

**Sonderdruck aus „Bayerische Vorgeschichtsblätter“ 80 (2015)**

# Amber inscribed in Linear B from Bernstorf in Bavaria

## New light on the Mycenaean kingdom of Pylos\*

Richard Janko, Ann Arbor

### 1. The finds from Bernstorf

Some archaeological and epigraphic finds are so startling that they seem to make no sense. With no knowledge of the Vikings, we would not expect to discern Norse runes on a stone lion in the Piraeus or discover Arab dirhams in Dublin. The Aegean script Linear B should not be found in Bavaria, even in a Bronze Age context. Any attempt to explain such a puzzle will of necessity draw on various disciplines and materials – in this case, the epigraphy of Linear B, early metallurgy, records of governors and female slaves at Pylos and Knossos, amber in Messenia, the geography of the kingdom of Pylos, and historical evidence from c. 1350–1200 BC for roving warriors in the Levant and Aegean. Only by adopting a very broad outlook can we hope to explain something so bizarre – unless the objects from Bernstorf are outright forgeries. But what if they are not?

The hamlet of Bernstorf lies in Upper Bavaria near Freising in the vicinity of Kranzberg, on the river Amper not far from the Danube and some 40 km north of Munich. It happens to be the site of the largest Middle Bronze Age fortification so far known north of the Alps. The site was located in 1904 by Josef Wenzl, a local schoolmaster, who drew a sketch-plan of the fortifications, half of them buried in the forest. Since 1955 two thirds of the enceinte has been destroyed for the extraction of gravel and marl; its original length was 1.6 km and it encompassed an area of 12.8 ha. In 1992 two amateur archaeologists associated with the Archaeological Museum in Munich, Manfred Moosauer, an ophthalmologist, and Traudl Bachmaier, a bank-employee, discovered that the site was enclosed by a timber stockade that burned so fiercely that vitrification occurred; the temperature reached was 1350 °C<sup>1</sup>. With the authorities' permission, they excavated a small area of its NE sector in 1994–8. Burned timbers yielded a preliminary <sup>14</sup>C date for its construction of 1370–1360 BC, during the local late Middle Bronze Age<sup>2</sup>.

In August 1998, after the archaeological excavations had ended, the contractor's bulldozers and graders tore up the trees over an area of about 1 ha within the rampart inside the gate. Reportedly, the drivers found a hinged bronze cuirass with nipples rendered in pointillé, a bronze helmet and bronze weapons, all too small to fit modern men<sup>3</sup>. Moosauer and Bachmaier, in dismay at the devastation, investigated the spoil-heap on 8 August and began to discover among the uprooted tree-stumps an extraordinary hoard of amber and golden objects that had been carefully folded and wrapped in clay; after the

first object was unearthed, most of the finds were made under official supervision between then and 29 April 1999, and all were taken promptly to the Museum<sup>4</sup>. Most of the material was encased in its original clay packing, which has been analysed and proves to come from Bernstorf<sup>5</sup>. This remarkable cache included six irregular centrally perforated lumps of amber<sup>6</sup>, a wooden sceptre which partly survived in a carbonized state (at the laboratory in Oxford the charcoal received a calibrated <sup>14</sup>C date of 1400–1100 BC with 95.4% probability)<sup>7</sup> and had a spiralform gold wrapping<sup>8</sup>, a gold belt with pierced triangular ends, a gold bracelet, a crown made of two layers of sheet gold with five attached vertical elements rising from its horizontal headband, a dress-pin of twisted gold with a flat triangular head, a gold diadem or cloak-fastener with pierced, pointed ends, and seven square gold pendants pierced at one corner for attachment (*Fig. 1*); in total these weigh 103.4 g<sup>9</sup>. The jewellery is made of sheet gold uniformly c. 25 mm in thickness<sup>10</sup>. Most of it was produced by a single workshop in repoussé by hammer-

\* I warmly thank Rupert Gebhard of the Archäologische Staatssammlung in Munich, who kindly shared with me Figs. 1–3, 5 and much other valuable information, Olga Krzyszkowska for Fig. 4 and for other help, and Helen Hughes-Brock and two anonymous experts on Linear B for critical readings of this manuscript. I am also grateful to Margaret Beeler, Manfred Moosauer, Sarah P. Morris, and Malcolm Wiener. None of them necessarily agrees with my findings, which challenge the standard orthodoxies at multiple points.

- 1 D. D. Klemm, in: Moosauer/Bachmaier 2000, 74. See also Gebhard et al. 2004.
- 2 Gebhard/Rieder 2002, 115–117. Moosauer/Bachmaier (2000, 71–72) gave calibrated <sup>14</sup>C dates for the beams of 1675–1510, 1515–1410 and 1515–1330 BC; these must represent the interiors of the beams and date the construction too high. Hence Marazzi (2009, 142) gives the objects an excessively early *terminus ante quem* of c. 1350.
- 3 Moosauer/Bachmaier 2000, 67, who report that a nearby urnfield with bronze arrowheads and spearheads had already been found and destroyed during the building of a CD-factory in the 1980s; presumably these finds date from the Hallstatt reoccupation.
- 4 Moosauer/Bachmaier 2000, 61 with figs. 87–89; Gebhard et al. (2014, 763–765) confirm the circumstances of the finds.
- 5 Gebhard et al. 2014, 765–766.
- 6 David 2001, 70 Abb. 9.
- 7 Test-no. OxA–8361, uncalibrated date 2995 ± 40 BP, using the Oxcal calibration curve of 1986 (Gebhard 1999, 5).
- 8 For a parallel from Shaft Grave IV at Mycenae cf. Karo 1930, 81 Abb. 19 (no. 296).
- 9 Gebhard et al. 2014, 767.
- 10 C. Lühr, in: Bähr/Krause/Gebhard 2012, 30 with Abb. 25.

ing the gold with punches made of bone or wood rather than of metal<sup>11</sup>; the decoration is rows of concentric circles and of diagonally hatched triangles, with a square tooth-pattern along the edges<sup>12</sup>. However, pointillé decoration is used on the sceptre and pin-head, which bears the wheel-pattern ⊕ impressed in dots (there is no suggestion that this is writing)<sup>13</sup>. The projections on the crown were held in place with slots, as in Aegean crowns as early as that from Mochlos Grave VI<sup>14</sup>. The hoard was

at first dated to the 16th or 15th centuries BC, because the style of the goldwork was compared with that of the rich finds from the Shaft Grave Circle A at Mycenae<sup>15</sup>. However, parallels with the gold of the Shaft Graves are weak<sup>16</sup>, and an initial <sup>14</sup>C calibrated date of the wood from the sceptre, obtained in the laboratory at Oxford, gave a result of 1390–1091 BC<sup>17</sup>; three further <sup>14</sup>C tests have given a tighter chronological range, with two yielding 1389–1216 ± 1 BC<sup>18</sup>. Although this is the only gold crown



Fig. 1. Bernstorf, Lkr. Freising. Hoard of golden objects.

possibly of Aegean type that has been found outside the Aegean<sup>19</sup>, the treasure has been thought to derive from a local workshop under both Carpathian and Mycenaean influence<sup>20</sup>, or to come from a local workshop using material imported from afar<sup>21</sup>. The metal is too soft for the objects to have been used in ordinary life, and they were certainly ceremonial equipment; it has plausibly been proposed that they adorned a cult-statue or *xoanon*<sup>22</sup>, but they could also have been used for mortuary purposes. The gold bears some traces of combustion. In its final use it was carefully folded and deposited as a hoard. Further excavations, now led by the Bayerisches Landesamt für Denkmalpflege, took place on the S. side of the rampart in 1999–2001, and revealed that it had been constructed from an estimated 40,000 oaken logs and was completed with a ditch.

During the archaeological excavations of 2000, the directors decided to use a mechanical digger to clear an area of previously unproductive soil within the rampart, some 50 m E. of the find-spot of the hoard, in preparation for another rescue-excavation; however, after heavy rain, the resultant spoil-heap was seen to contain some prehistoric sherds, whereupon they asked the amateurs to search it. On two successive Saturdays, 11 and 18 November, Moosauer and Bachmaier, together with Alfons Berger, the deputy mayor of Kranzberg, found two inscribed amber objects, Objects A and B, along with sherds of a local Middle Bronze Age pot decorated with incised lines<sup>23</sup>. These were promptly handed to the Museum, where Object B was found still to be surrounded by a matrix of local sand and clay; they are described below.

Amber Object A (Fig. 2) is a roughly triangular piece of dark brown amber, 3.21 cm wide by 3.05 cm high and 1.08 cm in thickness. It has on the 'obverse' (Fig. 2, left) a male face with eyebrows, nose, mouth, and ears shown by simple incised lines; incised circles represent the eyes, and a beard is indicated by a number of short oblique incisions (no moustache is shown). It was compared with the famous gold funeral mask of 'Agamemnon' found by Heinrich Schliemann in Shaft Grave V at Mycenae,<sup>24</sup> but is actually very crude. The 'reverse' (Fig. 2, right) bears three incised linear signs that in general appearance resemble the Linear B script. However, two of them are in fact very hard to identify in that script (see section 7). Like the amber beads in the hoard, its edges and reverse display signs of melting and burning. However, where it is unburnt one can see that the surface of the reverse was smoothed or polished before the incisions were cut.

Amber Object B (Fig. 3) might be held roughly to resemble a scarab in shape. It is made of bright yellow amber. It is 2.1 cm high, with a flat oval obverse measuring 2.4 by 3.1 cm and a convex reverse. It has a conical hole 0.35–0.31 cm in diameter, drilled from one end only, along the longer dimension of the reverse. Its upper and lower surfaces were carefully smoothed and polished before the incisions were made. Two thin strips of sheet gold, of much the same thickness and composition as the gold of the treasure, were found by X-ray analysis deep within the hole. The object seems not to

have been burnt. On the obverse it bears three incised linear signs. The 'exergue' below the signs on its obverse bears a horizontal line with five vertical elements rising from it; this has been interpreted as a reasonably accurate depiction of the gold crown seen in Figure 1<sup>25</sup>. Above this it has three signs, which were correctly read in Linear B as  $\ddagger^{\text{X}}\text{u}\text{A}$  *pa-nwa-ti* in the *editio princeps*, where the inscription received the number BE Zg 2<sup>26</sup>. This reading of the signs is opaque in meaning, but the presence of the sign  $\text{X}^{\text{u}}$  *nwa* confirmed, in the eyes of

- 
- 11 Gebhard 1999, 9; David 2007a, 435.
  - 12 The best parallel for the triangles is the gold disc from Moordorf near Aurich in northern Germany (Gebhard 1999, Taf. 8), which is also made of 99.9 % pure gold with 0.1 % silver and 0.03% lead (Hartmann 1970, 108–109, item Au 1122). There are rows of hatched triangles on the gold lunulae from St Juliot in Cornwall and Mangerton in county Kerry (Schulz 2012, 114–115 with Abb. 11). In the Aegean there are hatched triangles on the gold sceptre from Shaft Grave IV at Mycenae (no. 308–309 in Karo 1930, 84, Abb. 20, Pl. XVIII), but the hatching is horizontal rather than diagonal; similarly the gold dress-ornament from Shaft Grave IV, no. 302 (Karo 1930, 81 Abb. 19, Pl. XLV). The triangles are hatched in opposite directions about a central divider on the button no. 325 from Shaft Grave IV (Karo 1930, Pl. LIX). There are alternating hatched triangles on a gold sword-attachment from Shaft Grave A (Mylonas 1972–1973, πiv. 125s).
  - 13 Gebhard et al. 2014, 770–771, citing parallels from Germany and the Aegean.
  - 14 Gebhard 1999, 12 with Abb. 10.
  - 15 Hence Marazzi (2009, 142) gave the upper limit for their dating as c. 1600 BC.
  - 16 David 2007a, 435–6.
  - 17 Gebhard 1999, 5.
  - 18 Gebhard et al. 2014, 767 with Abb. 3 (samples MAMS 16186, 16187).
  - 19 Kristiansen/Larsson 2005, 204 fig. 94. For the distribution of diadems of sheet gold in the Aegean, and an argument that their use was not exclusively funerary, since a woman appears to be wearing one on a fresco from Xeste 3 at Thera, see Zavadil 2009, 101–103 with Abb. 6–7. A lozenge-shaped gold diadem with stamped circles and zigzags is known from Binningen near Basel (item Au 445 in Hartmann 1970, 106–107, with Taf. 41).
  - 20 Gebhard 1999, 16; likewise David 2007a, 435–436.
  - 21 David 2003, 38; 2007a, 435.
  - 22 Gebhard 1999, 17; Bähr/Krause/Gebhard 2012, 38 with Abb. 33.
  - 23 Gebhard/Rieder 2002, 118–120 with Abb. 3. For their own account of the discovery see Moosauer/Bachmaier 2005, 99–131, 140–143.
  - 24 Hughes-Brock (2011, 104) uses the comparison as an argument against the authenticity of the amber seal, suggesting that the forger copied the well-known 'Agamemnon'.
  - 25 Gebhard/Rieder 2002, 131. Hughes-Brock (2011, 104) interprets the resemblance as an argument against authenticity, as if the seals were created to authenticate the crown. However, there is a striking parallel for an interaction between the treasures in a hoard and the images found in them in the Tiryns Treasure, where a gold ring depicting a goddess holding a chalice was found, with the other objects, inside a highly unusual bronze chalice (Maran 2012, 123–124; 2013, 160).
  - 26 Gebhard/Rieder 2002, 130–131, in consultation with J.-P. Olivier. BE stands for BE(rnstorff) and Zg indicates an inscription on amber rather than clay.



Fig. 2. Bernstorf, Lkr. Freising. Amber object A (BE Zg 1). Obverse: bearded male head, facing; Reverse: inscription in Linear B. Scale 2:1.

both the experts who were consulted at the time, L. Godart and J.-P. Olivier, that we are dealing with Linear B rather than Linear A, in which script that sign does not occur<sup>27</sup>. We shall return to their reactions below (see section 2).

Further excavations of the south-west sector of the ramparts followed in 2007 and 2010–11, together with a geomagnetic survey by the University of Frankfurt. These have showed that occupation at the site began in c.1600 BC, and that after its abandonment it was reoccupied to a lesser extent in Hallstatt and Medieval times<sup>28</sup>. Although <sup>14</sup>C dating has given two possible chronological ranges for the construction of the rampart, 1376–1326 or 1317–1267 BC<sup>29</sup>, dendrochronological study shows that its logs were felled between 1339 and 1326 BC, more probably close to 1339<sup>30</sup>. Local archaeologists believe that it was burned within one generation of its construction, since in their view such structures were never long-lived<sup>31</sup>.

The curators of the Archäologische Staatssammlung at Munich are certain of the authenticity of both the inscribed amber and the golden objects, which, they write, is guaranteed by the find-spot and the circumstances of the discovery, by the investigations that were immediately carried out in their laboratories, and by subsequent research<sup>32</sup>. Careful scientific studies have produced no valid proof that any of them have been tampered with since their discovery<sup>33</sup>. However, the purity of the gold is a stumbling-block. The first X-ray fluorescence analyses revealed the gold to be highly refined, with under 0.5% of base metal and under 0.2% of silver, presumably by the use of the salt cementation method that is first described by Agatharchides of Cnidus in

the 2nd century BC<sup>34</sup>; the dearth of silver shows that the gold was not a local product from alluvial sources<sup>35</sup>. Salt cementation is first documented archaeologically in Sardis in the mid-sixth century BC, but could have existed in the Bronze Age<sup>36</sup>. Later studies have shown that the gold is about 99.7% pure by weight; none of the pieces contains any copper or silver at all, but traces of antimony and sulphur in proportions that are roughly similar in all the objects<sup>37</sup>. The two small pieces of gold wire from deep within the perforation of amber Object B<sup>38</sup> have a purity and composition almost identical to that of all the other golden objects from Bernstorf<sup>39</sup>. This shows that the authenticity of both sets of finds is a single question, which is also linked to the early radio-carbon date of the wood from the sceptre. The presence of these trace-elements has been held both to exclude modern electrolytic gold<sup>40</sup>, and to prove that this is what the Bernstorf objects are made of<sup>41</sup>. There are still rather few comparanda for the composition of early gold; only a handful of Bronze Age artefacts from Northern Europe are made of such pure gold, notably the Moordorf disk, which also has similar decoration<sup>42</sup>. However, such gold is known from the handle of a Mycenaean sword from Chamber Tomb 12 (the 'Cuirass Tomb') at Dendra in the Argolid; the tomb was closed in LH IIIA 1, but the sword may be LH IIB. This was pure except for 0.01% silver, 0.13% bronze, 0.002% tin, and 0.017% platinum<sup>43</sup>. The gold matrix of the mask of Tutankhamun is 97–98% pure by weight<sup>44</sup>. A finger-ring from Amarna is 98.2% pure<sup>45</sup>, while the gold in the so-called 'coffin of Akhenaten' found in the Valley of the Kings (KV 55) is 99% pure<sup>46</sup>, but differs in other respects<sup>47</sup>. For paucity of comparative data, we simply do



Fig. 3. Bernstorf, Lkr. Freising. Amber object B (BE Zg 2). Obverse: inscription in Linear B. Scale 2:1.

not yet know how pure Bronze Age gold could be<sup>48</sup>. Lack of comparative data also hinders the determination of the origins of central European and Mycenaean gold<sup>49</sup>; the latter has been linked with Transylvania, Nubia, or possibly the Black Sea.<sup>50</sup>

The amber is succinite from the Baltic<sup>51</sup>. When, at the Museum, Object B was first removed from the matrix of local sand and clay in which it was found, it looked like new. Freshly cut amber fluoresces strongly under ultra-violet light, and this phenomenon lasts for ten to twenty years of exposure to light and air. When both pieces were examined shortly after they were found they fluoresced very faintly<sup>52</sup>. However, examination of other pieces of amber found in an excavation at Ilmendorf near Ingolstadt showed that they too all fluoresced faintly, whereas no fluorescence was seen in any of over a hundred pieces of Roman and Bronze Age amber in the Archäologische Staatssammlung which had been out of the ground for between thirty years and a century. Rather than prove these items to be forgeries, the comparison shows that the amber was relatively fresh when it was buried, and that its fluorescence was preserved by its burial<sup>53</sup>. Like the gold and amber from the cache, the two inscribed objects show traces of burning and melting. The lack of reoccupation at Bernstorf until the Hallstatt period suggests that the combustion of its fortifications provides a *terminus ad quem* for the artifacts found there. The hoard of gold and the carved amber objects were perhaps buried for safety by their owner or owners, never to be recovered, before the fortifications were fired, or were rescued from the fire and interred shortly thereafter.

