#### KO-RO-NO-WE-SA

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# Diachronic perspectives on the Knossos textiles (L-series) in the Room of the Chariot Tablets, the North Entrance Passage and the Main Archival Phase\*

#### Marie-Louise Nosch

It has long been accepted that the Room of the Chariot Tablets [henceforth: RCT] was earlier and palaeographically different to the other tablets in the Knossos archives.<sup>1</sup> In the 1990s, Jan Driessen, based on archaeology and palaeography, suggested that tablets from the North Entrance Passage [henceforth: NEP] should be associated with an earlier destruction date than that of the West Wing and East-West Corridor.<sup>2</sup> The suggestion was debated, but in terms of epigraphy, it could explain some peculiarities observed for the hands and tablets from the NEP.<sup>3</sup>

The diachronic approach to the Knossos archive was continued by Christina Skelton, who divided the Knossos hands into three clusters: RCT, NEP and 'later Knossos,' based on her phylogenetic analysis.<sup>4</sup> This division was further elaborated on by Richard Firth and Skelton<sup>5</sup> and adopted by other scholars,<sup>6</sup> but is still debated.<sup>7</sup> Firth and Skelton

<sup>\*</sup> Richard Firth, Rachele Pierini, José Melena and Jörg Weilhartner have given valuable input to this paper.

<sup>&</sup>lt;sup>1</sup> Chadwick 1967; Driessen 1988; 1990; 1997; 2000; Olivier 1967, 128-129.

<sup>&</sup>lt;sup>2</sup> DRIESSEN 1990, 36-37, had already observed how the area of Room of the Flower Gatherer was disturbed; DRIESSEN 1999.

<sup>&</sup>lt;sup>3</sup> For example, KILLEN 1988, 172-174 identified some **Od** fragments that were similar to those of Hand 115, yet different, and they are in  $KT^6$  grouped as the **Od(5)** set by Hand 227.

<sup>&</sup>lt;sup>4</sup> Skelton 2008, 158-176.

<sup>&</sup>lt;sup>5</sup> Firth & Skelton 2016a-c.

<sup>&</sup>lt;sup>6</sup> Nosch 2022. See also Pierini, this volume.

<sup>&</sup>lt;sup>7</sup> FIRTH & SKELTON 2016a, 160. One anomaly is the set **Dq(3)** by Hand 217 from B4, but with tablets from both F1 and I3.

could distinguish three writing styles: the Early Knossian style found in the RCT; the Middle Knossian style found in the NEP, the Room of the Column Bases, the Arsenal, and the Corridor of the Sword Tablets; and the Late Knossian style found in the East-West Corridor and the West Wing.<sup>8</sup> It was suggested to associate the three writing styles with three chronological phases: to date the RCT tablets in LM IIIA1, those of the NEP in LM IIIA2, and those from the East and West Wings in LM IIIB1.<sup>9</sup>

I find Firth and Skelton's work convincing, and this paper divides the Knossos corpus into the RCT, NEP and a Main Archival Phase [henceforth: MAP], and discusses the evidence for how textiles appear in these three parts. Textile administration was a major concern for the palace scribes, and textile records are documented in all three parts of the corpus. <sup>10</sup> I observe a low interrelationship between textile scribes in the three parts of the Knossos corpus, the RCT, the NEP and the MAP. I also observe a difference in the types of textiles recorded. For example, only NEP hands use the syllable  $-a_2$  and hence write  $pa-we-a_2$ , while MAP scribes never use the sign  $-a_2$  and hence write  $pa-we-a_2$ .

There is one particular dilemma regarding textiles when dividing the NEP and the MAP: the tablets in the L(3) set are by Hand 207 and record TELA+PU, and most of them are from the MAP/F3<sup>12</sup> but one: L(3) 869 is from the NEP/I3.<sup>13</sup> However, all other tablets recording textiles are associated with either the RCT, the NEP or the MAP.

This paper analyses and discusses the three writing styles separately and views them as three administrative units. It should be noted that it excludes tablets which cannot be associated with relative certainty with any scribal hands and/or find-places, even though these tablets may contain much relevant information about textiles.<sup>14</sup>

<sup>&</sup>lt;sup>8</sup> Firth & Skelton 2016b, 189-190.

<sup>&</sup>lt;sup>9</sup> Firth & Skelton 2016c, 215-228.

Textiles in the Mycenaean archives are analysed in several specialised papers. KILLEN 1966; 1988; 2007; LUJÁN 1996-1997; MELENA 1975; NOSCH 2012; WEILHARTNER forthcoming.

<sup>&</sup>lt;sup>11</sup> Nosch 2022.

<sup>12</sup> L(3) 433, 473.

<sup>&</sup>lt;sup>13</sup> See discussion of anomalies in FIRTH & SKELTON 2016b, 196-197 and 200-203. FIRTH & SKELTON 2016a, 173, assume that L(3) 869 (I3; 207) is in reality a stray tablet and belongs to the MAP.

<sup>&</sup>lt;sup>14</sup> Textile \*164 on L 520 is in CoMIK assigned to F8, but following FIRTH 1996-1997, 30, it has no find-place in KT<sup>6</sup>. TELA+ZO is also omitted here due to the uncertainty about hands and find-places: L 433 is by unidentified hand and from E4 (Passage on east side of the RCT) but it cannot be associated with the RCT, see DRIESSEN 1990, 76 and n. 274. An erased TELA+ZO is

In the conclusion, new potential assignments to find-places and hands based on my analysis will be discussed.

#### Textile administration in the RCT

RCT textiles include plain Tela, pa-we-pi, Tela+PA \*161, Tela+PU, \*178, \*165/\*166, and Tunica (\*162, alone or with the endograms QE or RI). The logogram Tela is used alone, <sup>18</sup> or with the endograms PA or PU. There are two variants of Tela: Tela² (**L 104, 192**) and Tela³ (**L 178**), all by Hand 124-X. This means that RCT hands use several strategies to describe textiles: by name (pa-we-pi), by Tela logograms with endograms (PA, PU), by the Tun logogram with endograms QE or RI, by monograms (\*161), or by specific textile logograms (\*178, \*165/\*166). There are some of the same cloth types in the RCT as in the later deposits of the NEP and MAP, but there are also some textiles that only occur in the RCT, such as \*178 and Tun+RI.

