (ibid., 1-2). While there is no doubt that studying Ugarit's archives and the *Ahhiyawa Texts* inform our perceptions of events and people living long ago and far away, Podany focuses on the personal details of such notables as Puduhepa, the Hittite Queen and Burna-Buriash II——the Kassite King of Babylonia and "in-law" of nearly everyone who was anyone in the latter half of fourteenth century BCE. However, Podany also speaks for the often anonymous multitudes whose individual fates are are rarely documented. The LBA site of Emar is the setting for one such story. Located on the west bank of the Euphrates, Emar was an important link in the commercial enterprise centered at Ugarit. Like Ugarit its tablet archives have also provided a wealth of information, most notably for detailed accounts of celebrations accompanying Emar's annual religious rituals. In the period just prior to Emar's demise——during "the years of distress and wars," the vassal city was ruled by the representative of the Hittite king at Carchemish. In fact, this "Overseer of the Land" played the part of witness as attested on a number of the tablets documenting the following saga (ibid., 408- 410).

The heart wrenching story of Ku'e, Zadamma, and their four children reveals the human side of the Collapse (2022, 410-414).* The telling of the story is its genius and I will not attempt to recreate that here. Briefly, a young couple living in Emar with few means and no luck are forced to do the unthinkable. Their first born, a daughter named Ba'la-bia, was followed by twin boys, Ba'la-belu and Ishma'-Dagan, and then Ba'la-ummi the older siblings' baby sister. The father Zadamma left their home after the twins were born—— whether admirably to find work or scandalously to avoid his obligations, we are not told. By the time Zadamma returns, Ku'e has given birth to Ba'la-ummi and in her effort to make ends meet had sold the infant for 30 shekels. But even this arrangement fell apart and Ba'la-bia was returned home. Within six mouths the starving family's situation grew desperate. Ultimately the couple sold all four children, apparently with the hopes that the buyer, a soothsayer of unknown repute, would at least provide food to protect his investment until such time as he could put the children to work. Such misfortunes personalize the concepts of famine and collapse. Viewed from the 21st century CE, perhaps the most poignant evidence of the family's tragedy is among the material remains. Along with the seven tablets that document the family's narrative, finds from Emar included 3 clay artifacts each bearing the impression of a child's right foot. A single name is inscribed on each——*Ba'la-bia* (age 2) and the twins *Ba'la-belu*, and I*shma'-Dagan* (age 1)——memorials of a sort for three of Ku'e and Zadamma's children, but also a record of the tragic and impersonal contractual details signaling the legal strictures and inevitable hardships that likely defined each child's bleak future. Among the sealings impressed in the clay of each "document" (child's clay footprint) was that of Emar's Hittite overseer. While such an act may seem baffling Podany suggests the legal interests of various elite may have been involved (ibid., 410-414).



Emar - Footprints in Clay
Early 12th century BCE
National Museum of Aleppo
National Museum of Aleppo (Virtual)

*Story created in part by Carlo Zaccagnini (Zaccagnini 1994) and Lena Fijalkowska (Fijalkowska 2014).

The Lure of the East

The degree to which the findings of Near Eastern scholarship can inform Aegean prehistory is an open question. All pertinent prehistoric evidence, as discussed above by French (p. 415), Monroe (p. 436), and Wiener (p. 200), is by nature fragmented and thus less than ideal; additionally, ongoing research is certain to impact future interpretations. At the same time it seems certain that factors such as geography and climate are significant determinants——albeit as modified by regional factors. For example, widespread climate deterioration (increasing aridity and decreasing precipitation) appears to have been the reality across the eastern Mediterranean at the end of the LBA . See 174-175; 445-447. It also seems likely that climate, at least indirectly, played a role in the destruction of Ugarit (Ras Shamra). Furthermore, the demise of Ugarit, a keystone of LBA commercial economies, may well have been a significant factor in a dominoes-like dissolution of the network that had previously maintained trans-regional trading relationships. In any case, it is difficult to gainsay Itmar Singer's characterization that, "The importance of Ugarit's history exceeds by far the local and the regional level, and for the complex questions concerning the transition between the Bronze and the Iron Age, it is a main landmark, providing a unique combination of archaeological and textual sources" (2011, 19).

Regarding Ugarit's Aegean connections, Marguerite Yon stated, "the ceramics produced in the Mycenaean tradition and originating in Greece provide the greatest amount of evidence . . . the majority dating to the thirteenth century" (2000b, 192-193). Somewhat unexpected then is Singer's observation that, "In the vast written documentation from Ugarit there is not a single record of an Aegean merchant trading in the city" (2011, 79). Singer suggested this glaring absence was not an accident but a reflection that Mycenaean trade was conducted by Syrian merchants through Cypriot intermediaries (ibid.). Palaima's observation that Linear B documents, "provide almost no direct evidence for the management of extra-regional trade whether by sea or land," suggests the dilemma for Aegean scholars (1991, 276).

Nontheless, in the mid-1950s Ventris and Chadwick, authors of *Documents in Mycenaean Greek,* looked eastward in their effort to understand and explain Linear B (1956). While the Linear B corpus seemed to lack the numerous legal documents (eg. sales and marriage contracts) excavated from Near Eastern sites, tablets from the Hurrian remains at Nuzi (Mitanni Empire) and from Ugarit suggested parallels with the Linear B documents, both in format and function (ibid., 106-107). However, as Vita and Rougemont noted, a multiplicity of languages and language families and the resulting transcriptions and translations create numerous complexities——ultimately, "making some of their parallels inaccurate or less appropriate" (2024, 337). While a direct comparison between Mycenaean and Near Eastern texts appears to be problematic another study by Rougemont and Vita suggests, "the use in Mycenaean studies of parallels drawn from written documents of the Near East is explained and justified by striking analogies between the sources" (2021, 130). Based in part on research illuminating Mycenaean scribal paleography, similarities can be drawn between organizational structures and administrative procedures of the two regions. See 321-323. For example, J.T. Killen's analysis of Pylos tablet An 1 and Ras Shamra tablet RS 8.279 (KTU 4.40), "suggests the possibility that the Pylian tablet records, as probably does the Ugaritic text, a conscription operation for naval service" (ibid., 128).

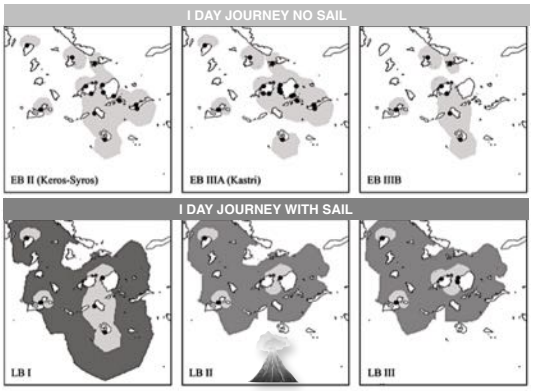
Foreshocks, Finalities, and Futures

While the politics of the LBA states were dictated largely by the self-interest of the powerful, individually and as a group they relied on a functioning trade network. Aegean and Near Eastern "secondary states" each had ties to one or more of the centers of power and commerce. And each, to a greater or lesser extent, participated in and profited from the unique vitality and reach of early globalism. Like Ugarit, many of these same states also faced economic recession, even ruin, as a result of insufficient food supplies and a fractured trade network. Even those states with a degree of self-sufficiency were impacted by the ensuing chaos and instability. As with the Near East, a more focused look at individual Aegean sites during the LH IIIB2 and IIIC periods, reveal a number of common themes as well as distinct differences. During the era known as the floruit of Mycenaean culture——the 14th and 13th centuries BCE, mainland palatial authority was embraced, to a greater or lesser degree, across much of the Aegean. At Mycenae a destructive event, perhaps an earthquake——dated to the end of LH IIIB1, is often tied to the later, final destruction and collapse. Despite this initial setback, however, the LH IIIB2 period at Mycenae witnessed an extensive program of repairs and renovations including the addition of a number of the features that define the final architectural expression of the citadel and consequently the present-day remains. The Lion gate, the extension of the enceinte that enclosed GCA and an elaborate subterranean access to a spring-fed cistern were among the improvements. It seems probable that changes of a defensive nature reflect regional, albeit unspecified, threats as similar precautions were taken at Tiryns, Midea, and on the Athenian acropolis. Whether or not these earlier events were connected with the destructions at the end of LH IIIB2 is moot——the reality of the dissolution and chaos that swept across the Aegean in the early twelfth century BCE is unquestionable. The overall impact of the mainland disruptions was likely exacerbated by the centralized nature of the individual palace centers. There may well have been a gradual or rapid destabilization of social structures designed to maintain the sizable palace-related workforces alongside a concurrent inability to deliver raw materials to workshops producing a variety economically critical exports. Underlying such proximal causes are a variety of factors related to eastern Mediterranean commerce in general. Sigrid Deger-Jalkotzy argues that while systems collapse may account for the disintegration of the social and economic underpinnings of the palace centers it is a less adequate answer for the varied and widespread events that followed——including destruction and abandonment but also pockets of prosperity, largely related to non-palatial sites (2008, 387-391). This distinction is critical to understanding the LH IIIC period. While the charred and crumbled fragments of collapsed walls signaled irreparable damage to the fabric of palatial society, a variety of contrasting scenarios, including signs of renewal, are suggested by evidence gathered at numerous sites on the periphery.

Variations On A Theme

A study by Katherine Jarriel focuses on the Cyclades and the contrasting effects of the 4.2 ka climate event and the Thera eruption on local-scale maritime networks (2020). Although the 4.2 ka event (ca. 2250–2100 BCE) and the Santorini eruption (ca.1700–1550 BCE) occur centuries prior to the LBA collapse, Jarriel's analyses offers a number of useful insights into understanding the variety of scenarios apparent across the Eastern Mediterranean at the end of the LBA. Numerous scholars, including Cline in his updated *1177 B.C.* volume, have placed greater emphasis on understanding the evidence from recent climate studies, including comparable events featured in Jarriel's study (2021). While climatological data plays a supporting role in Jarriel's analyses, the broader usefulness of her study relates to methodologies and the criteria she applies to

evaluate the effects of the earlier events. In summary, Jarriel states, “[the] small-world networks in the Early Bronze Age Cyclades were substantially altered in the face of the 4.2 ka climate event, while in response to the eruption of Thera, small-world networks were resilient” (2020, 1). Given the magnitude of the Theran eruption, quadruple the size of the 1833 Sunda Strait Krakatoa eruption that killed over 30,000 people, the resilience of the early LBA Cycladic networking is surprising (Winchester 2005, 4).



Top: EB II - IIIB 4.2 ka Drought Contrasting Affects - Small World Networks Bottom: LB I - III Thera Eruption after Jarriel 2020, Fig. 2 (in part)

Based on the relatively small populations of typical Cycladic communities and their dependence on networking, Jarriel created, “a series of isochrone maps that show how far it would be possible to voyage in one day's time to a known archaeological settlement”——for the relevant chronological periods (2020, 6). The maps illustrate a diachronic measure of network sizes and interconnectedness. As the adjacent figure illustrates, significant network shrinkage (from -34% to -20%) and fragmentation occurs during the late EBA period while, apart from Thera south, LBA networks largely maintained their cohesiveness (ibid, 8). The resilience of “small-world networks,” Jarriel states, is a function of temporality, technology, and the relative vulnerability of specific environments.Temporality - Jarriel argues that the catastrophic, short-term nature of the eruption would likely, “provoke spontaneous intercommunity solidarity,”——efforts that eventually resulted in a northwards shift and preservation of the existing networks, while the gradual degradation of land critical for farm and pasture, resulting from the 4.2 ka event, slowly but inexorably crippled the traditional networks of reciprocity. Technology - Jarriel observes that sail was adopted either during or just after the 4.2 ka event, however, its effect as “a technology of resilience,” are only evident following the Thera event when, “sailing technology aided in both the creation and maintenance of longer-range social networks.” Environments - Jarriel points out that, “The aridity of Mediterranean environments coupled with unequal freshwater availability leaves them especially vulnerable to drought events” (ibid., 10). Jarriel’s analysis suggests useful parameters that may have affected “small-world networks” in given situations but additional contingencies, including those discussed by Manning et al. may have resulted in site-level differences within networks (2023, Methods). Just as the unitary theories of the “Collapse” have proved unsupportable, the appeal to “Migration” as a generalized theory to explain the subsequent events of the late thirteenth and twelfth centuries BCE appears unsatisfactory. Significant post-palatial evidence inferred from the archaeological record, including population and settlement size, craft production, and commercial activity are, at times, just as reasonably explained by local factors as by external forces.

Transformations at Phylakopi?

During the LH IIIC period the Cyclades and islands of the eastern Mediterranean present a varied picture——one suggesting threats and hostilities but also scenarios of continuity, innovation, and economic growth. Excavations at Phylakopi on Melos have produced a range of detailed evidence for the late LH IIIB - LH IIIC era (Renfrew et al. 1985). As the importation of mainland ceramics declined, new fortifications were constructed (perhaps reflecting concerns similar to those on the mainland), however, there is no evidence of large scale destruction. In fact, the community at Phylakopi

endured well into the LH IIIC period. During this period (through LH IIIC Middle) both the earlier West (LH IIIA2) and later East (LH IIIB1) sanctuaries were still active (Deger-Jalkotzy 1998, 107). Renfrew argued that while the twin shrines were "impoverished" following the LH IIIC Middle period (Phylakopi's 3b phase), the level 2b "collapse" debris attests to a variety of anthropomorphic/zoomorphic figures and figurines whose characteristics contrast with their earlier cultic counterparts (1985, Ch. IX). The preponderance of evidence from the later assemblages suggested to Renfrew, "the transformation in cult practice and belief structure" (ibid., 431). With a nod to Nicholls's earlier analysis (1970), Renfrew tentatively proposed that the innovative cult objects suggested new rituals that may have foreshadowed later religious practices (ibid., 441). Significantly, as Deger-Jalkotzy noted "several elements of this 12th century repertoire were transferred to Cyprus at the transition from LC IIIA to LC IIIB" (1998, 108).



LH IIIC Figurines:♂(SF 1553),♀?(SF 2015), bovid (SF 2687) West Shrine - Phylakopi French, in Renfrew 1985, 229; 248; 234
Archaeological Museum of Melos

Reimagined Islands: renewal and refugees

Evidence from the LBA fortified sites at Koukounaries on Paros and Ayia Andreas on Siphnos, like Phylakopi, indicate later (early LH IIIC Advanced) destructions. Schilardi argued that the Paros site was occupied by Mycenaean palatial refugees (1992). Deger-Jalkotzy, however, concluded otherwise——stating that both Mycenaean and Minoan influences are attested at Koukounaries while the structural organization (fortifications and habitations) and presence of luxury goods suggest effective leadership and, "a residential style of life," rather than, "a headlong gang of desperate refugees" (1998, 108). As Deger-Jalkotzy noted the evidence from Paros, reinforced by that at Grotta, is consistent with the efforts of local occupants. Following an earlier destruction and abandonment, Grotta on Naxos successfully reversed its fortunes so that by LH IIIC Middle the residents of the fortified Town II settlement and harbor had reestablished commercial trade with central Greece, Crete, and Rhodes. Nearby warrior burials at Kamini and Aplomata included a variety of grave goods prompting Deger-Jalkotzy to describe the Naxian elite as on a par with, "the military aristocracies and the belligerent petty kings or princes who held sway at the political centres of the time" (Deger-Jalkotzy 1998, 107-109). For Andreas Vlachopoulos the successes on Naxos suggest an even rosier picture——"The conditions of affluence, prosperity and freedom provided by the dense exchange network of LH IIIC established the Aegean more as a sea of mercantile competition than an area of military confrontation and operations: conditions which make possible the existence of a system of politically autonomous centres" (2008, 531). Vlachopoulos's positive assessment is not an interpretation shared by all; Schilardi proposed that it may have been neighbors from Naxos that attacked and destroyed the mansion at Koukounaries (1984, 202-203).

Cultural ties from the Aegean eastward to the Dodecanese and western Anatolian littoral, are attested throughout the LBA. Although Mycenaean interests overtook Minoan influence in the mid-15 century BCE, identifiable aspects of Cretan culture endured. Despite the sparse LH IIIC settlement evidence in the east, numerous mortuary finds exhibit mainland characteristics——evidence that has led a number of scholars to propose Mycenaean colonial settlements. Mountjoy suggests that a process of acculturation is just as likely——whereby local inhabitants produced Mycenaean-type

goods and adopted mainland practices (eg. chamber tomb interments) to create a hybrid culture (1998, 36-37). See *Mycenaean III*. In any case, many communities seemed to have been largely unaffected by the LH IIIB2 mainland destructions. In fact, LH IIIC Middle tombs at Ialysos on Rhodes and Eleona-Langada cemetery on Kos attest to increases in both population and wealth——events variously attributed to internal relocation and/or immigration from the Mycenaean mainland (ibid., 53). Despite evidence for the depopulation and abandonment of a number of contemporary sites, Ialysos's high value grave finds (eg. Cypriot bronzes) attest to eastern contacts——affirming the island's continued importance as a link in the commercial network between the Aegean and the Levant. From Langada western contacts are indicated by European-type arms (among the earliest in the Aegean) including a Naue II bronze sword, the LH IIIC warrior's weapon of choice (Deger-Jalkotzy 1998,107-109). In the region she refers to as the Interface Mountjoy describes two ceramic phases following the LH IIIA2 destruction at Miletos. LH IIIB1 pottery is influenced by Minoan, Anatolian, and Mycenaean shapes and styles. Subsequently, towards the end of LH IIIB2 Mycenaean influences come to the fore leading to the LH IIIC ceramics Mountjoy terms the East Aegean Koine (EAK). Mountjoy stresses that the EAK differs substantially from contemporary mainland wares and, other than Rhodian ceramics, displays a remarkable homogeneity as well as continuity of occupation. Mountjoy also clarifies that EAK differs from Desborough's previously described East Aegean Koine (Mountjoy 1998, 53-54).



East Aegean Koine Interface after Mountjoy 1996



panelled triglyph
antithetical spirals

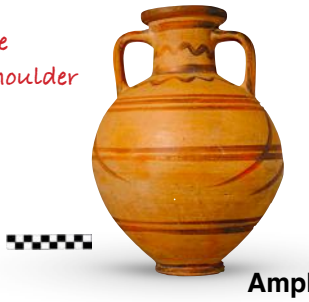
Deep Bowl LH IIIC
Trustees of the British Museum



tricurved arch

stemmed spiral
fish
and
birds
motifs

wavy line
neck & shoulder





tails below
handles

Amphora
Trustees of the British Museum



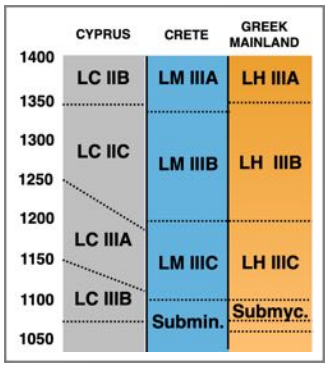
Kalythos
Trustees of the British Museum

East Aegean Koine Ceramics from Kalymnos - LN IIIC Early, Middle

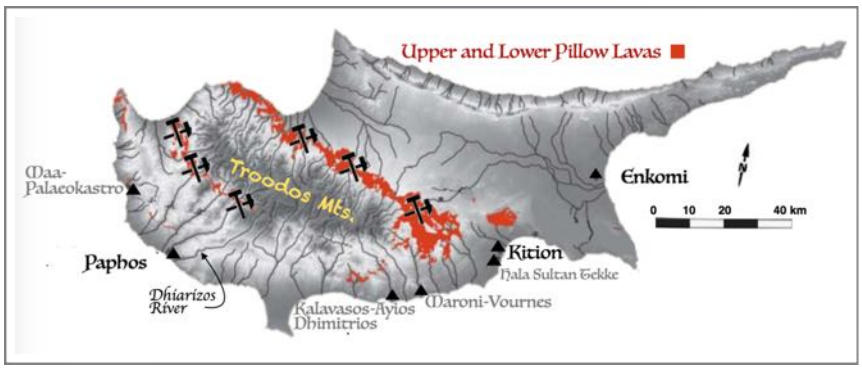
Cyprus: The Economic Engine, Past & Future

Following the LH IIIB2 palatial collapse, elements of Aegean material culture are attested at Late Cypriot (LC) IIIA settlements. As elsewhere, this prompted the suggestion that mainland groups, reacting to local disruptions, migrated eastward and established Mycenaean colonies——including on Cyprus. At least some of the newly arrived colonist have been characterized as invaders——even contingents of the infamous Sea Peoples. A more nuanced analysis, however, suggests greater complexity. In addition to persistent elements of Cypriot culture Minoan influences are also clear (Deger-Jalkotzy 2008, 395 -396). Rather than narratives of invasion and wholesale migration, recent scholarship has argued for a more nuanced scenario based

on mainland realities and the evidence recovered at Cypriot sites. Despite attempts to reconstitute aspects of palatial society, the Aegean post-palatial period ultimately ended with the eclipse of Mycenaean culture. Cyprus, on the other hand, while not without episodes of abandonment, local relocation, and immigration, was able to maintain a relatively high degree of material and cultural continuity during the late LC IIC - IIIA period of transition. While Cyprus clearly benefited from an influx of Aegean peoples and ideas, foreign influences enhanced, rather than replaced, an enduring Cypriot culture (Iacovou 2008, 631-632).



Aegean - E. Mediterranean Chronologies after Iacovou 2012, 23



Cyprus LC IIB - LC IIIB Iacovou 2012, Figs. 1,2 after A. Agapiou

As participants in The Palaepaphos Urban Landscape Project (PULP) Maria Iacovou and Artemis Georgiou have embraced the long view of Cypriot prehistory, one that places the transition from the Bronze Age to the Iron Age in an increasingly evidence rich context. The sanctuary of the Cypriot Aphrodite at Palaepaphos (Ancient Paphos) is among the island's more enduring monuments with an unbroken cultic tradition dated from ca.1200 BCE to the 4th century CE. Recent research indicates a local settlement date from ca. 1700 BCE——the beginning of the era of Cypriot rise to prominence as a major BA copper exporter with commercial centers at Enkomi and Hala Sultan Tekke (Iacovou 2019, 204 - 215). In southwestern Cyprus settlement numbers increased during MC III / LC I while land use data indicates a string of active sites associated with the Dhiarizos, one of several rivers arising in the iron rich deposits of the Troodos range and flowing southwards to the sea. This suggests Paphos was founded as one of a number of gateway settlements associated with metal and timber exports (ibid., 215-216). During the 14th and 13th centuries BCE, independent regional centers of copper mining and export, including Kalavasos-Ayios Dhimitrios and Maroni-Vournes, profited from the demand for copper and access to the widespread commercial trade networks. Ultimately however, these urban complexes, characterized by ashlar structures housing industrial workshops and storage facilities, were peacefully but permanently abandoned——collateral damage concurrent with the late13th century BCE economic collapse. However, the niche that opened as a result of these failures allowed for the emergence of a new group of Cypriot political economies during the 12th century BCE. Citing Webb (1999, 2014), Iacovou identifies Enkomi, Kition and Paphos as three autonomous and prominent coastal settlements that leveraged the increasing stability and rich copper resources to reconstitute markets and grow their economies. Enkomi's success, however, would be relatively short-lived. Despite new LC IIIA construction, characterized by Georgiou as "refurbished lavish buildings," along with the "proliferation of religious edifices in the reorganized town," it may have been the demise of Ugarit that sealed Enkomi's fate. In any case this center of Cypriot commercial prowess and spiritual life gradually lost relevance——ultimately to be abandoned in the 11th century BCE when silt rendered its port unusable **(**2014, 209). While not enduring, the period of

renewal at Enkomi does attest to the significance of cult sanctuaries as an integral part of the political and economic fabric of the community. Similarly, cultic practices were closely integrated with mercantile enterprises at both Kition and Paphos. Megalithic ritual architecture, previously unrecognized on Cyprus, speaks to the importance of these cultic institutions. Citing Knapps' opinion that "Sacred ceremonies may have been only one aspect of the sanctuaries' function as industrial and storage centres," Iacovou adds, "they were [also] of vital importance for the legitimisation of regional authority by local elites" (Iacovou 2019, 219; Knapp 2013, 372).



The material remains of the Paphos sanctuary are scant, and as Maria Iacovou explains, it was necessary to reconstruct a diachronic model, "of the almost invisible landscape," in order to understand, "the significance of the sanctuary's spatial location in relation to a long-lost gateway to the sea that was the foundation kernel of Ancient Paphos" (2019, 204). In fact five centuries would elapse between the initial settlement and the establishment of the sanctuary. With hindsight, however, we know the cultic institution established at Paphos in ca. 1200 BCE was destined to enjoy an extraordinarily long life despite being founded amidst the widespread disruptions of the LBA. Efforts to define the sanctuary's original layout have been fraught with difficulties——including those resulting from subsequent incidents of destruction and remodeling. However, similarities between the contemporary Temple I at Kiteon and Sanctuary I at Paphos have provided answers to a number of questions. To summarize, Artemis Georgiou——citing Webb and the combined efforts of numerous scholars states, "Both edifices follow the centuries-old open-air cultic architecture which incorporated large open courtyards, framed or lined by a covered hall that typified sacred practices on the island" (Webb 1999, 157–158; Georgiou 2014, 214). Unlike the typically circumscribed settlement——enclosed by a fortification wall, the urban polity of Paphos was dispersed across four terraces physically separated by natural features of the terrain. Importantly, each of three adjacent terraces: Marchello, Mantissa, Hadjaibdoulla, had visual lines of sight to the Alonia plateau, the location of the temenos (Iacovou 2019, 221). In lieu of a common cemetery, each of the local communities established its own burial ground, fortuitously preserving at least a portion of the evidence absent at the Paphos sanctuary and including the statuettes illustrated above. The bronze god and goddess symbolically embody the integration of Paphos' commercial interests and the deities that protected and guaranteed the fertility of the copper mines themselves. Georgiou suggests that the role of the female 'Astarte Goddess' was as consort to the male 'Ingot God' (ibid., 215-216).

Although Cypriot culture adopted a number of Aegean symbols (double axes and horns of consecration) and imported vast quantities of Mycenaean pottery (LH IIIA-B Pictorial wares), there are no indications their leaders emulated palatial culture or that Mycenaeans themselves established colonial enclaves on the island. The relationship during the 14th and 13th centuries BCE, Iacovou explains, was strictly commercial. During the same period Cypriot handmade Base Ring and White Slip wares were widely exported eastward to the Levant. A significant shift had occurred by the late 13th century when Cypriot potters were producing fine wheelmade ceramics——often adopting Aegean open shapes while applying their own decorative styles (Georgiou 2018, 183-184).



White Slip Ware
Enkomi
© Trustees of the British Museum



Deep Bowl
Maa-Palaeokastro
Georgiou 2018, 184 Fig. 9.8



Base Ring Ware
Dhali
© Trustees of the British Museum

Concurrently, as the mainland Linear B script was replacing earlier Minoan forms on Crete, the Cypro-Minoan script——first attested at Enkomi (ca. 1600 BCE) remained in use on Cyprus. The contrasting trajectories of Cypriot and Mycenaean cultures are starkly evident subsequent to the collapse. On Cyprus there appears to have been significant relocations of both peoples and centers of influence but there is nothing comparable to the the depopulation, abandonment, and impoverishment that affected areas of the mainland and Crete——most particularly at the centers of Mycenaean culture (Iacovou 2008, 629-631). Subsequently, the presence of Greek-speaking "immigrants" (as contrasted with "colonists") on Cyprus is strongly suggested by the adoption of "Cyclopean" fortifications, central hearths and stone/clay bathtubs. Nevertheless, Iacovou argues that even the novel elements, "do not appear as a package in new 12th-century settlements; rather, they occur in a nonhomogeneous pattern in Late Cypriot settlements that survived into the 12th century" (ibid., 631). Even the LC IIIA shaft graves, so alien alongside the local tradition of intra-mural chamber tombs, were part of what Iacovou describes as, "a short-term imbalance in the material culture," one that would become virtually "invisible" by LC IIIB (Iron Age) as subsequent generations of Greeks adopted many of the traditional practices and behaviors of Cypriot society (Iacovou 2012, 213-214). Nonetheless, the mixed interment practice of the 12th century (including the brief use of shaft graves) was replaced with a different but decidedly Aegean institution——the LH III chamber tomb with its characteristic dromos entrance (Iacovou 2008, 634).



o-pe-le-ta-u, Opheltāu
<property> of Opheltas
Duhoux 2012, 72

One such internment of note is the early 10th century BCE Palaepaphos-Skales Tomb 49. The rich grave goods included an iron knife, a white chalk bathtub, and 17 bronze implements. Among the bronze items are several spits or *obeloi*——one bearing the earliest attested example of Greek writing on Cyprus (Duhoux 2012, 71-72). The

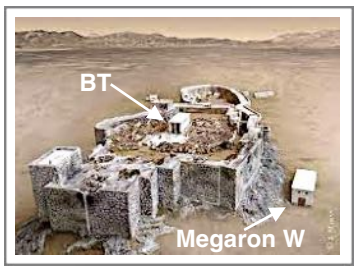
linguistic element brought to Cyprus by the Mycenaeans, and its ultimate penetration into Cypriot society, is unique. Typically, immigrants learn and use the native language and do so with increasing frequency among successive generations. Counterintuitively, the Arcado-Cypriot dialect became established on Cyprus where it initially adopted the Cypro-Minoan (C-M) syllabary. Iacovou associates the Cypro-Minoan script, in part, with records kept by the emerging southern coastal copper industries as best represented at Paphos——the only settlement, explains Iacovou, "that can claim continuity of habitation and continuity of the syllabic scribal tradition after the 12th century." In fact, despite the presence of the Phoenician alphabetic script on Cyprus in the 9th century BCE, the scribes at Paphos transitioned from their initial use of the C-M syllabary to the later Iron Age Cypriote syllabary (ca. 1100-1050 BCE)——a testament to the staying power of this tradition. And as Iacovou points out, "the Greek dialect spoken / written in Cyprus retained its 'archaic,' early Greek character," even after Cyprus was colonized by Egypt's Ptolemaic rulers in the late 4th century BCE (2008, 632-633).

Relatively recent research on Cyprus showcases with increasing clarity the variability of responses to the Bronze Age collapse. When compared with other well studied sites, for example Tiryns, developments at Kition and Paphos, precipitated in part by the late 13th century BCE destructions and displacements (both at home and abroad), led to the revitalization of earlier Cypriot economic and social practices and their integration with innovative political hierarchies and long lasting linguistic changes. Somewhat paradoxically, Mycenaean immigration initiated essential changes of a profound and long-lasting nature yet did so through a process of accommodation to rather than displacement of Cypriot culture.

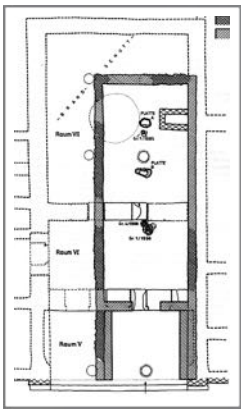
Tiryns: Nostalgia and Innovation

The dissolution of the centralized power and authority of the Aegean palace centers was but one consequence of the waves of destructions that swept across the eastern Mediterranean in the late 2nd millennium BCE. And although Aegeanists have uncovered evidence for at least some economic success stories in the following centuries——once conceived of as the onset of a Dark Age, Sigrid Deger-Jelkotzy observes that for the Mycenaean world, "nothing was the same as before" (2008, 405). While mainland palatial culture would ultimately prove irretrievable, the material remains of subsequent generations reflect some efforts to reconstitute aspects of earlier times and past glories while also displaying signs of cultural change and diversity. The LH IIIC period is dated from ca. 1190 BCE to ca. 1070 BCE with Early, Middle (Developed and Advanced), and Late subdivisions (ibid., 392-394). Tiryns exhibits a number of unique LC IIIC architectural features and other material finds both within the citadel and outside the walls. Amidst the LH IIIC reoccupations, renovations, and rebuilding——punctuated by recurring destructions, a mixed population of Tirynians, mainland refugees, and what appear to be immigrants, constituted a social pastiche whose material remains reflect the aspirations of an elite class alongside a larger population of proto-urban artisans and farmers (Maran 2015, 283-285). The varied material finds from LH IIIC Tiryns, both ceramic and ritualistic objects as well as high value items, reflect a mix of both foreign and local traditions. Within the context of the widespread instability following the LH IIIB2 collapse, the material evidence along with the implied demographic and social organization at Tiryns mirror important aspects of contemporary Cypriot culture (ibid., 285). However, destructions at the end of LH IIIC foreshadow a trend that marked the penultimate, if not the final, presence of Mycenaean culture.

