

An aerial view of the site of Iklaina near Pylos, Greece, where archaeologists are uncovering surprisingly early evidence of how the Mycenaean state developed.

# The Birth of Bureaucracy

Searching for the origins of the Mycenaean state

by AMANDA SUMMER

**P**YLOS, IN GREECE'S southwestern Peloponnese, is known for its miles of soft sandy beaches, rocky islets soaring out of the water marking the edges of the Bay of Navarino, and the mountains that cut it off from the rest of Greece. The surrounding region, known as Messenia, is also home to dozens of archaeological sites. Since the nineteenth century, Messenia has attracted archaeologists hoping to

uncover remains of Greece's Mycenaean age, the period from approximately 1650 to 1100 B.C., famous for such mythical sagas as the Trojan War. Among them have been Heinrich Schliemann, who came from Germany to search the area in vain to locate a royal settlement, and American Carl Blegen, who excavated Nestor's palace in Pylos in 1939. Fifteen years later, in 1954, Blegen's colleague, Greek archaeologist Spyridon Marinatos, went hiking in the hills above Pylos. There, near the

small modern town of Iklaina, he came upon the remains of a structure with massive walls, surrounded by large deposits of pottery. The Iklaina site was overgrown with olive groves and the terrain was difficult to traverse, but a brief trial excavation suggested the existence of an important site that Marinatos thought could be a palace. However, other work beckoned and the mysterious site would remain buried for decades.

**W**HEN ARCHAEOLOGIST Michael Cosmopoulos of the University of Missouri–St. Louis arrived in Iklaina in 1998 he had an ambitious plan. Cosmopoulos had previously directed archaeological projects at Oropos, an ancient city-state near Athens, and at Eleusis, the Sanctuary of Demeter and home of the famous Eleusinian Mysteries. After learning from his colleague George Korres of the University of Athens about the promising site in the hills above Pylos, he jumped at the opportunity to pick up where Marinatos had left off. Soon he had organized a team of students and volunteers whose field survey eventually investigated more than eight square miles. Cosmopoulos combined his results with a survey done previously by the University of Cincinnati, the Pylos Regional Archaeological Project, which had mapped the region around the Palace of Nestor in the early 1990s. Cosmopoulos also conducted an exhaustive geophysical survey, using magnetometry, electrical resistivity, and soil phosphate analysis. It took 400 students, volunteers, and staff eight years



**Iklaina excavation director Michael Cosmopoulos excavating in one of the settlement's houses with the assistance of students and volunteers who have worked with the project for more than a decade.**

to determine that Iklaina was the largest site in the region outside the Palace of Nestor.

It was, however, not just the archaeological remains that drew Cosmopoulos to this plateau, which rises 525 feet above the Messenian plain. There were also clues from tablets discovered at the Palace of Nestor that date to around 1200 B.C.

Inscribed in the ancient Greek script known as Linear B, these tablets suggest that Iklaina may have been one of the capitals of the Mycenaean kingdom of Pylos.

The more than 1,000 tablets found at the Palace of Nestor are not works of literature, but records of bureaucracy: primarily economic records, with lists of animals, people, and manufactured items. The tablets also give us valuable information about the administration of the state of Pylos. They tell us that it was divided into two provinces: the “Hither” and the “Further” provinces, and that each province was divided into districts—the Hither into nine and the Further into seven. Archaeologists believe that Iklaina may have been one of the nine districts of the Hither Province, whose name may have been pronounced something like *alphy*, *aphy*, or *asphy*. Interestingly, a corrupt form of this name may have survived in Homer’s *Iliad* as “Aipy.” As Cosmopoulos explains, “We have here a rare circumstance where archaeology converges with textual evidence and possibly mythology.”

