

POLITICAL ECONOMIES OF THE AEGEAN BRONZE AGE

Papers from the Langford Conference,
Florida State University, Tallahassee,
22–24 February 2007

Edited by

Daniel J. Pullen

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Preface

The contributions to this volume were originally delivered at the Spring 2007 Langford Conference entitled “Political Economies of the Aegean Bronze Age,” held at the Florida State University in Tallahassee 22–24 February 2007. Papers were circulated in advance, and a response prepared by James Wright. Subsequently the papers and the response were revised for publication (the contribution by Donald Haggis, “Stability and the State: A Diachronic Perspective on Pre-State Society in the Aegean” was not submitted for publication here). I would like to thank the authors for their timely responses and an anonymous reviewer for comments. Bill Parkinson, Dimitri Nakassis, and Michael Galaty also provided comments and editorial assistance.

I would like to thank the George and Marian Langford Family Endowment in the Department of Classics at the Florida State University for funding the conference, Patrick Byrne and Jeff Bray for helping make the conference a smooth-sailing operation, and Kevin Wohlgemuth for providing editorial assistance. My colleague Bill Parkinson, formerly of the Department of Anthropology at Florida State and now at the Field Museum of Chicago, deserves gratitude for letting me bounce ideas off him over many lunches and emails and for co-hosting the conference. I would also like to thank my colleagues and graduate students in the Classics and Anthropology Departments who pitched in and helped in many ways to make the conference the success that it was.

Daniel J. Pullen
March 2009

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Abstract

This volume brings together an international group of researchers to address how Mycenaean and Minoan states controlled the economy. The contributions, originally delivered at the 2007 Langford Conference at the Florida State University, examine the political economies of state (and pre-state) entities within the Aegean Bronze Age, including the issues of:

- centralization and multiple scales of production, distribution, and consumption within a polity
- importance of extraregional trade
- craft specialization
- role of non-elite institutions
- temporal/diachronic variation within regions
- “Aegean” political economy as a monolithic process
- political economy before the emergence of the palaces

The contributors address these issues from an explicitly comparative perspective, both within Minoan or Mycenaean contexts and across Minoan and Mycenaean contexts. The conclusions reached in this volume shed new light on the essential differences between and among “Minoan” and “Mycenaean” states through their political economies.

7.

REEVALUATING STAPLE AND WEALTH FINANCE AT MYCENAEAN PYLOS

Dimitri Nakassis

Recently there has been a notable shift in the way Mycenaean palatial economies are modeled. Whereas previous studies emphasized the role of the palaces as redistributive centers in an economy dominated by staple goods (staple finance), recent scholarship has argued forcefully that the political economy was heavily dependent on the production and exchange of high-value prestige goods (wealth finance). Although recent work has improved our understanding of the complexity of Mycenaean political economy, the study of Mycenaean state finance remains to a large extent at the level of generalization (cf. Smith 2004, 86–87 on the limitations of most models of state finance). That is, the social contexts in which staples and wealth are mobilized and distributed by the state and other bodies remain understudied, in part because the empirical data are typically interrogated at a culture-wide level, obfuscating how palatial finance worked at regional and micro-regional scales (for an exception, see Galaty, this volume).¹ Moreover, quantitative aspects of palatial distribution have been overlooked, with the result that the scale of palatial finance is not well understood. In this paper, I re-evaluate the empirical evidence for the use of staples and wealth in the political economy of the Pylian state in southwestern Greece through study of Mycenaean administrative texts. I argue that the dichotomy between staple and wealth finance is less useful for understanding the Pylian economy than the model proposed here, in which finance is measured along two continuous axes: one which measures the material involved (from staples to wealth) and another which measures the extent to which the goods allocated are convertible or transferable.

The decipherment in 1952 of Linear B, the administrative script of the Mycenaean palaces, provided a great deal of evidence about Mycenaean political economy. Economic historians were quick to realize that these texts largely recorded the collection and distribution of foodstuffs, including wheat, barley, olives, figs, and livestock, in the absence of a standard medium of exchange (Finley 1957; Polanyi 1960 = Polanyi 1968, 306–334). They modeled the Mycenaean palatial economy as a “massive redistributive operation” (Finley 1957, 135) in which most, if not all, of the annual produce of the polity flowed into the storage rooms of the palace to be distributed as rations to palatial dependents.

The concept of wealth finance was applied to Aegean states by Paul Halstead as part of a larger argument whereby he challenged Renfrew’s model of the origins of

Aegean states, which privileged redistribution (Renfrew 1972, 296–297; cf. Service 1962, 144–152). Halstead showed that the cornerstone of Renfrew’s model of the emergence of the palaces as redistributive centers, namely local specialization, lacked empirical support (Halstead 1988). He further argued that redistribution was conceived too monolithically, and pointed out that redistribution included practices as diverse as pooling and mobilization (Earle 1977). Halstead proposes that the Mycenaean economy was driven by wealth finance. He points out that the palaces were heavily invested in craft production, and that goods manufactured by palatial workshops have been found in tombs (Halstead 1992, 63). These goods, it is argued, constituted a wealth finance system whereby palatial craft products were allocated to individuals in exchange for goods and services (Halstead 1992, 72–74). Furthermore, Halstead suggests that these high-value goods were fungibles that could be exchanged for staples (Halstead 1992, 58; 2007, 68).² This model was taken further by Galaty and Parkinson, who suggested that Mycenaean states relied almost entirely on wealth finance in the form of non-fungible markers of status, at least on a regional level (Galaty and Parkinson 2007, 26). That is, “almost all the subsistence goods documented in the Pylian texts would have been used to support specialists and generally to mobilize goods and labor that eventually resulted in the production of elite goods” (Parkinson 2007, 98).

