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The Political Landscape of Mycenaean States: *A-pu₂* and the Hither Province of Pylos

MICHAEL B. COSMOPOULOS

Abstract

Our knowledge of the political landscape of the Mycenaean state of Pylos has been shaped largely by the evidence from the palatial center at Ano Englianos and also by the shortage of systematic and fully published archaeological fieldwork in nonpalatial sites. In the present article an effort is made to shift our perspective from the palatial center to one of the administrative districts of the Pylian state. The study draws on the results of a current archaeological project investigating Iklaina, which has been plausibly identified as *a-pu₂*, one of the district capitals of the Hither province of Pylos. After a review of the existing textual and archaeological evidence on the location, hierarchy, and patterns of settlements in the Pylian state, the discussion is narrowed to Iklaina and *a-pu₂* in an effort to produce a detailed picture of the political landscape in this district and to reconstruct its settlement pattern and hierarchy in the LH IIIB. The results of the project suggest a four-tier hierarchy consisting of (1) the Palace of Ano Englianos; (2) the site of Iklaina:Traghanes, which most likely was the district capital; (3) smaller habitation sites, which presumably were villages engaged in agriculture, and one site, Katsimigas, which may have served as an industrial center; and (4) a number of small concentrations of surface finds, which were probably farm installations or remains of limited rural activities. The analysis of the political landscape of Mycenaean states has the potential to produce new and exciting information about the structure

of these states. Furthermore, it may allow detailed comparisons among these complex and diverse polities and a better understanding of the differences and similarities in their organizational structures and evolutionary courses.*

INTRODUCTION

States are defined by their “political landscapes”—simple or complex networks of settlements and communities, buildings and monuments, roads and boundaries—which reflect the actions of authority and control the flow of people and commodities.¹ Where the study of early states is concerned, the analysis of their political landscapes may shed new light on their operational scale, structure, and organization. In Greece a great deal of scholarly research has been devoted to the Mycenaean state of Pylos, fueled by the Linear B tablets found at the Palace of Ano Englianos and the extensive archaeological fieldwork conducted in Messenia. As a result we now have a fairly clear idea of the basic geographic aspects of that state. We know, for example, that its territory extended from the Ionian Sea in the west to Mount Taygetos in the east, and from Cape Akritas in the south to the Nedhas River/Kyparissia area

*I am indebted to John Bennet and Michael Galaty, as well as to the two anonymous reviewers of the *AJA*, for reading this paper and offering valuable comments and suggestions. Needless to say, I remain entirely responsible for any remaining errors or omissions. In preparing the groundwork for this project, I benefited tremendously from discussions, suggestions, and feedback provided by George S. Korres, who generously shared with me his profound knowledge of Messenian archaeology. It is also a pleasure for me to acknowledge the guidance, support, and input that Cynthia W. Shelmerdine, Thomas G. Palaima, and Jack L. Davis have provided to this project. Many thanks are due to the Board of the Athens Archaeological Society, particularly the Secretary General Basileios Petrakos, as well as the director of the Seventh Ephorate of Antiquities, Xenia Arapogianni, for the necessary fieldwork permits and for their unfailing support. The epimelitria of the Ephoreia, Georgia Hadji, and the staff of the Pylos Museum, especially the head guard, Kostas Sikalias, were of great help in alleviating many of the practical problems of fieldwork. It is also a pleasure to acknowledge the contributions that all the members of the Iklaina Archaeological Project (IKAP) have made to the project, especially Cynthia W. Shelmerdine, Chris Mundigler, Deborah Rus-

cillo Cosmopoulos, and Douglas Edwards, as well as the many students and volunteers who worked long hours under the sun without losing their enthusiasm and, especially, humor. For allowing me to reproduce illustrations, many thanks are due to Carol Hershenson, curator of the Classics Study Collection and Excavation Records of the University of Cincinnati (fig. 2), Cambridge University Press (fig. 3), and John Cherry (fig. 4). On a personal note, I would like to thank my wife Deborah for her unfailing support and help throughout this project.

¹The term “political landscape” carries multiple meanings (Smith 2003, 6–9). Its first meaning is semiotic, in that values and ideals can be expressed in the built features of the landscape; its second meaning revolves around the aesthetic representations of physical space reflecting the directives of certain regimes. Metaphorically, it can denote the range of political forces of the state; and literally, it can mean the manipulation of the environment by political authorities. Although any analysis of political landscape cuts across all four meanings, it is the last meaning, the shaping of the Pylian landscape by its political authority and the ways in which political actions are expressed in the configuration of the landscape, with which we are concerned here.

in the north (fig. 1).² For administrative purposes, Pylos was divided into two provinces: *de-we-ro-a₃-ko-ra-i-ja* (the Hither province) and *pe-ra₃-ko-ra-i-ja* (the Further province), names that indicate, respectively, the regions to the west and east of Mount Aigaleon.³ The two provinces communicated with each other through the passes between the Soulima and Stenyclarian plains in the north and a road in the Kazarma-Neromylos area in the south.⁴ Each province encompassed several districts, and each district had at least one major settlement. The Linear B tab-

lets record nine such settlements (conventionally called "towns") for the Hither province and seven or eight for the Further province.⁵ In addition, they mention a large number of other toponyms, some indicating districts or settlements "of varying size and importance,"⁶ and some referring to mountains, rivers, and other geographical features.

Putting these toponyms on a map is one of the most serious challenges in studies of Pylian political geography.⁷ At the root of the problem lies our inability to "fix" some of these places in real space because the

² Chadwick's view that the northern frontier would have overlapped with a natural boundary (i.e., the mountains bordering the Kyparissia plain in the north) seems reasonable, given the apparent lack of Mycenaean sites in the Nedha Valley (Chadwick 1963, 136; 1972, 108–9; 1976, 37–9). Earlier attempts to push the northern frontier into Elis had relied on the Homeric reference to Nestor's kingdom extending all the way to the Alpheios River (*Il* 2.592) and on unfounded assumptions about the locations of the two northernmost towns of the Hither province, *pi**82 and *me-ta-pa* (Palmer 1955, 2; Pugliese Carratelli 1958, 42, 45–6; Schwyzler 1960; Panessa 1995, 66; cf. Was 1970, 148). Earlier scholars (e.g., Mühlestein 1955) had also attempted to extend the Pylian territory over a large part of the Peloponnese on the basis of references in the tablets to places like *ko-ri-to* (Corinth). These suggestions, however, do not consider that the Linear B records mention also place-names outside the realm of Pylos (*infra* n. 6) or that several toponyms known from other parts of Greece (*ko-ri-to* being one of them) may have existed within the realm of Pylos (*Docs*², 139–40 [already mentioned in the first edition]; Chadwick 1977, 37). For an overview of the Homeric references to the topography of Pylos, see Loy 1970, 11–15, and the map of his fig. 2. For the absence of references to extraterritorial localities in the Pylos tablets, see Palaima 1991, 273–310.

³ The identification of the divider between the two provinces is the second component of the words *de-we-ro-a₃-ko-ra-i-ja* and *pe-ra₃-ko-ra-i-ja*. Both Palmer (1963, 69) and McDonald (1960) had thought that *a₃-ko-ra-i-ja* referred to Cape Akritas, although Palmer did not think that the word could be interpreted, while McDonald interpreted it as Ἀγκαλέον. At the heart of both identifications is the belief that the main bulk of communications was conducted by sea instead of by land; therefore, a sea marker, such as Cape Akritas, would have been more likely. Since then, McDonald (1964) reevaluated his position on the importance of land communications, and Chadwick (1963, 137) established the correct spelling as Αἰγολάιον (more on this identification in *Docs*², 144). This can be identified with Strabo's Αἰγαλέον (Mount Aigaleon), modern Mount Haghia (Αγιά, alt. 1218 m), which dominates the Messenian landscape from Kyparissia in the north to near the Messenian Gulf in the south. Note that, since the mountain heads west in the area of Kyparissia, the definition of the two provinces may have meant "north of Aigaleon" (meaning the Kyparissia Valley all the way to the Mavrouzomenos-Pamisos Valley) and "south of Aigaleon" (Bennet 1999b, 145). The two provinces are mentioned clearly in the two tablets Ng 319 and Ng 332, which record the contributions of the Na series broken down by towns and villages (Bennett and Olivier 1973; 1976, 209); see also *Docs*², 142–45; McDonald 1960; Chadwick 1963; 1972, 104; Palmer 1963, 66–68; Bennet 1995, 588; 1998, 113–14.

⁴ Discovered by the MME (McDonald 1964, 224–35; Fant

and Loy 1972, 27).

⁵ It is uncertain whether the Further province had seven or eight towns/districts because *e-re-i* does not appear on the Ma tablets. Furthermore, on Jn 829 *ro-[u]-so* is substituted for *e-ra-to*, although Chadwick considered *ro-[u]-so* the name for the district in which the town *e-ra-to* lay. Another discrepancy is that the Further province town *e-sa-re-wi-ja* is mentioned in On 300 but not in Jn 829. Conversely, the Further province town *za-ma-e-wi-ja* appears on Jn 829 but not on On 300, whereas both *e-sa-re-wi-ja* and *za-ma-e-wi-ja* are mentioned together on Vn 493 (Chadwick 1972, 102, 105).

⁶ Bennet 1999b, 136. Chadwick's (1972, 102) cautious estimate of the number of inhabited settlements within the Pylian kingdom mentioned in the Linear B tablets is about 150, although at least 37 are mentioned only once, in the Na series (Bennet 1988b, 22). Stavrianopoulou's (1989, 154; 1996, 498 n. 1) estimate is 165. If to these we add the toponyms, which we know from other parts of Greece (but which, as we saw in *supra* n. 2, may have belonged to Pylian places), the total number is raised to anywhere between 185 (Chadwick, 1972, 102) and 220 (Bennet 2001, 32 n. 44), or even 240 (Bennet 1995, 594) to 256 (Chadwick, 1972, 102). Part of the uncertainty is also due to the considerable variation in scholarly opinion as to which particular words are really toponyms. Chadwick (1972, 102) suggested that some districts may have borne the same name as their major towns (e.g., New York, New York) and that the only case of a district having a different name from that of its town was that of *e-ra-to* and *ro-u-so* (for which, see *supra* n. 5). Note, however, Bennet's (1999b, 147) reasonable suggestion that the twin name *e-ra-to* and *ro-u-so* may in fact have reflected twin settlements in the area of Koukounara, on either side of the gorge at the Potami tou Arapi. For general issues of Mycenaean toponyms, see Doria 1970–1971; Sainer 1976; and the more recent discussion in Bennet 1999b, 134–39. By analyzing the associations of masculine names shared by two or more place-names, Lang (1988, 186, 211) has explored the possibility that some toponyms may indicate subdivisions of towns or districts dependent on major towns. Although the results of this analysis were not conclusive because the nexus of associations produced by these cross-references was too chaotic, we do have cases where Mycenaean scribes make explicit references to subdivisions of places, which suggests that they were capable of doing so if they chose. The only instance, according to Chadwick (1988, 84), where a toponym clearly designates a subdivision of a town is *ke-re-za*, as a subdivision of *pu-ro*. It should be made clear that these numbers refer to the toponyms mentioned in the tablets, not to the archaeologically attested sites, which are discussed below (*infra* n. 50).

