

# LEARNING TO SPELL IN LINEAR B: ORTHOGRAPHY AND SCRIBAL TRAINING IN MYCENAEAN PYLOS

Anna P. Judson  

British School at Athens, Greece

\*Corresponding author. Email: [apj454@gmail.com](mailto:apj454@gmail.com)

---

This article analyses orthographic variation in the Linear B tablets from the Mycenaean palace of Pylos. Despite the general consistency in spelling found in Linear B texts from all sites, variation was in certain cases both permissible and entirely normal, even within the work of a single writer. Examining the patterns of orthographic variation found in the texts from Pylos, along with the factors which may have influenced this variation, sheds light on how the Mycenaean scribes were taught to write and how they applied this training in the process of creating their documents.

## Abbreviations

acc. = accusative

C = any consonant

dat. = dative

d. = dual

f. = feminine

gen. = genitive

H = hand (identifying a scribe)

instr. = instrumental

KN = Knossos

loc. = locative

m. = masculine

n. = neuter

---

† The research for this article was primarily carried out during a Research Fellowship at Gonville & Caius College, Cambridge. It was completed during a Marie Skłodowska-Curie Fellowship at the British School at Athens: this project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement no. 885977. I thank John Bennet for reading an initial draft of this paper, and the anonymous reviewers for their helpful comments.

nom. = nominative

pl. = plural

PY = Pylos

R = /r/ or /l/

s. = singular

TI = Tiryns

V = any vowel

## 1. Introduction

The Linear B writing system, used to write administrative documents on clay tablets in Late Bronze Age Greece (c. 1400–1200 BCE), shows a high degree of consistency across the various palatial and administrative sites at which it is attested. The similarity in the repertoire of signs, orthographic rules, language and document formatting practices at sites across Crete and the central and southern Greek mainland, and over a period of c. 200 years, demonstrates clearly that the writers of these texts were trained in a shared set of conventions of writing and record-keeping.<sup>1</sup> However, the variation which does exist within the Linear B texts – not only between different sites, but within documents from the same site, and even within the work of individual writers – provides key evidence for the ways in which the writing system developed and was employed within the Mycenaean administrative systems, as well as for the development of the Mycenaean Greek language.<sup>2</sup> This paper focuses on one particular aspect of writing practices, namely orthographic conventions. The Linear B texts display a remarkable orthographic consistency in many respects, despite the complexity of the conventions in use for the representation of Mycenaean Greek with this writing system; nonetheless, in certain contexts orthographic variation is both permitted and frequent. Analysing the ways in which this variation appears in the work of individual Mycenaean scribes can shed light on both the method(s) of training by which they learned to write and the decisions they made in the course of creating their documents.<sup>3</sup>

The site of Pylos, located in south-western mainland Greece, was chosen for this study because the vast majority of its c. 1,000 tablets are securely associated with the site's final destruction early in the twelfth century BCE;<sup>4</sup> because Linear B tablets were not long-term

1 See e.g. Duhoux (2011) 95; Melena (2014) 91.

2 See e.g. Duhoux (1987), comparing Cretan and mainland Linear B; Thompson (1996–7), (2002–3) and (2021), on linguistic variation; Petrakis (2017), on variation in ideograms.

3 The use of the conventional term 'scribe' to refer to the writers of the Linear B documents is not intended to make any claim about the exact status of these individuals (who may have been palatial administrators, writers assisting the administrators, and/or workers whose role also involved recording their production: see, respectively, Bennet (2001) 29–31, Palaima (2011) 122–3 and Kyriakidis (1996–7) 219–20. Nor is it intended to imply that their status, work or training was necessarily comparable to that of 'scribes' from other contemporary cultures.

4 This destruction is now dated to the beginning of the Late Helladic III C period, which started c. 1200/1180 BCE: Vitale (2006) 190–1, 200; Vitale et al. (forthcoming); Davis et al. (forthcoming). The vast majority of tablets were

documents, but were generally kept for no more than a year as part of the palace's yearly administrative cycle, these texts all belong to a period shortly before the palace's destruction.<sup>5</sup> They represent the work of at least thirty writers, who have been identified chiefly through palaeographic analysis of their handwriting, although features such as subject matter, document formatting, orthography and language also play a role.<sup>6</sup> The Pylos tablets therefore offer the chance to study the writing practices of a single, contemporaneous community of writers, who are likely to have frequently interacted in the course of their work.

## 2. Scribal training

No Linear B documents describe the work or training of their writers, and no certain 'school' or practice texts are attested.<sup>7</sup> We therefore have only indirect evidence for how Mycenaean scribes learned to write and to keep administrative records, from the features we can observe on their documents. The division of the Pylia scribes into three palaeographic 'classes', based on the similarities of their handwriting to three 'major' scribes (H1, H21 and H41), has long been viewed as evidence for three traditions of scribal training at this site, originating from three different teachers;<sup>8</sup> recently, however, the validity of this division has been challenged,<sup>9</sup> and two new studies of the Pylos tablets eliminate the 'class' as a palaeographic classification.<sup>10</sup> Similarly, it has been argued by Yves Duhoux, on the basis of an analysis of spelling variation at Pylos, that two different orthographic traditions can be identified at this site: focusing on five 'major' scribes, Duhoux argued that their levels

---

either stratified within the destruction horizon, or associated with other stratified tablets via joins or scribal attribution. A few tablets from disturbed areas have been suggested to be of earlier date (Palaima (1983); SP 111–13, 165, 169), as have the tablets from the Megaron, which are mostly by H13 (Melena (2000–1) 367; Skelton (2010)). As neither of these groups can be dated archaeologically, nor can they be either securely linked to the main body of tablets or securely disassociated from them, I omit them from this discussion (pace LSP 85–91, they therefore also cannot provide evidence for an earlier dating of the entire corpus of tablets and thus the palace's final destruction).

- 5 Bennet (2001) 27–30. One unpublished tablet from Ayios Vasileios contains the previously unknown term *po-ro-pe-ru-si-nwa* /*properusinwa* 'from the year before last' (Vasilogamvrou et al. (forthcoming)), demonstrating that information could at times be kept for more than a single year, whether or not this involved documents being kept for this length of time (cf. the use of the term *pe-ru-si-nu-wo/-nu-wa/-nwa* /*perusinwos*, *-a* 'last year's' to indicate information transferred from the previous year's records).
- 6 See SP 20–30, and section 3 below.
- 7 The 'Room of the Chariot Tablets' at Knossos has been argued to be a 'school' or training place (Chadwick (1968) 17–21; Duhoux (2011)), but, following Driessen (2000), is more generally regarded as a genuine administrative deposit, probably of earlier date than the rest of the Knossos tablets. One tablet from this deposit may, however, be a practice text (KN v(1) 114: Chadwick (1968) 20; Duhoux (2011) 96–101). For a general discussion of the issue of how Mycenaean scribes may have learned to write see Palaima (2011) 113–21 (who suggests that the training system may have been a form of apprenticeship rather than schooling).
- 8 SP 188–9 and Palaima (2011) 116; see also Duhoux (2011) 103.
- 9 Godart (2012); Olivier (2012). On the complexity of the distribution of palaeographic variants across these classes see Judson (2020b) 181–95.
- 10 PTT<sup>2</sup>; LSP. See section 3.

of shared orthographic choices in cases where variation was possible divided them into two ‘orthographic communities’ (H<sub>1</sub>, H<sub>2</sub>, and H<sub>21</sub> vs. H<sub>41</sub> and H<sub>43</sub>).<sup>11</sup> In this article, I revisit the issue of Mycenaean orthographic training by analysing the orthographic variation (or consistency) found between writers and within individuals’ work, while taking into account their widely varying levels of attestation of written sequences in which such variation is possible, in order to determine the level of significance which can be attached to a given scribe’s use or lack of use of (a) particular orthographic option(s).<sup>12</sup> I demonstrate that, despite the consistency shown by writers of Linear B in following the majority of its orthographic conventions, variation is entirely usual in certain circumstances, and that this points to a single orthographic tradition in which writers are taught multiple orthographic options for use in those circumstances.<sup>13</sup> I also investigate the extent to which non-phonemic factors may have influenced the use of different spellings, and demonstrate that, although some possible individual or group preferences can be seen in the spelling of particular lexemes and morphological features, on the whole the patterns of orthographic variation suggest a system in which writers were taught the spelling(s) of phonemic sequences rather than of lexemes.

### 3. Scribal attributions at Pylos

At time of writing, two new studies of the Pylos tablets have recently proposed changes – in different ways – to the scribal attributions previously in use (those of SP), presented respectively in PTT<sup>2</sup> and in LSP;<sup>14</sup> a third new edition, PT<sup>3</sup>, largely follows PTT<sup>2</sup> but with some modifications, mostly in line with LSP. All of these largely retain the same attributions to SP’s main scribes (H<sub>1</sub>–H<sub>4</sub>, H<sub>6</sub>, H<sub>11</sub>–H<sub>15</sub>, H<sub>21</sub>–H<sub>26</sub>, H<sub>31</sub>–H<sub>34</sub>, H<sub>41</sub>–H<sub>45</sub>), although LSP renumbers these by adding 600 (so that H<sub>601</sub> = H<sub>1</sub>) and merges the original H<sub>615</sub> with H<sub>614</sub>, H<sub>633</sub> with H<sub>623</sub>, and H<sub>619</sub> with H<sub>634</sub>;<sup>15</sup> there are also differences of opinion over the attribution of small numbers of tablets to many of these scribes, as well as over the existence of newly identified scribes. In this article, I use the SP/PTT<sup>2</sup>/PT<sup>3</sup> numbering, since this is more consistent, and thus more easily comparable, with other

<sup>11</sup> Duhoux (1986) and (2011) 103; see further section 9.

<sup>12</sup> A preliminary analysis of variation in the use of a selection of these signs was presented in Judson (2019), in which I investigated this variation from the perspective of the writing system’s diachronic development. All of the data used in this study has been updated and reanalysed following the publication of the new Pylos editions (section 3).

<sup>13</sup> Note that I focus in this article exclusively on writers’ choices between different orthographic options for representing the same phonemic sequence; apparent instances of spelling variation which are likely to be due to linguistic differences are therefore excluded.

<sup>14</sup> The latter, by Louis Godart, largely but not entirely corresponds to Godart’s earlier attributions in the other recent corpus, ARN. Where ARN and LSP diverge, I cite the LSP attributions without comment unless the difference is crucial to the discussion.

