

## THE ECONOMICS OF POTNIA IN THE LINEAR B DOCUMENTS: PALATIAL SUPPORT FOR MYCENAEAN RELIGION\*

It is a commonplace that the Mycenaean Linear B tablets are all economic and administrative documents of one type or another. There is nothing relating directly to the nature of Mycenaean ritual or belief, and the difficulty of understanding Mycenaean religion in the absence of such documentation has been widely commented on.<sup>1</sup> But limited use has been made of the purely economic data relating to religion that we *do* have in the Linear B tablets.<sup>2</sup> There are numerous references to the religious sphere in *economic* contexts—a text may state for instance that a priestess has a plot of land (PY Ep 704) or that temple servants are to receive festival rations (PY Fn series<sup>3</sup>). By studying such references as a coherent group it is possible to investigate how the palaces interacted with the religious sphere from the economic point of view. While not informing us about the belief system, these data offer valuable insights about the place of religion in Mycenaean society. For example, recent discoveries about ceremonial banqueting have demonstrated the importance of state-organised feasting, leading to an increased awareness of its role in underpinning and legitimising social and political structures through lavish demonstrations of generosity and piety.<sup>4</sup>

In addition to organising and supplying banquets and festivals, there were two primary means through which Mycenaean palaces contributed economically to the religious sphere. First, the palaces made presentations of offerings, including both consumable items such as perfumed oils and foodstuffs (e.g. PY Fr; KN Fs), and durable goods such as metal vessels (PY Tn 316) and textiles.<sup>5</sup> Second, the palaces included religious dignitaries and the deities themselves in standard elite maintenance systems, such as land tenure (as in the PY Eb-Ep/Eo-En series), and allocation of produce from designated workshops.<sup>6</sup>

\* I am grateful to J.T. Killen, J. Bennet, R.J.E. Thompson and C. Russell for advice and comments on this manuscript. Comments from participants at a Cambridge Aegean Seminar organised by S. Voutsaki improved the presentation offered in Sweden and were much appreciated. John Killen also kindly offered help at that time. None of the above are accountable for the views expressed, and any remaining faults are my own. Finally, I am grateful to Jesus College and the Faculty of Classics, Cambridge, for funding to attend the conference.

1 Classic studies are J. CHADWICK, *The Mycenaean World* (1976) 84-101 (esp. 88 for the difficulties involved); "What Do We Know About Mycenaean Religion?" in *Linear B: A 1984 Survey* (1985) 191-202, esp. 191-2.

2 Some exceptions are S. HILLER, "Tempelwirtschaft im mykenischen Griechenland," *Archiv für Orientforschung* 19 (1982) 94-104; S. LUPACK, "Palaces, Sanctuaries and Workshops: The Role of the Religious Sector in Mycenaean Economics," in *Palaces* 194-217.

3 For this interpretation of the Fn tablets cf. J.T. KILLEN, this volume.

4 C. PITEROS, J.-P. OLIVIER and J.L. MELENA, "Les inscriptions en linéaire B des nodules de Thèbes (1982): La fouille, les documents, les possibilités d'interprétation" *BCH* 144 (1990) 103-184; J.T. KILLEN, "Observations on the Thebes Sealings," *Mykenaiika. Actes du IX<sup>e</sup> Colloque international sur les textes mycéniens et égéens organisé par le Centre de l'Antiquité Grecque et Romaine de la Fondation Hellénique des Recherches Scientifiques et l'École française d'Athènes (Athènes, 2-6 octobre 1990)* (1992) 365-380; "Thebes Sealings, Knossos Tablets and Mycenaean State Banquets," *BICS* 39 (1994) 67-84; "Thebes Sealings and Knossos Tablets," in *Atti e Memorie del Secondo Congresso Internazionale di Micenologia. Roma-Napoli, 14-20 ottobre 1991* (1996) 71-82; T.G. PALAIMA, "Perspectives on the Pylos Oxen Tablets," *Zhiva Antika Monograph* 7 (1989) 85-124.

