

## 9.

### Labor and Individuals in Late Bronze Age Pylos

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Most studies of economy and labor in the Mycenaean world focus on the overall structure and organization: that is, they consider the designations used to describe classes of laborers, the technical terms for the conditions or obligations involved in work, and the organization of systems of remuneration.<sup>1</sup> Recent studies have greatly improved our understanding of specialized economic terminology and its relevance to the organization of Mycenaean palatial economies.<sup>2</sup> Yet in seeking to understand the use of specific terms, laborers within a given sphere of production tend to be treated as a homogeneous group. For example, the Mycenaean term *ta-ra-si-ja* (*talasiā*) is associated with a system of production in which raw materials are weighed out and allocated to workers, probably on an annual basis.<sup>3</sup> The workers are required in exchange to render manufactured goods to the palace. The term is thus best translated as “an amount [of raw material] weighed out and issued for processing.”<sup>4</sup> The *ta-ra-si-ja* system organized the production of textiles, bronze products, and chariot wheels. In his recent review, John Killen tentatively concludes that *ta-ra-*

<sup>1</sup> This paper has benefited enormously from the comments of the participants at the workshop in 2005 and later from the written comments of Michael Hudson and Piotr Steinkeller.

<sup>2</sup> For example, Duhoux 1976; Hutton 1990–91; Killen 1999, 2001a, 2008; Palaima 2000, 2001. Cf. Bernabé and Luján 2008.

<sup>3</sup> Killen 2001a; Nosch 2006.

<sup>4</sup> Ventris and Chadwick 1973: 583; Killen 2001a: 161.

*si-ja* production is characteristically spatially decentralized and involves many workers of relatively low status.<sup>5</sup>

Such approaches operate under the assumption that laborers can and do constitute a homogeneous group. An alternative approach might focus instead on individual laborers. Indeed, my prosopographical research on named individuals at Pylos shows that one class of *ta-ra-si-ja* workers, namely smiths (Linear B *ka-ke-u*, *k<sup>h</sup>alkeus*; plural *ka-ke-we*, *k<sup>h</sup>alkēwes*), was a heterogeneous group that included members of the elite.<sup>6</sup> This conclusion suggests that despite the important scholarly gains made by general studies of the Mycenaean economy, the focus on the overall structure of the economy and general categories of laborers needs to be refined by an assessment of the diverse contributions of individuals. I argue in this paper that the labor of the men and women identified by name in the Linear B texts is crucial to our understanding of the economy of the Mycenaean state centered on the site of Pylos in southwestern Greece circa 1200 BC.

### The identity of named individuals

The data for this study are compiled from a prosopography of all personal names attested in ca. 1000 Linear B texts from Pylos.<sup>7</sup> There are 1,683 occurrences of 964 personal names, of which 700 are completely preserved and certainly identified as names. To put this quantitative data into a broader perspective, the territory of the Pylian kingdom, with a territory of 2,000 square kilometers (see Figure 1), carried an estimated Late Bronze Age population of 50,000.<sup>8</sup> Stefan Hiller calculates that

<sup>5</sup> Killen 2001a: 175; cf. Killen 1984a: 61; Nosch 2006: 163–164. Duhoux (1976: 115; cf. 2008: 268), on the other hand, considers *ta-ra-si-ja* workers “artisans libres et indépendants.”

<sup>6</sup> Nakassis 2013: 74–102, 153–186. See too Nakassis 2006: 267–319 and Nakassis 2008.

<sup>7</sup> Nakassis 2013. This new prosopographical study substantially revises the pioneering work of Lindgren 1973.

<sup>8</sup> For the population of the Pylian state, see most recently, Whitelaw 2001: 64. Earlier estimates tend to be higher (e.g., McDonald and Hope Simpson 1972: 141; Carothers and McDonald 1979). For the area of the Pylian polity, see Bennet 1995: 587. Of the total population, adult males are likely to constitute about one quarter (Nakassis 2013: 34 n. 24). This is significant since almost all of the individuals mentioned by name in the tablets are males, and all are presumably adults.

minimally 4,100 people are monitored in the tablets from Pylos, whether identified individually or as part of a group.<sup>9</sup>

In most cases, individuals are simply identified by a single personal name. Where additional information is provided, the most common modifiers are patronymics, professional designations or ethnics. Almost 80 per cent of the individual personal names come from five major subject groupings of texts:

1. **An series:** a diverse set of texts characterized by the presence of the ideogram for men (VIR), it consists largely of personnel registers, including the *o-ka* set, which records individuals and groups of men watching the coast in a military context;
2. **Cn series:** texts that primarily record the location and composition of flocks of sheep, goats and pigs, as well as the named individuals responsible for them;
3. **Fn series:** texts characterized by the ideogram for barley (HORD); they primarily record the payment of grain and occasionally olives or figs to specific individuals and groups;<sup>10</sup>
4. **E-series:** texts that record the land holdings of individuals in various locales, and
5. **Jn series:** texts that relate to bronze (AES); the largest subset of this series records allocations of metal to smiths for production under the *ta-ra-si-ja* system.<sup>11</sup>

About two thirds of the personal names appear only once in the Pylos texts (469 of 700 complete names, or 67%), leaving us with 231 names that recur (*i.e.*, that appear in more than one text). The earliest studies argued that in most cases these recurring names simply indicated different, homonymous, individuals.<sup>12</sup> These studies pointed out that many recurring names appeared listed against different toponyms, suggesting that different individuals must have been meant. This hypothesis is not without its problems, since in some cases it is not known where a toponym was located, or whether a toponymic designation indicated a dis-

<sup>9</sup> Hiller 1988: 60.

<sup>10</sup> The identity of the ideograms for wheat and barley is contested (Palmer 1989; the traditional identifications are defended by Halstead 1995 and Killen 2004). In this paper I use the traditional values of the HORD and GRA ideograms as barley and wheat, respectively.

<sup>11</sup> The ideogram AES and the Linear B *ka-ko* (Greek *k'alkos*) might represent copper, bronze, or both; for a discussion of this issue and the Jn series generally, see Smith 1992–93. For simplicity, I refer to AES as bronze.

<sup>12</sup> Ventris and Chadwick 1973:352; Lejeune 1971:187–188; Lindgren 1973, I:14.

trict within a larger town or regional unit.<sup>13</sup> In many cases it is also possible to show that different toponyms at which a single name is listed are fairly proximate to each other.<sup>14</sup> More important, however, is the fact that these arguments are based on the tacit belief that these people were of low-status and were therefore incapable of managing multiple tasks at different sites. The two largest groups of names, smiths and herders, are commonly thought to be menial laborers. The crucial role played by assumed social status in early studies is revealed by the fact that the identity of recurring names of clearly high-status individuals is routinely accepted, no matter how extreme the variation in the toponyms associated with these individuals.<sup>15</sup>

By examining sets of names that cluster together in more than one text, I have been able to establish that in most cases recurring names can be shown to represent a single individual with a high degree of confidence.<sup>16</sup> This procedure is possible because the texts at Pylos are highly concentrated in time, space and function. All of the preserved texts were temporary clay documents, almost all of which were baked by the fire that attended the final destruction of the palace. They can consequently be dated to a small temporal window of about one year, although most texts probably represent a considerably shorter span of time.<sup>17</sup> All of the tablets were also found in the palace proper, and were composed solely for the administration of the palatial economy.<sup>18</sup> The end result of my contextual analysis of recurring names is that in 67 per cent of all possible cases, we can make at least one prosopographical match (*i.e.*, at least two occurrences of the same name represent a single person) with cer-

<sup>13</sup> Lang 1988.