⁷ The contributions in Bintliff (1977) are central to the integration of Linear B studies with Mycenaean geography.

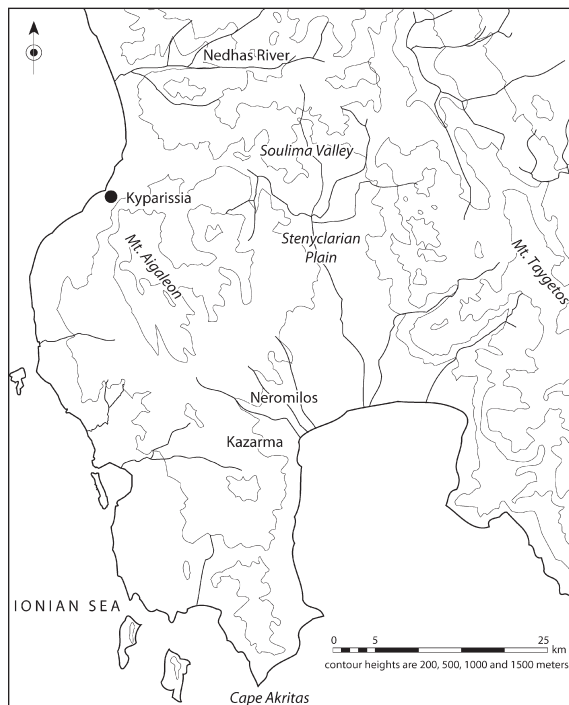


Fig. 1. Map of Messenia (drawing by R. Robertson).

tablets record lists of places without any explicit information about their positions or distances from each other.⁸

The problems created by the ambiguity of the records are compounded by inadequacies in our methodological approaches. A major methodological issue is the integration of textual and archaeological evidence. Although the need for an integrated analysis of both types of evidence has been a long-time tenet in Mycenaean studies, the two are largely incompatible: the tablets contain a great deal of information on transactions that have not left direct traces in the material record. They also include details on

events that, in contrast to the not so precisely dated archaeological evidence, belong to a single point in time.⁹ This incompatibility between data from the texts and data from the spade impedes our attempts to equate many of the places recorded in the tablets with archaeologically attested sites.¹⁰ As a result, a different approach has developed, which is the one employed in this paper: although still grounded in the pioneering work by Chadwick and other early scholars, it seeks to match not sites but *levels of site hierarchy* recorded in the tablets with levels of hierarchy of archaeologically attested sites.¹¹ “Hierarchy” is defined as the structuring of settlements on the basis of their political and economic status within the nexus of settlements of the Pylian state.¹² In theory, the criteria for ranking settlements according to their political standing are based on the possible administrative function of these settlements (seat of state, regional, or local government, or no such function), while the criteria for ranking settlements according to their economic standing are based on the range of activities in which settlements engage and the level of their productivity.

Another methodological issue concerns the unbalanced origin of our evidence. All of the available textual records derive from the Palace of Ano Englianos and reflect a view of the Pylian state from the perspective of its administrative center. As a result, our view of the Mycenaean world of Messenia has been dominated by a “centro-centric” outlook, in which the palace exercised tight control over many aspects of the administration and economy of its territories, including its towns and villages.¹³ To a large extent this perspective has been influenced by the shortage of systematic and fully published archaeological field projects in nonpalatial settlements.¹⁴ In Messenia the sort of fieldwork originally pioneered by the Minnesota Messenia Expedition (MME) and more

⁸ For recent analyses of the specific problems of interpretation of the Linear B evidence, see Palaima 2003, 2004.

⁹ Bennet 1984; for the incompatibility of the two types of evidence and the need to integrate them, see McDonald and Rapp 1972; Palaima and Shelmerdine 1984; Bennet 1988a, 1988b. The issue of combining the geographical information from the tablets with archaeological data concerning geography is different from the issue of establishing the archaeological context of the tablets, which has been advanced through several studies (see Bendall 2003, 184 n. 15 with references).

¹⁰ In the cases of *pu-ro* (= Pylos) the identification can be made with certainty (it should be remembered that *pu-ro* refers to Ano Englianos, not the classical Pylos). The identification was first suggested by Blegen and Kourouniotis (1939) before the discovery of the tablets and later confirmed by the use of the term *pu-ro* in the tablets (*Docs*², 141–42). In the tablets there is mention of two places with the name *pu-ro*: *pu-ro ra-u-ra-ti-jo* and *ma-to-ro-pu-ro*; the former probably refers to a place at a

distance from Ano Englianos, and the latter could be taken to mean “mother Pylos” (Chadwick 1972, 103).

¹¹ Bennet 1988b, 25–6.

¹² See the discussion in Stavrianopoulou 1996, 500.

¹³ See the discussion of these models of Mycenaean states by Galaty 1999, 1 (cf. Bennet 1999a; Galaty and Parkinson 1999). For Knossos, see Driessen’s (2001) insightful analysis. Small (1999, 47) goes so far as to argue that even the issue of political control of the palace over the territories is not certain, and that terms such as “provinces,” “secondary centers,” etc., should be used with caution in light of the new regional data that are being produced by surface surveys.

¹⁴ The lack of systematic archaeological excavations at nonpalatial Mycenaean centers (with the exception, of course, of Nichoria) had already been noted several years ago by Palaima 1987, 509; Davis 1988, 164; more recently by Galaty 1999, 1; Galaty and Parkinson 1999, 4.

recently augmented by the Pylos Regional Archaeological Project (PRAP) has pointed the way to a balanced and detailed investigation of the center and its subordinate settlements,¹⁵ leading to a closer analysis of the individual components of the political landscape of the Pylian state. Archaeologists are now challenged not only to fill the gap with systematic exploration of rural territories and nonpalatial settlements but also to highlight the importance of local communities and decentralized economies by developing fresh perspectives of the material record.¹⁶ The time has come for “specific, targeted research projects”¹⁷ that will examine each district and its corresponding towns and villages as a single unit by isolating the relevant textual information and increasing the level of magnification of archaeological analysis to the maximum possible degree. We need to zoom in on each district and examine it as a self-standing entity, so that we can assess its function and status in relation not only to the palace but also to other districts, and reconstruct the nexus of its settlements, large and small.¹⁸

The present article draws on the results of one such sharply focused project, the Iklaina Archaeological Project (IKAP), directed by the author in an area tentatively identified with *a-pu₂*, one of the nine districts of the Hither province. After a review of the existing textual and archaeological evidence about the hierarchy of settlements in the Hither province, the discussion narrows to Iklaina and *a-pu₂* in an effort to produce a detailed picture of the political landscape in this district and to reconstruct its settlement pattern and hierarchy in the Late Helladic (LH) IIIB period. The paper deals with the Pylian political landscape at the close of the 13th century B.C. and does not discuss issues of the evolution of *a-pu₂* within the Mycenaean period or its role in the unification of the Pylian state, which will be treated elsewhere.

THE TEXTUAL EVIDENCE: HIERARCHY AND LOCATION OF PYLIAN PLACES

The textual evidence relevant to the political geography of Pylos derives from several tablets. Indi-

vidual tablets such as On 300, Jn 829, Cn 608, and Vn 20 (fig. 2) record the major towns of the two provinces in a fixed order, a sort of “standard list” (table 1). In addition, the following three sets of tablets are relevant: the five personnel tablets of the An series known as “coastguard,” or *o-ka* tablets, which mention troops stationed in coastal districts;¹⁹ the tablets of the Aa and Ab series, which list women, children, and their respective locations, separating indirectly the towns and villages of the Further province from those of the Hither province;²⁰ and the Na and Ng series, which record contributions broken down by towns and villages.²¹

Analysis of these tablets has allowed scholars to reconstruct the overall settlement hierarchy of the Pylian state. Indisputable is the dominating place of *pu-ro* as the seat of government for the entire state and the authority controlling many aspects of the statewide production and circulation of goods.²² Below *pu-ro* a second tier of settlements includes the 17 or 18 towns that were administered by a *ko-re-te* (a local or regional governor, sometimes translated as “mayor”) and *po-ro-ko-re-te* (probably his deputy). From an economic point of view, these towns appear also to have controlled several aspects of the agricultural and industrial production in their districts, and it is possible that they served as centers for “collective farming activity and local redistribution”²³ for their wider communities (table 2).

A major issue is, of course, their geographic location. As will become clear, different methods for placing Pylian toponyms can stand alone but are stronger when combined. Early attempts relied heavily on linguistic analyses of place-names, especially in cases where a toponym describes a topographical feature that can be recognized with a certain degree of certainty. Such, for example, is the case of [*ku*]-*pa-ri-s* = Kyparissos (modern Kyparissia), *ne-do-wo-ta-de* = the River Nedon, and *ri-jo* = Rhion (modern Cape Akritas). Other topographical characterizations are, however, too general to be useful in this respect. Examples of these include *e-re-i* = Helos (swamp) and *ka-ra-do-ro* =

¹⁵ *Infra* p. 214.

¹⁶ E.g., Galaty's (1999) analysis of regional ceramic manufacture and exchange in LH Messenia, Parkinson's (1999) study of obsidian from the region of Pylos, and Korres' (2003) analysis of Early Mycenaean gold from Messenia. For new approaches to the texts, see Voutsaki and Killen (2001, 3–14) and the discussion in de Fidio 2001, 19, 23 (with further references).

¹⁷ Galaty and Parkinson 1999, 2.

¹⁸ Obviously we do not have sufficient evidence to identify the precise territory and boundaries of each district. In our case, as explained below (p. 215), it would be reasonable to assume that covering a solid and continuous block of land between two major habitation centers *would* include a good portion of their

territory.

¹⁹ *O-ka* = ὀρχαῖ (Attic ὀρχή) (Palmer 1954, 52). For the coastguard tablets see *Docs*², 52–60; Mühlestein 1956; Palmer 1956; Risch 1958; Chadwick 1972, 105–7; Bennett and Olivier 1973; 1976, 43–60; Hiller 1976, 117–25; Lang 1990.

²⁰ For the Aa tablets, see *Docs*², 155–58; Chadwick 1972, 107; Bennett and Olivier 1973; 1976, 17–21. For the relationship of the Aa, Ab, and Ad tablets, see Chadwick 1988, 62–7.

²¹ For the Na and Ng tablets, see Bennett and Olivier 1973; 1976, 201–8.