- 27 Gebhard/Rieder 2002, 129–130.  
 28 Bähr/Krause/Gebhard 2012, 37–38.  
 29 R. Gebhard, pers. comm., 1 March 2013. Herzig/Seim (2011, 121) report a range of 1515–1330 BC for the timbers.  
 30 Herzig/Seim 2011, 121; Bähr et al. 2012, 19.  
 31 Bähr/Krause/Gebhard 2012, 38–39.  
 32 Bähr/Krause/Gebhard 2012, 37–38 with n. 89.  
 33 Gebhard/Rieder 2002, 126–128; Bähr/Krause/Gebhard 2012, 37; Gebhard et al. 2014, 772.  
 34 Cited by Diodorus Siculus 3. 11–12.  
 35 Gebhard 1999, 9–10.  
 36 This method has been proved to have used in sector Pactolus North, but it is often thought not to have been invented before that time: see Craddock 2000, 31–32, who argues that there was no motive for refining gold before the invention of coinage, so the method would not have been invented before (likewise Pernicka 2014, 251). But this is an *argumentum e silentio*, and earlier experimentation can hardly be excluded. Thus Craddock showed that treatments to enhance the surface of gold go back to the 4th millennium BC (2000, 27–30).  
 37 C. Lühr, in: Bähr/Krause/Gebhard 2012, 27–30. The presence of sulphur and antimony, known in gold from Early Dynastic Egypt, may indicate that the gold derived from deposits of auriferous pyrites, which are often rich in these elements (Craddock 2000, 71 n. 68).  
 38 Gebhard/Rieder 2002, 125 Abb. 9.  
 39 C. Lühr, in: Bähr/Krause/Gebhard 2012, 28–30 with Abb. 23–25.  
 40 C. Lühr, in: Bähr/Krause/Gebhard 2012, 27–30.  
 41 Pernicka 2014.  
 42 Gebhard et al. 2014, 773; for its purity, and similarity to the Bernstorf gold, cf. Pernicka 2014, 251–253 with Abb. 3; he notes, however, that it contains silver and platinum, as one would expect if it is a product of salt cementation. To the possibility that the Moordorf disk proves that salt cementation was used in the Bronze Age, Pernicka objects that it is dated even earlier than the gold from Bernstorf (2014, 253); this cannot be a decisive objection, and he himself seems not to exclude that the Moordorf disk is genuine (2014, 255).  
 43 Item Au 3249/3250 in Hartmann 1982, 31–36, 150, with Tab. 36; cf. Åström 1977, 18 with Taf. VII.2. However, Hartmann's study by emission spectrography relied on scrapings taken from the objects' surfaces, which could have been enhanced by surface treatment (Craddock 2000, 51 n. 32).  
 44 Uda et al. 2007, 75, who showed that the face itself has a veneer of alloy.  
 45 Troalen et al. 2009.  
 46 D.D. Klemm, in: Grimm/Schoske 2001, 81–85. See now Klemm/Klemm 2012, 44–46, with figs. 4.3–4.4.  
 47 Pernicka 2014, 251.  
 48 J. D. Muhly, pers. comm., Dec. 2013. Pernicka suggested that the gold is 99.99% pure, without the bismuth, and hence is from electrolysis and of modern origin (oral comm., conference *Metalle der Macht: Frühes Gold und Silber*, 17–19 Oct. 2013 at Halle). However, subsequent testing by K. T. Fehr has confirmed the original analyses, and detected an inhomogeneous distribution of bismuth up to 3000 ppm, a phenomenon familiar to him from placer gold (R. Gebhard, pers. comm., Dec. 2013). Further tests are being done. One question that needs further exploration is whether all the varieties of the salt-cementation process always remove bismuth and antimony, as has been suggested on the basis of experimental archaeology (Wunderlich/Lockhoff/Pernicka 2014).  
 49 There seem to be many possible sources, but the presence of mercury as a trace-element is unusual: see Lehrberger 1995. The earliest mined gold seems to have been from the eastern desert of Egypt (Weisgerber/Pernicka 1995, 177–178), where it occurs with mercury (El-Bouseily et al. 1983).  
 50 For references see Zavadil 2009, 111–112.  
 51 C. Lühr, in: Bähr/Krause/Gebhard 2012, 30–35.  
 52 Gebhard/Rieder 2002, 123, 125, 126.  
 53 Gebhard/Rieder 2002, 127–128.

## 2. Reactions to the discoveries

Kristiansen and Larsson, in a wide-ranging study of travel and trade in the European Bronze Age, accept the authenticity of the finds at Bernstorf and regard them as an important support for the thesis that there were extensive contacts in LH II–III A (1500–1300 BC) between Scandinavia and the Tumulus Culture of southern Germany on the one hand, via the Adriatic, and the eastern Mediterranean on the other<sup>54</sup>. As they note, the Uluburun shipwreck of c. 1305 contained both Baltic amber and an Italian sword<sup>55</sup>, as if amber routes via Central Europe and Italy were still operative<sup>56</sup>. However, the finds at Bernstorf are too outlandish and remote for them to have attracted much notice from scholars of the Aegean Bronze Age, a field which has seen some notorious forgeries and hoaxes<sup>57</sup>. Our inability thus far to identify parallels for Linear B on seals, to interpret the inscriptions convincingly, and to account for the nature of these objects has contributed to their continuing obscurity. When they have been noticed, they have attracted profound scepticism<sup>58</sup>.

Since the discovery of Linear B inscriptions in a Bronze Age context so far from Greece is completely unparalleled, forgery has been alleged, on several grounds: the amber objects were found by amateur archaeologists in an unstratified context, incisions can easily be made in amber, and assessing the condition of amber is a complicated question; convincing ‘antiquities’ made of it are not hard to create, and unworked amber was frequently found at the site<sup>59</sup>. Moreover, the discovery came at a convenient time to lend publicity to a book about the recent find of the cache of gold from the same site<sup>60</sup>. But it does not suffice to argue ‘was nicht sein darf, kann es nicht geben’, nor to try to impugn the integrity of their discoverers when there are no grounds for doing so<sup>61</sup>. Nor is it a valid objection to authenticity that the Bavarian amateurs have sometimes confused Minoan and Mycenaean in their publications<sup>62</sup>, and have made some far-reaching and probably exaggerated claims about their significance<sup>63</sup>. It should hardly need saying that wild comparisons and errors in popular publications do not in themselves constitute arguments that the objects under discussion are fakes (compare the Phaestus disc).

The reactions of Godart and Olivier to the inscriptions were mixed.<sup>64</sup> Godart regarded the second and third signs on Object A as possibly Linear A, but rejected its overall authenticity. He would not have hesitated to accept the authenticity of Object B had it been found in a Bronze Age Aegean context, and read the signs as *pa-nwa-ti*. But he concluded that both were forgeries, because Object B was found with Object A, which he considered a forgery, because no amber seals are incised with Aegean scripts and only one seal is inscribed in Linear B (see below), and because they were found in Germany<sup>65</sup>. Upon learning, from further correspondence, of the previous discovery of the hoard of gold, he wrote that there can be no question of for-

gery in this case<sup>66</sup>. Olivier read the signs in Linear B as a symbol probably followed by *ka-a* on Object A, and as *pa-nwa-ti* on Object B. He too was astounded by the findspot, but withdrew his scepticism after further correspondence.<sup>67</sup>

Apart from the possibility of forgery, three other reasons have been offered for rejecting the inscriptions from Bernstorf. First, if Object B is a seal its shape is unparalleled in the Minoan and Mycenaean corpora<sup>68</sup>. Secondly, if the parallels between the golden crown, the frontal portrait of a face on amber Object A, and the treasures from Grave Circle A at Mycenae, including the ‘Mask of Agamemnon’ from Shaft Grave V, are valid, these objects are much too early to be associated with Linear B<sup>69</sup>, which is first attested in the LM II or early LM III A 1 archive from the Room of the Chariot Tablets at Knossos<sup>70</sup>. Finally, although Linear B signs were freely written over sealings impressed on clay, ‘seals were not vehicles for Linear A and B. Nor was amber used for making them’<sup>71</sup>. However, these objections can be met.

First, although the shape of Object B (Fig. 3) is certainly unparalleled among Aegean seals, it may have been left largely in its natural shape. Object A largely retains its unworked shape.

Secondly, the gold is definitely to be dated after the Shaft Grave era on grounds of style, and perhaps too because of the purity of its composition. The similar composition of the gold wire found inside Object B seems to prove that the gold treasure and the inscribed amber were used together before their final depositions. Gold and amber were both worked in Room B of the palatial workshop at 14 Oedipus Street at Thebes in Boeotia<sup>72</sup>. If the goldwork were to be from the Aegean, its style does not match that of Late Middle Helladic and Early Mycenaean gold from the Argolid and Messenia, since both in Greece and in central Europe spiral and curvilinear decoration predominates at that time<sup>73</sup>. In this case, it was made later, perhaps in a peripheral area.

Thirdly, Linear B was certainly written on materials other than palatial clay tablets and Cretan stirrup-jars for trade in olive-oil. There must have been records on perishable materials, notably longer-term ledgers that correspond to the yearly records kept on the tablets<sup>74</sup>. The retention for two centuries or more of the curvilinear shapes of the signs, although they are written on clay, is a decisive proof<sup>75</sup>. Moreover, inscriptions on a sherd and on a stone weight have come to light at Dimini<sup>76</sup>. There are also a few connections between amber, seals, and Linear B. A single seal made of amber was found at Mycenae, an amygdaloid with grooved back showing a bull<sup>77</sup>; another probable specimen was found in a tholos-tomb<sup>78</sup> at Pellana in Laconia dating to LH III A<sup>79</sup>, and a third in tholos-tomb 1 at Routsis (Myrsinochori) in Messenia (LH III A), which may have borne a rare frontal image of a human head<sup>80</sup>. Their existence shows that amber was sometimes worked after its arrival in Greece<sup>81</sup>. In addition, there is a Linear B inscription on a seal from a secure Mycenaean context. A lentoid seal now in the Museum at Delphi<sup>82</sup>,

MED Zg 1 (Fig. 4), fully legible as Linear B, was found in the LH IIIC tomb 239 at Medeon in Phocis. Such items in LH IIIC tombs are often ‘heirlooms’, and naturally one suspects that it in fact dates from LH IIIA–B, when Linear B was still used<sup>83</sup>. It is published as ivory but is probably made of bone<sup>84</sup>. It has no figural decoration, but only the signs (reading from left to right)  $\hat{A}\Psi\Box e\text{-ko-}ja$ , an unparallelled sign-group<sup>85</sup>. However, every sign in this inscription happens to be symmetrical about its vertical axis; a retrograde reading of the seal from right to left would give a dextroverse reading in the impression<sup>86</sup>. If the order of the signs is indeed reversed, they read  $\Box\Psi\hat{A} ja\text{-ko-}e$ <sup>87</sup>. Both *ja* and *e* have medial as well as initial uses in sign-groups, but  $\hat{A}\Psi\Box e\text{-ko-}ja$  is perhaps preferable, since  $\hat{A} e$  is more common as an initial sign. Unfortunately neither reading supplies the basis for any obvious interpretation, and neither evokes any clear parallel in our present corpus of Linear B. We are probably dealing with an unknown personal name or conceivably toponym<sup>88</sup>. The interpretation of short sign-groups in this script

- 54 Kristiansen/Larsson 2005, 125–128, 235–236.  
 55 Kristiansen/Larsson 2005, 101–102. For the finds see Yalçın/Pulak/Slotta 2005, 589.  
 56 See now Czebreszuk 2011, who does not, however, mention the items from Bernstorff; likewise Maran 2013.  
 57 I refer above all to the ‘late Middle Helladic’ inscribed pebble, OL Zh 1, found at Kafkania near Olympia in Elis (Arapojanni et al. 1999), which was discovered during the excavations of 1998 on April Fools’ Day – a highly suspicious datum (Palaima 2002–2003).  
 58 Harding 2006, 463–465, and 2007, 52; Del Frio 2008, 221–222; Hughes-Brock 2011, 105–106; Harding 2013, 388, who, however, remarks that ‘the gold finds from Bernstorff have an unimpeachable provenance’. Cf. Facchetti/Negri 2003, 185–186.  
 59 Hughes-Brock 2011, 106.  
 60 Hughes-Brock 2011, 106–107, referring to Moosauer/Bachmaier 2000.  
 61 Bähr/Krause/Gehard 2012, 37–38 with n. 89.  
 62 Hughes-Brock 2011, 104–105.  
 63 Hughes-Brock 2011, 106, citing Moosauer/Bachmaier 2005, 112–116.  
 64 They are reported (in German translation) by Gebhard/Rieder 2002, 128–131.  
 65 ‘Ich muß Ihnen sagen, daß ich – wäre dieses Objekt in der Ägäis, an einer bronzezeitlichen Fundstelle entdeckt worden – nicht gezögert hätte, die vorliegende Gravur für authentisch zu halten’ (letter to Gebhard, 12 Dec. 2000, in: Gebhard/Rieder 2002, 129).  
 66 ‘Es sich unmöglich um Fälschungen handeln kann’ (letter to Gebhard, 11 Mar. 2001, in Gebhard/Rieder 2002, 130).  
 67 Gebhard/Rieder 2002, 130–131.  
 68 Hughes-Brock 2011, 106.  
 69 Hughes-Brock 2011, 104.  
 70 On the date see Driessen 2008, 71–72.  
 71 Hughes-Brock 2011, 106 (cf. Godart and Olivier in: Gebhard/Rieder 2002, 129–130). She notes that seals were used for Cretan Hieroglyphic script, but does not address the fact that the sign-group read in Linear A as *(j)a-sa-sa-ra* also appears on Cretan Hieroglyphic seals (CMS VI 13); this fact surely proves that Linear A is simply the cursive version of Cretan Hieroglyphic, just as Hieratic is the cursive version of Egyptian Hieroglyphics.  
 72 Zavadii 2009, 105–106; Simeonoglou 1985, 231–233 (site 4).

- 73 David 2007a, 435 with fig. 8, showing that the Shaft Grave style is quite different from the Bernstorff goldwork; cf. David 2007b, 416.  
 74 So, e.g., de Fidio 2008, 82 n. 3; Duhoux 2008, 313.  
 75 So, e.g., Palaima 2011, 116, 124.  
 76 See Adrimi Sismani/Godart 2005; both objects are in the Archaeological Museum at Volos (for other inscribed sherds from Mycenae, Tiryns, Knossos and Chania see Killen 2011, 105). In the same region, at least three Linear B tablets have been found in the quarter Kastro-Palaia in Volos (Skafida et al. 2010). However, the symbolic wheels on the lintel of the tholos tomb at Kazanaki north of Volos seem purely decorative.  
 77 CMS I no. 154 (the database is on the internet at <http://arachne.uni-koeln.de>); cf. Krzyszkowska 2005, 239, no. 448. This is from Chamber Tomb 518, and is LH I–II in date.  
 78 Karachalios 1926, 44 describes a rock-cut tholos with a relieving triangle, but gives no plan or section.  
 79 Karachalios 1926, 43 fig. 3, with Harding/Hughes-Brock 1974, 164. Hughes-Brock (1985, 259 n. 26) thinks the description (ένος σφραγιδολιθού έξ ήλεκτρον μετά δυσκρίτου παραστάσεως) is unclear, since ήλεκτρον means ‘amber’ or ‘electrum’ in Greek, but electrum seems unlikely. The seal is not in CMS, and seems to have been misplaced in the Archaeological Museum of Sparta.  
 80 This was pierced and was perhaps a damaged spacer-plate (Harding/Hughes-Brock 1974, 155–156, 164, 166); it has been suggested that it bears an incised sign in Linear A or B (Deshayes/Dessenne 1959, 74), but this must remain doubtful. For a poor photograph see Marinatos 1957, Eik. 1, who describes the design as ‘a skull with the lines of the palate’ (κρανίον με τὰς γραμμώσεις τοῦ οὐρανίσκου), but also says that the whole design might be illusory; perhaps these lines were either side of the central design, like the hair depicted on either side of the rare frontal portrait which appears on a carnelian seal from the tholos tomb at Nichoria (McDonald/Wilkie 1982, Pl. 5–59, = CMS V no. 431). There is little resemblance to the other ‘portrait-heads’ that we find on a few well-known seals, since all of these are Minoan, show a high level of artistic talent and are much earlier: see Krzyszkowska 2005, 114–115 with no. 195, 121 with nos. 236–237.  
 81 Hughes-Brock 1985, 259.  
 82 No. Me/D 52, = CMS V 2 no. 415; cf. Müller 1997, 84–85 (with colour plate).  
 83 On such heirlooms cf. Krzyszkowska 2005, 271–273, 306. A recent example is the first Mainland Popular Group seal known from Laconia; this object, from a LH IIIC Early tomb at Ayios Stephanos, is dated to LH IIIA–B and became very worn before it was interred (item no. 7126 in French 2008, 458). For the distribution and significance of these seals see Eder 2007.  
 84 I thank Olga Krzyszkowska for this information.  
 85 Olivier Pelon with an excess of scepticism describes these as ‘Lineare Zeichen, Schriftzeichen imitierend’ (CMS loc. cit.), but the sole problem with reading them as Linear B is the oblique trident-shaped mark at the upper left side in the impression, which is unexplained.  
 86 Data on the direction of reading of signs in Aegean seals is scarce, since the only corpus is that of Cretan Hieroglyphic; seals can be read in either direction, with the direction of reading indicated by a special sign × (so already Evans 1909 (I) 251–253). In the earliest Cretan writing the direction of reading was probably boustrophedon rather than from left to right, as also in the earliest Cypro-Minoan text and in those from Ugarit (Janko 1987).  
 87 Olivier 1999, 434.  
 88 It has also been suggested that CMS VI no. 395, a haematite lentoid seal in the Ashmolean Museum stylistically dated to LH IIIA 1 or LH III A 2, bears a Linear B sign (see CMS ad loc.), namely the wavy line separating the two griffins that face each other over the bull, which might be interpreted as the ideogram  $\Psi$  OLE ‘oil’; but this interpretation seems unlikely.

is always far harder than that of longer ones, particularly in cases like these where there is no context to help determine the meaning<sup>89</sup>.

### 3. A Fresh Approach

As was observed soon after the discovery<sup>90</sup>, all the signs in the inscription on Object B,  $\ddagger \chi \wedge pa-nwa-ti$  (Fig. 5), are symmetrical about their vertical axes, like those on the seal from Medeon (Fig. 4). They are therefore open to being read in either direction, either as a seal or as an impression. Although microscopic examination shows that the lines were engraved from left to right<sup>91</sup>, and left to right is the invariable direction in Linear B, we



Fig. 4. Medeon, Phocis (Greece). Bone seal from tomb 239 with inscription in Linear B (CMS V 2 no. 415), Archaeological Museum, Delphi.

should be open to a sinistroversive reading, since the impression of the signs would inevitably be read in the normal direction from left to right. If we do reverse the sequence of signs, we obtain  $\wedge \chi \ddagger ti-nwa-pa$  (Fig. 5). This reading is still obscure, but it reminded Olivier of the ethnic adjective *ti-nwa-si-jo* that is well known in the Pylos tablets<sup>92</sup>.

I suggest that in fact there has been a mechanical confusion between two signs of similar shape. Experts on Linear B are even more wary than classical scholars of corrections to their texts<sup>93</sup>, because of the high level of uncertainty that the interpretation of Linear B involves, but this should not absolve them from considering intelligent emendations when *ratio et res ipsa* demand them; texts written in Linear B are no more exempt from error than those in any other script. As Ilievski showed, errors that depend on the confusion of sign-shapes do occur, and several other kinds of mistake, like the omission of a final syllable, are verifiably frequent in the corpus<sup>94</sup>. In this case the intended inscription would have been  $\wedge \chi \bar{\tau} ti-nwa-to$  rather than  $\wedge \chi \ddagger ti-nwa-pa$ , entailing the easy confusion between  $\ddagger pa$  and  $\bar{\tau} to$ . Such errors are common in Linear B, and include  $\bar{\tau} na$  versus  $\bar{\tau} to$ <sup>95</sup>,  $\ddagger pa$  versus  $\ddagger ro$ <sup>96</sup>, and  $\wedge pi$  versus  $\wedge ti$ <sup>97</sup>, although not so far as I know  $\ddagger pa$  versus  $\bar{\tau} to$ .

In this case  $\bar{\tau} to$  seems to have been changed into  $\ddagger pa$  rather than the reverse. Magnification of the high-resolution image (Fig. 5) proves that the upper part of the vertical in  $\ddagger pa$  was created as a separate incision,<sup>98</sup> which was made in a different movement from the rest of the upright. This mode of writing it was normal among the scribes of Linear B<sup>99</sup>. Since the uppermost vertical is not crossed by the upper horizontal, which was incised from left to right, we cannot tell on that basis which line was cut first. However, since the uppermost vertical of  $\ddagger pa$  projects above the apex of the sign  $\wedge ti$  that occupies the opposite, equivalent position on the oval flan, it breaches the symmetry of the engraving, in which the middle sign  $\chi nwa$  ought to have projected above the signs on either side. Thus the mistake was probably caused by the engraver, who revised his opinion as to which sign he was meant to write, and altered his original  $\bar{\tau} to$  into  $\ddagger pa$ <sup>100</sup>. Perhaps he was not himself literate, unlike the person who had written his exemplar; in Mycenaean Greece, a scribe was by definition literate, but we have no evidence that craftsmen were. To the objection that, if the amber was originally a Mycenaean symbol of authority, such an error ought not to have escaped the notice of the ruler who commissioned it, I would reply that not all rulers of early societies were literate; the Mughal king Akbar was not, nor William I of England, to whom his rebellious son Henry I defended his bookish ways by saying ‘rex illiteratus, asinus coronatus’<sup>101</sup>. This mistaken correction, once made, could not have been reversed without ruining the precious amber. I conclude that the original reading was *ti-nwa-to*.