<sup>14</sup> Nakassis 2013: 42–44.

<sup>15</sup> See, *e.g.*, Sutton 1970: 105 n. 10, 128, 540; Lindgren 1973, II: 135–136, 153–155.

<sup>16</sup> Nakassis 2013: 29–72 provides a fuller discussion of these prosopographical methods.

<sup>17</sup> On the timespan represented in the texts from Pylos, see Palaima 1995; Bennet 2001; Driessen 2008. A handful of texts are probably earlier in date, perhaps LH IIIA, ca. 1390–1340/1330 BC. (Palaima 1983; 1988: 111–113, 133, 162–169, 172; Melena 1996–97a: 166; 2000–01a: 367; Skelton 2008: 171–172; Skelton 2010). The chronology of these tablets does not significantly affect my prosopography, however, since these fragmentary texts contain only three personal names.

<sup>18</sup> The palace is under one hectare in size. More than 80% of all texts were found in a small two-roomed Archives Complex (Palaima 1988: 172; see too Pluta 1996–97).

tainty; this figure increases to 79 per cent if we include matches classed as probable. Of names attested in more than one series (i.e., more than one administrative set of texts), 45 per cent have a certain prosopographical match, and 69 per cent have a probable or certain match. These should be considered minimum figures, since the fragmentary nature of the epigraphical record tends to impede identification.

These prosopographical identifications significantly change the way we understand the identities and roles of named individuals. The people whose names recur in multiple texts are involved in several economic and administrative activities under palatial purview, sometimes in parts of the kingdom that are distant from each other. For example, a man with the name *Plouteus* (Linear B *po-ro-u-te-u*) is responsible for working 1.5 kg of bronze (Jn 310.5), herding 90 male sheep (Cn 131.5), and gathering 20 goats (Vn 493.4). Each of these activities is located in different parts of the Pylian kingdom: he works metal in the southwest near the palace (at the toponym *a-ke-re-wa*), herds sheep in the northwest (at *pi-\**82), and gathers goats in the northeast (at *e-ra-te-re-wa*) (see Figure 1). Since we can identify with certainty that the same man is responsible for multiple activities, he and other multi-tasking individuals like him must be important people, probably members of the elite, since only they would be capable of managing multiple administrative tasks in different parts of the kingdom. The conclusion that recurring names represent members of the elite runs against the scholarly consensus that most of the people identified on the tablets by name, particularly smiths and herders, were low-status menial laborers.<sup>19</sup> This consensus is based on assumptions about the organization of labor in the Mycenaean economy. For example, most assume that all the individuals named in herding texts (Cn series) were actually herders in the field, and that all individuals in texts recording allocations of metal (Jn series) were actually smiths. However, it is equally likely that these individuals are agents responsible for ensuring that palatial flocks remained at full strength or that the requisite amount of bronze goods was manufactured, either by doing it themselves or by arranging for others to do it.

There is no reason to think that this was not the case, at least in some instances, since there is a good Mycenaean analogue: a significant portion of the palatial economy was allocated to men known in modern scholarship as “collectors.” It is important to note that there is no Mycenaean

<sup>19</sup> Baumbach 1983; Chadwick 1976: 64; Killen 1979, 2001a: 173; Ventris and Chadwick 1973:122–123.

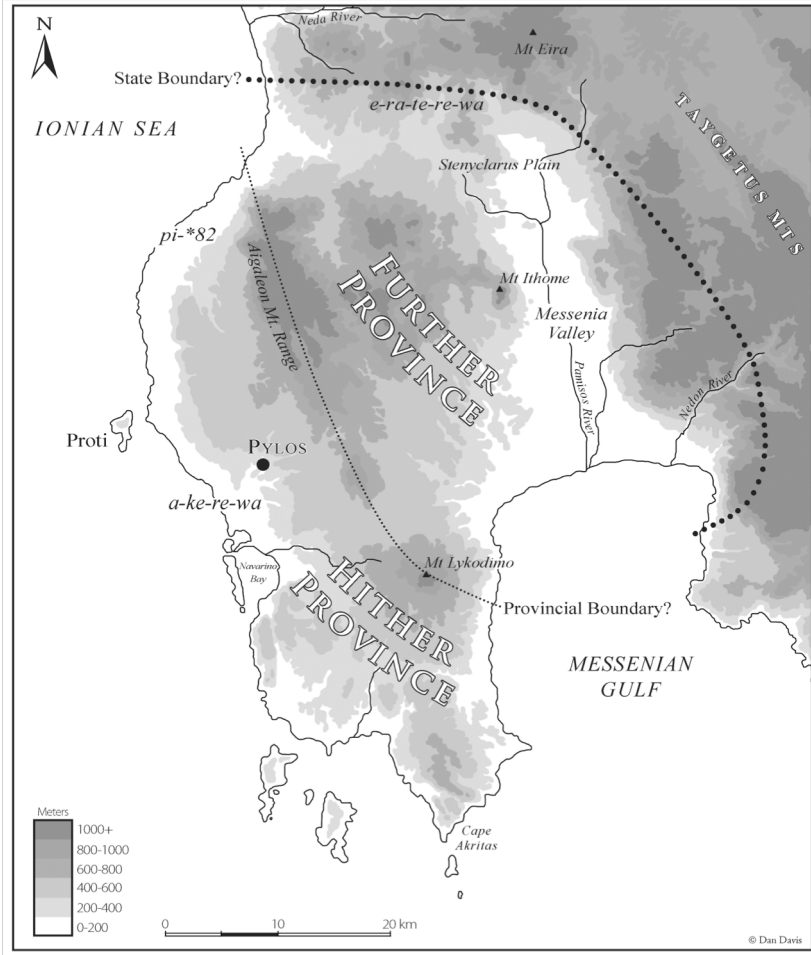


Figure 1: A topographic map of Messenia, with places mentioned in the text. The locations of Linear B toponyms are approximate. Map drawn by Dan Davis.

term, so far as we know, used to describe these men. They are listed only by personal name, and appear to be responsible for the organization of large parts of the textile industry, including the herding of palatial livestock; they also have interests in a variety of other economic activities monitored by the palace.<sup>20</sup> One of the four collectors at Pylos, *Alksoitās*

<sup>20</sup> There is an extensive bibliography on the “collectors.” Recent contributions include Bennet 1992; Carlier 1992; Godart 1992; Killen 1995; Rougemont 2001; Rougemont 2009: 249–524.

(Linear B *a-ko-so-ta*), appears 15 times in shepherding texts, supervises a land inspection, and acts as an agent that gives, receives and distributes various goods.<sup>21</sup> It would be difficult to argue—and no one has done so—that this is not one and the same man, an important member of the elite, to whom economic activities were allocated or even contracted out.<sup>22</sup> It is therefore likely that other named individuals, certainly less prominent than the “collectors” yet important people in their own right, might assume multiple responsibilities for the palace.