<sup>15</sup> On these proposed mergers see LSP 18, 179–83. As they are not universally agreed on – only PT<sup>3</sup> follows LSP in this respect, and then only for H<sub>23</sub>/H<sub>33</sub> and H<sub>19</sub>/34 – I continue to refer to these scribes by their original numbering, but discuss the impact the mergers would have on my argument where relevant.

previous publications. Unless otherwise mentioned, all of these editions, along with LSP, agree on the scribal attribution of all tablets discussed in this article;<sup>16</sup> in order to proceed on as firm a basis as possible, tablets and scribes over whose attribution or existence there is significant disagreement are excluded from the analysis, and therefore do not appear in the figures or lists of examples.<sup>17</sup> (Disputed attributions which would be of particular significance to my argument, such as LSP's proposed merger of certain scribes, will be discussed when relevant). Similarly, unless otherwise noted, readings of texts follow those presented in PTT<sup>2</sup> throughout.<sup>18</sup>

#### 4. The Linear B syllabary and orthographic conventions

The phonographic component of the Linear B writing system consists of eighty-seven syllabic signs (Table 1), each representing an open syllable (a vowel, or one or more consonants followed by a vowel: e.g. *a*, *mē*, *dwo*); there are also c. 150 ideograms – signs which represent items or commodities being recorded, e.g. MUL ‘WOMAN’, OLE ‘OIL’ – which, since the focus of this article is orthography, will not be further discussed here.

Many Mycenaean Greek phonemes are not differentiated in the ‘core’ syllabary, which contains signs representing pure vowels and consonant–vowel syllables (the ‘extra’ signs will be discussed below). The series of signs transcribed *r*- in fact represent both /r/ and /l/; there is no series for /h/; and with the exception of the *d*-series (/d/), voiceless, aspirated and voiced stops are not distinguished graphically (so that *k*-series signs have the values /k/, /k<sup>h</sup>/ and /g/; *p*- = /p/, /p<sup>h</sup>/, /b/;<sup>19</sup> *q*- = /k<sup>w</sup>/, /k<sup>w</sup><sup>h</sup>/, /g<sup>w</sup>/; *t*- = /t/, /t<sup>h</sup>/). The *j*- and *w*-series represent both the phonemes /y/ and /w/,<sup>20</sup> and the non-phonemic glides [y] and [w] arising between /i/ or /u/ and a following vowel. In addition, Mycenaean Greek has many consonant clusters and word-final consonants which cannot be straightforwardly written with a syllabary whose signs represent only open syllables; as seen in the word *ti-ri-po* /tripo/ ‘tripod’, such consonants must either be omitted (‘partial spelling’, as in *-po* for /-pos/, which is standard for word-final single consonants) or written with a CV sign containing a ‘dummy’ vowel (‘plene spelling’, as in *ti-ri-* for /tri-/).

16 This includes tablets attributed by SP to ‘stylus groups’ – groups of tablets which shared a writer but which could not be either certainly assigned to or disassociated from identified scribes – but now identified by all the new editions as scribes in their own right. In these cases, and others where the numbering differs between editions, I use the PTT<sup>2</sup> numbering for ease of reference and include alternative numbers on first mention, e.g. ‘H5 (SP: S733-Cii, LSP: H652)’. ‘-’ indicates that a tablet is unattributed.

17 For full details of the differences between the various editions see CoPY.

18 Linear B syllabograms are transcribed in italics; ideograms in SMALL CAPS; syllabic signs used ideographically in CAPITAL ITALICS; and word-dividers as commas. Uncertain readings are indicated by underdots, and breaks at the beginnings or ends of lines by ] and [; erased signs are enclosed in double brackets. Phonemic interpretations of Mycenaean Greek signs and words are given between forward slashes.

19 If /b/ existed in Mycenaean Greek, which is not certain: Thompson (2005).

20 The status of /y/ in Mycenaean Greek is, however, uncertain, and it may have been already largely lost: see Lejeune (1972b) 168–9; Bartoněk (2003) 139.

Table 1. The Linear B syllabary. Phonemic values of extra signs whose transcriptions are not transparent are given in brackets (R = /r/ or /l/). The Linear B font is ‘Alphabetum’, created by Juan-José Marcos (<http://guindo.pntic.mec.es/~jmagoo42/alphaeng.html>).

Core signs				Extra signs											
a		e		i		o		u		a <sub>2</sub> (ha)		a <sub>3</sub> (ai)		au	
da		de		di		do		du		dwe		dwo			
ja		je				jo									
ka		ke		ki		ko		ku							
ma		me		mi		mo		mu							
na		ne		ni		no		nu		nwa					
pa		pe		pi		po		pu		pu <sub>2</sub> (p <sup>h</sup> u)		pte			
qa		qe		qi		qo									
ra		re		ri		ro		ru		ra <sub>2</sub> (RRa)		ro <sub>2</sub> (RRo)		ra <sub>3</sub> (Rai)	
sa		se		si		so		su							
ta		te		ti		to		tu		ta <sub>2</sub> (t <sup>h</sup> ya)		twe		two	
wa		we		wi		wo									
za		ze				zo									
Undeciphered signs															
*18		*19		*22		*34		*47		*49		*56			
*63		*64		*65		*79		*82		*83		*86			

A complex set of conventions governs the use of plene or partial spelling, which depends on the nature of the consonant cluster being represented. Clusters whose first element is a stop are represented in full, as in *ti-ri-* for /tr-/ , while clusters of a non-stop followed by a stop are represented partially (e.g. *wo-do-we* /wordowen/ ‘rose-scented’, n. nom.-acc. s.), as are geminates (e.g. *o-pe-ro-sa* /op<sup>h</sup>ellonsa/ ‘owing’, f. nom. s.). The spelling of clusters of two non-stops varies in a way which cannot easily be summarised or accounted for by their phonetic properties: for instance, the clusters /sm/ and /sw/ are represented in full (e.g. *do-so-mo* /dosmos/ ‘religious contribution’; *a-si-wi-ja* /Aswia/, toponym), but /s/ plus a stop is not (e.g. *ta-to-mo* /stat<sup>h</sup>mos/ ‘pen (for animals)’). What is important here is not the precise details of all these spelling conventions, nor the possible underlying reason(s) for this complex system,<sup>21</sup> but the consistency with which they are applied. There is no significant orthographic difference in this respect between documents from different Mycenaean sites or between individual writers, and relatively few exceptional spellings can be identified,<sup>22</sup> showing clearly that writers at all of these sites were trained in a shared set of highly consistent orthographic conventions.<sup>23</sup> Variation involving these core signs is widely found in only two circumstances: in the spelling of the cluster /wy/ as either *wi-jV* (with the dummy vowel *i* arising from the following semivowel /y/) or *u-jV* (with *u* representing /w/), and in the representation of clusters whose second element is /w/, in which case the variation is not between partial and plene spelling but between two different forms of the latter. The man’s name /Widwohios/, for instance, is spelt both *wi-do-wo-i-jo* (with the dummy vowel taken from the following /o/, as is usual in plene spelling) or *wi-du-wo-i-jo* (with *u* as the dummy vowel based on the following /w/).

Additionally, however, the same name may be spelt with one of the ‘extra’ signs, *dwo*, used to represent this consonant cluster in place of the core plene spelling: *wi-dwo-i-jo*. The existence of these fourteen ‘extra’ signs (Table 1) and their alternation with signs from the core syllabary account for most of the systematic orthographic variation present in the Linear B texts. As well as ‘complex’ signs replacing a plene spelling with two core signs, as in the case of *dwo* ~ *do-wo/du-wo* or *pte* ~ *pe-te*, other extra signs (the ‘doublets’) supply specific phonemic values which are not differentiated by the core syllabary: e.g. *a*<sub>2</sub> represents /ha/, otherwise written only with the core sign *a*; *pu*<sub>2</sub> represents /p<sup>h</sup>u/, aspiration being otherwise unmarked.<sup>24</sup> In principle, each of these extra signs may therefore alternate with one or more equivalent core spellings. Such variation is well

21 For full accounts of these conventions and discussions of the various attempts to provide a phonological explanation for them see Woodard (1997), chapters 2–4; Consani (2003).

22 See nn. 80 and 132 for discussions of some of these exceptions.

23 The only situation in which variation between plene and partial spelling is relatively widely found is in the representation of word-final consonant clusters: e.g. /t<sup>h</sup>ōraks/ ‘breastplate’ is written both *to-ra* (following the convention that final consonants are not represented) and *to-ra-ka* (following the usual practice of representing all stops). In these cases, clearly, writers adopted different strategies for dealing with a conflict between two existing orthographic conventions. See Meißner (2007) 106–10; Petrakis (2016) 78–88.

24 On the value of this sign (/p<sup>h</sup>u/ only, not /p<sup>h</sup>u/ and /bu/), see e.g. Thompson (2005); Judson (2017a).

known,<sup>25</sup> and indeed has often been key to identifying the values of these extra signs in the first place;<sup>26</sup> in this article, however, I investigate in greater depth the extent to which this orthographic variation exists within the Pylian community of writers and in the work of individual scribes, the details of how and where this variation occurs, and the implications of scribes' orthographic practices for our understanding of how they learned to write in Linear B. I discuss in turn instances in which the spelling of particular sequences is highly consistent despite the possibility of variation, indicating the existence of, at least, strong collective preferences, if not actual orthographic conventions, relating to the representation of these sequences (section 5); cases in which there is some degree of variation but collective or individual preferences still appear to exist (section 6); and cases in which variation between two or three different orthographic options is entirely usual, both collectively and individually (section 7). I then analyse the levels of consistency or variation seen in scribes' spelling of particular lexical items and morphological elements (section 8), before concluding with a discussion of the way in which Linear B spelling may have been taught at Pylos (section 9).<sup>27</sup>

## 5. Orthographic consistency: *au*, *a<sub>3</sub>*, *pte*

In some cases, clear overall preferences for one particular spelling are visible even where the writing system in principle allows for variation. The diphthong /au/, for instance, which is always written out in full as (C)a-u when following a consonant (e.g. *na-u-do-mo* /naudomoi/ 'ship-builders'),<sup>28</sup> could in principle be written either *a-u-* or with the extra sign *au* in word-initial position. In practice, however, the latter is the only one found (as in, for example, the man's name *au-ke-wa* /Augēwās/).<sup>29</sup> This is the case not only at Pylos (where twenty-six to twenty-eight examples of *au* are known, written by least six different scribes: H2, H12, H21, H22, H32, H41), but across the entire Linear B corpus.<sup>30</sup> The use of *au* to represent initial /au-/ thus appears to be as consistent an orthographic convention as those described above for the use of plene or partial spelling.

25 See e.g. Panayotou (1987) and (1992), on variation between the complex signs and their corresponding core spellings; Duhoux (2007), on 'orthographic flexibility' in Knossian Linear B; Palaima (2020), on *ra*, and the RyV signs.

26 For instance, Mabel Lang's identification of *dwe* from the alternation *te-mi-de-we* ~ *te-mi-dwe* (Lang (1958) 189; see section 7).

27 Throughout this article, examples of particular signs and phonemic sequences have been identified by using DĀMOS in conjunction with the current editions of the Pylos texts (see section 3) and, unless otherwise specified, following the interpretations given in DMic and DMic Supl.

