

THE MYCENAEAN INSCRIBED SEALINGS FROM THEBES : PROBLEMS OF CONTENT AND FUNCTION *

I would like to avoid repeating at this conference what I have said or written previously on various occasions about the substantial group of Mycenaean inscribed clay sealings discovered at Thebes in Boeotia six years ago (see Pl. XXIIIa for a topographical map of Thebes) ¹. From the first moment of their discovery, it became clear to me that the inscriptions could not wait for the years expected for the publication of their archaeological context, and that I had to content myself in regard to the latter with what little published information was available ². My objective at this time has been to prepare, as soon as possible, the edition of the inscriptions on the sealings. That an *editio* with transliteration and commentary has not been published yet is due to causes beyond my control ³. It is thus my task to present here to you, over four years after the *Pylos Comes Alive* Symposium in New York, a concise but complete picture of the inscriptions of the TH Wu series, and also the conclusions I have reached in these last years about their function and about the interpretation of their brief texts. Since my first

* I use the following abbreviations : *Colloquium Mycenaicum* : E. RISCH and H. MÜHLESTEIN (eds.), *Colloquium Mycenaicum. Actes du sixième Colloque International sur les textes mycéniens et égéens tenu à Chaumont sur Neuchâtel du 7 au 13 septembre 1975* (Neuchâtel-Genève 1979); *SSMC* II : J. WEINGARTEN, "The Sealing Structures of Minoan Crete : MM II Phaistos to the Destruction of the Palace of Knossos. Part II : The Evidence from Knossos until the destruction of the Palace", *OJA* 7 (1988) 1-25.

1 The sector (Liagas Plot) of the Mycenaean buildings where the sealings were found was excavated (1981-1982) by my colleague in Thebes, Mr. Chr. Piteros, with my collaboration for the Room of the Sealings. One year later (1983-1984) I excavated the adjacent plots (Christodoulou, Stamatis) uncovering parts of the buildings partially explored by Piteros, some new ones and a complete section of the Mycenaean fortification of the Kadmeia.

2 See *BCH* 107 (1983) 781; *La Béotie antique*, Coll. Intern., Lyon, Saint-Étienne (16-20 Mai 1983) 62-63 and also *ArchDelt* (1980-1982); *Proc. of the I Intern. Congr. of Boeotian Studies*, Thebes (1986), the last two in press. On the circumstances of the discovery of the sealings and on their texts, see V.L. ARAVANTINOS, "Nuovi elementi sulle catastrofi nella Tebe micenea : Osservazioni preliminari", in D. MUSTI (ed.), *Le Origini dei Greci. Dori e il mondo egeo* (1985) 352-353; "The Use of Sealings in the Administration of Mycenaean Palaces", in *PCA* (1984) 43-48; "The Mycenaean Inscribed Sealings from Thebes", in *Tractata Mycenaea* (1987) 13-27; "Mycenaean Place-Names from Thebes : The New Evidence", in *Studies Chadwick*, 33-40.

3 After years of study (see my initial note in *Tractata Mycenaea*, 13) I experienced unfortunate treatment regarding the agreement on the publication. I prefer not to comment further for the present. Thus I refer to the words of Terentius (*Heautontimoroumenos*, 75) : "homo sum. humani nil a me alienum puto" and I understand. But the articles referred to in note 2 show that considerable progress has been made towards the understanding and the edition, with a commentary, of the new Theban Linear B material thanks to the support generously provided to me by individuals and institutions during the last three years : the Greek Ministry of Culture, the Italian Ministry of Foreign Affairs, The Institute for Research in the Humanities of the University of Wisconsin at Madison, and last but not least The Institute for Aegean Prehistory (INSTAP) in New York City. Special thanks I owe to Prof. Emmett L. Bennett, Jr., who supported more than anyone else my long ἐπιδημίαν in Madison in 1987-88.

preliminary presentation of the new material in Linear B from Thebes, several studies about seals and sealings and their use and importance in the administration of the Aegean as well as Near Eastern communities have thrown more light on these questions, but nevertheless thorny problems and doubts remain. The complex problems associated with this new material make me very glad to be able to discuss them among Near Eastern and Aegean experts at this conference. I invite your comments and observations.

As I have already pointed out elsewhere, the most striking feature of the sealings from Thebes is the occurrence on most of them of single ideograms for domestic animals inscribed in all cases over the seal impression, i.e. *supra sigillum*⁴. Of the fifty-five inscribed prismatic nodules of the Wu series, forty-eight bear an ideogram of SUS (pig), BOS (ox), OVIS (sheep), and CAP (goat) of male or female sex, or even SUS+SI (σῖαλος) or plain WE, the last being here almost certainly a *wetalon*, yearling. Of the remaining seven, four have in this same position the undeciphered ideogram *190 and a fifth has an ideogram related closely to it, possibly a variation (*190 bis). There is also an almost certain CYP+O on the (γ) lateral side of the sealing Wu 71 and there is no ideogram at all on Wu 45, while on the sealings Wu 46, 56, 59, 76, and possibly on Wu 87 a second undeciphered ideogram, namely *171, is inscribed, in addition to the animal ideogram. It is worth emphasizing that, since almost two thirds of the inscribed sealings bear one or more entries in addition to the ideogram, while the remaining have only the ideogram, there is no secure evidence that any of the five uninscribed fragments of sealings found together with the inscribed ones, along the wall of the small room and mixed with various objects and implements, have really been left uninscribed or unsealed⁵.

All the sealings of the Theban group are without exception of the three-sided prismatic shape, the most common type during the Mycenaean period (see Pl. XXIIIb-c and XXIVa for illustrations of typical seal impressions and a typical verso of sealings found at Thebes)⁶. Only slight differences are noted in the size and in the shape between nodules belonging to different subgroups made and sealed by different individuals. Thus the group can be taken as a highly homogeneous one, in fact the most significant so far discovered in the Aegean. The sealings from Thebes are very similar to the small group from Mycenae (the Wt series) and to most of the inscribed examples from Pylos and Knossos classified respectively in the series Wr and Ws. But among the sealings from Pylos there are some unsealed nodules, that is, tags rather than sealings proper, and some few others which bear a single seal impression, but do not have the characteristic transverse hole through which a string or cord passed⁷. At Pylos and also at

4 On sealing use and practices in Mycenaean times, see the articles of E.L. BENNETT, M. LANG and M.V.A. GILL cited in ARAVANTINOS, *PCA*, 43-48; *Tractata Mycenaea*, 16-17 and *passim*. Cf. also T.G. PALAIMA, "Mycenaean Seals and Sealings in their Economic and Administrative Contexts", *Tractata Mycenaea*, 256-262, and *SSMC II*.

5 Three of the sealings without inscriptions preserve part of their seal-impressions (groups XII and XIII) and the remaining two (S 19, 26) are simply small fragments. On S 19 a small part of the impression is preserved (a single one?). I believe that at least some of these five fragmentary sealings were inscribed too. A piece of evidence for this assumption comes from the fact that none of the sealings found in the same find-spot is definitely uninscribed and that S 41 (frag. with no inscription) shares the same seal-type with the inscribed sealing S 31 (Wu 71).

6 This is Weingarten's Class VI, B ("much flattened, its sharply ridged back at an obtuse angle, giving it a gabled profile"). See the articles cited *supra* n. 4., especially *SSMC II*.

7 For the two flat clay nodules from Pylos (Wr 1199, 1247), with a string hole but no sealing, see ARAVANTINOS, *PCA*, 44; also PALAIMA, *Tractata Mycenaea*, 259. Although they have to be classified in a special class of documents (cf. KN Ws 1707, 8493, 8499) their function must be identical with that of the sealed nodules. I examined the material from Pylos and Mycenae in the National Museum, with the kind permission of Dr. K. Demakopoulou, and I realized that also in a few of the uninscribed sealings from Pylos there is no string hole (cf. the Knossian sealings with VIR and MUL ideograms). There is no unsealed nodule or sealing with no string hole in the material of Thebes.

Knossos, especially among the uninscribed sealings, there are some with larger string holes. These sealings are not triangular prismatic, but rather trapezoidal, oval or cylindrical ⁸. At Thebes a flat discoid sealing, impressed with a beautiful finger-ring ⁹, has been applied tightly on the thin, round string which once secured a kind of container. It seems that it is unique (Weingarten's dog that does not bark) ¹⁰, but a few examples from Pylos, which have grooves on their backs, and some details in the string hole indicate that this clay lump has been impressed against a surface and then left to hang loosely from its string (just like the others). We find in this sealing two string holes, and the knot was formed at their ends externally. The nodules of the series Wu in Thebes have never been pressed against any such material. They were made in the characteristic way (described elsewhere) and by pressing the seal against the clay which had been molded around a knot formed at the ends of a string ¹¹. The clay was held between the fingers. Moreover it is rather certain that regular prismatic sealings in Mycenaean times were mostly, if not exclusively, attached to something in a relatively loose manner ¹². By means of their seal impressions, they authenticated the delivery of the sealed commodity and its final origin or control. By writing an ideogram and/or some descriptive words, the literate Mycenaean administrators qualify or describe the commodity in order to avoid undesirable confusion. Finally, a sealing of this type applied over a knot could even provide security and at least discourage any attempt at violation or thievery. Although some sealings, even inscribed ones, have been found in close relation to tablets, in the same storage and workshop areas, there is not conclusive evidence—in the Mycenaean archives—that any sealing has ever been applied to any kind of documents, i.e., to baskets of clay tablets, to papyrus rolls, parchment, wood, etc. ¹³. On the other hand, the clay stoppers which closed the mouths of closed-shape vases (e.g. stirrup jars) are sometimes impressed with seals ¹⁴.

Inscribed sealings such as those discovered at Thebes and even at Mycenae and Pylos give minimal information about their initial position and about their use. The circumstances of their discovery at Thebes, as at Pylos and Mycenae, indicate that they were intentionally kept together for a temporary use, perhaps for eventually recording on tablets the information on the

8 Sealings of this type resemble closely Weingarten's Class VI Ab in *SSMC II*, 7-8, fig. 4b.

9 Thebes Mus. Inv. (by N. Platon) No. 342. See also ARAVANTINOS, in *Tractata Mycenaea*, 15, n. 10; 20. This unique sealing was found in the excavation of the "House of Kadmos" by Keramopoulos in 1911 and is now published in *CMS V Suppl.* (in preparation).

10 *SSMC II*, 10. Prof. I. Pini has kindly informed me that the traces on the back of this sealing could be those of leather.

11 Cf. BENNETT, LANG, GILL and ARAVANTINOS (*supra* n. 4).

12 E.L. BENNETT, Jr. (ed.), *The Mycenae Tablets II*, TAPS N.S. 48, 1 (1958) 104 : "...to place sealing lumps of clay on the strings running in those directions is difficult unless the string be loose at the end from which the writing begins, and unless there be a few inches of slack from whatever the string be fastened to". But in this case the clay nodule cannot have been a perfect seal. It was only attached somewhere to be used as a kind of receipt or temporary reference document.

13 *Supra* n. 11, and especially PALAIMA, *Tractata Mycenaea*, 250, 258, (and for a comparison with Near Eastern practices) 249-250 and notes. Cf. also P. ZIMANSKY in W. KLEISS (ed.) *Bastam II, Ausgrabungen in der Urartäischen Anlagen 1977-1978, Teheraner Forschungen V* (1988) 122-123 : "In the ancient Near Eastern societies lumps of clay, sealed or unsealed, enjoyed a wide range of uses. In the Neo-Assyrian Empire alone, inscribed bullae betray different relationships between the objects to which they were affixed and the contents of the inscriptions : some were attached directly to the object, some were tied on by strings, some were used to seal a document representing the items". J.N. POSTGATE, *Taxation and Conscript in the Assyrian Empire*, (1974) 26-28; E. FIANDRA, "L'archeologia dei sistemi economici", *Le Scienze (Scientific American, Italian edition)*, 169 (Sept. 1982) 102; M. LIVERANI, *L'origine della città. Le prime comunità urbane del Vicino Oriente* (1988) 127-129.

14 This is the lowest administrative and economic level at which the Mycenaean sealings work (PALAIMA, *Tractata Mycenaea*, 257). Their work was only slightly higher than the merely practical action of closing. See also PALAIMA, *Tractata Mycenaea*, 257-258, 264.

transactions which they authenticated¹⁵. This is why sealings occur mostly in small clusters in doorways, under sherds of broken vases and sometimes even in vases¹⁶. To speculate about the distance which our inscribed sealings may have traveled is very risky¹⁷. I think that the evidence we have from the tablets can help us to envisage various regional centers of the kingdom of Thebes, while securely identified place-names like Amarynthos and Karystos may suggest relations even with the southern part of Euboea¹⁸. But all this again is not enough. Likewise there is no substantial evidence for determining the social or administrative status of the twenty-five people who have sealed and/or written inscriptions on the clay nodules of Thebes¹⁹. Lastly we are hard pressed to come up with a satisfactory explanation for why animal ideograms are found on small clay lumps from a rather insignificant room at the eastern edge of the Theban citadel.