Near Eastern administrative records also provide a number of parallels to multi-tasking Mycenaean: for example, at Ugarit there is an individual, Attanu-purli-anni, who is a high priest and “chief of the shepherds,”<sup>23</sup> in the Ur III state a man named Babati is an archivist, royal accountant, military and civilian governor.<sup>24</sup> The occasional spatial dispersion of the Mycenaean elites is also matched elsewhere: Kathryn Keith has shown that in the Old Babylonian period wealthy individuals owned city houses in addition to country estates.<sup>25</sup>

It may be fruitful to think of the Mycenaean “collectors” not as a coherent group of administrators, as most have done, but as members of a wider group, namely supervisors identified by personal name.<sup>26</sup> The lack of a Mycenaean technical term to designate “collectors” also encourages us to compare them to other individuals who were likewise identified simply by personal name. We should perhaps conceive of named individuals as located at various points along a continuum of administrative importance: at the top are the “collectors,” who are typically involved in a wide variety of significant activities, while further down are multi-tasking administrators such as *Plouteus*, whose responsibilities are somewhat more mundane and less wide-ranging than those of the “collectors” (see Figure 2).<sup>27</sup>

<sup>21</sup> Nakassis 2006: 385–186; Nightingale 2008.

<sup>22</sup> Killen 1995: 213–114.

<sup>23</sup> Lipiński 1988: 131–133.

<sup>24</sup> Postgate 1992: 151.

<sup>25</sup> Keith 1999, 2003. Historical Greek elites were also typically active in a variety of religious, economic and political pursuits, and their holdings were often spatially dispersed.

<sup>26</sup> Rougemont 2001; 2009: 251–309 critically reviews definitions of “collectors” in modern scholarship. Bennet 1992: 96 notes the difficulty in distinguishing “collectors” from other named palatial agents.

<sup>27</sup> Nakassis 2013: 161.

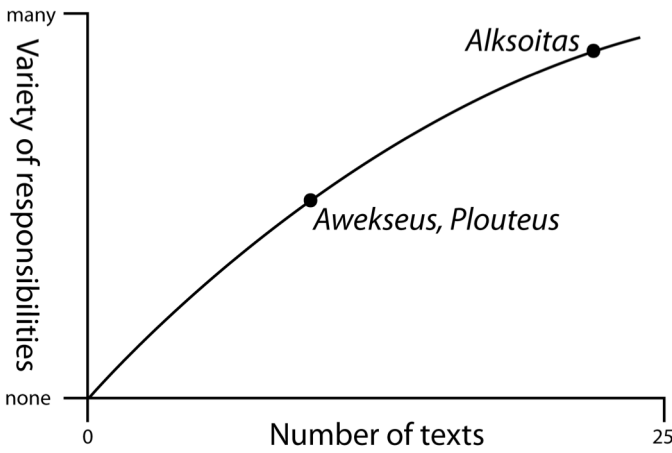


Figure 2: A schematic representation of the relationship between administrative importance of named individuals and the variety of their responsibilities.

### Contributions of named individuals to the palatial economy

Now that I have sketched out the roles and identities of named individuals, it remains to be determined what their contribution was to the palace economy. From the discussion above, it is clear that named individuals were responsible for a wide variety of activities. In the following, I examine the contribution of four groups of individuals to the palatial economy: smiths, herders, military officers and supervisors of work groups.

#### *Smiths*

As mentioned above, there are a large number of smiths recorded individually by personal name in the Pylos texts (at least 225). The Jn series of tablets records precisely how much bronze was allocated from palatial stores to smiths in the *ta-ra-si-ja* system, whereby the palace provided weighed-out raw materials to craft specialists in return for finished products (see Text 1). Bronze allotments are individual, implying that the individual smith (or perhaps his household) is the basic unit of production.<sup>28</sup> If we were dealing with large, state-run workshops or factories,

<sup>28</sup> This is not universally true; for example, one smith named *a-mu-ta-wo* is allocated 31 workers on Jn 431.26.



then we might expect a simpler method of disbursement for administrative purposes.<sup>29</sup> Not all smiths are allocated bronze; about 30% are designated as not having an allotment (*a-ta-ra-si-jo*). Even those Pylian smiths to whom bronze was allocated did not work full-time for the palace: the amounts of bronze allocated tend to be rather small (allotments range from 1.5 to 12 kg, with an average of 3.5 kg), and unless the Jn series represents a short administrative period, there is not enough bronze allocated to justify full-time production. What evidence we do have suggests that *ta-ra-si-ja* allocations were annual.<sup>30</sup>

The allocation texts of the Jn series do not specify what products are to be made.<sup>31</sup> One collection text (Jn 829) records a levy of temple bronze from each district of the Pylian kingdom to make javelin- and spear-points, but the amount of metal collected is relatively small (less than 50 kg total) compared to the metal from the Jn series as a whole (from 594 to 1046 kg).<sup>32</sup> It is most likely that different smiths produced different types of goods, depending on their specialty, which was presumably known to Pylian administrators. Chadwick deduced from the large number of smiths that the palace produced bronze goods for export, and from the presence of out-of-work smiths that there was a temporary bronze shortage. Another possibility is that the situation reflected in the Jn texts is the normal result of the desire among a number of individuals to engage in smithing work for the palace. The excess labor would have allowed the palace to increase production easily depending on changes in the supply of metal and the demand for metal products.<sup>34</sup>

<sup>29</sup> For example, Ugaritic texts apparently list large disbursements (250 kg) of bronze to a single individual, probably a chief smith who then divided up the metal among subordinate smiths (Heltzer 1979: 491–493).

<sup>30</sup> The Knossos text So(2) 4442 refers to a deficit in last year's (*pe-ru-si-nwa*) *ta-ra-si-ja*.

<sup>31</sup> One possible exception is that smiths on Jn 750 are designated as *pa-ra-ke-te-e-we*, which might be translated as "helmet-makers," although this translation is not without its problems and its critics. For a review, see Aura Jorro (1993: 81–82 *s.v.* *pa-ra-ke-te-e-u*).

<sup>32</sup> 594 kg represents the minimum amount of bronze distributed in the Jn series without duplicating amounts from "working tablets" as defined by Smith 1992–93. 1046 kg is the amount of bronze recorded on the totaling tablet Ja 749. For Ja 749 as the totaling tablet of the Jn series, see Lejeune 1971: 194–195; Ventris and Chadwick 1973: 356, 508–509.

<sup>33</sup> Ventris and Chadwick 1973: 509–510; Chadwick 1976: 141. Michel Lejeune (1971: 178) thought that the tablets represented a time of crisis when smiths were asked to work *more* bronze than usual.

<sup>34</sup> For similar production arrangements designed to maximize flexibility in output, see Costin 1996: 212.

I estimate that 54 smiths—about one fifth—can be certainly or probably identified with other occurrences of the same name. Why do some smiths recur while others do not? Other than the fragmentary nature of our evidence, one explanation may be that the smiths were not a homogeneous group. Smiths who were involved in producing relatively ordinary goods might not be involved in the palatial economy to the extent that they would appear elsewhere by name. On the other extreme are smiths identified as royal craftsmen such as *Atukʰos* (Linear B *a-tu-ko*), who appears to have had a direct relationship with the king that enabled him to hold multiple plots of land near the palace (En 609.5). Smiths appear to have operated at different scales as well—several smiths are recorded as having dependent labor at their disposal. Thus, palatial bronze production is managed through the agency of many individuals of varying statuses, probably of different abilities, specializations and scales.