28 PY Na 568.B (H1); Vn 865.1 (SP: Ci; PTT<sup>2</sup>: -; PT<sup>3</sup>: H48; LSP: H654); Xn 990.[1] (-).

29 PY An 192.4 (H22); Jo 438.23 (SP: Ci; PTT<sup>2</sup>: -; PT<sup>3</sup>: H2; LSP: H602); Ta 711.1 (H2).

30 Of the two certain examples of word-initial *a-u-*, one, *a-u-qe*, is clearly an error for *o-u-qe* /ou-k<sup>w</sup>e/ 'and not'; the other, *a-u-ta-na*, is obscure, and could represent either /au-/ or (as is usually assumed) /ahu-/ (KN Sd 4402.a, Np(1) 286: Lejeune (1972a) 185). It is, however, possible that initial /au-/ could be spelt differently when followed by another vowel; many of the fourteen examples of the sequence *aw-V-* at Pylos are obscure, and could represent either /awV-/ or /au<sup>w</sup>V-/. There are no instances of \**au-V-* or \**au-wV-*.

Diphthongs in *-i* are, unlike those in *-u*, not usually represented in full: /oi/, for instance, is usually written only as *o*, and the sequence *o-i* normally represents /o(i)hi/ (e.g. in the *o*-stem dative plural ending). There are some exceptions to this at Knossos and Mycenae in word-medial position: e.g. *ko-to-i-na* ~ *ko-to-na* /ktoina/ ‘plot of land’.<sup>31</sup> This spelling is not, however, apparently used at Pylos, where all securely interpretable examples of medial (C)V-*i* represent /Vhi/: e.g. *po-si-da-i-jo-de* /Posidāhion-de/ ‘to the sanctuary of Poseidon’; *te-i-ja* /t<sup>h</sup>ehiai/ ‘divine’ (f. dat. s.); *wi-dwo-i-jo* /Widwohios/ (man’s name).<sup>32</sup> The use of the extra sign *a*<sub>3</sub> to represent /ai/ when this is not preceded by a consonant (i.e., usually in word-initial position) similarly appears nearly completely consistent at this site, where *a*<sub>3</sub> is used at least fifty-one times by eleven different scribes (H1, H2, H11, H14, H21, H32, H34, H41, H42, H43, H45). The only certain examples of initial /ai-/ spelt in a different way are in the term *a-ja-me-no-na* /aiaimenos, -a/ ‘inlaid’,<sup>33</sup> where the use of *j-* to indicate the glide between the /i/ and the following vowel seems to have made it redundant to use *a*<sub>3</sub> to mark the diphthong,<sup>34</sup> although of course further examples may exist which are not currently securely identifiable. The only direct alternation between *a*<sub>3</sub> and *a* is found in the terms referring to the two ‘provinces’ of the Pylian territory, known as the ‘Hither Province’ and ‘Further Province’: *de-we-ro-a<sub>3</sub>-ko-ra-i-ja* /Dewero-aigalahia/ ‘the area this side of Mt Aigaleon’ ~ *pe-ra-a-ko-ra-i-jo* /Perā-aigalahion/ ‘the area on the far side of Mt Aigaleon’.<sup>35</sup> The latter is also spelt *pe-ra<sub>3</sub>-ko-ra-i-ja* and *pe-ra-ko-ra-i-ja* /Perāigalahia/,<sup>36</sup> the one clear exception to the otherwise apparently consistent use of *a*<sub>3</sub> therefore shows a writer putting more emphasis on the boundary between the two elements of the compound/collocation than on the representation of the diphthong.<sup>37</sup>

The complex sign *pte* is attested thirty-three to thirty-four times at Pylos in the work of at least eight different scribes (H1, H3, H6, H13, H15,<sup>38</sup> H31, H32, H43), several of whom have multiple examples: H43 has written the term *ra-pte(-re)* /raptēr(es)/ ‘leather-worker(s)’ twelve times, and H3 has at least five instances of the same term,<sup>39</sup> while H32 has eight examples of *di-pte-ra* /dip<sup>h</sup>t<sup>h</sup>era(i)/ ‘hide(s)’.<sup>40</sup> By contrast, the only term at Pylos in which the sequence

31 *ko-to-i-na*: KN Uf(3) 981, 1022, 1031. *ko-to-na*: Pylos, *passim*. See Melena (2014) 92–8.

32 *po-si-da-i-jo-de*: Fn 187.2 (H2). *te-i-ja*: Fr 1202.B (H2). *wi-dwo-i-jo*: Ep 539.12 (H1); also spelt *wi-du-wo-i-jo* (Jn 415.3, H2) and *wi-do-wo-i-jo* (Ae 344, H22; An 5.2, - [SP/PT<sup>3</sup>: Cii]).

33 PY Ta-series (H2).

34 Only two terms have been suggested to contain *a-* representing initial /ai-/ not followed by another vowel, and both are personal names with no secure interpretation: *a-ki-to(-jo)* /Aigist<sup>h</sup>oi, -oyo/ or /Alkit<sup>h</sup>oi, -oyo/? (dat./gen.: Fn 79.14, 867.4, H45; Fn 50.1 [SP Ciii, PT<sup>3</sup> S324-Ciii, PTT<sup>2</sup>/LSP -]); *a-ne-o* /Aineos/, /Anehōn/, or /Aneios/? (Es 648.1, H1; Es 650.8B, H11? [SP/PT<sup>3</sup>/LSP: H11; PTT<sup>2</sup>/ARN: -]).

35 Ng 319.1 (H1); On 300.8 (SP: S300 Cii; PTT<sup>2</sup>: -; PT<sup>3</sup>: H47; LSP: H653).

36 On the use of *ra<sub>3</sub>* vs. *ra* for /Rai/, see section 7.

37 Ng 332.1 (H1); Pa 398.a (H7; SP: S49 Ciii; LSP: H656); cf. Melena (2014) 55 n.66, 60; Palaima (2020) 5 n. 8.

38 As H14 does not have any examples of either *pte* or *pe-te* = /pte/, LSP’s proposed merger of H614 and H615 (see section 3) does not affect this discussion.

39 H43: An- and Ea-series; H3: An-series.

40 Ub 1318.1.1.1.2.3.3.4.7.

*pe-te* might represent /pte/ is the man's name *a-pe-te-u* (H2),<sup>41</sup> for which suggested interpretations include /Apteus/, /Arpeteus/ and /Ampeteus/.<sup>42</sup> If the first of these interpretations is correct, then it might be noteworthy that this is written by a scribe who is not attested as using *pte*; however, since this is a personal name, its interpretation is evidently not secure, and the other suggestions in which *pe-te* represents /pte/ are equally likely. Either way, unless chances of attestation are responsible for the loss of many more examples of *pe-te* = /pte/, there seems to be at least a strong preference for the use of the extra sign over its core equivalent, and potentially even a site-specific orthographic convention to this effect, in contrast to the variation at Knossos between *pte-re-wa* and *pe-te-re-wa* /ptelewās/ 'made of elm'.<sup>43</sup>

## 6. Orthographic preferences, with some variation: *pu*<sub>2</sub>, *a*<sub>2</sub>, /wy/

In other cases, the preference for one orthographic option, although still present, is less strong: for instance, in the use of the extra sign *pu*<sub>2</sub> to represent /p<sup>h</sup>u/ (e.g. *pu*<sub>2</sub>-*te-re* /p<sup>h</sup>utēres/ 'planters'),<sup>44</sup> as opposed to the core sign *pu* (= /pu/, /p<sup>h</sup>u/, and perhaps /bu/?; n. 19). Nine or ten scribes have used *pu*<sub>2</sub> (H1, H2, H3, H4, H6?, H15,<sup>45</sup> H23, H24, H25, H43); of these, the only scribes with more than one example of this sign, H1 and H2, have used it at least eight and seven times, respectively. There are, however, at least three certain or very probable examples of /p<sup>h</sup>u/ being written with *pu*: the ethnic adjective *a-pu-ka* (H21), in which the value of *pu* is guaranteed by its alternation with the spelling *a-pu*<sub>2</sub>-*ka(-ne)* (H1),<sup>46</sup> and the man's name *pu-ti-ja* (H15, H22), which similarly alternates with *pu*<sub>2</sub>-*ti-ja* (H1, H2).<sup>47</sup> H22 may have a second instance of *pu* = /p<sup>h</sup>u/, if the equation of the two men's names *pu*[ ]-*a*<sub>2</sub>-*ko* (H22) ~ *pu*<sub>2</sub>-*ṣi-ja-ko* (H2) is accepted,<sup>48</sup> while H2 has two suggested examples in the men's names *pa-pu-so* (/Pamp<sup>h</sup>usos/?) and *pu-te-u* (/P<sup>h</sup>uteus/ or /Put<sup>h</sup>eus/?), although such etymological interpretations of names are of course not secure. It is likely that there are further examples of *pu* = /p<sup>h</sup>u/ in obscure terms which cannot

41 Jn 692.2, 725. [20].

42 ]*pte-we* (PY La 623, H13) has been suggested to be the dative of the same name (Melena (2000–1) 366; Nakassis (2013) 352), but there is no contextual reason to connect the two, especially given the uncertainty over the dating of H13's tablets (see n. 4).

43 *pte-re-wa*: KN Se- and So-series; *pe-te-re-wa*, So 894.1.

44 PY Na 520.B (H1); cf. *pu-te* /p<sup>h</sup>utēr/ 'planter', KN Uf(3) 835.b, Uf(3) 987, Uf 572.6.

45 As H14 does not have any examples of either *pu*<sub>2</sub> or *pu* = /p<sup>h</sup>u/, LSP's proposed merger of H614 and H615 (see section 3) does not affect this discussion.

46 *a-pu-ka*: PY Aq 218.15. *a-pu*<sub>2</sub>-*ka(-ne)* (s./pl.): PY An 656.13.20, 657.13.

47 *pu-ti-ja*: An 340.10 (H22); Qa 1294 (H15). *pu*<sub>2</sub>-*ti-ja*: An 656.13 (H1); Jn 601.3 (H2). The numerous connections between the An-, Jn- and Qa-series strongly suggest that all of these refer to the same person (Nakassis (2013) 89–94, 139–40).