\*178

\*178 is attested once on **U(1) 95** by Hand 124-X,<sup>19</sup> and may represent a textile with the pointed item on top resembling sign *zo*.

#### TUN+RI

By far the most numerous textile in the RCT is the \*162 textile logogram Tun,  $^{20}$  but the combination of Tun+RI (below, **L 178**) occurs only once,

on MAP tablet Lc 5612, but the find-place is uncertain. Tela+ZO is perhaps on L 2127 (unknown hand and find-place). Del Freo *et al.* 2010; Melena 1975, 109-110; Nosch 2012, 334.

<sup>&</sup>lt;sup>15</sup> OLIVIER 1967.

<sup>&</sup>lt;sup>16</sup> Batch I I/3 (9109-9172), see KT<sup>6</sup>, xxiv.

<sup>&</sup>lt;sup>17</sup> See Driessen 2000; Firth & Melena 2016b; KT<sup>6</sup>.

<sup>&</sup>lt;sup>18</sup> On L 192 is to-ni-ja TELA, perhaps an alternative spelling of the place name tu-ni-ja attested on RCT tablet Xd 149, or a kind of textile, or a personal name.

<sup>&</sup>lt;sup>19</sup> DRIESSEN 1988, 162 and n. 85; 2000, 87, 138, Fig. 3.23; FIRTH & MELENA 2016b, 336-337; Nosch 2012, 346 suggests reclassifying U(1) as Lx 95, and PETRAKIS 2012 as L 95.

<sup>&</sup>lt;sup>20</sup> Nosch 2012, 342-343.

and only in the RCT, and plausibly contains the abbreviation for *ri-no* or *ri-ta*, linen.

# \*166/\*165

\*166/\*165 are variants of the same logogram.<sup>21</sup> They are attested in the RCT with TUN, horses and chariots<sup>22</sup> and their shape suggests a garment or textile. On several **Sc** tablets, the scribe first wrote TUN and then erased it and wrote \*165.<sup>23</sup> Various hands record \*165/\*166 in the RCT.<sup>24</sup>

# \*162 TUN or TUN+QE

The logograms \*162 Tun or Tun+ $QE^{25}$  occur many times in the RCT with military gear and chariot equipment in the **Sc** series. <sup>26</sup> Often Tun or Tun+QE appear in pairs. <sup>27</sup> Hand 124-M always writes Tun+QE while all other RCT scribes simply write Tun. In Driessen's analyses of the **Sc** series, Tun is related to armour; <sup>28</sup> I would suggest a linen tunic allocated to charioteers. <sup>29</sup>

# TELA+PU, pa-we-pi, \*161

On RCT tablet **L 5599** are 40 pieces of Tela+PU.<sup>30</sup> There is also the instrumental form pa-we-pi on **L 104**, and it is attractive to assume that the textile name in the RCT was pa-we- $a_2$  as it is attested in the NEP.<sup>31</sup>

<sup>&</sup>lt;sup>21</sup> Driessen 2000, 141; Duhoux 1974, 123.

<sup>&</sup>lt;sup>22</sup> Sc 225, <246>-249, 5141, 7461, 7462.

<sup>&</sup>lt;sup>23</sup> Sc <246>, Sc(1) 247, Sc 7461: apparatus criticus: \*165 over [[TUN]].

<sup>&</sup>lt;sup>24</sup> \*166: Sc(1) 225 (C;124-F); Sc(2) 5141 (C;124-G); Sc 7462 (C;124). \*166 invariably occurs on the verso. \*165: Sc <246> (C;124); Sc(1) 247 (C;124-F); Sc(3) 248 (C;124-I); Sc 249 (C;124-β); Sc 7461.

 $<sup>^{25}</sup>$  TUN+QE: Sc(4) 224, 227, 229, 266, 8271. Probably an abbreviation for qe- $ro_2$  and related to armour

<sup>&</sup>lt;sup>26</sup> Sc(1) 230, 243, 250, 261, 263, 5060, 5070, 8124, 8467, 8468, 8470; Sc(2) 130, 235, 5138, 7469; Sc(3) 103, 226, 252, 254-256, 258, 5068, 5086, 5164, 5169; Sc(4) 224, 227, 229, 266, 8125, 8271; Sc(5) 219, 221, 236-237, 251, 253, 5137, 5155, 5162, 8469; Sc 135, 217, 222, 233-234, 238-239, 259-260, 1644, 5046, 5085, 5139, 5156, 7444, 7456, 7466, 7475, 7480-7481, 7772, 7782, 7821, 7882, 7996, 8471, 8759, 8796, 9113-9114.

<sup>&</sup>lt;sup>27</sup> TUN 2: Sc(1) 5060; Sc(2) 130, 232; Sc(3) 103, 252, 254-256; Sc 217, 222, 234, 259, 1644, 5085, 5156, 7444, 7456, 7481, 7996. TUN+QE 2: Sc(4) 224, 227, 229.

<sup>&</sup>lt;sup>28</sup> Driessen 2000, 136-137.

<sup>&</sup>lt;sup>29</sup> Nosch 2012, 342-343; 2022.

<sup>30</sup> Melena 1996-1997, 418; Nosch 2012, 331-333.

<sup>&</sup>lt;sup>31</sup> Nosch 2022.

\*161 is attested once on RCT tablet L 178. \*161 is linked to TELA<sup>3</sup>+PA and made of wool, we-we-e-a, as indicated on L 178.