### *Herders*

In the Linear B texts from Pylos there are at least 154 individuals who are listed as responsible for flocks ranging in size from 10 to 230 animals, primarily sheep, but also goats and pigs (see Text 2). In total, some 12,000 livestock are recorded.<sup>35</sup> It is common for the same personal name to be listed against more than one flock, and in nearly all of these cases it is clear that a single individual herds multiple flocks.<sup>36</sup> It is almost certain that the flocks themselves are the property of the palace, although Killen has modified this by demonstrating that the palace did not own particular animals but rather enjoyed the use of a specific number of animals and their products, especially wool.<sup>37</sup> Halstead has also convincingly shown on the basis of the records at Knossos that shepherds replaced sheep that died in the field with sheep from their own personal flocks, and that shepherds could freely move animals from their personal flocks into palatial flocks and *vice versa*. He suggests that shepherds could benefit from this arrangement by swapping their own sheep for fat palatial wethers for consumption or palatial ewe lambs for rapid expansion of their personal flocks.<sup>38</sup> Consequently, all shepherds were probably individuals with substantial personal holdings of sheep. Moreover, prosopo-

<sup>35</sup> Ventris and Chadwick 1973:198 count the following numbers: 10,157 sheep (8,217 of which are male), 1825 goats (1004 male), and 540 pigs.

<sup>36</sup> Kyriakidis 2008.

<sup>37</sup> Killen 1993.

<sup>38</sup> Halstead 2001: 43.

graphical matches with other texts suggest that many of these herders had other responsibilities and therefore could not have been actual herders in the field, as is commonly assumed. I conclude that the individuals named in herding texts were not herders, but the agents responsible for maintaining palatial flocks. In Pylos, as in Old Babylonian Ur, the actual herders in the field are absent from our documentation; instead, the palace records herding supervisors.<sup>39</sup>

There are a number of similarities between the palatial management of bronze production and of animal husbandry, and indeed at least 27 individuals are both smiths and herders (or rather, herding supervisors). In both economic fields, the palace directly allocated palatial resources of significant value to a large number of specific individuals, identified in the texts only by personal name and location. These named smiths and herding supervisors were arguably the most important agents for the palace's administration of these economic fields.<sup>40</sup>

### *Military officers*

Most names from the An series at Pylos appear in simple lists of men. However, a significant subset (about one third) appears attached to what are plausibly interpreted as groups of men organized into military units that guard the coastline (see Text 3).<sup>41</sup> The units are called *o-ka* in Linear B and the texts are accordingly called the *o-ka* set. Units are made up of

<sup>39</sup> Cf. Kyriakidis 2008. For Old Babylonian parallels, see van de Mieroop 1992: 86–97, Postgate 2001: 188–90.

<sup>40</sup> Some limited vertical hierarchy of administration is evidenced in animal husbandry by the presence of four “collectors,” and in bronze production by three individuals identified as *g<sup>w</sup>asilēwes* (Linear B singular *qa-si-re-u*, plural *qa-si-re-we*); both of these higher-level administrators are simply identified by personal name. Nevertheless, the “collectors” are only responsible for some 30% of the total number of flocks monitored by the palace, and their interests seem to focus on particular aspects of shepherding (Bennet 1992: 83–86; Godart 1992). The three *g<sup>w</sup>asilēwes* in the Jn series were evidently involved in the management of bronze distribution (or perhaps production), but their presence in the Jn series is sparse: only three appear on the 18 allocation tablets. In any case, as the names of “collectors” and *g<sup>w</sup>asilēwes* are listed *in addition to* the names of herders and smiths respectively, they do not simplify the written administration, although they may represent a hierarchy of personal responsibility. Since the presence of “collectors” and *g<sup>w</sup>asilēwes* appears to be optional, it seems that the individually named smiths and herders (or rather, herding supervisors) were the critical element in the palace's administration of these economic fields.

<sup>41</sup> Ventris and Chadwick 1973: 184–194, 427–430.

individuals identified by name, who are listed along with groups of 10 to 110 men identified by toponymics and ethnics. The named individuals appear to act as unit commanders, officers, and a select dozen are called *e-qe-ta* (singular <sup>h</sup>*ek<sup>w</sup>etās*), a title normally translated as “follower [of the king].” These followers are high-ranking officials who are almost always identified by name and patronymic. Their role is unclear but they are plausibly representatives of the central administration.<sup>42</sup> In some cases, they may also be responsible for furnishing groups of fighting men.<sup>43</sup>

### *Supervisors of work groups*

Mycenaean work groups are typically recorded as being under the supervision of named individuals. At Pylos, work groups called *qa-si-re-wi-ja* (*g<sup>w</sup>asilēwiā*) and *ke-ro-si-ja* (*geronsiā*) are always accompanied by a personal name in the genitive, almost certainly indicating the supervisor of the group.<sup>44</sup> The text An 340 records at least 13 named individuals who are managed by a man named *a-ta-o*, almost certainly in the context of craft production.<sup>45</sup> These work groups appear in three types of texts:

- (1) records of the composition of the work group in question, *i.e.* personnel lists;
- (2) records of incoming deliveries of finished products, and
- (3) records of outgoing payments of staple goods to support the workmen.

In some cases, scribes may omit reference to the work group, and simply record payment to named administrators. For example, a woman with the name *Kessandrā* (Linear B *ke-sa-da-ra*) is listed against unusually large amounts of grain and figs on the texts Fg 368 (480 liters of wheat and an equal amount of figs) and Fg 828 (480 liters of wheat). On An 435, she appears to be the recipient of men identified by personal name, who have been allocated to her by the “collector” Alksoitās.<sup>46</sup> It is likely that these records are related to each other. Nine ideograms indicating men

<sup>42</sup> Deger-Jalkotzy 1978.

<sup>43</sup> Nakassis 2012: 272–273.

<sup>44</sup> On these groups, see Palmer 1963: 228–29, Ventris and Chadwick 1973: 171–172. Likewise in the *o-ka* set, unit commanders are named in the genitive immediately after the word *o-ka*.

<sup>45</sup> Nakassis 2013: 93–94.

<sup>46</sup> On this interpretation of An 435, see Nakassis 2012: 279–282 (*pace* Palmer 1994: 79, Melena 1994–95a: 97). For recent improvements to the text of An 435, see Melena 1992–93: 314, 321; Melena 1994–95a: 97, 99–100; Melena 1994–95b: 278; Melena 2000–01b: 373.

(VIR) are preserved on An 435, but a close inspection of this fragmentary text reveals that the tablet had a minimum of 19 entries. If 20 men were allocated to *Kessandrā*, 480 liters of grain would divide evenly into 24 liters for each man. This could either represent rations sufficient to support the laborers for 20 days at 1.2 liters per day, the standard male daily ration,<sup>47</sup> or a single lump payment of staples at levels above subsistence.<sup>48</sup> Wheat and figs are regularly allocated together in equal amounts as rations for dependent textile workers (Ab series) and in other contexts (Fg 253, Fg 374, Fn 187).<sup>49</sup> Thus, *Kessandrā* might have been a prominent woman to whom laborers and the grain to support them were allocated by the palace through the agency of the “collector” Alksoitās.