Although the evidence is inconclusive, earthquakes may have been responsible for the catastrophic damage to the LH IIIB2 Tiryns palatial structures. In any case, at the very peak of its architectural glory much of the citadel was destroyed. However, recent excavations demonstrate that Tiryns, unlike many mainland sites, was not abandoned following the LH IIIB2 collapse. In fact, Tiryns underwent something of a renewal—— albeit not a renaissance, during the 12th century BCE (Maran 2016, 201-202). Present day visitors to the site can observe the outlines of the LH IIIC Building T (BT) megaron structure, superimposed on the remains of the LH IIIB2 Great Megaron. The lack of small finds within BT has limited what is known about the structure although it is believed to have had a central colonnade (Maran 2001, 114). Other modifications to the Upper Citadel in LH IIIC Early include the redesign of the Great Court's altar from its original circular form to a rectangular structure. Evidence for this significant reorientation of ritual is suggested by the repurposing of stones from the original altar for use in the construction of BT (ibid., 115).







Tiryns LH IIIC
Model, T. Weber; remastered, M. Kostoula
Photo BT walls, author
BT Plan after Papadimitriou 2015, Fig. 51

Notably, a number of similar transitions occurred at Midea and perhaps Mycenae in LH IIIC with the construction of megaron-type buildings and comparable neglect of central hearths (ibid., 117). Various material finds suggest at least one group of residents apparently aspired to and emulated the elite status of the palatial era. The evidence includes the once discounted "Tiryns Treasure"——an assemblage of jewelry and ceremonial feasting paraphernalia uncovered early in the 20th century (Maran 2012, 121-123). Excavations of a pit outside the citadel in the vicinity of Megaron W (like BT, a LH IIIC palace-styled structure) uncovered bronze items including two swords, a large caldron, two firedogs (roasting spits), a Cypriot tripod stand, cutting tools, and a bronze ingot. Jewelry finds comprised two gold signet rings, wheel-shaped objects crafted from gold wire, precious stones, and ornamental beads (Maran 2006, 132-141). The assemblage itself is notable as it comprises both traditional Mycenaean elite status symbols (signet rings), Cypriot bronzes (tripod and caldron), and perhaps artifacts from the European Urnfield Culture (gold wheels). Following Marian Feldman, Maran argues that as a group, the finds express not only the material trapping of an elite class but also suggest, "the intercultural situation created by the co-presence of people of different origin in 'contact zones' such as the community of Tiryns" (2006; 2012, 129-130).



"Tiryns Treasure" (in part)
Cypriot Bronze Cauldrons and Tripod
Natl. Archaeological Museum.

There are indications the destruction of the LBA palace-center interrupted ongoing planning for a Northern Lower Town. In any case, structures in the Northwestern Lower Town (NWT) dated to LH IIIC were briefly investigated by Klaus Killian's in 1976 followed by Katie Demakopoulou's rescue excavation in the early 1980s. Subsequently, in 1999 and 2000, the Northeastern Lower Town (NET) was excavated by Joseph Maran and Alkestis Papademetriou (Maran 2016, 202-204). Results of these efforts indicate that in a period spanning less than a century, two building horizons——LH IIIC Early and Developed respectively, attest to a multicultural community whose residents appear to have taken a keen interest in planning and improving their settlement.
The generalized settlement model consisted of residential areas with several groups of dwellings arranged around courtyards (ibid., 206). While the absence of pathways or streets in the LH IIIC Early community (first building horizon) indicate restricted access to dwellings, excavators located several exceptional, multi-roomed structures divided by rows of wooden columns——these last mentioned features indicated by surviving stone bases. Maran hypothesizes the larger, more elaborate structures may possibly have been gathering places for the various immigrant groups. The debris of the destruction horizon included numerous vessels (including rustic handmade burnished wares) associated with communal feasting (ibid., 207-218). Another interesting feature of the early LH IIIC structures was the occasional integration of relic materials from the palatial era. In one instance, an ashlar block from the 14th century BCE palace——with Minoan mason's mark, was used as a column base. See also *Mycenaean II.*

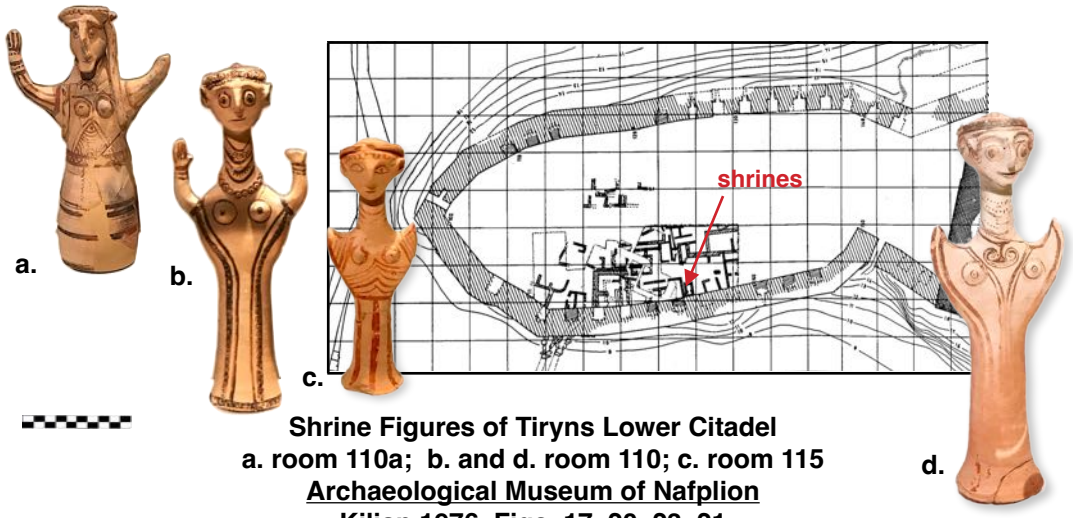


Northern Lower Town
LH IIIC Early - Ring-based & Carinated Ring-based Kraters
LHIIIC Advanced - Kylikes, Rhyton-Jug
Maran 2016, Figs. 12: 10-12



Following a widespread destruction event, a variety of innovations characterize the second building phase——a testament to the ongoing community planning. The general arrangement of dwellings around open courtyards continues, but the later settlement included a main east-west road as well as a drainage system——the latter notable for this date. A series of kiln-like structures, originally thought to be used for firing ceramics, were later determined to be ovens for food preparation. Pottery fragments excavated in association with the ovens included kylikes and the unusual rhyton jug illustrated above. Much of the pottery looked to be deliberately broken, adding to the suggestion of communal feasting——perhaps as an element of ritual practices (Maran 2016, 213-217).

Klaus Kilian's excavations of post-palatial remains at Tiryns included areas within the palace walls. Of particular significance are his excavations of Courtyard 1 in the Lower Citadel that brought to light a series of structures (Rooms 117, 110, 110a, 115) identified as shrines and dating, with modifications, from LH IIIC Early through LH IIIC Late (Mühlenbruch 2015, 131-132). Each of the shrines included a built-in bench or platform with wheel-made terracotta figures found in place. As with earlier Mycenaean cult sites, the shrines themselves were small and typically opened onto a courtyard——the presumed space for worshippers to attend or partake in ritual practices. Unfortunately our understanding of the nature of those practices is limited to conjecture. Although several of the Tiryns' figures are among the best preserved examples, they provide little concrete evidence for the role they played in the spiritual life of the Mycenaeans (ibid., 136-138).



Shrine Figures of Tiryns Lower Citadel
a. room 110a; b. and d. room 110; c. room 115
Archaeological Museum of Nafplion
Kilian 1976, Figs. 17, 20, 23, 21

In concert with the suggestions of Irene Lemnos, Maran indicates LH IIIC Developed/ Advanced is the final period for the era of the post-palatial revival of Tiryns. Subsequently, "processes of abandonment and shrinkage set in and brought a definitive end to the course towards urbanization that had been initiated a few decades prior." Two contrasting trends appear to characterize the post-palatial period. On the one hand, an appeal to aspects of earlier palace-centered society through megaron-style architecture together with the material trappings and inferred ritual practices that suggest at least some individuals had achieved elite status. At the same time much of the evidence from the Lower Town community appears to indicate a broader segment of the population was motivated to create a less hierarchical, more urbanized society—— albeit such efforts were ultimately curtailed (2016, 217-218).

Of Swords and Ceramics

Warrior tombs, while not numerous at any given site, are nonetheless a characteristic feature of the LH IIIC period. The northwestern Peloponnese (Achaea) is notable for such interments, although warrior tombs have also been identified on the Ionian Islands, at Delos, in Attica and the Euboean region, as well as on Naxos, Crete, and the Dodecanese. The LH IIIC martial element appears to be corroborated by the iconography of pictorial kraters with a number from the Euboean Gulf region having naval themes. The absence of known LH IIIC warrior tombs in the Argolid may be due to chance, but in any case militaristic imagery (chariots, horses, and armed combatants) is commonly attested on ceramic vessels while sequestered weapon hoards are known from both Mycenae and Tiryns (Deger-Jelkotzy 2006, 152). Although the warrior culture seems to have been less prominent during the palatial period, an LH IIIC presence mirrors, to a degree, the martial element of the Shaft Grave Mycenaeans (Kramer-Hajos 2016). Following Cavanaugh and Dee, Deger-Jelkotzy argues that this is a similarity with a difference, stating that, "the warrior burials and warrior tombs refer to a status of excellence and not to a profession" (ibid., 152) Status in this case is reflected not by weapons accompanied by a variety of high value material objects typical of the shaft grave interments, but solely by armaments——albeit items for grooming were often present in both the earlier shaft graves and the later warrior tombs (ibid.). Kristin Leith's observations, regarding the assumed gender association of weaponry and grooming artifacts with males and the inferred characterizations of status and hierarchy, seem pertinent here. Leith speaks to a traditional, "reluctance to investigate the possibility of a 'Shaft Grave Penthesileia,'" resulting in a myopic approach to the evidence itself (2016, 53).



Warrior Vase Krater - Mycenae - Natl. Arch. Mus.
a. Naue II Sword b. Spearhead & Buttspike - Kallithea, Achaea, Deger-Jelkotzy 2008, Pl. 15.1
c. Naue II Sword - Trikala, Thessaly d. Type F Sword, Antheia, Achaea, Peatfield 2008, 99

In 1981 while investigating plundered tombs south of Patras in Achaea archaeologists found an undisturbed chamber tomb (Tomb 3) dated to LH IIIC Middle/Developed. Notable was a Naue II sword found in its leather scabbard embellished with bronze fittings. Other artifacts included a spearhead, silver ring, bronze spiral ornament, and partial ivory comb. Although the interment was one of four, the excavator noted the warrior in Tomb 3, “had been treated with exceptional respect” (Papazoglou-Manioudaki 1994, 173).[1]

Along with the recently introduced Naue II swords (cut-and-thrust weapons), martial equipment recovered from late Mycenaean burials included daggers, greaves, and shields. While such accouterments are strikingly similar in kind to those of the shaft grave burials (17th century BCE), the individuals so honored in LH IIIC lived in a radically different society. The contrasts are apparent, not solely from the perspective of the mortuary realm, but also within the broader social context of the Late Bronze Age. No doubt the LH IIIB2 destructions across much of the mainland remained fresh in the collective memories, if not a part of the direct experience, of these 12th century BCE warriors. And while select communities were likely sustained and protected by their warriors, many individuals lived as refugees in a world whose social fabric was rent, basic resources were scarce, and threats to person and property may have been commonplace. As noted, unlike the privileged members of the shaft grave generations who enjoyed extraordinary wealth and likely exercised wide-ranging authority, there is little evidence for abundant wealth among LH IIIC warriors. In fact, excavation of contemporary interments with jewelry and other prestigious and exotic items (individuals with elite status?) often lacked any indication of warrior status (ibid., 173 -176). While weapons attesting to warriors are widespread, finds are limited to sites with mortuary evidence——revealed in part as the result of chance, Presently, however, this scenario contrasts with the relatively more copious iconographic evidence in the form of ceramic motifs attesting to (albeit indirectly) the martial element in the post-palatial period.

1. Perhaps of some significance are the niches and benches noted in some warrior tombs——architectural elements that are also present in cultic structures——for example at Tiryns.

Early LBA Mycenaean pottery is noticeably influenced by Minoan ceramics. During the late 15th century BCE the mainland's cultural koine becomes defined, in large part, by its own standardized pottery——albeit some aspects of Minoan traditions are retained. Pottery production and export became an essential element in the Mycenaean economy as attested by the abundance of mainland wares across the Aegean including in southwestern Anatolia, the islands of the Dodecanese——especially Rhodes and on Cyprus. During the LH IIIA2 and LH IIIB1 periods a thriving ceramic industry, apparently centered in the Argolid (and perhaps at Berbati), exported large numbers of ampharoid, stemmed, and ring-based kraters with a variety of pictorial motifs.



LH IIIA2 Ampharoid Krater
Cyprus, Larnaka District
© Trustees of the British Museum



LH IIIB Ring-based Krater
Cyprus, Enkomi Tomb 83B
© Trustees of the British Museum



LH IIIB Mycenae
Tsountas 1886
Natl. Arch. Mus.

The LH IIIB2 "collapse" precipitated a rapid decline in both the artistic quality and variety of mainland ceramics. However, by LH IIIC Early an increasing presence of regional wares is attested (Mountjoy 2001, 90-97). A new element——handmade burnished wares, is also significant as it is generally considered to represent a non-native introduction. While these wares are widespread, they are often not abundant and tested examples are of local origin. Whether not these wares represent an incursion of foreigners remains unclear.

In light of the devastation that had recently swept across their world, the high quality ceramics of the LH IIIC Middle period are somewhat unexpected. Some regional wares were, in Mountjoy's words, "of a high technical quality, the designs both lively and elaborate." Stylistic groupings include the Argolid's highly decorated Close Style and its antithesis the minimalist Granary Style, the latter named for the structure at Mycenae where a number of these pots were found. The contemporary Octopus Style——typically decorating stirrup jars, was one element of the so-called Aegean *koine*——stylistically similar to ceramics from Perati in Attica and island sites including at Naxos, Crete, and especially the Dodecanese (ibid., 97-99). This differs from Mountjoy's East Aegean Koine described above.



Close Style - Deep Bowl - Mycenae

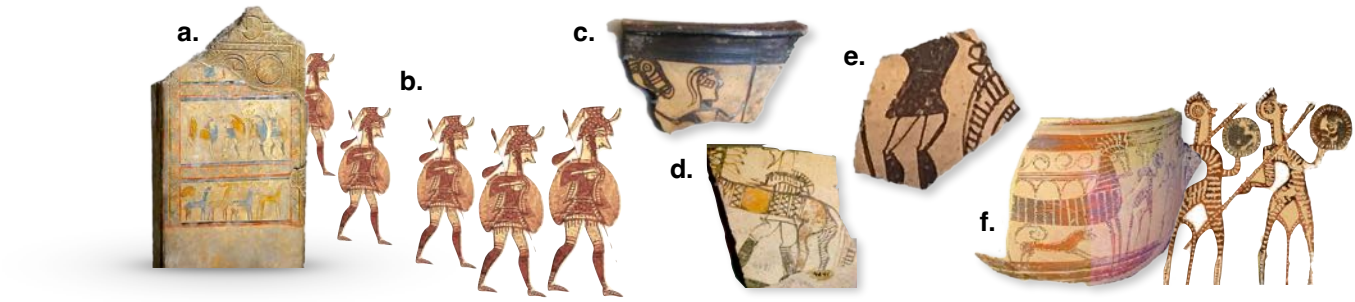


Octopus Style - Stirrup Jar - Perati
National Archaeological Museum



Granary Style - Lekythos - Markopoulo

Perhaps best known from the Warrior Vase illustrated above (467), Pictorial pottery featured prominently among LH IIIC Middle ceramics and has provided important iconographic evidence for the warrior milieu of the period. Such ceramic motifs are known from numerous mainland sites including Mycenae, Tiryns, and Lefkandi.



LH IIIC Martial Figures from the Argolid
Mycenae: a. section of painted stele b. figures from Warrior Vase krater;
c. krater sherd with warrior, spear, and horse; d. horse & warrior with greaves;
e. warrior with spear and greaves - Tiryns: f. chariot krater with warriors bearing round shields

Sinister Seapower

Although not abundant, sherds with a naval warfare theme have been recovered from locales along the shores of the Euboean Gulf, including a number from Locris——the region traditionally thought to include the site of Homer's Kynos (modern Livanates). For much of the 20th century this area was neglected by archaeologists. However, a growing body of evidence illuminating the post-palatial period has altered the situation. Margaretha Kramer-Hajos's analysis of the palatial and non-palatial aspects focuses on Central Greece and sites along the Euboean Gulf (2016). In her discussion of the post-palatial period Kramer-Hajos observes that unlike Tiryns where some elements of Building T emulate characteristics of palatial architecture, elements "suggesting disassociation with the palatial era are visible in the architectural layout at Kynos and Mitrou" (ibid., 151). Kramer-Hajos characterizes aspects of LH IIIC Euboean society as reflecting the prepalatial glory of the early warrior clans——a 'return' represented in its fullest form at Kynos (Livanates). The Kynos C fragment (below), she argues, preserves "a scene not attested anywhere else in the Bronze Age Aegean: a battle taking place on board a ship" (ibid., 152). Shelly Wachsmann's focus was drawn to Kynos A/B, fragments also picturing a Helladic oared galley manned by warriors——one he characterized as "the most detailed and clearest depiction of a Late Helladic ship" (1998, 131). Both images are representative of a radical change in boat building——one Wedde suggests was, "the single most significant advance in the weaponry of the Bronze age eastern Mediterranean" (1999). Julian Whitewright concurred and considered the revolution in marine design as transformative. Also of significance for present day researchers is Whitewright's observation that the iconography reflects the mindset of the mariners as well aspects of the wider society's perception of contemporary seafaring (2018, 16-17).

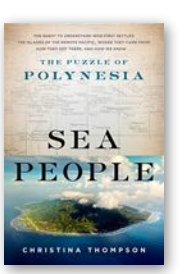


LH IIIC Kynos Sherds
Mycenaean Galleys
F. Dakronia, Arch. Mus. of Lamia

Unspeakable Vastness - Horizons of Space and Time

A brief summary of the transformative eras in the Aegean's maritime history will give perspective to the momentous innovation of oared galleys at the end of the LBA. Narratives defining Aegean culture invariably include maritime elements. This holds true for cultural watersheds such as the Battle of Salamis and the Sicilian Expedition as well as for Greek foundation myths and and origin stories. The stage for much of Greek myth and epic is the sea——for example the quest of Jason and his Argonauts and the heroic voyaging of Odysseus and his crew. In Homer's *Iliad* the sea is both an intractable barrier and the only way home. Perhaps surprisingly, the material finds of archaeology appear to be consistent not solely with elements of important historical accounts but also with a number of themes from more fabulous tales as well.

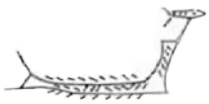
Exactly when Greece's earliest human occupants took to the sea is unanswerable. Rafts may have been the first "vessels" launched from mainland beaches although even in the imagining the risks seem both numerous and daunting. In any case, bands of Paleolithic hunter-gatherers gazing seaward likely named locations——perhaps rendezvous points, based on the visibility of offshore islands. Desirable resources such as obsidian, seasonal marine food sources, hostile threats, and the desire for one's own land are among the many motivations for leaving *terra firma*. However it seems just as likely other basic instincts were in play. In our own time men and women have voluntarily been launched into space—fully aware of the potential dangers. Equally marvelous and risky were the maritime journeys of Pacific Islanders who populated Oceania. What may be humankind's most extraordinary era of exploration and colonization began among the archipelago's of the western Pacific in the mid-2nd Millennium BCE. Christina Thompson's engaging account tells the story of, "A true seagoing people [that] were the first to leave behind the chains of interrvisible islands and sail out into the open" (2019, 18). There must certainly have been disasters but their successes are unquestionable. By the time European explorers began to chart the Pacific each and every inhabitable island had long been settled. The vastness of the Pacific is difficult to comprehend but one of its most salient features is just how much open ocean there is and conversely how relatively little land. Incredulity seems understandable when pondering the extraordinary feats of navigation and seamanship required to populate the Pacific. Ultimately, however, the accomplishments of these seafaring Polynesians speak clearly to what is possible. Given the Melian source for obsidian and the materials widespread distribution——some recovered from Upper Paleozoic sites, we can surmise that at least some individuals were willing to risk the potential perils of the Aegean at a time well before farming was established in Greece. To judge from the FN-EBA pictorial evidence the initial craft used in the Aegean were two types of canoe-like, paddled vessels. Cycladic islanders left the first visual records of Aegean vessels——Neolithic rock engravings such as those at Strofilas on Andros along with EBA figures impressed on 'frying pans' (and uniquely on a footed jug) from Chalandriani on Syros (Televantou 2019, 165; Marthari 2014). Broodbank suggests the earliest of these was, "a small,







Rock Art - 4 Longboats
Strofilas, Andros
Televantou 2019, 165 Fig. 34.



longboat - Chalandriani, Syros
Grave XXV
Marthari 2014; Drawing, N. Sepetzoglou

simple dugout or dugout-derived vessel," paddled by a one- or two-man crew (2000, 98-99). The second of these paddled craft——the longboat, represented the first revolution in marine design. While the smaller canoe would have been sufficient to shuttle small groups of people, their livestock, and other necessities between the coast and nearby islands, the canoe was slow and its safety quickly compromised by adverse weather and currents. The narrow-hulled longboat (15-20 m in length)——sporting a fish totem on the stem, was built for speed and powered by ranks of paddlers (12 + pairs) and steered by a helmsman. Broodbank argues that these were special purpose elite craft, "used for warfare, raiding, and high status activities such as ceremonial processions and . . . arguably long-range voyaging" (ibid., 101). Assuming the artistic representations relate to actual vessels, the longboat clearly implies an essential transformation from the early canoe's emphasis on utility to a vessel designed to enhance the owner's status, authority, and wealth.

Although no images are known of longboats fitted with mast and/or rigging, sailing vessels depicted on Minoan seals are attested at the transition from the 3rd to 2nd millennium BCE (MM IA-IB). As Broodbank explains, "Sailing ships transformed interaction between the Aegean and areas to the east" (ibid., 341). Long before their presence in the Aegean sailing craft of the Byblos type are documented in Egypt. This class of sailing ship is perhaps best documented at Deir El Bahri on the walls of Hatshepsut's (1507 - 1458 BCE) mortuary temple in scenes memorializing the Punt expeditions that highlighted Hatshepsut's remarkable reign (Wachsmann 1998, 18-22). Wachsmann also references Syro-Canaanite craft including, "heavily laden merchantmen with rich cargoes," dating to the mid-15th century BCE (ibid., 39).

a.



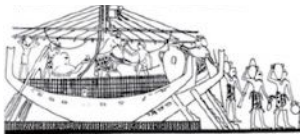
Coastal Canoe
Rock pecking on Naxos
Broodbank 2013, 328 Fig. 7.45 b

b.



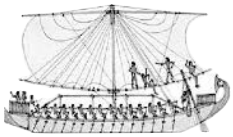
Voyaging Longboat
Chalandriani, Syros Grave XXV
Marthari 2014; del., N. Sepetzoglou

c.



Syro-Canaanite Merchantman
Tomb of Kenamun - Thebes
Wachsmann 1998, 42 Fig. 3.6

d.



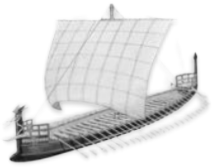
Egyptian Byblos Merchantman
Hatshepsut Tomb - Deir El Bahri
after Naville 1898, pl. 72

e.



Uluburun II Merchantman
Reconstruction
© 360 degrees Research

f.

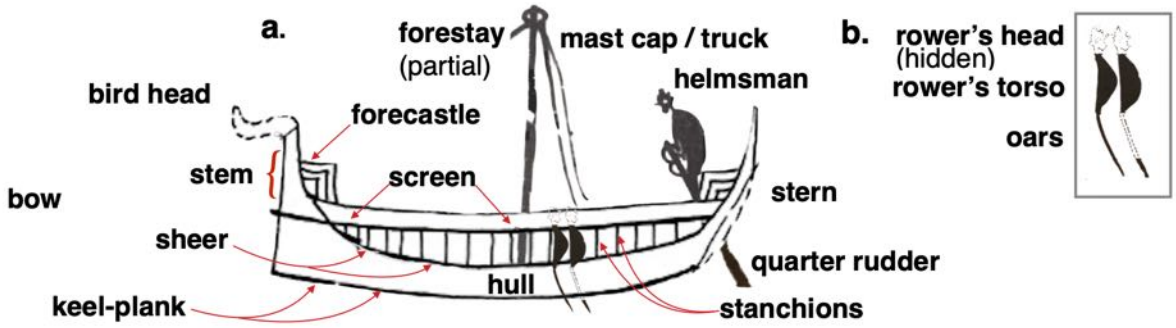


Oared Galley
Reconstructed Model
Connolly 1986, 17

As Wachsmann repeatedly points out nearly all ancient vessels——as know to us, are pictures of boats, not the boats themselves. The image of the reconstructed Uluburun II above, photographed under sail as she plows across the Aegean, is something of an exception. Because portions of the keel assembly, hull, and planking of the ancient Uluburun were recovered from the ocean floor the reconstructed Uluburun II relies only partially on the available ancient iconography (1998, 216-217). Details of her cargo are even more secure. See *Mycenaean III.* The LBA Uluburun and her kind brought the revolution of sail-powered, deep-hulled maritime transport to the Aegean——albeit late in the Bronze Age. The undoubted success of these merchantmen may also have played a role in the final and notably consequential maritime transformation of the LBA-EIA. This was the introduction of the Helladic Oared Galley——a class of rowed and sailed vessels whose narrow hull, innovative sail and rigging, and manpower suggest new roles——including raids on merchantmen and coastal sites.

Ceci n'est pas une bateau

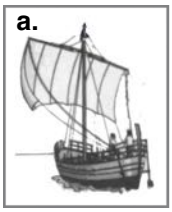
To the untutored eye fragmented images of boats painted on ceramic sherds may appear simplistic——their "warriors" mere caricatures and thus, first impressions may suggest these decorated sherds are ill-suited as evidence. Yet for researchers trained in naval architecture and archaeology they have proved fruitful, if indirect, sources for understanding the various classes of ancient seagoing vessels. Much of Shelley Wachsmann's career has been spent mining significant details from just such images. While talk of gudgeons and pintles may befuddle most landlubbers, the basic terminology used to describe an oared galley will suffice to understand the main points of the expert's analysis.[2]



LH IIIC Mycenaean Galley after, Kynos A
Photo - F. Dakronia
Drawings - Wachsmann 1998, 131 Fig. 7.8, 132 Fig. 7.9

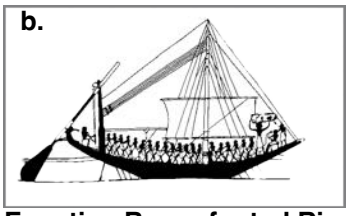
Wachsmann stresses that the Helladic galley and the vessels used by the Sea People are virtually indistinguishable and thus their attribution is not always clear. However, the defining iconographic keys to this class of LBA ships are clear——a bird head device atop the stem (reconstructed in a. above) and the stanchions——a horizontal, ladder-like structure just above the shear (1998, 130). While most known pictorial representations from the mainland show such craft being rowed, the mast indicates that a sail was also an integral part of the ship's design. In fact, the innovative rigging of the galley greatly enhanced its effectiveness. For the most part LBA sail-powered vessels employed boom-footed rigging in which the sail was stretched between the yard (movable upper spar) and the boom (fixed lower spar). Cordage of various thicknesses was used to raise and lower the yard as well as to support (stay) the mast. As is clear from illustration "b." below, multiple lines created significant obstacles for crews and a clear hindrance to warriors involved in marine engagements. In addition, the square sails attached to the boom-footed rigging could not be efficiently trimmed (reshaped) as wind conditions and/or the desired heading changed. The loose-footed, brailed rig is attested throughout the LH IIIC period in the Aegean and eastern Mediterranean. In Egypt the innovative rigging occurs most conspicuously on the inscribed reliefs of Egyptian and Sea People's ships pictured at Ramesses III's mortuary temple at Medinet Habu. Wachsmann cites a number of earlier examples strongly supporting his opinion that the design was developed in the Syro-Canaanite region. The iconic signature for a brailed rig, loose-footed sail is the absence of the lower spar or boom as shown in a. below. The brails or lines used to raise and lower the sail are attached along the foot of the sail and led through a series of fairleads over the top of the yard and aft to the stern. When furled the brailed rig sail is depicted as a series of loops on the underside of the yard (ibid., 248-254).

2. Stern, socket-like attachment (*gudgeon*) into which the pins (*pintles*) of a removable rudder are set.



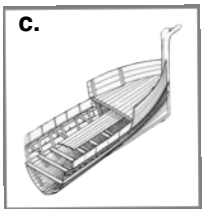
a.

Kyrenia II* loose-footed rig after Cypriot 4th BCE Wreck Merchantman 1987 Cypriot Postage Stamp



b.

Egyptian Boom-footed Rig Tomb of Amenemhet Wachsmann 1998, Fig. 11.3 delin., Newberry 1893, pl. 14

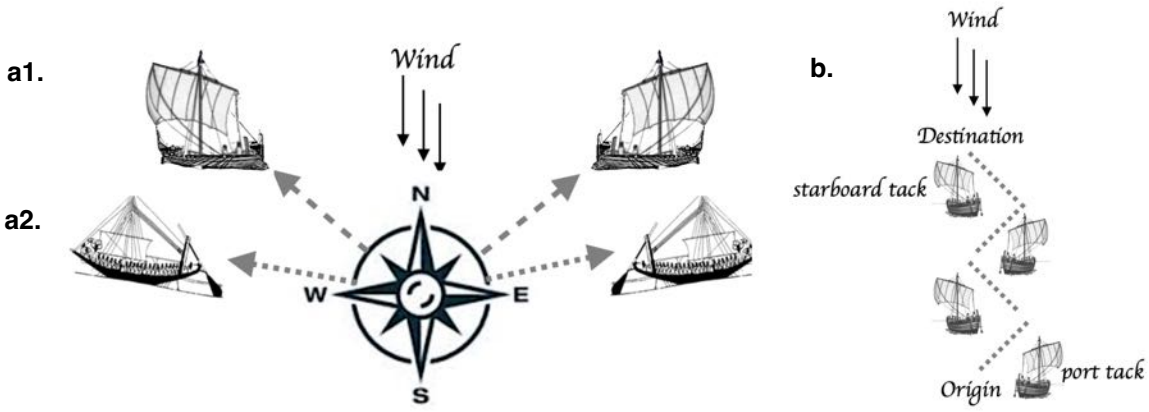


c.

Sea People's Ship Reconstruction Wachsmann 1998, Fig. 8.18 delin. , F. M. Hocker

* *Kyrenia II* reconstruction of the Tragana ship by Peter Connolly.

