

NAUTICAL ARCHAEOLOGY

5th INTERNATIONAL SYMPOSIUM
ON SHIP CONSTRUCTION
IN ANTIQUITY

ΤΡΟΠΙΣ V

TROPIS V

NAUPLIA, 26, 27, 28 AUGUST 1993

proceedings

edited by Harry Tzalas

Χορηγοί • Sponsors
Υπουργείο Πολιτισμού • Ministry of Culture
Ηπειρωτική Ατμοπλοΐα • Epirotiki Cruises

Porojanov, Kalin	Datation des ancres en pierre avec trous du rivage bulgare de la Mer Noire.	329
Pulak, Cemal	The Late Bronze Age shipwreck at Uluburun.	13
Raban, Avner	The innovation of the composite anchor and the naval warfare of the Bronze Age.	337
Rieth, Eric	L' épave d'un chaland Gallo-Romain de la place Tolozan à Lyon (France). Un exemple particulier de construction naval fluviale monoxyle-assemblée?	339
Rouskas, Yiannis	Study and conclusions on a ship representation of an early 17th century fresco (Saint Nicholas Church, Farkadonas, Trikala).	349
Samiou-Lianou, Chrsiis	Ancient ports of Abdera in Aegean Trace.	363
Shaw, Joseph W. and	A proposal for Bronze Age Aegean shipsheds in Crete.	369
Shaw, Maria		
Simosi, Angeliki	Le port de guerre de Thasos.	13
Sleeswyk, André Weneger	The oarage of Phoenician biremes.	383
Soueref, Constantinos	The maritime tradition of ancient Corfiots and the shrine of Alkinoos.	393
Steffy, J. Richard	Ancient ship repairs.	395
Stieglitz, Robert R.	Phoenician ship equipment and fittings.	409
Tilley, Alec F.	Sailing to windward in the ancient Mediterranean.	421
Tsirkin, Juli Berkovitsch	The first transmediterranean voyages of the Phoenicians and the cult of Melqart.	13
Tzalas, Harry	Were the pyramidal stone-weights of Zea used as anchors?	429
Tzouvara-Souli, Chrsiis	The Cult of Poseidon in ancient Epiros.	455
Vichos, Yannis	Three unknown representations of ancient ships (from early Bronze Age to the Late Geometric period).	477
Wachsmann, Shelley	The Pylos rowers tablets reconsidered.	491
Wedde, Michael	Decked vessels in early Greek ship architecture.	505

THE PYLOS ROWER TABLETS RECONSIDERED

The decipherment of the Linear B script by Michael Ventris and John Chadwick opened a door to new dimensions of understanding of the Mycenaean world.¹ It now became home not just to the archaeologist, but also to the linguist and epigrapher.

The known corpus of Linear B documents consists primarily of inventories, receipts and other forms of lists kept by the scribes of the palace bureaucracies. Some of these documents deal with subjects relevant to seafaring.² No truly historical texts have been found, however, nor any tablets bearing poetry of a Homeric nature. Notwithstanding the problems presented by the nature of the material, Mycenaeanologists studying aspects of the Linear B texts have been able to contribute much to our understanding of Mycenaean life and palace administration.

One of the two largest known caches of Linear B tablets was uncovered by Blegen during his excavations at Ano Englianos, the site of the palace of the kingdom of Pylos (Fig. 1).³ Somewhat serendipitously, Linear B tablets—the first ever recovered from a Greek mainland site—were discovered on the first day of Blegen's excavation there.⁴ One of the trenches crossed the archive rooms where over 600 tablets and tablet fragments were found.⁵

Linear B tablets were meant for short term use; they were not baked after being inscribed nor do any year-dates appear on them.⁶ These considerations indicate that most, if not all, of the tablets were prepared during the last year in which the palace functioned. Thus, these documents may reasonably be considered to accurately reflect the situation at Pylos immediately prior to the palace's destruction.

From the inception of research on the Pylian documents, there were those scholars who sensed that some of these tablets suggested the existence of a state of emergency. Those who held this view—such as Ventris, Chadwick, Palmer and Baumbach—pointed to several considerations:⁷

- "Thus the watchers are guarding the coast" reads the title of PY An 657.⁸ This is the lead document of a set, known as the *o-ka* ("Command" or "military detachment") tablets, which contain lists of men who apparently were assigned to guard the coast.⁹ The consideration that it was considered worthwhile to exert this effort implies an awareness - perceived or real - that enemy forces might try to approach the kingdom by ship.
- Bronze, apparently taken from temple coffers, had been collected for the purpose of forging arrowheads and spear points (Jn 829).¹⁰
- In PY Tn 316 men and women, referred to as *po-re-na*, are dedicated, along with metal vessels, to several gods and goddesses.¹¹ These *po-re-na* have been interpreted as victims of human sacrifice, perhaps carried out under exceptional circumstance.¹²
- PY An 1, An 610 and An 724 are known collectively as the "Rower Tablets", due to the appearance of the word meaning "rowers" (*e-re-ta*) in each of their headings.¹³ All three tablets were written by the master scribe, termed Pylos Hand 1, who was also the author of the *o-ka* tablets.¹⁴

The Rower Tablets

PY An 1 records thirty rowers, taken from five settlements. The title of this small tablet reads: "Rowers to go to Pleuron."¹⁵ All the settlements from which the men are taken fall within the palatial territories of Pylos.