48 An 340.7; Jn 310.17. Again, the connections between these series make it likely that these refer to the same person (n. 47). The variation between *ja* and *a*<sub>2</sub> reflects a difference in pronunciation (either between /y/ and /h/ or between /h/ and an intervocalic glide).

currently be identified, and that the apparent strength of some writers' preference for  $\text{pu}_2$  may at least partially be the result of skewed data; but even if this apparent preference is a true reflection of Pylian orthographic practices, variation is still permitted and, at least for some scribes, normal. In fact, H15 – the only scribe who has certainly used both spellings – has done so in adjacent words in the entry *pu-ti-ja*, *a-pu<sub>2</sub>-we* 'pu-ti-ja (name), at *a-pu<sub>2</sub>-we* (toponym)'.<sup>49</sup>

$a_2$ , representing /ha/, shows a similar pattern of use to  $\text{pu}_2$ . This sign is attested 154 to 157 times at Pylos, written by at least sixteen to seventeen scribes: H1, H2, H5 (LSP: H652; SP: S733-Cii), H6, H14, H15 (merged with H14 by LSP/PT<sup>3</sup>), H18 (LSP: H657; SP: S1217-Cii), H21, H22, H24, H25, H26, H31, H32, H34, H42 and H43. Again, although there are many possible examples of /ha/ being written with its alternative spelling, the core sign *a*, relatively few of them are securely identifiable, due to uncertainties over their etymological interpretation or a lack of context to confirm possible spelling alternations. For the purposes of this analysis, I have restricted the list of examples of *a* = /ha/ to the few whose etymology or spelling alternations make them secure or highly probable:

- *tu-we-a* /t<sup>h</sup>uweha/ 'perfumes' (H1)<sup>50</sup>
- *we-a-re-ja* /wehaleya/ ~ *we-a<sub>2</sub>-re-jo* /wehaleyos/ 'decorated with crystal' (f./m. nom. s., both H2)<sup>51</sup>
- *ka-ra-a-pi* /k(a)rahapp<sup>h</sup>i/ 'with heads' and *se-re-mo-ka-ra-a-pi* /seirēmo-k(a)rahapp<sup>h</sup>i/ 'with the heads of sirens(?)' (both H2)<sup>52</sup>
- *we-a-re-pe* /wehaleip<sup>h</sup>es/ (H19) ~ *we-ja-re-pe* /weyaleip<sup>h</sup>es/ (H2, H18), adjective describing perfumed oil<sup>53</sup>
- *a-ne-u-te* ~ *a<sub>2</sub>-ne-u-te* (toponym: both H21)<sup>54</sup>

49 Qa 1294.

50 PY Un 267.3; the interpretation is guaranteed by the morphology (s-stem n. nom.-acc. pl. in /-ha/).

51 Ta 642.1; Ta 714.1.

52 Ta 702.2; Ta 708.2A. These are often interpreted without the /h/, but etymologically /h/ < \*/s/ should be present (/k(a)raha- / < \*/k<sup>h</sup>ra<sub>2</sub>s-η-/; EDG s.v. κάρα), and there is little good evidence for the loss of intervocalic /h/ having begun at Pylos (see Colvin (2006)). Most of the alternations on which arguments for the beginning of this change are based (Ruijgh (1967) 55–6; Meißner (2007) 101–2) are better explained as due to other factors: e.g. the loss of intervocalic /h/ in *i-e-re-u* ~ *i-je-re-u* 'priest' is probably due to metathesis /ihereus/ > /ih<sup>2</sup>ereus/ (< \*/iser-/; -e-: En 74.16, 659.4; H1; -je- otherwise *passim* in this root). The only such alternation for which no better explanation is available is *pi-ri-e-te* ~ *pi-ri-je-te* /prihe(n)ter-/ > /pri<sup>2</sup>e(n)ter/ 'sawyer' (< \*/pris-/; -e-: Fn 7.4.10, H3; -je-: An 207.5, H43), and this does not seem sufficient evidence to posit this as a widespread process at the time of the Pylos tablets.

53 *we-a-re-pe*: Fr 1215.1 (H19; SP: S1219-Cii; LSP/PT<sup>3</sup>: hand merged with H(6)34); Fr 1223.1.2 (SP: H44; PTT<sup>2</sup>: -; PT<sup>3</sup>: H18; LSP: H657). *we-ja-re-pe*: Fr 1205 (H2); Fr 1217.1, 1218.1 (H18; SP: S1217-Cii; LSP: H657: note that this hand may have used both spellings of this term, depending on the attribution of Fr 1223). This term's second element is clearly /-aleip<sup>h</sup>es/ 'unguent'; the interpretation of the first element as /wey-/ > /weh-/; although obscure, is the only one which accounts for the alternation between -ja- and -a-.

54 Cn 40.7.13; Cn 599.2. *a<sub>2</sub>-ne-u-te* has been suggested to be a mistake influenced by the presence of *a<sub>2</sub>-pa-tu-wo-te* on the same tablet (Ilievski (1959) 121–2, n. 40), but since the former actually precedes the latter this is unlikely.

- *we-]je-ke-a* ~ *we-je-ke-a*<sub>2</sub> (n. nom.-acc. pl. s-stem adjective describing wheels: both H26)<sup>55</sup>

Even with this highly restricted list, Table 2 shows that almost all of these are written by scribes who have also used *a*<sub>2</sub>; the exception, H19, is not likely to be significant since only three tablets are attributed to this scribe (and if the merger of this hand with H634 is accepted, then this hand has in fact used both spellings). Moreover, of the seven scribes with more than one or two examples of *a*<sub>2</sub>, four also have identifiable examples of *a* = /ha/; three of these have spelt the same word with both *a*<sub>2</sub> and *a* (H2 *we-a-re-ja* ~ *we-a<sub>2</sub>-re-jo*, H21 *a-ne-u-te* ~ *a<sub>2</sub>-ne-u-te*, H26 *we-]je-ke-a* ~ *we-je-ke-a<sub>2</sub>*), while H1 has written the s-stem neuter nominative–accusative plural ending /-ha/ with both *a* (*tu-we-a*) and *a*<sub>2</sub> (*a-ke-a<sub>2</sub>* /*angeha* / ‘jars’).<sup>56</sup> The most significant counter-example is H5, who has thirty-three attestations of *a*<sub>2</sub> and no identifiable examples of *a* = /ha/. It is worth noting that all of this scribe’s examples of *a*<sub>2</sub> are in the two neuter plural adjectives *me-zo-a<sub>2</sub>* /*medzoha* / ‘larger’ and *me-u-jo-a<sub>2</sub>* /*meiwyoha* / ‘smaller’, used throughout the Sh-series of tablets listing armour, a highly formulaic series of texts which are the only ones attributed to this scribe; such a formulaic context involving the frequent repetition of these two adjectives, presumably within a relatively short period of time, might well particularly encourage consistency in spelling. H15’s three to four examples of *a*<sub>2</sub> (or up to six if LSP’s merger of this scribe with H14 is accepted)<sup>57</sup> and H43’s five examples<sup>58</sup> are more varied across a series of personal and place names and appellatives, but these numbers are not high enough to necessarily represent a significant preference for this spelling. Overall, then, the pattern by which scribes with larger numbers of examples of /ha/ mostly show some variation in the spelling of this sequence implies that this variation is entirely usual, and would be expected to appear in the work of other scribes if examples of *a* = /ha/ could more easily be securely identified. The frequency of attestation of this sequence in any given scribe’s work is, naturally, a combination of the number of tablets attributed to them (H1, H2 and H21 are amongst the scribes with the largest numbers of surviving tablets), the types of documents the scribe worked on (H5 and H26 both frequently use neuter plural s-stem adjectives in their records of armour and wheels), random chances of survival, and equally random chances of whether a word’s context or the existence of a spelling alternation allows its phonemic interpretation. It is, therefore, entirely probable that a much higher degree of variation is hidden by the difficulty of identifying secure examples of *a* representing /ha/.

55 Wa 1148.2; Sa 787.A, 79I, 843. The similar context makes the alternation reasonably secure even though *we-]je-ke-a* is incomplete and the adjective’s precise interpretation is obscure.

56 Vn 130.2.

57 H15: *me-nu-a<sub>2</sub>* (appellative, Qa 1293, 1301); *a-pi-a<sub>2</sub>-ro* /*Amp<sup>h</sup>ihalos* / (man’s name, Qa 1297); *e-ma-a<sub>2</sub>* /*Hermahai* / ‘Hermes’ (dat., Un 219.8?) (this tablet is attributed to H15 by all editions except LSP, who attribute it only tentatively to the merged H14/15). H14: ]*a<sub>2</sub>-te-we*[ (toponym, Mn 1371.1), *wa-a<sub>2</sub>-te-pi* (toponym, Mb 1377).

58 *a-pi-a<sub>2</sub>-ro* (man’s name, Ea 109, 270, 922.a), *a<sub>2</sub>-e-ta* (man’s name, An 261.4), *wa-a<sub>2</sub>-te-we* (toponym, An 207.9).

**Table 2. Representations of /ha/. In this and all following tables a question mark indicates that either the reading of a sign or its scribal attribution is uncertain.**

Scribe	$a_2$	$a = /ha/$
1	51 + 1?	1
2	18 + 1?	3
5	33	
6	1	
14	2	
15	3 + 1?	
18	1	
19		1
21	10	2
22	2	
24	2	
25	1	
26	6 + 1?	1
31	1	
32	1	
34	1	
42	1	
43	5	

A rather different pattern appears in the spelling of the sequence /wy/ as either *wi-j-* or *u-j-*.<sup>59</sup> This cluster mainly appears in two groups of words: forms of the comparative adjective /*meiwy-*/ ‘smaller’,<sup>60</sup> and words formed from the root /*Diw-*/ ‘Zeus’: *di-u-jo* ~ *di-wi-jo(-de)* /*Diwyon(-de)*/ ‘(to) the sanctuary of Zeus’;<sup>61</sup> *di-wi-je-u/-we* /*Diwyeus, -ewei*/, ‘priest of Zeus’ (nom./dat.);<sup>62</sup> *di-wi-ja-wō* /*Diwyāwōn*/ (man’s name);<sup>63</sup> *di-u-ja* ~ *di-wi-ja* /*Diwya*/ (feminine theonym);<sup>64</sup> *di-u-ja-jo* /*Diwyaioi*/ ‘at the sanctuary of *Diwya*’.<sup>65</sup> Although both spellings are attested in each of these groups, and frequently in the same terms, individual scribes appear in this case to be consistent in their spelling:<sup>66</sup> most notably, H1 has seventeen

59 There is no good evidence to suppose this to be linguistic variation between /*wiy*/ and /*wy*/: cf. Melena (2014) 100. In other cases of variation involving the *j-* and *w-* series signs, it is much less clear whether this is orthographic or linguistic variation, so these are omitted from this discussion. See e.g. Meißner (2007) 97–106; Melena (2014) 101–2, 115–23.

60 *me-wi-jo* /*meiwyos*/, n. nom. s.: Ta 641.2.3.3 (H2). *me-u-jo-a* /*meiwyoha*/, n. nom. pl.: Sh-series, *passim* (H5, eleven examples).

61 *di-u-jo*: Tn 316 v.8 (SP/PT<sup>3</sup>: H44; PTT<sup>2</sup>: H44B; LSP: H663); *di-wi-jo-de*, Fr 1230 (SP/PTT<sup>2</sup>: -, PT<sup>3</sup>: H15?; LSP: H614?), Mb 1366 (H14?: attribution certain in SP/PTT<sup>2</sup>/PT<sup>3</sup>, tentative in LSP).

62 An 656. [2], Cn 3.2, Es-series *passim* (thirteen examples): all H1.

63 Na 406.B (H1).

64 *di-u-ja*: Cn 1287.6 (H31); Tn 316 v.6 (SP/PT<sup>3</sup>: H44; PTT<sup>2</sup>: H44B; LSP: H663). *di-wi-ja*: An 607.5 (H1).