²² *Pu-ro* has, of course, been identified with the Palace of Ano Englianos (*supra* n. 10).

²³ Halstead 2001, 50.



Fig. 2. Three documents with the “standard list”: Jn 829, Cn 608, and Vn 20 (courtesy T. Palaima and the Department of Classics, University of Cincinnati).

Kharadros (ravine), or *[ku]-pa-ri-so* = area with cypresses.²⁴ Some toponyms can be identified with a historical site elsewhere in Greece, as, for example, *ko-ri-to* = Corinth. Such identifications are, however, unsupported. First, the topographical features are often so generic that they offer little help in pinpointing specific locations. Second, with the exception of *pu-ro* (= Pylos), most lie outside the Pylian state (e.g., *ko-ri-to* = Corinth), although we should bear in mind that some place-names are so common in Greece that it is almost certain that some Pylian sites that are unknown to us carried similar names.²⁵

More to the point is the “standard list.” Since the early days of Linear B studies, it has been established

that because the fixed order in which these towns are listed is neither quasi-alphabetic nor does it reflect the productivity or economic importance of each town/district, this list is likely to be geographical.²⁶ In this respect, it follows a (rather flexible) north-south line, a concept compatible with the possibility that the Mycenaean scribes of Pylos may have followed “scribal routes” in the ordering of the records. In other words, it is possible that the scribes perceived their territory not as a two-dimensional “Euclidean” space but rather in terms of “itineraries.”²⁷ On the basis of the evidence from the tablets, Chadwick, Shelmerdine, and Bennet have established the relative locations of the major towns of the Hither and Further prov-

²⁴ *Docs*², 143; Chadwick 1972, 104. Marinatos (1961, 236) identified *ka-ra-do-ro* (Kharadros) with Koukounara, which is located in an area with deep ravines, and *e-re-i* (Helos) with Peristeria. *[ku]-pa-ri-so* might be indirectly identified with modern Kyparissia, through the ethnicon *ku-pa-ri-si-jo* on the *o-ka* tablets, which seem to locate the place-name in that area. The fact remains that these features are so vague that they are of little help in pinpointing specific sites.

²⁵ Supra n. 2, with references to Chadwick’s comments on this. There is also Apollo Korysios near Longa, which may have been a Messenian Corinth (John Bennet, pers. comm. 2005).

For the suggested identification of *re-u-ko-to-ro* with Mouriatadha:Elliniko, see Bennet 2002.

²⁶ See the first (1956) edition of *Docs*, 142; see also Palmer 1956, 132–37; 1963, 67; cf. Chadwick 1972, 108; Bennet 1998, 117.

²⁷ See Bennet’s (1999b, esp. 133–34) insightful analysis of the Mycenaean conceptualization of space and the meanings of “scribal routes” and “mental maps.” The mental map concept is demonstrated by the division of the territory into two: “this-side-of-Aigaleon” and “that-side-of-Aigaleon.”

Table 1. The “Standard List” of Districts and Towns of the Hither and Further Provinces as it Appears on JN 829 (after Bennet and Oliver 1973–1976, 175).^a

Hither Province	Further Province
<i>pi</i> *82	<i>ti-mi-to a-ke-e</i>
<i>me-ta-pa</i>	<i>ra-wa-ra-ta₂</i>
<i>pe-to-no</i>	<i>sa-ma-ra</i>
<i>pa-ki-ja-pi</i>	<i>a-si-ja-ti-ja</i>
<i>a-pu₂-we</i>	<i>e-ra-te-re-wa-pi</i>
<i>a-ke-re-wa</i>	<i>za-ma-e-wi-ja</i>
<i>e-ra-to/ro-u-so</i>	<i>e-re-i</i>
<i>ka-ra-do-ro</i>	
<i>ri-jo</i>	

^a See n. 5 for minor discrepancies

inces.²⁸ Three towns (*pi**82, *me-ta-pa*, and *pe-to-no*) appear to have been located north of Englianos, and *pa-ki-ja-ne* could be placed around the palace. The other five were probably located south of the palace. According to the evidence from the *o-ka* tablets, three of these five, *a-ke-re-wa*, *ka-ra-do-ro*, and *ri-jo*, were on the coast, which may indicate that *a-pu₂* and *ro-u-so* were inland. The suggested locations of these towns are illustrated in Chadwick’s map (fig. 3).²⁹

The 17 tablets of the Ma series provide additional evidence, since they record tax assessments for each of the districts of the Hither and Further provinces during the final year of the operation of the palace.³⁰ Each tablet records a town and its assessment for six commodities; some tablets record also the contribution (*a-pu-do-si*) and, where applicable, the amount still owed from previous years (*pe-ru-si-nu-wo o-pe-ro*) and exemptions for certain groups (e.g., smiths). Ventris and Chadwick have established that the amounts of the six commodities were assessed on the basis of a fixed ratio to one another (conventionally called a taxation unit), with the total assessment for the Hither province being 34 times that ratio, and that of the Further province 40 times the ratio.³¹ Furthermore,

Wyatt and Shelmerdine have demonstrated that this ratio was the basis for the calculations for tax assessments.³² Since, however, assessments for individual districts do not conform to the ratio, it is reasonable to assume that within each province there existed groups of districts, the combined assessment of which conformed to the ratio. A detailed discussion of the intricacies of the Ma tablets is outside the scope of this paper; what is important for our purposes is that these groupings, listed in table 3, follow a geographical order not dissimilar to that of the “standard list.”³³

Also useful is the underlying principle that linkages of toponyms in the texts may reflect proximity of places in real space. Although we cannot assume that this principle works universally, careful examination of the particular circumstances of each tablet (format, scribal hand, direction of flow of people and commodities, subject of tablet) seems to confirm that there are cases where this principle was at work.³⁴ In fact, if scribes recorded information on the tablets following scribal routes, or “mental maps,” as noted above, this principle would make all the more sense. The point is that in most tablets the more often places are associated with each other, the stronger the possibility is that they were associated with each other in reality; where such associations are consistent, a geographical proximity could be assumed.³⁵ Although Chadwick and Palmer have analyzed these associations, more recently computers have also been employed to provide more complex analyses of these data. Cherry attempted to establish the “structure of the place-name positions relative to each other” by using Non-Metric Multidimensional Scaling (MDSCAL), a computer algorithm that depicts relationships among units as a low-dimensionality graphic, a sort of a virtual map of the relative position of units (in this case the towns of the Pylian kingdom) in an *abstract* space.³⁶ By using a computer to analyze simultaneously all such associations of place-names, he generated a

²⁸ Chadwick 1963; 1972, 1098–110; Shelmerdine 1973; Bennet 1999b. Chadwick and Shelmerdine corrected some of Wyatt’s suggestions (most notably that the Further province town *ti-mi-to-a-ke-e* should be placed in the south, not in the north).

²⁹ Chadwick 1973, 276–78.

³⁰ There is an additional tablet, Ma 126, which is anomalous and has been left out of previous analyses (Chadwick 1963, 127; Shelmerdine 1973 n. 2). For the Ma series, see *Docs*², 289–95; Wyatt 1962; Palmer 1963, 300–5; Bennett and Olivier 1973; 1976, 189–94; Shelmerdine 1973; Killen 1984.

³¹ The ratio is 7A:7B:2C:3D:1.5E:150F. For a full discussion of these proportions, see *Docs*², 289–90, 464–65; Shelmerdine 1973.

³² Wyatt 1962; Shelmerdine 1973.

³³ This is actually true only for the Hither province, as the order of towns in the groupings of the Further province differs

from the “standard list” in that *ti-mi-to-a-ke-e* belongs to the same group as *sa-ma-ra* and *a-si-ja-ti-ja*, as opposed to *ra-wa-ra-ta₂* (Shelmerdine 1973, 271). See also the discussion in Chadwick 1973; Bennet 1999b, 140–41.

³⁴ See the points raised by Wilson 1977, 95; Bennet 1985, 240–42; 1999, 138.

³⁵ Palmer 1963, 65–76. Note that there are several discrepancies to this rule, cases of towns mentioned together on a tablet when we know that they were away (e.g., Hither and Further province towns) (see Chadwick [1972, 107] and the detailed discussion in Bennet [2002, 15–17]). Even assuming this principle works, we are left with a large number of place-names that are mentioned only once (Lang [1988, 185] estimates at least 80) and cannot be identified on the ground.

³⁶ Cherry (1977) uses both an incidence and an abundance matrix: the first shows whether or not towns are mentioned

Table 2. The Towns of the Hither Province and Their Economic Activities (after Stavrianopoulou 1989, table 16).

Hither Province	Economic Activity
<i>pi*-82</i>	stock-raising, flax-producing, other artisanal activities
<i>me-ta-pa</i>	stock-raising, textile-making
<i>pe-to-no</i>	bronze-working
<i>pa-ki-ja-ne</i>	flax-producing, bronze-working, other artisanal activities
<i>a-pu₂</i>	bronze-working, other artisanal activities
<i>a-ke-re-wa</i>	stock-raising, bronze-working, other artisanal activities
<i>e-ra-to/ro-u-so</i>	stock-raising, textile-making, bronze-working, other artisanal activities
<i>ka-ra-do-ro</i>	flax-producing, other artisanal activities
<i>ri-jo</i>	flax-producing, bronze-working, other artisanal activities

virtual map showing the direct interactions of those places. The subsequent comparison of this map to previously suggested maps indicated the presence or absence of interaction among towns and, possibly, their spatial relations. The maps generated by Cherry (fig. 4) seem to confirm the basic division between the towns of the two provinces: a line connecting *a-ke-re-wa* and *ti-mi-to a-ke-e* clearly distinguishes two groups of place-names, those of the Hither province on the left, and those of the Further province on the right.