The crew count is interesting. Homer mentions twenty-oared ships and fifty-oared penteconters, but he does not refer to triaconters; according to Herodotus, however, thirty-oared ships were employed in the early colonization of Thera.¹⁶

PY An 610, although damaged, appears to be a list of men called up to serve as rowers.¹⁷ A total of 569 men are listed on its undamaged parts. It is clear, however, that some of the numbers are missing and Chadwick reconstructs an original total of approximately 600 men.¹⁸ This contingent would have been sufficient to crew a fleet of thirty twenty-oared ships, twenty triaconters or twelve penteconters.¹⁹

In PY An 610 the men are identified, for the most part, according to their settlements. In two cases, however, groups of 40 and 20 men are brought by two notables: *E-ke-ra₂-wo* and *We-da-ne-u*. The former may have been the ruler of Pylos;²⁰ the latter appears elsewhere in the documents as the owner of slaves and sheep, and also may have owned lands where flax was cultivated.²¹

Killen has pointed to a specific system of draft in use in both An 1 and An 610.²² Four sites —*ro-o-wa*, *ri-jo*, *te-ta-ra-ne* and *a-po-ne-wa* appear in the same order in both An 1 and An 610, indicating an immediate relationship between these two documents. The number of rowers taken from the settlements in An 1 is proportional to those taken from the same settlements in An 610 at an approximate ration of 1:5. Thus, it appears that each settlement contributed rowers based on a proportional evaluation of its reserve duty requirements.

While PY An 1 and PY An 610 apparently enumerate oarsmen that are available for service aboard ships, the third and last document of this group, PY An 724, is a list of oarsmen missing from the muster.²³ It is damaged in some places and there are many erasures at line ends.²⁴ On the verso of the tablet, the scribe (?) drew a graffito of a ship or a boat.²⁵ We know what normative Mycenaean seacraft looked like;²⁶ interestingly, this graffito does not conform to those standards. Perhaps the scribe was employing here a representation of a ship from his Linear B ideographic repertory, one that was derived from a ship type that was no longer in common use in Mycenaean nautical activity.²⁷

The vessel has a crescentic hull with a semi-circular construction located amidships and bough-like items extending from the ship's right extremity (bow?). The central structure is suggestive of those appearing on seven vessels depicted on a Middle Helladic jug from Argos;²⁸ the boughs are reminiscent of devices at the prows of Minoan cultic boats.²⁹ While the Argos vessels are shown under either oar or paddle, the An 724 graffito lacks any visible form of locomotion.

Interpreting the Rower Tablets

Unless we assume that raising a fleet that required 600 rowers was a normal occurrence at Pylos, the Rower Tablets strongly imply that something out of the ordinary—something exceptional—was taking place at Pylos just prior to its destruction. This impression is further strengthened by the considerations previously outlined.

But for what purpose were the oarsmen drafted? Why did the Pylian high command need a fleet in the first place?

Let us assume for the moment that the Rower Tablets do indeed indicate a state of crisis Pylos in anticipation of a danger approaching from the sea—a view held by some, but certainly not by all Linear B scholars. The large numbers of men listed in PY An 610 has been interpreted by some scholars as evidence for the mustering of Pylian war fleet.

Of course, rowers were indeed often needed for war fleets composed of swift galleys, employed in marine battles and other military missions. Such a fleet almost inevitably brings to mind thoughts of Troy, Salamis and Actium —of sea battles and piracy.

The equation of “oared ships” with “war ships” seems so obvious that little, if any, consideration in the past has been given to alternative motives for the massing of rowers—or paddlers—in the Pylos Rower Tablets. Looking at the Pylos Rower Tablets from the vantage point of a *nautical* archaeologist, however, I wish to pose two elementary questions that seem never to have been asked in regard to these enigmatic documents:

- What possible reasons are there for the massing of oared ships?
- And, of these reasons, which one tallies best with the archaeological evidence from Pylos?