Strictly speaking, wealth and staple finance are defined purely “on the basis of the form in which the material support is mobilized” (D’Altroy and Earle 1985, 188; on staple finance, see Polanyi 1968, 185–188, 321–334). Staple finance is characterized by obligatory payments to the state in the form of basic goods common to all households, such as foodstuffs, livestock and simple cloth, which are then used to finance state activities, particularly the support of dependent labor. Wealth finance, on the other hand, employs high-value goods, often manufactured products, to fund state operations. These valued goods are acquired through exchange, levied from local populations, or produced by attached craft producers. The categories of staple and wealth are primarily heuristic, since the goods used by states fall along a continuum of value (for a discussion of the types of materials designated as valuables in pre-monetary economies, see Earle 1982). For example, while simple cloth could be considered a staple good, there are also high-value textiles produced by specialists, which could have been given as gifts in royal exchanges, and other textiles were valued at points in between (Killen 2008, 181–184). Moreover, states typically employ staple and wealth finance in combination, not one to the exclusion of the other. It is often the case that staple finance is used to support attached craft specialists, who produce high-value craft items to be utilized in a wealth finance system (Earle 1978, 184–185; Brumfiel and Earle 1987). Indeed, this use of staples to finance the production of wealth is the cornerstone of the Mycenaean economy in both wealth finance models (Halstead 1992, 2007; Parkinson 2007). Nevertheless, the distinction between finance in staples and finance in wealth is valuable, because each system has quite different advantages and disadvantages. Staples are often difficult to store and to transport, but represent the utilitarian materials required for subsistence, while non-staples are durable, easily transportable, and typically of high value.

While staple and wealth finance are formally defined by the materials employed, the former is typically conceived as straightforward allocations of staple goods, often in the form of rations, while the latter is often, but not always, described as establishing

relations of power (for wealth finance models that emphasize the convertibility of wealth, see D'Altroy and Earle 1985, 188, 193–194; Halstead 1992, 2007). That is, staple finance is economic, while wealth finance is political or ideological (Brumfiel and Earle 1987, 3–4; Earle 1994a, 74; 1994b, 445–447). Timothy Earle has argued that as social complexity increases, the contexts of the exchange of wealth become more politicized, and goods become more distinctive and durable (Earle 1982, 80). As a result of this politicization of prestige goods, there arise limits to the exchangeability of prestige with non-prestige items, what is commonly referred to as “ordinal ranking systems” or “spheres of exchange” (Earle 1987, 69; Gregory 1980; 1994, 918–919; Sahlins 1972, 277). Under these conditions, wealth finance acts to stabilize polities whose territories have grown so large that centralized collection of staples, especially foodstuffs, is no longer practical; the distribution of goods that mark status provides a method for the central authority to maintain control over provincial elites (Blanton and Feinman 1984; Brumfiel and Earle 1987, 6; Earle 1987).

Thus, there is a critical break between the definitions of staple and wealth finance and their application in the archaeological literature. In fact, it is clear that both staples and wealth can be distributed in different ways that correspond to different social contexts of exchange. For example, staples can be issued as rations to provide basic subsistence to dependent laborers, or as supplemental handouts (hence Ruth Palmer's distinction between rations and handouts: R. Palmer 1989, 1992). Alternatively, they can be mobilized for consumption at large, public feasts advertising the generosity of the host and creating social relationships between participants (Dietler 2001, 73–79; Dietler and Hayden 2001, 13; Hayden 2001, 29–30). Wealth can take the form of coined money paid by the state, or it can constitute a prestige good, such as a well-crafted sword or an elaborate bracelet. Thus, in theory staple finance can be ideological, and wealth finance can be economic.

I argue that the status of a given type of finance as “economic” or “ideological” is related to the crucial issue of convertibility. Economic disbursements of staples and wealth are made in such a way that the goods being distributed are easily transferable to other individuals and convertible into other goods. Moreover, economic payments have the effect of ending an obligation (Polanyi 1968, 322). Ideological disbursements, on the other hand, are not easily transferable or convertible, because of the symbolic value placed on participation in the exchanges involved, and they often create an obligation to reciprocate. Reciprocal exchanges can take place when the individuals involved are of different social ranks; as Sahlins perceptively notes, “the entire political order is sustained by a pivotal flow of goods, up and down the social hierarchy, with each gift not merely connoting a status relation but, as a generalized gift not directly requited, compelling a loyalty” (Sahlins 1972, 206. On rank and reciprocity, see Mauss 1990 [1925], 77; Sahlins 1972, 204–210). Wealth is often understood as being distributed via reciprocity, but it is also true that foodstuffs distributed at feasts create systems of debt and obligation; they moreover emphasize commensality, with the result that the staples involved are not transferable (Dietler 2001, 76–85). At historical Greek sacrifices, it is often the case that all food must be consumed within the sanctuary (Burkert 1985, 57, 369, n. 15). This lack of convertibility in ideological exchanges obscures a different conversion, what Bourdieu terms “symbolic violence”: the transformation,

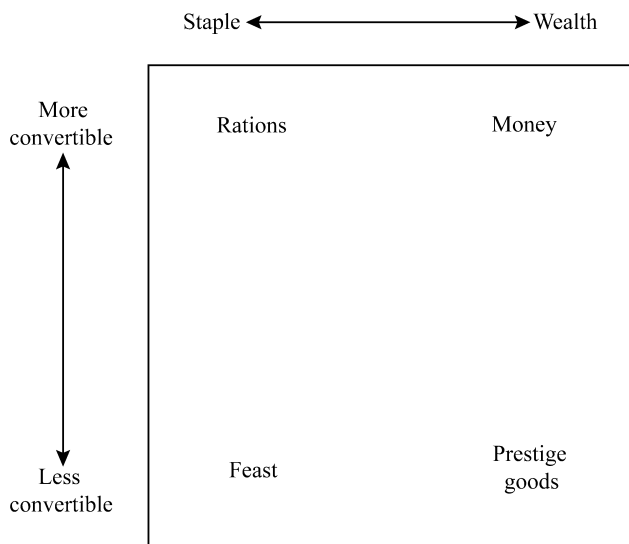


Figure 7.1. Types of staple and wealth finance.

misrecognized by social actors, of material goods into social and symbolic capital (Bourdieu 1977, 190–197; 1990, 118, 122, 125–126, 133).

We cannot, therefore, continue to think of staple finance as economic and wealth finance as ideological, since staple and wealth finance can be used in a variety of different ways. To understand systems of finance, one must attend to the social contexts of distributions of staples and wealth. This means thinking of finance not in terms of categories (staple or wealth, economic or ideological), but as located at various points along a continuum defined by two axes: one which differentiates between staples and wealth and another which measures the convertibility and symbolic value of these goods (see Fig. 7.1). While in theory state finance can include all points within this graph, in practice individual states tend to emphasize certain types of finance and de-emphasize or even exclude others.

