

THE Wm NODULES FROM KNOSSOS*

The purpose of Mycenaean *sealings* (or some of them at least) is now well established, thanks to the discoveries at Thebes in 1982 and the brilliant elucidation of the purpose of these documents by Ch. Piteros, J.-P. Olivier and J.L. Melena (1990).¹ While tablets themselves did not travel, these small nodules, formed round knots in string, did, and served to convey information about goods being supplied from outlying parts of the kingdoms to the central palaces, where in some cases at least the information they contained was transferred to tablets.

At Knossos, sealings are classified as Ws. Besides the sealings, however, there are other nodules: those classified as Wn, which like the sealings show a seal impression but which unlike them have no hole for a string, and those classified as Wm, which have the opposite characteristics viz. do not carry a seal impression but do show string marks. What is the purpose of the latter documents?

For reason which will become apparent in a moment, it is necessary to consider separately (i) Wm 1707, Wm 8493 and Wm 8499 and (ii) the remaining members of the class viz. Wm 1714, Wm 1816 (= 1714b), Wm 1817 (= 1714c), Wm 5822, Wm 5824, Wm 5860, Wm 8207 and Wm 8490. Of the latter documents all except one, Wm 8207, which contains the term *ṣa-ma-ja-ṣo* (a personal name?), appear to have followed an identical pattern viz. to have shown the term *me-sa-to* on l. 1 and the ideogram *146 followed by the numeral 30 on l. 2. Wm 1714 is the most complete member of the group; the texts of this and the other fragmentary members of the grouping are set out below.

Wm 1714 (-)

- .1 me-sa-to
- .2]*146 30

Wm 1816 (= 1714 b) (-)

- .1 me-sa-to
- .2 *146[
inf. mut.

* This is the text of a paper read at the *Segundas Jornadas de Micenología* in the University of Alicante, Spain, in 1999. I am most grateful to the organiser of the conference, my friend Prof. Francisco Aura Jorro, for his kindness in inviting me to the meeting and for his permission to publish the text of my communication here.

¹ «Les inscriptions en linéaire B des nodules de Thèbes (1982): la fouille, les documents, les possibilités d'interprétation», *BCH* 114, 1990, pp. 103-184.

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|---------------------|------------|---------------------|
| Wm 1817 | (= 1714 c) | ASHM (1941.180) (-) |
| <i>sup. mut.</i> | | |
| .1]vest.[| | |
| .2 *146 30 | | |
| Wm 5822 | | (-) |
| .1 me-sa-to | | |
| .2 <i>inf. mut.</i> | | |
| Wm 5824 | | (-) |
| .1]me-sa-to | | |
| .2 <i>inf. mut.</i> | | |
| Wm 5860 | | (-) |
| <i>sup. mut.</i> | | |
| .1 vac.[| | |
| .2 *146[| | |
| Wm 8207 | | ASHM (1938.858) (-) |
| <i>sup. mut.</i> | | |
| sa-ṃa-ja-ṣo | | |
| Wm 8490 | | (-) |
| .1 <i>sup. mut.</i> | | |
| .2 *146[| | |

What is the purpose of this second group of documents? In a paper on the Thebes sealings published in *Mykenaiika* (1992), I suggested that they might deal with incoming taxes.² Not only do the sealings deal with goods coming into the centres: the numeral 30 found on the nodules makes frequent appearances on taxation records in the archives, such as Na records of assessments for flax contributions at Pylos. I now suspect, however, that this explanation of the nodules may not be correct.

We can be virtually certain that the ideogram *146 on the nodules and elsewhere denotes a kind of textile: probably a garment of a rather simple variety, sometimes at least not manufactured in palace-controlled workshops.³ In what context, however, is the *146 on the nodules being recorded? The records provide two possible clues: first the fact that they contain the term *me-sa-to*, evidently *lmes(s)atos/* (or *lmes(s)aton, mes(s)atoil/*), 'of medium quality', and second the fact that they appear regularly, and perhaps invariably, to have recorded 30 units of the fabric.

² J.T. Killen, «Observations on the Thebes Sealings», *Mykenaiika* (= *BCH Supplément XXV*), Paris 1992, p. 374.

³ J.T. Killen, «The Textile Industries at Pylos and Knossos», *Pylos Comes Alive*, New York 1984, pp. 61f.