Assuming solely a military rational—whether of an offensive or a defensive nature—for the mustering of this Pylian fleet is undoubtedly a *limiting* view of past nautical realities when oared ships were used for a variety of purposes. Indeed, there are at least four other fleet actions, documented in antiquity, that would have required the call-up of large numbers of rowers/paddlers:

Suppose that one wanted to move something heavy—extremely heavy—by ship. One would require many oarsmen to row the boats required to move the barge on which the object lay. Thus, Hatshepsut, to judge from her relief at Deir el Bahri, required about a thousand oarsmen to row the tow-boats the pull her Brobrignagian obelisk barge from Aswan to Karnak.³⁰

Cultic festivals in which ships were rowed or paddled would also have required many hands to man them.³¹ This is just as true for the colorful dragon boat races that take place today, as it was in seventeenth-century BC Thera.³²

Oared ships also served as merchant ship, as for example the fleet that Hatshepsut sent to Punt.³³ Herodotus emphasizes that the Iron Age Phocaeans used penteconters in their voyages of exploration and trade.³⁴ Such trading fleets too would have required numerous oarsmen.³⁵

Galleys were also used in antiquity for expeditions of colonization, as well as for mass forced migrations when insurmountable forces threatened. In classical times, penteconters were employed to transport entire populations and their moveables. Perhaps the most informative example for this phenomenon is Herodotus' description of the Phocaean escape from Ionia before the advancing Persian army:³⁶

"... the Phocaeans launched their fifty-oared ships, placed in them their children and women and all movable goods, besides the statues from the temples and all things therein dedicated save bronze or stonework or painting, and then themselves embarked and set sail for Chios; and the Persians took Phocaea, thus left uninhabited."

The Assyrian king Sennacherib describes a similar waterborne flight, this time from the viewpoint of the invader:³⁷

"And Lulî, king of Sidon, was afraid to fight me (lit. feared my battle) and fled to Iadnana (Cyprus), which is in the midst of the sea, and (there) sought a refuge. In that land, in terror of the weapons of Assur, my lord, he died."

At Nineveh, Sennacherib's artists recorded Luli escaping Tyre by ship before the Assyrian king's assault (Fig. 2). Luli's fleet consists of warships with waterline rams, as well as round merchant galleys or transports. The heads of both men and women refugees peeking out from above the screens surrounding the ship's decks indicate that both types of ships were used in this waterborne escape.³⁸

Which of the above explanations best fits the evidence at Pylos? We can probably safely drop the scenario of a fleet of tow ships à la Hatshepsut. Such a situation would have been unlikely at Pylos and can, therefore, be ignored. That the lists may pertain to the muster for a race or procession is, however, admittedly a possibility, particularly considering the cultic affinities of the ship graffito on PY An 724. Similarly, the raising of oarsmen for a Mycenaean trading mission is not impossible, although if we assume a potentially dangerous situation at home, one wonders how inclined those in power at Pylos would have been to part with men and ships which probably would have been deemed essential to the welfare and safety of the kingdom.³⁹

I believe that PY An 610 and PY An 724 may record preparations for a ship-borne emigration - at least of certain higher echelons of the Pylian kingdom's population - to escape from an impending overwhelming attack.

Now, *most* of the oarsmen of PY An 610 are classified as "settlers" (*ki-ti-ta*), "new settlers" (*me-ta-ki-ti-ta*), "immigrants" (*po-si-ke-te-re*) or by an unidentified term (*po-ku-ta*).⁴⁰ One of the absent men in PY An 724 is described as a "settler who is obligated to row".⁴¹ Such terms could make sense if the documents are concerned with an act of migratory colonization in which the rowers who are manning the fleet are also among those migrating to a new location.

Palaima, emphasizing the similarities between PY An 1 and Ugaritic text KTU 4.40, limits the significance of the land-holding terms in the Rower Tablets to the implication that "on the individual level, their [the rowers] service was obligatory

in return for the use of land granted to them by the palace center of by or through the local community".⁴²

As Killen notes, however, the significance of this Ugaritic text itself is uncertain. It might equally refer to normal maritime activities or to a proportional military draft of oarsmen for the nautical defense of Ugarit or its allies. Thus, although these documents from Ugarit and Pylos indicate a similar system of proportional call-up prevalent in the two kingdoms, it is imperative to remember that this only informs us as to how the men were called to service, but not *why* they were called up.