Staple and Wealth Finance at Pylos

The proposed wealth finance models for the Pylian political economy are in fact highly problematic. D’Altroy and Earle point out that staple finance works well “for relatively small agrarian states and for empires with highly dispersed activities that can be supported by regional mobilizations” (D’Altroy and Earle 1985, 188). The Pylian kingdom, whose territory is some 2,000 km² in extent, the size of a large Greek *polis*, clearly qualifies as a small agrarian state.³ Conversely, wealth finance is typically a strategy employed by large-scale states and empires to increase centralization (Brumfiel and Earle 1987, 4; Earle 1987, 68–69).

Moreover, there is no direct evidence for the use of craft goods as payment. For example, all the Mycenaean texts that concern bronze describe either raw metal going out of the palace to be worked into finished goods, or the receipt of finished goods

into the palace (Killen 1987a). None record the allocation of these goods. Nor is there any good evidence that wealth in the Mycenaean world would have been easily convertible into staples. The textual evidence adduced to support conversion is highly ambiguous (see below). Evidence for marketplaces, the settings where we would expect the exchange of staples and wealth to take place at the local level, continues in the Mycenaean world to be elusive (Killen 2008, 174).

Where we do have actual evidence of payment for goods and services, it is in staple goods. A good example is a text recently joined by José Melena, which records the monthly allocation of staples to individuals and groups of workers in a craft context (PY Fn 7; Text 1 in Appendix) (Melena 1998, 171–176). There is a clear hierarchy of allocations: the “wall-builders” and “sawyers” receive 1.2 liters of grain per day, while the “all-builder” receives more than twice that amount (3.2 liters per day). The grain received by the wall-builders and sawyers is the standard ration for male dependent laborers (R. Palmer 1989). Two other individuals, identified only by personal name, are also included in this text; one receives 9.6 liters of olives per day, the other 19.2 liters of olives per day, in addition to an unpreserved amount of grain (probably also 19.2 liters per day).⁴ This amount is too great to represent rations (Melena 1998, 175). It is likely that these men are supervisors of some kind associated with this architectural team and paid for their services by the state. Perhaps they provided the gangs of unskilled labor necessary to complement the skilled labor represented by the wall-builders, sawyers and the all-builder (on gang labor in Mycenaean architectural building of terraces, see Wright 1980, 82–83 and n. 74).

In another example (PY An 35; Text 2), an individual named *a-ta-ro* (perhaps *Aithalos*) is given, in exchange for alum, a large quantity of staple goods. On this text appears the transactional term *o-no*, which has the meaning of “payment” (R. Palmer 1994, 92 and n. 31; Killen 1995, 217–224). This technical term, although rarely attested, is typically used to indicate payments to individuals or groups by the palace, and is regularly associated with staple goods. For example, it also appears in connection with large sums of grain and figs allocated to a net-maker (or net-makers) and a weaver (or weavers), perhaps in exchange for their professional services (PY Un 1322; Text 3) (R. Palmer 1994, 93 n. 38; Killen 1995, 217–219). John Killen has tentatively suggested that PY Un 1322.5–6, and the similar text from Knossos (KN L 693; Text 4), represent transactions in which the palace “pays” for fine linen cloth, in the former case with foodstuffs and in the latter case with bronze, presumably raw unworked bronze (Killen 1988, 179–183; Chadwick 1964). The use of bronze as payment has been used as evidence for the wealth finance model (Halstead 1992, 71), but recent advances in our understanding of the transactional term *qe-te-o*, which means a religious fine or penalty, make it virtually certain that on KN L 693 the bronze is being paid *to* the palace.⁵ Chadwick plausibly suggests that the bronze is applied to a linen tunic for the purpose of making armor (cf. Homeric λινοθήρηξ, *Il.* 2.529, 830) (Ventrìs and Chadwick 1973, 487–488). In any case, it is striking that once again, the palace would be paying for goods and services not with finished products, as would be expected in the wealth finance model, but with staples (grain) and unworked raw materials. It is also noteworthy that payments in staples are not standardized, as rations are, suggesting that they represent *ad hoc* solutions rather than standard rates of exchange (Gregersen 1997, 398–399).

The only positive cases one can make for payment in finished goods at Pylos are animal skins and certain types of textiles, although these items' status as wealth is far from unambiguous. Ten units of the textile designed by the ideogram *146, along with about 30 kilograms of wool, are paid to a man named *Kuprios* for delivering alum to the palace (PY Un 443; Text 5). Shelmerdine recently has argued that several other texts at Pylos record the allocation of *146 to individuals (Shelmerdine 2002). This type of textile is relatively common and domestically produced, and would hardly qualify as a "high-value" item in any meaningful sense, certainly compared to other textiles or metal goods.⁶ Indeed, the *146 textile is produced by non-specialized domestic units and is collected by the palace as part of tax obligations from each administrative district of the kingdom; the palace receives over 500 per annum (Nosch and Perna 2001, 471). The distribution of the *146 textile therefore represents a type of staple finance, namely taxation and payment in kind.

Several texts at Pylos appear to record the allocation of animal skins to named individuals of considerable status. The text On 300 records the allocation of hides (ideogram *154) to palatial officials who are involved in the regional organization of the polity and manage local activities such as taxation on behalf of the palace.⁷ These distributions therefore could be considered payment for services rendered to the state. Likewise, the animal skins (ideogram *189) in the Qa series may have been allocated to individuals as part of a wealth finance system, but it is unclear that they were given as "payment" for services rendered. In fact, there is reason to believe that the skins were called *ke-ra-e-we* (*Igerahêwes*) from Greek γέρας, a prize or gift of honor.⁸ In Homer, the term γέρας (plural γέρα) indicates a material object that is a direct reflection of the social worth of the man to whom it is given. This is vividly illustrated by Achilles in the *Iliad* in reference to Agamemnon's seizure of Briseis (*Il.* 1.355–356, cf. 1.161–171; author's translation):

ἦ γὰρ μ' Ἀτρεΐδης εὐρὸν κρείων Ἀγαμέμνων
ἠτίμησεν· ἔλων γὰρ ἔχει γέρας, αὐτὸς ἀπούρας.

Atreides, widely ruling Agamemnon dishonored me;
for he seized and has my prize, he himself having robbed me.