A complex series of factors, some natural (wind, waves, and currents) and others man-made (the physical characteristics of the hull, rigging, and sail), mediated by the skill and judgement of the helmsman, navigator, and crew determine the efficacy of sail power. As if these were not enough variables to ponder (or perhaps because of them), mythological accounts suggest the ancient Greeks were convinced that divine intervention (hostile, friendly, or benign) might also play a part. Leaving aside the gods, it is obvious that the direction and strength of the wind in relation to one's points of origin and intended destination are fundamental. All other things being equal, boats rigged with boom-footed square sails operate most efficiently (in fact, almost exclusively) when running downwind. Even assuming a downwind course, significant changes in windspeed required larger or smaller sails and boom-footed rigging necessitated replacing one sail with another. Especially problematic for vessels so rigged are the prevailing northwest winds during the traditional Aegean sailing season. Many LBA ships were limited by their capacity to sail to windward and must have, with some regularity, been forced to remain in port. On the other hand, loose-footed brailed rigging permitted efficient changes to the size and shape of the sail while underway, adjustments that permitted the boat to be sailed "upwind" or more precisely as the mariner would put it——"closer to windward." In concert with a series of tacking maneuvers, this greatly enhanced the potential and utility of sail power. Combined with the option to add or switch to oared propulsion, the galley was perhaps the first seagoing vessel to sail the Aegean with more than a modicum of utility, predictability, and safety.

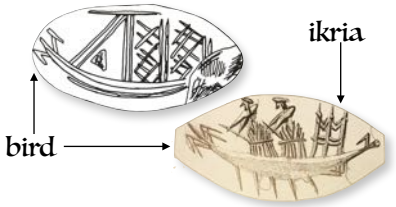


The trim (size, shape, angle of attack) of a brailed rig sail (a1.) can be adjusted to enable a course relatively closer to windward. A well trimmed sail in combination with a series of tacks (b.) enables sailing to a windward destination.

Centuries prior to the occurrence of the galley in Aegean waters another nautical innovation had reconceptualized the Mediterranean itself. Towards the end of the 3rd Millennium BCE, the iconographic evidence for longboats decreases and the initial images (often on seals) of vessels fitted with sails are attested. Significantly, early sailboats featured the relatively inefficient boom-fitted sails. The initial adoption of sail coincides with the early MM rise to prominence of the Minoan culture. While it is not necessary to accept all the implications of a Minoan thalassocracy, we can reasonably assume Minoan ships played a part in spreading the island's cultural influence and to some degree its authority across the Aegean. Nevertheless, prior to the 1970s evidence of early Aegean sail-powered craft was largely limited to Minoan seals. However, earlier finds of Kamares ware pottery in Lahun and Amarna and Theban wall painting of Keftiu emissaries bearing Minoan gifts (tribute?) suggested longterm interactions between the island and its important neighbors. Presumably this involved, in large part, sea-born trade/exchange. Spyridon Marinatos' revelations on Thera of the Miniature Frieze(s) in Room 5 of the West House, provided an unexpected and rich source of nautical images for analysis (Warren 1979). While a number of contrasting interpretations for these images have been suggested, Shelley Wachsmann's focus, discussed here, is mainly nautical in nature. Strictly speaking these are images of Cycladic boats but Wachsmann argues there is little to distinguish these from Minoan craft (1998, 83). The friezes from the West House's south and north walls constitute two series of images each suggesting different narratives but both with maritime themes. The south wall fresco illustrates a marine procession consisting of highly decorated vessels with crescent shaped hulls. The north wall frieze combines both the terrestrial and marine elements of a harbor town with various civilian and military gatherings on shore as well as a chaotic tableau of injured or deceased individuals tossed into the sea. With regards to the south walls' generalized theme, Wachsmann concludes that, "the procession is best understood as an Aegean cultic festival that was a direct continuation of earlier practices and one that persisted, in various forms, into later times" (ibid., 105). The north wall continues the cultic theme——most forcefully argues Wachsmann, in its presentation of human sacrifice in the form of submerged bodies (ibid., 113-117).



S. Marinatos, 1974
Thera - West House
Room 5, south wall detail



Wachsmann 1998, 98 Fig. 6.25 after Marinatos 1933; 111 Fig. 6. 48 after Morgan 1988

Wachsmann interprets the formal aspects of the procession——vessels shown with sails lowered, most masts stepped, and the crafts' ornamental elements——as indicative of the cultic nature of the underlying narrative. Specifically, Wachsmann compares details of Minoan seals depicting ships——Arthur Evans's "talismanic seals," with similar details shown on the Theran ship (Wachsmann 1998, 99; Evans 1921, 672-673). The stem's decorative devise, often a bird and an *ikria**——a relatively large structure at the stern, are characteristic of both the seals and the vessels pictured in the fresco. An interpretive key (see above), Wachsmann explains, is an amygdaloid seal recovered at Thebes showing two figures wrapped in sheaves of grain——symbolic of an agricultural cult associated with a waterborne ceremonies (ibid., 111). Although the stem device on the Theran ship illustrated above is a butterfly, Wachsmann points out these insects are

* S. Marianatos applied the Homeric term ἴκρια to the structure he likened to a stern-castle or cabin although as Maria Shaw pointed out Homer did not use the word with this meaning but rather as referring to deck beams or planks (Marianatos 1974, 35, Shaw, 1980, 176).

associated with Minoan vegetation cults and thus may indicate the spring season (ibid., 113). Wachsmann argues the images of men plunging downward provides, “evidence that confirms what the Greek myths have long told us, and what archaeology has led us to suspect, that human sacrifice was a recognized, standard, and fairly routine activity in the Mycenaean age” (ibid., 117). One need not accept Wachsmann's interpretation of human sacrifice to confidently suggest the fresco, in part, represents hostilities of a sort and clearly in a maritime context.



S. Marinatos, 1974
Thera - West House
Room 5, north wall detail

As Wachsmann points out, illustrations of Minoan/Cycladic ships are substantially different from those of galleys. Interestingly, the archaic hull-shapes of the Theran vessels correspond with those of recently reconstructed wall paintings at Pylos. At Thera the processional ships, despite their considerable size are also paddled rather than rowed——an awkward and inefficient means of propulsion. And although rigging is pictured, the single boat shown under sail differs from the others in lacking the enigmatic horizontal device at the stern of the other large vessels. See Theran vessel pictured above. Several attributes of the fresco craft are reminiscent of iconographic details shown on early Aegean longboats. Cycladic “frying pans” from Syros are numerically rare but several of these puzzling artifacts include a longboat motif among their decorative designs (Marthari 2017, 147-160). Elements common to the vessels pictured in the processional fleet at Thera mirror specifics of the Syros longboat imagery. Perhaps most obvious are the decorative devices atop the stem and the



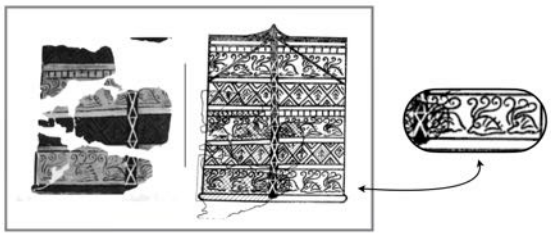
Frying Pan - Chalandriani, Syros
Heckman 2003, 131 Fig. 33 Cat. 23; 205
National Archaeological Museum



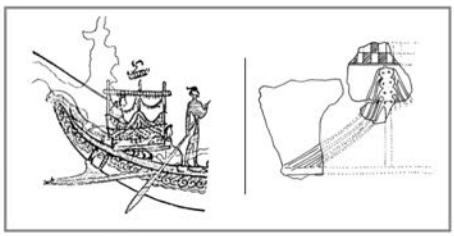
Footed Jug - Chalandriani, Syros
Grave XXV
Marthari 2014; Drawing, N. Sepetzoglou

horizontal projection(s) at the stern. Also noteworthy are the “scarf-like” projections issuing from the “neck” of some longboats (at left)——suggesting the sacral knots pictured in the Theran wall paintings and referred to by Wachsmann (1998, 120-121). Marthari argues that the frying pans, nearly all found as grave gifts——signal interments of important community leaders but also served as religious objects with female sexual iconography (at left and center) perhaps symbolic of a deity (2017, 157).

In 1980, prompted by the frescos recently uncovered at Thera, Maria Shaw published a number of painted wall fragments that had been collected in 1886 on Mycenae’s citadel by Christos Tsountas (1980, 168-179). Working from a photograph of a watercolor published by Tsountas, Shaw reconstructed four panels, including one with *nautili*, commenting, “The motif is one of the most favored ones in Aegean art,” and furthermore that, “it occurs in several wall paintings in the Palace of Pylos” (ibid., 173). Based on her reconstruction Shaw argued that a number of the fragments from the citadel were decorative wall elements representing boat cabins comparable to those pictured in the Room 5 Miniature Frieze and the larger paintings decorating Room 4 of Thera’s West



Shaw 1980 - Ikria with nautili
Pl. 26 after Tsountas ArchEph 1887 pl. 12
169 Ill. 4 Restoration "panel" b



Shaw 1980 - Thera detail, Pylos fragment
after Thera 6, pl. 9 detail
after Pylos II, pl. 113

House (ibid., 175). Referencing Thucydides and his discussion of Aegean maritime supremacy, Shaw comments, "it was surprising that ostentation of naval power did not play a more significant role in painted scenes," and concludes her article with the description of additional fragments, including one from Pylos, "preserving part of the mast with rigging" (ibid., 177).[3] Two decades after publication Shaw's prescient insights would be substantiated, in part through the efforts of the Hora Apotheke Reorganization Project (HARP).

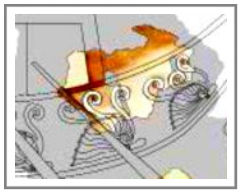
Between 2000 and 2015 Hariclia Brecoulaki directed efforts to clean and catalog over 17,000 painted plaster fragments collected during Blegen's excavations at Pylos. This led to various reconstructions including a LH IIIA Navel Scene that had decorated the northwest wall of Room 64 at Pylos. Brecoulaki observed that, "the hulls of our ships appear to have more in common with the Theran examples than with contemporary and postpalatial ships on pottery" (Brecoulaki et al. 2015, 273). The Pylian and Theran artists, seems to have deliberately adopted archaisms to invoke traditional symbolic meaning (ibid., 282). One motif, "a complex vertical zigzag pattern," decorating the hull from stem to stern is also apparent, albeit in simplified form, on two longboat motifs on Syros frying pans (ibid., 281; Hekman 2003, 352 Fig. 68). Also notable at Pylos are numerous fresco fragments of nautili (in fact argonauts). In addition to 6 examples of nautili published by Lang in *Pylos II*, HARP workers inventoried 53 additional fragments from 10 find spots. The sheer number of such images clearly established the significance of nautili at Pylos——an assemblage described in Egan and Brecoulaki's work (2015, 288-309). The "nautilus" was well known as a decorative element——for example on Minoan pottery as early as the MBA. Lang had suggested the images functioned as decorative elements in bands or friezes complementing more significant subjects. Joins from the more recently inventoried fragments indicate nautili are in fact featured iconographic elements on one or two ship frescos from Hall 64 as well as a single, out-sized image possibly from the Throne room (ibid., 292-293).



Detail Navel Scene
Hall 64 Pylos,
Brecoulaki 2015, 267 Fig 6b.



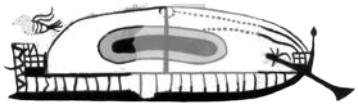
Frying Pan - Tomb 364
Chalandriani, Syros
Hekman 2003, 352



Ship with Argonauts
Hall 64 Pylos
Brecoulaki 2015b, 272 Fig 9.

3.The find spot and pigmentation of the mast and rigging fragments described by Shaw suggest they belong to an earlier naval fresco that may have decorated Room 64 before the LH IIIB.

The ikria panel at Mycenae confirms the nautilus motif is not exclusively associated with Pylos. Its prevalence at Pylos, however, suggests a different level of significance——evidence leading Egan and Brecoulaki to argue the argonaut motif at Pylos may indicate it was emblematic (ibid., 303-307). Although the discarded shells of *Argonauta argo* have been collected along shorelines, this species typically inhabits offshore waters not readily accessible absent ocean-going vessels. As the iconography includes features of living organisms this may suggests some Mycenaeans were familiar with off-shore environs. Carnell observed that “argonauts form comedic awkwardly bobbing chains at the surface of the ocean”——a trait observable only offshore (2018). Understanding that the argonaut is a pelagic species may buttress opinions that the nautili is emblematic of sea power or, in the words of Egan and Brecoulaki, “seafaring and naval strength, and perhaps political power and religion” (2015, 307). However, the prevalence of marine iconography at Pylos inevitably calls attention to its uncommon occurrence at other Mycenaean centers.



Tragana ship
LH IIIC Tragana pyxis
after Connolly 1986, 16 Fig. 2



Odysseus’ ship
“imaginative reconstruction"
Connolly 1986, 17

Interpretive details define critical distinctions between the Helladic galley——primarily a warship or raider, merchantmen such as the *Uluburun* and the *Kyrenia II,* and the decorous vessels of LBA frescos. The image at left above, taken from the Tragana pyxis (recovered from a tholos tomb northwest of Pylos in Messenia) was among Peter Connolly’s reference for his reconstruction of the oared galley seen at right (Korres 1989, 200; Connolly 1986, 17). At first glance the comparison may seem puzzling but a closer look reveals a number of points of correspondence including the elongated hull, embellished stem, and brailed rig, loose-footed sail. Wachsmann’s detailed analysis of ceramic iconography similar to the image on the Tragana pixis, including the Kynos A/B fragments, are discussed above (1998, 130-141). While most early representations of Aegean galleys date to the late 12th century BCE, Mountjoy dated a sherd from Ashkelon——stylistically suggesting a warship, to LH IIIA2 - IIIB while also reporting on a large krater fragment from Bademgediği Tepe in western Anatolia depicting a warship dated to “Transitional LH IIIB - C Early or LH IIIC Early” (2011, 483-488). Referring to such images Wachsmann states that despite the variety of iconographic styles, “the Mycenaean ship representations are actually remarkably similar to each other.” Even reduced to their elemental forms——“two horizontal lines connected by vertical stanchions and oars,” the galley is recognizable (1998, 155).

Although the iconographic evidence has proved informative, the images are——to repeat Wachsmann's cautionary dictum, not actual ships but pictures of ships (2019, 6). Pictures may provide credible evidence when evaluating the decorative art of Mycenaean wall painting or even as suggestive of emblematic symbols but what can be understood about Mycenaean galleys in the absence of direct physical evidence? In fact, it may not require an overactive imagination to suggest a reasonable answer. The pentekonter's (πεντηκόντερος, "fifty-oared") narrow hull in combination with 25 oars to port and starboard, bespeak a premium placed on speed. With the sail furled, the synchrony of 50 oarsmen converting muscle power to speed suggests that over short distances the galley was a sprinter. And it is generally understood this speed was

employed, at least in part, in raiding——where a surprise attack and speedy withdrawal gave relatively small forces the upper hand over larger, land-based military units and similarly at sea against the crews of merchantmen. Of course this also enabled others with similar galleys in their fleet to respond in kind. The galley was suitable for enforcing the political will of a state, whether on defense or offense, but inevitably would also have enabled small groups of competent sailors with nefarious intentions——pirates, to roll the dice on behalf of their own self interests.

Seafaring Brigands

Piracy in any age is a shady business——glorified on the one hand yet also disparaged. Various accounts suggest conflicted attitudes——and not just those from the ancient Aegean. Blackbeard (Edward Teach)——perhaps the most infamous pirate during the golden age of piracy (16th and 17th centuries CE) is typically characterized as a blackguard. Nonetheless, the letters of marque granted his state-sponsored predecessors, Elizabethan privateers such as Francis Drake and Walter Raleigh, cannot change the reality that their notoriety was founded in part on piratical acts. Current accounts of ship highjacking by Somali pirates in the Gulf of Aden are decidedly negative although such incidents apparently began with locals protecting their fishing grounds. The Aegean had its own latter-day pirates as well. Natalie Vogeikoff-Brogan recounts that just prior to the 1930s, when Skyros became a retreat for ASCSA archaeologists, the island's isolated waters had their share of pirates. Native son, folklorist, and writer Manos Faltaits, founder of the Skyros museum that now bears his name, recounted the piratical origin of the many and varied antiques still found in local homes. In Vogeikoff-Brogan's retelling, "the majority of the imported items displayed in Skyrian houses before WW II was amassed between 1500 and 1830 by means of an idiosyncratic style of piracy." Apparently when a ship was due to arrive at Skyros, the island's elite, "would inform pirates, and claim part of the loot." Interestingly, the "old stuff" ("τα παλαιά") became family heirlooms——imparting status to their owners. The association of ill-gotten goods with status has a familiar and ancient ring——one with the air of ambivalence that surrounded the Aegean's earliest pirates. Piracy itself is both commonplace and profitable in Homeric epic and while it may be framed as a less than wholesome livlihood it is never a surprising element in the hero's biography. Indeed an account of the Bronze Age Aegean that fails to mention piracy, at least in passing, is unusual. It is a perennial theme in the Late Bronze Age narrative——one strongly suggested in historical sources and accepted by numerous prehistorians (Herodotus 2009, 6.17; Thucydides 1996, 1.4; Tsountas 1897, 5; McDonald and Thomas 1990, 33). Just as the sea is ever both giver and taker, it appears neither the scoundrel nor the hero (both attributes often embodied in an individual) could resist the allure of quick riches. While moral judgements about piracy are ultimately subjective, at least a portion of the evidence cited by Aegeanists is based on historical accounts. Bernard Knapp, however, urges caution when positing direct evidence for piracy. While acknowledging that conditions were ripe for such actions during the final centuries of the LBA in the eastern Mediterranean, even the documentary evidence is suggestive rather than certain (2018, 172-173). As always, however, there may be a fine line between outright piracy and state sponsored raiding and pillaging.



LH IIIC Skyros - Stirrup Jar "Pirate" Galley
Arch. Mus. of Skyros

Whether deservedly so or not, the Sea People became the poster child of the Bronze Age collapse. Most famously demonized on the walls of Ramesses III mortuary temple at Medinet Habu, the imagery is witness to the savagery and chaos of naval warfare while the accompanying hieroglyphs provide the requisite account of Egyptian glory. In part this is political theater by a master——spinning a situation that nonetheless in hindsight signaled a beginning to the end of the millennia-old empire. And while the view from Medinet Habu may present a decidedly Egyptian take on the story there seems little reason for the Pharaoh's public relations artists to have fabricated the defining iconographic elements——the ships and their warriors. As Wachsmann has observed, the Sea People's ships were virtually identical to Mycenaean galleys (1998, 83). A careful inspection of the attacking/captive forces pictured at Medinet Habu reveals a number of iconographic features, especially headgear (see 452), that would seem useful in identifying the various groups. In fact, names and in some cases geographical origins, have been proposed for a number of contingents of the Sea People. Yet despite what would seem to be helpful clues, there remain numerous opinions about just who these invaders were and little certitude regarding their homelands. Trevor Bryce, however, suggests the possibility that all the Sea People recorded by the Egyptians may have originated in western Anatolia (2005, 338). In any case, recent scholarship has reassessed who might be to blame for the hostilities and many would agree with Clines conclusion that, "it seems likely they [the Sea People] were as much the victims as they were the aggressors in the collapse of civilizations" (2014, 11).

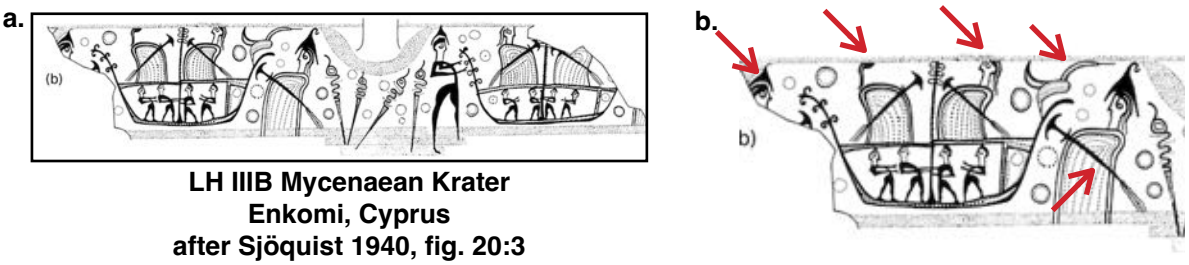
What is not in doubt are the hostilities that overtook states, both large and small, well before the reign of Ramesses III. Three decades earlier (ca. 1207 BCE) Merneptah engaged and defeated a joint force of Libyans and Sea People. Among the captives listed in a lengthy inscription from Karnak (Luxor) are the Sherden, Shekelesh, Eqwesh, and Shardana——from "countries of the sea" (thus, islanders), along with mention of Lukka among, "northerners coming from all lands" (ibid., 8). While both land and sea battles were recorded, the joint forces of the Sea People clearly included seasoned mariners capable of mounting sizable raids from the sea. The disaster they met in the Nile Delta at the hands of Ramesses III may have resulted, at least in part, from their being surprised at anchor with sails furled and unable to avoid a pitched battle. In any case, the widespread collapse of LBA states was unlikely to have turned on any one battle or even a particular campaign. As early as the middle of the 14th century BCE there are indications of hostilities directed at Egypt involving a naval component. New Kingdom Inscriptions and tablets associated with Amenhotep III and Akhenaten of the 18th (Thutmosid) Dynasty as well as Ramesses I, Ramesses II, and the aforementioned Merneptah during the 19th (Ramesside) Dynasty mention threats or actual attacks from the sea——all preceding the culminating episodes during the reign of Ramesses III. As we have seen, the Hittites, another major player in the LBA were dealing with their own set of problems——ones that provide a perspective on the types of internal threats that also bear on the collapse. Beginning in the late 15th century and continuing into the 13th century BCE a series of Hittite rulers struggled with breakaway factions in Western Anatolia (the Assuwan Rebellion) led by various recalcitrant renegades——would be chiefs that were, at least at times, allied with Mycenaean forces from their coastal and island bases including Miletos. Recently compiled Hittite documents, *The Ahhiyawa Texts*, record changing allegiances, battles, and sporadic raids including naval encounters contemporary with the Hittites struggle to pacify their western provinces (Beckman et al. 2011). See *Mycenaean III.*

Oliver Dickinson brings an inclusive Late Bronze Age-Early Iron Age (EIA) perspective to his discussion of the collapse——events he stresses that were "most likely to be the result primarily of a breakdown in the internal workings of Aegean society (2007, 242). While his treatment of the LBA crisis as a largely palatial phenomena is within the consensus view, a recurrent theme——as exemplified by his summary of climatological issues, is less so and emphasizes the general lack of evidence, concluding that, "all this is speculation; [and] to my knowledge, there is no positive evidence for catastrophic drought in the Aegean itself (ibid., 55). Regarding the post-palatial period, Dickinson argues, "the 'Dark Age' was, like the Collapse that brought about the conditions for its onset, a real phenomena" (ibid., 239). While he confirms the importance of Athens, Lefkandi, Perati, and Elateia, "instability" is the word Dickinson most often uses to characterize an era that persisted until the 9th century BCE (ibid., 254- 255).

Suggesting that "decline, with clear cultural continuity in many places" better suits what others refer to as the Bronze Age c*ollapse*, Knapp and Manning's analytic treatment stresses a, "nuanced, detailed, and critical assessments of the relevant climatological and chronological evidence" (2016, 99-149). Nonetheless, following an informed analysis of the pertinent variables, the authors conclude, "we have reached a point where we have taken this essentially prehistoric scenario as far as we can. The ambiguity of all the relevant but highly complex evidence," leads them to suggest, "there is no final solution." Their reassessment of climate data and natural disasters, as well as the chronological, documentary, and archaeological evidence fails to yield a silver bullet. There is no simplistic solution to such investigations, in part because, "it remains highly problematic to distinguish proximate from ultimate cause, or causes" (ibid., 137). With Dickinson they share a certain cynicism for generalizations based on climate studies——but specifically at the level of individual studies, as "very few provide high-resolution information for this period" (ibid., 113). Contra Dickinson, the co-authors argue the studies as a group indicate, "there were indeed climatic perturbances at the end of the Late Bronze Age." Furthermore, the "usual number of references to grain shipments, food shortages, and possible famine," strengthen Knapp and Manning's conviction of, "an increasing level of aridity during the 13th to 10th centuries B.C.E" (ibid., 137-138). At the same time, the authors caution against replacing the one size fits all "Sea Peoples solution" with other singular causes including earthquakes or climate (ibid., 138). Knapp and Manning do note essential signposts they consider characteristic of the collapse. Cultural demise was, they stress, "the consequence of human actions and reactions", and additionally, "whatever else happened it would be folly to deny the relevance of a deep-seated decline in international trade" (ibid., 138). While the quest for a more definitive answer will no doubt continue, Knapp and Manning argue convincingly that while the sheer number of variables render specific conclusions opaque any consideration of this period must necessarily consider human agency and trade. In a significant, if brief, observation the authors also note——"the sailing ships that are now visible everywhere" (ibid., 138). This suggests a focus on LBA ships and the relevant late LH IIIB - IIIC documentation and material evidence.

While ships may be a common element in both periods it is useful to keep in mind the essential differences between LH IIIB2——a period that witnesses the height of palatial authority and prosperity as well as its precipitous decline and LH IIIC——a period of partial recovery and the emergence of a number of successful settlements but also episodes of displacement, destructions, and ultimately depopulation. This good news-

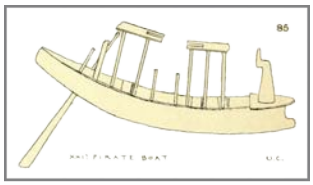
bad news scenario seems consistent with the contemporary maritime realm as well. Uluburun-class merchantmen, perhaps both state sponsored and private, must have dominated maritime trade. By late in LH IIIB, however, they likely "shared" the seas with Mycenaean galleys. The iconography of a mid-fourteenth century (BCE LH IIIA2) krater is one of the earliest representations of a galley——albeit with the older, boom-footed rigging. While a cursory look may leave details unnoticed, five of the larger figures are



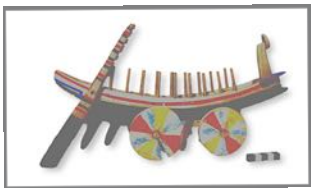
LH IIIB Mycenaean Krater
Enkomi, Cyprus
after Sjöquist 1940, fig. 20:3

warriors armed with swords. Also note that the stem is topped with a bird (Wachsmann 1998, 142 - 143). Although armed galleys were potentially a direct threat to individual merchantmen, documentary evidence suggests that the typical targets of hostile galleys were coastal communities along established trade routes. While battles at sea (eg. King Šuppiluliuma II's marine forces and the ships associated with Alašiya) were a part of the escalating disruptions of the later 13th century BCE, contemporary documents typically record shipborne raiders (eg. the attackers that set fire to the cities of Ugaritic King Ammurapi) targeting land-based resources (Oven Tablet RS 20.238; Macqueen 1986, 51). Knapp and Manning also refer to H. Pirenne's hypothesis that the Roman's commercial empire (Mare nostrum) did not collapse as a result of the Germanic tribal onslaught but rather following the rise and spread of Islam. According to Pirenne, it was during the 8th century CE when, "the interruption of commerce brought about the disappearance of merchants, and urban life, which had been maintained by them, collapsed at the same time" (Knapp and Manning 2016, 137; Pirenne 1925, 5). The association of seaborne trade with the ebb and flow of Aegean Prehistory may have begun as early as the Paleolithic with the sourcing and distribution of Melian obsidian. Not surprisingly, disruptions in trade are frequently associated with the onset of stagnation and recession——for example during the EH II / EH III transition. However, the concurrent rise of Aegina was a success story fueled in part by seaborne ceramic exports. That the Athenian Empire rose and fell on the decks of her triremes may also have some relevance. Earle's analysis of the BA metal trade, discussed earlier, presents a useful model for the cogs in the LBA commercial networks (Earle et al. 2015). See *Mycenaean I*. The production and distribution of bronze, Earle explains, can be defined as a commodity chain comprised of a series of bottlenecks——site specific material resources and/or expertise that together enabled highly lucrative enterprises. Each of the necessary nodes or bottlenecks function as a constriction point with the potential to be coopted for economic gain but also with built-in vulnerabilities. Access to metal resources, specific knowledge of technological processes such as smelting, and transport are all critical. For example, without transport technology——"capital investment, specialized sailors, and warriors to man and protect the boats," the system fails (ibid 640-648). As Earle and his co-authors point out, absent a state with the will and ability to ensure the security of the entire network, "Warriors would easily have shifted from one role to another [merchant mariners to pirates] as opportunities for patronage and independent raiding presented themselves" (ibid., 646).

In addition to the Mycenaean, Hittite, Ugaritic, and Egyptian textual documentation referenced above and the various iconographic representations found on ceramic fragments, seals, and frescos, another class of evidence pertaining to Bronze Age vessels consists of ship models. While the majority of these ceramic and lead miniatures are rather nondescript, a wooden model recovered by Flinders Petrie from an otherwise empty Egyptian tomb has proved exceptionally informative. Named for Gurob, the find spot near the Fayum oasis in Middle Egypt, Petrie suggested the model was a child's toy and a replica of a "Pirate Boat" (Petrie 1933, 85). Although Wachsmann originally concurred with Petrie his later research led him to conclude this unique artifact was in fact a cult object——and significantly, "the most detailed known representation of the type of galleys used by the Mycenaeans and adopted by the Sea Peoples in the waning years of the Late Bronze Age and the Early Iron Age" (Wachsmann 2019,11). The combined efforts of Wachsmann and the Institute for the Visualization of History have produced a detailed account and informative graphic display of the reconstruction and interpretation of the Gurob Ship-Cart Model (Wachsmann 2013; The Gurob Ship-Cart Model Digital Supplement; VIZIN).



Pirate Ship Drawing
Gurob, Egypt
Petrie 1933, Fig. 85



Gurob Ship-Cart
after Wachsmann 2013
and VIZIN

So Says Odysseus to the Swineherd

A number of Petrie's original comments——for example, his observation that the Gurob was a vessel designed for rapid attack and swift withdrawal, are both perceptive and consistent with recent interpretations (Petrie 1933, 85). Highlighting Petrie's "Pirate Boat," Jeffrey Emanuel has compared the documentary evidence from Late Bronze Age sources with related passages from Homer and argues that, "Odysseus' fictitious experiences have a remarkable analogue in a very real and very specific group of sea raiders, the "Sherden of the Sea" (2014, 14; 2018). Emanuel refers to the tale told by Odysseus to Eumaeus, the swineherd, and retold, in part, to Antinous, one of Penelope's suitors at Ithaca (*Od.*14.199-399; 17.419-444). It is clear that Homer's man of many turns (πολύτροπος) seems to delight in his own mendacity——as in the present case in which wily Odysseus (πολύμητις) describes "his" piratical adventures. After fabricating a suitably heroic Cretan patrimony Odysseus shares with Eumaeus a tale describing how prior to the Trojan War as one enamored of the sea he,

> *picked the best warriors for an ambush [and] had nine times led warriors and swift-faring ships against foreign folk, and great spoil had ever fallen to my hands* (*Od.* 14.229-233) [4]

Not surprisingly Odysseus imparts to his fictionalized self his own wanderlust and out-sized ego. Still in masquerade mode, he tells of his homecoming from Troy. However, not one to linger, our hero soon sets sail on an ill-fated voyage to Egypt.