#### Textile administration in the NEP

Firth and Skelton do not view the NEP as a real archive but more as a deposit of tablets that had become irrelevant or no longer necessary when the administration was concentrating activities above the West Wing and in the East-West Corridor. The NEP is therefore later than the RCT and older than the MAP, but the NEP may be very close in time to the MAP.<sup>32</sup>

The NEP is comprised of the find-places I1, I2, I3, I4 and I5.<sup>33</sup> Firth demonstrated that I1, I4 and I5 are parts of the same area,<sup>34</sup> and I2 and I3 are not clearly distinguished archaeologically.<sup>35</sup> Fragments from Batch III, VI and VII are associated with the NEP in the most recent edition of the Knossos tablets.<sup>36</sup>

Hands 114 (**Ld[2]**) and 213 (**L[9]**) record textiles, yet there are further unidentified hands who record textiles in the NEP.<sup>37</sup>

Some textiles in the NEP are similar to the earlier RCT textiles: TELA +PU, pa-we-a<sub>2</sub>, and TUN. Other textiles are attested for the first time: wehanos \*146 is attested in the NEP and continues to be used in great quantities in the MAP; \*166 occurs with the endogram WE. Finally, another new textile, to-mi-ka, is only attested in the NEP, and unattested in the RCT and MAP. The most well-attested NEP textiles are to-mi-ka and \*146, and there are probably at least 250 pieces of each recorded in the NEP. Other textile types from the NEP include TELA+PU, \*166+WE, \*161 TELA, TELA+PA or pa-we-a<sub>2</sub>, plain TELA and TUN+KI.

<sup>&</sup>lt;sup>32</sup> FIRTH & SKELTON 2016b, 201: "In the case of the NEP, it is most unlikely that it was ever used as a scribal area because of the gradient of the passage, but it could have been used as a storage area for tablets that might have seemed 'worth keeping' at one time and then became forgotten."

<sup>33</sup> KT<sup>6</sup>, 682: I1=Area of Bügelkannes: 1900 season (=I5); I2=Deposit of Great Seal; I3=Area of Bull Relief; I3bis=South of Bull Relief Area; I4=Area of Bügelkannes: 1901 season; I6=East of Chamber of Hieroglyph Inscriptions.

<sup>&</sup>lt;sup>34</sup> FIRTH 1996-1997, 44-46. The tablets from find-places I1 (Room of the Flower Gatherer) are not only from this room but also from the adjacent Room of the *Bügelkannes*. FIRTH & SKELTON 2016b, 198; MELENA 1999.

<sup>35</sup> I follow Firth's identification and refer to I2 as the southern part of the NEP, that is, inside corridor I3 (called the Area of the Bull Relief), which is the area to the west of I2.

<sup>&</sup>lt;sup>36</sup> KT<sup>6</sup>, xxiv: Batch III (9287-9406), Batch VI (9665-9838) and Batch VII (9839-9932).

<sup>&</sup>lt;sup>37</sup> NEP hands in Firth & Skelton 2016a, 172-174 and Table 4. KT<sup>6</sup> added hands 102c, 205, 213, 215, 218, 227, 230. See also Olivier 1967, and the updates in Firth & Melena 2016a; 2016c.

#### to-mi-ka textiles

*to-mi-ka* textiles<sup>38</sup> are recorded in the **L(9)** set by Hand 213.<sup>39</sup> The tablets start with a place name or an ethnic name,<sup>40</sup> followed by the term *to-mi-ka* and the textile logogram TELA. It is not stated whether *to-mi-ka* was made of linen or wool.<sup>41</sup> In the **L(9)** set there are no records of 'missing pieces.' This could indicate that **L(9)** tablets were general counting or perhaps target records for *to-mi-ka* cloth.

#### TELA+PU

TELA+PU is attested on three NEP tablets.<sup>42</sup> On **L 759** are 70 pieces of TELA+PU, and TELA+PU is recorded with cloth type \*146 on **L 868**. The number of TELA+PU and \*146 is not preserved, but quite large numbers of 15 and 11 textiles appear on the lines above and below. This suggests that the textiles were not allocations of clothing for a single individual.

It is not common to see records of linen and wool textile production together, and there is some evidence to suggest that  $\mathtt{TELA} + PU$  is made of wool while \*146 is made of flax. The two fibres come from different sources and are treated differently. This could indicate that **L 868** is not a record of textile production, nor a delivery from a producer, but could be a record of the disbursement of various gear or an inventory of clothing.

wehanos \*146, \*166+WE

*wehanos* \*146<sup>43</sup> is recorded on only two tablets from the NEP,<sup>44</sup> yet in a very large number of at least 251 pieces. \*166+ $WE^{45}$  is plausibly also a kind of *we-a*,-*no* / *wehanos*, like *wehanos* \*146.<sup>46</sup> \*146 and \*166+WE are

<sup>&</sup>lt;sup>38</sup> Nosch 2012, 336-337.

<sup>&</sup>lt;sup>39</sup> L(9) 761, 764 (II;213). Tablets L(9) 7396, 7400, 7401, 8025, 8035, 8058 (-;213?). 7396 and 7400 are associated with batches II and VI; 7401, 8025, 8035, 8058 are associated with batch II. For Hand 213, see FIRTH & MELENA 2016c, 369-370.

<sup>&</sup>lt;sup>40</sup> The *to-mi-ka* cloth in the **L(9)** set is recorded either with men's names (*we-we-si-jo*[) or with masculine ethnic designations (*ra-su-ti-jo*, *ra-je-we*, ] *ti-jo*, ] *jo*), and these men might be the textile producers, finishers, or responsible for the deliveries of *to-mi-ka* cloth.

<sup>&</sup>lt;sup>41</sup> Weilhartner forthcoming suggests that Tela is a generic logogram for wool textiles.

<sup>&</sup>lt;sup>42</sup> L 758 (I1;-), 759 (I1;-), 868 (I3;-). MELENA 1996-1997, 418; Nosch 2012, 331-333.

<sup>&</sup>lt;sup>43</sup> Melena 1975, 62; Nosch 2012, 337-340.

<sup>44</sup> L 868 (I3;-); M 757 (I1;-).

<sup>45</sup> M 878 (I3;-).

<sup>46</sup> Nosch 2012, 343-344; Perna 2004, 33-34.

both likely made of linen  $^{47}$  and seem closely associated,  $^{48}$  especially in a naval context.  $^{49}$ 

In the **Ld(2)** set,<sup>50</sup> Hand 114 records pa-we- $a_2$  and the cloth logogram \*161 in store, and these textiles are richly decorated. Hand 114 uses detailed descriptions of pa-we- $a_2$  in store and a delivery record on **L 871** (Table 1).