Let us examine this question from the perspective of archaeology. What might we expect to find at Pylos assuming a scenario in which it had been abandoned by its inhabitants, escaping by ship, as opposed to the traditional scenario in which the palace was destroyed by external enemies who then pillaged it? I believe that we might reasonably expect the following manifestations of material culture:

- As no struggle would have taken place there, we would not expect to find any human remains.
- The migrants would have taken their most valuable possessions with them, as well as those items and livestock most needed to begin life in a new location.
- As the abandonment was to be permanent, we would not expect to find hoards or caches of metal valuables hidden with the intention of returning and retrieving them.
- The fleeing population would have been forced to leave behind less intrinsically valuable items due to what undoubtedly would have been a severe lack of space on board the transports.
- Finally, we should not be surprised to find a "scorched earth policy". The departing people of Pylos might have had the predilection to destroy as much as possible of whatever they were forced to leave behind in order to prevent it from being of use to the invaders. The invaders—if and when they did arrive—would have found the palace abandoned, empty of valuables, and perhaps even burnt to the ground.

How then does this model reflect the archaeological evidence as revealed in Blegen's extensive excavation of the palace at Ano Englianos?

Despite the massive excavations at Pylos, and the many skeletal remains retrieved there, not a single human bone was identified. And, Ano Englianos was not immediately inhabited after the destruction of the palace.⁴³ This precludes an

interpretation of new settlers at Ano Englianos removing the decaying bodies of the previous inhabitants.

This led Blegen to conclude that the people of the palace and city of Pylos had escaped.⁴⁴ The interpretation that I propose here takes Blegen's conclusion one step farther by suggesting that the "escape", which is evident in the archaeological record, was a well organized one.

The PYT a series inventories numerous valuable metal and stone vessels and inlaid furniture.⁴⁵ Despite the thoroughness of his excavation, however, Blegen did not uncover a single metal vessel in the entire palace. Indeed, anyone visiting the site museum at Khora, soon realizes that the totality of the metal "valuables" from the palace are few and fragmentary.⁴⁶ They are displayed on two small pallets.

Of course, it is possible to argue that methodical pillagers made a clean sweep of things during and after the "conflict", but such a scenario does not give sufficient consideration to the fact that strata at other sites that have ended in fire and destruction and, presumably have been pillaged in the process, will normally still contain some valuables. Pillagers are not infallible.

No hoards were uncovered at Pylos, even though metal hoards—at least some of which must have been interred for safekeeping with the intention of later recovery—are a particularly common feature of thirteenth-twelfth century BC Mycenaean/Achaean sites.⁴⁷

The palace at Pylos was destroyed in a huge conflagration. The majority of artifacts recovered consists of large quantities of pottery, abandoned in mint condition in the palace pantries. These vases, which had been stacked neatly according to type, collapsed in groups as the fire that swept the palace burnt away the wooden shelves on which they had been stored. This is also in keeping with a theory of abandonment. Ceramics, easily made from local clay at virtually any given destination, are unlikely to have been allotted valuable—and limited—shipboard space.

Any one of these phenomena by itself would be a curiosity. Taken together, they support the inference that Pylos was not destroyed from without, but rather abandoned in an organized manner by its Mycenaean inhabitants.

Conclusions

In conclusion, a scenario of organized abandonment fits the archaeological evidence from Ano Englianos remarkably well. The ease with which the later Phoceans took to their ships and left their homeland behind to escape certain defeat at the

hands of the Persians suggests that they were not the first in the Aegean world to choose this option in times of crisis. Indeed, this interpretation might aid in explaining the psychological and administrative mechanisms at work behind the phenomenon of mass sea-borne Aegean migrations and relocations to the eastern Mediterranean at the end of the Late Bronze Age as the Mycenaean collapsed. Of this world, Pylos might be considered a microcosm.

Furthermore, this interpretation of the Rower Tablets as representing bureaucratic documents relating to the nautical movement of population also fits comfortably into what we know of the Mycenaean world somewhat earlier, during the fourteenth and the thirteenth centuries BC, when Mycenaean colonies—carrying the weight of their cultural influence with them—were established on Aegean islands as well as along the coast of Asia Minor. Then, with the fragmentation of their world at the end of the thirteenth century BC, Mycenaeans fled their cities, establishing numerous colonies and settlements abroad.

It is not an unreasonable assumption, given what we do know of Mycenaean society, that the earlier expansion was orchestrated to a large degree—if not entirely—by established Mycenaean palaces. And to do so required a degree of organization. By the end of the Late Bronze Age, Mycenaean palace bureaucracies must have been adept at organizing expeditions of colonization. Such experience would have served well, and come naturally, should the migratory abandonment of a home state have been necessitated.

Similarly, in a very real sense, the overseas expansion of the bearers of the Late Helladic IIIC 1b pottery in Cyprus, Syria and Israel simply were doing what came natural to them. These “northwesterners”, who were to reach and settle in Cyprus, Syria and Israel—whether for the short-term, or for the long—during the upheavals of the twelfth-century BC, must have originally left from somewhere. Such a departure assumes a certain amount of organization and preparation. Thus, the Pylos Rower Tablets may reflect one form of preparation—palace oriented and therefore highly structured—for such sea-borne relocation.