I think that we might find one possible solution from a parallel analysis of inscriptions on tablets and sealings from other Mycenaean centers. In addition Near Eastern archives contain sealed documents referring to animals and their products. Study of these may elucidate our texts, particularly the purpose of the animal ideograms on clay sealings. When dealing with basic control mechanisms of a centralized bureaucracy, we ought also to keep in mind that the material culture may remain fundamentally unchanged for centuries.

In the past and most recently, while preparing the commentary of the Wu sealings from Thebes, I analyzed them according to subgroups determined by seal-types²⁰. This method has been most useful in distinguishing differences rather than similarities and reconstructing points which may be missing on individual sealings from a particular subgroup. But as the edition of the material has not yet appeared, I believe that an external and quantitative analysis according to the inscriptions more clearly emphasizes the points of similarity between sealings from Thebes and other sites. At the same time we can observe what we have in the Theban sealings and what we do not have in the inscribed sealings from other centers.

Sealings with a single ideogram *or* with one or more signs in ligature *or* in abbreviation *or* with a complete word for the name of the commodity with which the sealing was associated are the simplest form of these documents and also the most basic type of inscription on Mycenaean nodules. Emmett Bennett in his thorough discussion of the inscribed sealings from Mycenae which contain mostly names of vases (some of them registered also on a tablet, Ue 611, from same House of the Sphinxes) has described the significance of the sealing inscriptions and their

15 See BENNETT, *MT II*, 105 : "Otherwise they may have been kept together as if they were invoices to be recorded elsewhere." ARAVANTINOS, *PCA*, 46; PALAIMA, *Tractata Mycenaea*, 258-265 *passim*. For the relation of the Urartean bullae to an archive, see M. SALVINI in *Bastam II* (in our note 13) 128-129 : "...der Fund einer so grossen Zahl solcher Dokumente beisamen nicht von einem Archivbefund zu trennen ist. Nachdem sie ihren Zweck erfüllt hatten, waren die Bullae wohl aus den Waren oder Objekten, die sie vermittels Schnüren verplombt hatten getrennt worden, und als Quittungen in einem Archiv abgelegt, der nicht unbegingt ihren letzten Verbleib und Fundort entsprechen muss."

16 See ARAVANTINOS, *PCA*, 45-48 with previous bibliography. Cf. also PALAIMA, *Tractata Mycenaea*, 260-264. It seems that each cluster of sealings could represent goods delivered to the administrative center in a rather limited time (a month or some days). There are no references to, e.g., "the last year" or names of months in the texts of the sealings.

17 See for example E.L. BENNETT, Jr., "The Importance of Pylos in the History of Mycenaean Studies", *PCA*, 3; ARAVANTINOS, *Tractata Mycenaea*, 23, n.53.

18 ARAVANTINOS in *Studies Chadwick*, 33-40.

19 ARAVANTINOS, *PCA*, 47; *Tractata Mycenaea*, 19. Cf. also PALAIMA *Tractata Mycenaea*, 261-264.

20 ARAVANTINOS, *PCA*, 47-48; *Tractata Mycenaea*, 22-25. See also the table with the preliminary transcription and the grouping of the sealings according to seal-types in this article. More on this subject will be published in the "Editio Princeps of the Inscribed Sealings from Thebes" (now in preparation). There are eleven groups of inscribed sealings with the same seal-type but two more (XII and XIII) can be formed with the seal-types found on the fragmentary sealings, which do not preserve their (possible) inscriptions.

function perhaps in association with closed and sealed containers ²¹. At Mycenae most of the sealings of class Wt bear on them inscribed names of vessels and implements. Only one of them (Wt 700) bears the ideogram *190, still undeciphered but certainly a commodity ²². At Pylos sealings with CAP^f or CAP^m, VIN, A+RE+PA, OVIS^m and most probably those with the words *de-mi-ni-jo* (beds?), *pa-ke-te-re*, *pe-di-e-wi*, if these words are indeed names of commodities, belong to the same category ²³. At Knossos, sealings with ideograms *257, *134, GRA(num), with the words *pa-ta-ja*, and probably *e-po*, and even the sealings with ideograms MUL and VIR, although these occur on two sealings without string holes, belong to the same category ²⁴. In Thebes we have twenty-one sealings of this simplest (Class A) form. They represent just over 38% of the Wu texts : Wu 54 has CAP^m; Wu 57 OVIS^m; Wu 61 OVIS^f; Wu 62 CAP^m; Wu 69 and 96 CAP^f; Wu 71 CYP+O; Wu 72, 73, 78, 79, 81, 82, 83, 84, 90 and 92 have OVIS^m; Wu 80, 94 and 97 bear ideogram *190; Wu 48 the perhaps related form *190 bis?. Sixteen of these sealings have inscribed on their sealed face an ideogram of a domestic animal. There are eleven rams, one ewe, two he-goats and two she-goats. Of the five remaining, four are inscribed and thus related with the commodity *190 (one has the probable variant *190 bis ²⁵) and one has a fairly secure reading of CYP+O ²⁶. All these Class A sealings can be classified in groups according to seal-types, but here the fact that they do contain only the ideograms of animals and/or other foodstuff is of primary interest ²⁷. This simple information is the minimum that they offer, over and above the identification provided by the seal impression on uninscribed sealings ²⁸.

A second and more important class of sealings (class B) is characterized by a word which occurs with or without explicit reference to a commodity by ideogram or by name. Since the Theban sealings contain no names or abbreviations for commodities, the terms that do occur

- 21 *Supra* nn. 12 and 15. BENNETT, *MT II*, 102-105; ARAVANTINOS, *PCA*, 46-47; PALAIMA, *Tractata Mycenaee*, 261.
- 22 The ideogram *190 (present also at Thebes in a variant form *190 bis ? on Wu 48) somehow resembles *134, but only further evidence will show whether they should be regarded as variants or not; see *Docs*², 506-507. P. ILIEVSKI, "The Linear B Ideogram *134", *ŽA* 15 (1966) 271-280, argues for a livestock product : "animal fat, lard, tallow."
- 23 For the texts of the Pylian inscribed sealings see the edition by E.L. BENNETT, Jr., and J.-P. OLIVIER *The Pylos Tablets Transcribed [PTT I]* (1973) 263-266. The impressions are found in *CMS I* and its Supplementum. They have been discussed by J.L. MELENA, "Further Thoughts on Mycenaean *o-pa*", *Res Mycenaee*, 278 f. For *pe-di-e-wi*, see recently C.W. SHELMEERDINE, "Industrial Activity at Pylos", *Tractata Mycenaee*, 338 and n. 21.
- 24 The sealings are respectively : KN Ws 8494, 8496, 8500, 1705 (*pa-ta-ja*), 8712 (*e-po*), 8713 and 8752 (MUL), <1708> (VIR). Texts from J. CHADWICK, J.T. KILLEN and J.-P. OLIVIER, *The Knossos Tablets [KT⁴]* (1971) 334-337.
- 25 *Supra* n. 22. The commodity represented by *190 has not yet been identified. The new evidence from Thebes combined with the old from Mycenae and the relation of *134 to domestic animals (KN U 7063) seems to confirm the *communis opinio* that both ideograms, most probably related to each other, to livestock and to foodstuffs, could represent an edible commodity, although there is no clue to its nature. Melena has recently discussed in brief the relation of the above mentioned ideograms to each other (*Minos* 18 [1983] 94-95) and I hope to reconsider their "dossier" in the light of the new evidence in the near future.
- 26 The transcription CYP+O seems the most preferable one for the composite sign or ideogram found on Wu 71β. This could be in a good contextual relation to *171, taken often as a kind of cyperus, to animals and to the general foodstuff context of the inscribed sealings (Wu) from Thebes. See relevant texts and bibliographical references below.
- 27 In this case the central administration knew the whereabouts of the transaction even without having its subject before the eyes. It would be more difficult for them to extract information from sealings without inscriptions at all.
- 28 On the position of sealings within the overall Mycenaean economic system and on the level of information they provided, see the excellent reconstruction by PALAIMA in *Tractata Mycenaee*, 258, 264-265. Cf. also ARAVANTINOS, *PCA*, 41-48.

take on a special importance. We can identify some place-names. These denote origin or location (*ka-ru-to*; cf. *a-ma-ru-to* in Class C) or destination (like *a₂-pa-a₂-de*, *te-qa-de*, *]-de*)²⁹. There are also descriptive adjectives (*i-je-ro*, *i-je-ra*, *po-ro-e-ko-to*, *a-ko-ra-jo*, *e-qi-ti-wo-e*)³⁰ and personal names (*a-e-ri-qa*, *a-dwe-e*) perhaps indicating the providers of the ideographic commodities³¹. There are also non-descriptive administrative terms like *o-pa* (a kind of contribution as obligation³²) and *a-pu-do-ke* ("contributed", cf. *a-pu-do-si*, "contribution due")³³. We can analyze this last class as follows :

a. Place-names :

Wu 55	SUS ^m + <i>ka-ru-to</i>
Wu 89	CAP ^f + <i>]-de</i>
Wu 93	CAP ^f + <i>a₂-pa-a₂-de</i>

b. Adjectives or relative terms :

Wu 44	CAP ^m + <i>i-je-ra</i>
Wu 85	OVIS ^m + <i>i-je-ro</i>
Wu 86	CAP ^m + <i>i-je-ro</i>
Wu 67	OVIS ^m + <i>po-ro-e-ko-to</i>
Wu 91	CAP ^m + <i>po-ro-e-ko-to</i>
Wu 77	<i>]-m</i> + <i>]-ta</i>
Wu 52	SUS+SI + <i>a-ko-ra-jo</i>
Wu 68	SUS+SI+ <i>a-ko-ra-jo</i>
Wu 75	SUS ^m + <i>e-qi-ti-wo-e</i>

c. Personal names :

Wu 70	OVIS ^m + <i>a-e-ri-qa</i>	(Pl. XXIVb)
Wu 74	CAP ^f + <i>]-ru [...]-we</i>	
Wu 98	CAP ^f + <i>a-dwe-e</i>	

29 See ARAVANTINOS, *Tractata Mycenaea*, 19-20; *Studies Chadwick*, 33-40.

30 These adjectives (two of them are participles, *po-ro-e-ko-to*? <*po-ro-e-ka*>-]*ta* and *e-qi-ti-wo-e*) are discussed briefly in the following text and notes and more extensively in V. ARAVANTINOS, *The Mycenaean Inscribed Sealings from Thebes : Editio Princeps and Commentary* (in preparation).

31 See *supra* n. 30 and ARAVANTINOS, *Tractata Mycenaea*, 24-25.

32 MELENA, *Res Mycenaeae*, 280-286. See also the articles by ARAVANTINOS, PALAIMA and SHELMEERDINE in *Tractata Mycenaea*. For the new evidence from Thebes, see ARAVANTINOS, 23-25. The sealings of the Group I from Thebes with *o-pa* + personal name are discussed in the following.

33 On *a-pu-do-si/a-pu-do-ke* and related words see Y. DUHOUX, "Le group lexical de δίδωμι en mycénien", *Minos* 9 (1968) 81-108, esp. 102; M. LEJEUNE, "ΔΟΣΜΟΣ et ΑΠΥΔΟΣΙΣ", *Museum Helveticum* 32 (1975) 1-11, esp. 2. More recent discussion of the terms is found in P. DE FIDIO, *I dosmoi Pilii a Poseidon* (1977) 18-19; J.T. KILLEN, "On the Mycenae Ge Tablets", *Res Mycenaeae*, 218-219 and 225-226, and "The Linear B Tablets and the Mycenaean Economy" in A. MORPURGO DAVIES and Y. DUHOUX (eds.), *Linear B : A 1984 Survey* (1985) 270, n. 78. The form *a-pu-do-ke* is extremely rare and is found only at Knossos Od 681.b and X 408[.1]. But there is one *a-pe-do-ke* in PY Fr 1184.1. On *a-pu-do-si* and its meaning see also E.D. FOSTER, "An Administrative Department at Knossos Concerned with Perfumery and Offerings", *Minos* 16 (1977) 25-27 and 42 f.

d. Administrative terms :

Wu 64	<i>WE + o-pa</i>
Wu 88	*190 + <i>a-pu-do-ke</i>

The seventeen sealings of this category represent about 31% of the total inscribed in Thebes. On the sealed facet of each one an animal ideogram is inscribed. The only exception is Wu 88 which has *190 and the administrative term *a-pu-do-ke*, while *WE* written on Wu 64 is also an abbreviation for an animal, perhaps a *wetalon* here contributed as *o-pa*³⁴. The latter seems to be another non-descriptive administrative and economic term somehow related to *a-pu-do-si* but slightly different³⁵. *O-pa* and *a-pu-do-si* are found in the sealings contexts of Pylos and are attested in an exactly similar function in some sealings from Knossos (here *o-pa* and *do-ke*)³⁶. This coincidence seems to be extremely important. In the same category of sealings with one entry in addition to the ideogram or the commodity name we can put the sealings of *a-pu-do-si* and *o-pa* from Pylos³⁷, together with a unique Pylos sealing Wr 1329 which only has a numeral (20) inscribed and finally two sealings Wr 1359 and 1360 which deal with wine (it makes no difference if words inscribed on the unsealed face of these wine sealings are personal names or adjectives)³⁸. In the Knossos series Ws there are also sealings which could be classified in our category B. They are the following : Ws 1701 *185 + *ma-se-wi-ra₂* (a person's name?), Ws 8152 LANA + *ne-ki-ri-de* (description of wool), 8153 TELA³+*TE* with *te-pa*, Ws 8498 if *ko-we* is a commodity. To this class seems to belong Ws 8497 with *246, the names of the commodities and the material described by the ideogram AES. Finally Ws 1703, 1704 and 8495 could be assigned to this class B as *ta-to-mo* and *pa-ta-ja* seem to be rather the names of *115 (probably a weight) and JAC respectively with *o-nu-ke* and *o-pa* in addition to them³⁹.