Γέρα are measurable in terms of value, but not exchangeable as such, and they can therefore not be "cashed in" for staples (Donlan 1981, 101–107; I. Morris 1986, 8–9; Beidemann 1989, 229–242; Wilson 2002, 13–70; *pace* Van Wees 1992, 218–227). Thus, the allocation of animal skins in the Qa series would be better described as symbolic exchange of non-convertible goods located between the extremes of staple and wealth (see Fig. 7.2; on animal hides as prizes in athletic competitions in Homer, see *Iliad* 22.159–160). Given that some individuals in the Qa series are identified as priests and priestesses, the purpose of these texts is probably the distribution of sacrificial hides to sanctuary personnel, as was common in the Classical period (Burkert 1985, 57; Melena 2002, 384). Sacrificial animal skins, while moderately valuable, are not manufactured, and so do not represent the production of wealth through palatially-supported craft production (Killen 2007, 117).⁹

In sum, both staples and wealth are allocated to individuals in the Linear B texts from

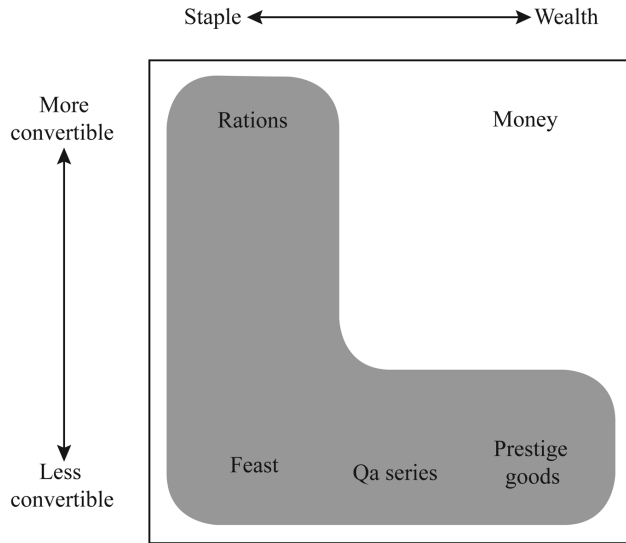


Figure 7.2. Types of staple and wealth finance, with financial arrangements used by the Pylian state shaded in gray and the Qa series indicated.

Pylos, although only staples, and not wealth, are used as convertible payments (Fig. 7.2). Staples appear both as subsistence-level rations and as supplemental handouts at levels above subsistence for specialized labor or high-status individuals. Certain types of wealth are allocated to individuals by the palace, but they appear to be textiles and skins given to high-level elites. The palace was certainly concerned with the production of high-status goods, but there is no evidence that these goods were convertible into staples or used as payment. Rather, these items may have been non-convertible prestige goods given in a system of reciprocal gift-giving, as a way of cementing alliances with individuals and groups within the kingdom, as well as with elites from other palatial centers within and beyond the Aegean. Most of the textual evidence relates not to wealth finance, but to staple finance, to which we now turn.

A Quantitative Evaluation of Staple Finance at Pylos

The amount of staple goods that the palace disburses to groups and individuals has not been quantified, which is surprising given the traditional emphasis that has been placed on staple redistribution in Aegean economies (exceptions are H. Morris 1986 and Halstead 2002). In quantifying the evidence for staple finance at Mycenaean Pylos, I have placed the textual data into four categories (Tables 7.1 and 7.2; for a similar scheme of categorization, see Killen 2004, especially p. 155):

- Feasting (and probable feasting): these are texts that record staple goods for a palatially-sponsored feast;
- Collection (and probable collection): these texts record the pooling of consumables together under one or more authorities. It is often clear that these materials are about to be mobilized for consumption in a feast;

	Single Feast		Daily Consumption	
	Feasting	Collection	Payment	Unknown
Certain	15,832–21,462	39,796–53,396	8,843–8,903	11,461–11,706
Probable	28,725–36,475	1,270–4,080	30,270–30,360	–
Minimum	15,832	39,796	8,843	11,461
Maximum	57,937	57,476	39,263	11,706

Table 7.1. Summary of the quantitative analysis of texts relating to staple finance (figures are rounded down). See Table 7.2 for specific texts used in this summary.

Feasting texts: Un 2, 6, 47, 718, ¹ 853	Probable feasting texts: Ua 9, 17, 25 ² Un 612, 1185
Collection texts: Cn 3, 418, 608, 1197, 1287 Un 138 ³ Wr 1325, 1327, ⁴ 1331, 1334, 1416	Probable collection texts: Cc 1283, 1284, 1286 Cr 591 Cn 868
Payment texts: An 35, 128 ⁵ Fg 368, 828 Fn 7, 41, 50, 79, 187, 324 Gn 428, 720 Ua 158 Un 1322	Probable payment texts: Cc 1285 Un 1426 Fg 253
Unknown: Fa 1195 Fn 918, 965, 966, 974, 975 Ua 434 Un 352, 1177, 1426	

Table 7.2. Texts included in quantitative analysis (see Table 7.1)

- ¹ Killen 2004, 158–159 argues contrary to the common opinion (for which, see Palaima 2004) that Un 6, 718 and 853 do not record goods for consumption at large, state-sponsored feasts.
- ² Killen 2004, 159–160.
- ³ This text might equally be considered a feasting text (Killen 2004, 159; Palaima 2004, 221, 223), but the immediate purpose of the record is to list goods that are currently in the possession of two individuals, collected as fines.
- ⁴ Halstead 2002, 164.
- ⁵ I have only recorded the grain on the verso (but not the recto) of An 128, since Ruth Palmer (1992, 483) has persuasively argued that the amount of the verso represents the equivalent in value of the amounts on the recto.

- Payment (and probable payment): these texts record the direct allocation of staple goods to individuals in return for goods or services rendered.¹⁰ Often these are called rations, but given the sometimes large amounts of goods allocated, payment seems a more appropriate term (R. Palmer 1989; Melena 1998, 175); and
- Unknown: these texts are either fragmentary, and so we cannot determine the use to which the staple goods are to be put, or the text simply gives no indication of

their use.