A similar text, Fn 7 (see Text 4), records payments of foodstuffs to support a group of craftsmen in an architectural project.<sup>50</sup> There is a clear hierarchy reflected in the amounts of the payments. The wall-builders (*to-ko-do-mo*) and sawyers (*pi-ri-je-te-re*) receive 1.2 liters of grain per day, the standard male ration, while the all-builder (*pa-te-ko-to*), perhaps a highly skilled foreman, receives more than twice that amount (3.2 liters per day). The individuals named *qa-ra<sub>2</sub>* and *pa-ka* receive even greater amounts of foodstuffs, which, as Melena has noted, are too great to represent rations.<sup>51</sup> They may represent instead payment of salaries, in which case the larger amounts of staples would reflect the higher social status of the recipients.<sup>52</sup> It is however very rare to find so many foodstuffs allocated to individuals over an extended period of time.<sup>53</sup> It is possible that *qa-ra<sub>2</sub>* and *pa-ka* were architects, but this function was

<sup>47</sup> Ventris and Chadwick 1973: 393, 420; Chadwick 1976: 118–119; Palmer 1989: 96–97.

<sup>48</sup> This amount of barley is allocated, for example, to the man named *e-ti-me-de* on Fn 324.1. Killen (2001b: 411) argues that Fn 324 represents a single day’s allocation.

<sup>49</sup> Killen 2004: 161–163. Other relevant texts include Pylos An 128.11–12, Un 1322 and Mycenae Fu 711.8.

<sup>50</sup> Melena 1996–97b: 171–76; Nakassis 2013: 275–279.

<sup>51</sup> Melena 1996–97b: 175.

<sup>52</sup> Palmer 1992: 481 distinguishes between “rations” and “handouts.” The former constitute subsistence for dependent labor, while the latter are “given to people because of their status, or affiliation with a religious groups” and are “probably a minor source of food.” On status distinctions reflected in the size of these “handouts,” see Palmer 1989: 90, 117–118; Palmer 1992; Melena 1996–97: 175–176; James 2002–03: 411.

<sup>53</sup> The best parallel is Fn 79, which seems to record allocations over a five day period (Chadwick 1976: 118–19), with several individuals receiving 19.2 liters of olives per day. But Fn 7 records the allocation of rations for an entire month.

probably filled by the all-builder, and normally teams of builders are supervised by a single foreman who is also a master craftsman. More plausibly, therefore, these staples might have been allocated to *qa-ra<sub>2</sub>* and *pa-ka*, at least in part, to support what is evidently missing from the text: the gangs of unskilled labor required to complement the skilled labor of the wall-builders, sawyers and the all-builder.<sup>54</sup> These unskilled laborers would have been necessary to haul materials, excavate foundations, tear down unwanted constructions, and so on. The staples allocated to *qa-ra<sub>2</sub>* and *pa-ka* in Fn 7 may be like those allocated to *Kessandrā* in Fg 368 and 828, but without the personnel record corresponding to An 435. It may be that the palace simply allocated them staples with the expectation that they would make the necessary arrangements to mobilize labor.

In some cases, then, it seems that named individuals were agents responsible for raising and supervising groups of men. In some cases the palace would supply the staples required to support their labor, although only rarely do we know both the purpose of the task in addition to the duration of its activity. It is difficult to determine how this labor was raised. There is evidence that suggests that military service was due to the palace in respect of landholdings, and that this rule applied to groups of small-scale landholders as well as important aristocrats. Mühlestein long ago pointed out a number of correspondences between the numerical values in the Na series at Pylos, which records taxes to be paid in flax, and the numbers of military men recorded in the *o-ka* set and related rower texts.<sup>55</sup> Chadwick showed through an analysis of the terminology in the Na series that the flax impost was directly related to landholdings.<sup>56</sup> It therefore seems plausible that holding land in the Na series incurred two obligations: payment in flax and military service. These obligations seem to have applied to groups of anonymous individuals as well as named members of the elite. The high-ranking “collector” named *\*we-da-ne-u* is responsible for furnishing twenty rowers (An 610.14), and his landholdings in the Na series correspond to a total of twenty units of flax (Na 856, Na 1041). It seems likely that in this case, *\*we-da-ne-u* provided the twenty rowers he owed in respect of his landholding

<sup>54</sup> Nakassis 2012, with parallels to the records from Ur III Garšana (Heimpel 2009) and early modern Greek architectural guilds. On gang labor in Mycenaean palatial building, see Wright 1980: 82–83.

<sup>55</sup> Mühlestein 1956: 15–18.

<sup>56</sup> Ventris and Chadwick 1973: 469–471. See further de Fidio 1987: 132, Killen 2008: 170.

with personal dependents, perhaps the men who were actively involved in working the land. This system of raising labor directly in respect to landholdings may have been supplemented with another system in which laborers were “hired” indirectly by named individuals acting as administrative intermediaries. As mentioned above, it is plausible that the supervisors from Fn 7 (*qa-ra*<sub>2</sub> and *pa-ka*) hired unskilled laborers using the foodstuffs which the palace provided to them. Perhaps individual Pylions could be hired when not engaged in fulfilling their corvée requirements to the palace.<sup>57</sup>

### Rewards to named individuals for their service

Named individuals stood to gain from their service to the palace. Several texts record tax exemptions for smiths, presumably in exchange for their labor.<sup>58</sup> With regard to herders in the Cn series, Paul Halstead has suggested that because the palace was not interested in individual sheep but rather in maintaining the total number of the flock, shepherds could have manipulated the composition of palatial and personal flocks to their advantage.<sup>59</sup> This could potentially make shepherding palatial flocks quite valuable to those individuals who already had substantial personal holdings of sheep.

The allotment of land was one of the main ways that the palace could directly reward individuals for their service.<sup>60</sup> In the E-series texts, the palace records the precise land-holdings of named individuals in particular districts; individual records include the landholder’s personal name and additional information indicating the reason for which he or she holds the land. For example, a man named *Atuk<sup>h</sup>os* (*a-tu-ko*) holds two plots of land near the palace and is identified as the royal armorer (En 609.5/Eo 211.2, Ep 301.5). All in all, 36 land-holders identified by name appear outside of landholding texts, and most of them (20, or 55.5%) are smiths or herders. These are encouraging results, and they have persuaded some scholars to posit a remunerative system whereby land or payment in kind was regularly granted to individuals in return

<sup>57</sup> Cf. Postgate 1992: 237.

<sup>58</sup> Ma texts with smiths are Ma 90.2, 120.2, 123.3, 124.2, 193.3, 221.2, 225.2, 365.2, 378.2, and 397.3. Na texts with smiths are Na 106.B, 252.B, 425, 529.B, 923.B, 941.B, and 1357.3.

<sup>59</sup> Halstead 2001: 42–43.

<sup>60</sup> This is suggested by the fact that a land lease is called *o-na-to*, which literally means “benefit” (Aura Jorro 1993: 26–27).

for their labor.<sup>61</sup> However, the evidence does not allow us to argue that the palace always—or even often—gave land to those who gave their service to the palace, since of the 225 complete names of smiths preserved, only 16 (7%) appear in our landholding texts.<sup>62</sup> Those individuals who appear as smiths or herders *and* land-holders tend to be high-ranking officials, however, and it is therefore likely that these men represent a privileged group of individuals who, based on their high status, are allocated land by the palace. That is, rather than being the norm, they are the exception.