Given the estimated population of Pylos, the fleet recorded on PY An 610 (and PY An 724), assuming that both documents are referring to the same fleet) probably would have been only one of many (and perhaps the last?) such expedition required to transport even a small segment of the people of Pylos—together with their servants, their belongings and their livestock—to the new location.

Something obviously must have happened. The population estimate for the subsequent Late Helladic IIIC period appears to have dropped to about a tenth of

the population that existed during the Late Helladic IIIB.⁴⁸ But perhaps the most intriguing question that would arise if the people of Pylos abandoned—and perhaps torched—their own palace, before sailing off into the horizon is this: Where did they go?

I submit the above interpretation as a *working hypothesis* to be examined by scholars against the archaeological and linguistic evidence. If this interpretation does have merit, however, it would have a truly profound influence on our understanding of the other Linear B documents found at Pylos, for how likely would it then be that, of all the tablets recovered from Pylos, only these three reflect the organization of a Mycenaean evacuation? This would require a reevaluation of the entire Pylos archives in light of an abandonment theory.

Acknowledgments

I have received valuable comments from a number of scholars on topics pertinent to this paper. My thanks to: George F. Bass, Emmett L. Bennett, Lionel Casson, John Chadwick, John Lenz, Thomas G. Palaima, Frederick H. van Doorninck, Jr., and Malcolm H. Wiener. The opinions expressed here are, however, my own.

Shelley Wachsmann
Institute of Nautical Archaeology
PO Drawer HG
College Station, TX 77841-5137

NOTES

1. Ventris and Chadwick 1973; Chadwick 1976. On the decipherment of Linear B, see Chadwick 1958A: 12-21.
2. Most recently Palaima (1991) has collected the relevant materials.
3. The name of Pylos (*Pu-ro*) appears on over fifty tablets from Ano Englianos, thus confirming the site's identification (Ventris and Chadwick 1973: 1410142; Blegen and Rawson 1966A: 419; Chadwick 1976: 40). For transcriptions of the Linear B tablets from Pylos see Bennett and Olivier 1973.
4. Blegen and Rawson 1966A: 5-6; Mc Donald 1967: 234.
5. Ventris and Chadwick 1973: 14. For a discussion of the site locations of Linear B texts found outside of the Archive complex at Pylos see Palaima 1988: 135-169.
6. Ventris and Chadwick 1973: 144; Chadwick 1973: 407; 1976: 18, 27.
7. Ventris and Chadwick 1973: 183-185, 357-358; Chadwick 1973: 414, 427-430; 1976: 173-179; 1987 B; Palmer 1956; 1963: 103-110, 147-163; 1965: 143-154; Baumbach 1983.
8. Ventris and Chadwick 1973: 189; Palmer 1956; 1963: 147-155; Bennett and Olivier 1973: 53;
9. Ventris and Chadwick 1973: 184-185, 188-194; Mühlestein 1956; Chadwick 1973: 127-430; 1976: 175-177.