From Cosmopoulos’ standpoint, excavating at Iklaina provided a rare opportunity to take an in-depth look at the evidence from a whole district and to examine Mycenaean society and government not from the point of view of the main palace, but from its districts—a sort of bottom-up approach. From the Linear B tablets we know that the state of Pylos had a four-tiered administrative system: the palace at the top, followed by the district capitals (the second-order settlements), then followed by small villages, and at the bottom by farmsteads. At Iklaina, Cosmopoulos wanted to see how ordinary people lived outside the palaces, in the towns and villages of the lower tiers, how their society changed over time, and how government operated outside the palaces. “Kinship systems and elite groups are thought to have propelled power chiefdoms to statehood,” Cosmopoulos explains. “If such groups existed at a second-order center such as Iklaina, we would expect appropriate architectural remains.”

As soon as Cosmopoulos received his permit from the Athens Archaeological Society, he and his team prepared to excavate—but not before receiving the blessing of the local priest who had instructed him where to begin digging. “Within four inches we started finding walls and pots,” he says. “We joked about divine intervention helping us out.” Cosmopoulos began digging test trenches in 2006, and a full-scale excavation got under way in 2008. At that time, says Cosmopoulos, “the dominant feature of the site was a mound, overgrown with a jungle of bushes and trees and thickets of grass.” Visible on the surface around the mound were segments of ancient walls, which he anticipated might be hiding a large tomb. “It took four workmen working full time for four weeks to remove the thick vegetation,” Cosmopoulos remembers.

Once the overgrowth was cleared and the team was able to start excavating the mound, instead of a tomb, they found a giant “Cyclopean” wall, typical of Mycenaean architecture. This type of construction, named Cyclopean because later Greeks thought that only the mythical giant known as the Cyclops could have built such huge walls, is made of massive blocks of roughly cut rectangular stones laid in horizontal

courses. Iklaina's walls are similar to architectural features found at other important Mycenaean palace sites in Greece, including Tiryns, Pylos, Mycenae, and Gla. "It was exhilarating and unexpected to find this," Cosmopoulos exclaims, recalling the day, "particularly because the dating of the Cyclopean Terrace is early." On the basis of pottery from the foundations of the Terrace and the walls of the surrounding rooms, Cosmopoulos dated the structure to between 1500 and 1350 B.C., the first of the two major phases of the site. While typical of Mycenaean construction style, he says the wall is unusual in that it represents an early stage in the development of Cyclopean architecture.



**Project architect Steven Clarke's rendering (above) of what the Cyclopean Terrace Building may have looked like. A detail of the Cyclopean Terrace wall (right), which dates to between 1500 and 1350 B.C.**



## Deciphering Linear B

**I**N 1899, PIONEERING British archaeologist Arthur Evans purchased a parcel of land on the Greek island of Crete. Evans had been drawn to the island by a collection of ancient carved gems he believed originated there. He would soon uncover the Bronze Age Palace of Knossos, one of the most important archaeological finds in history. Among his discoveries during three decades spent excavating the palace were several thousand clay tablets containing strange markings and pictographs. Despite being unable to read them, Evans theorized that, the tablets were an ancient writing system, which he dubbed Linear B, after the script's use of small line formations. (What is known as Linear A had also been found at Knossos, and is believed to be an earlier writing system.)

As a result of Evans' discovery, scholars recognized that tablets from sites on the Greek mainland, including Pylos, Thebes, and Mycenae, were also inscribed in Linear B, indicating that the peculiar writing style was more widespread than initially thought. Until the recent discovery of Linear B at the site of Iklaina, near Pylos, all the previously known tablets, which date to between 1500 and 1200 B.C., were found at large palatial centers typical of the Mycenaean period. When these palaces burned down, the tablets, which

had been kept in storerooms, were "fired," hardening the clay and accidentally preserving them.

In 1953 came the announcement that Linear B's cryptic markings had been deciphered, and that it was actually an early form of ancient Greek. The tablets contained a type of syllabic script. Most of the individual signs represent certain syllable combinations (vowel and consonant). There are also ideograms, in which a sign actually represents the object it resembles, for example, a picture of a jar for the word "jar." Overall, Linear B has as many as 200 different signs.

Once Linear B could be read, it became clear that almost all of the known tablets contained similar content—archival information about the large central palaces in which they were found. Scribes had used them to keep an inventory of the everyday goods belonging to the palaces and to document economic transactions.