### \*161 TELA, \*162 TUN

\*161 TELA<sup>51</sup> seems to be a variant of *pa-we-a*<sub>2</sub>. \*161 is associated with many textile terms for dyes, state of preservation, or decoration. \*161 is also associated with the garment terms *ki-to-na* and *ki-to-pi /khitonphi/* 'for *khitons*' (Table 1), and this suggests that \*161 is used for making *khitons*.<sup>52</sup>

The logogram \*162 TuN appears only once in the NEP, with the endogram KI, plausibly the abbreviation for ki-to, khiton, and thus represents a single garment. **L 871** counts one plain wool (we-we-e-a) textile and one TuN+KI, and this is what John Killen terms 'a suit.'<sup>53</sup>

#### Textile administration in the MAP

Tablets recording textiles in the MAP come from the West Wing (F1-F18), and batches II and IV contain many fragments from the West Wing.<sup>54</sup> The **Wm** nodules recording \*146 were found in J2bis near the East-West Corridor. Batch V contains many fragments from the East-

<sup>&</sup>lt;sup>47</sup> MELENA 1975, 62.

<sup>&</sup>lt;sup>48</sup> wehanos \*146 is probably recorded together with ten pieces of logogram \*181 on M 757, and \*166+WE is recorded together with 16 e-to-ro-qa-ta on M 878, while U 736 records na-u-do-mo and 10 pieces of \*181 designated e-to-ro-qa-ta. Melena 1975, 50-59, 62, therefore suggested that \*181 equals e-to-ro-qa-ta. However, tablets M 757 and 878 are from the NEP, while U 736 is from H2 (Bathroom, part of Throne room complex).

<sup>&</sup>lt;sup>49</sup> DUHOUX 1975, 121-124 and KILLEN 2008, 431-447, interpret \*146, \*166+WE and \*181 as pieces of clothing, which could be distributed as remuneration, while Melena 1975, 62, suggests that \*146 and \*166+WE in connection with \*181 are pieces of linen for naval use.

<sup>&</sup>lt;sup>50</sup> Ld(2) 785 (I2;114), 786 (I2;114), 787 (I3[bis];114), 788 (I2;114), 8192 (114).

<sup>&</sup>lt;sup>51</sup> Ld(2) 785-787, 8192 by Hand 114, from the NEP. See KILLEN 1979, 171-172. For \*161, see ME-LENA 1975, 94-117; NOSCH 2012, 340-341.

<sup>&</sup>lt;sup>52</sup> Concerning Ld(2) 785, KILLEN 1979, 171, writes that "ki-to-na here describes, not the present form of the TELA, but the use to which it will be put. Does in fact ki-to(-na) TELA throughout the records mean a cloth due to be made into a chiton, as against TUN+KI, the finished product?"

<sup>&</sup>lt;sup>53</sup> Killen 1988, 175.

<sup>&</sup>lt;sup>54</sup> Batch II (9173-9286) and batch IV (9407-9566), see KT<sup>6</sup>, xxiv.

West Corridor.  $^{55}$  There are also some minor find-places of MAP tablets recording textiles in sectors G and H.  $^{56}$ 

The MAP has the largest number of tablets preserved in the Knossos corpus. The textile administration in the MAP is characterised by the activities of a few major scribes including the prolific Hand 103, along with Hands 113, 115 and 116, and their detailed records of Tela+*TE*, *tu-na-no* and *pa-we-a* under the wool textile manufacturing system called *ta-ra-si-ja*.<sup>57</sup> In contrast, \*146 is recorded by Hands 103, 140 and 232 while Tela+*PU* is recorded by Hands 207, 208, 210 and 211. Hands 119 and 209 also record textiles. The hands of the MAP, also called those with the 'Late Knossian Linear B Style' by Firth and Skelton, are numerous.<sup>58</sup>

The most numerous textile types in the MAP are Tela+PU/pu-ka-ta-ri-ja, Tela+TE/te-pa and pa-we-a. Tela+TE te-pa, Tela+TE pe-ko-to and tu-na-no Tela are only attested in the MAP. They are all made of wool, are associated with central Crete and are recorded by Hands 103 and 115. po Tela, Tela+KU, \*158, and 168+SE also only appear in the MAP, but more rarely. Other textile types are well attested in the MAP as well as in the NEP and the RCT: Tela+PU, \*146, \*166(+WE), pa-we-a/-a, \*161 and Tun.

#### TELA+TE

TELA+TE is only attested in the West Wing, and only on target tablets pertaining to central Crete in the **Lc(1)** set,<sup>59</sup> in the deliveries in the **Le** series<sup>60</sup> and on **Ln 1568**. All these tablets are by Hand 103. There are two TELA+TE targets preserved for collectors,<sup>61</sup> and numerous TELA+TE targets for non-collector groups,<sup>62</sup> who have a total target of 267 regular

<sup>&</sup>lt;sup>55</sup> Batch V (9567-9663), see KT<sup>6</sup>, xxiv.

<sup>&</sup>lt;sup>56</sup> M(1) 720 by Hand 103 is from G1 (Gallery of Jewel Fresco). From G1 are also tablets M 719, 724 and 1808. Hand 140 records \*146 on a tablet from G1. M 729 is from G2 (Small room to the east of Gallery of Jewel Fresco), and the L(6) set by Hand 210? is from G2. H4 (Space under bath corridor) is the find-place of M 745 recording \*166+WE by Hand 140?, and if this is indeed Hand 140, H4 would be associated with the MAP.

<sup>&</sup>lt;sup>57</sup> Killen 2001; Nosch 1999; 1997-2000; 2006.

<sup>&</sup>lt;sup>58</sup> Firth & Skelton 2016a, 170-175.

<sup>59</sup> Lc(1) 525-530, 532-533, 536, 541, 543, 547, 551, 553, 558, 561, 646, 5746. Probably also TELA +TE on Lc(1) 535, 546, 549, 552, 555, 7321, 7549, 7901.

<sup>60</sup> Le 641-642, probably 654, 5629, 5646, 5903, 5930, 6014. From F14.

<sup>&</sup>lt;sup>61</sup> **Lc(1) 532**: four pieces of TELA+*TE* of collector ]*k*.μ-wo; **Lc(1) 551**: ten pieces of TELA+*TE* (*e-me-si-jo*).

<sup>62</sup> See n. 59, above.