Taking statistical analysis one step further, Carothers investigated the associations of towns with one another and of towns with villages to determine possible patterns that may reflect their general location.³⁷ By creating an incidence matrix of 47 towns and villages (those that are associated with each other the most) and analyzing this matrix with a multi-dimensional scaling program,³⁸ she generated a graphic showing the linkages between towns and villages that could reflect their general location.³⁹ The pattern emerging from this analysis suggests that *me-ta-pa*, *pi*-82*, and *pe-to-no* are located in the northern part of the Hither province, with the others in the central and southern parts.⁴⁰

So far we have seen that there is a fair amount of evidence for defining the functions and locations of the settlements of the second hierarchical tier. What about the places farther down in the hierarchical scale? Besides the 17 or 18 towns, there are several villages about which we know little. Is it possible to gain an insight into their standing within the administrative and economic hierarchy of the Pylian state

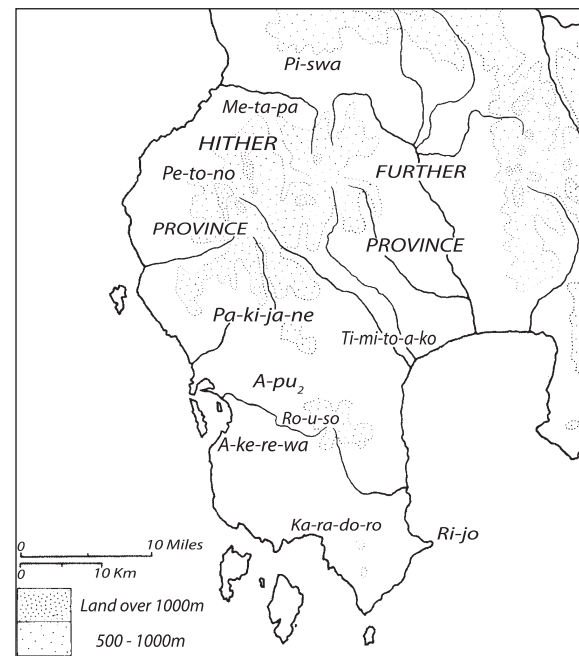


Fig. 3. Hypothetical map showing the general location of towns in the Hither and Further provinces according to Chadwick (1976, 44) (© 1976 Cambridge University Press).

and even possibly suggest some tentative locations for them? Some differentiation may be possible on the basis of the degree of palatial interest in these villages. From the tablets it is clear that the palace recorded and controlled the resources of some villages directly, rather than indirectly through one of the

together and the second shows how many times. The virtual maps produced do not have scale or orientation, which can be established only if the positions of two units (for scale) and optimally three units (for orientation) are known.

³⁷ Carothers 1992, 238–45.

³⁸ Guttman-Lingoes Smallest Space Analysis, or SSA I.

³⁹ Carothers 1992, figs. 7–9.

⁴⁰ Given that this is not a “real” map but a schematic repre-

sentation of the association of some places, some minor discrepancies do not affect the general layout of the towns (e.g., *pa-ki-ja-ne* is shown south of *ri-jo*, etc.). Major discrepancies that cannot be explained include the placement of *re-u-ko-to-ro* and *ra-wa-ra-ta₂*, which are placed in the northwest quadrant of the Hither province. Cf. Carothers 1992, 238. Bennet (1999b, 144) suggests that *pe-to-no* may have been the district in which *pu-ro* was located.

Table 3. Taxation Units in the Hither Province According to the Ma Tablets (Shelmerdine 1973, 274).

Unit	Town	A	B	C	D	E	F
Ia1	<i>pi</i> *82 <i>me-ta-pa</i>	56	56	16	34	12	1200
Ia2	<i>pe-to-no</i>	63	63	17	27	14	1350
Ib1	<i>a-ke-re-wa</i> <i>a-pu₂-we</i> <i>pa-ki-ja-pi</i>	68	68	21	30	15	1500
Ib2	<i>ka-ra-do-ro</i> <i>ri-jo</i> <i>ro-u-so</i>	52	52	14	23	12	(762)

towns; in turn, this may suggest that these villages could have been of special importance to the palace for their economic activities.⁴¹ Consequently, it could be suggested that these villages may have belonged to a higher hierarchical order than those in which the palace was not interested directly. On these grounds, villages mentioned in the tablets can be categorized into two groups, representing a third and a fourth tier in the settlement hierarchy of the Pylian polity.

To define more closely the villages of these two tiers, we turn to Carothers' use of digraph theory to determine the level of "connectedness" of the members of the network of towns and villages recorded on the tablets.⁴² The results of her analysis suggest that 12 villages, distributed in three of the four taxation units of the Hither province,⁴³ appear to have been the object of special interest for the palace, which may mean that these villages can be ranked at the third tier (table 4), whereas the remainder of the villages can be ranked at the bottom tier.⁴⁴ Clues about the economic importance of the villages of the third tier can be found in the range of economic activities in which they were engaged (see table 4).⁴⁵ Since all but one of these villages produced flax, and half were also involved in textile manufacture, this special interest could be explained in terms of the specialization of the villages in these indus-

tries.⁴⁶ As far as the locations of the villages of the third and fourth tiers are concerned, the incidence matrix mentioned above tends to show that villages with high frequency of associations (which would correspond to our third tier) seem to be distributed more densely in the southern part of the two provinces, around *ka-ra-do-ro* and *ti-mi-to a-ke-e*.⁴⁷

In conclusion, the picture emerging from the tablets for the Hither province suggests a four-tiered hierarchy. At the top was the central palace of *pu-ro*, which emerges in the tablets as the political and economic center of the state. At the second level were the nine towns, which seem to have had administrative, financial, and political functions, but at the same time also depended on the palace. Some of these towns were metallurgical centers; others served as agricultural and stock-raising centers. All nine were governed by a local governor/mayor (*ko-re-te*) and his deputy (*po-ro-ko-re-te*). At the third level were the 12 villages that, because of their specialized economic activities, may have been of special interest to the palace (see table 4).⁴⁸ At the fourth level were a number of villages in which the palace does not seem to have had a strong direct interest.

This picture agrees with the general hierarchical structure of Messenian settlements proposed by

⁴¹ Carothers 1992, 276.

⁴² Carothers 1992, 245–78.

⁴³ Except *pe-to-no*, unit Ia2.

⁴⁴ Carothers 1992, 276–77.

⁴⁵ Stavrianopoulou 1989, pl. 16.

⁴⁶ Carothers 1992, 277. On the other hand, it should be mentioned that the large number of places occupied with flax production (ca. 100 in the Na tablets) does not exactly suggest a "special interest" on the part of the palace. That some of these places also deal with textiles may offer a clue for additional palatial interest, but then again there are numerous textile-related settlements, so the situation is far from clear. I thank one of the anonymous readers for this observation.

⁴⁷ Although we cannot know whether this distribution is a result of the fragmentary records in the tablets or a reflection of the real situation (Carothers 1992, 240).

⁴⁸ One has to be extremely cautious about such conclusions, as the degree of connectivity of at least two villages is questionable: *ke-i-ja-ka-ra-na* occurs only on Nn 228 in the entire Pylian corpus, and *pu₂-ra₂-a-ke-re-u* appears only on Nn 228 and on one other tablet, Na 425, where no other town is mentioned. But both score high in terms of connectivity only because they appear on Nn 228 together with other toponyms, which are well connected, and the connectivity of the others drags these two along with them. I thank one of the anonymous readers for this observation.

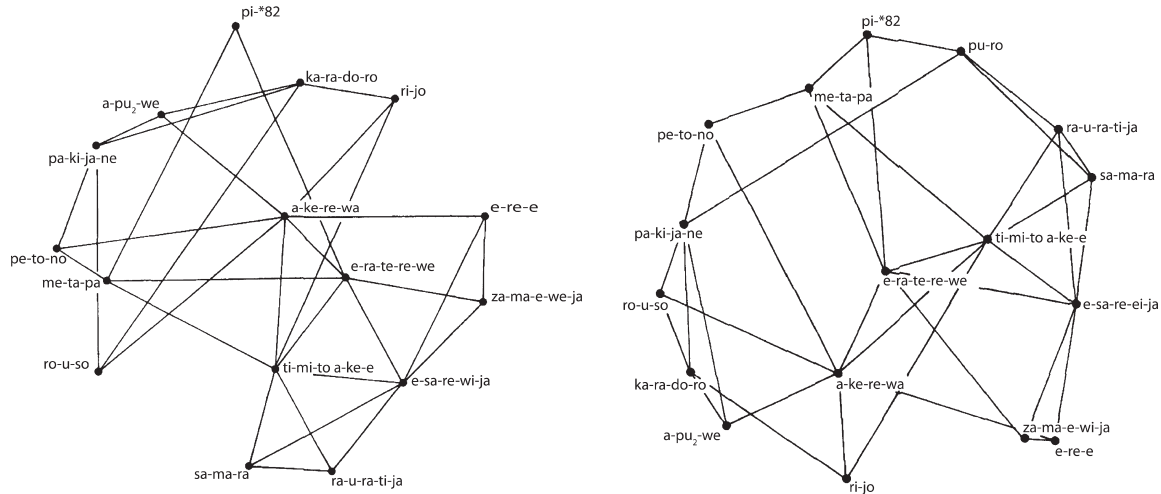


Fig. 4. Diagrams showing the linkages of towns in incidence (*left*) and abundance (*right*) forms based on MDSCAL analysis (Cherry 1977, figs. 5, 7).

Bennet.⁴⁹ Can it be confirmed by the archaeological record?

SETTLEMENT HIERARCHY IN THE ARCHAEOLOGICAL RECORD

The surge of archaeological investigations in Messenia after the 1950s has brought to light copious amounts of archaeological data and has opened up new paths for the study of Pylian political geography. The pioneering work conducted by the MME was the first systematic attempt to understand settlement patterns and the evolution of human settlement in Messenia. The MME archaeologists postulated that the number of settlements occupied in LH IIIB may have been 195, of which they considered 168 certain.⁵⁰ The general impression created by the evidence available to them was that heavy concentration of population occurred in the Soulima Valley and in the major Pylos area, as “people were ‘moving down’ from the high sites and choosing to live closer to their fields and water supply, to roads, and to the coast.”⁵¹ From the methodological standpoint, MME marks the first systematic attempt to use regional archaeological data in combination with the textual evidence to identify

Linear B place-names. The authors of the MME report suggested several possible identifications of Linear B place-names with archaeological sites, some of which were later revised by Hope Simpson (table 5).⁵²

When it comes to establishing the hierarchy of Pylian settlements, it is vital that we have a clear idea of the criteria needed to assess the importance of each settlement. In the past, many efforts to rank Pylian settlements into some kind of hierarchical structure have traditionally used only one criterion: site size. Hierarchy (as defined above) is, however, a complex notion, and the use of a single criterion to reconstruct it is bound to lead to oversimplified results.⁵³ Given the multitude of factors affecting economic and political status, the criteria used to determine it should reflect the specific administrative and economic activities taking place in each settlement. Those criteria should consider such characteristics of settlements, as location, natural resources, architectural and other finds, and, of course, size (table 6).

Although, as we saw above, size alone is not sufficient to rank settlements, it is undeniably an important factor to consider. Assessing site size on the basis

⁴⁹ Bennet (1995) suggests that the apparently shallow hierarchy in Pylos, and the palace’s direct involvement with places at the lowest end of the hierarchical scale, may be a reflection of the short time span from the formation of the state to the time of the tablets. See also the points raised by Stavrianopoulou (1996, 502–5) and Driessen (2001, 99) regarding the hierarchy of settlements at Knossos and the geographical extent of the Knossian state.

⁵⁰ McDonald and Rapp 1972, 139. These numbers refer to

the archaeologically attested sites; the estimates of textually attested sites are mentioned above (p. 208).

⁵¹ McDonald and Rapp 1972, 139.