5 For offerings of textiles cf. M.-L. NOSCH and M. PERNA, this volume.

6 Deities often appear as 'Collectors'. For an interpretation of 'Collectors' as 'members of the nobility, the royal family, or the like who were allocated part of the productive capacity of the kingdom for their own benefit (hence their appearance as 'owners' of flocks, weaving workgroups, etc.)' cf. J.T. KILLEN, "The Knossos Ld(1) Tablets," in *Colloquium Mycenaeanum. Actes du sixième colloque international sur les textes mycéniens et égéens tenu à Chaumont sur Neuchâtel du 7 au 13 septembre 1975* (1979) 177; "Linear B a-ko-ra-ja/-jo," in *Papers in Greek, Italic and Indo-European Linguistics Offered to L.R. Palmer* (1976) 117-125 esp. 119, 123; "Some Further Thoughts on 'Collectors'," in *POLITEIA* 213-226; J.-P. OLIVIER, "Les «Collecteurs»: Leur distribution spatiale et temporelle," in S. VOUTSAKI and J.T. KILLEN (eds) *Economy and Politics in the Mycenaean Palace States. Proceedings of a conference held on 1-3 July 1999 in the Faculty of Classics, Cambridge* (2000).

References to one or more of these types of support occur at nearly every site where Linear B tablets have been found.<sup>7</sup> They appear on tablets spread over a great many different document series, and their apparent ubiquity can convey the impression that a sizeable proportion of the palaces' economic resources were committed to support for religion. L.R. Palmer carried this furthest by speaking of a temple, rather than a palatial economy, thus characterising the whole of the Mycenaean economy as religiously oriented.<sup>8</sup>

But how extensive was the support really? A count of documents from Knossos and Pylos reveals that 17% from Pylos and only 5% from Knossos actually include references to the religious sphere.<sup>9</sup> The overwhelming majority of documents relate to matters which we would call 'secular'. Of course, a simple count of documents does not necessarily reveal what is really going on. To understand this, we need to look at the different types of support offered and attempt to determine in each case the extent of palatial resources allocated. For the purposes of this paper it is not possible to examine more than one type of support, so we will concentrate on offerings of oil.

Our discussion is confined to Knossos and Pylos since other sites have not yet yielded records of oil offerings.<sup>10</sup> Olive oil, both edible and perfumed, was the major commodity recorded as offerings at both sites. It appears primarily in the Pylos Fr series, and the Knossos Fh, Fp and Fs series.<sup>11</sup> Is it true that an important part of palatial resources in oil represented in these series were expended on offerings? If we look at the figures on the tablets, what proportion of total resources do the offerings of oil really represent?

We will consider first the Pylos tablets.<sup>12</sup> The majority of Fr tablets record disbursements to deities, shrines and persons, but a few deal with inventories and movements of goods within the industry (Fr 1184, for instance, records a transfer from one perfumer to another<sup>13</sup>). The tablets are set out in Table I.<sup>14</sup> Group I (with three sub-groups) comprises non-industrial disbursement tablets. Group II has inventories and transactions. Group III contains tablets where so much text is lost that the category cannot be accurately determined. Each row

7 The sole exception is Tiryns and, given the ubiquity of such references elsewhere, the omission is likely due to the small number and fragmentary condition of its tablets.

8 L.R. PALMER, *The Interpretation of Mycenaean Greek Texts* (1963) 95, 137, 221, 230, 278, 280, 482. The idea is more stated than argued through, hence the succession of references.

9 In compiling the figures the following should be noted. X Class documents are excluded, since most contain too little text to tell whether they would have had religious connections or not. At Knossos, only tablets with at least three sign-groups are included in the count, because there are a great many which, though they can be ascribed to a particular series and hence are not X Class, are too fragmentary to judge fairly whether a 'religious' sign-group would have appeared or not. (If these tablets *were* included, the proportion of tablets with religious connections would be even *smaller* than 5%.) The figures are based on transcriptions published in *PTT* and *KT*<sup>5</sup>, thus do not take account of new joins. While this introduces a measure of uncertainty, the overall proportions are unlikely to be substantially affected by the new data, partly because being subject to a new join is a factor that affects both sorts of tablets alike.