In order to facilitate comparison and to arrive at a meaningful figure in social terms, I have converted the raw numbers into units of consumption. The staples from feasting and collection texts have been reckoned on the basis of how many individuals they could have fed at a single feast. For the staples in payment and unknown texts, on the other hand, I have calculated the number of daily rations they could have provided. In practical terms, daily consumption is calculated as double the consumption at a feast. When dealing with grain and figs, I use Mycenaean figures for daily rations given to dependent laborers by the palace: male laborers are given 1.2 liters of barley per day, while women are given 0.64 liters of wheat and 0.64 liters of figs per day (R. Palmer 1989). For livestock, I have used estimates used by Reese *et al.* and Jameson to calculate the minimum and maximum amounts of useable meat that could be extracted per animal, and I have assumed that each feaster will have consumed half of a kilogram of meat (Reese *et al.* 1987; Jameson 1988). I have not included in my calculations several commodities that either cannot be quantified (cheeses) or are supplemental (cyperus, olives, honey and oil).¹¹ These estimates are naturally quite rough, but they provide a sense of the scale of palatial distributions, something that is not easy to understand from the raw figures. The quantities in Table 7.1 indicate the number of individual feasting portions that feasting and collection texts could have provided, and the number of individual daily rations that payment and unknown texts could have supplied.

These figures strikingly demonstrate that the Pylian state mobilized a large number of staples for consumption at large, public feasting ceremonies. Much of the material recorded in collection texts consists of livestock, which was probably mobilized for consumption in feasts (Halstead 2002, 163–169). If we lump feasting and collection texts together, we find that they represent over half of the total amount of staples recorded.¹²

The types of distributions recorded in payment texts are illuminating. There are three main types of payments: regular payments of rations to dependent labor (PY Aa, Ab and Ad series), large bulk payments to groups of laborers assembled on an *ad hoc* basis to perform specific jobs (PY Fn 7), and individual payments to named men and women who are involved in short term, *ad hoc* activities and who are compensated for their service with staples (other PY Fn texts; cf. James 2006 on the Theban evidence for staple payments). Of these types, most of the staples appear in the first category, supporting fully dependent laborers, primarily women and children involved in domestic service and textile production. Subsistence rations were assigned to these laborers on a monthly basis (R. Palmer 1989; Chadwick 1988). The text PY Fg 253 probably records a sub-total of the rations allocated to these laborers amounting to 28,905 daily rations (73.6% of the payment text total) (Chadwick 1988, 63–64). This amount represents about 60% of the total quantity of foodstuffs that would have been required to support the entire dependent labor force recorded in the Aa, Ab and Ad series (*ca.* 45,000 daily rations).¹³ Supplementing the payment total with these reconstructed figures, we reach a total of *ca.* 55,000 daily rations recorded in payment texts.

It is difficult to evaluate the contribution of these staples outside of their larger context. Minimally, 4,100 personnel are recorded in the Linear B texts from Pylos,

either by name or in anonymous groups (Hiller 1988). The total population of the Pylian kingdom is most plausibly estimated at 50,000, with about 3,000 resident in the settlement of Ano Englianos (Whitelaw 2001, 63–64, whose figures are approved of by Stocker and Davis 2004, 72, n. 62). Feasting texts from Pylos therefore record enough food to feast the entire population of the polity just once. Including collection texts, which record even more material, there is enough food for 115,000 feasting portions, or 2.3 feasts per individual. Payment texts provide enough material to support *ca.* 1800 individuals for an entire month; if we lump in the foodstuffs from texts of unknown purpose, this figure rises to *ca.* 2200.

The temporal context of these documents is also crucial to determining the scale of palatial distributions. Linear B texts were temporary clay tablets baked by the fire that attended the destruction of the palace, and Mycenaean literate administration largely seems to run on annual cycles, so it seems unlikely that texts would be kept much longer than a year. Time references in the tablets seem to indicate that our texts largely represent a period of time less than a year; Palaima concludes that one or two certain month names are preserved in the texts and two or three more possible month names (Palaima 1995, 629–631). Within this time span, many texts will have been pulped as soon as they were no longer needed. The types of texts that would be kept for a long period of time are those that give the administrators information which they need to consult periodically. The best examples of long-lived Mycenaean texts are taxation documents, where the payment due in one year is based on a formula; in such cases, the documents from the previous years may be consulted in order to calculate the amount due (Pluta 2006), particularly where payment has been deferred from one year to the next (Killen 1984b). On the other hand, texts recording staples are largely temporary texts (Halstead 1992, 71–72; 2007, 69). Payment texts either record monthly payments, or short pay periods of up to five days or so (Chadwick 1976, 118–119; Killen 2001, 439–441). Collection texts will have been pulped once the collected material was re-organized into feasts, and feasting tablets, once they had served their purpose, probably would have been quickly pulped as well. Paul Halstead has persuasively argued that texts that record payments in staples for specific services, like the exchange for alum on An 35, would have had extremely short administrative lifetimes (Halstead 2007, 69; 2002, 171). Recently, John Bennet has examined the role of cycles in Mycenaean administration, and his chart is a useful way of thinking about the life cycles of administrative texts (Fig. 7.3) (Bennet 2001). Texts that record staples are of the monthly or contingent variety. Thus, although the maximum duration for the texts included in my analysis is about one year, a more realistic estimate would be considerably shorter, perhaps a single month or even less.

What about the completeness of the textual record? There may be some overlap between texts in different categories: the texts that are classed as “unknown” may record the inventories of palatial stores, from which foodstuffs were withdrawn for feasting ceremonies. On the other hand, the textual evidence is not complete either. For example, the recently studied cattle bones found in Room 7 of the Archives Complex of the palace do not appear to have a direct textual equivalent, and their presence in the Archives Complex arguably has to do with the need, never fulfilled, to record the cattle that were sacrificed.¹⁴ Not only is it the case that the textual corpus as a whole is

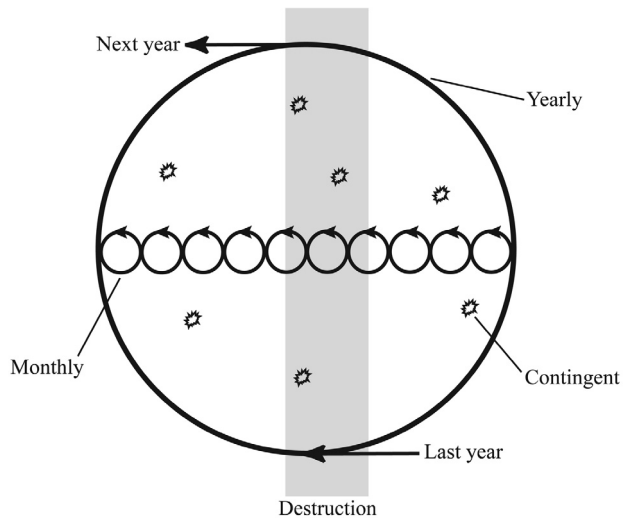


Figure 7.3. Mycenaean administrative cycles (re-drawn by author from figure provided courtesy of John Bennet).

incomplete, so too are individual tablets, including those that are verifiably feasting, collection and payment texts. So in many ways, the figures calculated in Table 7.1 represent *minima* rather than *maxima*.