The sign-group *ti-nwa-to* is not directly attested in the Linear B tablets, but the adjectives *ti-nwa-si-jo* (mas-



Fig. 5. Bernstorf, Lkr. Freising. Detail of amber object B, obverse, to show added upper line in the sign  $\ddagger$  pa and vertical asymmetry of this sign.

culine)<sup>102</sup>, *ti-nwa-si-ja* (feminine nominative plural)<sup>103</sup> and *ti-nwa-ti-ja-o* (feminine genitive plural)<sup>104</sup> appear in the archive from Pylos. The alternation between *-si-ja* and *-ti-ja* must be owed to analogical levelling: toponymic adjectives ending in *-tios* or *-thios* first became *-sios* in Mycenaean, as in Attic Μιλήσιος from Μίλητος and Προβαλίσιος from Προβάλυνθος, but then the dental was often restored by analogy with the noun, as in Attic Κορίνθιος from Κόρινθος and Knossian *ra-su-ti-jo* /*Lasunthios*/ from \**Λάσυνθος* 'Lasithi'<sup>105</sup>. Hence the forms *ti-nwa-si-jo* and *ti-nwa-ti-ja-o* must be derived from a place-name that is not itself attested, but was at once reconstructed as \**ti-nwa-to* and tentatively recognized as a prehellenic toponym in *-ανθος* within the wider class of such toponyms in *-ανθος*, *-ινθος* and *-υνθος*<sup>106</sup>. Thus the place-name \**Ti-nwa-to*<sup>107</sup> should be interpreted as /*Tinwanthos*/ or /*Thinwanthos*/<sup>108</sup>, and the corresponding adjective as /*T(h)inwansios*/ or /*T(h)inwanthios*/. Except for *pe-ru-si-nwa* 'last year's', no Mycenaean word containing *nwa* has an Indo-European etymology<sup>109</sup>.

89 Duhoux 2011, 10–14.

90 Gebhard/Rieder 2002, 131.

91 Gebhard/Rieder 2002, 124, Abb. 8.

92 Letter of Olivier to Gebhard, 17 Dec. 2000, in: Gebhard/Rieder 2002, 130.

93 cf. e.g. Duhoux 2011, 8.

94 Ilievski 1965, 49–51.

95 e.g. *o-na-te-re* 'leaseholders' written as *o-to-te-re* in PY En 659.9 and possibly *pi-ri-na-jo* (KN C 911.1) for *pi-ri-to-jo* 'of Philistos'.

96 e.g. *a-re-ro* (PY Un 718.8) for *a-re-pa* 'unguent' and *ro-we-a* in KN X 5949 instead of *pa-we-a* 'cloths'.

97 e.g. *e-ra-ti-ja-o* (PY Un 1317) for *e-ra-pi-ja-o* 'of deerskin' (Aura Jorro 1985, 237).

98 Gebhard/Rieder 2002, 124, with Abb. 8.

99 For the shapes see the tables in Olivier 1967 and Palaima 1988.

100 *a-ro-to* was at first misread as *a-pa-to* on KN Gg 5185.1. Ilievski (1965, 48) gives an extensive list of such errors.

101 William of Malmesbury, *Gesta Regum Anglorum* ii. 467.

102 This form appears in tablets PY Ea 810, nominative singular (perhaps a man's name), Fn 324.12, dative singular (describing the man called *a-ta-o*), and Jo 438.21, nominative singular or genitive plural; see Tritsch 1957, 160–2.

103 See tablets PY Aa 699 and Ab 190, both in hand 1.

104 So tablet PY Ad 684 in hand 23 and perhaps Xa 633 in hand 13 (?) (*ti-nwa-ti-*).

105 KN L(9) 761 (hand 213). The asterisk denotes a reconstructed linguistic form. Some have seen in the non-assibilated adjectival forms evidence for West Greek (i.e. Doric) in the Mycenaean archives (Nagy 1968, cf. Woodard 1986), but this interpretation of them is neither necessary nor desirable (so Hajnal 1997, 214–224, and independently Thompson 1998, 2002–2003).

106 Ventris/Chadwick 1956, 161. For discussion of such names see Georgiev 1961, 38–41.

107 I have deliberately departed from the convention that capitals are never used in transcribing Linear B. This convention arose out of caution, because it is often uncertain whether sign-groups are proper nouns; it makes perfect sense in our editions of reference. However, there is no reason to adhere to it in an interpretative article, and Ventris and Chadwick did not.

108 In theory it could be /*(S)Tirnwanthos*/ or /*(S)Thirnwanthos*/; it cannot have been /*Dinwanthos*/, since the script has a separate *d*-series of signs. Heubeck (1963, 16–17) instead interpreted the name of the town as Greek /*T<sup>h</sup>inwantios*/, from \**ἴνυπιος* 'sandy', a derivative of *θίς* 'sand'; he is followed by García Ramón (2011, 240). But this does not explain the fluctuation between *-asios* and *-atios*, since he has to reconstruct the name of the town itself as \**Thinwon(t)s*. Chadwick (1988, 83–84) tried to relate the name to \**στενρός* and so perhaps to *Στενύκλαρος* in Messenia, but this is unconvincing on phonological grounds.

109 So Davies 2010, 517, with a complete list; she notes that most of them are attested at Knossos.

Let us briefly examine the pre-hellenic words in -ανθος<sup>110</sup>. The termination shows that the mountain-range Ἐρύμανθος or Ἐρυμάνθιον, now the Olonós on the north-west border of Arcadia, has a pre-hellenic name, as many mountains do. A settlement Ἐρύμανθος is said to have been the earliest name for Psophis, and the river Ἐρύμανθος flowed south-west from the mountains to join the Alpheus<sup>111</sup>. On Pylos tablet Cn 3.6 a contingent of *U-ru-pi-ja-jo*, a detachment of troops who were defending the coast and were stationed at *O-ru-ma-to* in the Hither Province, send an ox to Diwyeus, one of the officials called ‘Followers’ that liaised with the coastguard<sup>112</sup>. These same *U-ru-pi-ja-jo*, noted to be thirty in number, are described by the ethnic *O-ru-ma-si-jo-jo* on ‘coastguard’ tablet An 519<sup>113</sup>; this ethnic gives the place where they were based, whereas they are guarding the coast at a place called *A<sub>2</sub>-te-po* south of *Ro-o-wa*, which was also in the Hither Province<sup>114</sup>. The fact that the ethnic of *O-ru-ma-to* is *O-ru-ma-si-jo*, just as that of *\*Ti-nwa-to* is *Ti-nwa-si-jo*, confirms that *O-ru-ma-to* ended in -ανθος.

*O-ru-ma-to* must be the same word as Ἐρύμανθος, with a different initial vowel, because the same fluctuation is seen in other words that appear to contain the same stem: the name of the Homeric warrior Ἐρύμας is read as Ὀρύμας by the T scholia<sup>115</sup>, and the toponym Ἐρυμνα in Pamphylia was also known as Ὀρυμνα<sup>116</sup>. But the coincidence does not prove that Pylian *O-ru-ma-to* was located near Mt Erymanthus<sup>117</sup>; on the contrary, the corresponding reference to *O-ru-ma-to* in the coastguard tablets appears between entries pertaining to contingents in the south of the Hither Province, between *Ro-o-wa* and *Pi-ru-te*<sup>118</sup>. Another name in -ανθος in the archive is *Pu-ro Ra-wa-ra-ti-jo* (*Ra-u-ra-ti-jo*), i.e. / *Pulos Lauranthios*/, on Pylos tablets Ad 664 and Cn 45<sup>119</sup>, which is apparently formed from *\*Lauranthos*<sup>120</sup>. This town lay in the south-east quadrant of the Further Province<sup>121</sup>. The only place outside the Western Peloponnese that ends in -ανθος is the village of Πύρανθος near Gortyn in Crete, modern Pyrathi<sup>122</sup>. However, like the name Gortys or Gortyn, the name Pyranthos could of course have been brought from the Peloponnese to Crete, since Arcadian elements appear in the dialect of central Crete at Axos and Eleutherna.<sup>123</sup> With Pyranthos compare Hittite *Puranda*, a village in Pisidia<sup>124</sup>.

The concentration of place-names in -ανθος in the Western Peloponnese suggests that *\*Ti-nwa-to* was located there. The likeliest explanation for the limited distribution of such names is that the local dialect of the pre-hellenic language (and this dialect alone) either modified the vowel that precedes the ending or preserved its original vocalization. In the latter case this ending is more closely comparable to the ending -*anda* that is so widely attested in the ancient place-names of Western Anatolia<sup>125</sup>.

#### 4. The people of *\*Ti-nwa-to* at Pylos and Knossos

The socio-economic status of *\*Ti-nwa-to* and its inhabitants within the kingdom of Pylos has not been investigated, but turns out to have been peculiar.

*\*Ti-nwa-to* was not among the sixteen major towns of the kingdom; only its ethnic attests its existence. At least two men identified by the ethnic *Ti-nwa-si-jo* were members of the Pylian élite. First, on tablet Fn 324.12 a certain *A-ta-o Ti-nwa-si-jo*, probably /*Antāos*/, receives an allocation of barley, perhaps in order to attend a religious festival<sup>126</sup>. On Jn 431.23 a man named *A-ta-o* is identified as a bronze-smith with no allotment of bronze, on An 340 the same *A-ta-o* contributes or controls fourteen men, and on Vn 1191 the name appears in the genitive as *A-ta-o-jo*. Some or all of these further references may be to the same person, but this is uncertain<sup>127</sup>. As there was a man named *A-ta-o* at Knossos also (L 698), the name may have been common.

Secondly, a holding of land belonging to *Ti-nwa-si-jo*, which means ‘man’ or ‘men’ of *\*Ti-nwa-to*, is recorded in tablet Ea 810<sup>128</sup>. The word may well be a name, since a singular proper name is expected here<sup>129</sup>. If, however, the name was used as an ethnic to describe an important individual from the town, it may describe the *A-ta-o* of Fn 324, the ‘governor’ *Te-po-se-u* (see below)<sup>130</sup>, or a third unidentified person<sup>131</sup>.

Thirdly, *\*Ti-nwa-to* had a local ‘governor’ (*ko-re-te*), whose name was *Te-po-se-u* (Jo 438.21). That a place which was not among the sixteen tax districts should have a ‘governor’ is not unparalleled; tablet Nn 831 mentions a *ko-re-te* who was probably in charge of the town of Korinthos<sup>132</sup>. *Te-po-se-u* appears twice. On tablet Jo 438, he is required to contribute towards the 5–6 kg of gold that the palace wished to collect for some purpose<sup>133</sup>. With ten others he is assessed for the standard amount of 250 g, the second-largest quantity listed, twice as much as the amounts for seven major towns. His gold never reached the palace, since there is no check-mark against his entry. His name recurs without a title or ethnic in tablet On 300, which records distributions or contributions<sup>134</sup> of commodity *\*154*, probably leather hides, among the governors of all the towns in both Provinces. Because the title ‘governor’ is given in eleven of the thirteen surviving entries, we can be sure that the same man is meant. His amount is the standard 3 units (the largest quantity is 6).

Chadwick plausibly interpreted *Te-po-se-u* as /*Thelphōseus*/, comparing the toponym Τέλφουσα or Θέλπουσα;<sup>135</sup> more precisely, *Te-po-se-u* would have been /*Thelphonseus*/ in Mycenaean Greek.<sup>136</sup> This name certainly comes from the toponym Thelpousa or Telpousa; both forms are derived from *\*Θέλφονσα* < *\*Θέλφοντσα* ‘Place of diggings’<sup>137</sup>, with different dissimilations of the aspirates according to Grassmann’s Law<sup>138</sup>. The first is the spring Telpousa near Haliartus in Boeotia<sup>139</sup>. In addition, a town of this name was located on the river Ladon in N.W.

Arcadia<sup>140</sup>, but its location may have moved since Mycenaean times, since many Pylian place-names appear in Arcadia<sup>141</sup>; I suspect that they were taken thither by refugees from the collapse of the Pylian kingdom, since the Mycenaean dialect of the tablets survived in Arcadia into the historical period. In classical times two other place-names from Mycenaean Pylos are found in N.W. Arcadia – Erymanthus and Lousoi (see section 5 below). In addition, Pausanias records that a river Ἄλοῦς flowed below Thelpoussa<sup>142</sup>, whereas the coastguard tablets mention a place *A<sub>2</sub>-ru-wo-te* /*Halwons*/, i.e. Ἄλοῦς, in the north of the Hither Province near *Ku-pa-ri-so* and *O-wi-to-no*<sup>143</sup>. Since the river's name, from \*ἀλόφεντ-ς, means 'salty'<sup>144</sup>, the Pylian location on the coast was probably the original one.

In addition, the lists of personnel who worked for the palace suggest that nine of its women were dependent on it and are recorded among sets of tablets that otherwise tally slaves. The Ad series records the children of about 750 women at Pylos who were working in various humble professions<sup>145</sup>. Tablet Ad 684 lists the seven children, two adult and two under age, of weavers from \**Ti-nwa-to*<sup>146</sup>. The same women, stated to be nine in number, reappear in tablets Aa 699<sup>147</sup> and

- 110 Ἄκανθος and Φάλανθον are irrelevant, since they are compounds of ἄνθος, which is of Indo-European origin. The cities called Ἄκανθος are derived from the common noun ἄκανθα; the Mycenaean man's name *a-ka-to* on KN Dv 5256 and Sc 256, may perhaps be related, but may also be read as Ἀγαθός, Ἀγαθών, or Ἄκαστος (Aura Jorro 1985, 34). Similarly, from φάλανθος 'bald' comes the place in Thessaly called Φαλανθία, also transmitted as Φαλαγαθία, near Cypaera west of Lamia in central Greece (Ptol. *Geog.* 3. 12. 42), and the mountain called Φάλανθον and a town of the same name in Arcadia (Paus. 8. 35. 9). The man's name *pa-ra-ti-jo* on KN C 914.A may be formed from this, but could instead be read \*Παλα(ι)στιος (cf. Παλαίστη in Illyria). The name Μέλανθος is also in Mycenaean as *me-ra-to* on PY Jn 832.11 (Aura Jorro 1985, 437).
- 111 Charax FHG fr. 7; Steph. Byz. s.v. Ψωφίς; cf. Paus. 8. 24. 3–4.
- 112 Tablet Cn 3.6 lists *o-ru-ma-to u-ru-pi-ja-jo* BOS 1, under the heading *jo-i-je-si me-za-na / e-re-u-te-re di-wi-je-we qo-o* 'thus the Messenians are sending oxen to inspector (?) Diwyeus'. Cf. Wa 917 (*o-da-sa-to a-ko-so-ta / e-qe-ta e-re-u-te-re*); for the meaning of *e-re-u-te-re* see Killen 2007, 264 and Nakassis 2010, 280. Diwyeus was a Follower (An 656.8–9).
- 113 An 519.10–12: *a<sub>2</sub>-te-po de-wi-jo ko-ma-we / o-\*34-ta-qe U-ru-pi-ja-jo / O-ru-ma-si-jo* VIR 30. At first scholars tried to relate these *U-ru-pi-ja-jo* to Ὀλυμπία: so still Eder 2011, 112. But the initial vowel makes this difficult, and P. B. S. Andrews' interpretation /*Wrupiaioi*/ is better (Chadwick 1973b, 43); cf. perhaps classical *Rhypes*, *Rhypai* or *Rhyphae* in Achaea near Aigion.
- 114 Stavrianopoulou 1989, Beilage XVI. *O-ru-ma-to* remains in the Hither Province if we accept Lang's proposal (Lang 1990, 123–125) that An 519 belongs immediately before An 661, which more effectively groups the places represented on tablet Cn 3. She is followed by Bennet 1999, 141 with table 3.
- 115 Σ T ad II. 16. 345, τινές δὲ "Ὀρύμαντα" (perhaps from Didymus).
- 116 W. Ruge in RE VI.1, 1907, 570. Cf. perhaps the alternation in the Arcadian toponym Orchomenos/Erchomenos (Nielsen 2005, 578).
- 117 Eder 2011, 112 favours this location, and regards the fact that in An 519.10–12 (supra, n. [113]) *U-ru-pi-ja-jo* are stationed at *O-ru-ma-to* as a supporting argument. See further Parker 1993, 53 n. 62.
- 118 Cn 3.5–7 run: *e-na-po-ro i-wa-si-jo-ta* BOS 1 / *o-ru-ma-to u-ru-pi-ja-jo* BOS 1 / *a<sub>2</sub>-ka-a-ki-ri-ja-jo u-ru-pi-ja-jo{-jo}* BOS 1. With this compare An 661.3, 12: *e-na-po-ro i-wa-so* VIR 70 ... *a<sub>2</sub>-ka-a-ki-ri-jo u-ru-pi-ja-jo ne-do-wo-ta-de* VIR 30, which suggests that *O-ru-ma-to* was in the same vicinity (cf. Sainer 1976, 48).
- 119 It is also known as *Ra-u-ra-ti-ja* /*Lauranthia*/ on On 300.9, in the Further Province, and is also written *ra-wa-ra-ta<sub>2</sub>* (An 298.1, Jn 829.14 (damaged), Ma 216.1) and *ra-wa-ra-ti-ja* (An 830.11); cf. Aura Jorro 1993, 232.
- 120 Chadwick 1988, 87, infers from the absence of a form in *-si-ja* that the dental was preceded by a sibilant, which would hinder assimilation, and that the form was therefore /*Laurastios*/, but this must remain doubtful.
- 121 Chadwick 1973a, 278; see Table 1 below.
- 122 Hrd. *Prosod.* 146,21 Lentz and Steph. Byz. *Ethn.* s.v., with K. Ziegler, *RE* XXIV, 1963, 11.
- 123 The most salient example is the sound-change of Mycenaean /en/ to iv (Dubois 1988, 17–22).
- 124 Georgiev 1961, 40.
- 125 Haley in: Blegen/Haley 1928, 141–145.
- 126 See further Killen 2001.
- 127 So Lindgren 1973, i. 33. See too Nakassis 2013, 215.
- 128 PY Ea 810, *ti-nwa-si-jo* GRA 3 T 5.
- 129 Chadwick in: Ventris/Chadwick 1973, 586.
- 130 Lindgren (1973, i. 188) notes both possibilities.
- 131 This land did not belong to a male relative or relatives of the *Ti-nwa-si-ja* who were working as weavers at Pylos (Ad 684), since we will see that these women were of low status.
- 132 I thank an anonymous reviewer for this point.
- 133 On this purpose see section 6 below with n. 231.
- 134 The commodity is given 'to' the officials of the Hither Province, whose titles appear in the dative, whereas the titles of those from the Further Province appear in the nominative, as was noted by Palmer 1963, 374. Chadwick (in: Ventris/Chadwick 1973, 467) puts the variation down to 'scribal inconsequence', i.e. error, but does not make it clear whether he thinks the dative with the locative ending in *-i* (at least 4 times in the first paragraph) or the nominative (7 times in the second paragraph) is correct. Cf. Nakassis 2013, 383.
- 135 Chadwick 1998–1999, 35; see below section 5.
- 136 Chadwick 1998–1999, 35 posited /*Thelphōseus*/, but the loss of the nasal with compensatory lengthening of the preceding vowel would not yet have occurred (Lejeune 1972, 129–130, 222). For the formation cf. the Knossian name *te-ra-po-si-jo* /*Therapōnsios*/ from θεράπων (KN Lc 466 etc.).
- 137 The root is Proto-Indo-European \**d<sup>h</sup>elb<sup>h</sup>-* 'dig', cf. English 'delve' (G. Neumann in: Beekes 2010, ii. 1464). Δελφοί, i.e. 'wombs', 'caves', is unrelated.
- 138 Dubois 1988, i. 51–53.
- 139 Hom. *Hy. Pyth. Ap.* 243–276, 375–387.
- 140 Paus. 8.25 (Θέλπουσα); Steph. Byz. s.v. Τέλφουσα; Nielsen 2005, 597–599. The forms of the ethnic Θελπούσιος, Τελφούσιος and Θελφοίσιος (SEG 11.1254a) point to original \*Θελφόνσιος (Dubois 1988, ii. 227–228).
- 141 Cf. Bennet 2011, 144, 152, with section 5 below.
- 142 Pausanias 8. 25. 2.
- 143 Tablet PY An 657.8, with Sainer 1975, 35.
- 144 Heubeck 1976, 131.
- 145 For the total, which allows for missing documents, see Chadwick 1988, 76.
- 146 PY Ad 684: *pu-ro ti-nwa-ti-ja-o i-te-ja-o ko-wo* VIR 5 *ko-wo* 2. On the edge: *a-pu-ne-we e-re-ta-o ko-wo*.
- 147 PY Aa 699: *ti-nwa-si-ja* MUL 9 *ko-wa* 4 *ko-wo* 3 DA 1 TA [1.
- 148 PY Ab 190: GRA 3 [T 9] DA TA  
*pu-ro / ti-nwa-si-ja* MUL 9 *ko-[wa]* 2 *ko-wo* 1  
NI 3 [T 9].