10 Outside Knossos and Pylos the ideogram for oil (\*130) appears only at Mycenae, on Fo 101, which does not concern offerings. Cf. J.T. KILLEN, "Some Puzzles in a Mycenae Personnel Record," *Zhiva Antika* 31 (1981) 37-45; C.W. SHELMEERDINE, "Workshops and Record Keeping in the Mycenaean World," in *TEXNH, Aegaeum* 16 (1997) 390-391.

11 The other occurrences are on a single label, Wa 1248, at Pylos and on tablets F 452, 726, 7542 and F(1) 9910 from Knossos. All except F 726 are fragmentary; it is not clear whether they relate to cult or not. F 726, the only Knossos tablet in which OLE is ligatured, probably does relate to cult since it includes a month name.

12 The bibliography is extensive. The tablets were published by E.L. BENNETT, *The Olive Oil Tablets of Pylos: Texts of Inscriptions Found, 1955. Minos Supplement No. 2* (1958). The principal subsequent study remains C.W. SHELMEERDINE, *The Perfume Industry of Mycenaean Pylos* (1985), cf. 25 n. 48 for earlier bibliography.

13 Cf. SHELMEERDINE (*supra* n. 12) 23-4 (for Fr 1184), 99 (for inventory records).

14 The table takes into account new tablet joins (marked with an asterisk). The quasi-join, 1237 [+] 1239, suspected in J.L. MELENA, *Minos* 27-28 (1992-1993) 81, is now confirmed in *Minos* 35-36 (2000-2001, forthcoming); I am grateful to Professor Melena for permission to mention this in advance of publication. Fr 1209 and Fr 1211, joined in *PTT* I, are now dissociated (cf. E.L. BENNETT, *Mykenaiika* (*supra* n. 4) 125), and Fr 1215 has a new reading (BENNETT, 120). For inclusion of 1249 in the Fr series cf. BENNETT, 104, 127, with a join in MELENA, *Minos* 29-30 (1994-1995) 100, both *s.v.* Fr 1479. Melena (2000-2001, forthcoming) gives a new text, followed here, and suggests 1479 is probably 1249 and so should be renumbered (again I thank Professor Melena for permission to mention this). The table excludes Fr 1255, which is probably wrongly classified; cf. SHELMEERDINE (*supra* n. 12) 65-66; BENNETT, 125.

corresponds to one tablet, except in the few cases where two entries appear on a single tablet—these are put in their appropriate places according to the schema and the line number is given (so parts of one tablet may appear in different groups). We will focus on Group I, the non-industrial disbursement records. In addition to the ideogram and numbers, the main types of information on these tablets are: (1) a recipient, (2) some type of word functioning as an ‘address’ and (3) a time designation.<sup>15</sup> Each data type appears in a separate column; the remaining columns show other notes made by the scribe, primarily descriptions of the oil (sage-scented, rose-scented, ‘for anointing’, and so forth). The tablets are grouped according to the recipient or, where there is none, by toponym or other type of information. The texts given are complete, but the order of sign-groups is not exact. To the right of the numbers columns, the figures are shown reduced to the unit V. This is done because the Mycenaean measurement system is cumbersome to count in (for us, if not the scribes too), and amounts can be more readily compared if converted to a common lower unit.<sup>16</sup>

The three subgroups of Group I are:

- I.1—Clearly Religious
- I.2—Probably Religious
- I.3—Unclear

Entries in the ‘Clearly Religious’ section record known deities (e.g. Poseidon, Potnia) and shrines (e.g. *di-wi-jo-de*, *pa-ki-ja-na-de*). The ‘Probably Religious’ section includes the sign-groups *wa-na-ka-te*, *wa-na-so-i* and *di-pi-so-i*. If these are not inherently ‘religious’, they are at least likely to be related to ritual,<sup>17</sup> but since this is not universally agreed, it is desirable to treat them separately. The ‘Unclear’ section includes sign-groups whose associations with religion (or not) cannot be determined.<sup>18</sup>

To determine the proportion of the oil on our disbursement tablets allocated for religion we need to ascertain the total amounts recorded in each of our groups.