⁵² Chadwick 1972; Hope Simpson 1981. Core aspects of this approach had already been pioneered by Ventris in preparation for *Docs* in 1955.

⁵³ See the criticisms of Hodder’s (1977) approach by Small 1999, 44.

Table 4. The 12 Villages that Appear to Belong to the Third Tier^a and Their Economic Activities (after Stavrianopoulou 1989, table 16).

Village	Economic Activity
<i>a-pi-no-e-wi-jo</i>	flax-producing, textile-making, bronze-working
<i>e-na-po-ro</i>	flax-producing, textile-making
<i>ro-o-wa</i>	flax-producing, textile-making, industrial activity
<i>te-ta-ra-ne</i>	—
<i>po-ra-i</i>	flax-producing, textile-making
<i>ke-i-ja-ka-ra</i>	flax-producing
<i>pu₂-ra₂-a-ke-re-u</i>	flax-producing
<i>te-tu-ru-we</i>	flax-producing
<i>e-wi-te-wi-jo</i>	flax-producing, textile-making
<i>me-te-to</i>	flax-producing, textile-making, industrial activity
<i>sa-ri-no-te</i>	flax-producing
<i>u-ka-jo</i>	flax-producing

^a Based on the results of the analysis by Carothers 1992, 276–77

of surface finds is complex and requires that a number of conditions be met. First, some of the site size estimates of MME have turned out not to be reliable, as new studies of MME sites by PRAP and IKAP have confirmed.⁵⁴ Although site sizes are usually calculated by estimating the general area occupied by sherds, the real size of a site requires a thorough analysis of the complex factors affecting the surface distribution of finds.⁵⁵ Second, in multiperiod sites, size estimates need to be broken down for each temporal component of the site and not lumped together under a general estimate for the size of the entire site. Uncritical use of the numbers provided by MME is bound to result in incorrect estimates of site sizes.

Carothers, in her 1992 dissertation, follows a more complex approach for establishing and comparing settlement hierarchy in both the Linear B texts and the archaeological record by correlating site size with level of productivity. Her rankings rely on two seemingly reasonable assumptions. The first is that the amounts of tax assessed in the Ma tablets for each of the towns of the two provinces indicate the relative productivity of those towns. The second is that “the sites ought to vary in size according to the relative taxation assessments and commodity contributions of the Ma tablets, Cn 608 and Vn 20.”⁵⁶ In other words, their position in the hierarchical scale of economic production should be reflected in their areal extent.

On the basis of these two premises, she ranks the sites catalogued by MME according to their size (as recorded by MME), and matches their rank in productivity with their rank in size.⁵⁷ Carothers’ work constitutes a valuable contribution to the study of the political geography of Mycenaean Pylos, and it is possible for us to build upon it by modifying the principles on which part of her analysis is based. First, the principle that high productivity equals a large site—low productivity equals a small site does not seem to be supported by the evidence because four of the six commodities recorded in the Ma tablets are unknown.⁵⁸ The only way that the amounts of the Ma tablets might have reflected the areal extent of each settlement would have been if they had been based on the size of the population of that settlement, records of which are not extant. Second, we do not know the criteria used for the calculation of the number of hogs on Cn 608 or the allocations of wine on Vn 20, and it may be questionable to assume that settlements with a larger surface area would have been allotted more hogs or more wine. It may be more sound to adopt criteria other than the assessments of the Ma tablets, criteria that would reflect the complex factors that affect settlement hierarchy (see table 6).

Between 1991 and 1995, PRAP conducted an intensive survey of large sections of Messenia and produced important new information about Mycenaean

⁵⁴ McDonald and Rapp 1972, 126. Such sites include Ano Englianos (MME size 6.5 ha, PRAP size 12.4 ha in LH III), Beylerbey (MME size 3 ha, PRAP size 6.7 ha with prehistoric material, 3.52 ha in LH III), and Iklaina:Traghanes (MME size 3 ha, IKAP size estimate 12 ha). For the PRAP figures, see Bennet 1999a, 12–14; for IKAP, see p. 217.

⁵⁵ These factors affect both the distribution of surface finds and our own limitations in establishing this distribution: veg-

etation, soil erosion, incline, modern and recent land use and exploitation, visibility, density of surface finds in the core and the “halo” around each site, etc.

⁵⁶ Carothers 1992, 233.

⁵⁷ Carothers 1992, 220.

⁵⁸ Shelmerdine 1973, 261. It seems that commodity A (*46) refers to textiles, and D (*152) refers to oxhides. F (*13) in some tablets indicates honey, but the quantities mentioned

settlement patterns and the unification of the Pylian state.⁵⁹ PRAP investigated approximately 40 km² (fig. 5), including the entire Englianos ridge, as well as large parcels of land to the north of the palace, in the major area around Khora, and in other parts of Messenia where Mycenaean sites had been previously known. This work allowed a much-needed recalculation and correction of the sizes of some important known settlements, and thus refined our knowledge of settlement pattern and hierarchy. For a start, using data produced by PRAP, Bennet refined hierarchy by considering not only relative site size but also “strategies of elite display and emulation as exemplified in burials in the region.”⁶⁰ The results of this analysis pertain both to the evolutionary course of Pylian administration on its way to unification⁶¹ and to the sociopolitical hierarchy of its settlements in LH IIIB. In its target area, PRAP explored two large settlements, Koryfasio: Beylerbey (LH IIIB, surface size 3.52 ha) and Gargaliani:Ordines (LH IIIB, surface size 2.1 ha);⁶² Bennet and Shelmerdine identify the first with *a-ke-re-wa* and the second with *pe-to-no* (see table 5).⁶³ Overall, in the areas covered by PRAP, archaeological sites can be structured in a four-tier hierarchy:⁶⁴ the palatial capital at Ano Englianos, indisputably the largest and most powerful site in the entire Messenia (in LH IIIB it could have occupied an area as large as 20 ha);⁶⁵ a small number of large sites, such as Gargaliani:Ordines, Volimidhia, Beylerbey, and Nichoria (2–5 ha); a number of medium-sized sites (smaller than 2 ha); and a large number of small sites (some of which must still be undetected).

This picture of settlement hierarchy matches well the one generated by the textual evidence, at least in general lines. To sharpen this picture we must focus on individual districts and examine more closely their settlements. As the palatial capital of Englianos

has been well researched and excavated, there is a need for a close examination of settlements of the second, third, and fourth tiers.

THE VIEW FROM A MYCENAEAN DISTRICT: *A-pu₂* AND IKAP

With the goal of reconstructing the history of habitation in Messenia, PRAP covered a large part of the region, cutting across the territories of several towns and districts of the Hither and Further provinces. IKAP has a different objective: to narrow the focus of research to one of the nine districts of the Hither province in order to reconstruct its settlement pattern and hierarchy and provide a closer look at the settlements of the lower tiers in that particular district. The principle on which our work has been based is that a detailed idea of settlement pattern and hierarchy within each one of the nine districts can be reached by zooming in on that district and covering it as a whole and in its entirety.⁶⁶ Although we do not know the boundaries of each district,⁶⁷ it is reasonable to assume that covering a solid and continuous block of land between two major habitation centers *would* include a good portion of their territories.

Iklaína was selected as the focal point of the target area because the Mycenaean settlement at Traghanes (ca. 1.5 km northwest of the modern village of Iklaína) has been identified with some probability with *a-pu₂*, one of the nine towns of the Hither province.⁶⁸ This identification, originally suggested by Hope Simpson, has been based chiefly on the distribution of these nine towns in the Hither province: as noted,⁶⁹ three towns (*pi*82*, *me-ta-pa*, and *pe-to-no*) appear to be located north of *pu-ro*, leaving six towns apparently located south of the palace. Of these six, *pa-ki-ja-ne* is the closest, and *a-ke-re-wa*, *ka-ra-do-ro*, and *ri-jo* are on the coast. As *a-pu₂* is not listed in the *o-ka* tablets, it must have been situ-

here make this doubtful; B (*53), C (*44), and E (*61) are unknown.

⁵⁹ Davis et al. 1997, 1998; Zangger et al. 1997; Lee 1999; Stocker 2003; Davies 2004; Alcock et al. 2005. See also the online edition of PRAP, at <http://www.classics.uc.edu/prap>.

⁶⁰ Bennet 1999a, 9.

⁶¹ It turns out that the Pylian polity became a formalized state in stages involving annexing first the districts of the Hither province and then, perhaps in the final phases of its operation, the Further province (Bennet 1999a; 1999b, 143; 1995; Bennet and Shelmerdine 2001; Shelmerdine 2001b).

⁶² Shelmerdine 2001b, 121–23.

⁶³ Davis et al. 1997, 422–23 and 425–26; Bennet and Shelmerdine 2001, 138–39; Shelmerdine 2001b, 121, 123, 126. Geophysical prospection and auger coring at Beylerbey did not, however, produce any indications of architecture, suggesting to the PRAP physical scientists that the site “represents a thin veneer of plowed soil interspersed with artifacts” eroded by continuous plowing (Zangger et al. 1997, 576).

⁶⁴ Bennet 1995; 1998, 123–24; Bennet and Shelmerdine 2001, 136.

⁶⁵ Bennet 1998, 135.

⁶⁶ For the need for surveys to cover their target areas as one “dynamic and open system, defined contextually,” see Marquardt and Crumley 1987, 2–16; Kardulias 1994, 10–11; Bintliff 2000.

⁶⁷ I remain skeptical about the usefulness of Thiessen polygons here because we do not know the precise locations of many of the towns, which in turn renders the placing of the polygons hypothetical. For an attempt to establish Thiessen polygons in the Hither and Further provinces, see Carothers 1992, 236, fig. 7.7.

⁶⁸ This place appears in the tablets in the dative-locative (*a-pu₂-we*) and allative (*a-pu₂-de*) cases. Throughout this paper I use the nominative *a-pu₂*. The ethnic adjective *a-pu₂-ka* (An 656.20) and its derivative *a-pu₂-ka-ne* (An 656.13 and An 657.13) do not come from *a-pu₂* (Chadwick 1972, 103).

⁶⁹ Supra p. 209.

Table 5. Suggested Identifications of Sites by Marinatos (1961, 236), MME (McDonald and Rapp 1972, Register A), Hope Simpson (1981), Carothers (1992), and PRAP (Bennet 1998).