On the other hand, it is also possible that the palace did award land to individuals, but that records of this do not survive. After all, the extant landholding texts refer to an area constituting a small percentage of the total amount of land in Messenia, although how much of that land was directly controlled and administered by the palace is difficult to estimate. There may be indirect evidence in some texts for palatial grants of land. For example, taxes given to the palace in the form of flax, as recorded in the Na series, appear to be paid by landholders, including smiths, in respect to specific landholdings.<sup>63</sup> Smiths in these texts are always exempt from taxation, but the fact that these exemptions are recorded in the first place implies that as landholders, smiths were tax-eligible.<sup>64</sup> The landholdings in the Na series are not the same as those allocated to individuals, however, and it is possible that they represent ancestral landholdings of local groups from which the palace extracted taxes. In any case, it is clear that the evidence cannot support systematic remuneration of all palatial laborers via allocations of land. Despite the fact that landholding and taxation texts are precisely those mostly likely to be kept by the scribal administration for future reference, there are simply not enough records of landholdings to account for all the individuals under palatial supervision.<sup>65</sup>

<sup>61</sup> Gregersen 1997.

<sup>62</sup> Of course, the landholding texts we possess are not a complete register of landholders in the kingdom, but rather relate to specific districts, especially those located near the palace (Killen 2008: 165–173), but on the other hand, it is likely that only two thirds of the Jn series is preserved (Lejeune 1971: 194–195).

<sup>63</sup> Ventris and Chadwick 1973: 368–373; Killen 1979: 133; Foster 1981: 76, 83; Halstead 2001: 44.

<sup>64</sup> See too Killen 1992–93a.

<sup>65</sup> See, *e.g.*, Killen 1984b, Pluta 2006.



As I have discussed above, a number of individuals and groups receive allocations of staple goods from the palace.<sup>66</sup> While these texts often give little information about the organizing principle of the allocations and how often these amounts are paid out, the surviving texts largely seem to be short-term payments made on an *ad hoc* basis.<sup>67</sup> Some of these texts seem to have a craft context, as certain individuals named as recipients are possible prosopographical matches with smiths.<sup>68</sup> Thus, smiths as a group are heterogeneous in the benefits they receive (land or foodstuffs), although no individual smith is both a landholder *and* a recipient of staple goods, suggesting that these are on the whole distinct spheres of remuneration.<sup>69</sup>

### Conclusions

The named individuals at Pylos do not constitute a homogeneous group.<sup>70</sup> Some are very important individuals in the state, while most individuals appear to have had more limited contact with the palace. A significant portion of individuals who are recorded by name and occur in multiple texts must be members of the elite.<sup>71</sup> Many of these individuals participate in two of the most important industries managed by the state, both of which are characterized by spatial decentralization, namely the production of bronze goods and animal husbandry.<sup>72</sup> Bronze and textile production are two fields where long-distance exchange or trade may have been part of the motivation for production, since the scale of production for both is probably beyond the needs of local consumption. Indeed, the few texts we have that may attest to exchanges

<sup>66</sup> Palmer 1992: 481.

<sup>67</sup> Killen 2001b: 439–441. It is likely that these “ration” texts have a relatively short life-cycle. That is, they were probably pulped shortly after the foodstuffs had been paid out. See Bennet 2001: 27–30.

<sup>68</sup> Nakassis 2013: 95–98.

<sup>69</sup> It is rare to find individuals who are both recipients of staples and landowners; the only examples are *du-ni-jo* (prosopographical identification possible) and *\*34-ke-ja* (prosopographical identification certain).

<sup>70</sup> Nakassis 2013: 156–162.

<sup>71</sup> Nakassis 2013: 162–173.

<sup>72</sup> The third major productive field of the Pylian state was the production of perfumed olive oil (Shelmerdine 1985).

between polities involve textiles,<sup>73</sup> whereas metal trade is amply attested in the archaeological record.<sup>74</sup>

It is striking that the palace chose to record the precise activities of these individuals rather than introducing vertical managerial hierarchies in the documentary process. Perhaps this is attributable to the fact that these named individuals were of interest to the administration, or were important people, in their own right. It also seems that the individuals responsible for managing flocks and bronze production may have changed from year to year, so the palace had an interest in knowing which particular individuals were responsible for production in any particular year.<sup>75</sup> Moreover, a few documents show that the palace was also concerned to identify how much named individuals were to pay in taxes.<sup>76</sup> As we have seen above, service to the state may have led to exemptions for certain individuals and groups, so it might have been necessary for palatial administrators to track the services of named individuals in order to correctly assess their contributions in any given year.

Just as the contribution of individuals was variable, so too was their remuneration. The evidence suggests that land-grants were only awarded to a fraction of the named individuals involved in the management of the palatial economy, and those who appear as recipients of plots of land tend to be high-status individuals. Staple goods, on the other hand, are allocated to work-groups and to named individuals, including those who act in a managerial capacity for specific tasks, such as architectural projects, and those who are part of a group of skilled laborers put together on an *ad hoc* and temporary basis. While the amount of staple goods awarded to highly dependent laborers appears to be stable across the Mycenaean world,<sup>77</sup> there is much variability in the amount of material awarded to named individuals, presumably reflecting the fact that payment was made with different combinations of goods for different types of services which were differently valued by the palace. This may have

<sup>73</sup> The relevant texts are Mycenae X 508, which records the delivery to textiles to Thebes, and the Knossos Ld series texts that refer to cloth for guests, which might refer to export (Aura Jorro 1985: 353–354). Chadwick (1976: 141) argues that the large number of smiths recorded in the tablets suggests that the Pylian kingdom produced bronze goods for export.

<sup>74</sup> See, *e.g.*, Sherratt 2000.

<sup>75</sup> Killen 1993.

<sup>76</sup> Pylos Nn 831, discussed by Killen 2008: 168–169.

<sup>77</sup> Palmer 1989.

hindered the development of set rates of remuneration above the level of highly dependent labor.

Named individuals could constitute dependent labor, in a sense: smiths received metal from palatial stores, herders managed palatially-owned flocks, and so on. On the other hand, it appears that these individuals possessed considerable personal holdings. Many of the arrangements implied by the texts presumably existed prior to the emergence of the palaces. For instance, wealthy individuals must have possessed extensive flocks, which in all likelihood they did not herd themselves, but assigned to junior members of their households or members of dependent households. Thus, the palace seems to have successfully yoked the personal holdings of the local elites to serve its needs by offering these individuals opportunities to manage aspects of the state's economy in areas where they were already active.<sup>78</sup>

It is unclear whether or not these duties were onerous to those who performed them. The fact that there seems to be excess labor in both shepherding and smithing has been taken to mean that these duties were avoided by individuals,<sup>79</sup> though it might equally suggest the opposite, that many individuals were willing to participate in palatial economies. Given that the individuals undertaking these responsibilities appear to come from an elite class, and that similar arrangements in Near Eastern palatial economies seem to have been potentially profitable for individuals,<sup>80</sup> it seems unlikely that they were onerous except perhaps in bad years. Some arrangements, as we have seen, may have provided opportunities for enrichment.

Named individuals allowed the palace to manage extensive and decentralized economic activities in an administratively simple arrangement. For example, the personal holdings of individuals allowed the palace to entrust the maintenance of a fixed number of animals to specific agents, because they could recoup losses due to accidental death in palatial flocks with their own animals. This system represents a significantly simpler administrative arrangement than the alternative, which would require the authentication of each accidental death to prevent

<sup>78</sup> Nakassis 2013: 180–181.

<sup>79</sup> Killen 1993: 215.

<sup>80</sup> *E.g.*, Postgate 1992: 159–161; Postgate 2001: 188–189.

fraudulent reports.<sup>81</sup> Thus, the palace both relied upon the private holdings of herders to maintain the palatial sheep rearing system, and benefited from the administrative simplicity of assigning tasks to individuals capable of executing them.