10. Ventris and Chadwick 1973: 157-158; Palmer 1963: 281-284; Bennet and Olivier 1973: 175; Chadwick 1973: 511-513; 1976: 141-142.
11. Ventris and Chadwick 1973: 184-189; Palmer 1963: 261-268; Bennett and Oliver 1973: 233-234; Chadwick 1973: 458-462; 1976: 89-92, 179, 192.
12. Chadwick 1976: 91-92. Even if the interpretation of human sacrifice is correct, Buck (1989) suggests that human sacrifice might have been a regular, institutionalized, act for which men and women were kept in readiness. If this is correct, as I believe to be the case, then this would weaken the argument for the proposed sacrifice taking place under exceptional circumstances. See Wachsmann, in press.
13. Lindgren 1973 (I): 163-164; (II): 49-50.
14. Palaima 1991: 286. On the scribes of Pylos see Palaima 1988. A conservative estimate of the identifiable scribes on the Pylos tablets their number at thirty-two (172).
15. Ventris and Chadwick 1973: 185-186; Palmer 1963: 129-130; Bennett and Olivier 1973: 43; Chadwick 1973: 430-431.
16. Casson 1971: 44-45.
17. Ventris and Chadwick 1973: 186-187; Palmer 1963: 130-131; Bennett and Olivier 1973: 50; Chadwick 1973: 431; 1987B: 75-79; Palaima 1991: 285-287.
18. Chadwick 1987B: 77.
19. References to the number of ships in fleets appear in several tablets from Ugarit: 150 ships from Ugarit in KTU 2.47, as well as twenty and seven enemy (Sea Peoples) ships respectively in RS 20.18 and RS 20.238 (Van Soldt and Hoftijzer, in press).
20. Ventris and Chadwick 1973: 265; Chadwick 1976: 71; Lindgren 1973 (I): 46; (II): 50, 84, 135, 150, 153-155, 187, 197, 209.
21. Ventris and Chadwick 1973: 186-187, 200, 279; Lindgren 1973 (I): 127-128; (II): 37-38, 50-51, 84, 134-136, 152, 154, 161-162, 179, 185-188, 197, 210.
22. Killen 1983.
23. Ventris and Chadwick 1973: 187-188; Palmer 1963: 130-132; Bennett and Olivier 1973: 54; Chadwick 1973: 431-432; 1987B: 79-81; Perpillou 1968.
24. Chadwick 1987B: 79.
25. Palaima 1991: fig. LXIII:b; Wachsmann, in press.
26. Basch 1987: 140-154; Wachsmann 1995: 25-29.
27. Personal communication from T.G. Palaima. Compare Palaima 1991: 286, fig. LXIII: a.
28. Protonotariou-Deilaki 1987: 126 figs. 1-4.
29. *PM IV*: 950 fig. 917, 952 figs. 919-920.
30. Naville 1908: 2-5, pls. CLIII-CLIV; Landström 1971: 130-131 fig. 383.
31. On boat races in Classical times see Gardiner 1891A: 1891B: Harris 1972: 126-132.
32. On dragon boats and the races in which they are employed see Bishop 1938: 415-424, pls. II-III, figs. 4-6; Worcester 1956; 1971: 256-257, 459-461, 530-535; Spencer 1976: 74, pl. 18; Smith 1992A; 1992B. On boat races at Thera see Marinatos 1974: 51 fig. 6, color pl. 9; Casson 1975; Wachsmann 1980; Dumas 1992: 68-79, 81, 83.
33. Naville 1898: pls. LXXII-LXXIV.
34. Herodotus I: 163.
35. See most recently Casson's (1995) discussion on the use of galleys for merchantile activity throughout antiquity.
36. Herodotus I: 164. Translation by A.D. Godley from *Herodotus* I. (Loeb Classical Library). London 1975.
37. *ARAB II*: no. 326. See also nos. 239 and 309.
38. Barnett 1969: pl. I: 1.
39. Consider the lament of the king of Ugarit in RS 20.238 in finding his kingdom attacked by seafaring marauders while his own fleet is located far afield, in the Lukka lands (van Soldt and Hoftijzer, in press).

40. Chadwick 1873: 431; Palmer 1963: 90-91, 131, 136-137; Palaima 1991: 286. See Lingren 1973 on: *ki-ti-ta* (I): 170-171; (II): 82-83; *me-ta-ki-ti-ta* (I): 174; (II): 82, 97; *po-si-ke-te-re* (I): 180; (II): 124; *po-ku-ta* (I): 179; (II): 118-119.
41. Ventris and Chadwick 1973: 188; Chadwick 1973: 431. Palaima (1991: 286) translates this term (*ki-ti-ta o-pe-ro-ta e-re-e*) as "landholder who owes service as a rower".
42. Palaima 1991: 286. On KTU 4.40 see now van Soldt and Hoftijzer, in press.
43. This is true irrespective of the date assigned to the palace's destruction. Blegen dated the site's destruction to the end of the Late Helladic IIIB, just when Late Helladic IIIC pottery was coming into use (Blegen and Rawson 1966A: 421). More recently, Popham (1991) has proposed an early date within the Late Helladic IIIB for the end of Mycenaean Pylos based on the site's enigmatic lack of fortifications and has suggested a Proto-Geometric date for the ceramics that Blegen found there and assigned to the Late Helladic IIIC period. Griebel and Nelson (1993) note the existence of a significant Geometric inhabitation at Pylos.
44. Blegen and Rawson 1966A: 424.
45. Ventris and Chadwick 1973: 332-348; Palmer 1963: 338-365; Bennett and Olivier 1973: 230-231.
46. The metal artifacts found during the excavations of the palace are relatively few and, for the most part, fragmentary; they appear among the plates of small finds in Blegen and Rawson 1966B: pls. 261-317.
47. Knapp, Muhly and Muhly 1988 and additional bibliography there.
48. Chadwick 1976: 177-178.