TELA+TE recorded on **Lc(1) 536**. This compares to the more rare types of TELA+TE  $pe-ko-to^{63}$  and mi/mi-ja-ro TELA+TE. A few TELA+TE are called 'royal.'65 TELA+TE are made of sheep wool and correspond to seven units of wool (21 kilos), while the variety TELA+TE pe-ko-to requires ten units of wool (30 kilos). 66 TELA+TE are heavy, large, woven of wool, and not particularly decorated.

#### tu-na-no

*tu-na-no* TELA are only attested in the MAP, perhaps exclusively recorded by Hand 103,<sup>67</sup> and only on records pertaining to central Crete. A *tu-na-no* is made of wool, is undecorated, and equals 3 units of wool (nine kilos).<sup>68</sup>

#### po TELA

*po* TELA occur in the **L(5)** set from F7.<sup>69</sup> Hand 209 seems to contrast regular TELA and *po* TELA. **L(9)** tablets contain the term *qe-te-o*, 'to be paid (for).'<sup>70</sup> It is unknown what the syllable *po* stands for, but on **M(1)** 720 is perhaps an example of *po* TELA and \*146 and may record textiles for a religious purpose.<sup>71</sup>

# \*168+SE, TELA+KU

\*168+SE only occurs in the MAP, in the **Pp** series from F7, and might be a textile. The Likewise, Tela+KU is only attested in the MAP. It occurs

<sup>&</sup>lt;sup>63</sup> Lc(1) 526-527, 535, 551, 646 and 5746. TELA+TE pe-ko-to is a part of the ta-ra-si-ja textile target for both collectors and non-collectors on Lc(1) 535-536 by Hand 103.

<sup>&</sup>lt;sup>64</sup> On **Ln 1568**, TELA+ *TE* are either *mi/mi-ja-ro* or *pe*, and some are *pa/pa-ra-ja*. There are at least 12 TELA+ *TE mi* on **Le 5930**. FIRTH 2012.

<sup>65</sup> Lc(1) 525 and Le 654.

<sup>66</sup> KILLEN 1964; 1966.

<sup>&</sup>lt;sup>67</sup> Lc(1) 525-532, 534, 543, 551, 558, 582, 646, 5746, 7289, 7392, 7549; Ln 1568. All by Hand 103 and from F10. Probably also recorded on Lc(1) 547, 552-553, 555.

<sup>68</sup> KILLEN 1964; 1966; Nosch 2012, 335-336.

<sup>&</sup>lt;sup>69</sup> L(5) **513** (F7;209), **5092** (-;209), **7380** (-;209), **7393** (batch IV;209), **8063** (-;209?), **8441** (-;209). Regrettably, forgotten in Nosch 2012.

 $<sup>^{70}</sup>$  Killen 2007, 383-387. This transactional term also occurs on **L 693** by Hand 103, where fine linen *khitons* are paid for in bronze.

<sup>&</sup>lt;sup>71</sup> Killen 2007

<sup>&</sup>lt;sup>72</sup> DAVARAS 1986 and FIRTH 2016, 235 do not interpret \*168 as a textile; DUHOUX 1975; MELENA 1975, 118-134.

<sup>&</sup>lt;sup>73</sup> Melena 1975, 108-109. L(4) 515-516 and 7413 (F7;208). L 514 (F7;-).

in a pair with TELA+PU and they are recorded on the same tablets, first with numbers of TELA+PU, followed by numbers of TELA+KU in the L(4) set.<sup>74</sup>

# TELA+PU

TELA+ $PU^{75}$  is recorded by four MAP hands: Hand 207 in the **L(3)** set,<sup>76</sup> Hand 210 in the **L(6)** set,<sup>77</sup> Hand 208 in the **L(4)** set,<sup>78</sup> and Hand 211 in the **L(7)** set.<sup>79</sup> TELA+PU is also attested in both the RCT and the NEP. There are more than 1000 TELA+PU recorded in the MAP, and this demonstrates that TELA+PU was a major part of both the NEP and the MAP textile production.

wehanos \*146, \*166+WE

wehanos \*146<sup>80</sup> is primarily attested on **M** tablets<sup>81</sup> by Hands 103 and 140, or on **Wm** nodules by Hand 232.<sup>82</sup> \*166+WE<sup>83</sup> is attested twice in the MAP.<sup>84</sup>

pa-we-a, pa-we-a ko-u-ra \*161

The MAP hands write the term *pa-we-a* and combine it with the neutral logogram TELA. 85 Thus, Hand 103 never employs the logogram TELA+

 $<sup>^{74}</sup>$  Tela+PU is recorded by Hands 207-208, 210-211, and Tela+KU by Hands 208, 212 and perhaps 209.

<sup>&</sup>lt;sup>75</sup> Nosch 2012, 331-333.

<sup>&</sup>lt;sup>76</sup> L(3) 455 (F3;207), 473 (F3;207), 869 (I3;207). See n. 7 and n. 13, above, for rare anomalies of hand or find-place in the NEP and MAP.

<sup>&</sup>lt;sup>77</sup> L(6) 460 (F3;210?), 469 (F3;210), 470 (G2;210?), 472 (F3;210), 7405 (-;210?), 7414 (-;210?).

<sup>&</sup>lt;sup>78</sup> L(4) 475 (F7;208), 480 (F6;208), 484 (F6;208), 489 (F6;208?), 501 (F7;208?), 515 (F7;208), 516 (F7;208), 7390 (-;208?), 7406 (-;208?), 7413 (-;208), 7415 (-;208??), 7416 (-;208?), 7578 (-;208?).

<sup>&</sup>lt;sup>79</sup> L(7) 471 (F14;211), 474 (F14;211), 592 (F14;211), 5569 (-;211?), 5582 (-;211?).

<sup>80</sup> MELENA 1975, 62.

<sup>&</sup>lt;sup>81</sup> M 467 (F3;-), M(1) 559 (F10;103), M 719 (G1;140), M(1) 720 (G1;103), M 724 (G1;-), M 729 (G2;-), M(1) 1645 (-;103), M 7394 (batches II, IV;-); also attested on Od(1) 683 (F18;103).