> *spirit bid me voyage with my godlike comrades, when I had fitted out my ships with care. Nine ships I fitted out, and the host gathered speedily* (*Od.* 14.245-247)

4. English transcriptions and references as given by Emanuel



Theodoor Van Thulden (17th cent.)
Odvsseus At Sea

Emanuel notes that in Odysseus's fictionalized accounts small groups of warriors man ships that are invariably designed for, "speed, stealth, and – above all – the avoidance of conflict with professional soldiers" (2014, 6-7). These characteristics might well describe the capabilities and tactics of the Helladic galley and are consistent with LH IIIC accounts describing attacks on coastal communities. Details of the Gurob model suggest a Helladic pentekonter, while its surviving pigmentation is consistent with Homer's "black ships" (ibid., 6). Much as Odysseus recounts in his Egyptian tale——even swift ships do not prevent disaster for raiders who tarry. His companions' ill-advised depredations in the Nile Delta result in an overwhelming counterattack and death or enslavement for the crew. At the same time Odysseus' fictionalized hero survives and even prospers——at least long enough to insinuate himself into his next mishap——when shipwrecked and left destitute. This tale within a tale is thematically similar to Homer's main narrative with Odysseus's companions perishing as their leader overcomes one potentially disastrous situation after another in his struggle to reach Ithaca. More to the point for Emanuel are the parallels with documented accounts of clashes in the Nile Delta and the history of the "*Sherden of the Sea*" (2013, 14-22).

Popularized by the French Egyptologist Gaston Maspero, the "Sea Peoples" are most often associated with the mortuary temple of Ramesses III (1186 - 1155 BCE) at Medinet Habu. Detailed wall paintings and multiple inscriptions from the temple record the pharaoh's encounter with maritime raiders. One such account, the Great Inscription of Year 8, provides a particularly vivid narrative of hostilities in the Nile Delta——one that Emanuel observes is more or less contemporary with King Šuppiluliuma II and his engagement with Cypriot ships. (Emanuel 2014, 9).

> *Those who reached my frontier [on land], their seed is not, their heart and their soul are finished forever and ever. Those who came forward together on the sea, the full flame was in front of them at the river–mouths, while a stockade of lances surrounded them on the shore. They were dragged in, enclosed, and prostrated on the beach, killed, and made into heaps from tail to head. Their ships and their goods were as if fallen into the water.*
>
> -*Ramesses III's Great Inscription of Year 8* after Ramsey 2014, 9



Libyan Captives Medinet Habu-Volume I, Pl. 1 Univ. Chicago 1930

Although a *Sherden-Libyan* alliance invaded Egypt by land during Merneptah's reign (1213 - 1202 BC), the *Sherden* were first identified by name during the second year of the reign of Ramesses II (1278 BCE). The Tanis rhetorical stela, makes clear their maritime skills. Notably, however, as Emanuel points out, their fate is much the same as those who sailed to Egypt with the imagined hero in Odysseus's tale (ibid., 11-14).

(As for) the Sherden of rebellious mind, whom none could ever fight against, who came bold–[hearted, they sailed in], in warships from the midst of the Sea, those whom none could withstand; [He plundered them by the victories of his valiant arm, they being carried off to Egypt] – (even by) King of S & N Egypt, Usimare Setepenre, Son of Re, Ramesses II, given life like Re.

-*Ramesses II's Great Tanis II Stele* after Emanuel 2014, 11

Nor do the parallels end with the crew's downfall. If Odysseus, both in-character and as ersatz hero, seems ever to land on his feet, so do some of the *Sherden*. Early in the reign of Ramesses II the *Sherden* appear as members of Pharaoh's personal guard (ibid., 12). A number of scholars suggest the *Sherden* fought alongside Ramesses II in his well publicized counterattack that saved the Egyptians from defeat at Qadesh (Abbas 2017, 10). Whatever their exact role, it is clear that the *Sherden* turned what began as a disaster into an honorable and enriching role in the upper echelons of Egyptian society.



Sherden Bodyguard [5]
Battle Of Kadesh
Abydos Temple © M. R. Abbas

Self-inflicted Wounds?

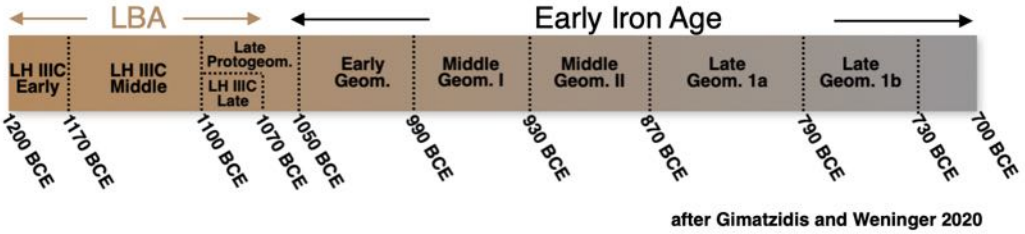
While there are echoes of mainland palatial culture in LH IIIC, Deger-Jelkotzy's comment that, "nothing was the same as before," seems an apt generalization for Mycenaean strongholds (2008, 405). Gone was the literacy that, despite limitations, monitored and directed the economies of palace centers and their surrounds. The collapse also marked an end to the administrative wherewithal and manpower to build on a monumental scale. Ultimately the commercial enterprises primarily serving elite tastes dissolved in tandem with the fragmentation of trade networks. With the proviso that there can be, "no doubt about the high achievements of the Mycenaean palace system in the field of economical, social, political and governmental organization and administration," Deger-Jalkotzy, also made a case for an inherent weaknesses in the Mycenaean palatial system (1996, 715). Pointing to the relative brevity of the Mycenaean palatial era——two centuries as compared to the half-millennia era of Minoan prominence, Deger-Jalkotzy attributes the collapse of mainland institutions, in large part to, "the very nature of the Mycenaean palace system itself"——a highly centralized political structure largely reliant on the economy of international trade (ibid., 716).[6] Compared with the mega-states eastward, Mycenaean centers controlled relatively small tracts of land with limited local resources——homelands that ultimately proved incapable of supporting the ostentatious life-style of the palace aristocracy or the requirements to maintain sizable workforces. Deger-Jalkotzy also argues that the LBA historical trajectory——the replacement of coexisting, "small-scale principalities or petty kingdoms," (at ca. 1400 BCE) with the palace system created many fewer centers of power with greater demands. Ultimately, such centralized monarchies were unsustainable absent an influx of wealth from external sources (ibid., 722-726). Subsequent developments seem to strengthen her argument. Following the collapse and "out from under" the demands of the palace centers, at least for several generations during the LH IIIC period, a number of sites on the periphery were relatively successful in establishing their own economies (ibid., 727-728).

5. Note characteristic horned helmet with disk at crest, rounded shield, and sword.
6. The floruit of the Greek Classical period was also approximately two centuries——itself a time of devastating wars and radical political changes alongside unprecedented advances in the arts and sciences.

Susan Sherratt's "Potemkin Palaces" makes a number of similar arguments based on a detailed analysis of Mycenaean commerce and its reliance on eastern Mediterranean trade networks. In Sherratt's opinion, from its beginnings the Mycenaean palatial phenomena was more form than substance (2001, 215). Sherratt argues that like the 7th to 5th centuries BCE Hallstatt hillforts, Mycenaean palace-centered economies were largely founded on chance geographical locations——"nodes or interchange points on longer-distance route networks," and furthermore, "success derived ultimately from the opportunistic (and temporary) control of coherent segments," of such routes (ibid., 238). Mainland centers lacked the significant advantages that Crete enjoyed as, "a crucial articulation point between the East Mediterranean and the Aegean," a position that tended to concentrate the flow of east-west commercial traffic (ibid, 227). To the contrary, the relatively smaller and dispersed mainland centers tended to diffuse this same stream of goods. Sherratt also suggests that by LH IIIB relatively small Cypriot merchant vessels had begun to operate in mainland coastal waters, accessing and encouraging smaller trading sites as far west as the central Mediterranean. Concurrently, coastal sites on the Gulf of Corinth and northward along the inland Euboean waters offered alternative commercial opportunities. As routes shifted away from the Peloponnese, the southern Mycenaean palace centers found themselves off the grid. Palatial interests that once controlled critical bottlenecks along mercantile trade routes lacked the local resources to sustain an economic and political infrastructure capable of supporting the elite's symbolic trappings of "self-definition and self-presentation." She also argues that the palace's *raison d'être* suggests a lack of interest in establishing inter-palatial relations or actively engaging in diplomatic relations with the other, more powerful, eastern Mediterranean states (ibid., 215-218; 234-235). Sherratt also frames these localized events in their longterm mercantile contexts——from the initial development of inter-regional trade (mid-third millennium) through its mature phase (later second millennium) and ultimately to its reconstitution (early Iron Age) as the geographical boundaries of the commercial world expanded across the Mediterranean and north into Europe (2016, 602-613). Notable is Sherratt's observation that, "the establishment of new infrastructures for the acquisition or manufacture of goods for exchange, [leads] to points of no return when it became difficult to dismantle these without creating excessive local or regional social upheaval" (ibid., 608).

Both scholars emphasize top heavy Mycenaean palatial economies——Deger-Jalkotzy's, "hydrocephalic centres," structured in large part to cater to the appetites of the palace elites. As maritime trading strategies evolved (benefiting non-Mycenaean interests) mainland economies failed——precipitating what Sherratt characterizes as a "cardboard collapse" (1996, 725; 2001, 234). The flaws in mainland political economies identified by Deger-Jalkotzy and Sherratt may well have been sufficient to cause their downfall. However, the demise of the majority of Mycenaean palace centers was roughly contemporary with the abandonment of the Hittite capital, the destruction of Ugarit, and a series of raids that inflicted serious and lasting damage to Egyptian authority. This would suggest that while conditions underlying the political and economic structures common to the LBA eastern Mediterranean may have exposed weaknesses in mainland policies, the latter were likely proximate rather than ultimate causes. Along with the likely impacts from grain shortages, the interdependencies of numerous state economies (as alluded to by Sherratt above) may have, by their very nature, been subject to significant, even fatal, disruptions. In our own time we have seen how a viral pandemic has disrupted industrial production and supply chains resulting in the limited availability of microchips——a situation also having the potential to also "cascade" into widespread catastrophe. See also 278-280 Earle.

Despite the ensuing chaos, a number of mainland communities redefined their politics and their economies in ways that successfully adjusted, at least temporarily, to the affects of the collapse. Evidence from Perati in eastern Attica and Lefkandi on Euboea, attest to continuity——albeit of limited duration. As suggested by Sherratt, as trade routes shifted northward the Euboean Gulf——ever an attractive alternative to the Aegean's open seas routes, offered the relative safety of an inland passage and new markets for maritime merchants. Perati's tombs and varied grave goods (no settlement has been located) are dated to the LH IIIC period (ca. 1200 - 1070 BCE). Although Lefkandi's (Xeropolis) lengthy history includes a major MBA presence, settlement remains and cemeteries dating from the Post-palatial through the Early Iron Age (ca. 1200 - 700 BCE) are best known.

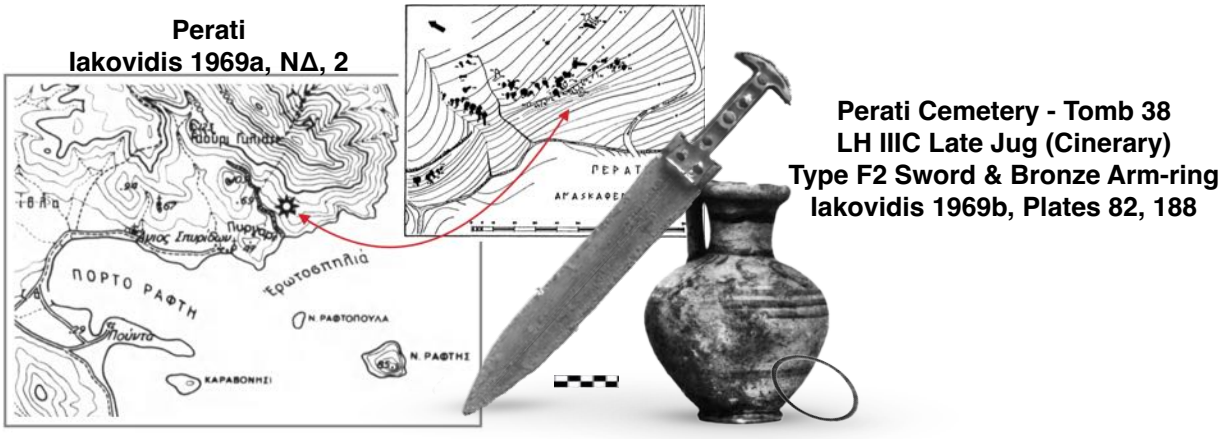


after Gimatzidis and Weninger 2020



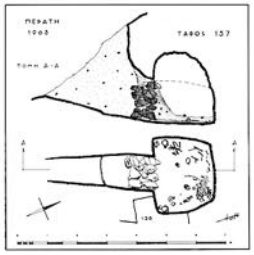
In 1964, the year Spyridon Iakovidis completed work at Perati, Mervyn Popham and Hugh Sackett began excavations at Lefkandi/Xeropolis (Iakovidis 1969, 1970; Hood 1954; Popham and Sackett 1968). At the time, an absence of evidence had led to and sustained the widespread assumption that following the Bronze Age collapse mainland and Cycladic societies had devolved into a Dark Age. H. D. F. Kitto, in his well received volume, *The Greeks*, expressed the consensus view that, "the decaying Mycenaean Age came to an end, at the end of the twelfth [century]," while, "Other conquerors, the Dorians, came down from north-central Greece, this time not successful adventurers seizing or harrying small kingdoms, but a destroying flood of men, making a sudden end of a long civilization, and beginning a Dark Age, three centuries of chaos, after which Classical Greece began to emerge" (1960, 24). Such scenarios have been revised, in part due to finds from Perati and Lefkandi but also, as discussed above, from the evidence collected at sites along the Northern Euboean Gulf including at Kynos, the palace-center at Tiryns in the Argolid, and the widespread evidence for warrior tombs including a number of relatively new finds in Achaea.

Perati
Iakovidis 1969a, ΝΔ, 2



Perati Cemetery - Tomb 38
LH IIIC Late Jug (Cinerary)
Type F2 Sword & Bronze Arm-ring
Iakovidis 1969b, Plates 82, 188

Multiple factors contribute to the significance of the Perati necropolis. In his summary report Iakovidis stressed the cemetery's, "importance for the dating of the Late Bronze Age"——an opinion shared by Mountjoy who stated that Perati was the only site to have, "produced stratified tomb material belonging to all three phases of LH IIIC" (Iakovidis 1969, 1970; Mountjoy 2001, 152). Equally important is the evidence provided by numerous imported items from Egypt, the Levant, and Cyprus——including a number of objects fashioned from gold, silver, and ivory. Whereas the Argolid, Mycenae in particular, had been the center for imported goods during the palatial period, the Euboean Gulf region, and most evidently Perati, assumed a similar role in LH IIIC. Kramer-Hijos, noting the contrasting nature of the imports——often unfinished goods (eg. glass, copper ingots, and timber as found on the Uluburun) during the palatial period and the smaller, finished and often precious objects attested at Perati, argues that this reflects, in part, the transition from larger merchantmen capable of bulk transport to smaller and more nimble galleys (Kramer-Hijos 2016, 175-176). Pertinent to this argument is Iakovidis' description of Perati's Porto Rafti as, "an excellent natural harbor, highly suitable for the kind of small craft used in ancient times, when vessels were moored by being beached," and furthermore, a location that, "gave the whole region direct access to the Aegean and to the countries beyond it" (1970, 419).



Perati Tomb 157
Iakovidis 1969a, 31 Fig. 8

A decade of field work by Iakovidis and his team resulted in the excavation of nearly 200 chamber tombs along with several dozen pit graves. Nearly all the tombs had suffered at least partial collapse, the result of successive interments but also the site's uneven topography and nearby water course. Intact tombs held from two to ten individuals with approximately 500 individuals buried at the Perati cemetery. Eighteen cremations were recorded, and as with the inhumations, there seemed to be no specific gender, age, or kinship selection for one or the other practices although it is thought that individual tombs held family groups. Iakovidis noted that, "on being interred, the defunct were furnished with almost everything they would need if alive, and were treated with affection and respect"——a stark contrast with the remains of previous interments in the same graves that were swept aside in a haphazard manner (1970, 426). Intact skeletons indicated that personal adornments, when present, were worn by the deceased although half of the burials, "had vases as their only tomb furnishings." Iakovidis recovered 1,264 ceramic vessels, nearly all wheel-made pots fashioned from local clays. Most were either stirrup jars (total = 362) or stamnoi (total = 223) and, "more than one half of the funerary vases seem to have contained perfume in one form or another." Iakovidis observed that, "As a rule vases given to the dead were full, so that in most cases the gift really intended for them seems to have been the contents rather than the receptacle" (ibid., 422-427). At least two and perhaps three of the interments at Perati are typical of warrior burials. *Tomb 38* (see above) held 6 individuals, one having been cremated. A Type F2 sword was placed between two interred individuals, one of which was accompanied by an iron knife and bronze arm ring (Deger-Jalkotzy 2006, 154-157).



Tomb 74

Perati LH IIIC Early
Deep Bowl - Group A
Iakovidis 1970, Plate I, 692



Tomb 74

Perati LH IIIC Middle
Jug (large)
Iakovidis 1970, Plate I, 611

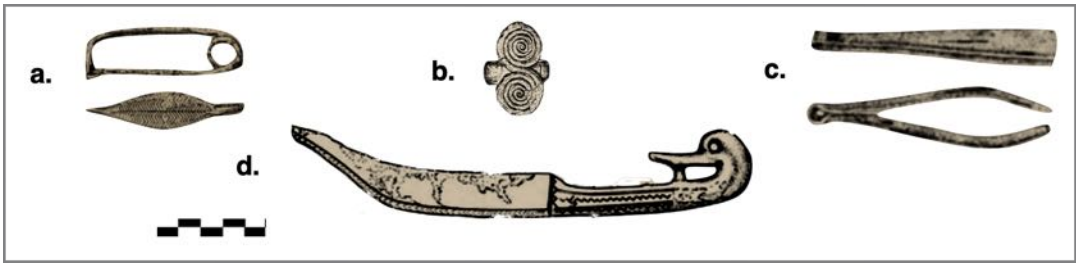


Tomb 75

Perati LH IIIC Late
Collar-necked Jar
Iakovidis 1970, Plate I, 635

The small finds from Perati are remarkable for their abundance, diversity, and varied origins. In reviewing the historical trajectory of the region Iakovidis notes that responses to the LH IIIB2 destructions included signs of recovery as evidenced by the spread of LH IIIC Middle/Advanced——Close and Pictorial style pottery. Iakovidis also observes that, in contrast, "The mainland, however, could not maintain its wealth and prosperity on this limited sea trade alone, however brisk. Little by little the remaining palaces and citadels, such as Mycenae, are deserted and fall into ruins." Concurrently the eclipse of centralized authority created possibilities for smaller, independent communities and, as Iakovidis notes, "In this world, Perati occupied a very important place" (1970, 468-469). The early appearance of imports from Central and Eastern Europe occur at this juncture. Of greater import for Perati were her own skilled potters, bronze-workers, and jewelers (and likely textile workers whose creations would have mostly vanished from the archaeological record)——craftworkers who participated in the regional economy and, in concert with experienced maritime traders, were able to access goods and markets in the eastern Aegean and the Levant. By Phase I (LH IIIC Early) Perati tomb goods include pottery from Melos and Crete, Egyptian faience cartouches and scarabs, as well as amulets from Syria. While a number of items of personal adornment are bronze, including beads, finger-rings, earrings, hair-rings, bracelets and fibulae, many similar items of jewelry are crafted from silver or gold (ibid., 458-463). By Phase LH IIC and through LH IIIC Late exports from Perati are attested from Naxos and Kos, both active participants in the rejuvenated trade, as well as at the prosperous and growing community at Lefkandi. While clearly no empires were built, sites such as Perati attest to a revived and realigned trade network——albeit one that operated on a smaller scale and one destined to atrophy in the late eleventh century BCE (ibid. 469-470).

Although iron goods remained rarities during the LH IIIC period two iron knives, a pin, and several indeterminate finds were made at Perati. However, numerous bronze items were recovered from the Perati necropolis——some crafted locally to judge from copper slag, indicating the metal's importance in day-to-day matters of utility, local industry, personal adornment, as well as for armaments. Bronze tools included chisels (3), cleavers (3), utility knives (7), and an awl as well as numerous bits and pieces of wire. A spearhead, two swords, and several knives together with items typical of the warrior's "cosmetic kit" (tweezers, razors, and mirrors) fit the pattern of the LH IIIC warrior culture. Despite sharing the outward trappings of Mycenae's earlier militaristic clans, the Perati warriors appear to be a small, select group with a limited role——likely one protecting the local community's interests from potential or actual hostilities. This is not to discount the possibility that these same groups may have engaged in raiding on their own behalf.



Bronze Items - Perati LH IIIC
a. Fiddlebow Fibula b. Finger-ring (Double-spiralled bezel) c. Tweezers d. Duck-headed Knife
Iakovidis 1970 - a. 275, Fig. 121 b. 293, Fig. 127 c. 284, Fig. 125 d. 344, Fig. 149-M53

Sarah Murray has published a detailed analysis of the distribution of the exotica from Perati related to her critique of various interpretive models for the post-palatial period (2018). Commenting on the unique assemblage of, “imported exotica from Egypt, the Levant, and Cyprus,” Murray points out that the, “finds represent more than half of all known exotica from the entire LH IIIC mainland” (2018, 40 Tables 1, 2). At Perati the majority of such finds are amulets: scarabs either from Egypt or Egyptianizing but also from the Levant (Syro-Palestinian) along with a hematite Hittite bulla. Additionally, four gold earrings are among imports from Cyprus while a number of items, including two types of fibulae (two arched twisted-bow and violin bow) are likely imported from Italy or Central Europe (2018, 39-41). Among the 375 beads: mostly gold (145), carnelian (75), and steatite (10) recovered from 219 tombs, a number are stylistically similar to those known from both Egypt and the Middle East (Nightingale 2009, 495; Iakovidis 1970, 305).



Exotica - Perati LH IIIC
a. gold bucranium earring b. hematite Hittite bulla c. faience cartouche d. beads
Iakovidis 1969b a. 275, Pl. 97 β c. Pl. 48 β; Iakovidis 1970 b. 317, Fig. 134 d. 305, Fig. 128

Murray argues that “there is no clear correlation between the abundance and variety of finds and the presence of exotica in Perati tombs”——a conclusion supported by her analyses of the relative ranking, “of each tomb on a spectrum of the per capita abundance and variety of finds in the tomb.” In addition, her sampling of individual tombs (Tombs 13, 18, 24, 28, 104, and 145) suggests, “the presence of imports is not itself a reliable predictor of tomb wealth at Perati” (2018, 40-49). Murray’s conclusions hold a number of important implications for understanding the LH IIIC period. The consensus view of Aegeanists, as well as the one argued by both Deger-Jalkotzy and Sherratt above, characterizes Mycenaean palatial economy as largely designed to transfer wealth to the elite——commonly in the form of high-value exotica. This characterization contrasts sharply with Murray’s findings from the Perati tombs and indicates a very different set of priorities were in place in LH IIIC. This incongruity may seem unexpected given an understandable inclination to assume that the inheritors of the post-palatial world might at least attempt to emulate their predecessors. In fact, aspects of LH IIIC Tiryns appear to support just this view. However, Murray suggests that a model of continuity may actually be misleading as there are established theoretical grounds for supposing that following periods of destruction and collapse societies, “generally produce a dramatically varied record with sudden changes in material and ritual behavior” (2018, 37). While this seems to be the case at Perati, interpretations are hindered by an absence of documentation as well as the lack of settlement evidence. However, Murray argues that framing the evidence in its contemporary context——without assuming the practices of previous periods, will ultimately be more productive while also reducing the likelihood of propagating unfounded interpretations. If exotica cannot consistently be associated with elite status and wealth, what patterns are evident in the mortuary finds that explain the abundance of imported objects? Based on four variables: distribution of exotica, relative quality of tomb architecture (using the Cavanaugh/Mee scale of 1 - well constructed to 6 - poorly

constructed), patterns of utilitarian tool deposition (excludes objects associated with warriors), and numbers of cremation burials, Murray describes three spatially discrete, heterogenous groupings in the western, central, and eastern sectors of the cemetery (Tables 3 - 5). The better built and well furnished tombs of the western sector are the best fit for associating exotica (Egyptian/Egyptianizing and Syro-Palastinian) with elite posturing (in the traditional manner of LH IIIB) although the atypical practice of cremation is also most prevalent in this sector. The majority of the central sector interments utilize pit graves while the structural quality of several built tombs are rated average (3-4). However, these burials too are often accompanied by imports (Egyptian/ Egyptianizing but also Cypriot) with utilitarian tools also well represented. The architecture of eastern sector tombs is described as relatively homogeneous with a single cremation and no (eastern) imports but as with the tombs in the central sector utility tools are not uncommon (ibid., 50-52).

The western sector interments arguably support a substantive association of elite interments with exotica. However, the evidence of the central sector pit graves / built tombs (judged to be of mediocre quality)——with numerous high value imports but often devoid of additional grave goods, cannot sustain the same argument. Murray also notes that the exotica from the two sectors (western and central) are different in kind. "A more persuasive interpretation," of the central sector's interments says Murray is, "that the exotica are evidence of the practice of nonlocal mortuary rituals or the presence of non-indigenous individuals at the site" (ibid., 49-50). While much of the material evidence (eg. ceramics, tomb architecture) is consistent with LH IIIC mainland culture, the innovative practice of cremation, the "segregated" heterogeneous burial practices, and the warrior tombs suggest new ideas and/or new individuals representing different cultures. Aware that contemporary settlement evidence (absent at Perati) might provide significant cultural elements against which to evaluate her hypothesis Murray looked outside of Perati, specifically to Tiryns.

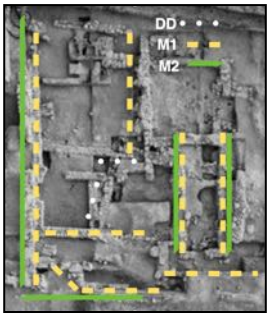
As discussed above (463-466) Maran and his fellow researchers have demonstrated that following the collapse, some Tirynians——as attested by their architecture and associated material finds, retained a monarchical perspective. Perhaps more significantly——and more in concert with Murray's findings, is concurrent evidence at Tiryns that suggests an entirely different perspective. Klaus Kilian's 1970s excavation of the Lower Town led to his observation that the orderly plan of the 12th century BCE settlement at Tiryns had much in common with a number of contemporary Cypriot towns. The so-called *Tiryns Treasure*, a recently reevaluated early 20th century find, consists of objects associated with Mycenaean, Cypriot, and southern European cultures (Maran 2016, 202; Maran 2012, 121-126). These and other finds, including a Cypriot wall bracket and objects inscribed with Cypro-Minoan script suggest that native Cypriots or craftsmen with Cypriot training lived and worked at Tiryns in both the LH IIIB2 and LH IIIC periods (Maran 2015, 285). As Murray points out, this decouples any necessary connection between exotica and, "elite long-distance contact," and furthermore is, "more likely to sketch the footprint of nonlocal individuals and their material and ritual cultural baggage" (2018, 57). While neither the evidence from Tiryns or that from Perati confirms the presence of an immigrant population, both sites attest to the mixed cultural milieu of the postpalatial mainland. As Murray suggests in her closing remarks, a useful approach to Postpalatial exotica would move the conversation, "away from talk of elite social networks or heirloom survivals and toward the appearance of new cultural practices" (ibid., 56-57).

Lefkandi-Xeropolis, just south of the Euripus Strait at the midpoint of the Euboean Gulf, enjoyed well protected harbors along a major maritime route——much like Perati 70 km to the south. While the site is best known for the rich and varied mortuary evidence dating to the Early Iron Age (ca. 1050 to 825 BC), the initial excavations on the Xeropolis peninsula produced the first significant architectural remains for an LH IIIC settlement as well as small finds that complemented the mortuary evidence from Perati. *Lefkandi IV* documents the LH IIIC architectural phases——well stratified remains with copious pottery that was, "largely responsible for supplying the initial framework for the current tripartite division of LH IIIC into Early, Middle and Late,"——subdivided at Lefkandi as Phases 1a/b, 2a/b, and 3 (Evely et al. 2006, 303). Van Damme included Lefkandi in his recent analysis of the postpalatial mainland (2017). With a focus on household archaeology, Van Damme marshals evidence from a variety of sites that argues for an abundance of material goods rather than conditions of privation and scarcity in LH IIIC. In contrast to other models, he suggests Xeropolis' transition from the LH IIIB period was characterized by strong continuities——contra Murray (ibid., 428). Following Popham and Sackett's original phase designations, Van Damme confirmed the significance of the rich 1b destruction level, emphasizing the numerous storage structures (pithoi and kotselle) and abundant ceramic finds suggesting, "a thriving postpalatial community" (ibid.,108). Phase 2 continues this trend——with apparently even larger houses, notably the North House and Room 2 (ibid., 181-193). Finds here, including intramural burials, an iron knife, and a large assemblage of drinking wares suggesting prosperity and perhaps an influx of new people. Although Xeropolis is but one of his test cases, the site mirrors his more general findings of storage capacities in excess of volumes required for subsistence, evidence for large scale production of textiles alongside bronze finds in half of the households surveyed (ibid., 414-432). Irene Lemos characterizes the LH IIIC Xeropolis settlements as "proto-urban" and "thriving" due largely to maritime connections——a stark contrast with the numerous communities that had been abandoned following the LH IIIB2 collapse (2019).



Room 2 Krater, Feasting & Textile
Van Damme 2017, 185 Fig. 4.8
after Evely et al. 2006, Pl. 71

The mid-10th century BCE twin burials within a monumental building associated with the Toumba Cemetery are undoubtedly the center piece of Xeropolis archaeology. The male warrior——cremated and placed in a bronze urn alongside his iron weapons and the female inhumation replete with precious and exotic jewelry were excavated by Popham in 1981. Adjacent to the couple a second shaft grave held four horses. Often referred to as a ἡρῷον or "hero's grave" the nature of the enclosing structure (perhaps 50 x 13 m), continues to be debated (Popham et al. 1993). While definitely not as press worthy but nonetheless significant are the Lefkandi's "megara" structures excavated in the first decade of the 21st century (Lemos 2019). Few structures are known that span the transition from LH IIIC to the onset of the Iron Age (IA). The structural remains shown at right include: an LH IIIC Early (Phase 1a) domestic dwelling (white), M1, a LH III Middle (Phase 2a) megaron structure (yellow) that was replaced in ca.1140 BCE by M2, a second megaron (green), that was occupied throughout LH IIIC (Phases 2b/3) and into the early IA. Rooms to the east of the megara served for storage. The size (M1 = 10 m x 6 m) of M1 suggests to Lemos communal meeting areas for elite members of the Xeropolis settlement.



Lefkandi-Xeropolis Megara
Lefkandi Phases 2a, 2b, 3
Lemos 2019

In the 1950s and 1960s evidence from Perati and Xeropolis contributed to a revised understanding of the postpalatial period. These sites attest to the complexity in the aftermath of the collapse——one characterized by an end to mainland palatial society and the displacement and abandonment of a number of sites but also the reality of communities that had begun to take advantage of the opportunities previously monopolized by palatial authorities. Many of the same individuals who had served the privileged elite likely redirected their talents and labor to new or reconstituted settlements. These included skilled craft workers, both native and foreign, with the expertise to fashion economically valuable ceramic, bronze, iron, and textile products as well as the boat wrights and mariners capable of building and navigating craft that provided the wherewithal to establish new commercial contacts with coastal communities across the Mediterranean and Black Sea. For students and scholars trying to understand the pace and extent of these developments it was critical to establish a relative chronology based on ceramic evidence. The excavations of Perati and Xeropolis were critical to this process.