65 Tn 316 v.4 (SP/PT<sup>3</sup>: H44; PTT<sup>2</sup>: H44B; LSP: H663).

66 Cf. Melena (2014) 100.

examples of the *wi-j-* spelling (in *di-wi-je-u/-we*, *di-wi-ja-wo* and *di-wi-ja*), while H5 has eleven of the *u-j-* spelling (in *me-u-jo-a<sub>2</sub>*; cf. this scribe's consistency in the use of *a<sub>2</sub>*, as discussed above); H2 has three of *wi-j-* (*me-wi-jo*) and may have also used *u-j-*, if the interpretation of *po-ro-u-jo* as /Plowyos/ or /Prōwyos/ (man's name) is correct.<sup>67</sup> Given this uncertainty, and the fact that there are no attestations of a single scribe writing both /meiwo-/ and terms derived from /Diw-/, it is unclear whether the consistency seen in at least H1 and H5 represents these writers' individual preferences for the spelling of /wy/, within the context of overall variation in the representation of this cluster, or preferences for the spelling of particular lexemes or lexical stems (see further section 8).

## 7. Regular orthographic variation: *ra<sub>3</sub>*, /CwV/, /RRV/

As discussed above, scribes at Pylos are generally consistent in their representation of diphthongs in *-i*; the exception is in the spelling of /Rai/ sequences, spelt with either the extra sign *ra<sub>3</sub>* or the core sign *ra* (or, when followed by another vowel, the sequence *ra-jV*, where *j-* denotes the glide between the *i* and the following vowel). Again, instances of *ra* = /Rai/ can be hard to identify, but the following secure or probable examples can be identified based on spelling alternations, etymology and/or morphology:

- *a-pi-e-ra* /Amp<sup>h</sup>iherai/?, woman's name, probably dat. (H12)<sup>68</sup>
- *au-to-<sup>\*</sup>34-ta-ra*, woman's name, probably dat. (H2)<sup>69</sup>
- *di-pte-ra* /dip<sup>h</sup>t<sup>h</sup>erai/ 'hides', f. nom. pl. ~ *di-pte-ra<sub>3</sub>* (H32)<sup>70</sup>
- *do-e-ra* /dohelai/ 'slaves', f. nom. pl. (H42)<sup>71</sup>
- *e-ru-ta-ra* /erut<sup>h</sup>rai/ 'red', f. nom. pl. (H31, H32)<sup>72</sup>
- *ke-sa-da-ra* /Kessandrai/, woman's name, dat. (case certain in H3, probable in H1, H14 and H21)<sup>73</sup>
- *ki-ma-ra* /Kimarai/?, *a*-stem f. nom. pl. ethnic adjective or title (H4)<sup>74</sup>

67 *po-ro-u-ro*: Jn 725.5 (H2), Jn 658.5 (H21); as a personal name, it is difficult to securely interpret this term. H21 also has a possible example of the *wi-j-* spelling in *]te-wi-jo-te* /-Rewyontes/?, nominative plural participle derived from a noun in /-Reus/ (Aq 64.1).

68 An 1281.8.13. This tablet contains a list of people to whom craftsmen are allocated (see e.g. Lupack (2008) 471), whose names therefore ought to be in the dative (as *au-ke-i-ja-te-ue* on 1281.4.10 certainly is). However, since the *a*-stem nominative and dative singular are homographous, a nominative of rubric cannot be entirely ruled out.

69 Fn 187.10. Listed amongst a series of recipients of grain, of which all those whose case is certainly identifiable are in the dative: cf. n. 68.

70 Ub 1318.1.1.1.2.3.4.

71 Ae 303.

72 Ub 1315.1; Ub 1318.3.

73 *ke[-]sa-da-ra* is certainly dative on An 435.2 (H3), where she is the indirect object of *-da-sa-to* /da(s)ato/ 'allocates' (Nakassis (2012) 279–81). On Fg 828 (H1), Fg 368 (H21) and Mn 1368.2.3 (H14), she is the recipient of various goods, so a dative is most likely but a nominative of rubric is possible (see Shelmerdine (1998–9) 315, 325). *ke-sa-da-ra* also appears on Mb 1380 (H14), whose context is unclear.

74 Aa 63.

- *o-ka-ra*: *a*-stem m. nom. pl. noun referring to soldiers ( $\sim$  *o-ka-ra<sub>3</sub>*: both H1)<sup>75</sup>
- *pe-ra-ko-ra-i-ja* /Perāigolahia/, the ‘Hither Province’ (H7)<sup>76</sup>

Table 3 shows that, of the eleven scribes who have certainly or probably used *ra* for /Rai/, five (H1, H2, H4, H21 and H31) have also used the sign *ra<sub>3</sub>*;<sup>77</sup> many have also used *ra-jV* for /Rai<sup>y</sup>V/, but this appears to be a consistent practice like that of using *a-jV* for /ai<sup>y</sup>V/, never \**a<sub>3</sub>-jV* (section 5). Those who have used only one of these spellings mostly have just one or two examples; the exceptions are H18 (LSP: H657; SP: S1217-Cii), who has five examples of the word /elaiwon/ ‘olive oil’ spelt *e-ra<sub>3</sub>-wo*,<sup>78</sup> and H32, who has written the word ‘hides’ /dip<sup>h</sup>t<sup>h</sup>erai/ as *di-pte-ra* up to six times, and the word /erut<sup>h</sup>rai/ ‘red’ as *e-ru-ta-ra* once (see above). In both cases, this seems to indicate a personal spelling preference, at least in these particular words; contrast the practice of H31, who has not only used both spellings but has done so in two consecutive words in agreement with each other: *di-pte-ra<sub>3</sub> e-ru-ta-ra* /dip<sup>h</sup>t<sup>h</sup>erai erut<sup>h</sup>rai/ ‘red hides’.<sup>79</sup>

We have seen above that clusters of a consonant followed by /w/ can be written in up to three different ways: in plene spelling using a dummy vowel taken from the following vowel (CV-wV); in plene spelling using the dummy vowel *u* (Cu-wV); or using one of the extra signs with a CwV structure (*dwe*, *dwo*, *nwa*, *two*; *twe* is not found at Pylos). It is therefore necessary to look in this case not only at variation between spellings with the extra signs or plene spellings, but also between the two different versions of the latter, including for /CwV/ sequences which do not have corresponding extra signs. Table 4 shows the spellings of all identifiable examples of /CwV/ sequences by scribe.<sup>80</sup> In many cases, the same /CwV/ sequence is attested with all possible spellings: /dwo/ appears as *do-wo*, *du-wo* and *dwo*; /t<sup>(h)</sup>wo/ as *to-wo*, *tu-wo* and *two*; /kwe/ as *ke-we* and *ku-we*; /nwo/ as *no-wo* and *nu-wo*; /dwa/ perhaps as both *da-wa* and *du-wa*; and /kwo/ perhaps as both *ko-wo* and *ku-wo*. Others show a lesser degree of variation: /dwe/ appears only as *de-we* and *dwe*, never \**du-we*; /nwa/ as *nu-wa* and *nwa* but never \**na-wa*; and /swi/ only as *si-wi*, never \**su-wi*. If this is not due to chance, then in these cases scribes may have avoided certain spellings; however, for the sequences with three orthographic options, this does not translate into consistency but only into the use of two possible orthographies instead of three. There is

75 *o-ka-ra*: An 657.13b. *o-ka-ra<sub>3</sub>*: An 519.4, 654.18, 657.4; Cn 3.3.

76 Pa 398.a; see section 5.

77 See also Palaima (2020) 5–7. I see no reason, however, to regard the example of *ra<sub>3</sub>* by H4 on Aa 61 as another, unknown, sign, as very tentatively suggested by Palaima (2020) 10–13.

78 Fr 1217.1, 1218.1, 1225.1, 1240.1, 1242. However, note that this word is spelt *e-ra-wo* on Fr 1223.1, attributed to this scribe by LSP and PT<sup>3</sup> (SP: H44; PTT<sup>2</sup>: -).

79 Ub 1315.3.

80 The sequences /rw/ and /lw/ are excluded as these are normally represented in partial spelling, with only two possible exceptions at Pylos: *ka-ru-we-qe* /karwei-k<sup>w</sup>e/ or /karu<sup>w</sup>ei-k<sup>w</sup>e/ ‘and with nut-shaped decoration?’ (Ta 721.1, H2); *a<sub>3</sub>-ru-wo-te* /Halwontei/? (toponym, An 657.8, H1). The former may be influenced by the presence of /-u-/ in other forms of the word, while in the case of the latter, the morpheme boundary between the root /Hal-/ and suffix /-wont-/ might have influenced this spelling: see Consani (2003) 1023, and n. 132 below.

**Table 3. Representations of /Rai/**

Scribe	<i>ra</i> <sub>3</sub>	<i>ra</i> = /Rai/	<i>ra-jV</i> = /Rai <sup>h</sup> V/
1	8	1 + 1?	10 + 1?
2	3	1?	3
3		1?	1
4	1	1	
5			1
7		1	
12		1 + 1?	1
14		2?	
18	5		
21	1	1?	4
26			3
31	1	1	
32		5 + 2?	
41	1		1
42		2	

also no consistency between these three sequences as to which option is apparently avoided (the CV-*wV* option is not attested in the case of /*nwa*/, but in the other two cases it is the Cu-*wV* option that does not appear). Moreover, disregarding the following vowels, it can be seen that there is similarly no overall consistency or apparent strong preference for a particular spelling of any given /C*w*/ cluster: /*dw*/, /*tw*/ and /*nw*/ are all spelt with both of the possible plene spellings as well as the relevant extra signs, while /*kw*/ (for which no extra sign is available) is spelt with both *kV-wV* and *ku-wV*. /*sw*/ is only spelt with *sV-wV*, but as this is the least commonly attested of any of these /C*w*/ clusters (three to six examples), this can be plausibly attributed to chances of attestation or identification. It is therefore clear that there is no overall orthographic preference in the representation of these sequences.

Similarly, looking at individual scribes' usages shows that they frequently use multiple spellings, even for the same /C*wV*/ sequence:<sup>81</sup> H1 uses all three options for /*dwo*/;<sup>82</sup> H2 uses *ku-we* and *ke-we* for /*kwe*/, both in the same word, *pa-ra-ku-we/pa-ra-ke-we*;<sup>83</sup> H32 likewise uses both *nu-wa* and *nwa* in the term *pe-ru-si-nu-wa/pe-ru-si-nwa-o*;<sup>84</sup> and H41 uses both *du-wo* and *dwo* for /*dwo*/ in different forms of the numeral 'two'.<sup>85</sup> Less certain

81 Cf. Panayotou (1987) and (1992). However, there is no evidence to support Panayotou's conclusion that the variation between extra signs and plene spellings represents a difference between *allegro* and *lento* pronunciations of /C*wV*/ sequences: all the interpretable examples of the C*wV* signs are etymologically /C*wV*/.

82 *ne-do-wo-ta-de* /Nedwonta-de/ (toponym, 'to Nedwons'), An 661.13; *du-wo-jo-jo* /Dwoioio/ (man's name, gen.), An 656.11; *du-wo-u-pi* /dwoup<sup>h</sup>i/ 'two' (instr.), Ep 613.1.4, 704.7; *wi-dwo-i-jo* /Widwohios/ (man's name, nom.), Ep 539.12.