The quantities of GRA (grain) and NI (figs) were both corrected from 2 T 9 to 3 (Chadwick 1988, 55)

Ab 190<sup>148</sup>, where they have seven and three children respectively. The other groups of women at Pylos in these three sets of tablets, Aa, Ab and Ad, are identified either by their professions alone, or by toponyms, and their husbands are never referred to<sup>149</sup>. Where the toponyms can plausibly be identified, as most of them have been, they are almost all located far away on the coasts and islands of the Aegean<sup>150</sup>, as if the women were taken in the kind of piracy or raiding that forms the background to Homer's *Iliad*. The women in these series include women of Cythera (*ku-te-ra<sub>3</sub>*)<sup>151</sup>, Carystus (*ka-ru-ti-je-ja*)<sup>152</sup>, the Euripus (*e-wi-ri-pi-ja*)<sup>153</sup>, Chios (?) (*ki-si-wi-ja*)<sup>154</sup>, Asia/Aššuwa (*A-<sup>\*</sup>64-ja = A-swi-ja*)<sup>155</sup>, Lemnos (*ra-mi-ni-ja*)<sup>156</sup>, Miletus (*mi-ra-ti-ja*)<sup>157</sup>, Cnidus (*ki-ni-di-ja*)<sup>158</sup>, and Halicarnassus (?) (*Ze-pu<sub>2</sub>-ra<sub>3</sub>*)<sup>159</sup>, alongside the unplaced *ko-ro-ki-ja*<sup>160</sup> and *Ti-nwa-si-ja*<sup>161</sup>. This pattern immediately suggested that they had come to the palace as slaves, especially since they seem to have no husbands<sup>162</sup>. Chadwick proposed that they were named after the slave-markets in which they were purchased<sup>163</sup>, like the one on Lemnos in which Priam's son Lycaon was sold<sup>164</sup>. However, historical parallels for such a nomenclature are lacking; they ought to have been known by their ethnic origins, like the Carian or Phrygian slaves of classical antiquity. Some are probably called 'captives': on tablets Aa 807 and Ad 686 twenty-six or twenty-eight of these women are described as *ra-wi-ja-ja llāwīaiail*, which is more likely to mean 'captives', from *λεία* (Ionic *ληϊή*, Doric *λαϊά*) 'booty'<sup>165</sup>, than 'harvesters' from *λήϊον* 'harvest'<sup>166</sup>. The fact that these women are explicitly called 'captives' might imply that the others were not, but more probably means that their ethnic origins were mixed or unknown. In any case, the others were treated like them<sup>167</sup>.

That women from *\*Ti-nwa-to* are among these alien women is a remarkable oddity that ought to have been noticed long ago. Tritsch did so notice it, but deduced from it that the women in these documents cannot have been slaves or captives: 'the *Ti-nwa-si-ja* cannot possibly be captives, for they come from a Pylian township . . . whose *ko-re-te* brings a gold tribute about twice as large as those of the *ko-re-te* of Rouso, Pakijana, Akerewa, Karadoro, Timitija, Iterewa, Eree, etc.'<sup>168</sup>. Tritsch held that the women of *\*Ti-nwa-to* cannot represent a population cleared out of their town by the Pylian king himself<sup>169</sup>: 'the Pylian fleet, however large, did not aimlessly raid Pylian townships to bring Pylians as captives to Pylos'<sup>170</sup>. To our way of thinking, if these women came from within the kingdom they certainly should not have been slaves. However, at *Od.* 4. 174–7 Menelaus tells his guests that he had thought of 'sacking a city' (*πόλιν ἐξαλαπάξας*) of people 'in Argos' (*ἐν Ἄργεϊ*) who 'dwell round about, and are ruled by me' (*περιναϊεταύουσιν, ἀνάσσονται δ' ἔμοι αὐτῷ*), in order to hand it over to his foreign ally Odysseus and all his retinue; evidently he did not actually do so. Yet, although we do not know whether actual Mycenaean kings ever behaved so ruthlessly towards their own subjects, we cannot exclude it.

Instead Tritsch suggested that all these women were refugees or persons displaced by recent disturbances, who had fled from more exposed places in or beyond the kingdom and were gradually being found employment within the palatial system under emergency conditions shortly before the palace at Pylos itself burned<sup>171</sup>. Such a situation existed at contemporary Ugarit, where women of Alašia (now proved to be Cyprus or in Cyprus, and at the time allied to the king of Ugarit) were taken in as refugees before that city too was destroyed<sup>172</sup>, apparently by an attack of the 'Šikalayu who dwell on ships'<sup>173</sup>. This hypothesis has been rejected on the basis that there was no disorder in the Aegean at this time<sup>174</sup> (this begs the question), that the terminology for the textile-workers is the same as at Knossos, where no state of emergency is documented, that these records cover more than twelve months, and that the women ought to have been dispersed for their safety<sup>175</sup>. Can this possibility be excluded?

Not for the women of *\*Ti-nwa-to*, who are exceptional in that they come from within the kingdom and have husbands. The scribe of Ad 684 adds on the edge that their children were 'sons of the rowers at *A-pu-ne-we*', a port in the Hither Province<sup>176</sup>. Chadwick called this addition 'very remarkable, as being the only instance where the fathers of the children are mentioned'<sup>177</sup>. That the women and children were not living with their husbands confirms their humble status<sup>178</sup>, but their husbands' existence was acknowledged by the palace in this afterthought, and suggests that the women did not have exactly the same status as other female workers employed by it. The sons of some of the other women were also rowers: thus forty men from the port *Da-mi-ni-ja* in the Further Province are listed as *Da-mi-ni-jo* among the rowers on An 610.13, and Ad 697 records 'at *Da-mi-ni-ja* the sons of the linen-workers, being (?) rowers'<sup>179</sup>. But if any of these women were displaced persons rather than slaves, it is the women of *\*Ti-nwa-to*, since they, alone among such women, are recorded to have had husbands as well as sons. These men were serving as rowers at *A-pu-ne-we*; seven men were sent from *A-po-ne-we*, which is the same port, to Pleuron in tablet An 12, and An 19 lists thirty-seven rowers there. Can it be coincidence that the latter tablet includes men called *po-si-ke-te-re* 'suppliants', 'refugees' or 'immigrants', beside *za-ku-si-jo* 'Zacynthians', *ki-ti-ta* 'settlers', and *me-ta-ki-ti-ta* 'new settlers', who held land in exchange for service in the fleet<sup>180</sup>? There is no indication, however, that the rowers who were married to the women of *\*Ti-nwa-to* owned any land<sup>181</sup>.

In the kingdom of Knossos women from a place called *\*Ti-wa-to* are listed among over a thousand female workers in the textile industry who were dependent on the palace. Tablet Ap 618 tallies five or more *Ti-wa-ti-ja*<sup>182</sup>. I suggest that *Ti-wa-ti-ja* may be a graphic variant of *Ti-nwa-ti-ja* /*Tinwanthiail*, which is of course a variant of *Ti-nwa-si-ja* /*Tinwansaiail* (above, section 3); the *n* at the end of the first syllable would be omitted in accord with the usual orthographic conventions

of Linear B, in which the sign *nwa* is exceptional<sup>183</sup>. Such is the length of the sign-group that a coincidence seems unlikely<sup>184</sup>. These women belong to, or are attributed to, two powerful members of the palatial elite, */Anorquhontās/* and */Komāwens/* (both often appear in the main archive from Knossos)<sup>185</sup>, together with a certain *We-ra-to*<sup>186</sup>. They are stationed at an otherwise unrecorded place called *A-\*79*<sup>187</sup>. The tablet adds that two further women, who bear the names *I-ta-mo* and *Ki-nu-qa*<sup>188</sup>, are missing (*/apeassail/*) from two places that are familiar from the archive, *Do-ti-ja* and *\*56-ko-we*<sup>189</sup>. Like the Pylian weavers from *\*Ti-nwa-to*, they manu-

- 149 Tritsch (1958, 431–437) argues that they are taken for granted and are with the women, but see below, this section.
- 150 Stavrianopoulou (1989, 84), in seeking to deny this, proposes instead that they were all within the kingdom, but the absence of all these places from the other records is in that case problematic.
- 151 Aa 506, Ab 562, Ad 390, Ad 679.
- 152 Carystus was in Euboea. On Ad 671, this is a derivative of the man's name Καρύστιος, just as *A-da-ra-te-ja* on Aa 785 and Ab 388 may be derived from the man's name Ἄδραστος rather than just be the single woman's name (Chadwick 1988, 78–79). The toponym *Ka-ru-to/ Karustos/* is now known at Thebes (TH Wu 55.β).
- 153 Aa 60; but this need not refer to the Euripus near Chalcis in Euboea, since the place *E-wi-ri-po* on An 610 has been identified as the strait between Methone and the islands off the SW tip of Messenia, and this may instead be the ethnic formed from that place-name (Chadwick 1988, 86). Evidently the toponym was found in different straits which had strong currents.
- 154 i.e. */Kswiai/* (Chadwick 1988, 80).
- 155 Aa 701, Ab 515, Ad 315, Ad 326. This roughly corresponds to later Lydia.
- 156 Ab 186.
- 157 Aa 798, Aa 1180, Ab 382, Ab 573, Ad 380, Ad 689.
- 158 Aa 792, Ab 189, Ad 683, also [An 292.4].
- 159 Aa 61, Ad 664.
- 160 Aa 354, Ab 372, Ad 680, and also An 292.3. This place is unidentified.
- 161 So Ventris/Chadwick 1956, 156; Chadwick 1976, 80–81.
- 162 So Ventris/Chadwick 1956, 156. This hypothesis, advanced by T. B. L. Webster, is widely accepted: cf. Shelmerdine 2008, 340–341. For an attempt at rebuttal see Tritsch 1958, 423–427.
- 163 Chadwick 1988, 92.
- 164 Homer, *Iliad* 21. 81.
- 165 Chadwick 1988, 92, who proves that these women are at a place *Ke-re-za* that is close to Pylos rather than are Κρησσαι 'Cretans', because the word does not become †*ke-re-za-o* on Ad 686 and Ad 318 [+] 420.
- 166 Tritsch 1958, 428.
- 167 Chadwick 1988, 92.
- 168 Tritsch 1958, 429. Four further cases that he alleges of ethnics for women from townships within the Pylian kingdom are all incorrect. A woman *a-da-ra-te-ja* is recorded on Aa 785 and Ab 388, but rather than be an ethnic this may be the individual name */Adrāsteia/*, since only one woman is recorded (Chadwick 1988, 78). *Pa-wo-ke* is apparently a descriptive */panworgēs/* 'maids of all work' (Chadwick 1967). The *A-\*64-ja* are the */Aswiai/* or 'women of Asia' whom we encountered above. Lastly, three women are recorded at Metapa in the Hither Province on Aa 779, where *A-te-re-wi-ja* is added on the lower edge. This is not an ethnic, but refers to the Pylian town of *A-te-re-wa* or *A-te-re-wi-ja* in the Further Province, whence or whither the women at Metapa had been transferred (Chadwick 1988, 85).
- 169 Tritsch 1958, 429 n. 44.
- 170 Tritsch 1958, 431.
- 171 Tritsch 1958, 437–443, building on a suggestion of L. R. Palmer.
- 172 Tritsch 1958, 443, citing RS 11.857.
- 173 RS 34.129.
- 174 So Stavrianopoulou 1989, 92.
- 175 So Chadwick 1988, 90–91; however, Tritsch (1958, 437 n. 63) argued that in antiquity the safest places were usually nucleated centres such as Athens during the Archidamian War.
- 176 So Ventris/Chadwick 1956, 161. Stavrianopoulou (1989, 88) takes *ko-wo* as 'männliche Arbeitskraft' rather than 'men and boys', and thinks the men and boys have already been sent to *A-pu-ne-we*, but Chadwick 1988 points out that the addition of the number of 'boys' on the Aa and Ad sets produces a total very similar to that of the girls (179 + 82 = 261 boys versus 251 girls), whereas the sex-ratio is otherwise unequal (cf. Shelmerdine 2008, 340–341). This leaves no room for husbands within the numbers who are receiving rations.
- 177 Chadwick 1988, 87.
- 178 Ventris/Chadwick 1956, 156.
- 179 PY Ad 697, *Da-mi-ni-ja ri-ne-ja-o ko-wo 'e-re-[ta] qe-ro-me-no'* VIR, with Chadwick 1988, 58, 87–88, who notes that the lack of a numeral shows that all the men were absent serving with the navy.
- 180 Cf. Gschnitzer 1999, 262–263; Shelmerdine 2008, 147; Nakassis 2010.
- 181 Shelmerdine 2008, 147.
- 182 KN Ap 618, *ti-wa-ti-ja / a-\*79 'a-no-qa-ta'* MUL 3[ ] *ko-ma-we-to* MUL 2 *we-ra-te-ja* MUL 2 [ , with an upper line adding *a-pe-a-sa / i-ta-mo 'do-ti-ja'* MUL 1 *ki-nu-qa '56-ko-we'* MUL 1. There is really no doubt over the *ti*. The names of the 'collectors' *A-no-qa-ta* and *Ko-ma-we*, who also owns a slave on KN B 988+, appear variously in the nominative and genitive. The tablet is in hand 103, from findspot F14 in the West Magazines (Olivier 1967, 106).
- 183 Aura Jorro 1993, 356, commented 'probablemente se trata de un adj. étnico, quizá una grafía irregular por \**ti-nwa-ti-ja* (d. *ti-nwa-ti-ja-o*, s.u. *ti-nwa-si-jo*). For the omission of *n* in medial *-nw-* compare *pa-wo-ke*, interpreted as */panworgēs/* (Chadwick 1967). To a reviewer's objection that */ksenwios/* is always written *ke-se-ni-wi-jo* and never †*ke-se-wi-jo*, and */perusinwos/ pe-ru-si-nu-wo* and never †*pe-ru-si-wo*, I would reply that both are Indo-european words, in which the syllabification may have differed.
- 184 Chadwick (in Ventris/Chadwick 1973, 586) compared the two ethnics, but the implications are not considered.
- 185 *A-no-qa-ta* is in KN Ak 615, Da 1289, Dq 45, E 847, Vc 173 and elsewhere, *Ko-ma-we* at C 913, Cn 925, Dk 920, 1049 (?), Dv 1272 etc.
- 186 *We-ra-te-ja* is probably the feminine possessive adjective based on the name *We-ra-to*, which is attested in KN De 1136 (Rougemont 2009, 375, 498–499).
- 187 *A-\*79* is a woman's name at Mycenae (Oe 123) and is held to be so at Knossos also (Chadwick in Ventris and Chadwick 1973, 536, with Aura Jorro 1985 s.v.). However, for the scribe at Knossos to have given the name of just one woman would violate the format of the main entry on the tablet, which does not declare the names of the three sets of women, who are each time a plurality. Since their owners' names are stated, and toponyms are included in the line added above (along with the women's names, since only one woman is missing in each case), the sole possibility left is that *A-\*79* is a place-name.
- 188 *I-ta-mo* is to be read as */Itamō/* from *ιταμός*, but *Ki-nu-qa* is opaque.
- 189 *\*56-ko-we* was probably in West-Central Crete, as we know from the stirrup-jars with Linear B labels painted before firing (Bennet 2011, 150).

factured textiles<sup>190</sup>. Their status as *corvée* labourers, refugees, or slaves is clear.

To explain why women of *\*Ti-(n)wa-to* are recorded in the main Knossian archive one might suggest that there was another place called *Ti-(n)wa-to*, not the one referred to in the Pylian archive. Normally one would not want to multiply entities unnecessarily. However, many pre-hellenic place-names recur in different regions of Greece, such as Leuktron and Orchomenos in Arcadia and Boeotia, Thebai in Boeotia and Phthiotis, or Korinthos in the Further Province and on the Isthmus<sup>191</sup>; so there could have been two places with this same name. However, if these women came from the Pylian *\*Ti-nwa-to*, this would have startling implications, since the coincidence might support the latest possible dating of the main archive at Knossos, i.e. within LM IIIB. Although this dating is currently out of favour, it is yet to be decisively disproved<sup>192</sup>.

## 5. The location of *\*Ti-nwa-to*

No later toponym in the Peloponnese, or indeed anywhere in Greece, corresponds to or resembles *\*Ti-nwa-to*, whether in ancient, Medieval or modern times. Even were one attested, this would not in itself establish where *\*Ti-nwa-to* was. Place-names often changed their location over time, above all the case of Pylos itself, which formerly lay under Mount Aigaleon (Mycenaean */Aigolaion/*) at Ano Englianos, as the tablets prove, then in classical times at Coryphasium on the north side of the bay of Navarino, and now on its SE side, not to mention the traditions about other places further north in Triphylia that were also called Pylos<sup>193</sup>. Again, in classical times there was a place called Leuctrum in the Outer Mani south of Kalamata, i.e. beyond the E. boundary of the Further Province, the river Nedon; yet in the Pylian archives *Re-u-ko-to-ro* was a major town within the kingdom<sup>194</sup>. Again, the *Ro-u-so /Lousoi/* south of Pylos in the Hither Province has the same name as classical Λουσοί in northern Arcadia east of Mount Erymanthus<sup>195</sup>. As we saw in section 4, many place-names may have been taken to Arcadia by refugees from the Pylian kingdom, and there is a notable concentration of such names around Mount Erymanthus.

The geography and frontiers of the Pylian kingdom have proved surprisingly hard to reconstruct with confidence<sup>196</sup>. This is owed to two factors. First, there was a radical discontinuity in settlement at the end of the Bronze Age, when the number of settlements in Messenia declined massively<sup>197</sup>. The region changed its dialect from Mycenaean, the closest ancestor of Arcaido-Cypriot, to West Greek, or Doric, a change which has seemed to many hard to explain without an influx of new people<sup>198</sup>. The discontinuity is compounded by poor sources for Messenian history in the classical period and the high proportion of Slavic toponyms<sup>199</sup>. Thus the list of nine towns in the Homeric *Catalogue of Ships* notoriously fails to correspond to the towns in

the Pylian tablets<sup>200</sup>, and Strabo claims that Nestor's Pylos was in Triphylia<sup>201</sup>. Secondly, the Linear B tablets were created as economic records: the network of settlements underlying them has to be deduced from their sequence in the documents, their recorded products, and the links between them, and some of these links may be hierarchical or arbitrary rather than simply geographical<sup>202</sup>. To relate them to archaeological remains on the ground, in the absence of inscriptions that tell us the names of their findspots, is even harder<sup>203</sup>.