The Linear B tablet from Iklaina is unique in that it was not found amid the remains of a palatial center. According to Cynthia Shelmerdine, the project's ceramics expert, the Iklaina tablet "opens up the whole question of how widespread Mycenaean literacy was, and how far down the administrative system written records extended."

The purpose of this massive terrace was to support a monumental building (dubbed the “Cyclopean Terrace Building”), which would have served as the administrative center for the area, suggesting that Iklaina at that time was the capital of an independent chiefdom. According to excavation architect Michael Nelson, the Cyclopean terrace was substantial enough to support two or three stories. The part of the building that once stood on top of the terrace is gone forever, but other parts of this building complex survive. These include rooms to the south, southwest, and southeast, and possibly a central open space that was a garden or courtyard. An enormous wall, the edge of which was uncovered in the last days of the 2011 season, may have served as a fortification wall.

Whether it was a palace or not remains unclear—Cosmopoulos refers to it as a seat of power—but the building has all the elements one would expect to find in a Mycenaean administrative center. In addition to its monumental size, unusual for this early period, the building contained multiple storage rooms for foodstuffs, offering tables, and a rich assemblage of pottery. The walls of some of the rooms were decorated with elaborate figural frescoes painted in blue, white, and red. The building’s upper levels had collapsed into its lower storage rooms, in which Cosmopoulos’ team has found over 1,000 fresco fragments to date. After several seasons of study, two major themes have been identified on the frescoes—naval imagery, which is stylistically similar to Minoan frescoes found on the islands of Thera and Keos, and another theme depicting females, possibly in procession, with long black hair and arms covered in bracelets.



**Project conservator Stefania Valdemiri’s reconstruction of the fresco fragments from the Cyclopean Terrace Building (above left and right), and (right) one of the actual fragments showing a female figure bringing her hand to her chest.**



**A fragment of a spindle whorl (below left), dozens of which were found, is evidence of textile manufacture at the site. Ceramic figurines (right) were found in most buildings on the site. Zooarchaeologist Deborah Ruscillo studies the animal bone evidence, such as this pig radius (bottom) to discover more about the Mycenaean diet.**



The excavation has uncovered many artifacts from daily life as well, including amulets, figurines, rings, cooking vessels, bone tools, and clay and stone spindle whorls used in weaving. On the basis of plant remains recovered by the project’s botanists, Susan Allen and China Shelton, it seems the inhabitants’ diet consisted of olives, fruits, nuts, wheat, and barley. The bones of fish, pigs, sheep, goat, and cattle also have been found among the remains, demonstrating not only the variety of the inhabitants’ diet, but also their diverse economy. According to Deborah Ruscillo, the project’s zooarchaeologist, the inhabitants also relied on hunting, mostly wild boar and deer, for food. Intriguingly, a large percentage of wild boar bones bear the gnaw marks of dogs, perhaps the same hounds that hunted the boars as depicted in Mycenaean frescoes.

To the north of the Cyclopean Terrace, Cosmopoulos has identified a large town consisting of multiple small dwellings. There is evidence that these dwellings, along with the Cyclopean Terrace Building, were destroyed by enemy action around 1350 B.C. In a display of superiority as they established their authority, the town’s new rulers never rebuilt the monumental building on the Cyclopean Terrace and constructed their own