A third category (C) of sealings and of inscribed, but unsealed nodules has been created to include those pieces with two or more words in addition to the ideogram and/or the commodity name. These words are of various nature. But the most important element we find in this class and in our structural analysis of the inscribed Mycenaean sealings is the occurrence of the same expressions as occur on the tablets. From this point of view these sealings are not only on a level higher than mere closing devices but in addition can be considered brief but complete texts, which one can read and understand in the context of palatial administration⁴⁰.

34 *WE* is interpreted as an abbreviation for *wetalon* on Wu 64 in *Docs*² (1973) 590 : "Ideographic use apparently denoting a variety of sheep or goat, possibly *wetalon*, yearling." On this use of *WE* see recently J.T. KILLEN, "Notes on the Knossos Tablets", *Studies Chadwick*, 327-328. Even before the decipherment of Linear B this abbreviation was considered as representing an animal, cf. E.L. BENNETT, Jr., *The Minoan Linear Script from Pylos*, unpubl. Ph.D. Diss., University of Cincinnati (1947) 70.

35 According to MELENA, *Res Mycenaee*, 281, the meaning of *o-pa* had to be close to that of *a-pu-do-si* (cf. sealings from Pylos with *o-pa* and one with *a-pu-do-si*, sealings from Knossos with *o-pa* and unsealed nodules with *do-ke* and sealings from Thebes with *o-pa* and one with *a-pu-do-ke*). *o-pa* and *a-pu-do-si* are rather parallel terms, differing slightly and opposed to *o-pe-ro*.

36 See note 35. On the relation of *a-pu-do-si* to *o-pa* especially in material from Pylos see SHELMEERDINE, *Tractata Mycenaee*, 336 f., and in general PALAIMA in *Tractata Mycenaee* and in this volume.

37 Also the sealings Wr 1330, 1333 with *o-pa* alone. These two as well as Wr 1329 do not reveal the kind of commodity to which they refer. It certainly was known to the parties involved in the transactions taking place in Mycenaean Pylos. The sealings Wr 1374 and 1359 seem to belong to the same class (B).

38 See M. LEJEUNE, "De quelques idéogrammes mycéniens", *Mémoires de philologie mycénienne* II (1971) 153-154; MELENA, *Res Mycenaee*, 278, n. 97; PALAIMA, *Tractata Mycenaee*, 262.

39 On *115 see recently J.T. KILLEN, "Linear B Sign *115 on Kn Ws 1703 : Commodity or Weight?" *Kadmos* 24 (1985) 148-152. On *o-nu-ke* see J.T. KILLEN, "The Knossos Ld(1) Tablets", *Colloquium Mycenaeeum*, 151 f.; A. LEUKART, "Mycenaean *o-nu-ka*, *o-nu-ke* etc. : a concealed root-compound?" *Tractata Mycenaee*, 179-187.

40 *Supra* n. 14. Also PALAIMA, *supra* n. 36.

In almost all of the sealings or unsealed nodules (a special class of documents) included in this category, the presence of two parties in relation to one another is made clear through the economic and administrative terms *o-pa*, *qe-te-o/a₂*, *do-ke* (cf. *a-pu-do-ke*) or through phrases like *o-pi* + personal name, *pa-ro* + personal name, which imply a special relationship between the commodities and these individuals ⁴¹.

At Pylos sealings of this type are not found. The one exception may be a sealing which records 350 units of a commodity, which could be animals : SUS or EQU ⁴². This sealing (Wr 1327) is the only one inscribed in Linear B from the mainland which does not have a triangular prismatic shape ⁴³. It is irregular trapezoidal prism-shaped. Its string hole is also much larger than the usual thin string holes of other inscribed sealings. The name *pe-re-i-to* is rather obscure ⁴⁴. There is no example of this class from Mycenae, while at Knossos there is a group of three unsealed nodules, the texts of which are very similar to those of some sealings and tablets ⁴⁵. As I inferred elsewhere, here a name most probably takes the place of the seal (cf. the labels Wr 1199, 1247) ⁴⁶. Their texts can be tabulated as follows :

Ws 1707	[.] <i>-ja-wo-ne do-ke ke-wo-re-u-si</i>
Ws 8493	<i>se-to-i-ja ki-ri-ta-de te LANA do-ke</i>
Ws 8499	<i>pi-mo-no na-ki-zo pa-wo 1 <?do-ke></i> ⁴⁷

Sealing Ws 8754 (now lost) bears the expression :

Ws <8754> *ku-wa-ta o-pi a-nu-wi-'ko'*

This formula is found also on a class of tablets (the *o-pi* tablets) primarily of the Knossos L- and Od series. The formula is similar to the expression *pa-ro* + personal name common in the tablets from Pylos and Knossos and now known from the sealings of Thebes ⁴⁸.

⁴¹ See separate analysis of these technical, economic terms in the following.

⁴² The ideogram is very badly preserved. I inspected this sealing in the National Museum twice in September and October 1988 thanks to the kindness of Dr. K. Demakopoulou, who has facilitated my work in the Museum's storerooms. I realized by myself the difficulties in the identification of the subject of the transaction recorded on Wr 1327. SUS^x (PTT I) seems less possible while EQU a rather good but far from certain solution. See J.-P. OLIVIER *et al.*, *Index généraux du linéaire B* (1973) 325; F. VANDENABEELE and J.-P. OLIVIER, *Les idéogrammes archéologiques du linéaire B* (1979) 61, pl. XLII, 7. Cf. more recently MELENA, *Res Mycenaee*, 278, and n. 97.

⁴³ Wr 1327, NM Inv. Nr. 8525 : this is an unusually large nodule, folded around a very thick cord or rope or even around a reed or stick. It is irregularly faceted on its back. See CMS I, 357, no. 324.

⁴⁴ Docs², 570. Cf. M. LANG, *AJA* 63 (1958) 191 (*apud* MELENA, *Res Mycenaee*, 278, n. 97). A personal name and a descriptive adjective have equal possibilities without excluding other ones for this hapax.

⁴⁵ For a recent discussion of the texts (and the formula with *a-pu-do-si*, *a-pu-do-ke*, *do-ke*) of the nodules see PALAIMA, *Tractata Mycenaee*, 259-260, 262-264.

⁴⁶ See ARAVANTINOS, *PCA*, 44; PALAIMA, *Tractata Mycenaee*, 259-260. The two nodules from Pylos (Wr 1199, 1247) which I examined recently in the National Museum magazines have stringholes and seem to be "dockets" rather than sealings. On the similarity of some tablets (e.g. the Sk from Knossos) to dockets see J.T. KILLEN, "New Readings in the Linear B Tablets from Knossos", *Kadmos* 24 (1985) 31. These are presumably tablets related to workshops and/or magazines and have similar contents and similar entries after the initial word.

⁴⁷ On Ws 8499, see J.L. MELENA, *Studies on Some Mycenaean Inscriptions from Knossos Dealing with Textiles*, *Minos* Suppl. 5 (1975) 135-136; J.T. KILLEN, *Colloquium Mycenaeeum*, 175.

⁴⁸ On the relation *pa-ro* + personal name and *o-pa* + personal name, see J.T. KILLEN in "The Knossos *o-pi* Tablets", *I Cong. Intern. di Micenologia* (1968) II 636 ff.; and in *Colloquium Mycenaeeum* (1979), 159-161; MELENA, *Res Mycenaee*, 270, 280; A. MORPURGO DAVIES, "Mycenaean and Greek Prepositions : *o-pi*, *e-pi* etc.", *Res Mycenaee*, 287 ff.; Morpurgo Davies suspects that there would be a

GROUP I

- Wu 46 CAP^f *pa-ra-wo, o-pa* *171 30
 Wu 56 CAP^m *]-pe-re-ta o-pa* *171 30
 Wu 58 SUS *o-pa qe-ri-jo-jo a-ma-ru-to*
 Wu 76 BOS^f *a-e-ri-qo o-pa* *171 30 (Pl. XXIVc)
 Wu 87 CAP^x *ra-mi-jo, o-pa* [<*171 30> ⁴⁹.

GROUP II

- Wu 51 SUS^m *te-qa-de qe-te-a₂*
 Wu 65 OVIS^f *te-qa-de qe-te-a₂*
 Wu 95 SUS^f *te-qa-de qe-te-a₂*
 Wu 47 SUS^m *pa-ro-te-qa-jo ro-we-wi-ja*

GROUP III

- Wu 49 OVIS^m *qe-te-o a-ko-ra*
 Wu 50 CAP^f *qe-te-o a-ko-ra*
 Wu 63 SUS^f *qe-te-o a-ko-ra*

Group IV

- Wu 53 BOS^m *qe-te-o i-ri-ja*

Group VI

- Wu 66 SUS^m *]-o i-je-ro*

Group VII

- Wu 59 SUS^x *171 36 *pa-ro, sa-me-we ro-we-wi-ja*
 Wu 60 SUS^m *pa-ro, sa-me-we*

Singleton

- Wu 45 *56-*pu-so ro-we-wi-ja*

Most of the seventeen sealings tabulated here belong to groups each sealed by one and the same seal. Thus there are five sealings (group I) with *o-pa* + MN, and three with *te-qa-de qe-te-a₂* (group II). Sealing Wu 47 with *pa-ro-te-qa-jo* has also been assigned to group II by seal-type. Three sealings with *qe-te-o a-ko-ra* form group III, while two with *pa-ro* + *sa-me-we* form group VII. Wu 53 (belonging by seal-type with group IV) seems strongly related to group III by text, as Wu 66 is probably of group VI, since the tentatively read *o* of the broken facet β no doubt ended the word *qe-te-o*. The text of the two sealings (Wu 59, 60) of the group VII resembles that of Wu 47 (group II) for the presence of *pa-ro* + personal name on all three and *ro-we-wi-ja* on Wu 47 and 59. This last term is also present on Wu 45, impressed with a single seal-type. On the other hand Wu 45 is the only sealing without any ideogram in the Wu series. Moreover Wu 59 (group VII) is related to most of the sealings of group I through the presence on all these texts of a second ideogram *171 in addition to the animal ideogram. The ideogram *171 is always accompanied (in Wu texts) by a numeral (30, once 36).

The general background for the operations detected in these texts is that of the routine economic activities controlled and monitored for the palace by the administrative authorities at its service. They were concentrated in it, in its vicinity or in some regional centers. But the texts tell us nothing about the transactions which have taken place and so a multilateral analysis is

difference between *pa-ro* and *o-pi* in Mycenaean (p. 292); M. NEGRI, "Ancora sul mic. 'pa-ro', Contributi di orientalistica", *Glottologia e Dialettologia* (Quad. di Acme 7), (1986) 101-111.