This description bears some resemblance to the economic system reconstructed for the Old Babylonian state, referred to as a “Palastgeschäft.”<sup>82</sup> While the Old Babylonian system is largely reconstructed on the basis of written contracts between agents and the palace that specify the obligations involved, the highly restricted uses of writing in the Mycenaean world mean that such agreements are not preserved for us, but must be inferred from the palatial records that we do have. The advantage of such systems is their administrative simplicity, not to mention the fact that some risk was absorbed by the elite instead of the state. There are certainly a number of important differences between the Mycenaean and Old Babylonian palatial economies, such as scale, but they are comparable insofar as they represent examples of one type of administrative strategy with particular strengths and weaknesses. From this perspective, the relevant issue is how the conditions attending the ongoing formation of the Mycenaean state at Pylos made this administrative strategy possible and desirable.

The Pylian state did not materialize *ex nihilo*, but emerged through complex processes of competition and cooption whereby the center at Pylos established authority over other settlements in Messenia and their elite families over time.<sup>83</sup> John Bennet has argued that the expansion of Pylos’ political authority began circa 1600 BC, and its rule gradually expanded to include the western “Hither Province” circa 1380 BC, and

<sup>81</sup> Authentication of individual animals to prevent fraud is a palatial concern in select areas: Killen (1992–93b: 102) has persuasively argued that palatial plow oxen were given descriptive names in the Knossos Ch tablets to prevent fraud by the individuals who loaned them from the palace, and the Thebes Wu sealings, which record the collection of animals for sacrificial consumption, appear to reflect such concerns as well (Piteros *et al.* 1990: 156–157; cf. Palaima 2004: 107–108 on the administrative process by which the obligation of delivering these sacrificial animals was monitored).

<sup>82</sup> van de Mieroop 1992: 241–250; Postgate 2001: 187–190; Renger 2000; 2001; Stol 2004: 919–944. My model of the Mycenaean economy was not influenced by work on the Old Babylonian palatial economy; I thank Piotr Steinkeller for pointing out the similarities to me.

<sup>83</sup> Nakassis 2013: 179–183.

the eastern “Further Province” circa 1330 BC (Figure 1).<sup>84</sup> Thus, at the time of the tablets (circa 1200 BC), the Pylian polity had only controlled all of its territory for four or five generations, and its dominance over the more immediate western half of Messenia (the “Hither Province”) was perhaps six to seven generations old (200 years). As the center at Pylos gained ascendancy over an increasingly large territory, the elite residing at Pylos became dominant over the members of regional elites who were the leaders of their own local communities, whose families were probably buried in the sometimes massive and conspicuous tombs in Messenia.<sup>85</sup> These local elites could present a problem to the ruling households at Pylos, as their cooperation was crucial to the integration of the state.<sup>86</sup> Moreover, they and their families likely controlled resources locally that were of interest to the palace: land, livestock, and so on.

One strategy open to the palatial elite was to integrate the traditional activities of the local elites into the palatial economy. Instead of imposing this system onto unwilling individuals, the palace may have offered powerful incentives for members of regional elites to participate. The nature of the Mycenaean palatial economy may therefore be seen as the historical product of the emergence of the Pylian state, namely the fact that the expansion of the Pylian polity involved interacting with and incorporating, and perhaps excluding, elite families living within its territory.

<sup>84</sup> Bennet 1995, 1999a, 1999b; Shelmerdine 2001. For Mycenaean palatial chronology, see Shelmerdine 1998: 539–541.

<sup>85</sup> On early Mycenaean burial practices in Messenia, see Boyd 2002.

<sup>86</sup> Cf. Brumfiel 1992: 557–558.

## Appendix: Texts

Note on the translations: Names have been rendered in Greek where interpretation is relatively clear. Where it is not, I have simply transcribed them.

### Text 1: Pylos Jn 601

Transcribed text

- .1 po-wi-te-ja , ka-ke-we , ta-ra-si-ja , e-ko-te
- .2 wo-di-jo , AES M 6 to-ro-wi AES M 8 e-u-po-ro-wo AES M 8
- .3 o-qa AES M 4 te-u-to AES M 5 pu<sub>2</sub>-ti-ja AES M 6
- .4 po-to-re-ma-ta AES M 8 wa-pa-no AES M 8
- .5 po-so-ro AES M 8 mo-da AES M 8 pe-po-ro AES M 4
- .6 o-na-se-u AES M 12[ ] AES M 8[ ]
- .7 ko-to-wa-[ ] AES M 8 t̥o[-so]-d.e. , e-pi-da-to AES M 7
- .8 qa-si-re-u , pa-qo-ši[-jo ]1
- .9 to-so-pa , ka-ko [ ] AES L 3 M 14[
- .10 *vacat*
- .11 to-so-de , a[-ta-ra-]ši-jo[ ka-ke-we ]ti-na-jo 1
- .12 po-so-ri-j.o.[ ]ne-wo 1 i-pe-ra-ta 1
- .13 sa-nu-[ ] 1[ ]*vacat* [ ] *vacat*
- .14 *vacat*
- .15 *vacat*
- .16 *vacat*

Translation

- .1 At *po-wi-te-ja*, smiths having a *ta-ra-si-ja*:
- .2 *Wordios* BRONZE 6 kg *to-ro-wo* BRONZE 8 kg *E<sup>(h)</sup>uplowos* BRONZE 8 kg
- .3 *o-qa* BRONZE 4 kg *Teut<sup>h</sup>os* BRONZE 5 kg *P<sup>h</sup>ut<sup>h</sup>iās* BRONZE 6 kg
- .4 *Ptolemātās* BRONZE 8 kg *wa-pa-no* BRONZE 8 kg
- .5 *Psolōn* BRONZE 8 kg *mo-da* BRONZE 8 kg *Peplos* BRONZE 4 kg
- .6 *Onaseus* BRONZE 12 kg [ ] BRONZE 8 kg
- .7 *ko-to-wa*-[ ] BRONZE 8 kg and so much distributed extra: BRONZE 7 kg
- .8 The *g<sup>w</sup>asileus Pagg<sup>w</sup>ōsios*: 1
- .9 Sum total bronze: BRONZE 114 kg
- .10
- .11 So many [smiths] without a *ta-ra-si-ja*: [ ] *ti-na-jo* 1
- .12 *Psoliōn* [ 1 ] *ne-wo* 1 *i-pe-ra-ta* 1
- .13 *sa-nu*-[ 1
- .14
- .15
- .16

## Text 2: Pylos Cn 599

## Transcribed text

.a		pa-ro	
.1	wa-no-jo , wo-wo , ne-ti-ja-no a-ke-o-jo		CAP <sup>m</sup> 100
.2	a <sub>2</sub> -ne-u-te , pa-ro , ka-so , a-ko-so-ta-o		CAP <sup>m</sup> 45
.3	a <sub>2</sub> -pa-tu-wo-te , pa-ro , a-ke-ra-wo , a-ke-o-jo		CAP <sup>m</sup> 90
.4	a <sub>2</sub> -pa-tu-wo-te , pa-ro , ru-we-ta , a-ke-o-jo		CAP <sup>f</sup> 40
.5	a <sub>2</sub> -pa-tu-wo-te , pa-ro , a-wo-i-jo ,		CAP <sup>f</sup> 50
.6	wa-no-jo , wo-wo , pa-ro , ke-re-no , a-ke-o-jo		CAP <sup>f</sup> 80
.7	a <sub>2</sub> -pa-tu-wo-te , pa-ro , e-zo-wo		SUS <sup>f</sup> 30
.8	e-ko-me-no , pa-ro , ti-ri-po-di-ko		SUS <sup>f</sup> 57