All scholars agree that the kingdom was divided into two provinces, the Hither Province and the Further Province, by the mountains called */Aigolaion/* by the Mycenaean and Αἰγαλέον by Strabo, and that the Hither Province lay to the west, the Further Province to the east, with its eastern border on the river Nedon<sup>204</sup>. The relative locations of places in the Hither Province close to Pylos and further south are also fairly secure, since it is agreed that they are listed from north to south<sup>205</sup>. However, the location of the northern border of the Hither Province seems less certain: did it lie in the Soulima (Kyparissia) valley, or on the river Neda, or yet further north on the river Alpheus<sup>206</sup>?

Two main arguments have been advanced for restricting the Pylian kingdom to Messenia. First, for security and ease of communications its capital ought to have been centrally located; however, one may contrast, for instance, Britain, France, Germany, Russia, or the United States<sup>207</sup>. Secondly, few Late Mycenaean settlements are known between the Soulima valley and the Alpheus, with a particularly noticeable gap at the Neda; however, this is an *argumentum e silentio*, since Triphylia is not well explored<sup>208</sup>. The best evidence for the river Neda is that the commander of the northernmost command on the 'coastguard' tablets (the An series) is named *Ne-da-wa-ta /Nedwātās/*, a name formed from 'Neda'<sup>209</sup>. But even the first securely located place in the north-south series of towns in the Hither Province, *Ku-pa-ri-so* (PY Na 514), which is thought to correspond to modern Kyparissia, refers to a tree that must have been very common in the landscape; therefore its location does not seem secure<sup>210</sup>. The northernmost town in the Hither Province, *𐀓𐀗 Pi-\**82, was perhaps inland; it does not appear on the 'coastguard' tablets, for what that fact is worth. If *Pi-\**82 is to be read *Pi-swa*<sup>211</sup>, as is likely, its name is 'Pisa' like the later Pisa near Olympia on the Alpheus; its products, sheep and flax, might suit the latter location<sup>212</sup>, but these products were widespread in Mycenaean Messenia too. The second town in the Hither Province, *Me-ta-pa*, was on the coast<sup>213</sup> and rich in barley and textile production<sup>214</sup>; on tablet Cn 595 it is next to a place *Ne-de-we-e*, which is properly linked with the name of the River Neda and likely to be near it<sup>215</sup>. Both centres controlled sizable territories<sup>216</sup>. *Me-ta-pa* reappears as the name of an otherwise unknown town called Metapa that is attested by a treaty of the early 5th century BC, found at Olympia, between τὸς Ἀναίτῳ[ς] καὶ τῳ[ς] Μεταπίῳ[ς]<sup>217</sup>. Since this pact is in Elean dialect and officials at Olym-

pia were to oversee it, like the treaty between the Eleans and their neighbours the Ἐφραοῖοι<sup>218</sup>, this Metapa was not the town of the same name in Acarnania<sup>219</sup> but must have been in the western Peloponnese. Classical Metapa was, perhaps, south of classical Pisa<sup>220</sup>. The coincidence that Pisa and Metapa were located near to each other in the classical period reduces the odds that their collocation in the tablets is random, and makes it possible that these place-names were in much the same area in Mycenaean times, or that they were both taken to Elis by refugees from the same region in the Pylian kingdom. Dyczek puts Bronze Age Metapa at Kato Samikon, and Lukermann and Eder locate it at or near Kakovatos<sup>221</sup>. However, most scholars continue to locate Mycenaean Pisa and Metapa south of the River Neda<sup>222</sup>. We shall shortly see that Metapa also had ties to the North West sector of the Further Province.

Tritsch held that \*Ti-nwa-to lay in the Further Province, probably on the Messenian Gulf rather than inland on the Laconian border<sup>223</sup>. Chadwick supposed that it was not fully part of the Pylian state, but 'a distant possession (colony or island?) which was administratively attached to the Further Province'<sup>224</sup>. He later rejected the idea that it was an island: 'it must have been of some size, since its assessment for gold on Jo 438 is one of the higher ones on the list. There are only two islands within easy reach of Pylos which are large enough, Zakynthos and Kythera, both of which appear to be mentioned

190 Olivier 1967, 131.

191 Chadwick 1988, 86.

192 For a summary of the controversy over the dating of the main archive at Knossos see Driessen 2008, 70–72; the lowest chronologies that have been offered lately are in the first half of LM IIIB/LH IIIB.

193 Chadwick 1973b, 40.

194 In the Hither Province according to Stavrianopoulou (1989, 85–6), who argues that it was not the capital of the Further Province, as Chadwick proposed (in: Ventris/Chadwick 1973, 418); cf. Bennet 1998–1999; Hope Simpson 2014, 65.

195 For the location of *Ro-u-so*, which is uncontroversial, see e.g. Bennet 1999, 140.

196 For the reconstruction of Pylian geography see Chadwick 1976, 41–48, and Bennet 2011, 151–155. On the difficulties of determining the land frontiers to the N. and E. see Hope Simpson 1981, 144–146, and especially Rougemont 2009, 59–60. Cosmopoulos (2006, 206 n. 2) accepts the standard view, but see now Eder 2011, 111–114.

197 McDonald and Hope Simpson 1972, 141–143 with maps 8–14 and 8–15.

198 Duhoux 1983, 44–57; Bartoněk 2003, 471–487, esp. 483–484.

199 Georgacas/McDonald 1967.

200 Chadwick 1976, 185–186.

201 8. 3. 14. Hiller (1972, 214–216) well suggested that the *Iliad* presupposes that Nestor's capital was in Triphylia, while the *Odyssey* locates it in Messenia, and the capital was actually moved south when the palace at Ano Englianos was built. There is also *Ma-to-ro-pu-ro/Ma-to-pu-ro* 'mother Pylos' (Cn 595, Mn 1412), a small place in the Further Province (Hiller 1972, 168).

202 Chadwick 1976, 42. For a good account of the standard view see Cosmopoulos 2006, 205–213.

203 For recent and very promising attempts see Cosmopoulos 2006 and Hope Simpson 2014.

204 This last detail is known from the last entry in the *o-ka* coastguard tablets, PY An 661.12–13: *a<sub>2</sub>-ka-a<sub>2</sub>-ki-ri-jo u-ru-pi-ja-jo / ne-do-wo-ta-de* VIR 30, 'at *A<sub>2</sub>-ka-hakrion*, 30 *U-ru-pi-ja-jo* men to the Nedwon'.

205 Palmer 1963, 65–70; Carothers 1992, 238–245 with figs. 7–9; Cosmopoulos 2006, 211.

206 In favour of the latter hypothesis see Lukermann 1972, 168–170, with his map, fig. 9–6; Parker 1993, 42–54; Dyczek 1994, 60–63 with his fig. 18; Gschnitzer 1999, 261; Eder 2011, 111–114 with Abb. 5.

207 Chadwick 1976, 39, opposed by Rougemont 2009, 59.

208 Chadwick 1976, 39. Hope Simpson (1981, 88, 92) notes that many more Mycenaean sites are to be expected both in western Arcadia, especially near the Alpheus and Ladon rivers, and in coastal Triphylia; cf. Lukermann 1972, 162; Hope Simpson 2014, 8.

209 An 657.6, *ne-da-wa-ta-o o-ka*. It does not follow, of course, that the 'man from the Neda' actually lived there (Parker 1993, 44–45). An 657.13–14, which reads *o-ka-ra 'o-wi-to-no'* VIR 30 *ke-ki-de-qe a-pu<sub>2</sub>-ka-ne / VIR 20 me-ta-qe pe-i ai-ko-ta e-qe-ta*, forms an appendix to *o-ka* I, in order to give a detailed breakdown of the 50 men there listed in line 4 and to supply the name of the accompanying *e-qe-ta*.

210 Palmer 1963, 73; Parker 1993, 44.

211 So Chadwick 1968, with strong arguments; he prefers, of course, to regard it as a homonymous town well south of the Alpheus, and to posit that the name moved after the Mycenaean period, as in many other cases. Cf. the name *Pi-sa-wa-ta /Piswātās/* at Knossos (B 1055.2).

212 So Dyczek 1994, 62; Eder 2011, 112–113. Pausanias (5. 14. 3) remarked that Elis is the only region where flax grows well in Greece.

213 It is listed in the coastguard tablets (An 654.3).

214 Dyczek 1994, 62–63.

215 Parker 1993, 66 with n. 110.

216 Parker 1993, 48–54, has well argued that the very productive territory of the next centre to the south, *Pe-to-no*, extended from the palace up to the Neda, and that both *Piswa* and *Metapa* were north of that river; cf. Eder 2011, 113–114.

217 Schwyzer 1923, 414 = SEG 11.1183, 38.364.

218 Meiggs/Lewis 1969, no. 17 (c. 500), with the misreading Ἐφραοῖοι, and Nielsen 2005, 188, 558; they are not the Heraeans in Arcadia.

219 Herodian, *Prosod.* 258.28, *Μέταπα πόλις Ἀκαρνανίας*. Πολύβιος πέμπτω; Steph. Byz. s.v. has the same wording, but adds τὸ ἐθνικὸν Μεταπαῖος ἢ Μεταπεύς διὰ τὰ ἐπιχώρια. The fragment of Polybius has passed unnoticed, as has this city in the records of the Copenhagen Polis Centre. The name is prehellenic (Haley, in: Blegen/Haley 1928, 145 with Pl. 1).

220 So Palmer 1963, 65, 74; Virgilio 1972, 71–72; Eder 2011, 113. Chadwick (Gnomon 36 [1964] 325) objected that another inscription found at Olympia records a treaty between Sybaris and another Italian city, and by this logic we might think Sybaris was near Olympia. However, the dialect is local to Elis, as Kroll and Barkowski noted (*RE* XV.2, 1932, 1326; *RE* Suppl. III, 1918, 95). There are no grounds for emending the text to *Μεσσαπιός*.

221 Dyczek 1994, 63; Lukermann 1972, fig. 9–6; Eder 2011, Abb. 5.

222 Hope Simpson 2014, 58–60, puts *Pi\*82* at Siderokastro: Sphakoulia and Metapa at Mouriatadha: Elliniko.

223 Tritsch 1957, followed by Heubeck 1963, 17.

224 Chadwick 1972, 105.

on the tablets under these names<sup>225</sup>. Deriving *\*Ti-nwa-to* from *\*στενρός*, he suggested instead that it was in ‘the hill country immediately to the north of the Messenian valley’, i.e. above the Stenyclarus plain<sup>226</sup>; whatever the merits of this location, the proposed etymology is unconvincing<sup>227</sup>. Finally, evidently still perplexed, he proposed that it was in a part of the Mani, i.e. the east coast of the Messenian Gulf, that was not accessible by land from the kingdom’s eastern frontier<sup>228</sup>. Thus Agamemnon offered Achilles as a dowry seven towns in a peripheral area outside the kingdom of Nestor in the Outer Mani, i.e. the east coast of the Messenian Gulf<sup>229</sup>. This region was hard to reach overland from Kalamata until a generation ago; historically the Mani has always resisted subordination to centralizing powers. But better arguments can be made by reexamining the tablets.

The sequence of entries in the tablets provides several clues to the location of *\*Ti-nwa-to*. Unfortunately tablet Jo 438, recording the gold-tax on governors and vice-governors, does not itemise the towns in the usual order, and mixes up towns from the two Provinces<sup>230</sup>. It lists the governor of *\*Ti-nwa-to* between entries for the first town from the Further Province, namely *E-re-e* (*Helos* ‘marsh’), and the last town of the Hither Province, *Ti-mi-ti-ja*<sup>231</sup>. The location of these places depends on the organization of the four tax-districts of the Further Province in the Ma series of flax-tablets (Table 1), in which the Pamisos is the north-south divider, and the Skala hills the east-west<sup>232</sup>.

Tablet Jo 438 mentions the governor of *\*Ti-nwa-to* between tax districts b1 and a2 of Table 1. This is puzzling, since in the standard reconstruction these districts are not adjacent. *Ti-mi-ti-ja* or *Te-mi-ti-ja* (*Terminthia*?) is the same as *Ti-mi-to-a-ke-e*, i.e. *Tirminthōn ankos* ‘glen of terebinth trees’<sup>233</sup>, a coastal town on the western border of the Further Province; it has often been identified with the major settlement at Nichoria (Rizomylo)<sup>234</sup>. Chadwick showed that, since on tablet Cn 595 sheep from the station at *E-ra-te-re-wa* in district b2 are recorded as at Metapa in the north of the Hither Province, districts b2 and a2 are likely to be in northern rather than southern Messenia. Hence *Za-ma-e-wi-ja* and the other towns in its district are in the N.E. quadrant of the Province. Helos is listed after *Za-ma-e-wi-ja* on tablet Jn 829; it does not appear in the Ma series, but has its place taken by *E-sa-re-wi-ja*, and is also likely to be in the N.E. quadrant<sup>235</sup>. There are links on tablet Aa 779 between *A-te-re-wi-ja* and Metapa, on An 830 between *A-te-re-wi-ja* and *Pi-<sup>\*</sup>82* (*Piswal*?), the northernmost town of the Hither Province, and on Ma 225 between *Pi-<sup>\*</sup>82* (*Piswal*?) and *Re-u-ko-to-ro* /*Leuktron*/, an important place in the further province<sup>236</sup>. Hence Helos is split into two in the Ma texts, and may have had ties to both northern tax districts<sup>237</sup>; it was probably the marshes at the source of the River Pamisos between both districts<sup>238</sup>.

Tablet On 300, listing transactions, involving the governors of all the towns in both Provinces, in commodity *\*154*, probably hides, also helps to locate *\*Ti-nwa-to*. The name of its governor, *Te-po-se-u*, is the final entry, after the governors of two towns that belong to the

NW	NE
b2 <i>A-te-re-wi-ja</i> <i>E-ra-te-re-we</i> [ <i>E-re-e</i> belongs here?]	<i>E-sa-re-wi-ja</i> a2 <i>Za-ma-e-wi-ja</i> [ <i>E-re-e</i> belongs here?]
b1 <i>A-si-ja-ti-ja</i> <i>Sa-ma-ra</i> <i>Ti-mi-to-a-ke-e</i>	<i>Ra-wa-ra-ta</i> <sub>2</sub> a1
SW	SE

Table 1. The tax districts of the Further Province on the Ma tablets (after Chadwick 1973a).

Further Province, namely *a-si-ja-ti-ja ko-re-te* ‘the governor of Asiatia’ and [*e-re-o du*]-*ma* ‘the official of Helos’<sup>239</sup>. Again, exactly as on Jo 438, the entry for *\*Ti-nwa-to* appears with that for Helos.

This seems the best clue to the location of *\*Ti-nwa-to*. It lay inland, on or over the northern borders of the Further Province, close to Helos. Whether the kingdom’s northern frontier lay on the River Neda or on the River Alpheus itself, *\*Ti-nwa-to* must have been located in the northernmost districts of Messenia or in what one can call southern Triphylia or south-western Arcadia.<sup>240</sup> Although Chadwick rejected most of the suggestions for locating Pylian place-names in Arcadia, he conceded that the Pylians may have occupied ‘the extreme south-western fringe of Arcadia, so as to control the few passes leading into Messenia’<sup>241</sup>.

The interior of southern Triphylia, i.e. south-western Arcadia, was so poor that it was famous for its mercenaries in historical times<sup>242</sup>. It is so lacking in fertile land that it can hardly have been any richer in the Bronze Age. Cooper has shown that Apollo Epikourios was worshipped in Ictinus’ temple at Bassae, with all its military dedications, as the god of mercenaries (*ἐπικουροί*)<sup>243</sup>. Such poverty may explain why women of *\*Ti-nwa-to* went or were taken to Pylos and perhaps to Knossos to work as weavers alongside slaves from afar.

## 6. From the Peloponnese to Bavaria: some hypotheses

If the amber from Bernstorf was incised with Linear B in the western Peloponnese, how did it reach Upper Bavaria, and why? Even in the Middle Bronze Age, valuable artifacts could travel vast distances<sup>244</sup>. One can only offer hypotheses, since it is not clear on what basis we could decide between them, but at least only a limited number of them are available; considering them will shed light on several aspects of Mycenaean long-distance relations. If these objects are genuinely from Mycenaean Greece, they must either have been traded by Mycenaean, taken from them by force, or paid by them for ser-

VICES of some kind, the most obvious of which is service in a force of mercenaries. They could then of course have been traded great distances, as far as Bernstorf, by other intermediaries. Let us start with trade.

Vianello proposed that the amber objects from Bernstorf were tokens sent from Greece along the trade-route for amber to ask for ‘more of the same’, and that the signs (which he does not interpret) signify ‘some commercial agreement’<sup>245</sup>. Indeed, names on the inscriptions could perhaps have functioned as guides to illiterate merchants or travellers; once they went back to Greece, they could have shown the inscriptions to literate officials in order to find the place or the person that they were seeking. We simply do not know how Mycenaean trade with such remote regions operated.

The piece of gold wire found deep within the suspension-hole of Object B<sup>246</sup>, which links it with the gold treasure (see section 1 above), suggests that this item was at some point worn by a member of the Mycenaean élite, presumably around the wrist like the seal seen in the fresco from the shrine of the Citadel House at Mycenae (Fig. 6)<sup>247</sup>. A young man buried in a wooden coffin in a chamber-tomb in the agora at Athens in LH IIIA1 wore an amygdaloid amber bead and a seal around his wrist<sup>248</sup>. Could the gold and amber have been insignia of office, carried by rulers or lesser officials like the *ko-re-te-re* to enhance their authority? We are not certain what Mycenaean symbols of royal authority looked like, but it is easy to suppose that the crown and sceptre in the Shaft Graves were such regalia<sup>249</sup>. One may compare the famous LM I seal-impression from Khania which shows a large and muscular male figure holding a staff and standing on top of a two-gated city.<sup>250</sup> For a sceptre, such as would be borne by a *σκηπτοῦχος βασιλεύς*, one may compare the celebrated sceptre made of enamelled gold from Kourion in Cyprus,<sup>251</sup> or those of gold and of ivory wrapped in gold from Shaft Grave Circle A at Mycenae.<sup>252</sup> Amber was rare and high-



Fig. 6. Mycenae (Greece). Detail of fresco from the Citadel House, Mycenae. Archaeological Museum, Mycenae.