BIBLIOGRAPHY

- ARAB = Luckenbill, D.D., 1968. *Ancient Records of Assyria and Babylonia I-II*. New York. (Reprint.)
- Barnett, R.D., 1969. Ezekiel and Tyre. *Eretz Israel* 9:6-13, pls. I-IV.
- Basch, L., 1987. *Le Musée Imaginaire de la Marine Antique*. Athens
- Baumbach, L. 1983. An Examination of the Evidence for a State of Emergency at Pylos c. 1200 BC from the Linear B Tablets. *Res Mycenaeae (Akten des VII. Internationalen Mykenologischen Colloquiums in Nürnberg vom 6-10. April 1981)* Eds. A. Heubeck and G. Neumann. Göttingen: 28-40.
- Bennett, L., Jr., and J-P. Olivier, 1973. *The Pylos Tablets Transcribed I. (Incunabula Graeca 51)*. Rome.
- Bishop, C.W., 1938, Long-Houses and Dragon-Boats. *Antiquity* 13:411-424, pls. I-III, figs. 1-6.
- Blegen, C.W., and M. Rawson, 1966A. *The Palace of Nestor at Pylos in Western Messenia I: The Buildings and their Contents. Parts 1: Text*. Princeton.
- Blegen, C.W., and M. Rawson, 1966B. *The Palace of Nestor at Pylos in Western Messenia I: The Buildings and their Contents. Part 2: Illustrations*. Princeton.
- Buck, R.J., 1989. Mycenaean Sacrifice. *Minos* 24: 131-137.
- Casson, L., 1971. *Ships and Seamanship in the Ancient World*. Princeton.
- Casson, L., 1975. Bronze Age Ships. The Evidence of the Thera Wall Paintings. *International Journal of Nautical Archaeology* 4:3-10.

- Casson, L., 1995. Merchant Galleys. In: *Conway's History of the Ship: The Age of the Galley*. London: 117-126.
- Chadwick, J., 1958. *The Decipherment of Linear B*. Cambridge.
- Chadwick, J., 1973. Additional Commentary. In: *Documents in Mycenaean Greek*. Second Edition. Cambridge: 383-524.
- Chadwick, J., 1976. *The Mycenaean World*. London.
- Chadwick, J., 1987A. *Linear B and Related Scripts*. Berkeley.
- Chadwick, J., 1987B. The Muster of the Pylian Fleet. In: *Tractara Mycenaea. (Proceedings of the Eighth International Colloquium on Mycenaean Studies, Ohrid, 15-20 September 1985)*. Eds. P.H. Ilievski and L. Crepajac. Skopje: 75-84.
- Doumas, C.G., 1992. *The Wall Paintings of Thera*. (Trans. A. Doumas). Athens.
- Gardiner, P., 1891A. Boat Races Among the Greeks. *Journal of Hellenic Studies* 11: 90-97.
- Gardiner, P., 1891B. Boat-Races at Athens. *Journal of Hellenic Studies* 11:315-317.
- Griebel, C., and M.C. Nelson 1993. Post-Mycenaean Occupation at the Palace of Nestor. *American Journal of Archaeology* 97: 331.
- Harris, H.A. 1972. *Sport in Greece and Rome*. Ithaca.
- Herodotus=*Herodotus* I. Trans. A.D. Godley. (Loeb Classical Library). London. 1975.
- Killen, J.T. 1983. PY An 1. *Minos* 18:71-79.
- Knapp, A.B., J.D. Muhly and P.M. Muhly, 1988. To Hoard is Human: Late Bronze Age Metal Deposits in Cyprus and the Aegean. *Report of the Department of Antiquities, Cyprus*: 233-262.
- KTU = *Die Keilalphabetischen Texte aus Ugarit*. Eds. Dietrich, M., O. Loretz and J. Sanmartin. (Alter Orient und Altes Testament 24:1). Kevelaer - Neukirchen - Vluyn, 1976.
- Landström, B., 1970. *Ships of the Pharaohs*. Garden City.
- Lindgren, M., 1973. *The People of Pylos: Prosopographical and Methodological Studies in the Pylos Archives I-II. Boreas (Uppsala Studies in Ancient Mediterranean and Near Eastern Civilizations)* 3/1.
- McDonald, W.A., 1967. *Progress Into the Past: The Rediscovery of Mycenaean Civilization*. New York.
- Mühlestein, V. 1956. *Die oka-Tafeln von Pylos*. Basel.
- Marinatos, S., 1974. *Excavations At Thera VI (1972 Season)*. Text and Plates. Athens.
- Naville, E., 1898. *The Temple of Deir el Bahri III: End of the Northern Half and Southern Half of the Middle Platform*. London.
- Naville, E., 1908. *The Temple of Deir el Bahri VI: The Lower Terrace, Additions and Plans*. London.
- Palaima, T.G., 1988. *The Scribes of Pylos. (Incunabula Graeca 87)*, Rome.
- Palaima, T.G., 1991. Maritime Matters in the Linear B Tablets. *Aegaeum (Annales d'archéologie égéene de l'Université de Liège)* 7: 273-310, pl. LXIII.
- Palmer, L.R., 1956. Military Arrangements for the Defense of Pylos. *Minos* 4: 120-145.
- Palmer, L.R., 1963. *The Interpretation of Mycenaean Greek Texts*, Oxford.
- Palmer, L.R., 1965. *Mycenaeans and Minoans: Aegean Prehistory in the Light of the Linear B Tablets*. New York.