Mountjoy's 1986 Phases of LH III C	Rutter 1977	Mycenae (Argolid)	Lefkandi (Euboea)	Perati (Attica)
Early	1	Early	(LH III B)	I
	2	Early/Tower	1a	
	3	Tower	1b	
Middle	4 early	Developed	2a	II
	4 late	Advanced	2b	
Late	5 early	Final	3	III
Submycenaean	5 late	Submycenaean	Submycenaean (Skoubris Cemetery)	–

Ceramic Phasing LH IIIC - Rutter 2003 after Mountjoy 1986, 133 Table II

As the table above illustrates, a number of different schema have been proposed for dating LH IIIC pottery assemblages. Jeremy Rutter and Penelope Mountjoy have played important roles in defining the various phases——albeit with an awareness that this is ever a work in progress (French and Rutter, 1977; Mountjoy, 1986). Just as changes have been suggested for the groupings listed in the illustrated table, ongoing excavations, new technologies (NAA - Neutron activation analysis), and reanalysis of earlier work will mean future revisions. Mountjoy's threefold LH IIIC division is followed here. While the *minutiae* of ceramic analysis are often mind boggling, the goal, explains Rutter, is to create a, "secure chronological framework which will allow us to draw some sound inferences about the broader aspects of the period's political events" (ibid., 5). In the coming decades a greater focus on the early Iron Age may well produce evidence suggesting more detailed, even contrasting interpretations, as compared with contemporary views. In any case familiarity with the ceramics underlying that narrative will help to elucidate the trajectory of events in the postpalatial period.

LH IIIC Early ceramics in general are often sparsely decorated ("somewhat dull," P. Mountjoy)——reflecting the affects of the palatial collapse and the onset of the regionalism that followed. Although stirrup jar diversity declines, LH IIIB shapes such as Group A and Rosette deep bowls (FS 284) maintain their popularity along with a new, widely adopted motifs consisting of exterior linear banding and monochrome interiors; antithetical spirals are also common decorative motifs as on Group A Deep Bowls. New cup-shaped vessels include deep semiglobular cups (FS 215, 216) as well as carinated cups (FS 240), one styled with a high handle. The lekythos or small jug (FS 122) was also introduced early in LH IIIC along with the first amphoriskos (FS 59), a shape that served as a replacement for small piriform jars. By the end of the period large closed shapes including jugs, amphoras, and hydrias are often decorated with the scroll and/or tassel motif (Rutter 1977, 1-3; Mountjoy 2001, 90, 2008, 116).



Phylakopi LH IIIC Early
Deep Bowl - Group A
Natlional Arch. Mus.



Mycenae LH IIIC Early
Deep Bowl - Rosette
Natlional Arch. Mus.



Korakou LH IIIC Early
Deep Bowl - Linear
J. Rutter, Dartmouth College



Lefkandi LH IIIC Early
Deep Semiglobular Cup
Popham 2006, Pl. 17, 4



Mycenae LH IIIC Early
Hydria with Tassel
Popham 2006, Pl. 19, 1



Korakou LH IIIC Early
Carinated Cup
J. Rutter, Dartmouth College



Perati LH IIIC Early
Lekythos
Iakovidis 1969b, Pl. 93, 177



Lefkandi LH IIIC Early
Amphoriskos
Evely *et al* 2006, Pl. 21, 1

While wheelmade pottery is the rule, examples of handmade, locally crafted, burnished wares are widespread throughout LH IIIC. Typological links to the Balkans as well as southern Italy have been suggested although the origin of these pots in not certain.[7]

LH IIIC Handmade Burnished Wares



Mug with Rope-like Cordons
Lefkandi
Popham 1968



Magnified Striations
Fig. 3 - Sample PEF
Lis and Kiriatzi 2019



Jar CP 337 with Cordons
Fig. 1. Korakou no. 1
Rutter 1975, Pl. 1

The LH IIIC Middle-Advanced period marks the height of regional ceramic production. At its best the pottery embodies a high degree of technical competence and creativity. Although certain shapes and an increasing complexity of decorative motifs are characteristic of the period, geographically dispersed potteries resulted in regional diversity. In general, amphoriskos increased in popularity while deep bowls and stirrup jars remained popular. Mountjoy lists the trefoil-mouthed jug (FS 137), one-handled conical bowl (FS 242), and tray (FS 322) as new shapes (2001, 97). Linear kylikes (FS

7. Jeremy Rutter's discussion of Aigeira's diverse LH IIIC ceramics includes details of "Fine Reddish-Brown Handmade" (F R-B H) pottery——ceramics sharing a number of characteristics with LH IIIC Handmade Burnished Wares. BSA - Ceramic surprises from LH IIIC Aigeira

275) replace earlier undecorated types. Additional shapes, first attested in the preceding period, but more common in LH IIIC Middle-Advanced included strainers (FS 155), kalathoi (FS 291), and belly-handled amphora. Close, Granery, and Octopus styles are also characteristic of the period (2001, 97-100). Perhaps the best known ceramics of the period are Pictorial Kraters——large containers for mixing wine and water decorated with a wide range of creative and whimsical narrative images.



Markopoulo Attica LH IIIC Middle
Lekythos Granery Style
Natl. Arch. Mus. Athens



Lefkandi LH IIIC Middle
one-handled conical bowl
Arch. Mus. of Eretria



Lefkandi LH IIIC Middle
Linear Kylix
Arch. Mus. of Eretria



Lefkandi LH IIIC Middle
Amphoriskos
Arch. Mus. of Eretria



Lefkandi LH IIIC Middle
trefoil-mouthed jug
Arch. Mus. of Brauron



Kalymnos - LH IIIC Middle
Kalathos
© Trustees of the British Mus.



Aplomata Naxos LH IIIC Middle
Close Style Octopus Stirrup Jar
Arch. Mus. of Naxos



Naxos LH IIIC Middle
Strainer
Arch. Mus. of Naxos



Athens Acropolis LH IIIC Middle
Belly-handled Amphora
Papadopoulos 2006, 95, 96b.



Athen Agora - LH IIIC Middle
Kalathos
Agora of Athens Museum

By the beginning of the fourteenth century BCE Mycenaean ceramics had been widely adopted on the mainland and were being exported to the eastern Mediterranean. Large kraters with Pictorial decoration were important export items in this trade. Although most Pictorial pottery is found at mortuary sites on Rhodes as well as on Cyprus, clay analysis shows most of these vessels were made by potters working in the Argolid. Berbati was an early center of production but by LH IIIB additional mainland Mycenaean centers were crafting Pictorial wares. Sherds and wasters (damaged pots) are typical of mainland finds although a small number of Pictorial style pots have been found in local tombs as well (Mountjoy 2001, 73-74).



Enkomi, Cyprus - LH IIIA2
Zeus Ampharoid Krater FS 54
Cyprus Museum

The authors of *Mycenaean Pictorial Vase Painting* used geographical regions and chronology to organize their narrative and illustrations (Vermeule and Karageorghis 1982). Many specific pots and sherds are given their own section in the descriptive narratives——ceramic cameos or biographies providing both context and interpretation. For example, the authors characterize the artistic aspects of the "Zeus Crater" as, "loose, disjointed, ill-proportioned, ambitious, and ambiguous" concluding that, "Whatever the scene means, it probably has a narrative intention" (ibid 15). While the latter statement seems probable, Vermeule and Karageorghis' critique of the artistic merits are clearly subjective pronouncements that may have little to do with the artist's intentions. Mycenaean pictorial imagery does seem to range from the sublime to the ridiculous and yes, begs explanation. Present day viewers might well be reminded of the figures inhabiting the panels of comic book pages——but they will search in vain for the missing description. Given the accomplishments of Mycenaean artists——attested in various spheres, it seems prudent to assume we are laughing with (rather than at) the creators of these pots. In any case, Mycenaean pictorial pottery offers a unique, if cryptic, insight into one aspect of the Mycenaean psyche.



Miscellaneous Figures Pictorial Pottery LBA IIIA2 - IIIC Middle-Advanced

LH IIIC Middle Pictorial pottery was produced across the mainland at sites from Pylos north to Volos as well as in the Cyclades on Naxos and on Kos in the Dodecanese. The best known of the pictorial kraters is Mycenae's Warrior Vase. See 467. The krater's iconography is widely interpreted as an "off to battle scene" and, in fact, images suggesting armed conflict——on both land and at sea, are present on a number of LH IIIC pictorial vases. Animals, both real and imaginary, are also regularly depicted. Few of these large pots, including collar-necked jars and alabastra, have survived intact (Mountjoy 2001, 98-99). While artistic excellence, in both design and figural drawing, characterizes a number of known examples, other narrative scenes are little more than disjointed caricature. For example, it is difficult to ascertain if the lions and stag (see reconstruction) are thematically related to the hunter and trio of dogs on the Pylos krater shown below. The Lefkandi alabastron (pyxis), on the other hand, is well composed and executed. Against all odds this vessel survived nearly intact. The imagery combines both mythical (giffins) and native quadrupeds (a stag and goats)——including both adults and their young. Despite their mythical nature, the juxtaposition of the giffins' forelegs is a sensitive and realistic representation of similar behavioral interactions of contemporary wildlife. This integration of the fabulous with everyday realities may in fact reflect the culture's world view——one perhaps incredulous to present-day perceptions while normative to the vessel's intended audience.



Lefkandi Phase 2a - LH IIIC Middle
Straight-sided Alabastron
Antithetical Griffins and Young
photo. A. Skiadaressis
Archaeological Museum of Eretria





Pylos - LH IIIC Middle
Ring-based Krater
Hunting Scene
Chora Archaeological Museum





Mycenae - LH IIIC Middle
Stirrup Jar - Close Style
Birds & Fish
Arch. Mus. of Mycenae





Sherd from Lefkandi/Xeropolis

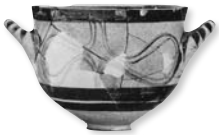


Elis - LH IIIC Middle
Ring-based Krater
Horse Racing
Arch. Museum. of Elis



Mycenae - LH IIIC Middle
Collar-necked Jar
Horses & Birds
Mycenae Archive

The late 12th century BCE rejuvenation of postpalatial Aegean ceramics contrasts sharply with the subsequent trajectory of pottery production. Although the Granery style persisted, LH IIIC Late pottery suffers a gradual decline in quality accompanied by a reduced number of shapes, the simplification and redundancy of decorative motifs, and an absence of innovation. White Wares are characteristic of the period——for example at Lefkandi where it comprises nearly half of the recovered sherds and vessels. While the quality varies the fabric of large vessels is described as gritty and porous, the paint dull (matt), often faded, or washed/fugitive (Popham and Milburn 1971, 348)



Lefkandi - LH IIIC Late
Deep Bowl - White Ware
Evely *et al* 2006, Pl. 44 A



Attica - LH IIIC Late
Stirrup Jar
© Trustees of the British Museum



Mycenae - LH IIIC Late
Deep Bowl
Natl. Arch. Museum. Athens



Mycenae - LH IIIC Late
Ring-based Krater
Natl. Arch. Museum. Athens



Attica - LH IIIC Late
Amphoriskos
© Trustees of the British Museum



Klauss - LH IIIC Late
Four-Handled Jar
Mountjoy 2001, 110-303

The transition period from the Mycenaean era to the Protogeometric at the beginning of the Iron Age has been the subject of a good deal of debate. Because the majority of "Submycenaean" pottery is from tombs and difficult to date, a number of scholars question the use of the term. Rutter proposed that the mortuary evidence is in fact contemporary with LH IIIC Late settlement pottery (1978). Mountjoy, in general, accepts the term Submycenaean and describes the quality of the pottery as variable——albeit the, "Decoration was uninspired and the range of motifs limited" (2001, 114).



Lekythos
Skoubris Necropolis Lefkandi
Archaeological Museum of Eretria

Amphoriskos
Kerameikos Cemetery
Kerameikos Museum





Stirrup Jar
Tiryns Tomb XXVIII
Archaeological Museum of Nafplion

If we mark the beginning of Mycenaean studies with Schliemann's arrival in Greece in 1868, the third decade of the 21st century frames the century and a half period of Aegean studies to date. For fully half of that period, conventional wisdom held that the LH IIIB collapse was followed by a Dark Age——an era characterized largely by an absence of evidence. While it is unlikely that at present an important period in Aegean prehistory is misconstrued, significant gaps in our understanding remain. For example, what events led to the seemingly rapid accumulation of wealth represented by the shaft grave interments or to what degree, if any, Mycenaean mariners were directly involved in the transport of commercial goods during LH IIIA - IIIB. Despite significant questions, Aegeanists have built a substantial body of knowledge describing in some detail a previously unknown and largely undocumented prehistoric era.

Joseph Maran and Thomas Palaima have made important contributions to this progress, including efforts to understand the nature of Mycenaean religion. Their observations on the ritualistic aspects of Aegean culture exemplify current research perspectives. Maran emphasizes that compared to cultures with more comprehensive documentation, progress in Aegean studies has necessarily relied on inferences drawn largely from the artifactual remains. However, this apparent liability, Maran explains, has an upside——the requisite discipline of carefully defining specific material contexts as the basis for making inferences about ritual practices (2016, 584). Both micro- and macro-contexts provide useful evidence. An example of the first is the single bronze armor scale excavated in a LH IIIC deposit beneath a paved area (possibly a hearth) in Tiryns Northeastern Lower Town (2016, 584-586). While nearly unique on the mainland (Mycenae and Lefkandi also provide single records), comparable finds of one or two bronze scales are attested from Cyprus and the Near East in both mortuary and cult contexts as well as palatial and residential deposits (Maran 2004, 18-25). Both their limited number (often single scales, sometimes two) and their contexts as well as their geographical and temporal range suggest something more than random, haphazard finds. While sound interpretations cannot be made from any single record, a significant number of such finds are associated with either foundation-type deposits of cult-related structures or interments (ibid., 23-24). Palaima acknowledges the limitations of both the textual and archaeological data, but also suggests, "we may look backward, sideways, and forward from Mycenaean religion." While counseling that we proceed with caution, Palaima indicates that earlier and later sources as well as "contemporary Eastern Mediterranean and Near Eastern cultures" are potentially informative sources of comparative evidence (2008, 343). For example, looking backwards——to the substrates of language and culture and forwards——to Homeric and Hesiodic epics have both proved fruitful (ibid., 348). Using the "comparative method" and the Uniformitarian Principle historical linguists have identified both words (cognates) and syntax shared by forms of Greek and daughter languages of a reconstructed Proto-Indo-European language (Anthony and Ringe 2015, 200-201). One example provided by Watkins is 'reins'——an element of the harness that controls a horse-drawn chariot. Cognates in both Greek and Old Irish link similar words to their P-I-E origins. In Homeric Greek hēníai (ἡνίαι) 'reins' and hēníokhos (ἡνίοχος) 'charioteer' share the same form as Linear B: 𐀬-𐀍-𐀩 *a-ni-ja* 'reins' and 𐀬-𐀍-𐀅-𐀞 *a-ni-jo-ko* 'charioteer' or 'reins-holder.' The significance of such evidence is both cultural and linguistic (1995, 7). Using the methodologies and insights modeled by Maran and Palaima, we can investigate contexts and content that will add to our understanding of the Bronze Age Aegean, details that bring the Mycenaeans into sharper focus, if not always providing the robust historical narrative we might desire.

References

Abbas, Raafat. 2017. “A Survey of the Military Role of the Sherden Warriors in the Egyptian Army during the Ramesside Period.” *ENiM* 10, 7 - 23.

Anthony, David and Don Ringe. 2015. “The Indo-European Homeland from Linguistic and Archaeological Perspectives.” *The Annual Review of Linguistics*. Vol. 1.

Arnaud, Daniel. 1975. "Les rexres d'Emar er la chronologie de la fin du Bronze Récent."*Syria* 52, 87-92.

Beckman, G. M. 1996. *Hittite Diplomatic Texts*. Atlanta.

Beckman, Gary, Trevor Bryce, and Eric Cline. 2011. *The Ahhiyawa Texts*. Atlanta. Society of Biblical Literature.

Brecoulaki, Hariclia, Sharon R. Stocker, Jack L. Davis, and Emily C. Egan. 2015. “An Unprecedented Naval Scene from Pylos: First Considerations” In *Mycenaean Wall Painting in Context: New Discoveries, Old Finds Reconsidered* edited by Hariclia Brecoulaki, Jack L. Davis, and Sharon R. Stocker. ΜΕΛΕΤΗΜΑΤΑ 72. Athens. National Hellenic Research Foundation / Institute of Historical Research.

Broodbank, Cyprian. 2000. *An Island Archaeology of the Early Cyclades*. Cambridge. Cambridge University Press.

Carnell, Mark. 2018. Argonauts: the Astronauts of the Sea. *The Guardian*.

Carpenter, R. 1968. *Discontinuity in Greek Civilization*. New York: W. W. Norton & Co.

Caskey, John L. 1960. “The early Helladic period in the Argolid.” Hesperia 29, 285-303.

Caubet, Annie. 1992. "Reoccupation of the Syrian Coast after the Destruction of the 'Crisis Years?"In *The Crisis Years: The Twelfth Century* edited by W. A. Ward and M. S. Joukowsky. Dubuque. Kendall/Hunt.

Champollion, Jean-François. 1833. Lettres écrites d'Égypte et de Nubie en 1828 et 1829. Paris. F. Didot Fréres.

Champollion, Jean-François and J. J. Champollion Figeac. 1835–1845. *Monuments de l'Egypte et de la Nubie: d'après les dessins exécutés sur les lieux sous la direction de Champollion le-Jeune, et les descriptions autographes qu'il en a rédigées*. Volume 1 & 2. Paris. Didot Frères.

Cline, E. H. 2014. *1077 B. C. The Year Civilization Collapsed*. Princeton. Princeton University Press.

___. 2021. *1177 B.C.: The Year Civilization Collapsed: Revised and Updated*. Princeton. Princeton University Press.

Cohen, Yoram. 2021. “The ‘Hunger Years’and the‘Sea Peoples’.” In *Essays in Biblical and Ancient Near Eastern Studies Presented to Edward L. Greenstein* edited by Peter Machinist, Robert A. Harris, Joshua A. Berman, Nili Samet, and Noga Ayali-Darshan.Ve-’Ed Ya’aleh. Atlanta. SBL Press.

Cohen, Yoram and Itamar Singer. 2006. “A Late Synchronism between Ugarit and Emar.” In *Essays on Ancient Israel in Its Near Eastern Context: A Tribute to Nadav Na’aman* edited by Yairah Amit et al. Winona Lake, IN. Eisenbrauns.

Connolly, Peter. 1986. *The Legend of Odysseus*. Oxford. Oxford University Press.

Cunchillos, Jesús-Luis and Juan-Pablo Vita. 1993. *Crónica De La destrucción De Una Ciudad Del Reino De Ugarit (TU 00-2.61)*. *Sefarad* 53, 243-47.

De Fidio, Pia. 1992. ‘Mycènes et Proche-Orient, ou le théorème des modèles’, in Mykenaïka. Actes du IXe colloque international sur les textes mycéniens edited by J.-P. Olivier. Bulletin de Correspondance Hellénique Suppl. XXV. Athens.

Deger-Jelkotzy, Sigrid. 1996. “On the Negative Aspects of the Mycenaean Palace System.” In *Mycenean and Homeric Societies. Collected Papers of Sigrid Deger-Jelkotzy* edited by B. Eder and U. Schuh. Austrian Academy of Sciences & Institute of Oriental and European Archaeology.

___. 1998. “The Aegean Islands and the Breakdown of the Mycenaean Palaces around 1200 B. C.” In *Eastern Mediterranean. Cyprus – Dodecanese – Crete 16th – 6th cent. B.C.,* edited by V. Karageorghis and N. C. Stampolidis. Proceedings of the International Symposium held at Rethymnon – Crete. May 1997. Athens. University of Crete.

___. 2006. “Late Mycenaean Warrior Tombs.” In *Ancient Greece: From The Mycenaean Palaces To The Age Of Homer* edited by Sigrid Deger-Jalkotzy and Irene S. Lemos. Edinburgh. Edinburgh University Press.

___. 2008. “Decline, Destruction, Aftermath.” In *The Cambridge Companion to the Aegean Bronze Age*, edited by Cynthia Shelmerdine. New York. Cambridge University Press.

Deger-Jelkotzy, Sigrid and Irene S. Lemos, eds. 2006. *Ancient Greece: From The Mycenaean Palaces To The Age Of Homer*. Edinburgh Leventis Studies 3. Edinburg. Edinburg University Press.

de Rougé, Emmanuel. 1855. *Notice de Quelques Textes Hiéroglyphiques Récemment Publiés par M. Greene* . Paris. E. Thunot

Dickinson, Oliver. 2006. *The Aegean From Bronze Age To Iron Age: Continuity and change between the twelfth and eighth centuries BC*. London & New York. Routledge.

Dietrich M. And O. Loretz. 1966." Der Vertrag Zwischen Suppiluliuma Und Niqmadu. Eine Philologische Und Kulturhistorische Studie." *Die Welt De Orients* 3, 206-45. Göttingen.

Douka, K., C. Perlès, H. Valladas, M. Vanhaeren, R.E.M. Hedges. 2011. "Franchthi Cave revisited: the age of the Aurignacian in south-eastern Europe." *Antiquity* 85, 1146.

Drews, Robert. 1993. *The End of the Bronze Age. Changes in Warfare and the Catastrophe ca. the ca. 1200 B.C.* Princeton. Priceton University Press.

Driessen, J., 2019. “The Santorini eruption. An archaeological investigation of its distal impacts on Minoan Crete.” *Quat. Int.* 499, 195–204.

___. 2023. "Jesse Millek, Destruction and Its Impact on Ancient Societies at the End of the Bronze Age." Columbus, Georgia. Lockwood Press

Duhoux, Yves. 2012. “The Most Ancient Cypriot Text Written In Greek: The Opheltas’ Spit.” *Kadmos* 51, 71–91. Berlin. De Gruyter.

Earle, Timothy, Claes Uhner Johan Ling Zofia Anna Stos-Gale, Lene Melheim. 2015. “The Political Economy And Metal Trade In Bronze Age Europe: Understanding Variability In Terms Of Comparative Advantages And Articulations.” *European Journal Of Archaeology* 18, 633-657.

Egan, E. C. and H. Brecoulaki. 2015. “Marine Iconography At The Palace Of Nestor And The Emblematic Use Of The Argonaut.” In *Mycenaean Wall Painting in Context: New Discoveries, Old Finds Reconsidered* edited by Brecoulaki, H., J. Davis, S. Stocker. ΜΕΛΕΤΗΜΑΤΑ 72. Athens. National Hellenic Research Foundation / Institute of Historical Research.

Emanuel, Jeffrey P. 2013. “Sherden from the Sea: The Arrival, Integration, and Acculturation of a Sea People.” *Journal of Ancient Egyptian Interconnections* 4, 14-27.

___. 2014. "Odysseus’ Boat? New Mycenaean Evidence from the Egyptian New Kingdom." In, *Discovery of the Classical World: An Interdisciplinary Workshop on Ancient Societies*. Lecture series presented by the Department of The Classics at Harvard University. Cambridge.

___. 2018. “Black Ships and Sea Raiders: History, Archaeology, and Odyssey in the Late Bronze–Early Iron Age Transition.” Lecture presented at the Joukowsky Institute for Archaeology, Brown University based on *Black Ships and Sea Raiders: The Late Bronze and Early Iron Age Context of Odysseus' Second Cretan Lie*. 2017. Lanham. Lexington Books.

Evely, D., J. Crouwel, E. French, J. Musgrave, M. Popham, D. Reese, H. Sackett, E. Schofield, And S. Sherratt. 2006. “Lefkandi IV: The Bronze Age. The Late Helladic IIIC Settlement At Xeropolis.” *The British School at Athens. Supplementary Volumes*, 39, iii–332.

Fijalkowska, Lena. 2014. "Family in Crisis in Late Bronze Age Syria: Protection of Family Ties in the Legal Texts from Emar." In *La famille dans le Proche-Orient ancien:réalités, symbolismes, et images: Proceedings of the 55th Rencontre Assyriologique Internationale, Paris*, edited by Lionel Marti, 383-396. Winona Lake, IN, Eisenbrauns.

Finné, M., K. Holmgren, H.S. Sundqvist, E. Weiberg, and M. Lindblom. 2011. “Climate in the Eastern Mediterranean, and Adjacent Regions, During the Past 6000 Years: A Review.” JAS 38(12):3153–73.

Forsén, J. 1992. The Twilight of the Early Helladics: A Study of the Disturbances in East-central and Southern Greece towards the End of the Early Bronze Age. Studies in Mediterranean Archaeology and Literature Pocketbook 116. Jonsered. Paul Åströms Förlag.

French, Elizabeth, and Jeremy Rutter. 1977. "The Handmade Burnished Ware of the Late Helladic IIIC Period: Its Modern Historical Context." *American Journal of Archaeology* 81, 1, 111.

Georgiou, Artemis. 2014. "Flourishing amidst a 'Crisis': The Regional History of the Paphos Polity at the Transition from the 13th to the 12th Centuries BCE." In *"Sea Peoples" Up-To-Date. New Research on Transformations in the Eastern Mediterranean in the 13th –11 th Centuries BCE* edited by Peter M. Fischer And Teresa Bürge. Wien. Austrian Academy Of Sciences Press.

___. 2018. "From The Hand To The Wheel: Revisiting The Transformations Of The Late Cypriot Ceramic Industry Of Finewares During The 13th-to-12th c. BC Transition." In *Technology In Crisis*. Louvain. Presses Universitaires de Louvain.

Gimatzidis, Stefanos and Bernhard Weninger. 2020. "Radiocarbon dating the Greek Protogeometric and Geometric periods: The evidence of Sindos." *PLoS ONE* 15(5): e0232906. https://doi.org/10.1371/ journal.pone.0232906

Hall, Edith. 2014. *Introducing the Ancient Greeks: From Bronze Age Seafarers to Navigators of the Western Mind*. NewYork. Norton.

Halstead. P. [1996] 2013. "The Mycenaean palatial economy: making the most of the gaps in the evidence."' Proceedings of the Cambridge Philological Society 38. Cambridge. Cambridge University Press

Hamilakis, Yannis, ed. 2002. Labyrinth Revisited - Rethinking 'Minoan' Archaeology. Oxford. Oxbow Books.

Hekman, Jan. 2003. *The Early Bronze Age cemetery at Chalandriani on Syros (Cyclades, Greece)*. Ph.D. dissertation, Rijksuniversiteit Groningen.

Herodotus. 2009. *The Landmark Herodotus: The Histories* translated by Andrea L. Purvis, edited by Robert Strassler, with an introduction by Rosalind Thomas. New York. Anchor.

Hood, M. S. F., ed. 1954. "Archaeological Reports" 1, 3-19. *The Society For The Promotion Of Hellenic Studies*.

Iacovou, Maria. 2008. "Cultural and Political Configurations in Iron Age Cyprus: The Sequel to a Protohistoric Episode" excerpted from *The Archaeology of Cypriot Protohistory*. 2004. *American Journal of Archaeology* 112, 625–57.

——. 2012. "External and internal migrations during the 12th century BC. Setting the stage for an economically successful Early Iron Age in Cyprus." In *Proceedings of an archaeological workshop held in memory of Professor J. N. Coldstream (1927–2008)*. Nicosia. Bank of Cyprus Cultural Foundation.

___. 2019. "Palaepaphos: Unlocking the Landscape Context of the Sanctuary of the Cypriot Goddess."*Open Archaeology* 5, 204–234. Berlin. De Gruyter.

Iakovidis, Spyros. 1969a. Περατή, Το Νεκροταφείον. Α', Οι Τάφοι Και Τα Ευρήματα. Athens. Library Of The Archaeological Society.

___. 1969b. Περατή, Το Νεκροταφείον. Γ', Κατάλογοι, Πίνακες. Athens. Library Of The Archaeological Society.

___. 1970. Περατή, Το Νεκροταφείον. Β', Γενικαί Παρατηρήσεις. Athens. Library Of The Archaeological Society.

Jarriel, Katherine. 2020. "Climate disaster and the resilience of local maritime networks: Two examples from the Aegean Bronze Age." *Quaternary International 597, 118–30*. Elsevier Ltd.

Kilian, K. 1978. 'Ausgrabungen in Tiryns 1976'. *Archäologischer Anzeiger*. Berlin. De Gruyter.

Kaniewski, D. et al. 2011, 8 June. "The Sea Peoples, from Cuneiform Tablets to Carbon Dating." PLOS ONE 6(6): e20232. http://journals.plos.org/plosone/article? id=10.1371/journal.pone.0020232.

Kaniewski, D., E. Van Campo, J. Guiot, S. La Bruel, T. Otto, and C. Baeteman. 2013, 14 August. "Environmental Roots of the Late Bronze Age Crisis." PLOS ONE 8(8):e71004. http://journals.plos.org/plosone/article? id=10.1371/ journal.pone.0071004.

Kitto, H. D. F. (1951) 1960. *The Greeks*. Baltimore. Penguin Books.

Knapp, Bernard A. 2013. The Archaeology of Cyprus form earliest prehistory through the Bronze Age. Cambridge. Cambridge Unifersity Press.

___. 2018. *Seafaring And Seafarers In The Bronze Age Eastern Mediterranean*. Leiden. Slidestone Press.

Knapp, A.B., and S.W. Manning. 2016. "Crisis in Context: The End of the Late Bronze Age in the Eastern Mediterranean." *American Journal of Archaeology* 120, 99–149.

Korres, G. S. 1989. "Representation of a Late Mycenaean Ship on the Pyxis from Tragana, Pylos." *Tropis I*.

Kramer-Hajos, Margaretha. 2016. *Mycenaean Greece and the Aegean World. Palace and Province in the Late Bronze Age*. Cambridge. Cambridge University Press.

Lackenbacher, S., and F. Malbran-Labat. 2005. "Ugarit et les Hittites dans les archives de la " Maison d'Urtenu" , *SMEA* 47, 227-240.

___. 2016. "Lettres en Akkadien de la "Maison d'Urtenu" In *Fouilles de 1994. Ras Shamra-Ougarit XXIII*. Peeters: Leuven.

Lehmann G. A. 1979. Die Sikalajii: ein neues Zeugnis zu den "Seevélker'-Heerfahrten im spaten 13. Jh. v.Chr. (RS 34.129). *UF* 11: 481-94.

Leith, Kristen E. 2016. "'Manly Hearted' Mycenaeans (?): Challenging Preconceptions of Warrior Ideology in Mycenae's Grave Circle B." *Journal of Greek Archaeology*. Oxford. Archaeopress.

Lemos, Irene. 2019. "Lefkandia." Oxford Classical Dictionary.

Macqueen, J. G. 1986. *The Hittites and Their Contemporaries in Asia Minor*. London. Thames and Hudson.

Malbran-Labat, F. 1995. "La d6couverte epigraphique de 1994 ä Ougarit (les textes Akkadiens)." *SMEA* 36,103-111.

Manning, Sturt. 1997. "Cultural Change in the Aegean c. 2200 B . C ." In Third Millennium B.C. Climate Change and Old World Collapse, edited by H. Nüzhet Dalfes, George Kukla, and Harvey Weiss. NATO ASI Series I: Global Environmental Change 49. Berlin. Springer.

___. 2017. "Comments On Climate, Intra-Regional Variations, Chronology, The 2200 B.C. Horizon Of Change In The East Mediterranean Region, And Socio-Political Change On Crete." In The Late Third Millennium In The Ancient Near East Chronology, C14, And Climate Change, edited By Felix Höflmayer. Chicago. Oriental Institute.

Manning, Sturt W., Cindy Kocik, Brita Lorentzen, and Jed P. Sparks. 2023. "Severe multi-year drought coincident with Hittite collapse around 1198–1196 BC." *Nature* 614, 719-724.

Maran, Joseph. 2001. "Political and Religious Aspects of Architectural Change on the Upper Citadel of Tiryns: The Case of Building T." In *Potnia: deities and religion in the Aegean Bronze Age : proceedings of the 8th International Aegean Conference at Göteborg* edited by Robert Laffineur and Robin Hägg. Liège. Université de Liège. Program in Aegean Scripts and Prehistory. Austin. University of Texas.

___. 2004. "The Spreading of Objects and Ideas in the Late Bronze Age Eastern Mediterranean: Two Case Examples from the Argolid of the 13th and 12th Centuries BCE." *Bulletin of the American Schools of Oriental Research* 336.