- 225 Chadwick 1988, 83.  
 226 Chadwick 1988, 84; the derivation is untenable, but the conclusion may be right.  
 227 See above, section 3.  
 228 Chadwick 1998–1999, 34–35. The well-built Mycenaean tholos-tomb at Kambos should not be forgotten in this context, since tholoi are associated with local rulers (Bennet 1998, 125–127).  
 229 Homer, *Iliad* 9. 149–53 = 290–5; cf. Bennet 2011, 155.  
 230 Chadwick 1973b, 54.  
 231 PY Jo 438.19–24: *e-re-e po-ro-ko-re-te* AUR P 3 X / *a-ke-ro qa-si-re-u* AUR P 3 X / *te-po-se-u ti-nwa-si-jo ko-re-te* AUR N 1 / *po-ki-ro-qa* AUR N 1 / *au-ke-wa* AUR N 1 / *ti-mi-ti-ja ko-re-te* AUR P 6 / (Ventris and Chadwick 1973, 358–9, 514). The places associated with *A-ke-ro* and Augewas, who was the *da-mo-ko-ro*, are unknown, but according to An 654.11–12 Poikiloq<sup>u</sup>s may be from *To-wa*.  
 232 Shelmerdine 1973, whose conclusions are applied to a map by Chadwick 1973a; cf. Chadwick 1976, 47–48. Parker (1993, 60–75) confirms these conclusions with new evidence, save that he locates *Sa-ma-ra* to the north of *Ra-wa-ra-ta-2*.  
 233 From *τέρμινθος* (Palaima 2000, 14–18).  
 234 Shelmerdine 1998, 142–144; cf. also Parker 1993, 60–4.  
 235 Chadwick 1973a, where ‘Cn 594’ is a misprint. The start of Cn 595 reads: *e-ra-te-re-wa-pi ta-to-mo o-pe-ro / me-ta-pa a-we-ke-se-u* VIR 1 OVIS+TA 5. Likewise Dyczek (1994, 69–70) puts Helos in the Stenyclarus plain to the N.E.  
 236 Bennet 1999, 148, with his very useful fig. 3; Eder 2011, 113 n. 42. ‘Like *me-ta-pa*, *pi*-\*82 reaches in one step towns from both provinces’ (Carothers 1992, 258–259); similarly Eder 2011, 113.  
 237 So Parker 1993, 68–69, who compares East Anglia with its two subdivisions Norfolk and Suffolk.  
 238 Hope Simpson 2014, 67. Bennet tentatively locates *A-te-re-wi-ja* in the Soulima valley at Peristeriá in N.W. Messenia, and Helos at Mouriatada (1998–1999, 24–25, 30, and 1999, 148–149 with fig. 3). Cherry (1977, 80 with his Fig. 7) suggested a location for Helos in the S.E. corner near the marshy mouth of the Pamisos.  
 239 PY On 300.12. Relying on the other lists of towns, Chadwick plausibly restores the first half of the line as [*e-re-o du*]ma ‘the mayor of Helos’, since *du-ma* is a title comparable to *ko-re-te* (in: Ventris/Chadwick 1973, 466–468). Palaima (1995, 631–632) proposed that *Te-po-se-u* was listed in this place because he was also *da-mo-ko-ro* of the Further Province.  
 240 For the classical settlement of Triphylia see Nielsen 2005, 603–612; Eder 2011, 105.  
 241 Chadwick 1977, 226.  
 242 See Nielsen 2005, 79–83.  
 243 Cooper 1996, 77–79, who shows that, *pace* Pausanias 8. 41. 9, *ἐπικούριος* did not mean ‘healer’ or ‘helper’ against the plague. At least 4,000 of Xenophon’s Ten Thousand were Arcadians (Roy 1967, 308–309).  
 244 Compare the votive seal-case of King Naram-Sin (middle of the 18th century BC) of Ešnunna (Tell Asmar, north-east of Baghdad), which was found at Kastri on Kythera (Janko 2008, 584–586).  
 245 Vianello 2008, 20.  
 246 Gebhard/Rieder 2002, 125 Abb. 9.  
 247 Cf. Taylour 1983, 56 Fig. 33 (the dark blob worn by a cord around the right wrist of the smallest female figure). The Vapheio prince was buried with clusters of seal-stones around each wrist (Vermeule 1972, 128).  
 248 Vermeule and Travlos 1966, 66, 78, pls. 24–25; Harding and Hughes-Brock 1974, 159.  
 249 De Fidio 2008, 88.  
 250 CMS V Suppl. 1A no. 142; cf. Krzyszkowska 2005, 140, no. 247. Mycenaean often appropriated Minoan ideological symbols.  
 251 Castleden 2005, 75–76 with his Fig. 3.6.  
 252 Karo 1930, 81 Abb. 19 (no. 296), 84 Abb. 20 with Taf. XVIII (nos. 308–309), 84 with Taf. XLIII (no. 310).

ly prized<sup>253</sup>, no doubt for its electrical properties, which would have been considered magical, as well as for its golden colour and beauty. Could the bearded face on the 'obverse' of Object A even depict the ruler of \**Ti-nwa-to*?

A variation on trade is that these objects became obsolete for some reason and sent to remote Bernstorf as diplomatic gifts. If political reorganization or conflict led to a diminished status for \**Ti-nwa-to*, perhaps its precious insignia of power, if this is what the amber and golden objects were, came to need a safe and lucrative disposal. Although scholars assume that the great increase during LH IIIA–IIIB1 in the size and number of settlements in the central regions of Mycenaean Greece indicates a time of general peace, archaeological and textual evidence points to the expansion of the kingdom of Pylos in LH IIIA2 and trouble in peripheral areas<sup>254</sup>. A strong argument has been advanced, on the basis of both archaeological indications and internal evidence from the Pylian archives, that the Further Province was brought into the kingdom during LH IIIA2; Bennet dates its incorporation to between 1350 and 1300 BC<sup>255</sup>. The fresco from the megaron at Pylos of Mycenaean warriors by a river fighting rustics clad in hides and armed only with daggers may depict such a conflict<sup>256</sup>. The authorities could have converted the royal insignia of the subjected town of \**Ti-nwa-to* into material for a diplomatic gift-exchange and sent them, directly or indirectly, to remote trading-partners in contemporary Germany.

For such a scenario one may compare the collection of gems and cylinder-seals made of Afghan lapis lazuli which were found in a LH IIIB context at Thebes in the so-called Treasure Room on the Kadmeia Hill, where they had ended up as raw material in a Mycenaean palatial workshop<sup>257</sup>. The latest of the numerous Kassite seals from Babylon, some with dedications to Marduk, date stylistically from c. 1250 BC. Porada proposed that this cache was a diplomatic gift to the Thebans from King Tukulti-Ninurta I of Assyria, who would have taken it from Babylon after he pillaged the temple of Marduk there in 1225 BC<sup>258</sup>. This hoard, which included numerous heirlooms, would have had high value to the Assyrians. However, the seals were no longer usable for their initial purpose; the Assyrian king had nullified their utility as sources of power, and it became convenient, or even wise and necessary, to dispose of them safely as scrap. The solution adopted was to send them far away, presumably as part of a mercantile exchange so that no loss was incurred. If it were doubted whether the Assyrians would have wanted to establish a close relationship with Mycenaean Thebes by sending such an expensive gift<sup>259</sup>, one must remember the Hittites' determination, expressed in the treaty between Tudḫaliya IV of Hatti and Šaušgamuwa of Amurru in Syria, to interdict trade between Tukulti-Ninurta I and the land of Aḫḫiyawa.<sup>260</sup>

Let us turn to the second possibility, that these materials were seized by force. The gold treasure repre-

sents about 46% by weight of the 250 g which, according to tablet Jo 438, the governor of \**Ti-nwa-to* was expected to send to the palace, but which did not arrive there in time to be recorded before the palace was destroyed (see section 4). Were the treasures from Bernstorf that very same consignment, with the amber meant to make up the rest of the payment, seized during the catastrophe of c.1190 BC and then taken, either directly or indirectly, to Bavaria? This scenario would be part of a pattern of contacts between western Greece, Italy and the Adriatic that manifested itself from LH IIIB2 onwards in such phenomena as Naue II swords and fibulae<sup>261</sup>. That would entail that the enceinte at Bernstorf was burned far later than in c.1300, as archaeologists believe it was (see section 1). Or else these materials could have been seized at some earlier date, perhaps in LH IIIA2 when the Pylian kingdom was expanding<sup>262</sup>.

A final option is that these materials were brought to Bernstorf, whether directly or indirectly, after they had been paid to (or taken by) mercenaries in the service of the palace. Such warriors could carry treasures great distances, like the gold and ivory sword-hilt brought to Lesbos by the poet Alcaeus' brother Antimenidas after he had served in Judaea under the Babylonians<sup>263</sup>. Mycenaean warriors were depicted far away, both in Anatolia at Boğazköy and in Egypt at El Amarna<sup>264</sup>. Chadwick already proposed that the Pylian levies of gold recorded on tablet Jo 438 were needed for buying off hostile forces or paying mercenaries<sup>265</sup>. Like their Near Eastern counterparts, the rulers of Pylos and Knossos both employed such forces<sup>266</sup>. Gschnitzer has shown that Mycenaean armies consisted of three elements: chariotry, the general levy of the *lāwos* 'host', and specialized forces that were, at least originally, of foreign origin<sup>267</sup>. Driessen pointed out that contingents of such troops called *Ke-ki-de*, *Ku-re-we* (*/Skurēwes/* 'Scyrians')<sup>268</sup>, *O-ka-ra* (*o-ka-ra<sub>3</sub>*) 'Oechalians', and *U-ru-pi-ja-jo* were serving at both Pylos and Knossos<sup>269</sup>. Moreover, Gschnitzer identifies the *Pe-ra<sub>3</sub>-qo* at Pylos as */Pe(r)raig<sup>w</sup>oi/* 'Perraebians' and the *I-ja-wo-ne* at Knossos as */lāwones/* 'Ionians'; neither group would have originated within their respective kingdoms<sup>270</sup>. We do not know where the other groups came from, but the various contingents of the coastguard at Pylos, collectively called *e-pi-ko-wo*<sup>271</sup>, are not named after the toponyms of Bronze Age Messenia. Chadwick deemed them 'communities resident within the kingdom of Pylos but not part of the normal Greek population', i.e. pre-hellenic subject groups<sup>272</sup>, but this does not account for the troops present at both Pylos and Knossos. According to the Na series of tablets, the Pylian contingents held flax-producing land and were associated with textile production<sup>273</sup>. The *e-pi-ko-wo* on tablet As 4493 at Knossos, who like their Pylian counterparts appear with an *e-qe-ta* */hequetās/* 'follower', were also associated with textile production<sup>274</sup>. In both kingdoms they apparently held land in exchange for military service<sup>275</sup>, like some of the rowers at Knossos and Pylos (rowers, of course, could also fight)<sup>276</sup>.

The coastguard tablets from Pylos bear the heading *o-u-ru-to o-pi-a<sub>2</sub>-ra e-pi-ko-wo*, i.e. */hō wruntoi opihala e-pi-ko-wo/* ‘thus the *e-pi-ko-wo* are protecting the coast’<sup>277</sup>. Ever since the decipherment of Linear B, *e-pi-ko-wo* has been read as *ἐπίκο(φ)οι* ‘watchers’<sup>278</sup>. The later word *ἐπίκουρος*, taken to mean ‘allies’ in Homer, has been derived from a cognate of Latin *currō* ‘run (to assist)’, from the Proto-Indo-European root *\*kors-*<sup>279</sup>. That root, however, is otherwise unattested in Greek, and one can readily interpret *e-pi-ko-wo* as */epikorwoi/* *ἐπίκουροι*, from */korwos/* ‘boy’<sup>280</sup>. Melena proposed that *e-pi-ko-wo* means ‘those in charge of young apprentices’, taking the prefix *epi-* as ‘over’<sup>281</sup>. However, if one understands *epi-* as ‘additional’ the compound would mean ‘extra lads’, i.e. ‘extra warriors’, which is perfectly acceptable in semantic terms<sup>282</sup>. Cooper proposed that the term evolved from ‘allies’ to ‘mercenaries’, which is its sense in late 5th century authors<sup>283</sup>. In fact it already means ‘mercenary’ in Archilochus<sup>284</sup> and in the *Iliad*, even though the Trojans’ *ἐπίκουροι* are always translated ‘allies’<sup>285</sup>. However, Homeric *ἐπίκουροι* are clearly ‘mercenaries’ who are allies or ‘allies’ who are mercenary. Thus Hector points out to them that the Trojans’ payments of ‘gifts’ and provisions to them are excessive if they will not fight:

κέκλυτε μυρία φῦλα περικτιόνων ἐπικούρων·  
οὐ γὰρ ἐγὼ πληθὺν διζήμενος οὐδὲ χαρίζων  
ἐνθάδ’ ἀφ’ ὑμετέρων πολιῶν ἤγειρα ἕκαστον,  
ἀλλ’ ἵνα μοι Τρώων ἀλόχους καὶ νήπια τέκνα  
προφρονέως ρύοισθε φιλοπτολέμων ὑπ’ Ἀχαιῶν.  
τὰ φρονέων δῶροισι κατατρύχω καὶ ἐδωδῆ  
λαοῦς, ὑμέτερον δὲ ἕκαστου θυμὸν ἀέξω.

‘Listen, you myriad tribes of allies who dwell round about:  
I did not gather each of you here from your cities  
because I needed or wanted a crowd,  
but for you to protect with zeal from the warlike Achaeans  
the Trojans’ wives and innocent children.  
To that end, I wear out my people with gifts and food,  
but nourish the pride of each one of you.’<sup>286</sup>

These *ἐπίκουροι* ‘protect’ (*ρύοισθε*) the city with exactly the same verb, *wruntoi* = *ρύ(ο)νται*<sup>287</sup>, as on the heading of the coastguard tablets, */hō wruntoi opihala epikorwoi/*. Again, Hector tells Poulydamas that they must capture the Achaeans’ ships because the city’s payments of gold and bronze have bankrupted it:

253 Harding and Hughes-Brock 1974, 152; Kristiansen/Larsson 2005, 139, 236.

254 Cf. Bennet 1998, 126–129, on changes at Nichoria and in the Soulima valley on the northern edge of the kingdom. Ayios Stephanos in southern Laconia, a peripheral zone where there had been much interaction with Knossos and earlier with Minoan Crete, was burned and largely abandoned in LH IIIA2 Early, perhaps at the same time as the central power

in the vale of Sparta (Janko 2008, 595–597), i. e. at the newly discovered palace at Ayios Vasiliou near Xirokambi.

- 255 Bennet 1998 and 2011, 155; he holds that the northern border of the kingdom may even have continued to be unstable until the collapse of the palatial system. Cf. Bennet/Shelmerdine 2001.
- 256 Lang 1969, 71–73 (nos. 22 H 64, 25 H 65), with plates M–N.
- 257 Krzyszkowska 2005, 304 with Fig. 10.4.
- 258 Porada 1981, 68–70.
- 259 Krzyszkowska 2005, 304.
- 260 *KUB* XXIII.1, col. IV; cf. Beckman 1996, 101; Bryce 2005, 309; de Fidio 2008, 102.
- 261 Cf. e.g. Bouzek 2007, 358, Papadopoulou 2007, Teržan 2007.
- 262 Hope Simpson 2014, 53–54.
- 263 Alcaeus fr. 350, with Strabo 13. 2. 3.
- 264 Niemeier 2003, 105, fig. 4; Schofield/Parkinson 1994.
- 265 Chadwick 1976, 145; 1998–1999, 36–37.
- 266 Catling 1961, 121; Driessen 1984; Drews 1993, 147–157; Gschnitzer 1999; M. H. Wiener, in: Karageorghis/Morris 2001, 247–248.
- 267 Gschnitzer 1999.
- 268 Ventris/Chadwick 1956, 191.
- 269 Driessen 1984, referring to KN B 164 (from the early archive of the Room of the Chariot Tablets), F 7362 v., Fh <392>, X 7631, X 7668, Xd 70.
- 270 Gschnitzer 1999, 259–260 with n. 16, citing PY Ma 195.3 for the Perrhaebians from northern Thessaly and the Pindus and KN B 164 for the *Ku-re-we* and Ionians, who were perhaps in central Greece at this early period (cf. Driessen 1984, 50–51). Gschnitzer also suggests that the *A<sub>3</sub>-wo-re-u-si* of KN Wm 1707.a may be ‘Aeolians’. Other contingents are the *I-wa-so /Iwasoi/* or *I-wa-si-jo-ta /Iwasiotai/* and *Ko-ro-ku-ra-i-jo*, i.e. */Krokulaioi/* or */Krokuraioi/* (‘Corcyreans’?) at Pylos (An 656, 661, Cn 3.5), and the unidentified *q-dq-wo-ne/* at Knossos (B 164.3).
- 271 PY An 657.1.
- 272 Chadwick 1976, 115.
- 273 Killen 2007, 265.
- 274 Melena 1975, 37–42; Killen 2007, 265, who rightly observes that the evidence of KN As 4493 undermines the view that the Pylian coastguard was an emergency measure.
- 275 Cf. Gschnitzer 1999, 262–263; Killen 2008, 170 with n. 31; Nakassis 2010.
- 276 Killen (2007, 265) has proved that the rowers on KN As(1) 5941 were also textile workers, because the tablet is written by scribe 103, who was concerned only with the production of textiles. For Pylos see Gschnitzer 1999, 262–263.
- 277 PY An 657.1.
- 278 Ventris/Chadwick 1956, 189, 392; Killen 2007, 263. Dery (1968, 19) took it as *ἐπίκουροι* but regarded these ‘helpers’ as tax-collectors.
- 279 So e.g. Beekes 2010, i. 442.
- 280 So Negri 1977–1978.
- 281 Melena (1975, 37–42), regarding KN As 4493, which will be discussed later in this section.
- 282 Janko 1992, 140; cf. e.g. *e-pi-de-da-sa-to /epidedastoi/* ‘has been distributed in addition’.
- 283 Cooper 1996, 76–77, with *LSJ*<sup>9</sup> s.v. I.2.
- 284 καὶ δὴ ἴπικουρος ὅστε Κάρ κεκλήσομαι, ‘I will be called a mercenary like a Carian’ (Archilochus fr. 216 West, cf. fr. 15.1). This is not noted by *LSJ*<sup>9</sup>. Caria was famous for its mercenaries (Adiego 2007, 1–2).
- 285 *LSJ*<sup>9</sup> s.v. I.1, who duly note that this meaning is unique to the *Iliad*, and Snell et al. 1969–2010, ii. 640. As the scholia observe (schol. D on *Iliad* 3. 188), only those helping the Trojans are called *ἐπίκουροι*, whereas those helping the Achaeans are *σύμμαχοι*.
- 286 Homer, *Iliad* 17. 220–226.
- 287 An 657.1. Mycenaean preserves the athematic conjugation, which Homer has modernized (Ventris/Chadwick 1956, 189).

πρὶν μὲν γὰρ Πριάμοιο πόλιν μέροπες ἄνθρωποι  
πάντες μυθέσκοντο πολύχρυσον πολύχαλκον·  
νῦν δὲ δὴ ἐξ ἀπόλωλε δόμων κειμήλια καλά,  
πολλὰ δὲ δὴ Φρυγίην καὶ Μηονίην ἐρατεινήν  
κτήματα περνάμεν' ἵκει, ἐπεὶ μέγας ὠδύσατο Ζεὺς.

'For once all articulate people used to call  
the city of Priam "rich in gold and in bronze".  
But now the fine heirlooms are perished from our halls;  
many are the possessions traded to Phrygia  
and lovely Maeonia, since great Zeus got angry.'<sup>288</sup>

Thus ἐπίκουροι already denotes 'mercenaries' in the *Iliad*. Expeditionary troops were paid either by plundering cities, or, if they were on the defending side, by gifts of what would otherwise have been looted. Kings like Peleus and Menelaus could also give land within their kingdoms to foreign warriors like Phoenix and Odysseus, in the latter case with his retainers, in exchange for military service.<sup>289</sup> We have seen that the situation was similar in the Bronze Age.

Thus ἐπίκουροι is the easiest interpretation of *e-pi-ko-wo*. Chadwick refused to interpret *e-pi-ko-wo* as ἐπίκουροι on the historical ground that the Mycenaeans would have been imprudent to employ alien 'allies' for anything but non-combatant duties<sup>290</sup>. However, the reliance of Late Bronze Age kingdoms on such troops is well documented. It was certainly imprudent if they contributed to the collapse of around 1200 BC, but imprudent actions are all too common in human history. In this case one should remember the Romano-Britons' reliance on Germanic mercenaries for the defence of the 'Saxon shore' in eastern England, where these mercenaries eventually invited in their friends and relatives and took the country over<sup>291</sup>. The heading of Pylos tablet Cn 3 gives the troops of the coastguard the collective name *me-za-na*<sup>292</sup>, which is rightly read as */Metsānai/* 'Messenians'<sup>293</sup>. Does this not suggest that these warriors took control of the region after the fall of the palace and gave their name to it? This was certainly done by the Franks, who gave their name but not their language to France, and the Huns and Bulgars who did likewise to Hungary and Bulgaria. We should be alert to such possibilities.