49 There are uncertain traces on broken and missing face γ, where we might restore <*171 30> by comparison with Wu 46. Cf. the text of Wu 46.β, on which the arrangement of MN + *o-pa* is identical.

needed to reconstruct them. A linguistic and grammatical analysis combined with a textual one will help us overcome difficulties with hapaxes and undeciphered ideograms by furnishing us with good parallels from the texts of the tablets. To begin with the place-names, we have *a-ma-ru-to* which we place with *ka-ru-to* in Euboea. These names seem to indicate here the origin of the commodities (animals here), while *te-qa-de*, *a₂-pa-a₂-de*, and the fragmentary *-de* indicate their destination. *te-qa-de* (cf. *ko-no-so-de* in KN C 5753) must be the major Mycenaean settlement or the community but a more detailed definition is at present impossible⁵⁰. On the other hand the common place-name in *a₂-pa-a₂-de* has in historical times strong religious associations. A similar connection in the Bronze Age cannot be excluded ("to the sanctuary of X")⁵¹. And since *qe-te-ol-a₂* is interpreted according to etymological and contextual evidence as "to be paid" with a generic meaning "to be delivered...given...sent", the commodities on the *qe-te-ol-a₂* sealings are offered, or paid from the palace to the various beneficiaries⁵². In another case, which is relevant to at least the three sealings with *qe-te-o* and *a-ko-ra* (group III), the ideograms are "to be offered, delivered" to *a-ko-ra*, a difficult word. *a-ko-ra*, we know from other, Pylian and Knossian, texts has a strong connection to the individuals usually called "collectors", "overseers", or "owners"⁵³. *a-ko-ra-jo* proves this relation for animals and the texts of the Knossian Co series are the closest parallels for a similar use⁵⁴. *a-ko-ra* and *i-ri-ja*—the latter a hapax graphomenon—seem to share the same position in relation to *qe-te-o*, while the limited space available to restore the word to which the final *-o* of Wu 66 belonged makes a reconstruction of *<qe-te>-o* really very attractive, but nonetheless speculative. Now *a-ko-ra* corresponds to the adjectives *a-ko-ra-jo* (and *a-ko-ra-ja* in KN Co) in the same manner, probably, as *i-je-ro* and *i-je-ra*⁵⁵ of our class B from Thebes to *i-ri-ja*, and both to *qe-te-o*. The

50 See ARAVANTINOS, *Studies Chadwick*, 33-40; cf. also *Tractata Mycenaea*, 19-20.

51 On place-names in the accusative with allative *-de*, see for example L. BAUMBACH, "Further Thoughts on the Knossos Fp Series", *Colloquium Mycenaeum*, 197-203 and more recently J.T. KILLEN, "Piety Begins at Home: Place-names on the Knossos Records of Religious Offerings", *Tractata Mycenaea*, 163-164: "The identification of the majority of the Fh tablets listed here as records of religious offerings is based on the presence on them of place-names ending in *-de*, and in some cases also of records of oil in small quantities" (p. 164).

52 For the extremely difficult terms *qe-te-ol-a* or *-a₂*, see KILLEN, *Colloquium Mycenaeum*, 169-170 (with discussion by Palmer and Lejeune). Killen is certainly right in stressing that these terms could mean throughout the records of "shortfall in an issue or payment by the palace" against *o-pe-ro* meaning "shortfall in a contribution or payment to the palace." Thus as *o-no* seems to mean "payment by the palace" *qe-te-o* could be a "payment which still remains outstanding" and consequently a deficit (by the palace). Further analysis of *qe-te-ol-jo* and *qe-te-a/a₂* is found in LEJEUNE, *Mémoires II*, 301 ff. and DUHOUX, *Aspects du vocabulaire économique mycénien* (1976) 139-147.

53 For the "collectors" question in the Linear B texts, see *Docs*², 413, 434, 437; KILLEN, *Colloquium Mycenaeum*, 176-177; more recently J. BENNET, "The Structure of the Linear B Administration at Knossos", *AJA* 89 (1985) 240; for the distinction of "collectors" and "non-collectors" in the Dn series see J.-P. OLIVIER, *SMEA* 2 (1967) 71 ff.; *Minos* 13 : 1 (1972) 22 ff.

54 On the adjectives *a-ko-ra-jo/-ja* and their relation to the so-called "collectors" or "owners", see J.T. KILLEN, "Linear B *a-ko-ra-jal-jo*", in A. MORPURGO DAVIES, W. MEID (eds.), *Studies in Greek, Italic and Indo-European Linguistics Offered to L.R. Palmer* (1976) 117-125. Cf. also J. CHADWICK, *The Mycenaean World*, (1976) 129-130; KILLEN, "The Linear B Tablets and the Mycenaean Economy", in A. MORPURGO DAVIES and Y. DUHOUX (eds.), *Linear B : A 1984 Survey* (1985) 288-289, 290-291.

55 On *i-je-rol-ra*, see generally M. LEJEUNE, "Prêtres et prêtresses dans les documents mycéniens", *Mémoires II*, 85-86; C. GALLAVOTTI, "Il valore di 'Hieros' in Omero e in miceneo", *AC* 32 (1963) 409 ff.; more recently O. SZEMERÉNYI, "Etyma Graeca IV : Homerica et Mycenaica", *SMEA* 20 (1979) 207-211; more in J. P. LOSCHER, *Untersuchungen zu iepós, hauptsächlich bei Homer* (1963) with a review in *Mnemosyne* 19 (1966) 57-59, and in the dictionaries by FRISK, CHANTRAINE and JORRO (s.v.). The form *i-je-ra* referring to a CAP^m (he-goat) creates a problem. If we prefer the solution proposed by Killen, "Linear B *a-ko-ra-jal-jo*" (*supra* n. 54) 122, n. 9, that it is a neuter plural like *a-ki-ri-ja* (wild creatures), we immediately face the difficulty of the number of animals registered by a single sealing. In fact no number

term *i-ri-ja* could perhaps be derived from the same initial stem of *ieros* or *iros* attested in the Greek dialects of the first millennium, unless the similarity is simply an external one ⁵⁶. In this case *a-ko-ra* and *i-ri-ja* could be taken both as substantives but of obscure meaning.

A group of terms like *i-je-ro* and *a-ko-ra-jo*, that is, "of the sanctuary ⁵⁷" and "of the *a-ko-ra* ⁵⁸", describe and qualify the registered commodity, the ideograms of the animals in this instance. There is *po-ro-e-ko-to* (and a final *-ta*, possibly but not certainly of <*po-ro-e-ka*>-*ta*) which seems to be a composite verbal adjective from *po-ro* (*pro*) and *e-ko-to* (ἔχω, or better ἔχομαι, προέχομαι cf. *anektos*, *proektos*) with a generic meaning "to offer ⁵⁹." There is also *e-qi-ti-wo-e*, which seems to be a perfect participle of the verb *phthino* ⁶⁰. Morphologically this solution, proposed as the only one for this hapax, seems possible and in a context with an animal "who became weak or dead" could have some sense ⁶¹.

Richer in words, in numerals, and in ideograms, and also more complicated—and for this reason more rewarding—are the sealings with *pa-ro* + MN and *o-pa* + MN. We know already the meaning and general connotation of *o-pa*. These have been established by Melena's thorough analysis of its textual contexts and applied successfully in interpreting activities in the Northeast Workshop at Pylos ⁶². The contributors of *o-pa* are here named, the terms *o-pa* and *a-pu-do-si* are close and parallel but not identical ⁶³. Both mean that commodities from outside enter and are present in the place of the recording. In tablets from the NE Workshop at Pylos the movement of the goods is expressed also by the verb *pe-re* (*pherei*) ⁶⁴, while in Thebes by

accompanies the animal ideograms on the sealings Wu, and we believe that each nodule corresponds to a single animal. The lack of attention or interest of the scribe, who thought the morphological aspect explicit from the context (the lexical aspect could be sufficient in this case) could be a reason for this inconsistency.

- 56 An extremely difficult hapax. There are variants of *hieros*, ἱερός, (form of Arcado-Cypriote, Attic, Ionic, and partly Thessalian) in the Western Greek dialects, in Boeotian and partly Thessalian (ἰαρός) and in the Lesbian (ἰρός), and a place name Ἰρή, is mentioned by Homer in Messenia (*Il.* IX, 150, 292; cf. Paus. 4, 30, 1 : "Ἀβία ἐπὶ θαλάσσης πόλις, ταύτην Ἰρην καλεῖσθαι πάλαι...φασίν". See bibliographical references in *supra* n. 55 and especially Gallavotti and Szemerényi. But although the above mentioned forms are somehow attested in Mycenaean texts (*pe-da-i-ra* in Fh 341 and *i-re-we* in An 616.7), the morphological relation of *i-ri-ja* to them must be considered only a hypothetical or speculative one. Cf. the contextual relation of *a-ko-ra* and *i-ri-ja* to *qe-te-o* (certain) and the correspondence of *a-ko-ra* to *a-ko-ra-jo*, *i-ri-ja* to *i-je-ro* (hypothetical).
- 57 Texts of the sealings Wu 44 (single), Wu 85, 86 (Group XI, Class B), and Wu 66 (Group VI, Class C) in our table. For bibliographical references see *supra* n. 55. Cf. also *Docs*², 394, 548; J. CHADWICK, "What do we know about Mycenaean religion?" in A. MORPURGO DAVIES and Y. DUHOUX (*supra* n. 33) 194 : "Secondly the word *i-je-ro* is evidence for the concept of property belonging to a deity."
- 58 Texts of the sealings Wu 52, 68 (Group IV, Class B). See KILLEN (*supra* n. 54) "Linear B *a-ko-ra-jal-jo*", 117-125.
- 59 This is a hapax but see *po-ro-e-ke*, *po-ro-e-ke-ti-ri-ja* and Thucydides, 3, 68, 1 (προεῖχοντο). It is possibly a verbal adjective like ἀνεκτός from ἀνέχομαι.
- 60 This hapax seems to belong to the small family of perfect participles. See analytically E. VILBORG, *A Tentative Grammar of Mycenaean Greek* (1960) 89, 112, 118, 137. Cf. *a-ra-ru-wo-a*, *te-tu-ko-wo-a* and the less clearly identified *ke-ke-tu-wo-e* and *e-re-dwo-e*. Cf. *Docs*², glossary *passim*; PALMER, *Interpretation*, 326, 336, 426; LEJEUNE, *Mémoires* II, 247; KILLEN, *Acta Mycenaea* II, 434; O. SZEMERÉNYI, "The Perfect Participle Active in Mycenaean and Indo-European", *SMEA* 2 (1967) 7-26.
- 61 The relation of *e-qi-ti-wo-e* to the verb φθίνω has been suggested to me by Prof. C.J. RUIJGH. He finds in this form ἐ-χ^wθι-φόηες from the stem χ^wθει- >φθει- of φθίνω. This seems to me to be the only attractive and morphologically correct possibility. Homer uses the perfect form ἔφθιται. Like all Mycenaean perfect participles in φώς, *e-qi-ti-wo-e* has a passive meaning : "affected by illness or even dead." Cf. a case of animals in bad condition or presumably ill at Mari in Fr. JOANNES, "Archives administratives de Mari 1", *Archives royales de Mari* 23 (1984) 198, text no. 223.
- 62 See MELENA (*supra* n. 23).
- 63 See *supra* nn. 35 and 36.
- 64 PY Cc 1284. See MELENA, *Res Mycenaeae*, 280 (mentioning DUHOUX, *Aspects*, 129) "The livestock ideograms on these records stand actually for their pelts..."; also SHELMEARDINE, *Tractata Mycenaea*, 335.

the verb *a-pu-do-ke* ⁶⁵. Cases with *pa-ro* + a personal name in the dative are attested in the tablets. They mean "chez" an individual : e.g. "at the craftsman's", "at the shepherd's", then "in the workshop", "in the area of responsibility of the herdsman", "in the magazine in charge of..." ⁶⁶. Then, if one looks at the palace as a point of reference this formula would mean : "not in the palace stores, but in the store of...*te-qa-jo*, *sa-me-wo* etc." There are several cases with *pa-ro* in a workshop context and also in a husbandry context at Pylos and Knossos ⁶⁷. But the most interesting one is on Pylian tablet Un 138 from the Archives Complex, where *qe-te-a₂* and *pa-ro* + MN are attested in the same line ⁶⁸. The mixed production registered here resembles the small-scale operation of which each sealing could be a witness. But real difficulties are created by the hapax *ro-we-wi-ja*, found also on two of the three sealings with *pa-ro*, the third one being fragmentary, as well as by the presence of a second ideogram (*171) on some sealings with the animal ideogram *supra sigillum* ⁶⁹. For *ro-we-wi-ja* various solutions have been examined, but neither the context nor the morphology of the word favors any one explanation decisively enough ⁷⁰. At present, to take it as an adjective describing animals, and there are thousands of them in agricultural and livestock-breeding societies, has been considered less speculative ⁷¹.