 $<sup>^{82}</sup>$  Wm nodules are without seal impression but with a hole for a string. Wm 1714, 1816, 1817 (Jbis;232); Wm 5822, 5824, 5860, 8207 and 8490 (-;232). These nodules record 30 pieces of \*146, and 30 pieces of \*146 are also attested on Od(1) 683. KILLEN 2002-2003.

<sup>83</sup> Duhoux 1975, 117-124; Melena 1975, 50-62; Perna 2004, 33-34.

<sup>&</sup>lt;sup>84</sup> **M 1808** (G1;-) has one piece of \*166+WE. On **M 745** (H4;140?), 22 pieces of linen (*ri*) \*166+WE occur with the Potnia of the Labyrinth.

<sup>85</sup> Attested in the L(1), Lc(1), Lc(2) and Ld(1) sets; L 651 pa-we-o (F14;103); Ws(1) 8499 pa-wo (F21;103).

*PA*. One piece of *pa-we-a* equals 1.67 LANA units (c. 5 kilos of wool).<sup>86</sup> There is documentation for hundreds of *pa-we-a* targets and deliveries, from both central<sup>87</sup> and western Crete.<sup>88</sup> Collectors<sup>89</sup> seem to produce more *pa-we-a* than the non-collector groups.<sup>90</sup> Most *pa-we-a* in the MAP are decorated with *o-nu-ke*, *onukhes*, edges or perhaps starting borders.<sup>91</sup> *pa-we-a ko-u-ra* \*161 is recorded by Hands 103 and 211 from the MAP,<sup>92</sup> and is associated with many textile terms for dyes, garments, and decoration.

#### \*158

Logogram \*158 is only attested in the MAP.<sup>93</sup> In the **Ld(1)** storage set, *pa-we-a* – often in sets of 25 or 35 – are recorded with one single piece of \*158, probably a textile-related item.

#### \*162 TUN

Logogram \*162 TUN is attested in the RCT, NEP and MAP, but in the MAP it is primarily recorded by Hand 103<sup>94</sup> and ligatured with endogram *KI*, plausibly an abbreviation of *ki-to/khiton*. There is a close connection between *pa-we-a* \*161 TELA and TUN+*KI*.<sup>95</sup> Killen even suggests that TUN+*KI* is in fact the resulting garment made of *pa-we-a* \*161, so that TUN+*KI* is the finished *khiton* garment while *ki-to(-na /-pi)* denotes that the fabric should be cut and sewn into *khitons*.<sup>96</sup>

<sup>86</sup> KILLEN 1964; 1966; Nosch 2012, 327-331.

<sup>87</sup> For central Crete, there is a total non-collector target of 200 pa-we-a on Lc(1) 536. On Lc(1) 535, Hand 103 records the total collector target of pa-we-a, and this would correspond to the sum of individual collector pa-we-a targets, which amount to more than 366 pa-we-a.

<sup>88</sup> Lc(2) 481, 504, 581. Probably also pa-we-a on Lc(2) 483.

<sup>89</sup> Lc(1) 532: 16 pa-we-a (from ]ku-wo); 551: 110 pa-we-a (from e-me-si-jo); 7392: 240 pa-we-a (from we-we-si-jo).

<sup>90</sup> KILLEN 1979; Nosch 2012, 327-331.

<sup>&</sup>lt;sup>91</sup> Firth & Nosch 2002-2003, 121-142.

<sup>&</sup>lt;sup>92</sup> Lc(1) 531, 534, 7376 (F10;103); L 590 (G2;103), L(2) 593 (F14;103), L(2) 5108 (-;103), L(7) 592 (F14; 211).

<sup>93</sup> Ld(1) 571-573, 575-577 (F14;116), L 578 (F3;-), Ld 5647 (116?).

<sup>&</sup>lt;sup>94</sup> L(2) 593, 647, 5961; L(1) 594, 5745; Lc(1) 646, all by Hand 103; L 595 (F19;116?); L 693 (F19;103) has ki-to and e-pi-ki-to-ni-ja.

<sup>95</sup> L(2) 647 records TUN+KI 3 and at least TELA 20, L(2) 593 records at least TUN+KI 3 and at least \*161 TELA 5, and L(1) 594 records TUN+KI 1 and pa-we-a TELA 1.

<sup>&</sup>lt;sup>96</sup> Killen 1979, 171.

Tablet **L 693** records a *ki-to* woven of *ri-no re-po-to*, fine linen, which reflects a qualitative difference in the plant fibre preparation and thus the quality and fineness of the fabric. In the **L(1)** set, there are records of a few linen (ri-ta) pa-we-a recorded with a tunic. Hence, pa-we-a or TELA+PA was made of wool in the NEP, and pa-we-a in the MAP was made of wool or flax.

# Conclusion, and the diachronic interpretation of the Knossos textile administration

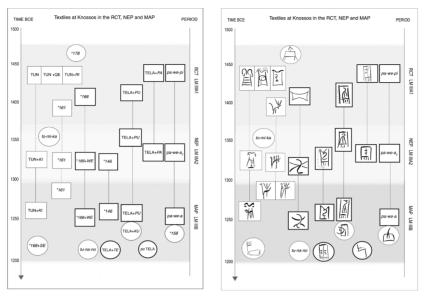
This paper's argumentation is based on a small number of tablets, and hence the presence or absence of certain textiles can be explained by random preservation. However, I will here attempt to contextualise the Mycenaean textiles within the three parts of the Knossos corpus and interpret them in relation to each other. Here I follow Firth and Skelton, who argue that each of the three phases has its own characteristics and responds to certain economic and political needs in the c. 200 years span of the LM III A-B period.<sup>97</sup>

Some textile types occur (so far) only in the RCT, such as \*178 and TUN+RI. Other RCT textiles also occur in the later phases, yet with modifications: \*166 in the RCT later becomes \*166+WE; pa-we-pi and TELA+PA appear in the RCT, pa-we-a2 and TELA+PA4 in the NEP, and pa-we-a1 in the MAP.

Since the RCT has a military focus, it is plausible that the textiles on the **Sc** tablets are military garments. We observe a significant change for TUN: while there are TUN, TUN+QE and TUN+RI in the RCT, there are in the NEP and MAP less types of TUN and another kind of TUN occurs: TUN+KI, a tunic, and not recorded in a military context in the NEP and MAP. We also observe the absence of \*146, tu-na-no, to-mi-ka and TELA +TE/ te-pa in the RCT.