As we saw in section 5 above, *\*Ti-nwa-to* was in southern Triphylia or south-western Arcadia, a region famous for mercenaries in historical times<sup>294</sup>. Such a location for *\*Ti-nwa-to* is also attractive because it was rich in gold and amber—but not, of course, because these substances occurred there naturally. Large amounts of Baltic amber, as well as gold, appear in the tholos tombs at Pylos, Routsis (Myrsinochori), Koukounara, Peristeria, and above all Kakovatos, down to LH IIB<sup>295</sup>. The heyday of the traffic in amber was in LH I–IIA (as well as later, from c. 1200 BC onwards)<sup>296</sup>. It percolated through Mycenaean society more widely, but in smaller quantities, during LH IIIA–B; there is none from the Palace of Nestor<sup>297</sup>. Although some amber was still being traded by sea in c. 1305, since at least forty beads of Mycenaean type made of Baltic amber were recovered from the

shipwreck at Uluburun<sup>298</sup>, it has been suggested that this was simply by a redistribution of the plenteous supplies which had arrived in Early Mycenaean times<sup>299</sup>. The tholos tombs at Kakovatos were extremely rich in both gold and amber, and surely some of them had already been robbed of their wealth by Late Mycenaean times.

The whole story may never be known, but the discovery of Linear B in Upper Bavaria opens a surprising new window onto the Mycenaeans and their far-flung connections.

## 7. Appendix: the Inscription on Object A

The text on Object A was assigned the number BE Zg 1. It is very obscure, since two of its three signs are unclear (*Fig. 2, right*), and there are high odds against achieving an assured interpretation of even two signs without a context.

The first sign | rather resembles an upright arrow or spear with something of a point at the top, like the ideogram \ HAS 'spear' but with a different orientation. This upright can hardly be a word-divider, since it is too tall and is redundant in the absence of a second sign-group. Might it represent a sceptre, conceivably as a symbol of sovereignty or rank? We can compare the gold-wrapped wooden sceptre from Bernstorf: just as Object B seems to bear a representation of the crown with its five projections, so too Object A may represent the sceptre that was found with the crown. This seems the best interpretation of this sign.

The second sign is the familiar wheel  $\oplus$  *ka*. One may also compare the ideogram  $\oplus$  *ROTA*.

The third sign  $\boxplus$  consists of a square, occupying the upper half of the sign, that is bisected by a single central vertical line which runs from the very top right down to the base-line, like the ideogram  $\boxplus$  *GRA* 'wheat' but with straight sides. It is not  $\boxplus$  *wa*, where the lateral verticals always continue to the bottom and the box is not bisected. The sign  $\boxplus$  *ko* is once written  $\boxplus$  by the scribe from *wa-to* in Crete who painted some stirrup-jars found at Thebes<sup>300</sup>, but this cannot be relevant, since our scribe could draw curves. The sign  $\boxplus$  *a*<sub>2</sub> always has distinct curves or, as in Hand 1 at Pylos, angles, and is never simplified to a box bisected by a vertical line. The Bernstorf sign does not correspond to  $\boxplus$  *a*, even though many variants of this have a second horizontal above the first one, since in  $\boxplus$  *a* the space between these horizontals is never bisected by the upright. It does correspond to the rare variant of the sign  $\boxplus$  *di* which has a medial crossbar in Hand 91 at Pylos<sup>301</sup>. In addition, the sign  $\boxplus$  *ne* is very similar in Hand 11 at Pylos, but still has distinct curves to the side-bars that the Bernstorf sign lacks.

Its discoverer, Manfred Moosauer<sup>302</sup>, read the inscription from left to right as  $\boxplus$  *do-ka-me*, but this does not seem likely. Olivier suggested  $\boxplus$  *ka-a*<sup>303</sup>, but the  $\boxplus$  *a* would have had to be very badly written. The reading could be  $\boxplus$  *ka-di*, but the sign-group is un-

paralleled in Linear B<sup>304</sup>. If this inscription too is dextroverse, it might read  $\overline{\text{𐀀}} \oplus di-ka$ ; the closest parallel in Linear B is Mount Dicte in Crete (*di-ka-ta*)<sup>305</sup>, but the match is poor. If the reading were  $\overline{\text{𐀀}} \oplus a-ka$ , there is an obscure place called *a-ka* in the Knossos sheep tablets<sup>306</sup>, or the name */Arkasi/* Ἀρκάς, the mythical founder of Arcadia, might be read. None of this is very convincing, and I suspect that the scribe was simply not very literate, which would not be so surprising if *\*Ti-nwa-to* lay on the periphery of the Pylian kingdom, perhaps indeed in what was later called Arcadia.

## 8. Summary

In 2000 the extensive fortified citadel of Bernstorf near Munich in Germany, which burned down in or after c. 1320 BC and had already yielded some gold regalia of rather Aegean appearance, produced two amber objects seemingly inscribed in Linear B. The authenticity of these objects has been questioned, on grounds that are as yet insufficient. A new reading suggests links with a place called *\*Ti-nwa-to*, the existence of which is attested by the Mycenaean archives at Pylos and probably at Knossos. Women from this place worked at both palatial centers as weavers, but it also had a wealthy ‘governor’. An analysis of the Pylos tablets proves that this place was in western Arcadia. This material, if genuine, sheds new light on long-distance connections in Mycenaean times.

- 
- 288 Homer, *Iliad* 18. 288–92.  
 289 Homer, *Iliad* 9. 478–84, *Od.* 4. 174–7 (quoted above, section 4).  
 290 Chadwick 1976, 67, 175.  
 291 Johnson 1982, 125, 134–158.  
 292 *jo-i-je-si me-za-na / e-re-u-te-re di-wi-je-we qo-o / hō hihensi Metsānai ereutērei Diwiei gwōns/* ‘thus the Messenians are sending oxen to the inspector Diwyeyus’ (cf. n. 112 supra).  
 293 Chadwick, in: Ventris/Chadwick 1973, 435–436.  
 294 Nielsen 2005, 79–83.  
 295 Harding/Hughes-Brock 1974, 162, 164, 166 with Fig. 1; Dickinson 1994, 249–250; Eder 2007, 40–45, and 2011, 108. A large quantity of unworked amber even reached the palace at Qatna near Homs in Syria at some date (perhaps centuries) prior to c. 1340 BC (Hughes-Brock 2011, 107–109).  
 296 Harding/Hughes-Brock 1974, 152–153. For recent scepticism that the trade followed any one particular route see Hughes-Brock 2011, 108, with references.  
 297 Harding and Hughes-Brock 1974, 150–151, Figs. 2–3.  
 298 Pulak 1998, 218; Kristiansen/Larsson 2005, 101–102. Since some amber floats, more pieces may have been lost.  
 299 Harding/Hughes-Brock 1974, 149–153.  
 300 TH Z 849, 851, 852, 882, with Sacconi 2010, 129–131.  
 301 Palaima 1988, 259. In Hand 14 at Pylos, the same sign  $\overline{\text{𐀀}}$  *di* has the side bars angled diagonally.  
 302 [www.praehistorica.eu/pdf/DasBernsteingesichtvonBernstorf](http://www.praehistorica.eu/pdf/DasBernsteingesichtvonBernstorf).  
 303 In: Gebhard/Rieder 2002, 130–131.  
 304 *ka-di-ti-ja* describes women at Knossos (KN V 1003), and is doubtfully taken as */Kadistiai/* (Ventris/Chadwick 1973, 549).  
 305 KN F 866, Fp 7 etc.  
 306 KN Da 1078, Dn 5318.

## Bibliography

- Adiego 2007  
 I. J. Adiego, *The Carian Language* (Leiden, Boston 2007).
- Adrimi Sismani/Godart 2005  
 V. Adrimi Sismani/L. Godart, *Les Inscriptions en Linéaire B de Dimini/Iolkos et leur contexte archéologique*. *ASAtene* 83, N.S. 3.5.1: 47–69.
- Arapojanni/Rambach/Godart 1999  
 X. Arapojanni/J. Rambach/L. Godart, *L’Inscription en linéaire B de Kafkania – Olympie (OL Zh 1)*. In: S. Deger-Jalkotzy/S. Hiller/O. Panagl (eds.), *Floreat Studia Mycenaea* (Vienna 1999) i. 39–43.
- Åström 1977  
 P. Åström, *The Cuirass Tomb and Other Finds at Dendra. Bd. 1: The Chamber Tombs* (Göteborg 1977).
- Aura Jorro 1985–1993  
 F. Aura Jorro, *Diccionario Micénico*, 2 vols. (Madrid 1985–1993).
- Bähr/Krause/Gebhard 2012  
 V. Bähr/R. Krause/R. Gebhard, *Neue Forschungen zu den Befestigungen auf dem Bernstorfer Berg bei Kranzberg im Landkreis Freising (Oberbayern)*. *BVbl.* 77, 2012, 5–41.
- Bartoněk 2003  
 A. Bartoněk, *Handbuch des mykenischen Griechisch* (Heidelberg 2003).
- Beckman 1996  
 G. Beckman, *Hittite Diplomatic Texts* (Atlanta 1996).
- Beekes 2010  
 R. Beekes, *Etymological Dictionary of Greek* (Leiden, Boston 2010).
- Bennet 1998  
 J. Bennet, *The Linear B archives and the Kingdom of Nestor*. In: Davies 1998, 111–133.
- Bennet 1998–1999  
 J. Bennet, *Re-u-ko-to-ro za-we-te: Leuktron as a secondary capital in the Pylos kingdom*. In: *A-NA-QO-TA. Studies presented to J. T. Killen. Minos* 33–34, 1998–1999, 11–30.
- Bennet 1999  
 J. Bennet, *The Mycenaean conceptualization of space or Pylian geography ... yet again*. In: Deger-Jalkotzy/Hiller/Panagl et al. 1999, 131–157.
- Bennet 2011  
 J. Bennet, *The Geography of the Mycenaean Kingdoms*. In: Duhoux/Morpurgo Davies 2011, 137–168.
- Bennet/Shelmerdine 2001  
 J. Bennet/C. W. Shelmerdine, *Not the Palace of Nestor: the Development of the Lower Town and other Non-Palatial Settlements in LBA Messenia*. In: K. Branigan (ed.), *Urbanism in the Aegean Bronze Age* (Sheffield 2001) 135–140.
- Bennett/Olivier 1973  
 E. L. Bennett/J.-P. Olivier, *The Pylos Tablets Transcribed* (Rome 1973).
- Blegen/Haley 1928  
 C. W. Blegen/J. B. Haley, *The Coming of the Greeks*. *AJA* 32, 1928, 141–154.
- Bouzek 2007  
 J. Bouzek, *The Amber Route, Apollo and the Hyperboreans*. In: Galanaki et al. 2007, 357–362.
- Bryce 2005  
 T. Bryce, *The Kingdom of the Hittites* (Oxford 2005).
- Carothers 1992  
 J. J. Carothers, *The Pylian Kingdom: A Case Study of an Early State*, Ph.D. diss., University of California, Los Angeles 1992.

- Carlier et al. 2010  
P. Carlier/C. de Lambeterie/M. Egetmeyer/N. Guilleux/F. Rougemont/J. Zurbach (eds.), *Études mycéniennes 2010* (Pisa, Rome 2010).
- Castleden 2005  
R. Castleden, *The Mycenaean* (Abingdon 2005).
- Catling 1961  
H. Catling, A new bronze sword from Cyprus. *Antiquity* 35, 1961, 115–122.
- Chadwick 1967  
J. Chadwick, Mycenaean *pa-wo-ke*. *Minos* 8, 1967, 115–117.
- Chadwick 1968  
J. Chadwick, The Group *sw* in Mycenaean. *Minos* 9, 1968, 62–65.
- Chadwick 1972  
J. Chadwick, The Mycenaean Documents. In W. A. McDonald/G. Rapp, Jr. (eds.), *The Minnesota Messenia Expedition: Reconstructing a Bronze Age Regional Environment* (Minneapolis 1972) 100–116.
- Chadwick 1973a  
J. Chadwick, The Geography of the Further Province of Pylos. *AJA* 77, 1973, 276–278.
- Chadwick 1973b  
J. Chadwick, ΕΣΤΙ ΠΥΛΟΣ ΠΡΟ ΠΥΛΟΙΟ. *Minos* 14, 1973, 39–59.
- Chadwick 1976  
J. Chadwick, *The Mycenaean World* (Cambridge 1976).
- Chadwick 1977  
J. Chadwick, Arcadians in the Pylos tablets? *Minos* 16, 1977, 219–227.
- Chadwick 1988  
J. Chadwick, The Women of Pylos. In: *Studies in Honour of E. L. Bennett*. *Minos Suppl.* 10. (Salamanca 1988) 43–95.
- Chadwick 1998–1999  
J. Chadwick, Pylian gold and local administration: PY Jo 438. In: *A-NA-QO-TA: Studies presented to J. T. Killen*. *Minos* 33–34, 1998–1999, 31–37.
- Cherry 1977  
J. Cherry, Investigating the political geography of an early state by multidimensional scaling of Linear B tablet data. In: J. Bintliff (ed.), *Mycenaean Geography* (Cambridge 1977) 76–83.
- CMS  
*Corpus der minoischen und mykenischen Siegel* (Berlin 1964 sqq.).
- Cooper 1996  
F. Cooper, *The Temple of Apollo Bassitas. I: the Architecture* (Princeton 1996).
- Cosmopoulos 2006  
M. B. Cosmopoulos, The Political Landscape of Mycenaean States: *A-pu<sub>2</sub>* and the Hither Province of Pylos. *AJA* 110, 2006, 205–228.
- Craddock 2000  
P. T. Craddock, Historical Survey of Gold Refining. In: A. Ramage/P. T. Craddock (ed.), *King Croesus' gold: Excavations at Sardis and the History of Gold Refining* (London 2000) 27–71.
- Czebreszuk 2011  
J. Czebreszuk, *Bursztyn w kulturze mykeńskiej* (Poznań 2011).
- David 2001  
W. David, Zu den Beziehungen zwischen Donau-Karpatenraum, osteuropäischen Steppengebieten und ägäisch-anatolischem Raum zur Zeit der mykenischen Schachtgräber unter Berücksichtigung neuerer Funde aus Südbayern. *Anodos* 1, 2001, 51–80.
- David 2003  
W. David, Zum Ornament der Goldblechkegel vor dem Hintergrund bronzezeitliche Goldfunde Mittel- und Südeuropas. *Anz. Germ. Nationalmus.* 2003, 35–54.
- David 2007a  
W. David, Bronzezeitliche Goldornate aus Süddeutschland und ihre donauländisch-balkanischen Beziehungen. In: H. Todorova/M. Stefanovich/G. Ivanov, *The Struma/Strymon Valley in Prehistory* (Sofia 2007) 421–441.
- David 2007b  
W. David, Gold and Bone Artefacts as Evidence of Mutual Contact between the Aegean, the Carpathian Basin and Southern Germany in the Second Millennium B.C. In: Galanaki et al. 2007, 411–420.
- Davies 1998  
J. L. Davies (ed.), *Sandy Pylos: an Archaeological History from Nestor to Navarino* (Austin 1998).
- Morpurgo Davies 2010  
A. Morpurgo Davies, Open Problems in Mycenaean Phonology and the Input of Morphology. In: Carlier et al. 2010, 511–522.
- De Fidio 2008  
P. De Fidio, Mycenaean history. In: Duhoux/Morpurgo Davies 2008, 81–114.
- Deger-Jalkotzy/Hiller/Panagl 1999  
S. Deger-Jalkotzy/S. Hiller/O. Panagl (eds.), *Florent Studia Mycenaeanae. Akten des X. Internat. Mykenologischen Colloquiums in Salzburg vom 1.–5. Mai 1995* (Vienna 1999).
- Del Freo 2008  
M. Del Freo, Rapport 2001–2005 sur les textes en écriture hiéroglyphique crétoise, en linéaire A et en linéaire B. In: A. Sacconi et al. (ed.), *Colloquium Romanum. Atti del XII Colloquio Internazionale di Micenologia* (Rome, Pisa 2008) 199–222.
- Deroy 1968  
L. Deroy, *Les Leveurs d'impôts dans le royaume mycénien de Pylos* (Rome 1968).
- Deshayes/Dessenne 1959  
J. Deshayes/A. Dessenne, *Fouilles exécutées à Mallia: Exploration des maisons et quartiers d'habitation, 1948–1954. Etudes Crétoises* 11 (Paris 1959).
- Dickinson 1994  
O. T. P. K. Dickinson, *The Aegean Bronze Age* (Cambridge 1994).
- Drews 1993  
R. Drews, *The End of the Bronze Age: changes in warfare and the catastrophe ca. 1200 BC* (Princeton 1993).
- Driessen 1984  
J. Driessen, Mercenaries at Mycenaean Knossos? *BSA* 79, 1984, 49–56.
- Driessen 2008  
J. Driessen, Chronology of the Linear B Texts. In: Duhoux/Morpurgo Davies 2008, 69–79.
- Dubois 1988  
L. Dubois, *Recherches sur le dialecte arcadien* (Louvain-la-Neuve 1988).
- Duhoux 1983  
Y. Duhoux, *Introduction aux dialectes grecs anciens* (Louvain-la-Neuve 1983).
- Duhoux 2008  
Y. Duhoux, Mycenaean Anthology. In: Duhoux/Morpurgo Davies 2008, 243–394.
- Duhoux/Morpurgo Davies (edd.) 2008, 2011  
Y. Duhoux /A. Morpurgo Davies, *A Companion to Linear B: Mycenaean Greek Texts and their World*, 2 vols. (Louvain-la-Neuve 2008, 2011).
- Eder 2007  
B. Eder, The Power of Seals: Palaces, Peripheries and Territorial Control in the Mycenaean World. In: Galanaki et al. 2007, 35–46.