Quite important and equally difficult is the assignment of a value to *171, even a generic one. The value of *190 is also unknown. But its presence as an offering to deities and to workgroups and also in considerable quantities with figs at Mycenae classifies it among the foodstuffs distributed there as rations. At Thebes, as at Mycenae, we find it independently as a commodity on sealings, but at Thebes it has been registered by persons who were responsible also for animal sealings ⁷². Therefore an animal product could be a good possibility (cf. KN U 7063 and *134) ⁷³. But *171 has in our sealings a somewhat different aspect. It is found always on the same sealing before and with an animal ideogram. Moreover it is always followed by numerals. On the Group I set of sealings with *o-pa* made by the same seal, the number is always 30. But on another sealing impressed by a different seal-type (Wu 59, Group VII), 36 units of *171 are registered; this means that, as in the case of PY Aq 64 ⁷⁴, it is

65 TH Wu 88. See *supra* nn. 33 and 35. This verb attests to deliveries from individuals rather than to disbursements.

66 See *supra* n. 48.

67 Cf. F.W. HOUSEHOLDER, "*pa-ro* and the Mycenaean cases", *Glotta* 38 (1959) 1-10; and R.A. SANTIAGO, "Mycenaean Locatives in *e-u*", *Minos* 14 (1975), 120; MELENA, *Res Mycenaee*, 280; A. MORPURGO DAVIES, *Res Mycenaee*, 292, n. 21.

68 See text in *PTT I* (1973) 242.

69 Sealings with *ro-we-wi-ja* : Wu 47 of Group II, Class C; Wu 59, Group VII, Class C; Wu 45, single, without an ideogram, Class B. Sealings with *171 : Wu 46, 56, 76, and possibly 87 of Group I, Class C, and Wu 59 of Group VII, Class C. See tables in this article.

70 See ARAVANTINOS, *Tractata Mycenaee*, 25-26 and especially n. 66; *Studies Chadwick*, 39. It is moreover possible to take *ro-we-wi-ja* as a noun, that is, as a place name 'Ρογήφια, cf. Κορινθία, "the region of Korinthos", and there are various place names in the series Wu. Cf. ARAVANTINOS, *PCA*, 48.

71 *ro-we-wi-ja* could be 'Ρογήφια, "coming from or belonging to the place called **ro-we-u*." For place names with the suffix -εύς, see C.J. RUIJGH, *Études du grec mycénien* (1967) 193; cf. Mycenaean *a-pa-re-u-pi* (*a-pa-re-u*) and *a-ke-re-u-te* (*a-ke-re-u*). *ro-we-u* itself could be a derivative of ῥόφος, "stream, small river" attested with this meaning in Cypriot in the famous Idalion inscription. Plutarch and Pausanias also mention a place name 'Ροῦς in the Megarid. For *ro-we-wi-ja* /*-jo forms, cf. *i-je-ro* /-ja, *a-ko-ra-jo* /-ja and *a-ki-ri-ja* in nn. 54, 55. Prof. C.J. RUIJGH with his typical kindness and superb knowledge of linguistic matters offered promptly to me his help in this and other cases.

72 This ideogram is present on sealings of Group II, Seal type II (pigs, sheep and a goat), of Group VIII (goats and a sheep) and of Group X (a sheep). See the table in this article.

73 See *supra* n. 23.

74 See the recent discussion by J.L. MELENA, "On the Linear B Ideogrammatic Syllabogram ZE", *Studies Chadwick*, 389-391.

impossible to establish a fixed ratio between the numerals which follow *171 and the animal ideograms registered with it on some of the sealings of the series Wu from Thebes. Moreover *171 is attested at Thebes in relation to animals of different kinds and sex (CAP^{m-f}, BOS^f, SUS^x identified certainly as *capra hircus*, *bos taurus* and *sus* or *scrofa domesticus*)⁷⁵.

In our efforts to isolate and understand the meaning of *171 many difficulties and problems arise. A first solution is that it represents a kind of *cyperus* (galingale)⁷⁶. This solution gains support from the occurrence of both animals and CYP+PA or CYP+O on the same tablets or in the same contexts (e.g. rations contexts) in the tablets. We thus have *cyperus* (*ku-pa-ro*) and *171 at Knossos (Ga 464, 519); ZE (animals?) and *171 at Pylos (Aq 64); animals and *cyperus* (CYP+PA or CYP+O) at Pylos (Fa 16, Un 2, Un 47) and Thebes (Wu 71, a foodstuff context?). Similarly *190 and its possible variation are related to animals at Thebes, where the same person records animals and *190, and at Knossos (here *134 and domestic animals in U 7063). *190 is associated with figs, in considerable quantities, at Mycenae (Ue 661). Moreover CYP+O is found with foodstuffs in texts from Pylos (Ua 434), from Knossos (Uc 160, CYP) and from Mycenae (Fu 711).

The combinations examined are explicable in foodstuff contexts but what really is surprising here is the occurrence of two commodities (*171 and an animal ideogram) on a single sealing. In fact this is theoretically possible if the commodities were packed or transported together, as probably in the case of Wt 506 or Ws 8497, or if some sealings were not necessarily attached to the commodities but simply accompanied them. It is also possible that some nodules were transported by individuals (e.g. those without string holes) or were even moulded in the places of delivery⁷⁷.

On the other hand one could take *171 together with the animal ideogram as an animal product, like NI for trees and figs (fruit) on KN F(2) 841⁷⁸ or better, like OVIS^{m-f} with LANA in the KN Dp series. The single animal ideograms on most of the sealings could stand for animals, while the cases with *171 + animal perhaps could be interpreted as special products or items taken from the live or slaughtered pigs, oxen or goats⁷⁹. This solution, which appears now less possible, would demand only one commodity (animal + *171 30 or 36 units) for each of these sealings⁸⁰.

75 Cf. L. GODART, "Valeur des idéogrammes OVIS^m, OVIS^f, CAP^m, CAP^f, SUS^m, SUS^f, BOS^m, et BOS^f dans les tablettes de Cnossos et de Pylos", *KretChron* 3 (1971) 89-94. Generally, *Bastam II* (*supra* n. 13) 226, 245; L. MORGAN, *The Miniature Wall Paintings of Thera* (1988) 56f. (ox, sheep and goats).

76 On *171, a very rare ideogram in the texts of Knossos and Pylos but not in the documents recently discovered in Thebes, see J.L. MELENA "ku-pa-ro en las tablillas de Cnosso", *Emerita* 42 (1974) 332-334, and more recently FOSTER (*supra* n. 33), 36 and *passim*. See also ARAVANTINOS, *Tractata Mycenaea*, 26, n. 67.

77 These possibilities cannot be excluded, despite what has been stated above (nn. 4, 12, 17, 21) in view of our limited knowledge of sealing and administration methods in antiquity. We mention here the "sealing" of a sacrificial bull in Egypt in historical time described by Herodotus (II, 38): "If it (the bull) be pure in all these respects, the priest marks it by wrapping papyrus round the horns, then smears it with sealing-earth and stamps it with his ring; and after this they lead the bull away". The sealings from Thebes were found in a building together with some ivory styluses (*BCH* 107 [1983] 781; cf. L. GODART and K. KILIAN, *AA* [1988] 248-251). An interpretation of the building as a "last recording station" or a kind of "customs" located close to the fortification wall and most probably to one of the gates of the citadel could be sufficiently justified.

78 For the value of NI as figs or fig trees see KILLEN, *Tractata Mycenaea*, 174-177.

79 Cf. ARAVANTINOS, *PCA*, 48; *Tractata Mycenaea*, 26 and n. 67; MELENA, *Studies Chadwick*, 390-391 and n. 4.

80 See *supra* n. 69 and table.

The animals represented on the sealings by their ideograms were most possibly destined for consumption by the palace staff, the workgroups and perhaps in religious ceremonies⁸¹. It is difficult to stress *a priori* if they are here registered alive or slaughtered. In Mari animals taken to the palace for the same reasons are driven there alive, in the other cases they are already slain and we find their products⁸². Various tablets at Pylos, some of them from the NE Workshop (Cc 1258, 1283, 1284, 1285; Cn 1286, 1287) and others from the Archives Complex (Cn 3, Un 2, 6, 47, 612, 718, etc.) and also texts in the Knossos C series seem to register animals for butchery rather than for flock enrichment. Individual tablets containing references to animals for meat or sacrifice are characterized usually by small numbers of animals, but where totals are preserved they may present quite high numbers. Animals are also found in tablets with mixed foodstuffs (e.g., Un 138) sharing the same destination⁸³. Meat has always been an important part of diet, and its production and consumption was perhaps very high in the Aegean in times of extensive stock-breeding⁸⁴. Thus in regard to the texts of some of the tablets and sealings from the workshop and sanctuary areas of the Palace of Pylos, and in regard to the question raised by some scholars about what the animals were doing there⁸⁵, one could answer—without changing the ideograms of domestic animals to skins⁸⁶—that they were delivered to this place in order to be consumed after they were sacrificed in the small shrine (Room 93) existing in this area⁸⁷.

In the tablets cited above and in the sealings from Pylos and Thebes with animal ideograms, there is no evidence for the presence of skins, as in, for example, Ub 1318 or in

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- 81 Although few ordinary persons could afford meat as a regular part of their diet, there were various occasions in which an animal would be slaughtered and its meat would be eaten. Cf. H.A. HOFFNER, *Alimenta Hethaeorum, Food Production in Hittite Asia Minor* (1974) 120. Meat is found in rations in contemporary Egypt, see V. ARAVANTINOS, "L'apicoltura nel mondo minoico-miceneo", *Minos* 19 (1985) 17 and n. 20; for the Aegean see K.F. VICKERY, *Food in Early Greece* (1936) 61 ff. (rather out of date); L. MORGAN (*supra* n. 75) 56 ff. and relative notes. In general cf. D. and P. BROTHWELL, *Food in Antiquity* (1969) 26 ff. For meat consumption in banquets related to sacrifices, see M. DETIENNE, J.-P. VERNANT, *La cuisine du sacrifice en pays grec* (1979). On these questions and other important aspects of sacrifice in the Mediterranean and the Near Eastern countries, see C. GROTTANELLI and N.F. PARISE (eds.), *Sacrificio e Società nel mondo antico* (1988) with various interesting contributions and rich bibliographical references.
- 82 See B. LAFONT, "Archives administratives de Mari 1", *Archives royales de Mari* 23 (1984) 234, 240, n. 1.
- 83 See the texts cited above and others in the series with animals and ideograms of miscellaneous commodities (e.g., C and U series at Knossos and Pylos). We assume that each sealing recorded one animal unless an accompanying number is explicitly inscribed on a sealing (e.g., the fragmentary Wr 1327 with uncertain SUS or EQUUS accompanied by the numeral 350).
- 84 See bibliography cited *supra* n. 81, especially L. MILANO, "Codici alimentari, carne e commensalità nella Siria-Palestina di età preclassica" in *Sacrificio e Società nel Mondo Antico*, with references to the Greek and Near Eastern situation. Cf. also J.T. KILLEN, "The Wool Industry of Crete in the Late Bronze Age", *BSA* 59 (1964) 1-15; MELENA, *Studies Chadwick*, 389 ff. with recent bibliography on livestock breeding in the Aegean and the Near East. There are also many references to meat eating in Homer.
- 85 See *supra* nn. 64 and 86, and especially I. TEGYEY, "The Northeast Workshop at Pylos", *PCA*, 71 and n. 22. Tegye's interpretation of Cc and Cn 1286, 1287 (and the Wr) animals, as "destined for the manufacturing" of skins for the needs of the workshop, does not contradict mine. A slaughtered animal produces meat, skin, tallow, tendons, etc.
- 86 See *supra* n. 64 and ARAVANTINOS, *PCA*, 47-48; *Tractata Mycenaea*, 13 ff., *passim*; J.L. MELENA, "On Untransliterated Syllabograms *56 and *22", *Tractata Mycenaea*, 215.
- 87 See C.W. BLEGEN and M. RAWSON, *The Palace of Nestor at Pylos in Western Messenia I* (1966) 303-305. Cf. also the tablets An 1281, 1282 registering personnel for the service of certain divinities and/or of the workshop. For a detailed analysis of the NE Workshop's sanctuaries see TEGYEY, *PCA*, 66, 70-71 and 77-79. For sanctuaries in the area of the Mycenaean palaces, see recently B. RUTKOWSKI, *The Cult Places of the Aegean* (1986) 19, 193 (Pylos) and 169 ff. (generally).

tablets and sealings with *WI*, *152 and the terms related to skins, hides and tannery⁸⁸. On the other hand live or slaughtered animals could more naturally be accompanied by sealings indicating their sex and quality as well as the reasons for their delivery in this area. The tablet PY Cn 1287 offers a good example of animals delivered each one by a different individual as it was found in the NE Workshop⁸⁹. The text of each line could be identical to an inscription on a sealing, for example on TH Wu 70 :

Cn 1287	.1	<i>a-*64-jo, a-ke-ro</i>	CAP ^f 1
	.2	<i>te-re-do ka-na-pe-u</i>	CAP ^f 1
	.3	<i>na-ma-ru-ko</i>	CAP ^f 1
	.4	<i>qe-ta-ko ke-ra-me-u</i>	CAP ^f 1
	.5	<i>da-u-da-ro, pe-re-ke-u</i>	CAP ^f 1
	.6	<i>mu-ti-ri-ko, di-u-ja, do-e-ro</i>	CAP ^f 1
	.7	<i>a₂-ra-ka-wo ke-re-ta-o do-e-ro</i>	CAP ^f 1
	.8	<i>a-sa-ma-o</i>	CAP ^f 1
	.9	<i>mo-ri-wo</i>	CAP ^f 2
	.10	<i>ma-ni-ko</i>	CAP ^f 1
	.11-12	<i>vacant</i>	
Wu 70		<i>a-e-ri-qo</i>	OVIS ^m

Transactions with live or slaughtered animals, meat, tallow, and skins are very common in the ancient Near East. Butchery and sacrifice in various circumstances are often the subjects of a substantial number of texts in the palatial archives.