___. 2006. "Coming To Terms With The Past: Ideology And Power In Late Helladic IIIc." In *Ancient Greece: From The Mycenaean Palaces To The Age Of Homer* edited by Sigrid Deger-Jalkotzy and Irene S. Lemos. Edinburgh Leventis Studies 3. Edinburg. Edinburg University.

___. 2012. "Ceremonial Feasting Equipment, Social Space and Interculturality in Post-Palatial Tiryns," In *Materiality and Social Practice: Transformative Capacities of Intercultural Encounters* edited by J. Maran and P. Stockhammer. Oxford. Oxbow Books.

___. 2015. "Tiryns and the Argolid." In, *Mycenaeans up to date. The archaeology of the northeastern Peloponnese—current concepts and new directions* edited by Ann-Louise Schallin and Iphiyenia Tournavitou. Stockholm. Swedish Institute in Athens.

___. 2016. “Against the Currents of History. The Early 12th c. B.C.E. Resurgence of Tiryns.” In *RA-PI-NE-U : studies on the Mycenaean world offered to Robert Laffineur for his 70th Birthday*. Louvain-La-Neuve . UCL Presses Universitaires de Louvain.

Marinatos, S. 1933. “La marine-créto-mycénienne.” *Bulletin de Correspondance Hellénique* 57, 170-235.

____. 1974. *Excavations at Thera 6. 1972 season*. Athens.

Marthari, Marisa. 2014. “Reconsidering the Largest EBA Cycladic Cemetery:The Recent Excavations at Chalandriani.” ASCSA lecture on Vimeo.

___. 2017. “Aspects of pictorialism and symbolism in the Early Bronze Age Cyclades: a “frying pan” with longboat depiction from the new excavations at Chalandriani in Syros.” In *Studies In Mediterranean Archaeology In Honour Of Nota Kourou* edited by Vicky Vlachou and A. Gadolou. Brussels.

McDonald, William A. and Carol G. Thomas. 1990. *Progress Into the Past: The Rediscovery of Mycenaean Civilization*. 2nd ed. Bloomington. Indiana University Press.

Millek, Jesse. 2022. "The Fall of the Bronze Age and the Destruction that Wasn’t." *The Ancient Near East Today* Vol. 10, No. 12.

—. 2023. *Destruction and Its Impact on Ancient Societies at the End of the Bronze Age*. Columbus. Lockwood Press.

Mountjoy, P.A. 1986. *Mycenaean Decorated Pottery: A Guide to Identification. Studies in Mediterranean Archaeology, Vol. LXXIII*. Göteborg. Paul Forlag Astroms.

___. 1998. “The East Aegean-West Anatolian Interface in the Late Bronze Age: Mycenaeans and the Kingdom of Ahhiyawa.” *Anatolian Studies* 48, 33–67.

___. 2001 *Mycenaean Pottery: An Introduction*. Monograph No. 36. Oxford. Oxford University School of Archaeology.

___. 2011. “A Bronze Age Ship from Ashkelon with Particular Reference to the Bronze Age Ship from Bademgediği Tepe.” *American Journal of Archaeology* 115, 483–8.

Mühlenbruch, Tobias. 2015. “Power and cult in LH IIIC Tiryns.” In *Mycenaean up to date. The archaeology of the northeastern Peloponnese—current concepts and new directions* edited by Ann-Louise Schallin & Iphiyenia Tournavitou. Stockholm. Swedish Institute in Athens.

Murray, Sarah C. 2018. “Imported Exotica and Mortuary Ritual at Perati in Late Helladic IIIC East Attica.” *American Journal of Archaeology* 122, 33–64.

Nakassis, Dimitri. 2006. The Individual and the Mycenaean State: Agency and Prosopography in the Linear B Texts from Pylos. Ph.D. dissertation, University of Texas

Nicholls, Richard Vaughan. 1970. “Greek Votive Statuettes and Religious Continuity c.1200-700 B.C.” In *Auckland classical essays presented to E.M. Blaiklock*. edited by Bruce Fairgay Harris. Oxford. Oxford University Press.

Nougayrol, J., E. Laroche, C. Virolleaud, and C.F.A. Schaeffer. 1968. *Ugaritica 5*. Mission de Ras Shamra 16. Paris: Geuthner.

Palaima, Thomas G. 1991. "Maritime Matters in the Linear B Tablets," In Thalassa. L'Égée préhistorique et la mer, edited by R. Laffineur and L. Basch. Aegaeum 7. Liège. Université de Liège, Service d'histoire de l'art et d'archéologie de la Grèce antique.

___. 2008. “Mycenaean Religion” in *The Cambridge Companion to the Aegean Bronze Age* edited by Cynthia Shelmerdine. New York. Cambridge University Press.

Papadimitriou, N. 2015. “The Formation and Use of Dromoi in Early Mycenaean Tombs.” *The Annual of the British School at Athens* 110, 71–120.

Papadopoulos, John. 2005. “Inventing the Minoans: Archaeology, Modernity and the Quest for European Identity.” *Journal of Mediterranean Archaeology* 18, 1.

Papazoglou-Manioudaki, L. 1994. “A Mycenaean Warrior’s Tomb at Krini near Patras.” *The Annual of the British School at Athens* 89, 171–200.

Petrie, William M. F. 1933 “Egyptian Shipping (Continued),” *Ancient Egypt* 3–4.

Pirenne, H. 1925. *Medieval Cities: Their Origins and the Revival of Trade*. Princeton. Princeton University Press.

Podany, Amanda H. 2022. *Weavers, Scribes, and Kings - A New History of the Ancient Near East*. Oxford. Oxford Universite Press.

Popham, M. R. and Sackett, L. H. 1968. *Excavations at Lefkandi, Euboea 1964–66. A Preliminary Report*. London. Thames and Hudson.

Popham, M.R., P.G. Calligas, L.H. Sackett, J. Coulton, And H.W. Catling. 1993. “Lefkandi II. The Protogeometric Building at Toumba. PART 2: The Excavation, Architecture and Finds.” *The British School at Athens Supplementary Volumes* 23, 1–101.

Popham, Mervyn, and Elizabeth Milburn. 1971. “The Late Helladic IIIC Pottery of Xeropolis (Lefkandi): A Summary.” *The Annual of the British School at Athens* 66, 333–52.

Renfrew, Colin, P. A. Mountjoy, Elizabeth French, John G. Younger, John F. Cherry, Alec Daykin, Jennifer Moody, Lyvia Morgan, Nick Bradford, Callum Macfarlane et al. 1985. "The Archaeology Of Cult: The Sanctuary At Phylakopi." *The British School at Athens. Supplementary Volumes* 18, I-513.

Rougemont, F. and J.-P. Vita. 2023. "The Mycenaean world and the Near East." *In The Legacy of Michael Ventris. Progress and Perspectives in the Field of Aegean Scripts and Mycenaean Studies* edited by Francisco Aura Jorro Maurizio Del Freo. Roma. Cnr ─ Istituto Di Scienze Del Patrimonio Culturale.

Rutter, Jeremy B. 1978. "A Plea for the Abandonment of the Term 'Submycenaean'," *Temple University Aegean Symposium* 3, 58-65.

___. 2003. "The Nature and Potential Significance of Minoan Features in the Earliest LH IIIC Ceramic Assemblages of the Central and Southern Greek Mainland.” In, *Chronology and: synchronisms* edited by S. Deger-Jalkotzy and M . Zavadil. Wien. Osterreichische Akademie der Wissenschaften.

Schilardi, Dimitrios. 1984. “The LH IIIC period at the Koukounaries acropolis, Paros.” In *The Prehistoric Cyclades: Contributions to a Workshop on Cycladic Chronology* edited by J.A. MacGillivray and R.L.N. Barber.

___. 1992. "Paras and the Cyclades after the Fall of the Mycenaean Palaces.” In *Mykenaika. Actes du /Xe Colloque intemational sw· les textes myceniens et egeens, Athens 1990,* edited by J.-P. Olivier. Paris.

Schoep, Ilse. . 2018. “Building the Labyrinth: Arthur Evans and the Construction of Minoan Civilization.” *American Journal of Archaeology* 122, 5–32.

Shaw, Maria C. 1980. “Painted ‘Ikria’ at Mycenae?” *American Journal of Archaeology* 84, 167–79.

Shelmerdine, C.W. 2011. “The Individual And The State In Mycenaean Greece.” Bulletin of the Institute of Classical Studies 54, 19–28.

Sherratt, Susan. 2001. “Potemkin palaces and route-based economies in Economy and politics.” in, *the Mycenaean Palace States*: proceedings of a conference held on 1-3 July 1999 in the Faculty of Classics. Cambridge. Cambridge Philological Society.

___. 2016. “A globalizing Bronze and Iron Age Mediterranean.” In *The Routledge Handbook of Archaeology and Globalization*.

Singer, Itmar. *2006. “Ships Bound for Lukka: A New Interpretation of the Companion Letters RS 94.2530 and RS 94.2523.”Altorientalische Forschungen 33: 242–62*.

___. 2011. “A Political History of Ugarit.” In *The Calm Before the Storm, Selected Writings Of Itamar Singer On The Late Bronze Age In Anatolia And The Levant*. Atlanta. Society of Biblical Literature. Reprinted from *Handbook of Ugaritic Studies* edited by W. G. E. Watson and N. Wyatt. Leiden. Brill.

Televantou, Christina. 2008. “Strofillas: a Neolithic Settlement on Andros.” In *Horizon - A colloquium on the prehistory of the Cyclades* edited by Niel Brodie, Jenny Doole, Giorgos Gavalas, and Colin Renfrew. Cambridge. McDonald Institute Archaeological Research.

___. 2019. “The Neolithic Settlement at Strofilas, Andros.” *Papyri - Scientific Journa*l Vol. 8.

Thompson, Christina. 2019. *Sea People: The Puzzle of Polynesia*. HarperCollins.

Thucydides. 1996. *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War* translated by Richard Crawley, edited by Robert Strassler, with an introduction by Victor Hanson. New York. Free Press.

Tsountas, Christos and J.Irving Manatt. 1897. *The Mycenaean Age: a study of the monuments and culture of pre-Homeric Greece*. London. Macmillan.

Van Damme, Trevor Matthew. 2017. “Life after the Palaces: A Household Archaeology Approach to Mainland Greece during Late Helladic.” Ph.D. dissertation, University of California

Vermeule, Emily and Vassos Karageorghis. 1982. *Mycenaean Pictorial Vase Painting*. Cambridge. Harvard University Press.

Vita, J. P. and F. Rougemont. 2021, “Administration à Ougarit et dans le monde mycénien: réflexions méthodologiques pour une approche comparative”, in V. Matoïan (ed.), Ougarit, un anniversaire. Bilans et recherches en cours, Ras Shamra-Ougarit XXVIII, Leuven, pp. 441-459.

VIZIN. 2013 - 2016. The Institute for the Visualization of History, Inc. http://www.vizin.org/Gurob/Gurob.html

Vlachopoulos, Andreas G. 2008 “A Late Mycenaean Journey from Thera to Naxos: the Cyclades in the Twelfth Century BC 479.” In *Horizon: A Colloquium on the Prehistory of the Cyclades* edited by Neil Brodie, Jenny Doole, Giorgos Gavalas, Colin Renfrew. Cambridge. McDonald Institute Monographs.

Wachsmann, Shelley. 1998. *Seagoing Ships And Seamanship In The Bronze Age Levant*. Ed Rachal Foundation Nautical Archaeology Series. College Station. Texas A&M University Press.

___. 2013. *The Gurob Ship-Cart Model And Its Mediterranean Context*. College Station. Texas A&M University Press.

___. 2019. “On The Interpretation Of Watercraft In Ancient Art.” *Arts* 8, 165.

Warren, Peter. 1979. “The Miniature Fresco From The West House At Akrotiri, Thera, And Its Aegean Setting.” *The Journal Of Hellenic Studies* 99, 115–29.

Watkins, Calvert. 1995. *How to Kill a Dragon*. Oxford. Oxford University Press.

Watkins, Trevor . 1989. "The Beginnings of Warfare." In *Warfare in the Ancient World* edited by John Hacket. London. Sidgwick & Jackson.

Webb, J. M. 1999. “Ritual Architecture, Iconography and Practice in the Late Cypriot Bronze Age.” *Studies In Mediterranean Archaeology*. Jonsered. Paul Astroms Forlag.

___. 2014. “Ritual as the setting for contentious interaction: from social negotiation to institutionalised authority in Bronze Age Cyprus.” In, *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean* edited by A. B. Knapp and P. van Dommelen. Cambridge. Cambridge University Press.

Wedde, M., 1999. "War at Sea: The Mycenaean and Early Iron Age Oared Galley." In, Polemos: Le Contexte Guerrier en Égée à l’âge du Bronze edited by R. Laineur. *Aegaeum* 19, 465–476. Liège.

Weiberg, Erika, Anton Bonnier, and Martin Finné. 2021. “Land use, climate change and ‘boom-bust’ sequences in agricultural landscapes: Interdisciplinary perspectives from the Peloponnese (Greece).” *Journal of Anthropological Archaeology* 63, 1-12. Uppsala.

Wiener, Malcolm. 1991. “The Nature and Control of Minoan Foreign Trade.” In *Bronze Age Trade in the Mediterranean*. Papers Presented at the Conference held at Rewley House, Oxford (December 1989). *Studies in Mediterranean Archaeology* 90, 325–350.

Winchester, Simon. 2005. *Krakatoa: The Day the World Exploded*. New York. HarperCollins.

Yon, Marguerite. 1992. "The End of the Kingdom of Ugarit." In *The Crisis Years: The Twelfth Century* edited by W. A. Ward and M. S. Joukowsky. Dubuque. Kendall/Hunt.

——. 2000a. “Ugarit: 6,000 Years of History.” *Near Eastern Archaeology* 63, 187–89.

——. 2000b. "A Trading City: Ugarit and the West." *Near Eastern Archaeology* 63, no. 4, 192–93.

___. 2006. The City of Ugarit at Tell Ras Shamra. Winona Lake. Eisenbrauns.

Zaccagnini, C. 1994. "Feert of Clayat Emar and Elsewhere." Orientalia 63, 1-4.

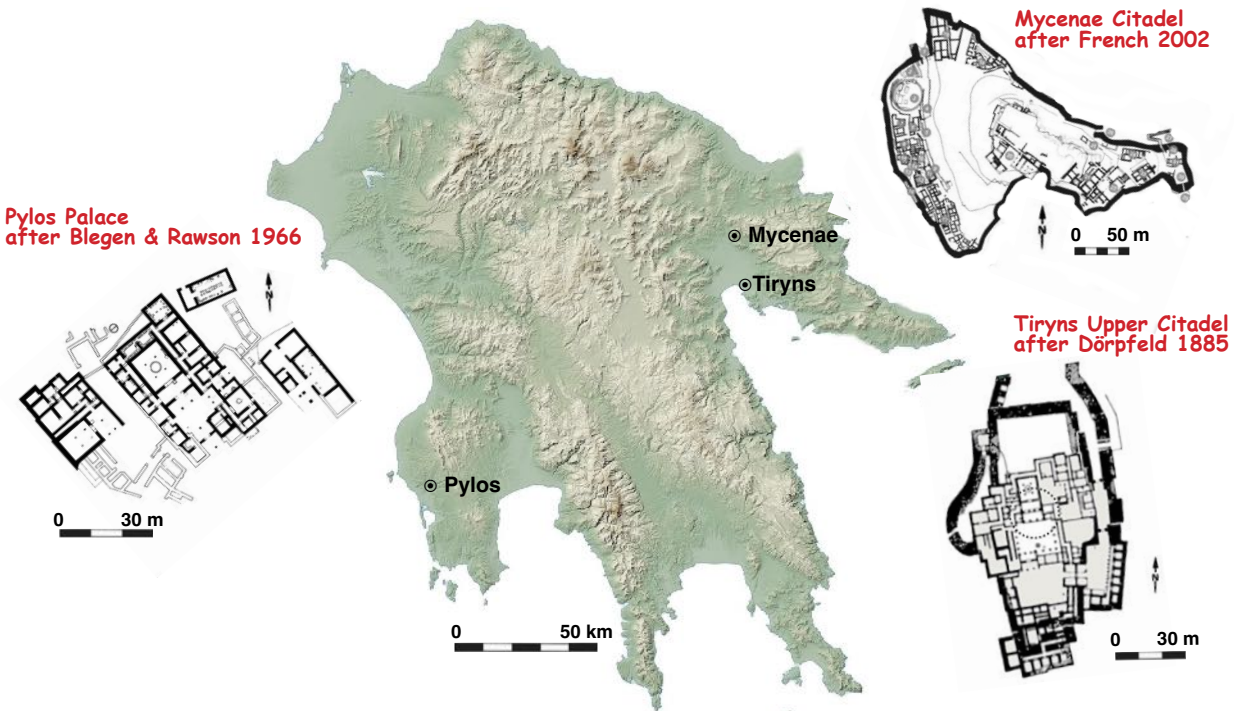
Appendix A - Palaces 2026

MYCENAE TO SOUTH - ARGOLID PLAIN & GULF



TIRYNS LOWER CITADEL TO NORTH

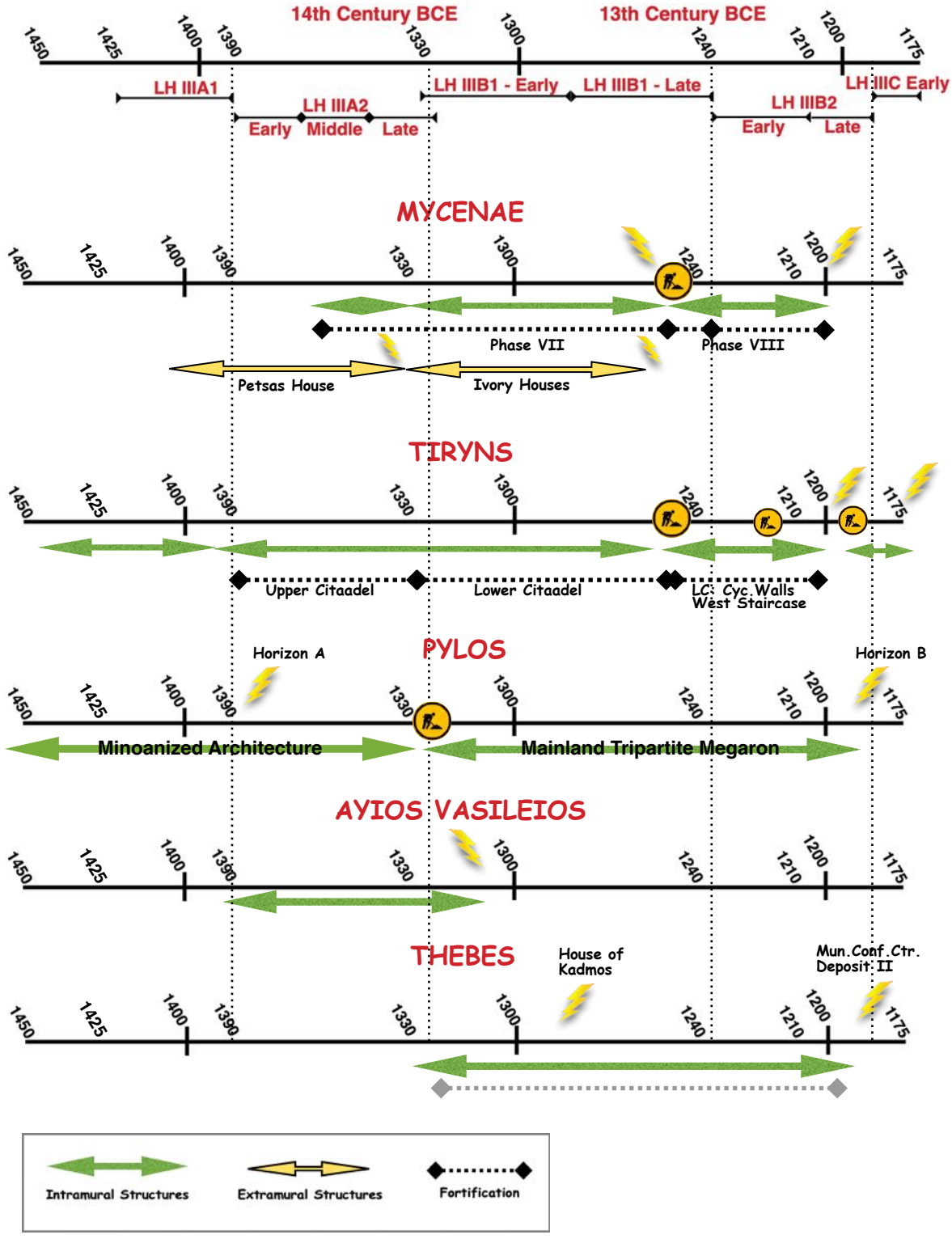




PYLOS TO SOUTH - NAVARINO BAY



Chronology - Sample Mycenaean Palace Centers*



*** LH IIIA2, Vitale 2011, 342; LH IIIB2-LH IIIC Early I (after Rutter), Vitale 2020, 59 Tab V; Jung and Kardamaki 2022, 24-25 and 33 -Tab 1**

In addition to the sites represented above——Midea in the Argolid, the Athenian Acropolis in Attica, and Orchomenos and Gla both in Boeotia, as well as Knossos and Chania on Crete, have legitimate claims (some more, some less) to being palace-centers during the Mycenaean era. As the relatively recent (2008) discovery of the palace-center at Ayios Vasileios in Laconia attests, future excavations will likely add to this list. While each of the palace-centers exhibit Minoan influence (again, some more others less) as well as mainland characteristics, their diversity is just as apparent. Adding complexity to this diversity are are the actual histories of their construction and destruction, the timing and methodologies of their varied excavations, as well as the affects of geophysical forces, climate, and human action across more than three millennia. Not surprisingly major questions about the chronology of the palace-centers remain unanswered. In November 2018 a group of scholars came together in Vienna with the goal of addressing a variety of chronological issues pertinent to Mycenaean palace-centers. As the co-editors of the proceedings state in their introduction, “Pottery studies provide the backbone for establishing chronological order at each individual site as well as for superregional synchronization” (Jung and Kardamaki 2022, 15.) The 2018 efforts should be considered part of an ongoing process to define a sequential narrative for the Mycenaean mainland. In the words of the editors——“Historical reconstruction is at the root of all chronological research” (Ibid., 21).

Associating chronological periods, whether relative or absolute, with groups of ceramics is a complex matter. Both contrasting regional ceramic types and differing periodization schemes are problematic. However, generations of researchers——currently including both Mountjoy and Rutter, have provided significant insights. Recent work by Salvatore Vitale advances these efforts. Vitale and others have suggested a number of pottery/ chronology associations for the era of the Mycenaean Palace-Centers (14th and 13th centuries BCE). For example, Vitale’ s analysis of the LH IIIA2 ceramics and his participation in excavations at Mitrou, East Locris (The Mitrou Archaeological Project directed by A. van de Moortel and E. Zahou) have led to a number of proposed congruences. See also *Mycenaean II*, 392-396.

a.



LH IIIA2 Early
Monochrome kylix FS 264*
© The Trustees of the British Museum

b.



LH IIIA2 Middle
Painted globular stirrup jar FS 171
© The Trustees of the British Museum

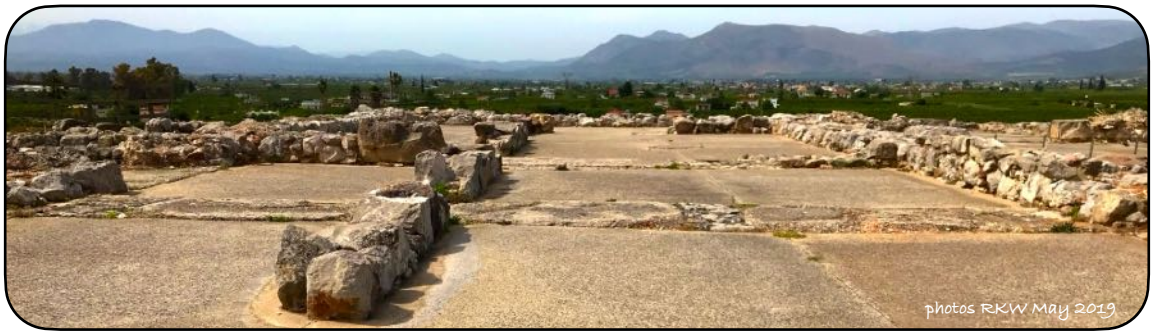
c.



LH IIIA2 Late
Patterned kylix, FS 257*
© The Trustees of the British Museum

While not exclusive categories and in any case requiring a comprehensive understanding of individual site ceramics and Aegean pottery in general, Vitale characterizes the kylikes a. and c. above as “shapes appearing for the first time in significant quantities in a given period” (LH IIIA2 Early and LH IIIA2 Late respectively) and the stirrup jar b. as new [for the LL IIIA2 Middle period] but uncommon” (2011, Table 5.). Crediting the work of numerous scholars whose ceramic analyses are foundational to his synthesis, Vitale, “tentatively suggests that the tripartite subdivision proposed for Nichoria and Mitrou may be extended to the rest of continental Greece” (2011, 343).

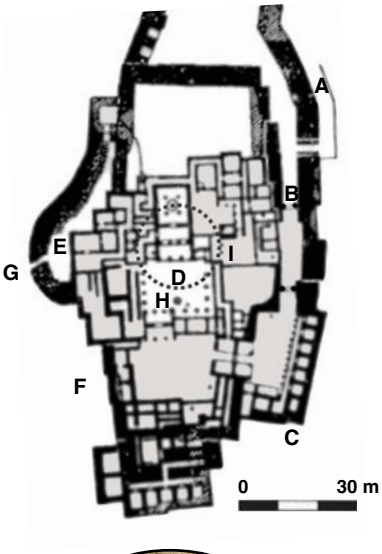
TIRYNS - UPPER CITADEL



D. Central Court with view north to Great Megaron - The prominent wall in the foreground at left is the western wall of Building T, a 12th century BCE structure built within the remains of the LH IIIB2 Tiryns palace.



C. East Gallery, upper citadel southeast corner (view north)





E. West Staircase, upper citadel (view north)



B. Main Gate, eastern approach (view south)



H. Altar, upper citadel Central Court



F. Southwestern Fortification Wall, upper citadel (view south)



A. Great Ramp & Tower eastern exterior (view south)



I. *Rundbau* (Round House), unique structure contemporary with EH IIB Corridor Houses



G. Small Gateway, West Staircase

MYCENAE EXOTICA



silver stag "rhyton"
Anatolia, Hittite?

amber necklaces
Baltic region



faience monkey with baby (fragment)
Egypt
(h = 1.5 cm)



x3



Amenhotep III faience plaque
Egypt



Minoan ceramic rhyton
Crete



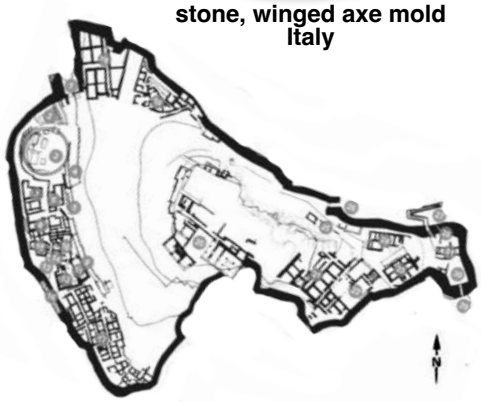
ostrich egg
Egypt



stone, winged axe mold
Italy



clay wall bracket
Cyprus





alabaster and gold vase
Egyptian
Mycenaean modified



amphora transport vessel
Canaan



ceramic hydria
Aegina



copper cowhide ingot
Euboea shipwreck
origin is likely Cyprus

Naue II bronze sword
NW Europe: Italy / Balkans

lapis lazuli inlayed hilt
Afghanistan

PYLOS WALL PAINTINGS

See *Mycenaean I* for locator numbers





hunters with dogs and tripods; Corridor 48*; h = 18, 17 cm



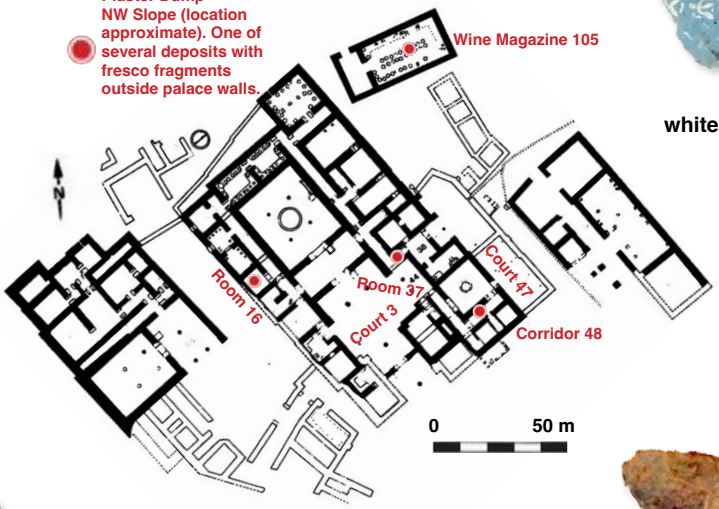
bull leaper; beneath wine magazine 105; h = 13 cm



"White Goddess" plaster dump NW slope; h = 17 cm



white crocus; Court 47; h = 5 cm





archer; 27 & 32; dump NW slope; h = 17 cm



architecture: beam ends, horns of consecration; Court 3; h = 17 cm



woman's arms; dump NW slope; h = 17 cm



table of offering; dump NW slope; h = 9 cm



marine nautilus; Room 16; h = 13 cm



two men in helmets; Room 37; h = 9 cm

References

Blegen, C. W. and M. Rawson. 1966. The Palace of Nestor at Pylos in Western Messenia Vol. I: The Buildings and Their Contents. Princeton. Princeton University Press.

Dakouri-Hild, Anastasia. 2010. "Thebes." *The Oxford Handbook Of The Bronze Age Aegean,* Edited By E. Cline. Oxford. Oxford University Press.

Dörpfeld, Wilhelm. The Fortress Of Tiryns. Plate 1. In, Schliemann, Heinrich. 1885. *Tiryns: The Prehistoric Palace Of The Kings Of Tiryns, The Results Of The Latest Excavationstroy And Its Remains*. New York. C. Scribner's Sons.

French, Elizabeth. 2002. Mycenae, Agamemnon's Capital, The Site in its Setting. Gloucestershire. Tempus.

Jung, Reinhard and Eleftheria Kardamaki (eds.). 2022. *Synchronizing the Destructions of the Mycenaean Palaces*. Vienna. Austrian Academy Of Sciences.

Kardamaki, E. 2009. Ein Neuer Keramikfund Aus Dem Bereich Der Westtreppe Von Tiryns. Bemalte Mykenische Keramik Aus Dem Auf Der Westtreppenanlage Deponierten Palastschutt. Ph.D. Dissertation, University Of Heidelberg.

Kardamaki, Elina, Peter M. Day, Marta Tenconi, Joseph Maran And Alkestis Papadimitriou. 2016."Transport Stirrup Jars In Late Mycenaean Tiryns: Maritime Transport Containers and commodity movement in political context. Uppsala." In *Maritime Transport Containers In The Bronze-Iron Age Aegean And Eastern Mediterranean*. Uppsala. Astroms.

Maran, Joseph. 2010. "Tiryns." In *The Oxford Handbook Of The Bronze Age Aegean,* edited By E. Cline. Oxford. Oxford University Press.

Podzuweit, C. 2007: Studien Zur Spätmykenischen Keramik (Tiryns Xiv), Wiesbaden.

Shelton, Kim. 2016. "Petsas House, Pottery Production, And The Mycenaean People In Lh Iiia2." In *Ra-Pi-Ne-U. Studies On The Mycenaean World Offered To Robert Laffineur For His 70Th Birthday* edited By Jan Driessen. Aegis. Louvain. University Presses Of Louvain.

Trusty, Debra A. 2016. Ceramic Analysis Of Mycenaean Cooking Ware Vessels And Its Implications For Early State Political Economies. Ph.D. Dissertation, Florida State University.