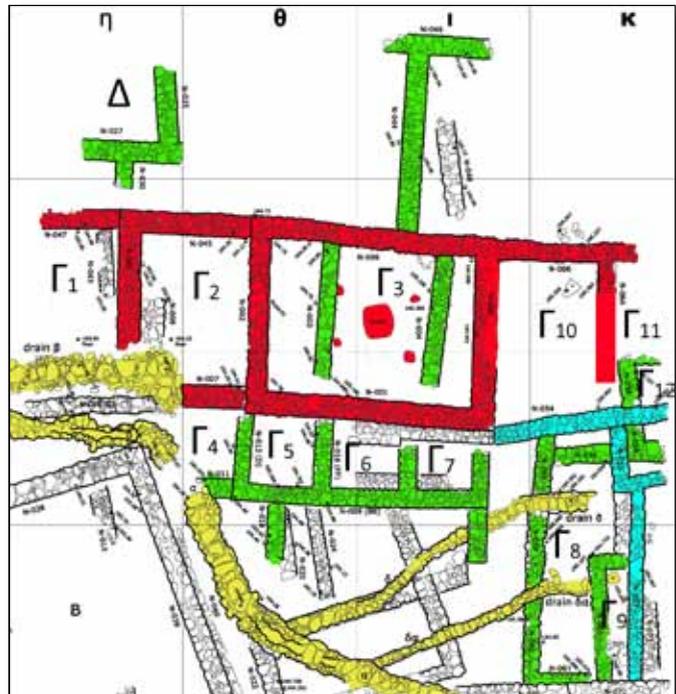


**Team members set a new trench (above) near the Cyclopean Terrace wall and the ancient drain, which is visible at the lower left.**

houses directly on top of the houses of the previous phase, but with a different orientation. Cosmopoulos believes this is evidence that the new rulers made an effort to erase the memories of the previous authority and that these new rulers were those of the Palace of Nestor, now the major power in the area. One of the dwellings representing the second phase in the site's history, from 1350 to about 1200 B.C., included a megaron, a great hall central to a Mycenaean house, containing a hearth surrounded by four pillars. Cosmopoulos is not certain if the megaron was used for administrative purposes, or simply indicated that this had been a wealthy house. He hopes further excavation in the area will establish its function.

In the past several seasons the team has uncovered additional finds that offer more clues about the site's significance and changing role over time, and shed light on the settlement's industrial, religious, and political practices. These include an intriguing network of drains, a possible open-air shrine, and a tiny inscribed tablet that may put Iklaina on the map as the oldest state bureaucracy in Europe.

**A**T 6:30 A.M. on a hot July day, halfway through the 2011 season, students and volunteers straggle in to the site. They've been dropped off by the bus a quarter mile away, as the area's remoteness makes it difficult for anything larger than a car to make its way along the narrow dirt road. Early morning light is starting to evaporate dew that has col-



**A plan showing two phases of building at the site. The first phase (in red) shows the original megaron, a type of courtyard central to a Mycenaean house. At some point in the building's life the main room was divided into smaller spaces (green), and industrial and storage rooms were added (also green). A system of drains (yellow) was built to drain the industrial rooms. The walls (black and white) belong to the site's earliest period.**

lected on plastic tarps covering the trenches. A group of students selects hand axes and other tools stored overnight in buckets and heads off to work with a team from the lab; today's job is to remove a large section of plaster surrounding an ancient drainage system that runs throughout the site. Head conservator Stefania Veldemiri has fashioned a large metal tray to slide underneath the plaster, in hopes of removing it intact. Once the metal sheet is lifted, the team moves in unison, carrying the plaster and surrounding soil like a litter to a waiting van that will transport it back to the lab in downtown Pylos, some nine miles to the east. The job of gingerly moving the plaster seems not unlike moving a very large wedding cake.

The presence of this extensive drainage system and clay pipes, originating from a series of rooms that were most likely used as industrial installations, points to a great need for running water. With a large amount of flaxseed found in those rooms, it's probable that the industry of the site's new inhabitants was flax production. The building had a cement floor and a system of five drains feeding into a main drain in what Cosmopoulos believes was the industrial center of Iklaina during the second period in the site's occupation.

Another possible industry Iklaina supported was metalworking. The Linear B tablets from Pylos mention the Iklaina site as a metallurgical center. According to John Chadwick,



Many metal artifacts were found at Iklaina, including this bronze nail and ring, suggesting the presence of a substantial metallurgical production center at the site.

the English linguist who helped decipher Linear B, the site may have supported up to an astonishing 225 smiths. Numerous metal objects including bronze nails, saws, and rings were found at the site, as was a unique head of a bronze male figurine with no known parallels.