Apart from the Wm nodules, the adjective */mes(s)atos/* only occurs (or may occur) in two other contexts in the archives: (i) (perhaps) the Knossos OIL record Fh 360 (see *me-*[, perhaps *me-sa-to*[, on l. b and (ii) the two CLOTH records L(10) 735 and L(10) 7409, both of which list cloth qualified as (a) *a-ro₂-e*, 'of better quality' and (b) *me-sa-ta*, and the texts of which read as follows:

L(10) 735 (214)

- .1]a-ro₂-e TELA³+PU [
 .2] me-sa-ta , TELA^x+PU[
 .2 TELA^x+PU[: at least TELA¹+PU[.

L(10) 7409 + 8304 (214?)

- .A] a-ro₂-e TELA³+PU 60[
 .B to-]sa / me-sa-ta TELA²+PU 100 [
lat. inf.] to-sa TELA[

It is unfortunately not possible to be certain of the precise function of L(10) 735 and L(10) 7409. 735 lacks a beginning and an end; and while 7409 is more complete, and is clearly a totalling record, we cannot be finally certain what stage in the production process the cloth it records has reached. Of comparable CLOTH totalling records in the archive, two, Lc(1) 535, 536, relate to fabric at the start of the production process (as J.-P. Olivier has shown, these are the totalling tablets for the Lc(1) records of targets or stints for cloth production);⁴ whereas Ld(1) 587 evidently gives totals either for the Ld(1) records of deliveries from 'collector' finishing groups of the pattern of Ld(1) 598 or for the Ld(1) records of completed cloth in store.⁵ The texts of these records read as follows; as will be noted, they all, like 7409, begin with the totalling term *to-sa*, and lack any indication of place or supplier.

Lc(1) 535 + 538 (103)

- .A ta-ra-si-ja pa-we-a [
 .B ke-ri-mi-ja tu-na-no [
 .C to-sa / pe-ko-to [
 .C Trace at right consistent with TELA[.

Lc(1) 536 [+] 7383 + 7731 (103)

- .A] 'ta-ra-si[-ja']pa-we-a[]TELA^x 200
 .B] 'vest.['] tu-na-no[]TELA¹ 48
 a-ro-zo 'ki-to' TELA¹ 1
 .C to-]sa / pe[-ko-to TELA¹+TE]18 TELA²+TE 267

⁴ SMEA 2, 1967, p. 91.

⁵ For further discussion, see J.T. Killen, «The Knossos Ld(1) Tablets», *Colloquium Mycenaeum*, Neuchâtel, Genève 1979, pp. 151f.

Ld(1) 587 + 589 + 596 + 8262 (116)
 .1 to-sa , po-ki-ro-nu-ka TELA² 24 re-u-ko-nu-ka TELA² 372
 .2 ko-ro-to₂ TELA² 14 *56-ra-ku-ja TELA^x 42 po-ri-wa TELA² 1
lat. inf. vac. []to-şa TELA 149

It is true that, unlike Lc(1) 535 and Lc(1) 536, 7409 does not contain the term *ta-ra-si-ja*, 'allocation of raw material for working'. Given, however, that scribes are not always consistent in their use or omission of such terms, this cannot be argued against 7409 being a totalling record for anticipated, rather than completed, production. Nor does the appearance of the term *a-ro₂-e*, 'of better quality', on 7409 (and 735) settle the matter. Though this adjective does regularly occur on the Ld(1) 'store' records (see Ld(1) 571, 572, 583), it is also found on L 586, possibly in hand 103, where the initial term in *-ja* and the wool entry on l. Ab combine to suggest a 'production target' context. The texts of Ld(1) 571 and L 586 are given beneath.

Ld(1) 571 (116)
 .a pe-ne-we-ta a-ro₂-a *158 1
 .b pa-we-a , / e-qe-si-ja , re-u-ko-nu-ka , TELA³ 25

L 586 (103?)
 .Aa] a-ro₂-a TELA² 3 [
 .Ab] LANA 3 TELA^x[
 .B]ru-wo-we-ja / [
 ↓
 v.]15 3 [

Clearly, however, 7409 *might* be a record of cloth in store; and that this is also the purpose of the Wm nodules we are discussing is suggested by the regular (and possibly invariable) appearance on these documents of the numeral 30. Not only do multiples of five and ten regularly appear in the CLOTH entries on the Ld(1) 'store' records at Knossos: we actually find 30 on one of the records in this 'set', Ld(1) 575.