The geographical context of these texts is also worth exploring. A number of scholars have pointed out that Pylian administration seems focused on its immediate hinterland (Halstead 1992, 72–73; Galaty and Parkinson 2007, 26; Small 2007). While the location of staple distributions cannot always be specified, it seems to be the case that most texts deal with the area near the palace at Pylos. At least three feasting texts (Un 2, Un 47 and Un 718) appear to be located near the palace.¹⁵ About two thirds of the dependent women in the Aa and Ab series are located at Pylos, and two thirds of the remaining women are located nearby (Chadwick 1988, 76). Many payment texts have no toponym recorded, which is often a sign that the location of activity is the palace and its immediate environs.¹⁶ So where we have evidence, allocation of staples seems largely concentrated in the southern half of the “Hither Province,” not very far from the palace. Ruth Palmer has shown that the palace also sends large amounts of wine to the districts of the “Hither Province,” perhaps to sponsor banqueting ceremonies outside of the palace (Vn 10 and Cn 608) (R. Palmer 1994, 75–78, 191). Thus, the foodstuffs in the surviving texts are not dispersed throughout the entire kingdom, but on a subset of it, specifically southwestern Messenia and more generally, the “Hither Province” (cf. H. Morris 1986, 110). Perhaps separate records were kept for the Further Province at its capital *Leuktron* (*re-u-ko-to-ro*). This would seem a logical solution, since staple goods are bulky and difficult to transport over long distances. Regional collection points for the storage of staples would require much less effort, and one would expect record-keeping to have gone on there as well. Indeed, the presence of inscribed sealings at Thebes labeled as going “to Thebes” (*te-qa-de*) implies the existence of literate scribes operating outside of the palatial centers (Palaima 2004, 239).

The tight contextual control over the Linear B texts allows us to consider the impact of staple finance at Pylos. Most staples are distributed to individuals at locations near

the palace over a period of about a month.¹⁷ If the population of this region is about 25,000 (half of the population of the polity as a whole), then each individual in this group could have been feasted twice a month. If we include collection texts, the frequency increases to four times per month, practically once a week. The payment texts record enough food to support fully *ca.* 1800 individuals for one month, about 60% of the population of the town of Pylos. This is not as extensive as classical redistribution, but it is clear that palatial disbursements represent a substantial contribution to staple consumption within the Pylian polity.

Arguably, more important is how these goods were used. Most of the staples recorded in the Linear B tablets are not distributed in straightforward payments to craft specialists who produce symbolically charged wealth items. Rather, the majority of staples funded large feasting ceremonies, rituals which allowed the palatial authority to transform basic foodstuffs into symbolic capital. Likewise, distributions of non-staple items appear to be couched in the language of honor and prestige. Thus, both staple and wealth finance at Pylos primarily appear in contexts that render distributed goods ideological and non-convertible.

Conclusions: Pylian Finance in Context

The observations above require us to reevaluate the political economy of the Pylian state. To date, two wealth finance models have been proposed for the Mycenaean economy. Halstead's general model of the Mycenaean economy argues that staples were primarily produced and consumed near the palace and other centers. These staples largely supported craft specialists, and thereby the production of wealth items. The distribution of these valued goods is unfortunately not recorded in the extant texts, but there is little reason to doubt that finely crafted items were indeed distributed in some way. Galaty and Parkinson propose a model similar to Halstead's on the basis of the Pylian data, but while Halstead emphasizes that wealth items were fungibles which could be exchanged for staples, Galaty and Parkinson suggest that wealth finance operated primarily to create and maintain networks of support and allegiance between the elite resident in the palace and local elites whose cooperation was so crucial to the functioning of the state (Halstead 1992, 71; Galaty and Parkinson 2007, 26–27; Parkinson 2007, 97).

The evidence presented in this paper suggests that the role of staples in the support of dependent labor has been exaggerated. Most staples used as payment are dedicated to the support of fully-dependent labor involved in the production of textiles. These workers, moreover, tend to be located in and around the palace and at other major second-order administrative centers. Workers who labor under the decentralized *ta-ra-si-ja* system of production, such as bronze-smiths, do not appear to have been paid in bulky staples. Moreover, the assumption that laborers not given rations were systematically compensated with landholdings is unsubstantiated (Nakassis 2006, 290–292; *pace* Halstead 1992, 61; 2007, 70; see too R. Palmer 1999, 466). Mycenaean systems of remuneration are in fact highly complex and heterogeneous. At Pylos, where we have plentiful evidence for the nature of bronze production and the identities of

the bronze-smiths, it has recently been shown that a significant number of smiths were elites, who may have voluntarily engaged in the palatial economy to increase their access to material resources and social status (Nakassis 2006, 267–319; see too Nakassis 2008). This raises the question of how centralized palatial control over certain high-value goods such as bronze actually was, if the producers were elites intimately involved in other aspects palatial economy and administration (cf. Parkinson 2007, 99–100).