It can be concluded that some types of textiles are common to the RCT, NEP and MAP; but other textiles are confined to only the RCT (\*178, \*166), or the NEP (to-mi-ka), or the MAP (TELA+TE, tu-na-no, po TELA). These observations suggest that textile types may change over

<sup>97</sup> FIRTH & SKELTON 2016b, 209: "The Early Knossos Linear B style is used on the RCT tablets that are primarily concerned with the allocation of military equipment (...). The Late Knossian Linear B style is primarily used on tablets associated with the management of the wool and textile industry, but it is also used on tablets listing honey, herbs and spices."



**Fig. 1a-b.** Textile types at Knossos in the RCT, NEP and MAP (round frame: attested on one site only; thin frame: attested in one phase only).

time, new types may appear, and older types are abandoned, and that the administration of textiles evolves over time.

The division of the Knossos corpus into the RCT, NEP and MAP can generate new suggestions for find-places and assignment to sets and series:

- The nodule **Wb 8711** with the restoration <code>]o-a-pu-do[-si] tu-na-no[</code> demonstrates that the administration used nodules for the receipts of <code>tu-na-no</code>. The nodule has no identified hand nor find-place and is a surface find from the area of the Little Palace. However, since <code>tu-na-no</code> is only attested in the MAP and perhaps only by Hand 103, it is attractive to associate this nodule with the MAP with an origin in F1-F18.
- \*168 and \*168+SE are only attested in the MAP. On **U** 7505 (unidentified hand and find-place) 30 pieces of \*168 are recorded, suggesting that **U** 7505 should be associated with the MAP.
- TELA+*TE* is widely attested in the MAP. However, TELA<sup>3</sup>+*TE* does occur on roundel **Ws 8153** (I4?;-) but since this textile is so far unattested in the NEP, it is reasonable to question the find-place and rather suggest a provenance in the MAP.

• **Le 641** with the TELA+*TE* producers *te-pe-ja* is from the MAP. *te-pa*[ may occur on **X 1432** from J1 and perhaps on **L 5090** from E6 (Room of Niche), perhaps associating E6 and the MAP.

- TELA+PA and pa-we-pi are attested in the RCT and we may assume that RCT hands would write pa-we-a<sub>2</sub>, since this is also how the textile is spelled in the NEP, in contrast to the MAP tablets where the textile is written pa-we-a.<sup>98</sup> There is one exception to this: L 771 is from I4 and records *khitons* and pa-we-a, and this spelling would suggest the MAP and not the NEP; alternatively, the aspiration of -a was still in the process of disappearing in the time of the NEP.
- The logogram TELA+*PA* occurs in the RCT (**L 178**); in the NEP, logogram TELA+*PA* is attested twice. In the MAP, many hands record *pa-we-a*, yet none of them write TELA+*PA* but always *pa-we-a*. In the MAP, and despite that was no longer in use in the MAP. However, on **L 523** and **L 7387** are two very uncertain attestations of TELA\**PA*, and despite the fact that **L 523** is associated with the MAP (F8), it is tempting to associate these two tablets with the RCT or NEP, or, alternatively, to suggest that **L 523** does not record TELA\**PA* but another textile more typically attested in the MAP, such as TELA+*PU*, TELA+*TE* or TELA+*KU*.
- TELA+*KU* is closely connected to TELA+*PU* in the **L**(**4**) set by Hand 208 from the MAP, where the two textile types are recorded together, first with numbers of TELA+*PU*, followed by numbers of TELA+*KU*. TELA+*KU* is only attested at Knossos, and so far only in the MAP.<sup>101</sup> There are also TELA+*KU* recorded with TELA+*PU* in the **L**(**8**) set by Hand 212, yet without any find-place.<sup>102</sup> The analogy with the **L**(**4**) set and the fact that TELA+*KU* so far only appears in the MAP, makes it attractive to associate the **L**(**8**) set to the MAP.<sup>103</sup> Other tablets recording TELA+*PU* cannot be assigned to a hand or find-place.<sup>104</sup>

<sup>98</sup> Nosch 2022.

<sup>99</sup> Ld(2) 786, 787 by Hand 114.

<sup>&</sup>lt;sup>100</sup> Hands 103, 113, 116 and 211 write pa-we-a.

<sup>&</sup>lt;sup>101</sup> L(4) 515-516 and 7413 (F7;208). L 514 (F7;-). TELA+KU may also be recorded on L(4) 475, 480, 484, 489, 501, 7390, 7415, 7416, 7578.

<sup>&</sup>lt;sup>102</sup> L(8) 1647, 7404 and probably 7411 (-;212).

<sup>103</sup> Moreover, the analogy with the L(4) set and the fact that TELA+KU so far only appears in the MAP makes it attractive to associate L 5757 and L 9200 with TELA+KU to the MAP as well.

<sup>&</sup>lt;sup>104</sup> The L(10) set by Hand 214 records Tela+PU, and L(10) 735 is from H2 (Bathroom, part of Throne complex). See also L 2127, 5561, 5569, 5582, 7403, 7405, 7406, 7408, 7410, 7414, 7833. An astonishing large number of 980 pieces of Tela+PU is recorded on L 5561, see Killen 2000-2001, 391-393; Melena 1996-1997, 418; Nosch 2004.

Table 1 compares the textile vocabularies by Hand 114 in the NEP and Hand 116 in the MAP:

NEP Ld(2) set	Ld(2) vocabulary by Hand 114	Ld(1) vocabulary by Hand 116	MAP Ld(1) set
785 785,786,788, 785,786,787 786,787,8192 785-787,8192	ki-ri-ta ke-ro-ta ki-to-na, ki-to-pi a-*34-ka *161 TELA+PA		
786, 787, 786, 787, 788, 787 785 785 L 871 L 871 L 871	pa-we-a <sub>2</sub> o-re-ne-ja e-ru-ta-ra-pi po-ki-ro-nu-ka pe-ne-we-ta e-qe-si-ja te-tu-ko-wa	pa-we-a o-re-ne-ja e-ru-ta-ra-pi po-ki-ro-nu-ka pe-ne-we-ta e-qe-si-ja e-ro-pa-ke-ja po-ri-wa ko-ro-ta <sub>2</sub>	571-575, 579, 649, 5601 579, 583 573, 585, 649 579, 584, 587, 598, 5845 571, 572 571, 572, 575, 583 595 587 587, 598, 599
		ke-se-nu-wi-ja pa-ra-ku-ja/ *56-ra-ku-ja a-ro <sub>2</sub> -a re-u-ko-nu-ka	573, 574, 585, 649 575, 587 571, 572, 583 571-574, 583, 585, 587, 591, 598, 649, 656, 5615

Table 1. Textile descriptions by Hands 114 (NEP) and 116 (MAP).