In the Mari archives a homogeneous group of 137 small tablets presents individual features. They are sealed and seem to have accompanied animals, probably hanging from their necks on their way from the flocks to the palace, destined for the table of the king and for rituals and sacrifices in a place where the political and religious *credo* were in fact "indissociable"⁹⁰. Their details seem quite interesting for the study of husbandry in the Aegean. But there is a far more intriguing enigma from Bastam in Urartian Iran of the 7th century, and similar cases in Toprakkale and Karmir Blur. In Bastam, hundreds of thousands of bones were recently discovered with more than a thousand tags or bullae among them⁹¹. "The bones come from an extraordinary diversity of wild and domestic animals. Skull and jaw fragments as well as parts of the lower legs were extremely rare. The bullae, small lumps of clay...had been formed over knots or cords that were once clearly attached to something.... The King was involved in sealing the bullae". The only tablet (78-1287) found has this inscription disappointingly uninformative⁹² :

88 See *supra* n. 86. On skins and hides in the Mycenaean texts, see A. SACCONI, "Gli ideogrammi per la pelle e per il cuoio nei testi micenei", *SMEA* 3 (1967) 99 ff.; MELENA, *Res Mycenaee*, 279-280; *Ex Oriente lux* (1984) 38-40.

89 From Room 99, see BLEGEN and RAWSON (*supra* n. 87), 320-321; TEGYEY, *PCA*, 68, 71; SHELMEERDINE, *Tractata Mycenaee*, 334, 335.

90 See B. LAFONT (*supra* n. 82) 231-232, 246.

91 Cf. *Bastam II* (*supra* n. 13) the articles by St. KROLL, 106; P. ZIMANSKY, 107, 122-124; and, for the texts, M. SALVINI, 127-129. The text I cite is from Zimansky's preliminary report in *Archaeology* 32 :6 (1979) 53-55.

92 SALVINI, in *Bastam II*, 129, fig. 1 : "Dieses kleine Bruchstück enthält also eine Liste von Personen, jede in Verbindung mit einem Schaf. Mehr kann man nicht sagen; ich glaube durchaus nicht, dass man entscheiden kann, ob hier eine Verteilung von Schafen an dieser Personen vorliegt, oder ob es sich im Gegenteil um Abgaben von privaten Leuten an die Palastverwaltung handelt."

- | | |
|-----------------------------------|--------------------|
| 1. UDU 1 -hi ^I A-ru-[| One sheep Mr Aru- |
| 2. UDU 1 -hi ^I Me-nu-[| One sheep Mr Menu- |
| 3. UDU 1 -hi ^I U [- | One sheep Mr Ul- |
| 4. UDU 1 -hi i[etc. | One sheep...etc. |

The question is similar to the one asked for the sealings at Pylos and Thebes. What did the bullae seal? The commodities once present here had vanished. Were these tied to bone containers, to perishable documents (skins or writing boards)? If these bullae sealed actual documents, notes written on bullae would give an idea of what they contained without any need to break the sealing. Another possibility is that they were attached to carcasses of animals and served as a kind of property marker or inspection sticker. To the question whether this is a magazine of bones or meat, and to the apparent difficulties which arise from either option, one can propose no clear answer. But it is perhaps a place where slaughtered animals with the seal of the king arrived and were then processed and distributed ⁹³. Bullae and bones were then discarded while meat was packed and sent elsewhere. Zimansky does not favor this solution and returns to the explanation of a peculiar kind of trash with religious and even magical associations ⁹⁴. The bones were—according to this explanation—leftovers from the table of the king which were carefully sealed and set here in order to avoid a curse put on the bones and on the king. I believe, as Zimansky rightly admits, that the assumption of ritual significance for archaeological evidence as yet not understood is pure speculation.

Almost the same questions could arise when one examines the archaeological and epigraphical evidence for the function of the sealings at Thebes and naturally in the smaller group of animal sealings from Pylos. Independently since the time of the discovery of the sealings in 1982, I have considered many plausible alternatives without finding any single solution which could *a fortiori* exclude the others :

(1) The sealings of Thebes could accompany rolls of skin, papyrus or other perishable documents. One could cite the obvious *argumentum ex silentio* and some other objections to this hypothesis, such as the lack of remains and even the findspot itself which is not an archive like the *nomophylakeia* of the Hellenistic period ⁹⁵.

(2) They were attached to animal skins and hides. We are certain that in Mycenaean times these materials were denoted by the ideograms *WI*, *152 etc. and never by animal ideograms. Likewise, there are no words on these sealings pertinent to skins and tannery ⁹⁶.

(3) The sealings were attached to the carcasses of dead animals or parts of them to prove a loss. This solution seems less likely, especially at Thebes where two rather certain foodstuffs occur in the same context (*190, CYP+O and ?*171). Nevertheless, parallels are well attested in contemporary archives in Mesopotamia ⁹⁷.

93 For these hypotheses see *supra* n. 91.

94 See ZIMANSKY, *supra* n. 91.

95 Sealings from papyrus documents are rather rarely preserved. After the sealed document was opened, the unbaked sealing would be thrown away and rapidly decay. Occasionally, where an active archive of papyrus rolls has been destroyed by fire the sealings are remarkably well preserved. See the case of Jerusalem's debris of Nebuchadnezzar's sack, in B. BUCHANAN and P.R.S. MOOREY, *Catalogue of Ancient Near Eastern Seals in the Ashmolean Museum, III : The Iron Age Stamp Seals* (1988) 19. Other cases in Selinous, Cyrene, Delos, Kallion and Seleucid Babylonia are referred to (with bibliography) and discussed in P. PANTOS, *Τὰ Σφραγίσματα τῆς Αἰτωλικῆς Καλλιπόλεως* (1985) 5, 16 and *passim*. For gathering sealings together and placing them in a jar at Tell el Duweir (Lachish) in the seventh-sixth century B.C., see BUCHANAN and MOOREY, *Catalogue*, 19.

96 See *supra* nn. 64 and 86.

97 M.A. MORRISON, "Evidence for Herdsmen and Animal Husbandry in the Nuzi Documents", in M.A. MORRISON and D.I. OWEN (eds.), *Nuzi and the Hurrians, Studies Presented to E.R. Lacheman* (1981) 271 (skins of dead animals to prove losses). M. SIGRIST kindly informed me by letter (1 August 1988)

(4) The sealings of Thebes accompanied animal products and other commodities (*171, CYP+O) destined for the palace, the personnel of the workshops, etc. CYP+O and *190 seem to have been used in rations on various tablets, and *190 is usually considered an animal product. Meat, already processed, preserved and packed (?) could be the product represented by the various ideograms (of domestic animals). Although there are lots of Near Eastern references to meat preserved in various ways, there is no evidence at Thebes for a similar hypothesis ⁹⁸.

(5) The possibility of slaughtered animals, one for each sealing, is difficult to dismiss. From the archives of Mari, we know that animals were taken to the palace alive or already slaughtered when destined for the king's table or for his personnel ⁹⁹.

(6) The sealings with animal ideograms were attached—or transported by the person in charge of the transaction—to live animals (from their necks?) ¹⁰⁰.

This last hypothesis seems to me the most probable, since it accords well with the foodstuff context at Thebes, and also with the "industrial" context at Pylos and consequently could also imply sacrifices with related ceremonial banqueting at both these sites ¹⁰¹.

Vassilis ARAVANTINOS

that shepherds through the Old Babylonian period used to put tags with inscriptions on the necks of their dead cattle.

98 See ST. KROLL (*supra* n. 13) in *Bastam II*, 106, (with bibliography); B. LAFONT (*supra* n. 82) *passim*, and especially 231 ff.

99 B. LAFONT (*supra* n. 82) 234, 240, n. 1.

100 See *supra* n. 77 (Herodotus); also M. ROSTOVITZEFF in *Yale Classical Studies* 3 (1932) 9, 10, 11; B. LAFONT (*supra* n. 82) 232.

101 For this aspect of the sacrifice in the ancient world, see the recently published volume *Sacrificio e Società nel mondo antico* (*supra* n. 81).

LIST OF ILLUSTRATIONS

- Pl. XXIIIa : Old topographical map of Thebes (by Keramopoulos).
- Pl. XXIIIb : Representation on the main face (α) of an uninscribed sealing found in Christodoulou Plot, Exc. 1983-1984.
- Pl. XXIIIc : Sealing (no. 342) from the Old Kadmeion, representing two antithetic bulls flanking a tree.
- Pl. XXIVa : Detail of the verso of sealing no. 342 with string holes and some traces of material.
- Pl. XXIVb : Sealing Wu 70 with the ideogram (on face α) OVIS^m (sigillum covered).
- Pl. XXIVc : Sealing Wu 76 with the ideogram BOS^f (sigillum covered).

The Thebes Sealings: Tabular Summary

Excav. No.	TH Mus No.	Class	No.	Sigillum	A	B	C	Group
1	9904	Wu	44	1	CAPm	i-je-ra	vacat	
2	9905	Wu	45	2	sigillum	*56-pu-so	ro-we-wi-ja	
3	9906	Wu	46	3	CAPf	pa-ra-wo, o-pa	*171 30	I
4	9907	Wu	47	4	SUSm	pa-ro-te-qa-jo	ro-we-wi-ja	II
5	9908	Wu	48	4	*190 bis ?	vacat	vacat	II
6	9909	Wu	49	6	OVISM	qe-te-o	a-ko-ra	III
7	9910	Wu	50	6	CAPf	qe-te-o	a-ko-ra	III
8	9911	Wu	51	4	SUSf	te-qa-de	qe-te-a2	II
9	9912	Wu	52	9	SUS+SI	a-ko-ra-jo	vacat	IV
10	9913	Wu	53	9	BOSm	i-ri-ja	(qe-te-o)	IV
11	9914	Wu	54	11	CAPm	vacat	vacat	V
12	9915	Wu	55	12	SUSm	ka-ru-to	vacat	VI
13	9916	Wu	56	3	CAPm	[.]pe-re-ta / o-pa	*171 30	I
14	9917	Wu	57	14	OVISM	vacat	deest	
15	9918	Wu	58	3	SUS	o-pa / qe-ri-jo-jo	a-ma-ru-to	I
16	9919	Wu	59	16	SUSx *171 36	pa-ro, sa-me-	-we / ro-we-wi-ja	VII
17	9920	Wu	60	16	SUSm	pa-ro, sa-me-we	vacat	VII
18	9921	Wu	61	18	OVISf	deest	vacat	
20	9923	Wu	62	11	CAPm	vacat	vacat	V
21	9924	Wu	63	6	SUSf	qe-te-o	a-ko-ra	III
22	9925	Wu	64	22	WE	o-pa	vacat	
23	9926	Wu	65	4	OVISf	te-qa-de	qe-te-a2	II
25	9928	Wu	66	12	SUSm	]o	i-je-ro	VI
27	9930	Wu	67	27	OVISM	po-ro-e-ko-	-to	VIII
28	9931	Wu	68	9	SUS+SI	a-ko-ra-jo	vacat	IV
29	9932	Wu	69	29	CAPf	vacat	vacat	
30	9933	Wu	70	9	OVISM	a-e-ri-qi	(a-e-ri-qi)	IV
31	9934	Wu	71	31	sigillum	CYP+O	vacat	XIII
32	9935	Wu	72	9	OVISM	vacat	vacat	IV
33	9936	Wu	73	33	OVISM	vacat	vacat	
34	9937	Wu	74	27	-we CAPf	]ru[. .]-we	deest	VIII
35	9938	Wu	75	11	SUSm	e-qi-ti-	-wo-e	V
36	9939	Wu	76	3	BOSf	a-e-ri-qi / vacat	o-pa *171 30	I
37	9940	Wu	77	27	] jm	deest	-ta	VIII
38	9941	Wu	78	38	OVISM	vacat	vacat	
39	9942	Wu	79	39	OVISM	vacat	vacat	IX
40	9943	Wu	80	40	*190	vacat	vacat	X
42	9945	Wu	81	42	OVISM	vacat	deest	
43 [+]	9946 [+]	Wu	82	39	OVISM	vacat	deest	IX
45	9948	Wu	83	39	OVISM	vacat	vacat	IX
46	9949	Wu	84	39	OVISM	vacat	vacat	IX
47	9950	Wu	85	47	OVISM	i-je-ro	vacat	XI
48	9951	Wu	86	47	CAPm	i-je-ro	vacat	XI
49	9952	Wu	87	3	CAPx	ra-mi-jo, o-pa	deest <*171 30> cf. Wu 46	I
50	9953	Wu	88	4	*190	a-pu-do-ke	vacat	II
52	9955	Wu	89	52	CAPf	]de	vacat	
53	9956	Wu	90	39	OVISM	vacat	vacat	IX
54	9957	Wu	91	27	CAPm	po-ro-e-ko-	-to	VIII
55	9958	Wu	92	40	OVISM	vacat	vacat	X
56	9959	Wu	93	4	CAPf	a2-pa-a2-de	vacat	II
57	9960	Wu	94	40	*190]	vacat	vacat	X
58	9961	Wu	95	4	SUSm	te-qa-de	qe-te-a2	II
59	9962	Wu	96	59	CAPf	vacat	vacat	
60	9963	Wu	97	27	*190	deest	vacat	VIII
61	9964	Wu	98	61	CAPf	a-dwe-e	deest	
19	9922	agraphon		19	-	-	-	
24	9927	agraphon		24	-	-	-	XII
26	9929	agraphon		26	-	-	-	
41	9944	agraphon		31	-	-	-	XIII
51	9954	agraphon		24	-	-	-	XII