Tablets	Marinatos	MME	Hope Simpson	Carothers	PRAP
Palatial center <i>pu-ro</i>		1, Englianos	F1, Englianos	1, Englianos	
Towns <i>pi</i> *82			F203, Mirou	241, Siderokastro:Sfakoulia	
<i>pe-to-ro</i>			F48?	063, Filiatra, Aghios Hristophonros	Gargalianoi:Ordines
<i>me-ta-pa</i>			F202, Mouriatazha	64, Filiatra: Aghios Ioannis	
<i>pa-ki-ja-ne</i>	Iklaina	20, Khora:Volimidhia	F8, Volimidhia	022, Metaxada:Kalopsana	20, Khora:Volimidhia
<i>a-pu₂</i>		35, Koukounara:Katarachi	F17, Iklaina	46, Iklaina:Traghane	46, Iklaina:Traghane
<i>a-ke-re-wa</i>			F23, Gialova	004, Koryfasion:Bevlerbei	004, Koryfasion:Bevlerbei
<i>ro-u-so/e-ra-to</i>			F29, Koukounara	41, Pyla:Vigles	
<i>ka-ra-do-ro</i>	Koukounara	79, Foinikous:Analipsis	F58 or F59, Phoinikous	79, Foinikous:Aghia Analipsi	
<i>ri-jo</i>			Cape Akritas	107, Longa:Kafirio	
Villages <i>ku-pa-ri-so</i>		70, Kyparussua:Kastro	F200, Kyparissia		
<i>ro-o-wa</i>		9, Petrochori:Paliokastro (classical Koryphasion)	district, perhaps controlled by Bevlerbey (F4)		
<i>o-wi-to-ro</i>			F240–F241?		
<i>za-e-to-ro</i>			F110, Longa?		

ated inland, between *pa-ki-ja-ne* and *a-ke-re-wa*,⁷⁰ which means a location in the region around Iklaina, Platanos, and Papoulia, where the most important known site is Iklaina:Traghanes.⁷¹ What we know about *a-pu₂* is fragmentary, but some idea about its economic and administrative standing within the Pylian polity can be found in the tablets, as shown below.

Administration

A-pu₂ was governed by a *ko-re-te* and a *po-ro-ko-re-te* (Jn 829.8), who respectively contributed to the palace 2 kg and 750 g of bronze, the same amounts that similar officials from other towns supplied. Perhaps it was the same *ko-re-te* who is listed as contributing five units of gold (5p) to the palace (Jo 438.11).⁷²

Economic Activities

A-pu₂ was assigned two hogs to be fattened (Cn 608.7)⁷³ and received 35 units of wine (Vn 20.7).⁷⁴ Ma 124 records the contributions by *a-pu₂* in the six commodities of the Ma tablets and also the exemptions or rebates of the bronzesmiths, which were in the range of 1/23 or 1/25 of the assessment amounts.⁷⁵ In addition, Jn 693.5–10 mentions the names of nine bronzesmiths in *a-pu₂*, of whom seven received allocations of bronze (*ta-ra-si-ja*) and two did not (*a-ta-ra-si-jo*). In an effort to calculate the total labor force of this town, Chadwick suggested that the nine bronzesmiths mentioned in the second tablet represent approximately 1/25 of the total labor force of *a-pu₂*, which he calculated at about 225 men.⁷⁶

Cult

Possible information about cult activity at *a-pu₂* is provided by the reference to five *da-ko-ro* (possibly

temple servants) on An 427.1.⁷⁷ The name of the bronzesmith *pu-ti-ja* (Πυθίας) on Qa 1294 may be theophoric,⁷⁸ and the commodity *189, which this Πυθίας receives, may be some sort of clothing, perhaps a ceremonial robe.⁷⁹ Furthermore, the possible reference to “temple bronzesmiths” (*ka-ko na-wi-jo*) on Jn 829 seems to suggest the existence of a shrine at the site.

In short, although none of the information we have from the tablets suggests that *a-pu₂* was exceptionally large or remarkably important to the palace,⁸⁰ it appears to have been an administrative, metalworking, and possibly religious center.

As noted, perhaps *a-pu₂* can be identified with Iklaina:Traghanes. Although sporadic ancient finds had come to light here already at the beginning of the 20th century,⁸¹ it was not until 1954 that a brief (four-day) excavation was conducted by the late Spyridon Marinatos.⁸² Despite the importance of the finds (see below), Marinatos never returned to Iklaina, and the site was left unexplored until 1997, when the author conducted a preliminary reconnaissance of the site and the area in preparation for an archaeological survey.⁸³ After a second reconnaissance in 1998, the first season of intensive survey by IKAP was carried out in 1999. Our plan calls for fieldwork in two stages. The first stage (1999–2005) consists of intensive surface survey of the major area around Iklaina and of the region between Iklaina and Ano Englianos (see fig. 5), coupled with geophysical investigations in the most promising locations. The second stage, which will begin in 2006, will include excavation at the major town (Iklaina:Traghanes) and at other sites discovered by the survey.⁸⁴

The methodology and detailed results of the IKAP have been described in detail elsewhere and will not

⁷⁰ But note Bennet's (1999b, 141) suggestion “that there may have been an *oka* for each of the major districts, but that the major toponym would only appear when the major settlement it denoted fell either on the coast or at a suitable point close to it.”

⁷¹ Hope Simpson 1981, 147.

⁷² On this tablet *a-pu₂* appears with a feminine derivative (*-ja*) (Docs², 358, no. 258; 533).

⁷³ Docs², 205, no. 75.

⁷⁴ Docs², 348–49, no. 250.

⁷⁵ With the exception of the larger rebate of *152, which could be a commodity measured in whole units, perhaps skins, and which amounts to 1/10 of the assessment (Chadwick 1972, 112).

⁷⁶ This is based on the observation that on Ma 124 the only category of laborers who receive rebates are the bronzesmiths. If we follow Chadwick in assuming that these are the same nine bronzesmiths of Jn 693, these bronzesmiths would represent 1/25 of the total labor force (Chadwick 1972, 112).

⁷⁷ Docs², 538.

⁷⁸ Martina 1996, 340. In later Greek, Πύθιος is, of course, an epithet of Apollo (Ilievski 1999, 309). The occurrence of a

theophoric name does not imply the existence of a cult.

⁷⁹ Docs², 485.

⁸⁰ Overall it contributes ca. 1/10 of the total production of the Hither province (Chadwick 1972, 112).

⁸¹ Skias mentions a stone axe from the area of Iklaina in *Praktika* 1909, 84.

⁸² Marinatos 1964, 311–12.

⁸³ The site was suggested to me by George Korres, to whom I would like to express my warmest thanks.

⁸⁴ The project is conducted under the auspices of the Athens Archaeological Society. It has been funded by the Institute for Aegean Prehistory (1999–present), the Social Sciences and Humanities Research Council of Canada (1999–2001), and the Hellenic Government–Karakas Foundation Chair in Greek Studies at the University of Missouri–St. Louis (2002–present). It has been offered as a credit course, initially for the University of Manitoba (1999–2001) and subsequently for the University of Missouri (2002–present), and includes, in addition to the archaeological survey, daily classes and seminars and visits to the major archaeological sites of the Peloponnese.

Table 6. Criteria for Ranking Settlements in the Archaeological Record.

Tier	Function	Location/ Natural Resources	Size	Architecture	Pottery	Other
1	palatial capital	strategic location with commanding view	large	large, elaborate building complex with lavish decoration; industrial workshops; possible fortification walls	abundant; good quality	tiles; bricks; possible metal artifacts
2	town/location redistribution center	one or more of: access to arable lands, pasture fields, trade routes, strategic location	large–medium	large, elaborate building complex; possible fortification walls	large quantity; variety of types (serving, storage, consumption, miscellaneous)	tiles; bricks; spindle whorls
3	village–hamlet	proximity to arable land and/or pasture fields	medium–small	limited, if any	minimal; fine, domestic, coarse	tiles; bricks; spindle whorls

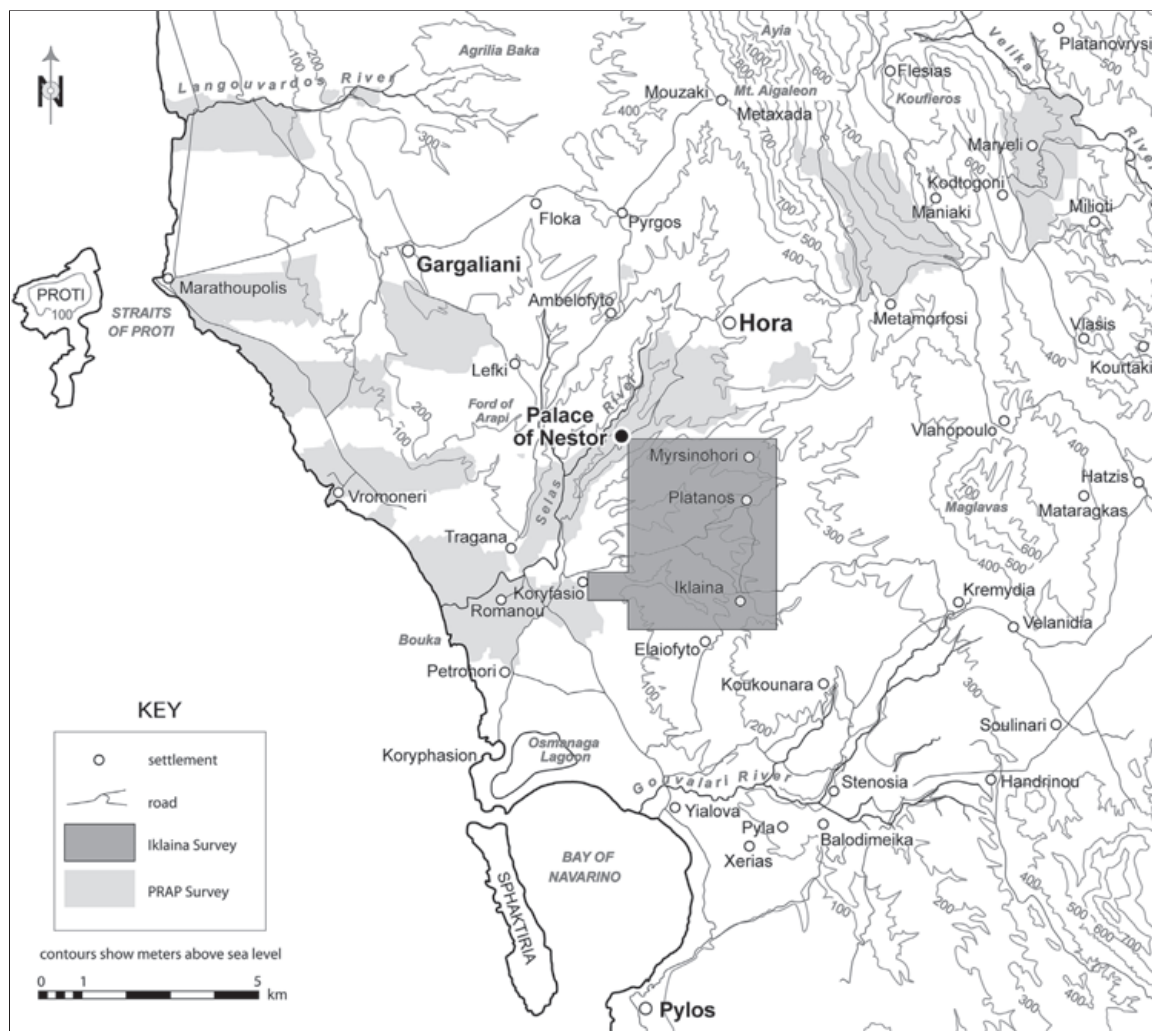


Fig. 5. Map of Messenia, showing the location of Iklaina and the survey area in relation to PRAP (drawing by R. Robertson).

be repeated here.⁸⁵ The end result is that we covered 17 km² intensively⁸⁶ and added four previously unknown sites to the four that were already known in the area.⁸⁷

The results of the survey suggest that Iklaina: Traghanes (marked with a "T" on fig. 6) is the largest and most important settlement in the target area. The site commands an imposing location, at the west-

ern end of the extensive Iklaina plateau (fig. 7), with a clear view of the Ionian Sea and the villages of Koryphasion and Romanou toward the west; to the south and west it is protected by deep ravines. The western edge of the site is dominated by an artificial mound (fig. 8). It is to the north and east of this mound where, during his brief excavation season in July 1954, Marinatos uncovered remains of a monu-

⁸⁵ Preliminary reports: Cosmopoulos 1999a, 1999b, 2000a, 2000b, 2000c, 2001a, 2001b, 2001c, 2002a, 2002b, 2002c, 2003a, 2003b, 2004a, 2004b, 2005a, 2005b, 2005d.