Vitale, Salvatore. 2006. "The LH IIIB-LH IIIC Transition On The Mycenaean Mainland. Ceramic Phases And Terminology." *Hesperia* 75, 177–204.

___. 2011. "Late Helladic Iiia2 Pottery From Mitrou And Its Implications For The Ceramic Chronology Of The Mycenaean Mainland." In *Our Cups Are Full. Pottery And Society In The Aegean Bronze Age. Papers Presented To Jeremy B. Rutter On The Occasion Of His 65 Th Birthday* edIted By W. Gauß, M. Lindblom, A. Smith, And J.C. Wright. Oxford. British Archaeological Reports.

Vitale, Salvatore and Aleydis Van De Moortel. 2020. "The Late Helladic Iiib Phase At Mitrou, East Lokris: Pottery, Chronology, And Political Relations With The Palatial Polities Of Thebes And Orchomenos/Glas*." *Annuario della Scuola Archeologica di Atene e delle Missioni Italiane in Oriente 98*. Athens. Scuola Archeologica Italiana Di Atene.

Wirghová, Soňa. 2022. "Turning Points In The Ceramic Sequence Of The Northern Tip Of The Lower Citadel At Tiryns." In *Synchronizing the Destructions of the Mycenaean Palaces* edited by Reinhard Jung and Eleftheria Kardamaki. Vienna. Austrian Academy Of Sciences.

Appendix B - Minoan Scripts and Mycenaean Greek - *2026

In a strange twist of fate the conflagrations that signaled the death knell to the Late Bronze Age palatial era in the Aegean also preserved for posterity the sole written records of its existence——although, see also *Mycenaean III*, the Ahhiyawa Texts. Early Aegean writing, albeit limited in application, differentiates the Minoan and Mycenaean cultures from their own preliterate pasts and, to a degree, from the realm of ancient prehistory. It is generally agreed that writing developed independently in Mesopotamia, Egypt, China, and Mesoamerica. While the cuneiform script at Uruk and early tags and inscribed jars from Abydos are associated with administrative tasks and increasing social complexity, Chinese divination texts and most likely early Mayan glyphs as well are closely aligned to religious and cultural spheres (Woods 2010, 17-18). The three major Aegean scripts: Cretan Hieroglyphic (CH), Linear A, and Linear B, primarily answer an administrative need although CH signs were also used as decorative elements and some Linear A documents relate to ritual or votive practices. Each of the Aegean writing systems is a logo-syllabary——a script combining signs (phonograms) representing a single vowel or a consonant followed by a vowel as well as signs (ideograms) for words denoting objects such as commodities (eg. tripods and grain), and numeric signs (Olivier 1986, 378-379).

The earliest evidence for writing on Crete, the “Arkanes” script  dates to EM III - MM IB (ca. 2200 -1800 BCE). By MM IIA-IIB, CH and Linear A are attested from Crete——both sharing some characteristics with the Arkanes script. Initially (ca.1800 BCE), Linear A was used in the south at Phaistos and Haghia Triada and CH in the north and east at Knossos, Malia, and Petras (Schoep 1999, 265-266). During MM IIIA (1700-1600 BCE) Linear A replaced CH and was adopted throughout Crete and on several Cycladic islands. Linear A was in use through LM IB period and was succeeded by Linear B in the latter part of LM II (Younger 1996-1997, 379 - 381; Tomas 2010, 341).[1] In his 1909 publication *Scripta Minoa I*, Arthur Evans described the discovery of these scripts at Knossos and provided the first comprehensive description and analysis of CH. Evans's efforts are foundational to the *Corpus Hieroglyphicarum Inscriptionum Cretae* (*CHIC*)——the major reference for the Hieroglyphic script (Olivier and Godart 1996).



White Cornelian Seals
Eastern Crete
Evans 1894, p. 291 Fig. 23

Seal stones are one of three classes of Hieroglyphic documents described in *CHIC* and the one that played an important role in Evans's initial interest in Aegean archaeology. Having followed the news of Schliemann’s successes at Mycenae, Evans made several trips to Greece in the early 1880s that reinforced his growing conviction that given the apparent sophistication of the new found Mycenaean civilization it was certain to have had some form of writing. Seal stones, for sale on the Athenian antiques market and worn as amulets by Cretan women, soon caught Evans's attention. See *Introduction*. Trips to Crete in 1893 and 1894 not only produced a variety of ancient seals but confirmed Evans's opinion that the evidence he had gathered, “conclusively demonstrate that as a matter of fact an

1. The nearly unique Phaistos Disk (approx. 6” diam.) comprises 45 signs stamped into clay in a spiral pattern clockwise from the outer rim to the center. The Phaistos Disk is though to share some characteristics with Linear A (Palaima 2017; Davis 2018; Salgarella 2020). Only the Arkalochori Axe has similar signs. Linear A likely gave rise to Cypro-Minoan (ca. 1600 - 1050 BCE) that was in turn followed by Cypro-Syllabic (11th - 3rd centuries BCE).

elaborate system of writing did exist within the limits of the Mycenaean world,"[2] and furthermore that two distinct, "phases of this art are traceable"——one pictographic, the other linear (1894, 274). Evans was well aware that many of the ancient seals he had collected predated CH script and *Scripta Minoa I, Part II* describes and illustrates how Evans envisioned Hieroglyphic seals evolved from these "primitive" pictographic seals——both Egyptian and Cretan (1909, 111-134). Although Evans's characterization of the older seals as, "the direct progenitors of the hieroglyphic characters" reflects, in part an unwarranted evolutionary bias, his work illuminated the chronological sequence of Minoan seals (Schoep 2018, 7). Olga Krzyszkowska's recent studies provide details of EM IIA stone, bone, and ivory seals. The earliest Minoan examples come largely from communal tombs in use for centuries and thus attempts to closely date the seals is problematic (2005, 57-68). Mainland seal stones from the LBA are mostly, if not exclusively, of Minoan origin and include examples recovered from the mainland shaft graves as well as heirloom seals used at several of the later palace centers (Younger 2010, 329). The initial use of seals on the mainland, dating to the EH II period, are indirectly attested from a cache of fragmented sealings with geometric-shaped impressions recovered from Room XI at at Lerna's House of Tiles. *See EH I - LH I Mainland*. Similar sealings have been found at additional mainland sites (Wiencke 2010, 663-664). Following the EH II mainland destructions seal use was abandoned until their reappearance in the shaft grave era (Younger 2010, 329).



Hippopotamus Ivory Prepalatial Seal
Ayia Triada Tomb
Krzyszkowska 2005, p.65 Fig. 107 a,b



Amethyst Seal Stone MM III - LM I
Grave Circle B: Grave Γ
Natl. Arch. Museum Athens



Clay Sealing Reconstruction EH II
Lerna IV House of Tiles - Room XI
Krzyszkowska 2017, p.43 Fig. 64

The artistic merit of some Minoan seals and their representation on the Cup Bearer fresco at Knossos attest to seals being worn as jewelry or amulets. Perhaps more commonly they served to stamp and mark personal property. Krzyszkowska points out that by MM II both pictorial and inscribed seals, "exist side-by-side in the Quartier Mu and the Atelier," at Malia (ibid., 93). The Cretan prism seal shown below includes both decorative marks and hieroglyphic content.

arrow #049; trowel #044



Face a X044-049



Face c



Face d

trowel #044; eye #005

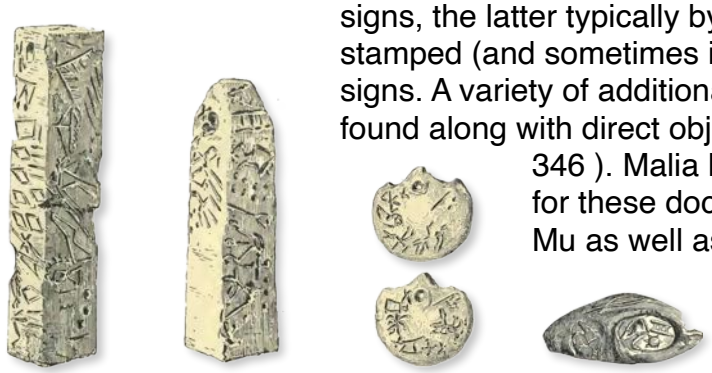


Face b X044-005

Cretan Hieroglyphic Seal (provenance unknown)
Four-sided Prism, Green Jasper 1.1 x .5 cm. - CHIC #299; CMS VII No. 40
Seal:Faces a, b enlarged © Trustess of the British Museum
Seal:Faces c, d Krzyszkowska 2005, p. 97 Figs.162 c, d

2. Early in his excavations of Knossos Evans used the description "Mycenaean" to refer to the ancient culture he had unearthed. By 1912, however, he had coined and popularized the term "Minoan."

Seals with CH signs were fairly widespread in the northern and eastern regions of Crete although the clay documents have been found only at Knossos, Malia, and Petras. CH documents are of two kinds: nonsealed and sealed. The former are attested by a variety of two- and four-sided bars and medallions (rarely tablets) incised with hieroglyphic signs, the latter typically by crescent-shaped nodules stamped (and sometimes inscribed as well) with hieroglyphic signs. A variety of additional sealed documents have been found along with direct object sealings (Tomas 2010, 345 - 346). Malia has been a particularly rich source for these documents especially from Quartier Mu as well as from the main palace building. Krzyszkowska describes a group found beneath a neo-palatial floor as "a curious mixture of Hieroglyphic tablets, bars and medallions, Linear A tablets, and a few sealings (2005, 109-111). Although *CHIC* classifies CH documents by shape, Younger's suggestion of using function as the classifying principle seems easier to understand and apply. Thus documents that accompany commodities——impressed and/or inscribed clay objects including medallions, crescents, and other nodules, are distinguished from documents that list commodities——such as bars and tablets (1996 -1997, 385).



Cretan Hieroglyphic Documents
Inscribed Bars & Medallions - Stamped & Inscribed Crescent
Evans 1909, *Scripta Minoa* Volume I, p. 20 Fig. 10; p. 161 P. 63a

Enough is known about the meaning of CH signs (based on the decipherment of Linear B and educated guesses for Linear A) to say the inscriptions often record the kind of commercial information that is common in both linear scripts. Basic accounting terms such as "items received" and "items delivered" along with numerical tallies are common. For example Younger's interpretation of a MM IIB clay tablet from Malia, a document he suggests is in "ledger" format, likely records an assessment of olives on one side and measures of wool cloth on the other (2005, 405-409). The following is a partial sign reading of Younger's interpretation of CHIC #089 - sides a & b:



Along with the Arkhanes Script, the CH corpus stands at the beginning of Aegean literacy——a tradition that spans nearly a millennium (1900-1200 BCE). The limited number of signs of the Arkhanes Script and the limited corpus of CH are problematic. Although much about the Minoan's earliest script remains cryptic and may ultimately prove to be undecipherable each of these objects "spoke" for their creators, perhaps to safeguard a jug of wine or to confirm the payment of a debt.



Green Jasper Hieroglyphic Seal
Cretan MM I - MM III
Arch. Mus. of Heraklion

Linear A, initially used in south-central Crete (MM IIB - Phaistos, Hagia Triada), had replaced CH by the beginning of MM IIIA and remained in use across Crete through the LM IB period. Linear A documents are also attested on Thera, Melos, and Kea during the Minoan palatial period. The elongated tablets attested from the early period were ultimately supplanted by page-shaped tablets as the primary unsealed material support. In general, Linear A tablets present a more regularized arrangement of signs (as compared to CH)——inscribed, for the most part, from left to right and top to bottom. While the underlying language of Linear A remains unknown Younger and others suggest that Linear B likely retains a significant percentage of Linear A signs and thus remnants of the Minoan language (2000, #7). Linear A functioned primarily as an administrative tool but it was also used for inscriptions on cult objects as well as on items of personal adornment (ibid.).



Linear A Tablet
Page-shaped
Arkanes Archive



Linear A Inscription
Gold Signet Ring
Mavrospilio Cemetery Knossos

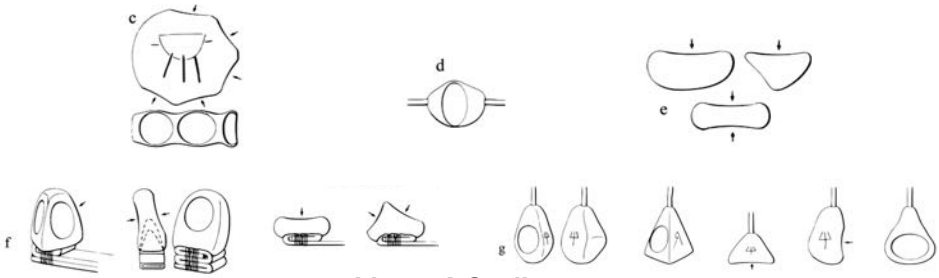


Linear A Tablet
Rod-shaped
Malia
Heraklion Archaeology Museum



Linear A Tablet
Page-shaped
Knossos Archive

A wide variety of Linear A inscribed sealings are known. Younger divides these into two groups: roundels and sealings. It is thought that roundels (c) are records of commodity transfers while the various other types of sealings serve different administrative functions (Hallager 1996; Schoep 2002). Sealing types include two-hole nodules (d), nodules (e), flat-based nodules (f), and one-hole nodules (g) (Hallager 1996, 35-37). Most abundant are one-hole hanging nodules grouped in five sub-types designated by shape as: pendant, pyramid, cone, dome, and pear (Tomas, 2010, 347).

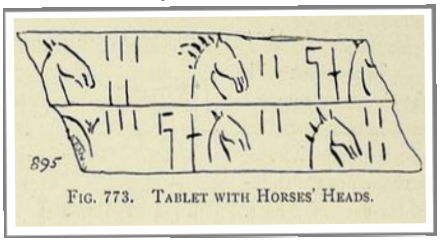


Linear A Sealings
c) roundel; d) two-hole hanging nodule e) noduli
f) flat-based nodules g) one-hole hanging nodules
arrows indicate seal impression (Hallager 1996: 23)

Research by Ester Salgarella and colleagues at Cambridge University explores what they believe to be the close relationship between LA and LB (2020). SigLA——an online interactive paleographical database developed by Salgarella and Simon Castellan is a unique tool for both study and research. See also Deciphering Writing Systems.

For Evans and other Aegean scholars the decipherment of Linear B became the perennial unrealized holy grail of Bronze Age studies. Ironically it was Evans's own insistence that the underlying language could not be Greek as well as his proprietary claim on the Knossos tablets themselves that held back the decipherment. Although Evans had unearthed the first batch of Linear B tablets in 1900 during his initial excavations at Knossos, a half century would elapse before Michael Ventris's 1952 announcement that Linear B was in fact used to write an early form of Greek. Ventris is deservedly credited with the decipherment of Linear B but E.L. Bennett Jr. also played an important role. Alice E. Kober also deserves particular mention as the scholar who had done much of the painstaking analysis that ultimately opened the door for Ventris. The decipherment itself was something of a latter day Greek tragedy with Evans's death in 1941——a decade before the decipherment, Kober's premature death in 1950——unaware of the recognition she would ultimately receive, and finally Ventris's tragic death in 1955——the result of a car crash, just three years after his much heralded decipherment (Fox 2013).[3]

As detailed above Evans had gone to Crete in search of an ancient script he was certain existed——and his convictions were confirmed almost immediately——in part, when his workers unearthed a terra cotta bathtub full of tablets with the linear script (1899/1900,18). In hindsight Evans's preconceptions were a double-edged sword. Without hesitation he described the script as having letters with a "European" aspect, "far more advanced in type than the cuneiform characters," and that, "They are equally ahead of Egyptian hieroglyphs" (ibid., 57). However, to focus solely on Evans's Eurocentric prejudices would be to miss his accomplishments. Evans was able to work out the number system fairly quickly and with additional analysis confirmed Linear B was a syllabary with additional ideographic signs. Palaima refers to Kober's praise for Evans's transcriptions as, "almost always absolutely accurate" as well as to Evans's keen sensitivity to palaeographic details (2011, 46). However, a number of factors both personal and professional limited the time Evans was able to devote to understanding Linear B. And when he did work on the script his assumptions often led him astray. Evans interpreted certain ideograms as determinatives——markers for specific semantic categories. For example, the sign 𐃏 appeared to Evans be a throne with scepter——functioning to indicate royalty such that in context with the chariot sign would mean the king's chariot. At other times Evans failed to follow up hunches that seemed promising. Having noticed the graphic similarities of the Cypriot syllabary (a later script with a number of known sound values) and a number of Linear B signs Evans tentatively applied Cypriot sound-values to Linear B. On this assumption the repeated sign 𐄁 on the "Horses' Heads" tablet produced "po-lo"——a close match for the Greek πόλος or foal, for horses without manes. Unfortunately Evans assumed it was simply a coincidence and in any case he was is search of an indigenous Minoan language, not Greek (Fox 2013, 80-83).



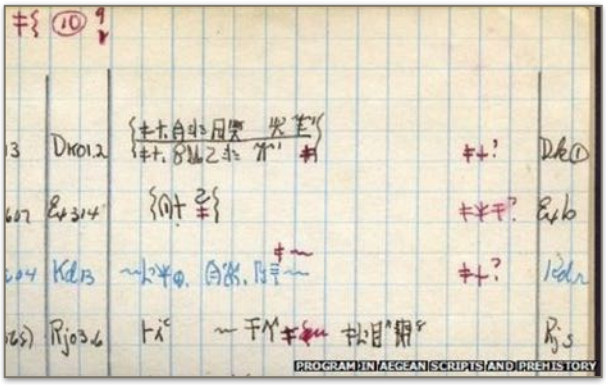
Palace of Minos
Evans 1935, Vol. 4, 2 p. 799

3. *The Riddle of the Labyrinth - The Quest To Crack An Ancient Code* by Margalit Fox is interesting both for its biographical material as well as its treatment of the extraordinary challenges facing those engaged in the decipherment the Linear B——an unknown script recording an unknown language.

An unknown language in an unknown script. This was the stark truth about Linear B that many of those trying to decipher the script were not willing to face; Alice Kober was among the exceptions. Fox's account of the decipherment points out how the temptation to assign sound values, based on little more than a hunch, seduced more than one scholar (2013, 120). This in turn often led to circular reasoning and the kind of self-fulfilling prophecies that Kober was not bashful about criticizing——"Forty years of attempts to decipher Minoan by guessing at one or the other [the language or the script], or both, have proved that such a procedure is useless" (1948, 102). The alternative was to accept, in Kober's own words, a world of "form without meaning." Yet as Fox keenly observes, "Of all the would-be decipherers, she [Kober] was the one most willing to dwell there for as long as it took" (2013, 120). Kober was convinced that only a rigorously analytic approach would solve the riddle of Linear B and her dogged persistence, lack of preconceptions, and unwillingness to look for shortcuts, would ultimately produce important keys to deciphering Linear B. Kober's methodological game plan was based on a comprehensive frequency analysis of Minoan signs and a necessary prerequisite for this work was to establish a signary or standard repertory of Linear B signs. However, her progress, and that of many other scholars interested in the Minoan scripts, was hampered by Evans's reluctance to share the majority of the documents he had uncovered at Knossos. Even following the 1935 publication of *The Palace of Minos Vol. 4* (*PM IV*) the available corpus of Linear B was still limited to 200 inscriptions. When he died in 1941 over two thousand inscriptions remained unpublished. Undaunted, Kober used the limited Knossos material that had been published to compile a sign list and then to investigate the internal relationships of the signs on the available tablets. Different languages affect the syntax of the script used to record them in different ways; thus, how a given script is modified can lead to generalizations about the underlying language. However, a thorough analysis, especially of a syllabary, is a gargantuan task. By the time Kober had completed her initial analysis of Linear B she had handwritten and compiled an index card database of 180,000 items (Fox 2013, 104-106).

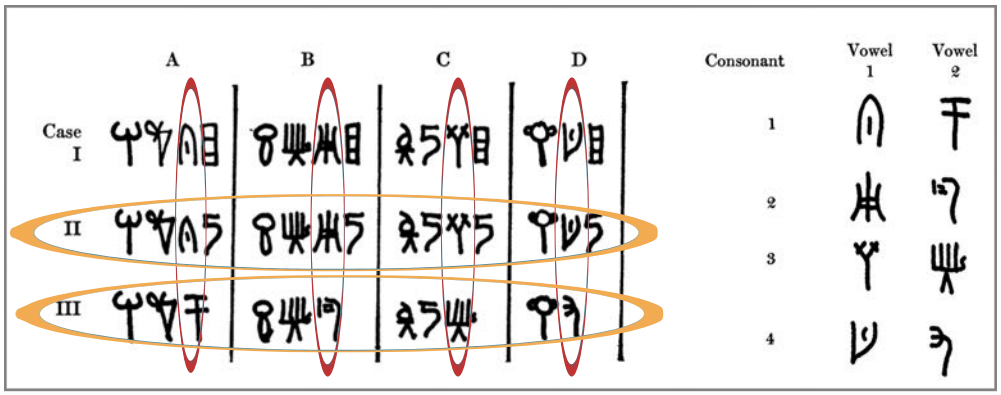


Alice Kober

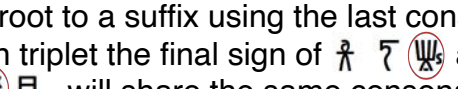


Kober Linear B Analysis Index Card
Program in Aegean Scripts and Prehistory
Univ. of Texas at Austin

Three articles published by Kober in the 1940s relate both her methods and results (1945, 1946, 1948). Initially she was able to show that the Linear B syllabary recorded an inflected language (1945). In fact, Evans had suspected this was the case and published several examples in his *PM IV* relating to signs denoting gender (1935b, 714 - 715). Kober's 1945 paper, however, not only identified many more instances of inflection but also defined specific conditions and patterns, that when present, indicated a high probability of inflection (Pope 2008, 3-4).



"Kober's Triplets and Phonetic Patterns"
Detail from Noun Paradigm and CV Pattern
Kober 1948, Figs. 9, 10

Perhaps most importantly she demonstrated how the inflected word groups and a simple grid system could be used to tease patterns from the Linear B syllabary despite unknown sound values. Columns A - D above give three cases for four nouns or what came to be known as "Kober's Triplets" (Pope 2008, 10). The third sign in each noun links the root to a suffix using the last consonant of the root and the vowel of the suffix. In a given triplet the final sign of  and the penultimate sign of and will share the same consonant while the penultimate signs of similarly inflected word groups will share the same vowel. Although Kober used hypothetical examples from alphabetic scripts to demonstrate these patterns she was unwilling to speculate beyond what she could demonstrate——and sound values for Linear B signs were unknown (1948, 96-99). Significantly, underlying the grid based on her pattern analysis was a structure that, given a small number of known phonetic values, had the potential to suggest additional values while at the same time testing any previously assigned (hypothetical) values.

In March of 1947 Kober was finally able to gain access to the unpublished Knossos tablets. Having agreed to assist Sir John Myres with the work of preparing the posthumous publication of Evans's *Scripta Minoa II*, Kober spent a month at Oxford transcribing the still sequestered tablets. This in turn led to Kober's part in compiling a basic sign list for Linear B, work done in cooperation with Emmett L. Bennett, Jr.——a scholar who would also play a leading role in the foundational studies of Linear B. Bennett had been working on his own with the tablets Blegen had uncovered at Pylos and late in 1948 he and Kober negotiated an agreement to share access to the two largest collections of Linear B tablets (Fox 2013, 179-181).* This partnership bore fruit that continues to inform Linear B studies. Ultimately Kober's work with Myres became a burden and meant she had little time for her own work. Thomas Palaima, a prominent Linear B scholar is also the founder of the *Program in Aegean Scripts and Prehistory* whose Archive preserves much of Kober's Linear B scholarship. Palaima characterized the final years of Kober's research as follows——"Even though she was terminally ill, Kober had her priorities straight. She abandoned work on decipherment per se in order to establish firm foundations for future paleographical and related work with Aegean scripts" (PASP, University of Texas; 2011, 45).

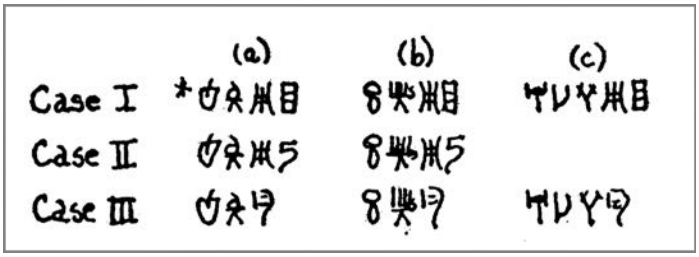
*Bennett, Emmett L et al. 2025. *The Palace of Nestor at Pylos in Western Messenia: Vol. IV: The Inscribed Documents*. Vol. IV, the final volume, was published as the present project was nearing completion.

In hindsight the 1936 chance meeting of the octogenarian Sir Arthur Evans and Michael Ventris, still in his teens, frames the 20th century saga of Linear B. The gifted child, obsessed with ancient writing, would ultimately shine the brightest of light on the discoveries of the father of Minoan studies. Although Ventris trained as an architect, he had less interest in his profession than in his passion (Fox 2013, 203-204). Nonetheless, Ventris's lifelong passion for Linear B was an on-again off-again affair. Episodes of apparent disinterest and/or self doubt periodically erupted into feverish moments characterized both by bizarre notions and brilliant insights. A year after his initial meeting with Evens the fifteen-year-old wrote to explain his theory that Sumerian was the language of the Minoans. Three years later Evans received a second letter from Ventris——this time a twenty-three page exposition of Etruscan as the underlying language of Linear B——a conviction he would doggedly embrace, even in the days just prior to the decipherment (ibid., 211-214). In 1948 his passion for Minoan and extraordinary linguistic abilities led Myres to invite Ventris to join the *Scripta Minoa II* project. But in a pattern that would repeat itself, Ventris abruptly abandoned the team after several days work. Despite this, Myres had seen something of promise in Michael Ventris——and wrote with prescience to Leonard Cottrell that, “The man who may decipher Linear B is a young architect named Ventris” (ibid., 217-220). Ventris did not disappoint. In the eighteen months from the beginning of 1951 through the middle of 1952 he deciphered Linear B. Ventris had met Bennett (and perhaps Kober) through Myres and the Pylos material that Bennett was researching seemed to rekindle Ventris's interest in Linear B. He soon began a series of analyses he called “Work Notes.” Work Note 1, an attempt to expand Kober’s grid, was a failure due largely to Ventris's miscopying and his continuing Etruscan’ assumptions. Bennett’s publication of *The Pylos Tablets,* however, changed the game by providing the first thorough Linear B signary as well as many more inscriptions (Bennett 1951; Fox 2013, 224-225).

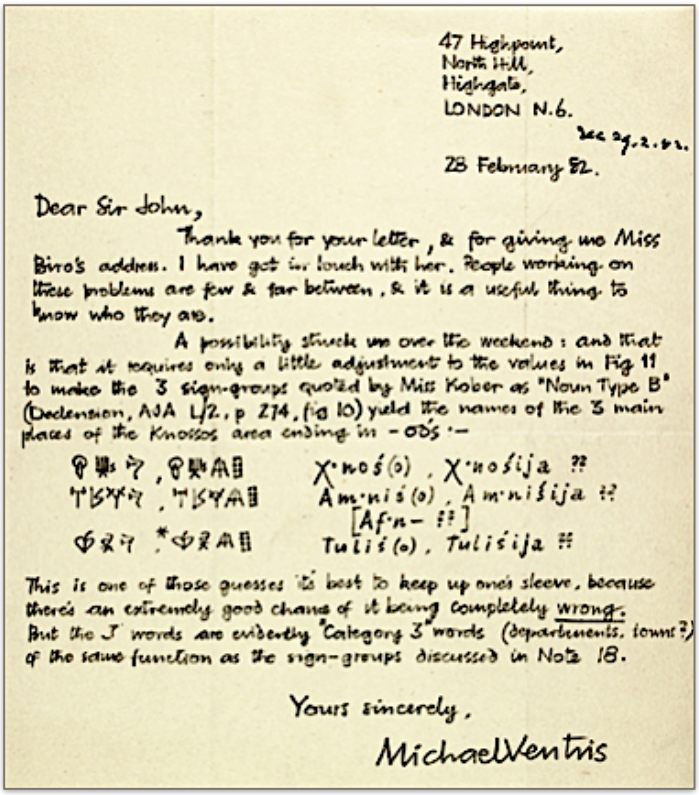
Bennett’s work led Ventris to his first major breakthrough. In analyzing the inscriptions he noted that five signs occurred with greater frequency at the beginning of words. As described above Linear B is a CV syllabary and begins most signs with a consonant——a convention that clearly creates problems for words beginning with a vowel. Ventris guessed that the signs he had identified might be pure vowel sounds. Having overcome his initial negative response to Kober’s 1948 publication demonstrating inflection as mapped on a grid, Ventris took up the model and crafted it to his own purposes. While Kober’s basic grid displayed only those relationships supported by her analysis, Ventris assumed her hypothesis was correct and expanded the grid while also applying a number of sound values——often incorrectly. Following Kober’s methodology for identifying patterns of inflection Ventris also began harvesting examples he found in the newly published Pylos tablets.[4] Back in London after a trip to Greece Ventris made a second important breakthrough——again based on a hunch. His new idea, so typical of his genius, seems to validate his seemingly impulsive approach fueled by insightful notions (ibid., 228 - 231).



4. Shortly before his tragic death Ventris acknowledged his debt to Kober and in particular for her grid——a simple but ingenious approach that both acted as a check on assigning improper sound values while progressively multiplying the utility of syllabograms assigned correct phonetic values (Palaima 2017, 773-774). See p.10.



"Kober's Triplets"
Detail from Noun Type B
Kober 1946, Fig.10



47 Highpoint,
North Hill,
Highgate,
LONDON N.6.

28 February 52.

Dear Sir John,

Thank you for your letter, & for giving me Miss Biro's address. I have got in touch with her. People working on these problems are few & far between, & it is a useful thing to know who they are.

A possibility struck me over the weekend: and that is that it requires only a little adjustment to the values in Fig 11 to make the 3 sign-groups quoted by Miss Kober as "Noun Type B" (Declension, AJA L/2, p 274, fig 10) yield the names of the 3 main places of the Knossos area ending in -οδς:—

X·no ś(o), X·no śija ??
Am·ni ś(o), Am·ni śija ??
[Af·n- ??]
Tuli ś(o), Tuli śija ??

This is one of those guesses it's best to keep up one's sleeve, because there's an extremely good chance of it being completely wrong. But the J words are evidently Category 3 words (departments, towns?) of the same function as the sign-groups discussed in Note 18.

Yours sincerely,

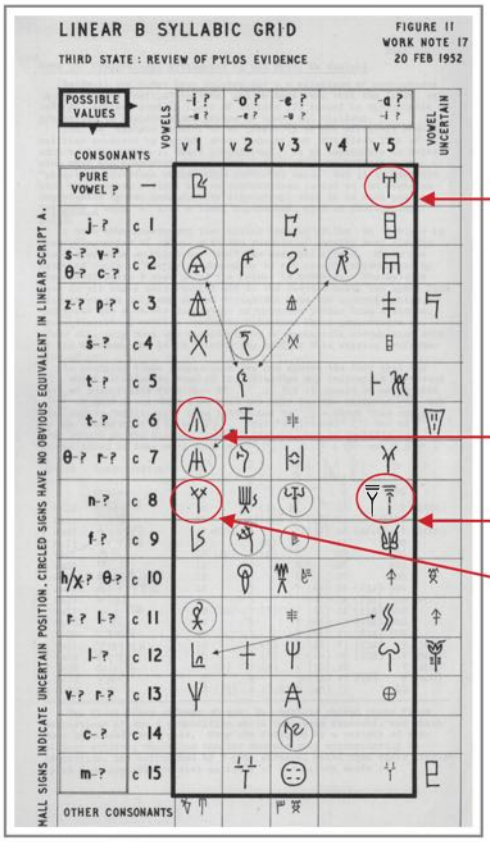
Michael Ventris

Ventris to Myres
28 February 1952 - Ashmolian Archive

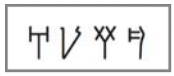
Linguists have long recognized that proper and place names can be keys to decipherment. These words often retain elements of their original pronunciation even when transcribed from another language. "Ramesses" played a part for Champollion just as "Darius" helped Rawlinson. As Ventris collected more and more triplets from the mainland he noticed that certain of Kober's triplet were only found in the Knossos tablets. Could these, Ventris wondered, refer to Cretan place names? Combining his vowel hunch with other values from his version of Kober's grid (see below) produced some Greek-like forms of Cretan place names. For example 𐀏 𐀀 𐀪 𐀍 yielded A*m* · *ni s*(*o*), the Greek being ʾΑμνισός for *Amnisos*. His letter to Myres (at left) describes his findings while also revealing Ventris's perennial ambivalence ("an extremely good chance of being completely wrong.") with regards to his own insights and abilities. Grasping defeat from the jaws of victory he retreated once again into his fruitless search for an Etruscan solution.