Ld(1) 575 + 580 (116)
 .a e-qe-si-ja
 .b pa-we-a , / pa-ra-ku-ja TELA² 30 *158 1

Do, then, the Wm nodules of group (ii) (other than 8207?) relate to quantities of the garment *146 in store in the palace? There is certainly some physical evidence which is consistent with this conclusion. As I first realised on a visit to the Iraklion Museum in 1996, when I noticed it in Wm 1714, and as José Melena and John Bennet have kindly confirmed for me subsequently, the first in Iraklion and the second in the Ashmolean Museum, Oxford,⁶ there are traces on the backs

⁶ I am also most grateful to Dr Erik Hallager, who showed me photographs of the backs of the Ashmolean nodules on a visit to Aarhus in 1997.

of all the nodules in this grouping, not so much of a string as of a thick, twisted cord, which it is attractive to conclude was once wrapped round a bale of cloth, and had the nodule attached to it when the clay was still damp. The marks of the cord can clearly be seen in the photograph of the back of Wm 1714 shown as figure A in PLATE XVII; and the nature of the cord can clearly be seen from the photograph, in figure B, of a plasticine cast of the impression. Finally, figure C shows how the nodule is likely to have been held by the scribe as he wrote the inscription. I am extremely grateful for all three photographs to José Melena and to Jean-Pierre Olivier for the photograph of Wm 1714 shown as figure D, which gives the scale.

Of course, this evidence would also be consistent with the conclusion that the nodules were written at the stage when the cloth was being delivered to the palace, not when it was being parcelled for storage. But while cloth being delivered might well have been tied in bales, we have no evidence for the regular appearance of the numeral 30 (or other multiples of five and ten) in records of deliveries of cloth to the palace at Knossos, or on records of taxation of *146 at Pylos (though given the presence of 30 on other records of impost at Pylos, this last point is clearly not conclusive).

If these nodules do come from bales in cloth held in store, perhaps the easiest explanation of why they are present in the archives is that the cloth in question has recently been brought into use (delivered or the like), and the nodules, having been detached from the bales, serve as a record for the administration of the amounts that were involved (which would later, perhaps, have been entered on a tablet). Indeed, it is just possible that there is a tablet in the archives which lists some of the fabric on the nodules at a later stage in its career. M 683, in hand 103, reads as follows:

M 683

(103)

- .1a] a-ze-ti-ri-ja
 .1b]te-o o-nu-ke LANA 9 M 2
 .2]ti-mu-nu-we *146 30

Though we cannot be finally certain, it is attractive to suspect that the purpose of this tablet is to record the decoration with wool of the *146 which is listed on l. 2 of the document. [That the wool on l. 1 is intended for finishing purposes is made clear by the presence of the terms *o-nu-ke*, *lonukhes*, 'nails' (in the technical sense of a type of decoration made from wool), and *a-ze-ti-ri-ja*, *laskētriai*, 'decorators', before the ideogram.]⁷ And one immediately notes that the figure in the *146 entry is 30: exactly the same as on the nodules. Does one of the Wm nodules record the *146 on this tablet before it was delivered to the decorators? It is true that the finishing of cloth seems normally to have preceded

⁷ For discussion of the meaning of *o-nu-ke* and *a-ze-ti-ri-ja*, see Killen, *op. cit.* (n. 5 above), pp. 164-167.

its storage, not followed it;⁸ but it is not inconceivable that *146 was parcelled for storage on two occasions: first after it was received by the palace and second when it was returned to the stores after decoration. Note, however, that in contrast to Ue 611 at Mycenae, which was found in close proximity to the Wt sealings which appear to relate to the same vessels, &c. that are listed on the tablet, M 683 was found in a different part of the palace from the three Wm nodules whose find-place we know. M 683 was found in the Western Magazines; whereas Wm 1714, 1816 and 1817 were found in J.-P. Olivier's J2bis viz. the South Doorway of the Hall of Colonnades in the East Wing. Finally, what of the remaining Wm nodules, the three documents in group (i)? Since they do not show the cord-marks found on the backs of the group (ii) nodules, these are likely to have had a different function from the latter. At present, however, we cannot establish what that function was (or even if all three had the same function).

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⁸ On the evidence for the finishing of textiles at Knossos, see Killen, *op. cit.* (n. 5 above).