I.1: CLEARLY RELIGIOUS	243.75
I.2: PROBABLY RELIGIOUS	52
(sub-total I.1 and I.2	295.75)
I.3: UNCLEAR	47
GRAND TOTAL	342.75

The V 243.75 designated ‘Clearly Religious’ is 71% of the overall total (V 342.75), so that even on the most conservative estimate, 71% of the oil disbursed in the Fr series is certainly for offerings. If we add the probably religious group (giving V 295.75), the proportion grows to 86%. This is a large proportion, no matter how it is calculated. Further, as noted above, the ‘Unclear’ group is not clearly secular—it is simply ‘unclear’. It is possible that the amount of oil disbursed for offerings is even higher than represented here. Shelmerdine noted in her classic

15 *Docs*<sup>2</sup> 477-8.

16 Liquids, including oil, are measured by using the commodity ideogram to indicate the number of major units, followed by indicators of fractional components transcribed as S, V, and Z. One major unit = 3 S; 1 S = 6 V; 1 V = 4 Z. It will be noted that we might as well have converted the amounts to Z rather than V, but V is more common in the records and has thus become the traditional lower unit to use for this purpose. The amounts of course are not affected.

17 Whether the *wanax* is divine or human, it can be argued that a *ritual* context is indicated by his constant occurrence with the words *wa-na-so-i* and *di-pi-si-jo-i*. The meaning of these sign-groups is also much disputed—cf. SHELMERDINE (*supra* n. 12, 73-79) for an excellent discussion. (The insight that the words *function* as addresses, whatever their semantic significance is crucial (*Docs*<sup>2</sup> 479; Shelmerdine, *loc. cit.* p. 74), and I concur that they are probably plural ‘datives of advantage’; SHELMERDINE [*supra* n. 12] 77.) Whatever the case, a religious association is indicated for *wa-na-so-i* by its association with Poseidon on Fr 1219 and with a festival name on Fr 1222. Parallel usage suggests a similar association for *di-pi-si-jo-i*. Thus, whether the *wanax* be human or divine, a ritual context is implied.

18 I argue that the disbursement on Fr 1223 was an offering in A-NO-QO-TA. *Studies Presented to J. T. Killen. Minos* 33-34 (1998-1999), forthcoming. see also S. HILLER in *Sanctuaries and Cults* 109.

discussion of the Fr series that ‘the *principal* function of the series was not to record offerings, but to monitor the palace’s supply of perfumed oil’.<sup>19</sup> Quite so, but the fact is that the majority of the disbursements *do* relate to offerings. How are we to explain this? It might seem that this suggests that the majority of oil at Pylos was intended for religious offerings, but before we draw such a conclusion we need to make some other calculations.

The disbursement records do not reveal how much oil was available to the palace overall. Including the inventory and industrial records, some V 1157 units of oil are recorded in the Fr series.<sup>20</sup> Further, Shelmerdine calculates that the amount of coriander in perfumery ingredients lists was sufficient to treat some 3183.84 litres of oil (c. V 1990). Obviously, we cannot *add* this to the figure of V 1157, since the oil in Fr 1184 (V 324) may be the *same* oil on which the coriander will be used. More important, we do not know what the uses of the oil awaiting treatment or being inventoried will ultimately be. Perhaps after all it would eventually be disbursed as offerings. But one may doubt whether this would have been the ultimate destination of all the oil. Even without being sure of the ultimate uses, it is clear that *a great deal more oil was available to the palace than is attested in our offerings tablets*. Shelmerdine’s coriander calculation was done for the purpose of determining whether there was enough of a surplus beyond the attested disbursements to determine whether it was possible that some of the commodity was being traded. Her conclusion that it *was* is supported by the considerable archaeological evidence for such trade.<sup>21</sup> We may also consider her list of likely uses for perfumed oil.<sup>22</sup> Particularly noticeable is the likely use for domestic purposes such as hygiene. Disbursements for such purposes are entirely missing from the Pylos records (unless Fr 1205 ‘to attendants’ is one), and the similar lacuna with regard to trade has been extensively commented on.<sup>23</sup> There is a wider issue here. In short: the Linear B data do not record everything going on in the palaces. It is commonly said that the Linear B data do not show the totality of the Mycenaean economy;<sup>24</sup> it needs to be further appreciated that they do not show the totality even of the *palatial* economy. There is a *bias* in what was recorded (and in what has survived of what was recorded).