Formula: PLACE-NAME + *pa-ro* (“with”) SHEPHERD’S NAME in dative +  
[optional COLLECTOR’S NAME in genitive], TYPE OF ANIMAL +  
NUMBER OF ANIMALS

## Translation

.1	At <i>wa-no-jo wo-wo</i> , with <i>Nestianōr</i> , of <i>a-ke-o</i> :	male	GOAT	100
.2	At <i>a<sub>2</sub>-ne-u-te</i> , with <i>ka-so</i> , of <i>Alksoitās</i> :	male	GOAT	45
.3	At <i>a<sub>2</sub>-pa-tu-wo-te</i> , with <i>Ark<sup>h</sup>elāwos</i> , of <i>a-ke-o</i> :	male	GOAT	90
.4	At <i>a<sub>2</sub>-pa-tu-wo-te</i> , with <i>ru-we-ta</i> , of <i>a-ke-o</i> :	female	GOAT	40
.5	At <i>a<sub>2</sub>-pa-tu-wo-te</i> , with <i>Āw<sup>(h)</sup>o<sup>h</sup>ios</i> :	female	GOAT	50
.6	At <i>wa-no-jo wo-wo</i> , with <i>Gerēnos</i> , of <i>a-ke-o</i> :	female	GOAT	80
.7	At <i>a<sub>2</sub>-pa-tu-wo-te</i> , with <i>e-zo-wo</i> :	female	PIG	30
.8	At <i>Erk<sup>h</sup>omenos</i> , with <i>Tripodiskos</i> :	female	PIG	57

## Text 3: Pylos An 657

## Transcribed text

.1	o-u-ru-to , o-pi-a <sub>2</sub> -ra , e-pi-ko-wo,
.2	ma-re-wo , o-ka , o-wi-to-no,
.3	a-pe-ri-ta-wo , o-re-ta , e-te-wa , ko-ki-jo,
.4	su-we-ro-wi-jo , o-wi-ti-ni-jo , o-ka-ra <sub>3</sub> VIR 50
.5	<i>vacat</i>
.6	ne-da-wa-ta-o , o-ka , e-ke-me-de ,
.7	a-pi-je-ta , ma-ra-te-u , ta-ni-ko ,
.8	a <sub>2</sub> -ru-wo-te , ke-ki-de , ku-pa-ri-si-jo VIR 20
.9	<i>vacat</i>
.10	a <sub>3</sub> -ta-re-u-si , ku-pa-ri-si-jo , ke-ki-de VIR 10
.11	me-ta-qe , pe-i , e-qe-ta , ke-ki-jo
.12	a-e-ri-qo-ta , e-ra-po , ri-me-ne ,
.a	o-wi-

- .13 o-ka-ra , -to-no VIR 30 ke-ki-de-qe , a-pu<sub>2</sub>-ka-ne ,  
 .14.A VIR 20 me-ta-qe , pe-i , a<sub>3</sub>-ko-ta , e-qe-ta ,

### Translation

- .1 Thus the watchers are guarding the coastal regions:  
 .2 The unit of *Māleus* at *o-wi-to-no*:  
 .3 *Ampelitāwōn*, *Orestās*, <sup>h</sup>*Etew(w)ās*, *ko-ki-jo*  
 .4 *Suwerrowiyos*. Of *o-wi-to-no*, *o-ka-ra*<sub>3</sub> MAN 50  
 .5  
 .6 The unit of *Nedwātās*: *Ek<sup>h</sup>emēdēs*  
 .7 *Amp<sup>h</sup>iertās*, *Marat<sup>h</sup>eus*, *Tainiskos*.  
 .8 At *a<sub>2</sub>-ru-wo-te*, *ke-ki-de* Kyparissians MAN 20  
 .9  
 .10 At *Ait<sup>h</sup>aleus*, Kyparissians *ke-ki-de* MAN 10  
 .11 and with them the follower, the son of *Kerkos*  
 .12 *A<sup>h</sup>erik<sup>wh</sup>oiitās*,<sup>87</sup> at Deer Harbor.  
 .13 *o-ka-ra* at *o-wi-to-no* MAN 30 and *ke-ki-de* from *a-pu<sub>2</sub>-ka*  
 .14 MAN 20, and with them *Aigortās* the follower.  
 Or *A<sup>h</sup>erik<sup>wh</sup>ontās* (see García Ramón 2011: 222 n. 19).

### Text 4: Pylos Fn 7

#### Transcribed text

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

#### Translation

- .1 [*K<sup>w</sup>allans*: BARLEY<sup>2</sup> x liters], OLIVES 19.2 liters  
 .2 [*pa-ka*: BARLEY<sup>2</sup> x liters], OLIVES 9.6 liters  
 .3 wall-builders: BARLEY 1.2 liters MEN 20  
 .4 sawyers: BARLEY 1.2 liters MEN 5  
 .5 all-builder: BARLEY 3.2 liters

<sup>87</sup> Or *A<sup>h</sup>erik<sup>wh</sup>ontās* (see García Ramón 2011: 222 n. 19).



To *Kwallans*, per month [BARLEY<sup>2</sup> x liters], OLIVES 576 liters

To *pa-ka*, per month [BARLEY<sup>2</sup> x liters, OLIVES 288 liters]<sup>88</sup>

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

To the sawyers, per month, BARLEY 134.4+ liters

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

<sup>88</sup> Based on the number of sawyers and the amount of their daily ration, there should be 180 liters of barley, which would be written (transcribed) as HORD 1 T 8 V 4 Z 2.

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# LABOR IN THE ANCIENT WORLD

VOLUME V

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EDITED BY

Piotr Steinkeller  
Michael Hudson



COVER ART: A stone relief of the Pre-Sargonic ruler of Lagash named Ur-Nanshe (ca. 2400 BC = ED IIIa). AO 2344.

The upper register of the relief shows the construction of a temple, with Ur-Nanshe carrying a corvée basket (*tupšikku*). In the lower register, a feast culminating the construction is depicted.

Photo by Philipp Bernard. Courtesy of the Louvre Museum.

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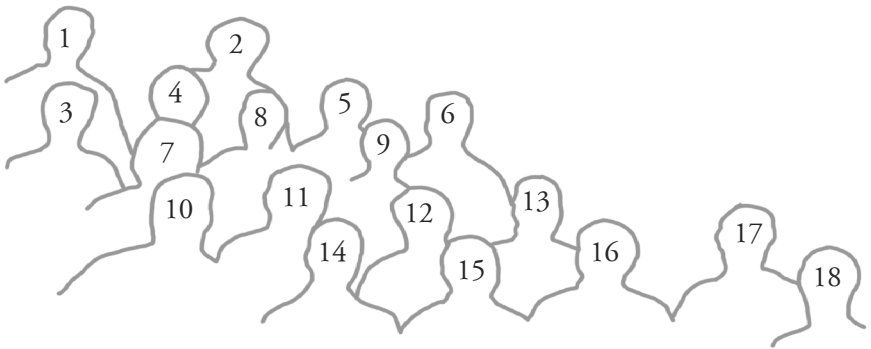
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