The comparison of the two **Ld** sets from the NEP and MAP, respectively, highlights the rich textile vocabularies but also demonstrates that the two sets, and the two hands, use quite different terms for describing textiles. Hand 114 in the NEP describes textiles as TELA+PA or pa-we-a<sub>2</sub> while Hand 116 in the MAP calls them pa-we-a. The term a-\*34-ka only occurs in the NEP, and the syllable \*34 becomes rare in the MAP. Across the NEP and MAP, textiles are described as o-re-ne-ja, e-ru-ta-ra-pi, po-ki-ro-nu-ka, pe-ne-we-ta and e-qe-si-ja. It is surprising that the

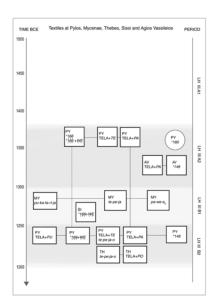
<sup>&</sup>lt;sup>105</sup> Nosch 2022.

<sup>106</sup> See Pierini, this volume.

description *re-u-ko-nu-ka*, very frequent in the MAP, is never attested in the NEP. *pa-we-a re-u-ko-nu-ka* is hence a marker of MAP textile production, and perhaps represents an innovation or a special situation in the MAP.

# Script developments

Some textile names and logograms testify to longevity and stability from LM IIIA1 to LM IIIB, such as TUN and TELA+PU. Other textiles testify to slight changes: in the RCT, TUN is given the endograms QE and RI, but in the NEP and MAP it is given the endogram KI; in the RCT, \*166 appears 'clean,' but is given the endogram WE in the NEP and MAP; pa-we-a<sub>2</sub> is spelled differently in the NEP and MAP. Other textiles again are unique to only one part and only occur there: to-mi-ka in the NEP, tu-



**Fig. 2.** Textiles at Pylos, Mycenae, Thebes, Sissi and Agios Vassileios

*na-no* and TELA+TE in the MAP. In contrast, \*161 TELA is attested in the RCT, NEP, and MAP. The logogram is a monogram of two syllables, but these change over time: in the RCT (**L 178**), \*161 consists of the syllables -mi- + -re- or -i-, <sup>107</sup> in the NEP -mi- + -pu<sub>2</sub>- (Hand 114), and in the MAP, it appears as either -mi- + -re- by Hand 103, <sup>108</sup> or as -mi- + -pu<sub>2</sub>- by Hand 211.

# Mycenaean perspectives

The LH IIIA2 site Agios Vassileios has \*146 and TELA+PA, similar to the NEP. TELA+PA appears in LH IIIA2 Pylos, it continues in use in LH IIIB2 Pylos, but it is not used in Crete in the MAP.<sup>109</sup> pa-we-a<sub>2</sub>

<sup>&</sup>lt;sup>107</sup> Melena 1975, 97; Weilhartner forthcoming.

<sup>&</sup>lt;sup>108</sup> Melena 1975, 95.

<sup>109</sup> SKELTON 2011, 117: "Thus, the use of the ideogram TELA+PA in the Megaron tablets represents an original scribal practice which appears to have continued on the Mainland but was replaced later at Knossos by the term fully written out." Skelton suggests that TELA+PA would disappear

is spelled with aspiration in Mycenae (**Oe 127**), like in the NEP. These parallels suggest a close exchange of vocabulary, spelling and logograms between the mainland sites and the NEP phase in Knossos.

\*166 and \*166+WE both occur at Pylos, probably both in the LH IIIA2 Megaron tablets and in the later LH IIIB2 Pylos archive. <sup>110</sup> In Crete, \*166 occurs first in the RCT, while \*166+WE occurs later in the NEP and MAP. It is worth noticing that even if \*166/\*166+WE are not abundantly attested, they seem to occur in all phases both in Pylos and in Knossos, and were recently also found in LM IIIB1 Sissi, Crete. <sup>111</sup>

TELA+TE appears both in the LH IIIA Megaron tablets and in LH IIIB2 in Pylos, and on three LH IIIB mainland sites, Mycenae, Thebes and Pylos, the terms te-pa and te-pe-ja are found. III In contrast, in Crete TELA+TE only occurs in the LM IIIB MAP. Hence TELA+TE might have a longer tradition on the mainland than in Crete; in contrast, TELA+PU appears to have a longer tradition in Crete, because it occurs first in the RCT, in the NEP, and continues in the MAP, but is not attested in the Megaron tablets though it occurs in LH IIIB1 Mycenae (pu-ka-ta-ri-ja on X 508) and LH IIIB2 Pylos.

Contemporary LM/LH IIIB textiles are *pa-we-a*, \*146, \*166+WE, TELA+PU, TELA+TE and perhaps *po* TELA if it is equal to TELA+PO at Thebes. 112 One type of textile, \*160, occurs only on the mainland, and only in the LH IIIA2 tablets at Pylos, but \*160 appears to be a variant of \*146 and appears to be replaced by \*146 in LH IIIB2. More textiles are so far only attested at Knossos: \*158, *tu-na-no*, \*164, \*161, \*168, \*178 and *to-mi-ka*. Some of them may be Minoan textile types. Knossos hence demonstrates more variety in textiles than the mainland sites.

because it could be confused with TELA+TE.

<sup>&</sup>lt;sup>110</sup> Nosch 2012, 343-344; Skelton 2011.

<sup>111</sup> Driessen et al. 2012, 24, Fig. 1.5.

<sup>&</sup>lt;sup>112</sup> Nosch 2002.

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