While staples were used to support specialized production, more than half were not. They were instead collected and distributed in large public feasts, often associated with religious ceremonies, promoting the establishment of community under palatial auspices. This represents, from one perspective, a more direct method of securing allegiances among the community than converting these staples into wealth through the support of craft specialists. This direct approach is made possible by the relatively small size of the Pylian polity. It moreover allows the state to utilize staple surpluses without large-scale storage facilities, since incoming goods can be quickly consumed as feasts.¹⁸

The role of wealth items in the Mycenaean political economy is more difficult to discern, since, as Halstead has noted, distributions of wealth are not recorded in the extant texts. Halstead would prefer to see these items as exchangeable for staples, but there is no empirical support for this position. Payments for imported alum, for example, are made with heterogeneous combinations of staple goods, not with wealth. Animal skins, which lie between staples and wealth in the continuum of value (Fig. 7.2), are distributed to religious and administrative officials, but the available evidence suggests that these goods were conceived of as marks of honor, not fungibles.¹⁹ Thus, I would prefer to see wealth distributions, with Galaty and Parkinson, as taking place through symbolic exchanges which establish relationships of debt and dependency (Galaty and Parkinson 2007, 26).

Reciprocity and symbolic exchange are of considerable importance to understanding the Mycenaean political economy at Pylos. This is not only true for distributions of goods, but also for their mobilization. Even the language of taxation and tribute in the Mycenaean texts is based on the Greek verb *δίδωμι*.²⁰ This should not surprise us, for tribute can be presented as reciprocal gift-giving in not only the royal exchange of contemporary Near Eastern kingdoms, but also in Homer; as Liverani has shown, reciprocal and centralized exchanges of goods are cultural representations, not objective realities (Liverani 2001, especially 5–9; on tribute as gift giving in Homer, see I. Morris 1986, 4). Thus, while wealth finance is a useful heuristic concept for making sense of Mycenaean political economy, it does not do an adequate job of describing or explaining that economy, which would be better characterized as a “prestige economy.” Unlike the well-known prestige goods model, the Mycenaean economy uses both staples in feasts and non-staples in symbolic exchanges to promote solidarity and ensure allegiance (see Fig. 7.2) (on prestige goods models, see Friedman and Rowlands 1977, applied to Mycenaean Pylos by H. Morris 1986). At Mycenaean Pylos, the goal of most distributions seems aimed at the direct accumulation of symbolic profit.

Notes

- 1 Parkinson 2007 provides a critique of using evidence from different Mycenaean polities uncritically to construct a monolithic model of the Mycenaean political economy, but see too the response of Killen 2007, 114–115.
- 2 Convertibility between high-value wealth and staples is crucial for the “social storage” model: Halstead and O’Shea 1982, 93–94.
- 3 Earle (1994b, 445) asserts that “staple finance is typical of small-scale city states in which distance to the territorial boundaries rarely exceeds 50 km.” As the crow flies, 40 km is the furthest distance that one would have to travel to reach the palatial center from the hypothesized boundaries of the polity. D’Altroy and Earle (1985) mainly discuss the Inka and Aztec empires, in comparison to which the Pylian polity was positively puny. At its height, the Inka empire was 1 million km² in size, with a population of 8–12 million. For a recent discussion of the scale of early states, see Feinman 1998; a rough population average for early states is set at 100,000 (Feinman 1998, 108), the maximum population of the Pylian polity (see Carothers and McDonald 1979; Whitelaw 2001, 64). For an Aegean perspective on the scale of early states (*ca.* 1500 km²) see Renfrew’s concept of the Early State Module (Renfrew 1975, 1986).
- 4 The location of the breaks in the text make it likely that both named men were recipients of grain and olives.
- 5 Killen (1979, 169–170) had argued that *qe-te-o* indicated something to be paid *by* the center (*i.e.*, outgoing), and this informed his interpretation of KN L 693 (Killen 1988, 181–182). But this interpretation must be modified in light of the appearance of the plural *qe-te-a₂* in the Wu nodules discovered at Thebes in 1982, which record livestock and other foodstuffs coming into the palatial center (*te-qa-de*, “to Thebes”) in the same language as taxes paid to the center (*a-pu-do-ke*, “he paid”). See Piteros *et al.* 1990, especially pp. 152–153; Killen 1994. For the most recent comprehensive discussion of *qe-te-o*, see Hutton 1993.
- 6 Killen 1984a, 62 describes *146 as “cloth of relatively simple kind which could be readily produced by non-specialist labour in the villages.”
- 7 It is not entirely clear whether the hides (*154) on On 300 are being given to these individuals by the state or *vice versa*. The entries in the first paragraph relate to the Hither Province and are in the dative of recipient (*ko-re-te-ri*), while the entries in the second paragraph relate to the Further Province and are in the nominative (*ko-re-te*, *te-po-se-u*). L. Palmer (1963, 374) argues that “the personalities of the two provinces are treated in different ways.” Another possibility might be that the scribe shifted from the dative to the nominative of rubric, in which case the text would record the allocation of skins to officials of both Provinces.
- 8 Melena 2002, 380–384, based on a new fragment found by Joanne Murphy in 1995, Un 1482. The term γέρας also appears in Linear B in the context of landholding, where a plot of land is described as the γέρας of the priestess Eritha (PY Eb 416.1/Ep 704.2). For an alternative interpretation of *ke-ra-e-we* from κέρας, “horn,” see Killen 2002.
- 9 The price of sacrificial ox-hides in 4th century BC Athens was in the area of 4 to 10 drachmas, while the prices of pig, sheep and goat hides ranged from 1 to 5 drachmas (Jameson 1988, 107–112; Rosivach 1994, 62–63, 155–157). Tanned hides are obviously more valuable, although not substantially so.
- 10 I do not distinguish between religious and secular records; on this difference, see Killen 2001, 2004.
- 11 The cheeses are counted as integers; without knowing how heavy each unit of cheese was, we cannot calculate their contribution to the feast. On cyperus, see R. Palmer 1999, 470–474.
- 12 58% using the minimum figures, 53% using the maximum figures.
- 13 Chadwick 1988, 75–77, reconstructs some 750 women, 850 children of both sexes, and 275–300 men who were recorded in the Aa, Ab and Ad series. Children were given half as much in