Response by Ruth PALMER

Aravantinos has presented here an illuminating analysis of the Thebes sealings as economic texts. In previous works, he has discussed the sealings in terms of scribal hand, seal type, fabric and selected vocabulary; now his analysis of the formulae on all the nodules allows us to see more clearly how the sealing system at Thebes may have interacted with the main record-keeping system. The Thebes sealings confirm that the sporadic occurrence of economic terms on the sealings from Knossos and Pylos are not simply departures from the normal use of sealings. Aravantinos has demonstrated how the formulae, method of impression and shape of the Thebes sealings have parallels among the Pylos and Knossos inscribed sealings. However, he has not discussed (in the short time available) the differences in character between the Theban cache of sealings as a whole, and those groups of sealings found at Pylos and Knossos. I would like to mention a few points of difference which may have a bearing upon the use of sealings in administration at Thebes, as opposed to the other palace centers. First, the 55 complete or restorable nodules found in the Thebes Liagas deposit were all inscribed. These sealings are remarkably uniform in shape and size. The number of nodules impressed by each seal type is high; 50% of the seal types represented have impressed from two to seven nodules, making up 77% of the total cache. Only 14 nodules, or 23%, are singletons.

In contrast, at the Palace of Nestor, 23, or 12%, of the 189 nodules found and recorded are inscribed. The Wine Magazine contained two caches of sealings, totalling 49 whole nodules or identifiable fragments; of these, only four are inscribed (8% of the group), and only two of these bear inscriptions in addition to the ideogram. The Wine Magazine sealings are not all neatly made; only eight of them, or 16% (including the four inscribed examples), are carefully and uniformly shaped like the Thebes nodules. Of the 49 impressed nodules, 33, or 67%, are singletons.

Secondly, the length, subject matter and formulae on the Thebes sealings correspond almost exactly to seal type and scribal hand—i.e. the sealings within a group tend to have similar texts. In all the Pylos sealings, even in the Northeast Workshop where one seal type impressed as many as 10 nodules (exceptional for Mycenaean sealing practice), at most two or three sealings in a set will be inscribed, while the rest are uninscribed. The information on the inscribed nodules concerning type of goods, type of transaction or place of origin would apply also to the uninscribed nodules stamped with the same seal. By itself, an uninscribed impressed nodule conveys only the information that the holder of the seal has completed a transaction. The context in which a sealing was produced, the details of the transaction concerning the nature and quantities of the goods, and point of origin and destination would be recorded elsewhere, perhaps on tablets. I have postulated that the high number of singleton sealings found in the Wine Magazine, often clumsily made, reflects a large number of sealholders in the immediate area who are not trained scribes. Perhaps they are landholders or local officials (the two groups may be the same) who supply basic commodities to the palace.

In contrast, the small, neatly made Thebes sealings with their very high proportion of inscribed multiple impressions are the product of professionals, perhaps stationed in secondary centers to monitor goods to be sent throughout Theban territory. The inscriptions center upon

what type of transaction has taken place, such as *qe-te-o* or *o-pa*. Some of the more complicated inscriptions could almost serve as the main record of the transaction, if not for the failure to record the quantity of items sent on all but the sealings listing *171, in Groups I and VII. Are these complex inscriptions on nodules integral to the Thebes recording system, or are they an example of scribal overefficiency and redundant recording of information? Aravantinos shows that only one-third of the Thebes sealings present complex information, and that the same formula recurs within each group. It is not as if the scribes in most cases had to distinguish between more than one type of transaction dealing with animals in each group of sealings.

Aravantinos has painstakingly presented the range of possible interpretations for the character and use of the items represented by these sealings, and in particular for the identity of the non-animal ideograms. I would like to comment further upon the strengths and weaknesses of *one* interpretation, the identification of *171 with cyperus used as animal feed. Most of the sealings bear animal ideograms, but two or three ideograms which do not directly represent livestock also appear. CYP+O and *190 are definitely some kind of food. CYP+O appears on lists of foodstuffs meant for human consumption—PY Ua 434 and Un 47, and MY Ue 652, and is possibly listed as horse fodder on PY Fa 16. The exact nature of *190 is unknown, but Aravantinos shows that it appears with figs, a common staple. P. Ilievski (ZA 15 [1966] 271-280) identifies *190 with *134 and interprets both as tallow, solidified beef and mutton fat with many uses.

*171 presents more problems, particularly because it appears on the sealings in conjunction with animal ideograms. Two commodity ideograms occur together in only a few situations. The KN Dp tablets present the clearest case, where in the juxtaposition of OVIS^{f/m} with LANA, the first ideogram defines the second. Similarly, in the Knossos sealing WS 8497, AES *256 most likely represents an object (identity unknown) made of bronze, since *256 in other contexts clearly represents an item and not a unit of measure. Two Mycenae sealings, Wt 501 and 506, present a different parallel. Their inscriptions show that each sealing represented not one but two commodities closely related in type: for Wt 501, buckets and funnels, and for Wt 506, clamps and bolts (cf. *Docs*² Glossary for the vocabulary of Wt 501 and 506). Therefore the combination ANIMAL *171 could represent either one commodity or two per sealing.

PY Aq 64 provides the closest parallel to the Thebes sealings in connection with both the occurrence of *171 and the combination of two item ideograms. However, the context of Aq 64 does not clearly indicate whether the tablet lists *171 *and* ZE or *171 *or* ZE. Melena persuasively links ZE *171 in Aq 64 with *ku-pa-ro* and *171 in KN Ga 464 and 519, identifying *171 with the parts of the cyperus plants used for rope-making and fodder, and ZE with a pair of animals, either horses or oxen, or with a propertied class able to maintain a pair of horses or oxen (MELENA, *Emerita* 42 [1974] 307-336, and *Minos* 20-22 [1987] 390-391). The same elements that form the basis of Melena's thesis appear in the Thebes sealings: animals, CYP+O, and *171. Even if we accept *171 as animal fodder from the cyperus plant, difficulties of interpretation remain—is *171 defined by the animal ideogram, or listed in addition to the animal ideogram on these sealings? If the former, then the sealings represent a set amount of food for a particular type of animal, number not given; if the latter, then fodder and an unknown number of animals are sent together. In both scenarios, the juxtaposition of an unspecified number of animals of different types with a set amount of feed causes problems. The amount consumed by a cow is much greater than the amount needed by a goat. If *171 represents fodder brought to feed animals en route to Thebes, then the number of animals to be driven must be based upon the number of cows, goats, etc. that 30 units of *171 can feed on a journey of X days. We would expect that the number and type of animals would determine the amount of fodder rather than the other way around. Alternately, if *171 is feed shipped to

animals already in another location, why specify that this shipment is for female goats, that one for male goats, a third for cows ?

What do the livestock ideograms represent ? The sealings provide no clue to the intended use of these animals. Furthermore, we do not know if all the animal ideograms in the cache consistently represent live animals; it is quite possible that one scribe might use a BOS or CAP ideogram to identify hides or carcasses of cattle or goats, while another would use the ideograms only to denote live animals. Both Pylos and Knossos provide tablets bearing words and ideograms specifically indicating hides and leather, cf. the PY Ub tablets and Un 718, and the KN Sd tablets. But this use does not preclude other ways of listing animal products; Melena has shown one clear manufacturing context where the ideograms *150 and CAP^f which in other contexts indicate live animals here represent hides (MELENA, *Minos* 13 [1972] 29-54). In this vein, Aravantinos suggests (among other possibilities) that the animals represented by these ideograms may have arrived as carcasses or joints of meat. The contexts in which animals appear in the PY Un mixed commodity tablets are also vague, so that it cannot be said definitely that animals sent off to the sanctuaries are alive. A live animal however need not be consumed immediately, and can serve many different purposes—meat for food, or for honoring the gods (which is very likely the same thing), hides for leather, tendons for binding, bones for glue. The location of the Thebes sealings, in a storeroom near the city wall, would be close to the logical place for a slaughterhouse—away from the palace proper. In general, I would like to see more information on techniques available in this period for processing and preserving meat, how much meat did appear in the diet (this would vary greatly according to status) and whether preserved meats provided a large or small percentage of total meat consumption.

Discussion

Shelmerdine :

I am very doubtful about the interpretation of these sealings as records of meat which is being shipped because people want to eat it. Do people really want to know whether they are eating a male lamb or a female ? Genders are distinguished by the animal ideograms. I can see the significance of gender in cases of sacrificial animals that would eventually be consumed after being sacrificed to the gods, but not if the animals were merely viewed as foodstuffs.

Palaima :

Since few of us are Linear B literate, it might be valuable here to give a brief summary of the kinds of vocabulary present on these sealings translated into English. We have the reference to things that are "holy" *i-je-ra*. We have technical economic vocabulary like *o-pa* which specifies a kind of contractual obligation and the operational term *qe-te-o*. *qe-te-o* generally implies an obligation on the palace center to "pay" something out to somebody else. In two cases, ewes and male pigs "are to be paid" *te-qa-de* "to Thebes". Since such "payments" are generally interpreted from the point of view of the palace, is Thebes here some entity independent of the palace proper ? Or has the text of the sealing been written out somewhere in southern Euboea ?

I personally agree with Shelmerdine. I would prefer to interpret these ideograms as live animals. For example, in Pylos tablet Cn 608 according to the most reasonable interpretation, pigs are being fattened at provincial centers to be sent eventually to the Palace of Nestor or some sanctuary in its proximity. The full tablet Cn 608 documents the interest of the palatial administration in this arrangement. These animals would eventually have been shipped live, like many of the sacrificial oxen, to the palace, and the shipment would have involved sealings of

the sort found at Thebes. The references on the Thebes sealings to Amarynthos and Karystos in Euboea, where we know in the classical period the Athenians shipped their cattle in times of war, also support this interpretation.

It is also difficult for me to accept *171 as a qualifier of the animal ideograms. In Knossos tablet Ga(1) 519 this ideogram seems to be identified as *ku-pa-ro* "cyperus". On the Thebes sealing Wu 59, *171 is not simply juxtaposed to the ideogram SUS, but it is followed by the number "36". Since the number of livestock are not designated on any of the Thebes sealings, the numbers "36" here and "30" following *171 on face .γ of Wu 56 and Wu 76 must refer to a separate item, i.e., *171, and not to the livestock.

Magness-Gardiner :

To return to the lowest level of sealing procedures here, I take it that the sealed side of each of these nodules always has the ideogram of an animal inscribed on it.

Aravantinos :

Except in four cases where we have the unidentified foodstuff *190.

Magness-Gardiner :

This would then be the lowest common denominator of transmitted information.

Weingarten :

I would say that the lowest common denominator is the seal impression.

Magness-Gardiner :

But there are limited numbers of those.

Aravantinos :

At Thebes I have identified 13 different seal impressions.

Magness-Gardiner :

I think that it may be dangerous to suppose that each palace had the same system. There may have been several systems. Each palace could have had its own peculiar system for different reasons, while still using a common vocabulary. It seems to me that these sealings would each represent a single unit of whatever ideogram is inscribed—a cow, a sheep, whatever. Are the seals stamped over the ideograms, or are the ideograms inscribed on the seals ?