Let us consider the various percentages our figures produce. Amounts certainly or probably going for offerings represent 26% of overall amounts attested, and 15% of the amount suggested by the coriander figures. While neither of these percentages is produced from figures which are strictly comparable, I believe the general impression received is valid—the palace was dealing with far more oil than is attested in the offerings records. And it must be stressed that the figures are probably on the high side. Our calculations of overall resources are *minima* for those resources—it is likely that the real amounts were much greater, making the proportions for offerings even smaller.

Let us now consider the Knossos Fh, Fp and Fs series.<sup>25</sup> The situation at Knossos is similar to Pylos in some regards and different in others. One difference is that the Knossians did not usually indicate, as the Pylians helpfully did, whether the oil was perfumed or edible.<sup>26</sup>

19 SHELMERDINE (*supra* n. 12) 78.

20 SHELMERDINE (*supra* n. 12, 152 with n. 272) gives a figure of V 742 Z 3. This excludes (for reasons I appreciate) Fr 1184, the transaction record (V 324), and Fr 1198 which is unguent (V 47). Fr 1249, unrecognised at the time of her writing (cf. *supra* n. 14), adds another V 43+.

21 SHELMERDINE (*supra* n. 12) 141-151.

22 SHELMERDINE (*supra* n. 12) 123-131.

23 J.T. KILLEN, ‘The Linear B Tablets and the Mycenaean Economy,’ in *Linear B: A 1984 Survey*. *BCILL* 26 (1985) 262-270; SHELMERDINE (*supra* n. 12) 139-141.

24 KILLEN (*supra* n. 23) 243.

25 Cf. L. GODART, ‘Les quantités d’huile de la série Fh de Cnossos,’ in *Atti e Memorie del I° Congresso Internazionale di Micenologia* (1968) 598-610; *SMEA* 5 (1968) 64-70; *SMEA* 8 (1969) 39-65; ‘La série Fh de Cnossos, vingt ans après’ in *Studies in Mycenaean and Classical Greek Presented to John Chadwick* (1987) 201-210; E. FOSTER ‘An administrative department at Knossos concerned with perfumery and offerings’ *Minos* 16 (1977) 19-51; L. BAUMBACH ‘Further thoughts on the Knossos Fp series’ in *Colloquium Mycenaeanum* (1979) 197-206; R. PALMER, *Wine in the Mycenaean Palace Economy* (1994) 125-142. Like the Fr tablets, the tablets have been affected by numerous recent joins, but few produced new readings.

26 The sole appearance of OLE with a ligature is on F 726 (cf. *supra* n. 11).



The oil of the Fp series is thought to be perfumed, on analogy with Pylos,<sup>27</sup> whereas the Fs series probably deals with edible oil, since it appears with other foodstuffs.<sup>28</sup> The Fh series may record a mixture of perfumed and non-perfumed oils. (For instance, where the oil represents a major payment from a village it is most likely *not* perfumed. But where it is going to a shrine, it could well be either.) We will have to treat all the oil together, whether it is perfumed or edible, but this is not as problematic as it might seem because perfumed oil did after all have to start as edible oil.

Another important difference from the Pylos documents is that, at Knossos, we do have records of disbursements made to clearly secular figures. Some of these are men mentioned by name—possibly workers, but perhaps officials or other persons—and some are groups of men described by their occupations who are certainly workers. Some such disbursements might not have been for the personal use of the workers but rather were needed for the industries in which they were involved. Fh 5428 for instance records a large amount of oil going to the ‘tanner(s)’, and this may have been for industrial use. Again, there is nothing that seems to be domestic in nature, but it is something of a relief to find what we should expect to have found at Pylos: that is, disbursement records for clearly secular purposes. Yet even at Knossos there is a bias towards recording religious offerings, as the figures below show.