⁸⁶ Compared to the 40 km² covered by PRAP, this area may seem small, but the narrow, more focused nature of our coverage by necessity slowed down the pace of our work. E.g., whereas in intensive surveys the standard distance between surveyors is 15 m, at IKAP we reduced that distance to 5 m, thus increasing the degree of coverage. Beyond the slower pace that this adjustment produced, financial and practical factors necessitated three-week seasons.

⁸⁷ The four known sites (five if the Palace of Ano Englianos is included) are Iklaina:Traghanes (McDonald and Hope Simpson 1961, 241, no. 52), Iklaina:Panaghia (McDonald and Hope Simpson 1961, 241, no. 54), Myrsinohori: Routsis (McDonald and Hope Simpson 1961, 240, no. 48), and Platanos: Kretharetses (McDonald and Hope Simpson 1961, 241, no. 51; Boyd 2002, 124). Inspection at Iklaina:Gouvitses (noted by McDonald and Hope Simpson [1961, 241, no. 53]) did not yield any finds, except for our undatable coarse sherds. By comparison, PRAP discovered six new sites in an area of 40 km².

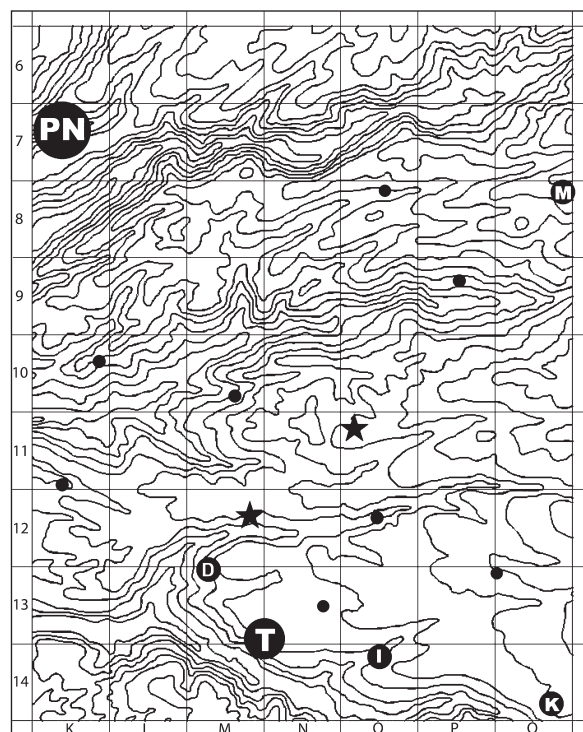


Fig. 6. Topographic map of the area under investigation, with the large grid showing the sites discovered by IKAP. Stars indicate possible tomb locations.

mental structure (which he described as a possible “palace”), Cyclopean walls and parts of a rectangular building constructed with large stones, as well as excellent pottery and surprisingly rich finds, including spindle whorls, a terracotta bathtub, and even fresco fragments.⁸⁸ That this was a major settlement was confirmed by the IKAP investigations. First, the size of the area occupied by the LH IIIA/B sherds turned out to be approximately 12 ha, four times larger than the MME estimate of 3 ha.⁸⁹ In fact, the entire western part of the plateau is covered with artifacts of many periods (mostly LH, Late Classical/Early Hellenistic, and Early Byzantine), extending over an area of no less than 100

ha. Although these concentrations clearly represent different smaller sites, they form a more or less continuous carpet of artifacts over many parts of the plateau. Second, the quantity and the quality of finds are impressive: more than 10,000 sherds (the vast majority of which are Mycenaean) were recovered from the immediate area around the mound; in addition, thousands of sherds were found in other parts of the site.⁹⁰ The heart of the site seems, in fact, to have been around the mound, where artifact density peaked at almost 900 sherds per 50 x 50 m square. This amounts to almost 3,600 sherds per ha, approximately seven times higher than the densities recorded by PRAP for Ano Englianos (575.6 sherds).⁹¹ The importance of this spot has been also confirmed by a geophysical survey, conducted under the direction of Michael Boyd of the British School at Athens, which showed a number of linear features consistent with mudbrick walls, as well as several magnetic anomalies that could have been caused by extensive burning. The surface finds include sherds from kylikes, cups, kraters, stemmed bowls, dippers, deep bowls, shallow angular bowls, pithoid jars, large stirrup jars, and angular alabaster, as well as LH animal figurines and spindle whorls. Notable is the existence of a large number of burned pottery fragments that resemble similar fragments from Ano Englianos.⁹² Given the confirmed existence of a major building complex near the western end of the plateau and the high artifact densities in that spot, it would seem reasonable to suggest that here lay the administrative part of the settlement with its (fairly large) town sprawling to the east and north.

Traghanes is unique in the area covered by IKAP, but new sites not too far from it fill in the picture of Mycenaean settlement pattern in the region. At a distance of approximately 500 m to the northwest, at the location Dendra near the edge of the plateau, a heavy concentration of LH IIIA/B pottery is spread over an area of a little less than 2 ha (“D” on fig. 6). The site has access to the rich soils of the plateau and is a prime candidate for a small agricultural settlement.

⁸⁸ Marinatos 1954, 308–11. For other reports on Iklaina, see *BCH* 1955, 248; 1962, 726–28; Deltion 1960, *chronika* 113; 1961–1962, *chronika* 92; McDonald and Hope Simpson 1961, 241, nos. 52–4; 1969, 149, no. 52; McDonald and Rapp 1972, 272, nos. 46–7, 50. I would like to thank George S. Korres for providing me with a copy of Marinatos’ notebook entries on Iklaina from July 1954.

⁸⁹ McDonald and Rapp 1972, 272. Few Early Helladic and some Middle Helladic/Early Mycenaean sherds were distributed in the southwest part of the site.

⁹⁰ More fine sherds from Traghanes are kept in the storage rooms of the Pylos museum from earlier surface collections by George Korres and Aphrodite Hassiakou, whom I thank for

allowing me to see the material.

⁹¹ Bennet and Shelmerdine 2001, 137. The large discrepancy is probably due to the fact that the PRAP numbers refer to the areas *around* and not *over* the main palace site, since that has already been excavated; it would have been interesting to compare the densities from the surface area of the palace at Englianos before excavation with those of Traghanes.

⁹² The observation was made by our ceramics expert Cynthia Shelmerdine and opens up a series of exciting questions, especially when combined with evidence for extensive burning suggested by the magnetometric survey. Was this settlement destroyed by fire, and if so, was this destruction related to the destruction of the Palace of Ano Englianos?



Fig. 7. The Iklaina plateau. View east. The white arrow marks Traghane.

Furthermore, approximately 800 m to the east, another site seems to have been contemporaneous with Traghane. This site ("I" on fig. 6) occupies the top and north slopes of a plateau, at the westernmost edge of the modern village of Iklaina. Part of the plateau has been overbuilt, so the area of 1.3 ha that the finds occupy must be only a part of the original site. The pottery dates to LH IIIA/B. The site has access to the fertile valley toward the north, as well as the pasture fields of the surrounding hills, and may have been a food-producing station. A third site ("K" on fig. 6) was found in the location Katsimigas, approximately 2 km to the east. Surprisingly, this is a small site (1.5 ha), with a dense concentration of surface finds (more than 20,000 mostly LH sherds). It occupies the top of the long Iklaina ridge and is marked by a polygonal wall that, on the basis of the surrounding pottery and the LH IIIA/B sherds wedged between its stones, may have been Mycenaean (fig. 9). The importance of Katsimigas is demonstrated by more than 1,000 pieces of slag, which may suggest the existence

of a metallurgical center.⁹³ Other finds include Mycenaean bovid figurines, conical spindle whorls, terracotta loomweights, stone querns, and one flint arrowhead. Given the Linear B references to the bronzesmiths of *a-pu₂*,⁹⁴ it is tempting to see in this site the location of Mycenaean metallurgical installations. Although the geophysical survey we conducted here did not reveal any signs of burned areas, the site would have been ideal for metalworking operations:⁹⁵ it is found on an exposed ridgetop, where the wind would provide the necessary draft for furnaces, and it would have access to the timber that appears to have been present in the area after 1400 B.C.⁹⁶

Approximately 3.5 km northeast of Traghane, a 3 ha site ("M" on fig. 6) with both Early Mycenaean and LH IIIA/B pottery may have been the settlement to which the two well-known tholos tombs of Myrsinochori:Routsis belonged. Finally, several locations, marked with small solid circles on figure 6, including the two small sites identified by McDonald and Hope Simpson in Panaghia and Gouvitses,

⁹³ The slag will be analyzed at a later date, together with ceramics and lithics, as part of a larger program of characterization studies that we will undertake once the necessary grants have been secured.

⁹⁴ *Supra* p. 217.

⁹⁵ *Docs*², 509.

⁹⁶ Zangger et al. (1997, 589–92) suggest that after a period of deforestation and spreading of steppe and phrygana between 1600 and 1400 B.C., the vegetation of the area was enriched by several types of trees, including plane, walnut, and Judas.