- rations as adult women (Ventriss and Chadwick 1973, 157; R. Palmer 1989). Thus, we would have the equivalent of *ca.* 1500 adult rations. Since these texts are monthly, the equivalent of *ca.* 45,000 daily rations would be required to support this labor.
- 14 Stocker and Davis 2004, 73, suggest that the bones came to Room 7 as part of a process of administrative supervision. Isaakidou *et al.* 2002, 88, notice that the bones were carefully deposited, and suggest that they were placed “possibly for display to those admitted to the interior of the palace by the adjacent doorway,” although the careful deposition of the bones might also have to do with administrative convenience.
- 15 Un 2 is located at *pa-ki-ja-ne*, located near the palace (Killen 1987b, 170). Un 718 is located at *sa-ra-pe-da*, whose location is unknown but is perhaps in the environs of the palace, since the *wanax* and *lawagetes* have plots of land there. Outside of the immediate area of the palace, but still quite close, is Un 47, which takes place in *ro-u-so*, which is probably located near the Bay of Navarino and the modern town of Pylos (Killen 1987b, 170).
- 16 Ventriss and Chadwick 1973, 141; Lindgren 1973, vol. I, 14. A number of texts in the Aa series without any toponym listed correspond to texts in the Ab and Ad series where the toponym is recorded as *pu-ro* (Chadwick 1988, 47).
- 17 Naturally, individuals who lived outside of the environs of the palace could have traveled for important feasting ceremonies.
- 18 The relatively small storage capacity of Mycenaean palaces generally, and Pylos specifically, has been noted (H. Morris 1986, 138–143; Parkinson 2007, 98). This lack of dedicated storage contrasts with the large storage capacity of palaces on Crete (Christakis 2004), and the extensive storage complexes of the Inka in areas where staple finance was the principal means of support (Earle 1994b).
- 19 The fact that animal skins are allocated primarily to elites may suggest that non-staples were distributed primarily to elites as markers of status, with staples being allocated to all segments of the populace through feasting.
- 20 The relevant terms include *do-so-mo*, *a-pu-do-si*, and forms of the verb δίδωμι, which may also contain the prefix *a-pu-*, to which compare Greek ἀπο- (Ventriss and Chadwick 1973, 533).

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Appendix. Translated Texts¹*Text 1***PY Fn 7**

- .1 qa-ra₂]2 OLIV T 2
 .2 pa-ka] OLIV T 1
 .3 to-]ko-do-mo HORD [] Z 3 VIR 20[
 .4 pi-ri-e-te-re HORD [] Z 3 VIR 5
 .5 pa-te-ko-to[] HORD [] V 2 []
 .6 *vacat*
 .7 qa-ra₂-te , o[-pi-me-]ne[] OLIV 6
 .8 pa-ka , o-pi-me-ne , [OLIV
 .9 pa-te-ko-to , o-pi-me-ne [] HORD 1 []
 .10 pi-ri-e-te-si , o-pi-me-ne[] HORD 1 T 4[
 .11 to-ko-do-mo , o-pi-me-ne[] HORD 7 [T] 5

[*Pallas*: BARLEY ? liters], OLIVES 19.2 liters

[*pa-ka*: BARLEY ? liters], OLIVES 9.6 liters

wall-builders: BARLEY 1.2 liters MEN 20

sawyers: BARLEY 1.2 liters MEN 5

all-builder: BARLEY 3.2 liters

To *Pallas*, per month [BARLEY?], OLIVES 576 liters

To *pa-ka*, per month [BARLEY?, OLIVES 288 liters]

To the all-builder, per month, BARLEY 96 liters

To the sawyers, per month, BARLEY 134.4+ liters²

To the wall-builders, per month, BARLEY 720 liters

*Text 2***PY An 35**

- .1 to-ko-do-mo , de-me-o-te
 .2 pu-ro VIR 2 me-te-to-de VIR 3
 .3 sa-ma-ra-de VIR 3 re-u-ko-to-ro VIR 4
 .4 *vacat*
 .5 a-ta-ro , tu-ru-pte-ri-ja , o-no
 .6 LANA 2 CAP^f 4 *146 3 VIN 10 NI 4

Wall-builders, who are going to build:

At Pylos: MEN 2, to *me-te-to*: MEN 3

To *sa-ma-ra*: MEN 3, at Leuktron: MEN 4

Aithalos, payment for alum:

WOOL 6 kg, FEMALE GOAT 4, CLOTH 3, WINE 288 liters, FIGS 384 liters

Text 3

PY Un 1322

- .1]vest.[] GRA [*qs*
 .2]n̄o-[]o-no[] GRA 6 *NI* [*qs*
 .3 de-ku-tu-wo-ko[]o-no GRA 2 *NI* 2
 .4 i-te-we , o-n̄o[] GRA 12
 .5 we-a₂-no[]-no , re-po-to *146 GRA 5
 .6 we-[]no , []*146 GRA 15
 .7 vest.

...] WHEAT [

...] , payment: WHEAT 576 liters, FIGS [576 liters?]

To the net-maker(s), payment: WHEAT 192 liters, FIGS 192 liters

To the weaver(s), payment: WHEAT 1152 liters

Fine [linen] cloth: TEXTILE WHEAT 480 liters

[Fine linen cloth]: TEXTILE WHEAT 1440 liters

Text 4

KN L 693

- .1 ri-no ,/ re-po-to, 'qe-te-o' ki-to , AES M 1 [
 .2 sa-pa P 2 Q 1 e-pi-ki-to-ni-ja AES M 1[

Fine linen, a religious penalty, a *chiton*, BRONZE 1 kg

*sa-pa*³ [BRONZE] 45 g over-shirt(s) BRONZE 1 kg

Text 5

PY Un 443

- .1 ku-pi-ri-jo , tu-ru-pte-ri-ja , o-no LANA 10 *146 10
 .2 po-re-no-zo-te-ri-ja LANA 3
 .3]do-ke , ka-pa-ti-ja , HORD 2 te-ri-ja GRA 1 LANA 5

Kuprios, payment for alum: WOOL 30 kg, CLOTH 10

The *po-re-no-zo-te-ri-ja*:⁴ WOOL 9 kg

[Karpattia gave: BARLEY 192 liters; Telias [gave]: WHEAT 96 liters, WOOL 15 kg

Notes

- 1 In this paper, I translate the Linear B ideogram HORD as barley and GRA as wheat; but see the persuasive arguments of R. Palmer 1992, who suggests that the values be reversed.
- 2 Based on the figures preserved in the first paragraph, this figure can be reconstructed as 180 liters.
- 3 Probably the name of a garment (Ventriss and Chadwick 1973, 320–321).
- 4 Probably the name of a festival, a compound word whose second element is -ζωστήρια, from ζωστήριον, “belt, girdle” (Palaima 1998, 306–307).