83 Ta 714.1.3, 715.3; Ta 642.1. This term is a dative or instrumental singular noun in /-Kwe(i)/ referring to a material, but its precise interpretation is uncertain.

84 *pe-ru-si-nu-wa* /perusinwai/ 'last year's', f. nom. pl., Ub 1316.b; *pe-ru-si-nwa-o* /perusinwähön/, f. gen. pl., Ub 1317.

85 *dwo* /dwo/, acc., Eb 338.B, Eo 278; *du-wo-u-pi(-de)* /dwoup<sup>h</sup>i(-de)/, instr., Eb 149.2, 495.1.

**Table 4.** Representations of /CwV/ sequences, with the number of examples of each spelling given in brackets

Scribe	/dw/	/tw/	/kw/	/nw/	/sw/	No. of relevant examples
1	da-wa (1) do-wo (1) du-wo (4) dwo (1)	to-wo (2)	ku-wo (1?)	no-wo (2?) nu-wo (1 + 1?) nwa (2)	si-wi (2 + 1?)	17 + 2?
2	du-wa (1?) de-we (4 + 1?) du-wo (2)	tu-wo (1)	ke-we (1) ku-we (3)	no-wo (1?) nu-wo (4 + 2?) nu-wa (2 + 1?) ni-wi (1)	si-wi (1)	21 + 4?
3				no-wo (1?) nu-wo (1?)		2?
12		to-wo (1)				1
15				no-wo		1
21	de-we (1) do-wo (1?)	tu-wo (5)	ko-wo (1)	no-wo (1?) nwa (1)	si-wi (1?)	9 + 2?
22	do-wo					1
23			ko-wo (1)	nwa (1)	si-wi (1?)	2 + 1?
26	de-we (1?) dwe (2)		ko-wo (1)			3 + 1?
31	dwo (1)					1
32				nu-wa (1) nwa (1)		2
41	du-wo (2) dwo (2)					4
43		two (4)		nwa (1)		5

examples include H1's, H2's and H3's possible uses of two different spellings for /nwo/, involving terms whose interpretations and/or readings are uncertain,<sup>86</sup> and H26's possible use of both *dwe* and *de-we* for /dwe/ (both in the same adjective /termid-went-/).<sup>87</sup>

86 H1 and H2 have certain instances of *nu-wo*: H1: *ke-se-nu-wo* /Ksenwōn/ (man's name, nom.?), Cn 286.1; H2: *pe-ru-si-nu-wo* /perusinwon/ 'last year's (n. nom. s.), Ma 216.3, 244. [2], 330.2, 378.2, 397.2; *sa-ri-nu-wo-te* /Salinwontei/ (toponym, dat.-loc.), Mn 456.9. An example of the latter is also restorable for H1: *sa-ri-nu[-wo]-te*, Na 544. Both scribes' possible instances of *no-wo* = /nwo/ are in the toponym *e-ri-no-wo* (gen. *e-ri-no-wo-to*, dat.-loc. *e-ri-no-wo-te*), which may well be formed in /-n-wont-/ (H1: Eq 213.2, Na 106.B; H2: Mn 456.8). H3 has uncertain examples of *e-ri-no-wo[-te]* (An 427.1) and *sa-ri-nu-wo-te* (An 424.2).

87 The adjective /termidwenta/ ('fitted with endings', n. nom.-acc. pl.: referring to wheels) appears as *te-mi-dwe-ta* on Sa 791 and 793, which are universally attributed to this scribe. Sa 1266, on which the dual form of this

Moreover, even scribes who appear to be consistent in their usage of one spelling for a particular /CwV/ sequence do not show any overall consistency. For instance, H21 has consistently used *tu-wo* for /t<sup>(h)</sup>wo/ (five examples in two different terms, *o-tu-wo-we* and *a<sub>2</sub>-pa-tu-wo-te*),<sup>88</sup> but has otherwise used either CV-wV spellings (*de-we*, *ko-wo*; *do-wo?*, *no-wo?*, *si-wi?*) or in one case an extra sign (*nwa*).<sup>89</sup> The only scribes who could be said to be at all consistent on the basis of the available data have very few examples: H23, for instance, has used an extra sign when available (*nwa*) and otherwise only CV-wV spellings (*ko-wo*, *si-wi?*), but this is based on only three examples.<sup>90</sup> H43 has only used extra signs (*two* four times, all in the man's name *o-two-we-o*; *nwa* once),<sup>91</sup> and – as the only scribe known to have used *two* – may even have been the creator of this sign (H1 has spelt the same name with *to-wo*, including on the verso of the same tablet as H43's *o-two-we-o*).<sup>92</sup> However, with no other instances of /CwV/ by this scribe, it is difficult to say whether this is evidence for a strong overall preference for the use of extra signs. Given the small numbers involved and the patterns of variation seen in other scribes – not only those with larger numbers of examples, but also others with very few examples who nonetheless show variation, such as H32 – it seems most likely that these are illusions of consistency created by the chances of attestation and interpretation.

The situation is more complicated with the signs *ra<sub>2</sub>* and *ro<sub>2</sub>*.<sup>93</sup> Spelling alternations with the plene spellings *ri-ja* and *ri-jo* show that when the Linear B writing system was created these signs represented the /RyV/ sequences /*rya*/, /*lya*/ and /*ryo*/, /*lyo*/, respectively: e.g. *me-re-ti-ra<sub>2</sub>* ~ *me-re-ti-ri-ja* \*/meletryai/ 'women who grind flour'.<sup>94</sup> However, a sound change subsequently took place in Mycenaean Greek by which /Ry/ became /RR/, so that *me-re-ti-ra<sub>2</sub>* ~ *me-re-ti-ri-ja* would actually have been /melet(i)rrai/ when all of the extant tablets were written (with *ra<sub>2</sub>* now representing /RRa(i)/, and *ri-ja* functioning as a conservative spelling for this sequence).<sup>95</sup> This sound change is demonstrated by the use

---

adjective is spelt *te-mi-de-we-te* (/termidwente/), is attributed only tentatively to this hand by all editions except LSP.

88 *o-tu-wo-we* /Ort<sup>h</sup>wōwēs/ (man's name, nom.), Jn 658.7; *a<sub>2</sub>-pa-tu-wo-te* (toponym, dat.-loc., in /-t<sup>(h)</sup>-wont-/), Cn 599.3.4.5.7.

89 *ne-de-we-e* /Nedwehei/ (toponym, dat.-loc.), Cn 595.3; *a-pu-ko-wo-ko* /ampukworgoi/ 'women working on headbands?', Ab 210.B; *ne-do-wo-te* /Nedwontei/ (toponym, dat.-loc.), Cn 4.6; *e-ri-ni-wo-te* (cf. n. 86), Cn 4.5; ]ki-si-wi[-ja /Kswiai/ 'women from Chios?', Ab 194.B; *ti-nwa-si-ja* (f. nom. pl. ethnic adjective, 'women from \*ti-nwa-to'), Ab 190.B.

90 *ti-nwa-ti-ja-o* (f. gen. pl. ethnic adjective, Ad 684); *a-pu-ko-wo-ko* /ampukworgoi/ 'women working on headbands?', Ad 671.B; *ki-si-wi-ja-o* /Kswiähōn/ 'women from Chios?' (gen. pl.), Ad 675 (cf. n. 89).

91 *o-two-we-o* /Ort<sup>h</sup>wōwehos/ (man's name, gen.), An 261.2.3.4.5; *ti-nwa-si-jo* (ethnic adjective, m. nom. s.?, see n. 89), Ea 810.

92 *o-to-wo*[-we-o, An 261 v.7; *o-to-wo*<we>o, Un 616 v.4.

93 The sign *ta*, /*tya*/ is not included in this discussion since there are only four examples by two scribes (H2 and H3), though note that H2 has spelt toponyms in /-t<sup>(h)</sup>ja/ with both *ta*, (e.g. *ra-wa-ra-ta*: Jn 829.[14], Ma 216.1) and the plene spelling *ti-ja* (e.g. *a-si-ja-ti-ja*: Jn 750.1, 829.16).

94 *me-re-ti-ra<sub>2</sub>*: Ab 789.B (H21); also *me-re-ti-ra<sub>2</sub>-o* [\*/meletryähōn/, gen. pl.], Ad 308 (H23). *me-re-ti-ri-ja*: Aa 764 (H1), Aa 62 (H4).

95 On the possibility that *-ti-ra<sub>2</sub>* represents /-tirra/ rather than /-trra/ see e.g. Lejeune (1997) 211.

of  $ra_2$  in the term *a-ke-ra<sub>2</sub>-te*, interpreted from context as /agerrantes/ ‘gathering’ < \*/agersantes/ (cf. Attic ἀγείροντες), showing that at this point the outcome of both \*/rs/ and \*/ry/ was /rr/.<sup>96</sup> Hence,  $ra_2$  and  $ro_2$  alternate not only with *ri-ja* and *ri-jo*, but also, since geminate consonants are not usually distinguished by the script, with the single core signs *ra* and *ro* (e.g. the man’s name *ta-ra<sub>2</sub>-to* ~ *ta-ra-to*, shown by context to refer to the same landholder),<sup>97</sup> as well as – for the sequence /RRai/ – with  $ra_3$  (e.g. *ze-pu<sub>2</sub>-ra<sub>3</sub>* /Dzep<sup>h</sup>urrai/ < \*/Dzep<sup>h</sup>uriai/ ‘women from Zephuria (Halikarnassos?)’).<sup>98</sup> There are therefore in principle three different ways of spelling /RRo/ and four of /RRa/.<sup>99</sup>

Table 5 shows examples of  $ra_2/ro_2$  and identifiable instances of *ri-ja/ri-jo*,  $ra_3$  and *ra/ro* representing /RRa/ and /RRo/: this includes those which directly alternate with  $ra_2$  and  $ro_2$  as well as those which can be identified etymologically and/or by comparison with other alternations. The latter includes all instances of *ri-ja* and *ri-jo* appearing word-finally in nouns and adjectives formed in /-Rios, -Ria/, since the use of  $ra_2$  and  $ro_2$  in this context (e.g. *me-re-ti-ra<sub>2</sub>*, above; *po-pu-ro<sub>2</sub>* /porp<sup>h</sup>urrō/ < /porp<sup>h</sup>uriō/ ‘purple’)<sup>100</sup> shows that these had undergone a process of yodisation (/RiV/ > /RyV/) and thus also been subject to the change of /Ry/ > /RR/.<sup>101</sup> Examples of *ri-ja*, *ri-jo*, *ra* and *ro* whose interpretation is very uncertain are not included; there may well therefore be more instances of each of these spellings of /RRV/ than are able to be identified.