Ultimately it is difficult to appreciate Ventris's genius and his passion for the Linear B puzzle without accepting his erratic approach. At those very moments he is closest to success he qualifies his findings——for example, characterizing his own ideas as "frivolous digression" or even a "hallucination." Then, throwing caution to the wind, Ventris takes another tack that brings him even closer to his goal (Ventris 1988, 327). The publication of Evans's *Scripta Minoa II* in 1952 provided even more inscriptions for Ventris to ponder. At this point Ventris strengthened his arsenal with an additional tool——one requiring yet another leap of faith. The Cypriot script was known to all would-be decipherers of Linear B and nearly all, including Evans and Kober, had at one time or another tried to make use of the script to crack Linear B. With a number of signs similar to those in the Minoan signary——and most significantly with a number of confirmed sound values, the Cypriot script was hard to ignore. Also clear was that those who had previously looked to the script for clues had little to show for their efforts. The consensus opinion was that the Cypriot script, in use during the first millennium BCE, had too few points of correspondence with the much older Linear B. In hindsight,

however, the script did in fact offer some tantalizing clues. As detailed above, Evans had demonstrated the potential significance of Cypriot syllabograms in *PM IV*——and promptly ignored his findings based on his conviction that Linear B did not inscribe Greek (see p. 5 above; 1935B, 799 note 3). Ventris shared Evans's opinion but in this case the architect's idiosyncrasies served him well. Referencing Kober's triplet that tentatively suggested Amnisos for 𐀳𐀺𐀪𐀴 ,Ventris added two Cypriot sound values to his vowel hunch to advance his analysis. Whether or not Ventris was aware of the fact, he was fast approaching a solution——one that would fundamentally change our understanding of the beginnings of European history. Ventris had focused both his passion and his quirky genius on an intractable problem and conjured a solution——albeit one replete with hunches, assumptions, and clear miscalculations. Yet Ventris's analysis was anything but haphazard. His deep understanding of the problem led him to probe in just the right places and to exploit the potential of Kober's inflectional patterns. If his place names hunch about Kober's unique triplets was correct the sound values should populate the grid in a way that established with increasing probability the correctness of their individual phonetic values while also generating sound values for other signs.



Ventris Worknote 17
Linear B Syllabic Grid
20 February 1952



I 𐀳 **- assumed pure vowel *a***

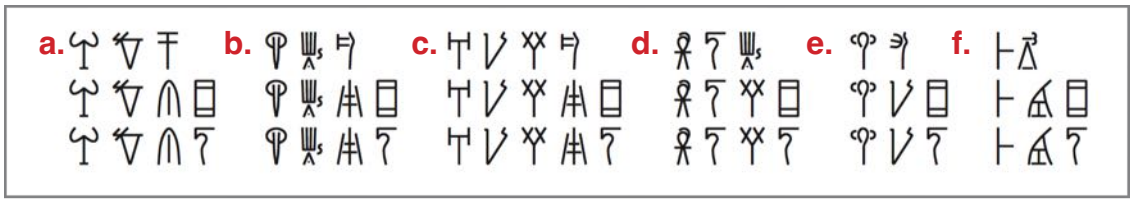
II 𐀵 **- equivalent of Cypriot *ti***

III 𐀹 𐀺 **- equivalent of Cypriot *na*** [5].

IV 𐀪 **- placed in the grid with a sound value of *ni***

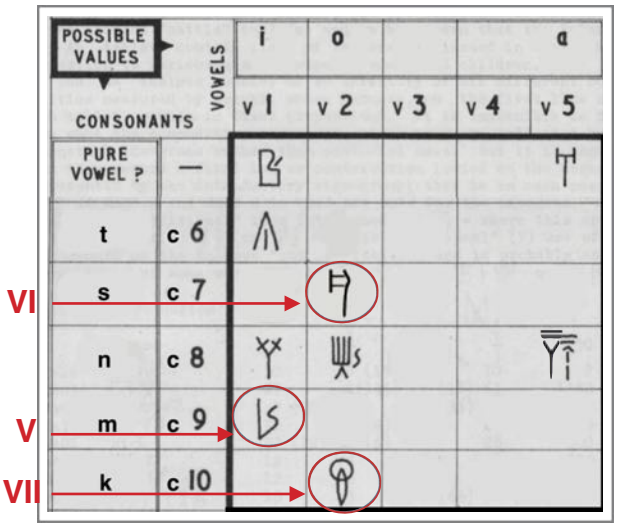
Ventris had already placed 𐀪 in the grid as well as 𐀸 with the values of **ni** and **no** respectively. The value **ni** was supported in part by Kober's triplets (a. and d. below) and was consistent with his assumption of Cypriot **na** value.

5. These two signs are alternate forms for a syllabogram with a sound value "na" and are use interchangeably.



Kober's Triplets
Composite Illustration
Kober 1946, 1948

On the assumption that 𐄁 is *a-mi-ni-so* (Amnisos) Ventris saw that both 𐄀 and 𐄂 were misplaced in his Work Note 17 grid (above) and repositioned them to have the sound values ***mi*** and ***so*** respectively (see grid below). Ventris then chose Kober's Knossos triplet (b. above) 𐄇 𐄈 𐄂. The sound values for the second and third syllabograms were already in the grid and following his hunch about Cretan place names, the initial sign of 𐄇 would yield the value *ko*——producing *ko-no-so*, a variation on Knossos. Ventris's inspired guess that led him to the crux of his decipherment pointed to an insight that had been passed over by Kober. Linear B does inflect some nouns for gender and case but it also uses derivational endings (Ventris's "alternate name endings" - such as in Brooklyn, Brooklynite, Brooklynese). Thus, the translation of the Knossos triplet (b. above) would be: *ko-no-so* - Knossos, *ko-no-si-ja* - women of Knossos, and *ko-no-si-jo* - men of Knossos. Fortunately such endings follow the same patterns Kober had described (Fox 2013, 264-266).



Detail - Revised Grid
after Figure 11 Work Note 17
Ventris February 1952

Ventris also knew there is a downside to solutions using place proper names. While transliterations based on his hypothesized sound values resulted in syllabic renderings of recognizable Greek place names, including *a-mi-ni-so* - Ἀμνισός and *ko-no-so* - Κνωσός, these may have been Greek forms for words whose origins were an earlier, perhaps even a non-Indo-European, indigenous language. And once again Ventris backed away from a Greek solution. What Ventris did not abandon was Kober's grid. And as Pope points out, despite incorrect values assigned to numerous signs at various stages of the decipherment, Ventris still succeeded in deciphering Linear B. This is largely due to Ventris adopting Kober's insights as reflected in the basic structure of the the grid itself (2008, 9-11). Even before decipherment there were a few Linear B words whose meanings were generally agreed on and the grid (with its assumed sound values) offered Ventris a way to check his progress.

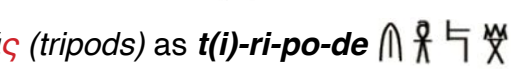
Many Linear B tablets were inventories of one kind or another. These inventories often have a standard form described by Myres as, “almost devoid of syntax, because the verbs expressing the transaction were presumed to be familiar, and only the persons, commodities, and quantities or values had to be stated on each occasion” (Evans 1952, 42). One of the earliest advances Evans made was to interpret and describe Linear B’s decimal based number system. He had also noted that tablets with lists of commodities with numeric subtotals often included numeric totals accompanied by either  or . In her final publication Kober had shown that these were gender specific adjectives used exclusively with masculine (eg. men, rams) or feminine (eg. women, ewes) categories respectively. Kober’s same insight also solved another lingering mystery, posed a quarter century earlier by Cowley, by clarifying that the syllabogram pair  and were “boy” and “girl” respectively (Kober 1949, 386-398; Cowley 1927, 5-7). As Ventris seeded the grid with sound values for these words it strengthened the case for earlier assumptions and began to exhibit the generative potential Kober had designed into her grid. Nearly each new sound value suggested additional ones. Ventris certainly must have experienced a growing excitement, albeit while doing battle with his perennial caution, as the grid’s rows and columns blossomed. What also became clear at this point was the necessity of delineating Linear B’s quirky spelling conventions. This task was an integral part of the decipherment and another of Ventris's important contributions. The transliterations of place names and gender pairs suggest a number of ways Linear B——as a syllabary—— is decidedly ill-suited to encoding the Greek language. Linear B words are formed with consecutive CV syllables while Greek words often have initial consonant clusters CC, ending consonants VC, and diphthongs VV. These examples present only a sample of the complex orthography that would be described by Ventris and his heirs.

1. consonant clusters are written in LB with CV signs whose vowel matches the vowel of the following syllable.
2. final consonants, such as the frequent final *s* (ς) in Greek words are usually dropped although retained in certain cases.
3. diphthong endings may or may not be dropped.

1. *Ἀμνισός (Amniso)* as ***a-mi-ni-so*** 

1., **2**. *Κνωσός (Knossos)* as ***ko-no-so*** 

2. πώλος (*foal*) as ***po-lo*** 

1., **2**. *τρίποδᾰς (tripods)* as ***t(i)-ri-po-de*** 

2. *ϝάναξ* (*wanax, king*) *as* ***wa-na-ka*** 

3. *τὸσοι, τὸσαι* (*total, so many*) as ***to-so, to-sa***

In the immediate aftermath of the decipherment the focus was on Michael Ventris and his extraordinary accomplishment. Although Ventris's decision to study architecture meant a professional life apart from the academic pursuits of contemporary Oxbridge Classicists (and their counterparts on the continent and in North America), his Linear B interests necessarily brought him in contact with the relatively small group of academics that shared this interest. In fact, in 1949 Ventris acted to coordinate efforts to decipher Linear B through a series of Work Notes (Ventris 1988). At the time of the decipherment Ventris was also cooperating with Emmett L. Bennett, Jr. A letter from Ventris to Bennett dated 18 June 1952, now in the PASP archives at the University of Texas at Austin, preserves perhaps the earliest record of Ventris's success. In his characteristic, matter of fact and reserved manner, Ventris writes, “You must judge for yourself, but I think I have deciphered Linear B, & that Knossos and Pylos are both in Greek” (Ventris 1952). Six weeks later Ventris made a short announcement on BBC radio——in part explaining that the archaic Greek of the Linear B tablets, “is 500 years older than Homer” (Ventris 1988, 363-367). The reception of Ventris's accomplishment——touted by some as comparable to Tenzing and Hillary’s ascent of Everest, brought Ventris widespread notoriety if not fame (Pope 1975, 9). See *Mycenaean Greece I*. While the real import of the decipherment may have been lost on much of the general public——not so the scholarly community. Clearly, the fact that Linear B inscribed Greek left a majority of “experts” (including Ventris) in a somewhat uncomfortable position. Even a decade after his death Arthur Evans's opinion was a weighty matter. But of paramount importance was the unavoidable conclusion that Linear B was Mycenaean Greek.[6] The shockwaves from this revelation spread much further than the handful of scholars interested in the decipherment. The decipherment not only illuminated prehistoric Aegean studies it also altered the foundations of Classical studies——pushing back the beginnings of European civilization by a millennium. Although not universal, pronouncements of doubt about the accuracy of Ventris's decipherment were soon expressed from many quarters.

Ventris’s self-doubt was also an issue. However, his collaboration with John Chadwick——a classics professor at Cambridge University and early convert to the decipherment, buttressed Ventris's accomplishment in the academic community while also allaying, at least to a degree, Ventris's concerns. In fact, scholars had good reason to be cautious. The riddle of Linear B had attracted numerous amateurs and not a few scholars during the first half of the 20th century. Chadwick’s, *The Decipherment of Linear B* documents a number of attempts to solve the Linear B puzzle——ranging from the serious to the surreal ([1958] 1967, 26-39). Two examples from the fringe should suffice. F. G. Gordon, in his *Through Basque to Minoan*, adopts a straightforward approach to decipherment. In a given Linear B text Gordon identifies each sign according to the object it best represents——in his humble opinion. The object’s name in Basque is then applied. Thus the three signs  are translated into the Basque as *achal* (hide)*, alaqi* (a flesh hook), and *eduqi* (a pillar) respectively. Even the most forgiving of critics would judge Gordon’s reading of the text bizarre——‘an elegiac poem relating the demise of tipsy fly at the bottom of a wine glass’ (Gordon 1931, 5-14).

6. Blegen’s find of Linear B tablets on the mainland at Pylos in 1939 had caused some retrenchment earlier. Led by Allan Wace, who long before had opposed Evans's “all Minoan all the time” perspective, many scholars took the Pylos tablets as potent evidence for the significance of mainland culture. Nevertheless, others rationalized the tablets as Mycenaean loot brought home from raids against their Cretan overlords.

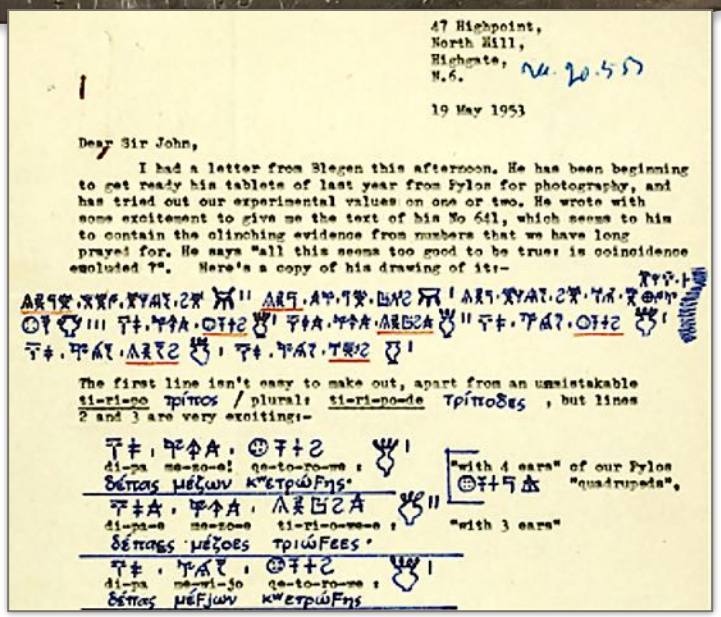
V. Georgiev seemed to be on the right track with his pronouncement that Linear B was an archaic form of Greek. However, using Knossos tablet (Fp7) he transcribed one phrase *θetáaranà make* and gave the translation——'to the great grandmother-eagle.' Chadwick, however, suggests an alternate reading as *ka-ra-e-ri-jo me-no* 'in the month of Karaerios' ([1958] 1967, 31). Legitimate doubts were also raised and a half century after the decipherment there remain a few serious scholars that are not convinced.

However, as Chadwick remarked, "Even before the theory could be published, Professor Blegen had put into our hands a decisive confirmation, a weapon so powerful that the failure of the opposition was certain before it had begun" (ibid., 80). Blegen had found an additional group of tablets at Pylos including one now called the Tripod Tablet (Ta 641). Each of the tablet's Linear B inscriptions ends with an ideogram representing the word for a specific type of tripod. The initial grouping translates to "two tripod cauldron(s) of Cretan workmanship." The substitution of Ventris's sound values to this and each of the subsequent entries provides strong evidence for the correctness of the decipherment.

t(i)-ri-po-de ***ai-ke-u*** ***ke-re-si-jo*** ***we-ke***



Pylos Ta 641
Tripod Tablet
Natl. Arch. Mus. Athens



47 Highpoint,
North Hill,
Highgate,
N.6.

19 May 1953

Dear Sir John,

I had a letter from Blegen this afternoon. He has been beginning to get ready his tablets of last year from Pylos for photography, and has tried out our experimental values on one or two. He wrote with some excitement to give me the text of his No 641, which seems to him to contain the clinching evidence from numbers that we have long prayed for. He says "all this seems too good to be true: is coincidence excluded ?". Here's a copy of his drawing of it:-

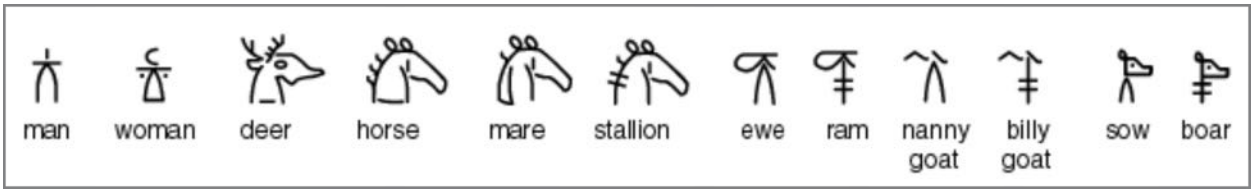
The first line isn't easy to make out, apart from an unmistakable ti-ri-po τρίπος / plural: ti-ri-po-de Τρίποδες , but lines 2 and 3 are very exciting:-

di-pa me-zo-e! qe-to-ro-we : δέπας μέζων κʷετρώFης· "with 4 ears" of our Pylos "quadrupeds".

di-pa-e me-zo-e ti-ri-o-we-e : δέπαες μέζοες τριώFεες· "with 3 ears"

di-pa me-wi-jo qe-to-ro-we : δέπας μέFjων κʷετρώFης

"coincidence excluded" . . . Ventris to Myres 15 May 1953
Ashmolian Archive



Linear B Ideograms

The lengthy period (in excess of five decades) between the time Evans excavated the first tablets and the decipherment of Linear B is, at times, attributed to the cryptic nature of an unknown language written in an unknown script. Yet, in hindsight, the delay seems also to have been the result of the lack of access to the available tablets. The decipherment was solved in a matter of years, not decades, once Kober, Bennett, Jr., and Ventris had access to the Knossos and Pylos material. In fact the decipherment marked just the beginning of an intensive period of Linear B scholarship that continues today. The Linear B script that resulted when Minoan scribes adapted Linear A to record an archaic form of Greek was less than ideal. Presumably this worked for the task at hand but it also bequeathed to future scholars some difficult issues with regards to interpretation and meaning. A number of syllabic and ideographic signs are poorly represented in the corpus and thus their phonetic and/or semantic values remain uncertain or unknown. Anna Judson points out that, “more than sixty years after Ventris's decipherment, 14 of the 87 LB syllabic signs – that is, around one-sixth of the syllabary – still have no sound-value assigned to them” (2016, 1).

However, during the same period, Mycenologists have made a number of significant contributions to Aegean studies that would have not been possible without their efforts, a series of innovative approaches, and the corpus of Linear B documents themselves. The standard reference——*A Companion to Linear B* (Vol.1), includes the following chapter entries: *Mycenaean history*, -*society*, -*economy*, and -*technology* (Duhoux and Davies eds. 2008). And indeed, despite the circumscribed function of the script, Linear B scholarship has revealed previously unknown aspects of Mycenaean culture as well as illuminating a good deal in the archaeological record. An especially productive line of enquiry relates to palaeography. Thomas Palaima, referring to the inherent difficulties of understanding Linear B texts, explains, “their correct interpretation has been facilitated (or even made possible) by the discovery that we can attribute them to specific scribes and consequently group them in ways which otherwise would not have been justifiable or even imaginable” (2011, 35). Essential aspects of Mycenaean culture, including the role of palatial officials in ritual sacrifice and feasting, have been informed by palaeography (eg. Palaima 2004; 2008). Linear B analysis is also central to Nakassis’ reinterpretation of the relationships and roles of individual Mycenaeans within their society. Nakassis’ successful identification of individuals recorded on multiple tablets broadens our perspective from one based solely on hierarchical titles and roles to a more nuanced understanding of individuals acting at different times and in different roles (2013). Linear B studies have become an important and fruitful discipline while significant new finds, such as a group of sealings from Thebes, indicate the prospects are excellent that unknown Linear B documents will be uncovered in the future (Killen 1994, 71).

One of the idiosyncrasies of the Linear B tablets is that they were preserved accidentally——baked by the fires of various destruction events. The tablets were never intended to function as archival records but rather to serve as temporary administrative accounts for the current year. Evans believed the tablets he uncovered at Knossos dated to the late 15th century BCE——his dating for the final destruction of the palace (Driessen 2008, 70). In the 1960s the philologist Leonard Palmer suggested this was incorrect, pointing to the similarities of spellings, dialects, and scribal conventions between the Knossos and Pylos tablets. As the Pylian destruction occurred much later (ca. 1200 BCE) than Evans's date it was likely the Knossos tablets dated to the late 13th century BCE. J. Boardman and J. Chadwick countered Palmer on both archeological and philological grounds but additional evidence has supported the later date. Stirrup-jars produced in Khania, Crete with Linear B inscriptions firmly dated to the 13th century have been found at a number of mainland sites. In addition, scribal handwriting analysis points to a scribe trained in the same paleographic tradition at both Knossos and Khania. It is now thought that the Knossos tablets were preserved in a destruction later than Evens had thought——and that Linear B tablets are most securely dated and commonly attested in LH/LM IIIB (ibid., 71).

Although it is not known exactly when or where the Linear B script was first used Driessen points to the thirteenth century BCE as, “represent(ing) the apogee of Linear B use,” with finds from the Room of the Chariot Tablets at Knossos, “perhaps to be dated to the very beginning of the 14th century BC,”——therefore over a period of two centuries (ibid., 75-76). Assuming the early shaft graves provide the best evidence for the emergence of Mycenaean society (ca. 1600 BCE) and the destructions of the palace centers marks an end to mainland Mycenaean culture (ca. 1200 BCE), Linear B tablets potentially inform much of the floruit of mainland culture. The table below gives Driessen’s summary of the dates and locations for Linear B documents (ibid., 76).[7] For a comprehensive overview of Linear B scholarship including details of the decipherment see Palaima 2011 and 2017.

Table 3.2: Suggested relative chronology for Linear B documents

	LM IIIA1	LM IIIA-2early	LM IIIA2-late	LH IIIB1-late	LH IIIB/C transition
KN	RCT?	NEP?	rest?	?	
KH			2 ISJ’s	Tablets & ISJ	
Crete				MA ISJ; ARM ISJ	
PY			fragments?		archives
MI					sealings, ISJ
TI					House VI
TH				Kadmeion, Armoury, Treasury	‘Archives’, Pelopidou
MY			Petsas	houses	citadel

(ARM: Armenoi; ISJ: inscribed stirrup jars; KH: Chania; KN: Knossos; MA: Malia; MI: Midea; MY: Mycenae; NEP: Northern Entrance Passage; PY: Pylos; RCT: Room of the Chariot Tablets; TH: Thebes; TI: Tiryns). **Driessen 2008, 76**

7. Shelton published a Linear B document from Mycenae’s Petsas House as dating to the middle of the 14th century, attesting to an earlier initial presence of Linear B on the mainland (2002 - 2003, 387-396, 490). To these can be added fragments of a Linear B document (LH IIIA2) from Iklaina, Messenia and most significantly numerous Linear B documents from Ayios Vasileios in Laconia dating to LH IIIA (Cosmopoulos, 2010; Kardamaki 2017,114).

References

Bennett Jr., Emmett L. 1951. *The Pylos Tablets: a preliminary transcription*. Princeton. Princeton University Press.

Bennett, Emmett L., Jr., José L. Melena, Jean-Pierre Olivier, Dimitri Nakassis and and Thomas G. Palaima (eds.). 2025. *The Palace of Nestor at Pylos in Western Messenia: Vol. IV: The Inscribed Documents*. Published For The University Of Cincinnati. Columbus. Lockwood Press.

Chadwick, John. [1958] 1967. *The Decipherment of Linear B*. Cambridge. Cambridge University Press.

Cosmopoulos, Michael. 2019. "State Formation in Greece: Iklaina and the Unification of Mycenaean Pylos." *American Journal of Archaeology* 123, 3.

Cowley, A. E. 1927. "A Note On Minoan Writing." In, *Essays in Aegean Archaeology: Presented to Sir Arthur Evans in Honor of His 75th Birthday* edited by S. Casson. Oxford. Clarendon Press.

Davis, Brent. 2018. "The Phaistos Disk: A New Way Of Viewing The Language Behind The Script." *Oxford Journal of Archaeology* 37, 373– 410.

Driessen J. 2008. "Chronology of the Linear B Tablets." In, *A Companion to Linear B Mycenaean Greek Texts and their World*, Vol. I Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. Antiquité 120 edited by Yves Duhoux And Anna Morpurgo Davies. Louvain-la-Neuve. Peeters.

Duhoux, Y. and A. Morpurgo Davies, eds. 2008 - 2014. *A Companion to Linear B: Mycenaean Greek texts and their world*, Vols. 1–3. Louvain-la-Neuve. Peeters.

Evans, A. J. 1894. "Primitive Pictographs and a Prae-Phoenician Script, from Crete and the Peloponnese." *The Journal of Hellenic Studies* 14, 270–372.

___. 1899/1900. "Knossos. Summary Report of the Excavations in 1900: I. The Palace." *The Annual of the British School at Athens* 6, 3–70.

___. 1909. *Scripta Minoa : the written documents of Minoan Crete, with special reference to the archives of Knossos*. Volume I. Oxford. Clarendon.

___. Vol. I: 1921; Vol. II: Part I 1928a, Part II 1928b; Vol. III: 1930; Vol. IV: Part I 1935a, Part II 1935b; Index 1936. *The Palace of Minos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*. London. MacMillan and Co.

___. 1952. *Scripta Minoa II. The Written Documents of Minoan Crete with Special Reference to the Archives of Knossos*, edited by John L. Meyers. Oxford. Clarendon Press.

Fox, Margalit. 2013. *The Riddle of the Labyrinth - The Quest To Crack An Ancient Code*. New York. Harper Collins.

Hallager, E. 1996. "The Minoan Roundel and Other Sealed Documents in the Neopalatial Linear A Administration." *Aegaeum* 14, 1. Liège. Université de Liège.

Judson, Anna P. 2016. *The Undeciphered Signs of Linear B*. Ph.D. dissertation, Pembroke College, University of Cambridge.

Kardamaki, Eleftheria. 2017. "The Late Helladic IIB to IIIA2 Pottery Sequence from the Mycenaean Palace at Ayios Vasileios, Laconia." *Archaeologia Austriaca* 101.

Killen, J. T. 1994. "Thebes Sealings, Knossos Tablets And Mycenaean State Banquets." *Bulletin of the Institute of Classical Studies* 39, 67-84.

Kober, A.E. 1945. “Evidence of Inflection in the ‘Chariot’ Tablets from Knossos.” *American Journal of Archaeology* 49, 143–51.

___. 1946. “Inflection in Linear Class B: 1-Declension.” *American Journal of Archaeology* 50, 268–76.

___. 1948. “The Minoan Scripts: Fact and Theory.” *American Journal of Archaeology* 52, 82–103.

___. 1949. “ ‘Total’ in Minoan (Linear Class B).” *Archiv Orientální* XVII, I.

Krzyszkowska, Olga. 2005. “Aegean Seals: An Introduction.” *Bulletin of the Institute of Classical Studies*. Supplement, no. 85: iii–429. Oxford. Wiley.

___. 2017. “Further Seals from the Cemetery at Petras.” In *Petras, Siteia: The Pre- and Proto-Palatial Cemetery in Context* edited by M. Tsipopoulou. Monographs of the Danish Institute at Athens 21, 2017, 143–54.

Olivier, J.-P. And Godart, L. 1986. “Cretan Writing in the Second Millennium B.C.” *World Archaeology, Early Writing Systems*. Oxfordshire. Taylor & Francis, Ltd.

Olivier, J.-P. And Godart, L. (eds). 1996. *Corpus Hieroglyphicarum Inscriptionum Cretae*. École Française d’Athènes. De Boccard.

Palaima, Thomas G. 2004. “Sacrificial Feasting in the Linear B Documents.” *Hesperia* 73, 217–46.

___. 2008. “Mycenaean Religion.” In *The Cambridge Companion to the Aegean Bronze Age* edited by Cynthia Shelmerdine. New York. Cambridge University Press.

___. 2011. "Scribes, scribal hands and palaeography.” In *Linear B: Mycenaean Greek Texts and Their World Volume 2*, edited by Anna Morpurgo Davies, Yves Duhoux, Peter Van Alfen. Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. Antiquité 120. Louvain-la-Neuve. Peeters.

___. 2017. “Emmett L. Bennett, Jr., Michael G.F. Ventris, Alice E. Kober, Cryptanalysis, Decipherment and the Phaistos Disc.” In *Aegean Scripts* edited by M.-L. Nosch and H. Landenius-Enegren. *Incunabula Graeca* 105. Rome.

Pope, Maurice. 1975. *The story of archaeological decipherment : from Egyptian hieroglyphs to Linear B*. New York. Scribner.

2008. “The Decipherment of Linear B.” In *A Companion to Linear B: Mycenaean Greek Texts and Their World, Volume 1*. Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. Antiquité 120. edited by Anna Morpurgo Davies, Yves Duhoux, Peter Van Alfen. Louvain-la-Neuve / Dudley, MA. Peeters.

Salgarella, Ester. 2020. *Aegean linear script(s): rethinking the relationship between Linear A and Linear B*. Cambridge Classical Studies. Cambridge. Cambridge University Press

Schoep, Ilse. 1999. “The Origin of Writing and Administration on Crete.” *Oxford Journal of Archaeology* 18, 265–76. Oxford. Wiley & Sons.

___. 2002. “The Administration of Neopalatial Crete: A Critical Assessment of the Linear A Tablets and Their Role in the Administrative Process.” Supplement to *Minos* 17. Salamanca. Universidad de Salamanca.

___. 2018. “Building the Labyrinth: Arthur Evans and the Construction of Minoan Civilization.” *American Journal of Archaeology* 122, 5–32.

Tomas, Helena. 2010. “Cretan Hieroglyphic and Linear A.” In *The Oxford Handbook of the Bronze Age Aegean* edited by Eric Cline. Oxford. Oxford University Press.

Ventris, Michael. June 1952. Letter to Emmett L. Bennett, Jr., 18 June. Archive - Program in Aegean Scripts and Prehistory (PASP) at the University of Texas at Austin.

___. 1988. “Work-notes on Minoan Language Research and Other Unedited Papers” edited by Anna Sacconi. Rome, Edizioni dell’Ateneo.

Wiencke, Martha Heath. 2010. “Lerna.” In *The Oxford Handbook of the Bronze Age Aegean* edited by E. Cline. Oxford. Oxford University Press.

Woods, Christopher. 2010. “Visible Language: The Earliest Writing Systems”. In *Visible Language* edited by Christopher Woods. *Oriental Institute Museum Publications No. 32*. Chicago. The Oriental Institute.

Younger, John. 1996 - 1997 [1999]. “The Cretan Hieroglyphic Script: A Review Article," *Minos* 31-32: 379 - 400.

___. 2000 (with updates). “7. What Is Known About Linear A.” In *Linear A Texts & Inscriptions in phonetic transcription & Commentary*. http://people.ku.edu/~jyounger/LinearA/#7

___. 2010. “Mycenaean Seals And Sealings.” In *The Oxford Handbook of the Bronze Age Aegean* edited by Eric Cline. Oxford. Oxford University Press.