- Perpillou, J.-L. 1968. La tablette PY An 724 et la flotte pylienne. *Minos* 9: 205-218.
- PM = Evans, A., *The Palace of Minos* I-IV. London. 1921-1964.
- Popham, M., 1991. Pylos: Reflections on the Date of its Destruction and on its Iron Age Reoccupation. *Oxford Journal of Archaeology* 10:315-324.
- Protonotariou-Deilaki, E., 1987. Ship Representations from Prehistoric Argolis (MH Period). *Tropis* 2: 123-126.
- Smith, S., 1992A. Friendship Through Paddling: East Meets West on the Water. *The World & I* (October): 662-669.
- Smith, S., 1992B. Tribute to a Statesman: Dragon Boat Racing in Yueyang, *The World & I* (October): 671-679.
- Spencer, J.E., 1976. *Junks of Central China: The Spencer Collection of Models at Texas A&M University*. College Station.
- van Soldt, W.H. and J. Hoftijzer, in press. Appendix: Ugaritic Texts Pertaining to Seafaring. In: S. Wachsmann, *Seagoing Ships and Seamanship in the Bronze Age Levant*. College Station.
- Ventris, M. and J. Chadwick, 1973. *Documents in Mycenaean Greek*. Second edition. Cambridge.
- Wachsmann, S., 1980. The Thera Waterborne Procession Reconsidered. *International Journal of Nautical Archaeology* 9: 287-295.
- Wachsmann, S., 1995. Earliest Mediterranean Paddled and Oared Ships to the Beginning of the Iron Age. *Conway's History of the Ship: The Age of the Galley*. London:10-35.
- Wachsmann, S., in press. *Seagoing Ships and Seamanship in the Bronze Age Levant*. College Station.
- Worcester, G.R.G., 1956. The Origin and Observance of the Dragon Boat Festival in China. *Mariners Mirror* 42: 127-131.
- Worcester, G.R.G., 1971. *The Junks & Sampans of the Yangtze*. Annapolis.

ILLUSTRATIONS

- Fig. 1 The archive rooms (7 and 8) at Pylos.
Photo: S. Wachsmann.
- Fig. 2 Luli, the king of Sidon, escapes from Tyre with his family and retinue in a fleet consisting of both oared "round" merchant ships and war galleys as Sennacherib advances on the city. Note that both types of ship carry male and female evacuees. From the palace of Sennacherib at Nineveh circa 690 BC.
From Barnett 1969: pl. I: 1.



Fig. 1

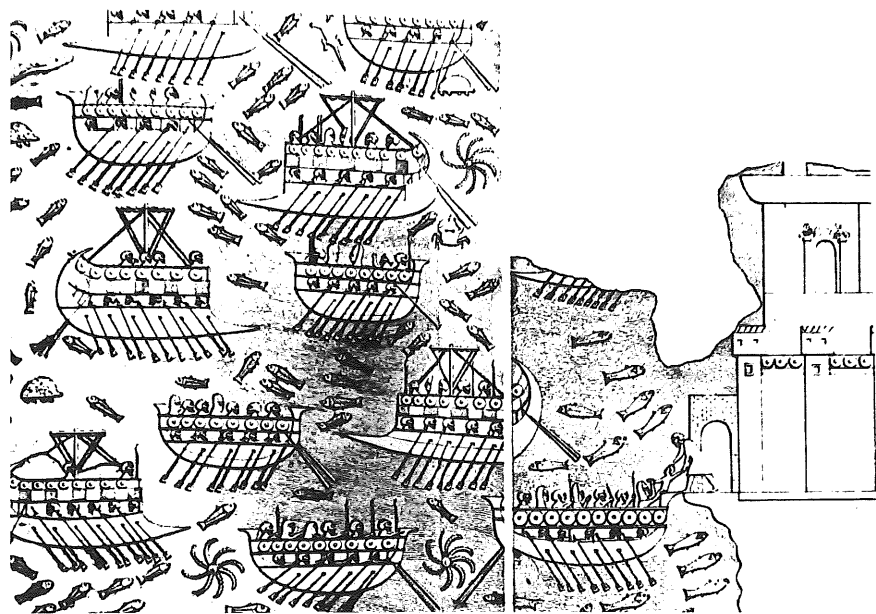


Fig. 2