In the last weeks of the 2011 season, the team uncovered another significant building, aligned along one side with an upright rectangular stone known as a stele. At some Mycenaean sites such markers indicate a sacred space. However, in this case, Cosmopoulos believes the building may have been unfinished and that the post was a construction marker. "Neither I nor any of my colleagues have seen anything like this before," Cosmopoulos explains. Although no artifacts were found in the building's interior, he believes that the structure's size and construction suggest a special function. At almost 50 feet long, with ashlar masonry, carefully chiseled blocks of stone



Architectural remains uncovered in a pit in 2011 may be evidence of the earliest Mycenaean open-air shrine, dating to between 1435 and 1300 B.C.



known as orthostates, and a large paved courtyard, Cosmopoulos thinks this may have been an administrative building used in the second period of Iklaina's occupation. It may also have been the residence of the mayor who is mentioned in the Linear B tablets from the Palace of Nestor archive.

The 2011 season also marked the discovery of a pit that may be the first known Mycenaean open-air shrine. These types of shrines are known from artistic representations, but none had been excavated to date. At Iklaina, this area contained evidence of fire, including burned soil and ashes, along with offering tables made of plaster, fragments of frescoes, numerous animal bones, and drinking vessels, as well as a rare sheet of lead. It is still being excavated, but if this area turns out to be an open-air shrine, this will provide new avenues for the study of Mycenaean religion. Further excavation in conjunction with analysis of the bones may determine the rituals practiced here. In references to the Iklaina site in the Linear B tablets from Pylos, there is mention of temple servants and temple bronze, suggesting the existence of a religious structure at the site. One tablet also mentions a man, Pythias, who is possibly named after a god, indicating some sort of religious belief and, indirectly, worship associated with the shrine.

Perhaps the most remarkable and important find at the site to date is also one of the smallest. In 2010, archaeologists found a suspicious artifact encrusted in soil inside a 3,400-year-old refuse pit. They then bagged it and sent it to the museum for study. Noticing what appeared to be inscriptions, the student who washed the artifact brought it to the attention of the project's chief ceramicist and Linear B expert, Cynthia Shelmerdine of the University of Texas at Austin. She instantly recognized the markings of Linear B. Shelmerdine, who was the first to read the fragment, believes it is part of a personnel record. On one side is what is likely a list of male names followed by numbers, and the other preserves part of the heading for what might have been a list of manufactured products.

"Until now, tablets found in stratified contexts had been known only from a handful of major palaces, such as Pylos, Mycenae, Tiryns, Knossos, and Thebes," says Cosmopoulos. Finding a tablet is evidence that the site at Iklaina had the

**The Linear B tablet found at Iklaina is believed to be the earliest known example of writing in Europe. Side A (left) shows the ending of a verb which may mean "manufacture" or "assemble." Side B (right) shows two male names and the number "1."**

scribes necessary to sustain a bureaucracy. It also suggests a high level of political organization and a need to keep track of commodities. In addition, most tablets are dated to around 1200 B.C., and one from Mycenae dates to the late fourteenth century B.C. But the Iklaina tablet dates to between 1450 and 1350 B.C., making it the earliest known bureaucratic record found on the Greek mainland.

"Because Linear B tablets were, as far as we know, used exclusively as state records, the discovery of the Iklaina tablet implies state structure and state bureaucracy. Its early date indicates that bureaucracy and literacy in Greece appeared earlier and were more widespread than we had thought until now," says Cosmopoulos. He is confident the tablet will offer insight into an area of history that is still little understood. "The discovery of the tablet is important because, according to what we had known until now, records were not kept in second-order settlements and all known tablets from the Greek mainland are dated later. This may change the way scholars understand how Mycenaean bureaucracy developed over time." Cosmopoulos adds with obvious excitement, "In the grand scheme of things, Iklaina may shed new light on how Mycenaean states were formed."

The finds at Iklaina will keep Cosmopoulos and his team busy for years to come. He is working to purchase and excavate the land adjacent to the site in future seasons, because where there is one Linear B tablet, there is always the hope of finding more. In the meantime, Iklaina's uniquely stratified settlement makes it the ideal laboratory, and Cosmopoulos is eager for the opportunity it offers to learn not only about life in the palace and in the surrounding farmlands, but to investigate for the first time in one site how Mycenaean society developed on all levels in between. ■

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