As can be seen, the vast majority of scribes with more than one identifiable example of /RRV/ have used at least two, if not all three, different types of spellings (the *ri-jV* plene spelling, the extra  $rV_2$  signs and the spellings with *ra*, *ro* or  $ra_3$  – these last three are grouped together as  $rV_{(3)}$  since they all treat the geminate in the same way). The two scribes with the largest number of examples, H1 and H21, have each used every possible spelling for /RRa/ and /RRo/ apart from *ra* – which, given this level of variation, is probably due to chances of attestation and/or identification.<sup>102</sup> H2 may, perhaps, prefer

96 Vn 493.1 (SP: Ci; PTT<sup>2</sup>: -; PT<sup>3</sup>: H48; LSP: H654). See Lejeune (1997) 211–12.

97 *ta-ra<sub>2</sub>-to*: *passim* in H1’s En and H41’s Eo-series; *ta-ra-to*: Eo 247.6 (H41; corresponding to En 74.15), An 192.10 (H22). See Nakassis (2013) 380.

98 Aa 61 (H4). Cf. also *ku-te-ra<sub>3</sub>* /Kut<sup>h</sup>ërrai/ ‘women from Kythera’, Aa 506 (H1), Ab 562 (H21): this is generally interpreted as /Kut<sup>h</sup>ërrai/, but an ethnic adjective of this type should be \*/Kut<sup>h</sup>ëriai/ > /Kut<sup>h</sup>ërrai/. Palaima (2020) 11–13, following Ruijgh (1967) 366, argues against the interpretation of these two terms as containing geminate /rr/; however, the assumption that  $ra_3$  can represent either single or geminate /R/ just as its corresponding core sign *ra* does is much less difficult than assuming an unusual formation of these ethnic adjectives in /-R-os, -a/.

99 For demonstrations that this spelling variation is, at the period of the tablets, purely orthographic – rather than representing differences in pronunciation – see Lejeune (1997) 211–12 and Jiménez Delgado (2011); cf. also Panayotou (1992).

100 KN L 758.a (f. nom. d.).

101 In the following discussion, when words of this type appear in DMic/DMic Supl. with the form /-Rio-/ or /-Ria/, I include both this original form and the yodised form.

102 H1’s examples include *a-ke-ti-ri-ja/a-ke-ti-ra<sub>2</sub>* /askët(i)rrai/ ‘women who decorate textiles’ (Aa 717 and 815); *ku-te-ra<sub>3</sub>* /Kut<sup>h</sup>ërrai/ ‘women from Kythera’ (Aa 506); *de-u-ka-ri-jo* /Deukaliōn/ > /Deukallōn/ (man’s name, An 654.12); *tu-ro<sub>2</sub>* /turros/ ‘cheese’ (Un 1185.2); *o-pe-ro-sa* /op<sup>h</sup>ellonsa/ ‘owing’ (f. nom. s., Ep 704.7). H21’s examples include *u-po-ra-ki-ri-ja* /Huporagria/ > /Huporag(i)rra/ or /Huporakria/ > /Huporak(i)rra/ (adjective used as toponym, Cn

Table 5. Representations of /RRV/

Scribe	ri-jV		rV <sub>2</sub>		rV <sub>(3)</sub>			No. of relevant examples
	ri-ja	ri-jo	ra <sub>2</sub>	ro <sub>2</sub>	ra	ra <sub>3</sub>	ro	
1	4	14	15	4 + 1?		1	6	45 + 1?
2	3	7 + 2?	3	3			[[1]]	16 + 2? + [[1]]
3	1?		1					1 + 1?
4	2	1				1		4
6	1	1	1					3
7	1							1
12	1	1						2
14		1?						1?
15	1 + 1?				1?			1 + 2?
17							1	1
18		1						1
21	5	5	5 + 2?	1		1	1	18 + 2?
22			1		1			2
23			7		3			10
24			2	4				6
26							1	1
31	1							1
32				1				1
34	1?							1?
41		1?	3	2 + 1?	1		2	8 + 2?
43		1?		4			1	5 + 1?
45		1						1

not to use the rV<sub>(3)</sub> spellings, since their single example of this type of spelling is an erased example of ro which has been replaced with ro<sub>2</sub>,<sup>103</sup> but they have still used both the ri-jV and rV<sub>2</sub> spellings;<sup>104</sup> equally, the decision in one instance to replace a core spelling with an extra sign does not necessarily mean the former was always considered incorrect by the writer.<sup>105</sup>

45.4-5.6.7.11); me-re-ti-ra, /melet(i)rrai/ 'women who grind flour' (Ab 789.B); ku-te-ra<sub>3</sub> [ /Kut<sup>h</sup>ërrai/ 'women from Kythera' (Ab 562); mi-ka-ri-jo /Mi(k)kalios/ > /Mi(k)kallos/ (man's name, Cn 600.5); pa-ku-ro<sub>2</sub> /Pak<sup>h</sup>ullos/? (man's name, Aq 218.10); o-pe-ro-te[ /op<sup>h</sup>ellontes/ 'owing' (m. nom. pl., Aq 218.1).

103 ko-tu-ro<sub>2</sub>, with [[ro]] under -ro<sub>2</sub>: Jn 431.2.

104 Examples include a-ke-ti-ri-ja-i /askët(i)rraihi/ 'women who decorate textiles' (dat. pl., Fn 187.15); mi-ra, /(s)millās/ 'yew'? (gen. s., Ta 715.3); mi-ka-ri-jo-jo /Mi(k)kalioyo/ > /Mi(k)kalloyo/ (man's name, gen., Jn 605.10); pa-ku-ro<sub>2</sub> /Pak<sup>h</sup>ullos/? (man's name, Jn 750.8).

105 See Judson (2020a) 541-3.

The remaining scribes with five or more examples of /RRV/ have all used at least two different types of spelling (H23, both  $ra_2$  and  $ra$ ;<sup>106</sup> H41 and H43, both  $rV_2$  and  $rV_{(3)}$ , perhaps also  $ri-jV$ )<sup>107</sup> with the sole exception of H24, who has six instances of the  $rV_2$  spelling only. Although this could indicate an individual preference for the use of these extra signs, note that this is, of course, the most reliably identified of the three types of spelling, and these six examples are in just two terms:  $tu-ro_2/TU+RO_2$  /turros/ ‘cheese’,<sup>108</sup> and the man’s name  $e-ke-ra_2-wo$ .<sup>109</sup> It is therefore doubtful whether this is strong enough evidence for a preference on the part of this scribe for the use of  $rV_2$  spellings in general. The only other scribe who appears from the attested data to be consistent is H12, with a single example each of  $ri-ja$  and  $ri-jo$ ,<sup>110</sup> and this is certainly not enough evidence to be significant, especially considering that at least three other scribes with similarly small numbers of examples have used multiple spellings (H4, H6, H22; probably also H15).<sup>111</sup> With the potential exception of occasional individual preferences (such as H2’s possible avoidance of using  $rV_{(3)}$ -type spellings), individual variation in the spelling of /RRV/ sequences seems to be as acceptable and normal as that in the presentation of /CwV/ sequences.

## 8. Are there lexical and morphological influences on orthographic practices?

It is clear, as discussed in section 4, that the Mycenaean scribes’ orthographic training included learning the correct way(s) to represent particular phonemic sequences; it has also been argued that they must have similarly been taught the (single) correct spellings

106 Examples include  $a-ke-ti-ra_2-o$  /askēt(i)rāhōn/ ‘women who decorate textiles’ (gen. pl., Ad 290 and 666) and  $ze-pu_2-ra-o$  /Dzep<sup>h</sup>urrāhōn/ ‘women from Zep<sup>h</sup>uria (Halikarnassos)’ (gen. pl., Ad 664).

107 H41’s examples include  $ta-ra_2-to$  (Eo 351.2, 444.5, 471.2) ~  $ta-ra-to$  (Eo 247.6: man’s name, interpretation obscure);  $si-ri-jo-jo$  (man’s name, gen. s., presumably in /-Rios/ > /-RRos/ if this reading is correct, Eb 159.b);  $ko-tu-ro_2$  /Kotullōn/? (man’s name, Eb 892.A, 839.[A]);  $o-pe-ro$  /op<sup>h</sup>ellōn/ ‘owing’ (m. nom. s., Eb 495.1). H43’s examples include  $e-pi-we-ti-ri-jo$  /epiwēstrios/ > /epiwēst(i)rros/ ‘tailor’ (Ea 52);  $ku-ro_2$  /Kulloi/? (man’s name, dat., Ea 814.a);  $ze-pu_2-ro$  /Dzep<sup>h</sup>urros/ (man’s name, Ea 56).

108 Un 718.4.4.8.12. The transcription  $TU+RO_2$  indicates a ligature of syllabic signs used ideographically.

109 Er 880.[1], Un 718.2; see section 8.

110  $e-ti-ri-ja$  /Est<sup>h</sup>liai/ > /Est<sup>h</sup>(i)liai/? (woman’s name, dat., Vn 851.9);  $te-jqe-ri-jo-ne$  (man’s name, dat., presumably in /-Rion-/ > /-RRon-/ , Vn 851.13).

111 H4:  $me-ri-ti-ri-ja$  /melet(i)rrai/ ‘women who grind flour’ (Aa 63);  $ze-pu_2-ra_2$  /Dzep<sup>h</sup>urrai/ ‘women from Zep<sup>h</sup>uria (Halikarnassos)’ (Aa 61);  $re-ke-to-ro-te-ri-jo$  /lek<sup>h</sup>e(s)strōtērion/ > /lek<sup>h</sup>e(s)strōtērion/ ‘festival of making the bed’ (Fr 343). H6:  $tu-ru-pte-ri-ja$  /struptērias/ > /struptērras/ ‘alum’ (gen. s., Un 443.1);  $j-kē-ra_2-u-na$  (man’s name, accusative, Un 853.1);  $ku-pi-ri-jo$  /Kuprios/ > /Kup(i)rros/ (man’s name, Un 443.1). H15:  $jē-ke-ri-ja-wo$  (Qa 1292) and  $e-ke-ra_2-wo-ne$  (Un 219.1 [?]; on the attribution of this tablet, see n. 57), both alternative spellings for  $e-ke-ra_2-wo$  (see Nakassis (2013) 243–4, and section 8 below);  $a-ke-ti-ri-ja-i$  /askēt(i)rraihi/ ‘women who decorate textiles’ (dat.pl., Un 219.4 [?]). Following LSP’s merger of H15 with H14 would give this hand one certain example of  $ri-ja$  (Qa 1292), uncertain examples of  $ri-ja$  and  $ri-jo$  (Un 219.4);  $ja-ki-ri-jo$ , toponym or adjective, Mb 1387), and an uncertain example of  $ra$  (Un 219.1). H22: examples include  $qa-ra_2$  /K<sup>w</sup>allans/ (man’s name, An 192.16) and  $ta-ra-to$  (man’s name =  $ta-ra_2-to$  [n. 97], An 192.10).

of individual words – at least of vocabulary items, with personal and place names being less likely to be included in lists of spellings to be learned and therefore potentially more subject to individual variation.<sup>112</sup> Scribes could in principle have also been taught that particular morphological features had one correct spelling. Examining the words and morphemes which appear multiple times in the dataset for this study shows, however, that the situation is considerably more complicated than this picture of scribes learning lists of correct spellings implies.