- Eder 2011  
B. Eder, Zur historischen Geographie Triphyliens in mykenischer Zeit. In: F. Blakolmer et al., Österreichische Forschungen zur Ägäischen Bronzezeit 2009 (Vienna 2011) 105–118.
- El-Bouseily et al. 1983  
A. M. El-Bouseily/A. I. Arslan/M. F. Ghoneim/H. Z. Harraz, Mercury dispersion patterns around El Sid-Fawakhir gold mine, Eastern Desert, Egypt. *Journal of African Earth Sciences* 5.5, 1983, 465–469.
- Evans 1909  
A. J. Evans, *Sir, Scripta Minoa* (Oxford 1909).
- Facchetti/Negri 2003  
G. Facchetti/M. Negri, *Creta minoica: sulle tracce delle più antiche scritture d'Europa* (Florence 2003).
- French 2008  
E. B. French, The Late Helladic Small Finds. In: *Taylor/Janko 2008*, 445–471.
- Galanaki/Galanakis/Tomas 2007  
I. Galanaki/Y. Galanakis/H. Tomas/R. Laffineur (eds.), *Between the Aegean and Baltic Seas. Aegaeum 27* (Liège 2007).
- García Ramón 2011  
J. García Ramón, Mycenaean onomastics. In: *Duhoux/Morpurgo Davies 2011*, 213–252.
- Gebhard 1999  
R. Gebhard, Der Goldfund von Bernstorff. *BVbl.* 64, 1999, 1–18.
- Gebhard et al. 2004  
R. Gebhard/W. Häusler/M. Moosauer/U. Wagner, Mössbauer study of a bronze age rampart in Lower Bavaria. In: U. Wagner (ed.), *Mössbauer Spectroscopy in Archaeology* (Dordrecht 2004) 181–197.
- Gebhard et al. 2014  
R. Gebhard/R. Krause/A. Röpke/V. Bähr, Das Gold von Bernstorff – Authentizität und Kontext in der mittleren Bronzezeit Europas. In: *Meller/Risch/Pernicka 2014* (II) 761–776.
- Gebhard/Rieder 2002  
R. Gebhard/K. H. Rieder, Zwei bronzezeitliche Bernsteinobjekte mit Bild- und Schriftzeichen aus Bernstorff (Lkr. Freising). *Germania* 80, 2002, 115–133.
- Georgacas/McDonald 1967  
D. J. Georgacas/W. A. McDonald, *Place names of southwest Peloponnesus: register and indexes* (Minneapolis 1967).
- Georgiev 1961  
V. Georgiev, *La Toponymie ancienne de la péninsule balkanique et la thèse méditerranéenne* (Sofia 1961).
- Grimm/Schoske 2001  
A. Grimm/S. Schoske, *Das Geheimnis des goldenen Sarges: Echnaton und das Ende der Amarnazeit* (München 2001).
- Gschnitzer 1999  
F. Gschnitzer, Zum Heerwesen der mykenischen Königreiche. In: *Deger-Jalkotzy/Hiller/Panagl 1999*, 257–263.
- Hajnal 1997  
I. Hajnal, Sprachschichten des mykenischen Griechisch. *Minos Suppl.* 14 (Salamanca 1997).
- Harding 2006  
A. Harding, Facts and fantasies from the Bronze Age. *Antiquity* 80, 2006, 463–465.
- Harding 2007  
A. Harding, Interconnections between the Aegean and continental Europe in the Bronze and Early Iron Ages: moving beyond scepticism. In: *Galanaki et al. 2007*, 47–56.
- Harding 2013  
A. Harding, World systems, cores and peripheries in prehistoric Europe. *European Journal of Archaeology* 16, 2013, 378–400.
- Harding/Hughes-Brock/Beck 1974  
A. Harding/H. Hughes-Brock/C. W. Beck, Amber in the Mycenaean World. *ABSA* 69, 1974, 145–174.
- Hartmann 1970  
A. Hartmann, *Prähistorische Goldfunde aus Europa. Studien zu den Anfängen der Metallurgie 3* (Berlin 1970).
- Hartmann 1982  
A. Hartmann, *Prähistorische Goldfunde aus Europa II. Studien zu den Anfängen der Metallurgie 5* (Berlin 1982).
- Herzig/Seim 2011  
F. Herzig/A. Seim, Dendrochronologische Untersuchungen an Holzkohlen der mittelbronzezeitlichen Wallanlage von Bernstorff. *Ber. Bayer. Bodendenkmalpflege* 52, 2011, 111–123.
- Heubeck 1963  
A. Heubeck, *Ti-nwa-si-jo und Verwandtes. Minos* 8, 1963, 15–20.
- Heubeck 1976  
A. Heubeck, Epikritisches zu den griechischen Ortsnamen mit dem -went/-wont- Suffix, besonders zu den Namen Phleius. *SMEA* 17, 1976, 127–137.
- Hiller 1972  
S. Hiller, *Studien zur Geographie des Reiches um Pylos nach den mykenischen und homerischen Texten* (Vienna 1972).
- Hiller 2011  
S. Hiller, Mycenaean religion and cult. In: *Duhoux/Morpurgo Davies 2011*, 169–212.
- Hope Simpson 1981  
R. Hope Simpson, *Mycenaean Greece* (Park Ridge NJ 1981).
- Hope Simpson 2014  
R. Hope Simpson, *Mycenaean Messenia and the Kingdom of Pylos* (Philadelphia 2014).
- Hughes-Brock 1985  
H. Hughes-Brock, Amber and the Mycenaean. *Journal of Baltic Studies* 16, 1985, 257–267.
- Hughes-Brock 2011  
H. Hughes-Brock, Exotic materials and objects sent to – and from? – the Bronze Age Aegean. Some recent work and some observations. In: A. Vianello (ed.), *Exotica in the Prehistoric Mediterranean* (Oxford 2011) 99–116.
- Ilievski 1965  
P. H. Ilievski, Non-Greek Inflexions or Scribal Errors in the Mycenaean Texts. *Živa Antika* 15, 1965, 45–59.
- Janko 1977  
R. Janko, A note on the date of Grassmann's Law in Greek. *Glotta* 55, 1977, 1–2.
- Janko 1988  
R. Janko, Linear A and the direction of the earliest Cypro-Minoan writing. *Studies presented to John Chadwick* (Salamanca 1987) 311–318.
- Janko 2008  
R. Janko, Summary and Historical Conclusions. In: *Taylor/Janko 2008*, 551–610.
- Johnson 1982  
S. Johnson, *Later Roman Britain* (London 1982).
- Karachalios 1926 [1928]  
T. Karachalios, ΘΟΛΩΤΟΣ ΤΑΦΟΣ ΕΝ ΚΑΛΥΒΙΟΙΣ (ΠΕΛΛΑΝΗΣ). *ADelt* 10, 1926 [1928] Παράρτημα 41–44.

- Karo 1930  
G. Karo, *Die Schachtgräber von Mykene* (München 1930).
- Killen 2001  
J. T. Killen, Religion at Pylos: the evidence of the Fn tablets. In: R. Laffineur/R. Hägg (eds.), *Potnia: Deities and Religion in the Aegean Bronze Age* (Liège, Austin 2001) 435–443.
- Killen 2007  
J. T. Killen, 'Followers' and 'Watchers' at Pylos and Knossos. In: E. Alram-Stern/G. Nightingale (eds.), *Keimelion: Elitenbildung und Elitärer Konsum von der Mykenischen Palastzeit bis zur Homerischen Epoche*. Österr. Akad. Wissenschaften, Phil.-Hist. Klasse Denkschr. 350 (Wien 2007) 263–267.
- Killen 2008  
J. T. Killen, The Mycenaean Economy. In: Duhoux/Morpurgo Davies 2008, 159–200.
- Killen 2011  
J. T. Killen, The Linear B inscriptions. In: H. W. Haskell/P. M. Day/J. T. Killen, *Transport Stirrup Jars of the Bronze Age Aegean and Mediterranean* (Philadelphia 2011) 91–108.
- Klemm/Klemm 2012  
R. Klemm/D. D. Klemm, *Gold and Gold Mining in Ancient Egypt and Nubia* (New York, Heidelberg 2012).
- Kristiansen/Larsson 2005  
K. Kristiansen/T. B. Larsson, *The Rise of Bronze Age Society: Travels, Transmissions and Transformations* (New York, Cambridge 2005).
- Krzyszowska 2005  
O. Krzyszowska, *Aegean Seals. An Introduction*. BICS Suppl. 88 (London 2005).
- Lang 1969  
M. Lang, *The Palace of Nestor at Pylos in Western Messenia. II. The Frescoes* (Princeton 1969).
- Lang 1990  
M. Lang, *The oka Tablets Again*. *Kadmos* 29, 1990, 123–125.
- Lehrberger 1995  
G. Lehrberger, The gold deposits of Europe: An overview of the possible metal sources for prehistoric gold objects. In: Morteani/Northover 1995, 115–144.
- Lejeune 1972  
M. Lejeune, *Phonétique historique du mycénien et du grec ancien* (Paris 1972).
- Lindgren 1973  
M. Lindgren, *The People of Pylos* (Uppsala 1973).
- Lukermann 1972  
F. E. Lukermann, Settlement and circulation: patterns and systems. In: McDonald/Rapp 1972, 148–170.
- Marazzi 2009  
M. Marazzi, Il corpus delle iscrizioni in lineare B oggi: organizzazione e provenienze. *Pasiphae* 3, 2009, 121–154.
- Maran 2012  
J. Maran, Ceremonial Feasting Equipment: Social Space and Interculturality in post-palatial Tiryns. In: P. W. Stockhammer (ed.), *Materiality and Social Practice: Transformative Capacities of Intellectual Encounters* (Oxford 2012) 121–136.
- Maran 2013  
J. Maran, Bright as the Sun: the Appropriation of Amber Objects in Mycenaean Greece. In: H.-P. Hahn/H. Weiss, *Mobility, Meaning and the Transformations of Things* (Oxford, Oakville 2013) 147–169.
- Marinatos 1957  
S. Marinatos, *ΑΝΑΣΚΑΦΑΙ ΕΝ ΠΥΛΩΙ*. *PAE* 1957 [1962], 118–120.
- McDonald/Hope Simpson 1972  
W. A. McDonald/R. Hope Simpson, Archaeological Exploration. In: McDonald/Rapp 1972, 117–147.
- McDonald/Rapp 1972  
W. A. McDonald/G. Rapp Jr., *The Minnesota Messenia Expedition: Reconstructing a Bronze Age Regional Environment* (Minneapolis 1972).
- McDonald/Wilkie 1982  
W. A. McDonald/N. C. Wilkie (eds.), *Excavations at Nichoria in South-west Greece. II: The Bronze Age Occupation* (Minneapolis 1982).
- Meiggs/Lewis 1969  
R. Meiggs/D. M. Lewis, *A Selection of Greek Historical Inscriptions* (Oxford 1969).
- Melena 1975  
J. L. Melena, *Studies on Some Mycenaean Inscriptions from Knossos dealing with Textiles*. *Minos Suppl.* 4 (Salamanca 1975)
- Meller/Risch/Pernicka 2014  
H. Meller/R. Risch/E. Pernicka (eds.), *Metalle der Macht: Frühes Gold und Silber. Tagungen des Landesmuseums für Vorgeschichte 11* (Halle 2014).
- Moosauer/Bachmaier 2000  
M. Moosauer/T. Bachmaier, *Bernstorf – Die versunkene Stadt aus der Bronzezeit. Die befestigte Höhensiedlung der mittleren Bronzezeit bei Bernstorf* (Stuttgart 2000).
- Moosauer/Bachmaier 2005  
M. Moosauer/T. Bachmaier, *Bernstorf: Das Geheimnis der Bronzezeit* (Stuttgart 2005).
- Morteani/Northover 1995  
G. Morteani/J. P. Northover, *Prehistoric Gold in Europe: Mines, Metallurgy and Manufacture* (Dordrecht, Boston, London 1995).
- Müller 1997  
S. Müller, *Les Tombes de Médéon de Phocide. Dossiers d'archéologie* 222, 1997, 82–85.
- Mylonas 1972/1973  
G. E. Mylonas, *Ὁ Ταφικὸς Κύκλος Β' τῶν Μυκηνῶν* (Athens 1972/1973).
- Nagy 1968  
G. Nagy 1968: *On Dialectal Anomalies in the Pylian Texts. Atti e memorie del 1° Congresso Internazionale di Micenologia* (Rome 1968) 663–669.
- Nakassis 2010  
D. Nakassis, Labor mobilization in Mycenaean Pylos. In: Carlier et al. 2010, 269–283.
- Nakassis 2013  
D. Nakassis, *Individuals and Society in Mycenaean Pylos. Mnemosyne Suppl.* 358 (Leiden, Boston 2013).
- Negri 1977  
M. Negri, *Epikouros Rendiconti dell'Istituto Lombardo, Classe di Lettere e Scienze Morali e Storiche* 111, 1977, 228–236.
- Nielsen 2005  
T. H. Nielsen, *Arkadia and its Poleis in the Archaic and Classical Periods. Hypomnemata* 140 (Göttingen 2005).
- Niemeier 2003  
W. D. Niemeier, *Greek Territories and the Hittite empire. Mycenaeans and Hittites in west Asia Minor*. In: N. C. Stampolidis/V. Karageorghis (eds.), *Sea Routes: Interconnections in the Mediterranean 16th – 6th centuries BC*. (Athens 2003) 103–107.
- Olivier 1967  
J.-P. Olivier, *Les Scribes de Cnossos* (Rome 1967).
- Palaima 1988  
T. G. Palaima, *The Scribes of Pylos* (Rome 1988).

- Palaima 1995  
T. G. Palaima, The Last Days of the Pylos Polity. In: R. Laffineur/W.-D. Niemeier (eds.), *Politeia. Aegaeum 12* (Liège 1995) 623–634.
- Palaima 2000  
T. G. Palaima, Θέμις in the Mycenaean Lexicon and the Etymology of the Place-Name \**ti-mi-to a-ko*. *Faventia* 22, 2000, 7–19.
- Palaima 2002–2003  
T. G. Palaima, *OL Zh 1. Minos* 37–38, 2002–2003, 373–385.
- Palaima 2011  
T. G. Palaima, Scribes, Scribal Hands and Palaeography. In: Duhoux/Morpurgo Davies 2011, 33–136.
- Palmer 1963  
L. R. Palmer, *The Interpretation of Mycenaean Greek Texts* (Oxford 1963).
- Papadopoulou 2007  
E. Papadopoulou, Western Greece and the North in the Late Bronze Age: the Evidence of Metalwork and Objects of Exotic Material. In: Galanaki et al. 2007, 459–468.
- Parker 1993  
V. Parker, Zur Geographie des Reiches von Pylos. *SMEA* 32, 1993, 41–75.
- Pernicka 2014  
E. Pernicka, Zur Frage der Echtheit der Bernstorfer Goldfunde. In: Meller/Risch/Pernicka 2014 (I), 247–256.
- Porada 1981  
E. Porada, The cylinder seals found at Thebes in Boeotia. *Archiv für Orientforschung* 28, 1981, 1–70.
- Pulak 1998  
C. Pulak, The Uluburun Shipwreck: an Overview. *Internat. Journal of Nautical Archaeology* 27, 1998, 188–224.
- Rix 1976  
H. Rix, *Historische Grammatik des Griechischen* (Darmstadt 1976).
- Rougemont 2009  
F. Rougemont, *Contrôle économique et administration à l'époque des palais mycéniens* (Athens 2009).
- Roy 1967  
J. Roy, The Mercenaries of Cyrus. *Historia* 16, 1967, 287–323.
- Sacconi 2010  
A. Sacconi, Il supplemento al corpus delle iscrizioni vascolari in Lineare B. In: Carlier et al. 2010, 123–142.
- Sainer 1976  
A. Sainer, An Index of the Place Names at Pylos. *SMEA* 17, 1976, 17–63.
- Schofield/Parkinson 1994  
L. Schofield/R. B. Parkinson, Of Helmets and Heretics: A Possible Egyptian Representation of Mycenaean Warriors on a Papyrus from el-Amarna. *Annual of the British School at Athens* 89, 1994, 157–170.
- Schulz 2012  
S. Schulz, Die Bernsteinschieber von Mykene. In: G. S. Korres et al. (eds.), *Αρχαιολογία και Έρρικός Σλήμαν*. *Archaeology and Heinrich Schliemann* (Athens 2012) 104–117.
- Schwyzler 1923  
E. Schwyzler, *Dialectorum Graecarum exempla epigraphica potiora* (Leipzig 1923).
- Shelmerdine 1973  
C. W. Shelmerdine, The Pylos Ma tablets reconsidered. *AJA* 77, 1973, 261–275.
- Shelmerdine 1998  
C. W. Shelmerdine, UMME and Nichoria. In: Davies 1998, 139–144.
- Shelmerdine 2008  
C. W. Shelmerdine, Mycenaean Society. In: Duhoux/Morpurgo Davies 2008, 115–158.
- Simeonoglou 1985  
S. Simeonoglou, *The Topography of Thebes from the Bronze Age to Modern Times* (Princeton 1985).
- Skafida/Karnava/Olivier 2010  
E. Skafida/A. Karnava/J.-P. Olivier, Two new Linear B tablets from the site of Kastro-Palaia in Volos. In: Carlier et al. 2010, 55–73.
- Snell et al. 1969–2010  
B. Snell et al., *Lexikon des frühgriechischen Epos* (Hamburg 1969–2010).
- Stavrianopoulou 1989  
E. Stavrianopoulou, *Untersuchungen zur Struktur des Reiches vom Pylos: die Stellung der Ortschaften im Lichte der Linear B-Texte* (Göteborg 1989).
- Taylour 1983  
W. D. Taylour, *The Mycenaean* (London 1983).
- Taylour/Janko 2008  
W. D. Taylour/R. Janko, *Ayios Stephanos. Excavations at a Bronze Age and Medieval Settlement in Laconia*, *BSA Suppl.* 44 (London 2008).
- Teržan 2007  
B. Teržan, Cultural Connections between Caput Adriae and the Aegean in the Late Bronze and Early Iron Age. In: Galanaki et al. 2007, 157–165.
- Thompson 1998  
R. J. E. Thompson, Dialects in Mycenaean and Mycenaean among the Dialects. *Minos* 31, 1998, 313–333.
- Thompson 2002–2003  
R. J. E. Thompson, 'Special' versus 'Normal' Mycenaean Revisited. *Minos* 37–38, 2002–2003, 337–369.
- Tritsch 1957  
F. J. Tritsch, *PY Ad 684*. *Minos* 5, 1957, 154–162.
- Tritsch 1958  
F. J. Tritsch, The Women of Pylos. In: E. Grumach (ed.), *Minoica: Festschr. zum 80. Geburtstag von J. Sundwall* (Berlin 1958) 406–445.
- Troalen et al. 2009  
L. Troalen/M. F. Guerra/J. Tate/W. P. Manley, Technological study of gold jewellery pieces dated from Middle Kingdom to New Kingdom in Egypt. *ArchéoSciences* 33, 2009, 111–119.
- Uda et al. 2007  
M. Uda/S. Yoshimura/A. Ishizaki/D. Yamashita/Y. Sakuraba, Tutankhamun's Golden Mask investigated with XRDF. *Internat. Journal of PIXE* 17,1–2, 2007, 65–76.
- Ventris/Chadwick 1956  
M. Ventris/J. Chadwick, *Documents in Mycenaean Greek* (Cambridge 1956).
- Ventris/Chadwick 1973  
M. Ventris/J. Chadwick, *Documents in Mycenaean Greek* (Cambridge 1973).
- Vermeule 1972  
E. T. Vermeule, *Greece in the Bronze Age* (Chicago 1972).
- Vermeule/Travlos 1966  
E. T. Vermeule/J. Travlos, Mycenaean Tomb beneath the Middle Stoa. *Hesperia* 35, 1966, 55–78.
- Vianello 2008  
A. Vianello, Late Bronze Age Aegean Trade Routes in the Western Mediterranean. In: H. Whittaker (ed.), *The Aegean Bronze Age in relation to the wider European Context*. *BAR Internat. Series* 1745 (2008) 7–34.

Virgilio 1972

B. Virgilio, A proposito della *φράτρα* tra Aneti e Metapi e alcuni uffici pubblici e religiosi ad Olympia. *Athenaeum* 50, 1972, 68–77.

Weisgerber/Pernicka 1995

G. Weisgerber/E. Pernicka, Ore mining in prehistoric Europe: an overview. In: Morteani/Northover 1995, 159–182.

Wunderlich/Lockhoff/Pernicka 2014

C.-H. Wunderlich/N. Lockhoff/E. Pernicka, De cementatione oder: Von der Kunst, das Gold nach Art der Alten zu reinigen. In: Meller/Risch/Pernicka 2014, 353–375.

Woodard 1986

R. D. Woodard, Dialectal Differences at Knossos. *Kadmos* 25, 1986, 49–74.

Yalçın/Pulak/Slota 2005

Ü. Yalçın/C. Pulak/R. Slotta (eds.), *Das Schiff von Uluburun: Welthandel vor 3000 Jahren*. Katalog der Ausstellung des Deutschen Bergbau-Museums Bochum vom 15. Juli 2005 bis 16. Juli 2006 (Bochum 2005).

Zavadil 2009

M. Zavadil, Diademe und Siegel, Tassen und Perlen: Gold in der mykenischen Welt. In: S. Deger-Jalkotzy/N. Schindel (eds.), *Gold: Tagung anlässlich der Gründung des Zentrums Archäologie und Altertumswissenschaften an der Österr. Akad. der Wissenschaften* (Wien 2009) 99–112.

### Key to the figures

Fig. 1–3, 5: Archäolog. Staatsslg. München (Photo: M. Eberlein).

Fig. 4: Drawing, impression and photo courtesy of CMS Archives.

Fig. 6: Author.