Fig. 8. The mound at Traghane. View west.

yielded small amounts of LH pottery, ranging from 10 to 200 sherds.⁹⁷ These small concentrations are typically found in cultivable lands and may mark the locations of small farms. On the other hand, most concentrations are small (10–50 sherds) and may be nothing more than off-site artifacts or background noise, results of manuring or remnants of other activities of limited scope.⁹⁸

We also found two possible burial locations (stars on fig. 6). In square M12, rectangular blocks of stone can be seen in two openings in the ground (possible tholos tomb?); in square O11, a large circular opening in the soft soil, surrounded by a few LH IIIA/B sherds, may have been a chamber tomb.⁹⁹

CONCLUSION AND PLANS FOR FUTURE WORK

The main objective of our work at Iklaina has been to provide a highly intensive coverage of a single district. The result is a more detailed knowledge of settlement pattern and hierarchy that highlights the local particularities of this district and allows comparisons

with the conclusions reached by PRAP for the entire Messenia. As far as settlement hierarchy is concerned, according to the criteria mentioned above (table 6) the sites in our target area (including the Palace of Ano Englianos) can be ranked as follows:

1. Ano Englianos. This is, of course, the dominant site in the area and the palatial capital of the state, identified with *pu-ro*.
2. Iklaina:Traghane. The commanding setting and large size of this site, the quantity and quality of the small finds, and the architectural remains are compatible with its identification as one of the nine local administrative centers of the Hither province. Considering its geographical location, south and inland from the palace, it can be plausibly identified with *a-pu₂*.
3. Dendra, Iklaina, Myrsinochori. These three smaller habitation sites presumably were villages, whose inhabitants engaged in agriculture. Another site may have served as an industrial station (Katsimigas), perhaps the spot of metal-working operations.¹⁰⁰
4. Surface Finds. A number of small concentrations of surface finds could have been farm installations, although some are so small that they may have been the result of manuring or limited activities in rural areas.

PRAP has established that in its target area the predominant settlement pattern consists of a small number of “subordinate hill-top centers, some with smaller neighboring satellites, which are widely spaced across the landscape. The further from Pylos these centers are, the more growth they experience in LH IIIA/B: one is tempted to say they are permitted to grow, as close neighbors are not.”¹⁰¹ Such a pattern, consisting of centers surrounded by satellite sites, is indeed confirmed in the IKAP area. The only difference is that Traghane seems to have been a major LH IIIA/B settlement that flourished close to the palace. Was it permitted to grow or did it assert forcefully its existence? What was the degree of its dependence on the palace and the level of its economic self-sufficiency, if any? What was the precise nature of the smaller sites, and what was the balance of power between them and Traghane? Given the burned LH IIIB pottery and the geophysical evidence

⁹⁷ Gouvitses (McDonald and Hope Simpson 1961, 241, no. 53); Panaghia (McDonald and Hope Simpson 1961, 241, no. 54).

⁹⁸ Bintliff and Snodgrass 1988, 507–8. See the reasons in support of manuring presented by Bintliff and Snodgrass (1988, 507–8), but Osborne (1985) and Alcock et al. (1994, 169–70) express reservations; cf. Cherry et al. 1991, 50–2; Jameson et al. 1994, 221; Morris 1995, 185.

⁹⁹ Within our study area there are also references to an

uncertain number of possible burial mounds dating to Middle Helladic/LH near Platanos (Boyd 2002, 124).

¹⁰⁰ As we have seen above, the name *a-pu₂* indicates both the main town and its district. It is, therefore, possible that the tablets refer to metalsmiths located in a place other than the main town but within the district *a-pu₂*. Katsimigas could have been such a place.

¹⁰¹ Shelmerdine 2001b, 128.

for extensive burning, did it find a violent end by fire? If so, was that contemporaneous with the demise of Ano Englianios and possibly connected to it?

These and an array of other questions can be answered only through a systematic multiyear research program, such as that which we have devised for IKAP, consisting of excavation and additional surface survey. At the top of our priorities is excavation at Traghanes, which stands out as the district capital. The only other district capital that has been systematically researched in Messenia is Nichoria, identified by Shelmerdine as the Further province town *ti-mi-to-a-ke-e*,¹⁰² but the severe erosion that this site had suffered has limited the amount of data that could be recovered. This will not be a problem at Iklaina, as soil erosion is minimal and the topsoil is well preserved. In the long term, our plan is to excavate some of the smaller sites that we have discovered, such as the possible tombs and the habitation sites at Dendra, Katsimigas, and Myrsinochori, and to establish their function (e.g., houses, farms, industrial sites, small villages?) and their relationship with the presumed administrative center of Traghanes. In addition to the excavation, the surface survey will continue south and east, toward Koukounara, another major site in the area and another possible district capital, to investigate the relationship of the town to the palatial center (Traghanes–Ano Englianios) and to other towns.¹⁰³

Specifically, the research project of IKAP has the potential of addressing four major aspects of Mycenaean life in Iklaina. These are outlined below.

Stratigraphy and Chronology

The excavation will allow the reconstruction of the stratigraphic and chronological sequence at Traghanes, and possibly at the smaller sites, so that we can tackle important issues relating to the integration of Iklaina into the Pylian state (e.g., the precise date of the establishment of Iklaina, its chronological and stratigraphic sequence in the Middle Bronze Age and the Early Mycenaean period, and the relationship of that stratigraphic sequence to those of the Palace of Ano Englianios and smaller sites).

Social and Political Organization

One of the major issues in Late Bronze Age studies is the formation of Mycenaean states. Thanks to the work of PRAP, we have a fairly good idea of the processes that led to the unification of the Pylian



Fig. 9. The polygonal wall at Katsimigas. View east.

state, from regional enclaves of power, perhaps chiefdoms¹⁰⁴ manifesting their emerging power in the construction of tholos tombs in the Early Mycenaean period, to the administrative districts of the unified Pylian state in the LH IIIB period.¹⁰⁵ At IKAP the methodological framework we use for the study of both the evolutionary course of the Pylian state and its sociopolitical structure at the final stages of its life is structured around the three main social units, as described below.¹⁰⁶

Individual. Social ranking of the individual within a community or a group is defined in terms of his/her social persona, which in turn is a variable of such criteria as age, sex, profession, wealth, religion, and political status. In the archaeological record, such criteria can be studied in burials (e.g., age, sex, orientation and position of the dead, nature and frequency of burial gifts). It is hoped that information on the social persona of the individual will be recovered from the excavation of the two possible burial sites that we have identified.

Group. In the archaeological record, corporate and elite groups can be identified in the architectural remains (building location, size, orientation, use of space, number of rooms, etc.). At Traghanes it is probable that there was some sort of a mansion or administrative building complex; the excavation of that building, as well as of the houses of the surrounding settlement, will allow the definition and ranking of social groups within the settlement and the possible existence of corporate groups in smaller settlements.

Settlement. The surface survey has produced a picture of settlement hierarchy that will be tested and

¹⁰² Shelmerdine 1981.

¹⁰³ The eastern part of the area between Iklaina and Koukounara was surveyed in 2005 and did not yield any new Mycenaean finds.

¹⁰⁴ Wright 1995.

¹⁰⁵ Bennet 1999b, 145. Cf. de Fidio 2001, 19.

¹⁰⁶ McGuire 1983, 109; Renfrew 1984.

refined with the excavation of the internal features of settlements (size, building density, open spaces, public works, palaces, temples, and other special buildings).

Economic Organization

One of the major issues in Mycenaean economy is the degree of palatial or state control of agriculture, herding, industry, and trade.¹⁰⁷ Although the function of the palace as a pooling and mobilization center or as a redistributive center, and the tight control that the palace exercised on many aspects of the state economy are well established;¹⁰⁸ localized transactions did take place. But we are still unclear as to their nature, range, and intensity, or the degree of economic self-sufficiency of settlements at the lower tiers.¹⁰⁹ Another issue relates to the mechanisms of redistribution. For example, did the towns function as local redistributive centers? IKAP has the potential of studying such questions through the analysis of the following:

Subsistence. The study of the faunal, marine, and botanical remains from Traghanes and the smaller settlements will provide valuable information about subsistence strategies (e.g., agriculture, herding, perhaps fishing and hunting¹¹⁰) and the diet of the inhabitants, as well as the practices of exploitation of plants and animals. As several crops and plant names are mentioned in the Linear B tablets from Englianos, the comparison of the botanical finds from Iklaina with the written documents will contribute to a better understanding of the nature and extent of intensification of agricultural production and will allow us to address the issue of palatial control over the subsistence strategies of the towns and villages of the state. Similarly, the analysis of the faunal remains from Iklaina will allow us to analyze herding strategies and relate these to the textual information about such strategies.¹¹¹

Trade. Imported objects will be identified and studied (on the basis of typology and of chemical and petrographic analyses) to assess the exchange networks of which Iklaina was a part. An effort will be made to identify not only imports from other areas of Greece but also imports from other parts of Messenia, so that we can study the flow of goods from and

toward the capital of the state, expanding on the work conducted by Galaty.¹¹²

Industry. The Linear B tablets give us information on the organization of industrial production at Iklaina, especially in terms of metalwork.¹¹³ The possible discovery of metallurgical installations at Katsimigas opens up exciting possibilities for the study not only of the technological aspects of the industry but also of the social dimensions, degree, and versatility of craft specialization. Depending on the finds, we are also prepared to study other industries that may be revealed from the material record.¹¹⁴

Art and Religion

Possible evidence for religious practices¹¹⁵ can be recovered through the excavation of sanctuaries, cult places, and cult objects. We will examine frescoes among other things to study Mycenaean art (Marinatos has already recovered fresco fragments).

PROSPECTS

IKAP has the potential of adding exciting new pieces to the puzzle of Mycenaean political geography, economy, and sociopolitical organization in Messenia. The growing attention by archaeologists to rural sites and activities conducted outside the palaces in other areas of Greece is bound to produce new discoveries and lead to detailed comparisons among the complex and diverse Late Bronze Age polities¹¹⁶ and a better understanding of the differences and similarities in their organizational structures and evolutionary courses.

DEPARTMENT OF ANTHROPOLOGY
CLARK HALL, ROOM 537
UNIVERSITY OF MISSOURI AT ST. LOUIS
ST. LOUIS, MISSOURI 63121-4499
COSMOPOULOS@UMSL.EDU

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¹⁰⁷ Morris 1986. See also Halstead 1999, 2001.

¹⁰⁸ Cf. Killen 1985; Halstead 1999, 2001. See also the comments in Shelmerdine 2001a, 359.

¹⁰⁹ De Fidio 1987, 130.

¹¹⁰ A bone from a red deer (*Cervus elaphus*), now extinct in the area, was recovered with LH IIIA/B sherds from looting trenches around the mound at Traghanes just after the end of

the survey season (Ruscillo 1999).

¹¹¹ Halstead 1988; Palaima 1989.

¹¹² Galaty 1999.

¹¹³ Supra p. 217.

¹¹⁴ Shelmerdine 2001a, 568-70, with references.

¹¹⁵ Supra p. 217.

¹¹⁶ Of the sort recently conducted by Shelmerdine 1999.

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