#### Disbursements of Oil at Knossos

Religious		Secular	
Fp	316+	individual men	327
Fh	361+	workers	348
Fs	11	payments and industry (except perfumery)	330
TOTAL	688	TOTAL	1005
GRAND TOTAL		1693	

41% of the oil recorded on Knossos disbursement tablets is allocated for religion. The situation is not as extreme as at Pylos, but again this is a surprisingly large amount. Is it really plausible that 41% of all oil disbursements at Knossos were intended for religious purposes?

To answer this question we must try, as at Pylos, to ascertain the extent of the palace’s resources. Here it is not necessary, as it was at Pylos, to extrapolate from other data because the Fh series supplies the type of records we need to do an overall assessment. Particularly useful is Fh 366 [+] 5503 which is almost certainly, since it contains the word *a-pu-do-si*, a totalling record for oil coming in as tax from various villages.<sup>29</sup> The tablet records V 6107. If we compare just this one figure with our religious disbursements, the amount going for offerings shrinks to about 11%. But apart from the oil coming in, we have other records describing oil already in the palace and moving about in the perfume industry. We cannot simply add these in, since some of the oil may be counted twice, but it is again clear that the amounts of oil available to the palace greatly exceeded those allocated for offerings. The real amount was probably less than 10%.

One reason that a figure of 10% or less is likely to reflect a realistic assessment is that we get similar figures when we look at other types of foodstuffs used for offerings. There is not time to look at these in detail, but the figures cluster around 10%, and this is probably on the high side because of biases in recording as noted above. On the whole, it might be accurate to say that something on the order of 4-7% of palatial resources were earmarked for religious offerings.

Another reason why I believe that a small proportion is realistic is that the amounts given for individual offerings really are very small. To put the figures in perspective, if we take Chadwick’s proposed values for absolute measurements,<sup>30</sup> the amount of oil on the taxation

27 As Bennett notes, the types of transactions are similar (BENNETT [*supra* n. 12] 37.

28 PALMER (*supra* n. 24) 128

29 GODART (*supra* n. 25, *Atti*) 599.

30 Docs<sup>2</sup> 394; J. CHADWICK, *The Mycenaean World* (1976) 107-108.

tablet Fh 366 alone comes to some 10,000 litres. But the largest disbursement for an offering at Knossos is only c. 70 litres, and this is unusual. Only five entries are more than 30 litres, fourteen fall in the 10-30 range, thirty-three in the 3-10 range, and twenty-eight are less than 2 litres. Thus the great majority of disbursements (73%) are less than 10 litres. The situation is similar at Pylos, with only two instances of larger amounts going out (and for the sake of the conference title we should note that one of these was going to Potnia).<sup>31</sup> The other disbursements range from 0.4 to 32 litres, with over half being less than 5 litres. At both Knossos and Pylos, individual allotments are minuscule compared with overall resources.

The large number of tablets on which offerings are recorded may convey the impression that large amounts of palatial resources were allocated for religious purposes, but the figures do not bear this out. We cannot say in the case of oil offerings that palatial resources were largely committed to religion. Still less is there any justification for speaking of a 'temple economy'.<sup>32</sup> To fully assess the proportion of palatial resources committed to religion we would have also to examine other types of offerings and other forms of support mentioned above: ceremonial banqueting and participation in the elite maintenance system. My preliminary research suggests that palatial contributions in these areas were also relatively small. Be that as it may, it seems clear that, at least as regards oil offerings, the resources expended for religious purposes were not substantial.

On the other hand, neither were they wholly insignificant. The palaces clearly regarded their commitments to the religious sphere in the form of offerings as important, and this attitude is reflected in the fact that the disbursements, however small, were carefully recorded in the Linear B documents.

Lisa M. BENDALL

31 Also noted by S. MORRIS, this volume.

32 The concept of a 'temple economy' is in any case misunderstood. Cf. I.J. GELB, "On the alleged temple and state economies in ancient Mesopotamia," *Estratto da Studi in Onore di Edoardo Volterra* IV (1969) 137-154; I.M. DIAKONOFF, "The structure of Near Eastern society before the middle of the 2<sup>nd</sup> Millennium B.C." *Oikumene* 3 (1982) 7-100; B.R. FOSTER, "The Late Bronze Age palace economy: a view from the east," in *Function Palaces* 11-16.