Aravantinos :

The ideogram is always incised over the seal impression.

Magness-Gardiner :

So this is fundamentally different from the practice of stamping or rolling a seal over a finished text as in the Near East.

Palaima :

It is the exact opposite. The seal impression here has nothing to do with preventing tampering to an already inscribed text.

Magness-Gardiner :

Perhaps an authorizing agent seals the nodule first and then can inscribe on it what he wants to authorize, whatever transaction he wants to perform.

Palaima :

The seal impression verifies that a specific individual is involved in a transaction. The countermark over the seal provides the subject reference. In a strange way, the countermark prevents tampering with the seal impression and vice versa. Neither can be altered without defacing the other. But the Thebes sealings are literally loaded with economic vocabulary on their other faces, far more so than inscribed sealings at other palace centers. Aravantinos's tabular summary makes this point clear.

Magness-Gardiner :

Do all the Thebes sealings have to do with distribution rather than collection ?

Palaima :

With both, so far as we can tell. We have *o-pa* and *qe-te-a2* which seem to indicate animals moving in both directions. There are place names in Euboea as well as in Boeotia. There are references to sanctuaries and to individuals. This evidence brings us much closer to understanding Mycenaean economic transactions in a regional and extra-regional setting. It will certainly help us to understand technical vocabulary like *o-pa*, *a-pu-do-si* and *qe-te-o*.

Shelmerdine :

a-pu-do-si designates a required contribution to the palace, *qe-te-o* payment out from the palace. But here we have something *qe-te-o* "to be paid" to Thebes.

Palaima :

Ruth Palmer very nicely laid out for us the great difference between the Thebes inscribed sealings and those from Mycenae, Pylos and Knossos.

Shelmerdine :

At the other sites explicit vocabulary for such transactions is rarely inscribed on sealings.

Powell :

My question is what do these documents authenticate ? What is their purpose ? In Babylonia, especially in the Ur III period when we have the best evidence for it, the person who seals the document is the person who receives the commodity in question. It makes sense that people are coming into the sanctuaries from the outside. They seal the documents with their seals, the scribe then writes on the top of the seal impression for his own benefit a note specifying what the transaction is, and then he deposits the sealing in his collection. This is the only way I can reconstruct what is taking place. But here we are imagining items going back and forth in both directions. This does not fit the Mesopotamian paradigm which indicates that the person who receives the goods is the one who seals the document. That document is then deposited or stored to authenticate the fact that it has been received.

Magness-Gardiner :

But at Mari we have orders with seals on them.

Powell :

We have all sorts of orders in Mesopotamia, too.

Magness-Gardiner :

I think these Thebes sealings may be part of an order system.

Powell :

Why then are they collected in this room ?

Magness-Gardiner :

I do not understand that myself. But in the Mari archives we have a king's seal on documents recording disbursements of silver and gold. And they look exactly like these seals.

Palaima :

Mycenologists have given considerable thought to Powell's question. It has come up at the *Pylos Comes Alive* conference and at the 8th colloquium in Ohrid, particularly in connection with the Northeast Workshop at Pylos. I can offer pure speculation. These sealings form an extraordinary collection relating to livestock within the citadel of Thebes. The livestock are connected with place names in Boeotia and southern Euboea as well as with sanctuaries and Thebes itself. These could be workshop contributions, deliveries and so forth. The material is so heterogeneous that the scribes involved must record explicitly the nature of the transactions. So the area where the sealings were found is not a specialized office dealing with one sort of transaction involving livestock, rather it is a place that monitors livestock transactions in Thebes on this particular day, week, whatever the administrative period represented by the finds.

I can imagine a situation where some sort of collection area (*a-ko-ra*) or sheep station (*ta-to-mo*) exists near the citadel proper. Perhaps some officials monitor livestock activities in such an area. We know from the Knossos texts that ca. 100,000 sheep were being managed

throughout central Crete; and someone had to be on the spot to provide the palace center with this information. A shepherd arrives and declares: "I am bringing in these animals today. This is my contribution to feeding the people in a particular workshop". A nodule is formed around a knotted string, stamped with a seal, inscribed—perhaps even the very fact that a string goes through it ensures the integrity of this particular transaction. The party involved in the transaction or an administrator could carry it on the string up to an office. When he arrives at the office, an official checks the nodule and sees that it is whole and the string is unbroken and he declares, "You have fulfilled your obligation, by delivering the sheep to Thebes". Or he notices that the owner of seal "x" has taken some sheep back to Karystos or Amarynthos. One can devise a number of possible scenarios. I think that the livestock nodules can cover a wide variety of transactions, both incoming and outgoing, and still be deposited in a collection in one area within the citadel. But this is not a reasoned hypothesis. It is spontaneous brainstorming.

Powell :

I do not know how the Mycenaean system worked, but I am certain that the Babylonians would have been very suspicious of such procedures because the person who brought the sheep in would have wanted to leave with a verifying document in his hand. The purpose of impressing a seal is to demonstrate that a party has fulfilled his obligation. He takes a receipt with him. These sealings deposited in the citadel may have to do with internal economic administration of some sort.

Palaima :

Of course, the result is to leave administrators—and I use this word guardedly, because we do not know what sort of officials, if any, were involved in compiling this collection of sealings—with records that they could use and consult at the first stage of administration. Unfortunately in the Mycenaean period, we have no evidence of what happens in return. I would agree with Powell that it is logical to suppose that there would have been a double of these sealings which the herdsman themselves or parties fulfilling any kind of contractual obligation could have retained. We unfortunately do not have the kind of evidence that Postgate discusses in the *JCS*: a contract of a sheep owner along with the document given to a shepherd. We do not have the documents given to the shepherds. We do not know what happened on their end of the contract. No such documents have been discovered, but there has been little successful excavation of Mycenaean provincial centers. Perhaps the Mycenaean system still functioned in many aspects via traditional non-literate and non-sphragistic relationships. After all, we have no contracts, sealed or unsealed, even among the documents at the chief palace centers.

Powell :

Could these animals on the sealings be dead, judging from the entries on the Thebes sealings?

Palaima :

I really think that *171 recorded in such large numbers as "36", which would equal either 36 times 96 liters (ca. 3450 liters) or 36 bundles of fodder material, must be provided for the maintenance, if only temporary, of live animals. There are parallels for this in the Pylos tablets. But the sealing texts contain no explicit information about its use. Again, for Mycenologists this is rich material, but it must seem very meager and ambiguous to cuneiform experts.

Powell :

My point is that there are Near Eastern records which prove that bullae were attached to animal carcasses.

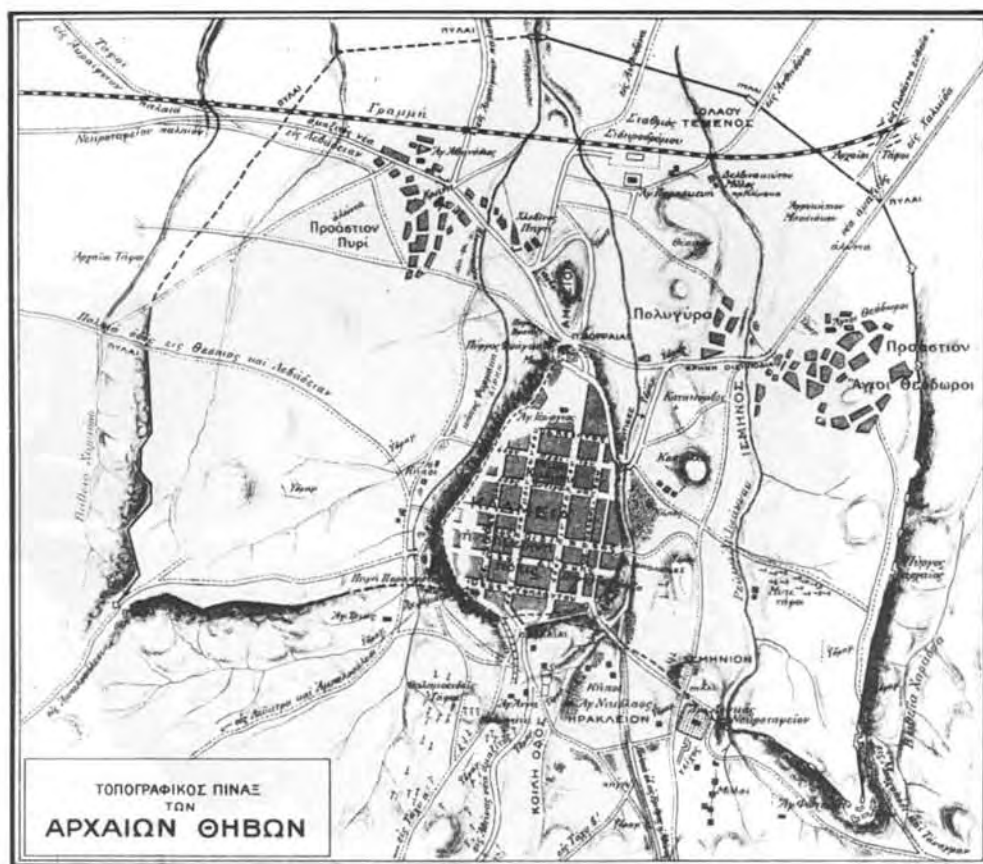
Palaima :

Yes, there are. I have a slide of one such bulla that was strung around the neck of a sheep that had died of frostbite. It declares that the animal died in this way and thereby exonerates the

shepherd. It proves that the shepherd had not stolen the animal, taken it away, killed and eaten it himself. There are such instances in the Near East, but not in the Mycenaean corpus.

Shelmerdine :

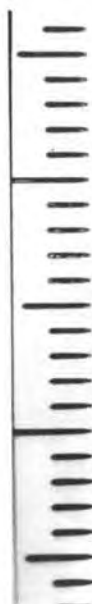
One final point of information for those who are not as familiar with the Linear B documents as some of us are. In the Linear B corpus the word "to Thebes", *te-qa-de*, occurs elsewhere once on a tablet at Mycenae. Why do we have here something found at Thebes that says "to be paid to Thebes" ? I am not suggesting that an animal was shipped all the way from Mycenae to Thebes, but some things may have been transported long distances, here perhaps from provincial centers in Euboea. This may be just the tip of the iceberg for the kind of inter-palace transactions that we think went on. We have absolutely no other evidence for it.



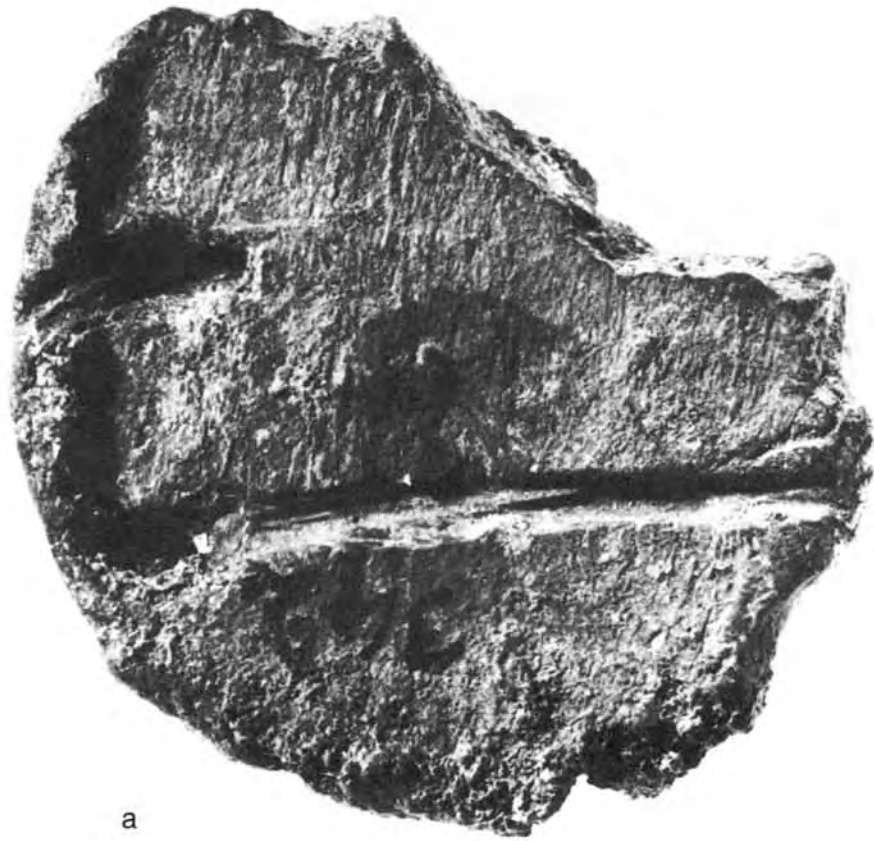
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