In some cases, the available data does suggest that scribes may have individually or collectively preferred a particular spelling for a given lexeme, even when there is widespread variation in the representation of the relevant phonemic sequence overall (i.e. for the sequences discussed in section 7). For instance, although /nwa/ may be spelt both *nwa* and *nu-wa*, the former is consistently found in the ethnic adjective *ti-nwa-si-j-/ti-nwa-ti-j-* across seven examples written by at least five scribes,<sup>113</sup> despite the variation between the assibilated and unassibilated forms of this word;<sup>114</sup> the toponym *e-ri-no-wo(-to, -te)*, probably formed in */-n-wont-/*, is similarly never spelt with *\*nu-wo* (up to five examples by four scribes).<sup>115</sup> Terms deriving from the verbal root /op<sup>h</sup>ell-/ ‘owe’ (< *\*op<sup>h</sup>eln-/*) are consistently spelt with *ro* rather than *ro<sub>2</sub>* (nine examples by three scribes, including six by H1);<sup>116</sup> conversely, /turros/ ‘cheese’ is always spelt with *ro<sub>2</sub>* (five to seven times, by at least two scribes),<sup>117</sup> as is the man’s name *ko-tu-ro<sub>2</sub>* /Kotullōn/? (four to five times, by three scribes).<sup>118</sup> In other examples of repeated consistent spelling, the term is attested in only a single scribe’s work, so it is not clear whether this is an overall preference or only that of the writer in question: e.g. H2 has consistently spelt the adjective /perusinwon/ ‘last year’s’ as *pe-ru-si-nu-wo* (three to five examples),<sup>119</sup> while the toponym *a<sub>2</sub>-pa-tu-wo-te* (formed in */-t<sup>(h)</sup>-wont-/*) appears with this spelling four times in H21.<sup>120</sup> Note that this group of consistently spelt terms includes words of all kinds – personal and place names as well as vocabulary items.

112 Palaima (1998–9) 211, 213, 221. The implications for which Palaima argues regarding linguistic variation within the Linear B texts are beyond the scope of this paper.

113 H1 (Aa 699), H13 (La 633; on this scribe see n. 4); H21 (Ab 190.B), H23 (Ad 684), H43 (Ea 810); also Fn 324.12 (SP: S324-Ciii; PTT<sup>2</sup>: -; PT<sup>3</sup>: H31; LSP: H631) and Jo 438.21 (SP: Ci; PTT<sup>2</sup>: -; PT<sup>3</sup>: H2; LSP: H602).

114 On this variation, see Thompson (2002–3) 344–55.

115 H1 (Eq 213.3; Na 106.B), H2 (Mn 456.8), H3 (An 427.1), H21 (Cn 4.5).

116 Indicative: *-o-pe-ro-si /-op<sup>h</sup>ellonsi/* ‘they owe’: Nn 228.1 (H1). Present participles: *o-pe-ro /op<sup>h</sup>ellōn/*, m. nom. s.: Eb 149.1, Ep 613.1 (both H1), Eb 495.1 (H41). *o-pe-ro-sa /op<sup>h</sup>ellonsa/*, f. nom. s.: Ep 704.7 (H1), Eb 338.B (H41). *o-pe-ro-ta /op<sup>h</sup>ellonta/*, m. acc. s.: An 724.3 (H1). *o-pe-ro-te /op<sup>h</sup>ellontes/*, m. nom. pl.: An 724.6 (H1), Aq 218.1 (H21). For the geminate liquid in this root, deriving from *\*/ln/*, cf. Aeolic and Arcadian *ὄφελλω*. Although the spelling of all of these terms could in principle represent not */-ell-/* but */-ēl-/*, as in Attic–Ionic *ὄφελίω* (see e.g. Lejeune (1972b) 153–4), Mycenaean most probably shares the geminate outcome with Aeolic, as it does in the case of *\*/Rs/* and *\*/Ry/*.

117 *tu-ro<sub>2</sub>/TU+RO<sub>2</sub>* (see n. 108): Un 1185.2.2 (H1); Un 718.4.4.8.12 (H24); Un 1177.4 (SP: Cii; PTT<sup>2</sup>: -; PT<sup>3</sup>: H6; LSP: H606).

118 Cn 436.6 (H1); Jn 431.2 (H2; changed from [ro], see section 7); Eb 839.[A], 892.A, 1347.1 (H41).

119 Ma 216.3, 244. [z], 330.2, 378.2, 397.2.

120 Cn 599.3.4.5.7.

In other cases, individual scribes appear to have a preference for the spelling of a particular word which is nonetheless spelt differently by other writers: see, for example, the discussion in section 6 of scribes' preferences for the spelling of /wy/ with *wi-j-* or *u-j-*, which could in fact be a preference for particular representations of the word /meiwyo-/ 'smaller' and of words built to the root /Diw-/ 'Zeus'. The man's name /Ort<sup>h</sup>wōwēs/ (gen. /-wehos/, dat. /-wehi/) is spelt four times as *o-two-we-o* by H43, but (probably) twice as *o-to-wo-<we>o* by H1, including on the same tablet as H43.<sup>121</sup> As mentioned in section 7, the word 'olive oil' /elaiwon/ is also written five times as *e-ra<sub>3</sub>-wo* by H18 (although the alternative spelling *e-ra-wo* appears on a tablet attributed to this scribe by LSP and PT<sup>3</sup>).<sup>122</sup>

Terms which appear in different spellings by different scribes, but with only one or two examples, could likewise reflect individual writers' preferences; equally, however, these writers may also have used alternative spellings in documents which are not preserved. Examples we have already seen include the names *wi-dwo-i-jo* ~ *wi-do-wo-i-jo* ~ *wi-du-wo-i-jo* (each spelling appearing only once by any given scribe: H1, H22 and H2; n. 32) and *pu<sub>2</sub>-ti-ja* ~ *pu-ti-ja* (likewise: H1 and H2; H15 and H22; n. 47), and the toponym *pe-ra<sub>3</sub>-ko-ra-ja* ~ *pe-ra-ko-ra-i-ja* ~ *pe-ra-a-ko-ra-i-ja* (the first spelling appears twice in H1, the second and third once each in H7 and on On 300.8 respectively; nn. 35 and 37). Moreover, we have also frequently seen instances of a single writer spelling the same word in two different ways: *o-ka-ra<sub>3</sub>* ~ *o-ka-ra* (H1; n. 75); *ta-ra<sub>2</sub>-to* ~ *ta-ra-to* (H41; n. 97);<sup>123</sup> *pa-ra-ke-we* ~ *pa-ra-ku-we* (H2; n. 83); *pe-ru-si-nu-wa* ~ *pe-ru-si-nwa* (H32; n. 84); and perhaps *te-mi-dwe-* ~ *te-mi-de-we-* (H26; n. 87). Most strikingly, the name of one of the highest-status individuals recorded at Pylos – perhaps even the *wanax* ('king') – is variously spelt *e-ke-ra<sub>2</sub>-wo-*, *e]ke-ra<sub>2</sub>-u-na*, *e-ke-ra-<wo>ne* and *]e-ke-ri-ja-wo*, with the last two spellings probably being used by the same scribe.<sup>124</sup> Note that this category, again, includes both vocabulary items and names. Although individual writers or the whole community of Pylian scribes may therefore have had preferred spellings for particular lexemes in some cases, there is no clear pattern overall suggesting that this was consistently or even most commonly the case, and certainly not that writers were routinely taught a single 'correct' spelling for specific words of any kind. It has been argued that the spelling variation in the name *e-ke-ra<sub>2</sub>-wo* (*et al.*) 'indicate[s] that no consensus had yet been reached within the palatial bureaucracy about how to spell the name of one of the most, if not the most, important individuals within the community', reflecting his relatively recent acquisition of this status;<sup>125</sup> but the

121 An 261.2.3.4.5; An 261 v.7 and Un 616 v.4. The name also appears as *o-to-wo-we-i* in H12 (Vn 851.9) and *o-tu-wo-we* in H2 and H21 (Jn 725.5, 658.7).

122 See n. 78.

123 H1, however, has consistently written *ta-ra<sub>2</sub>-to* (four times in the En-series).

124 *e-ke-ra<sub>2</sub>-wo-*: H1 (An 610.13, 724.5), H24 (Er 880.1]; Un 718.2). *e]ke-ra<sub>2</sub>-u-na*: H6 (Un 853.1). *]e-ke-ri-ja-wo*: H15 (Qa 1292). *e-ke-ra-<wo>ne*: H15? (Un 219.1; see n. 57). On the status of this individual see Nakassis (2013) 243–4 (with further references).

125 Palaima (1998–9) 221; see also Petrakis (2008) 396 n. 26 (arguing for a very different status for *e-ke-ra<sub>2</sub>-wo*, but potentially a similarly recent involvement with the Pylian administration).

evidence of similar variation in other words suggests that the scribal community of Pylos would never have required, or even necessarily desired, such a consensus.

The situation is similarly complex when it comes to considering the possibility of preferred spellings for particular morphological features. The clearest possible example of this is in the use of  $ra_3$ , which frequently appears in *a*-stem nominative plurals (such as *di-pte-ra<sub>3</sub>* /dip<sup>h</sup>t<sup>h</sup>erai/ ‘hides’, *ku-te-ra<sub>3</sub>* /Kut<sup>h</sup>ērrai/ ‘women from Kythera’),<sup>126</sup> but is never found in dative singulars (for examples of these spelt with *-ra* see section 7) – a distribution that may reflect a deliberate choice to use this sign to distinguish (albeit in restricted contexts) between these two case-forms.<sup>127</sup> Some scribes appear to have an individual preference for the spelling of the feminine agent suffix /-t(i)rra/: H21 has five examples of  $ra_2$  in feminine plural agent nouns, and H23 has six;<sup>128</sup> H1, on the other hand, has used both spellings.<sup>129</sup> Note, however, that these are always spelt with either the plene spelling *-ri-ja* or with  $ra_2$ : for example, the term denoting ‘decorators of textiles’ appears as *a-ke-ti-ri-ja* ~ *a-ke-ti-ra<sub>2</sub>* in the nominative (/askēt(i)rrai/), *a-ke-ti-ra<sub>2</sub>-o* in the genitive /askēt(i)rrāhōn/ and *a-ke-ti-ri-ja-i* in the dative /askēt(i)rraihi/: see section 7).<sup>130</sup> Perhaps the historical spellings were more likely to be retained in this context as they more clearly represent the agent suffix, whereas in the spelling of other feminine plural nouns in *-RRai/* with *-ra<sub>3</sub>* or *-ra* (as in *di-pte-ra<sub>3</sub>/-ra* and *ku-te-ra<sub>3</sub>*) the emphasis, if any, is on marking the plural ending rather than the stem formation.

The morphological features which could potentially be relevant to the use of the *CwV* signs vs *Cu-wV* and *CV-wV* are the presence or absence of morpheme boundaries within the sequences in question, and/or the use of particular suffixes such as the productive adjectival suffixes /-went-/ and /-wont-/. The latter has been argued to be a factor contributing to the invention of those *CwV* signs which were new creations in Linear B,<sup>131</sup> and there are a small number of possible examples of morphological features, including the presence of morpheme boundaries, affecting spelling.<sup>132</sup> However, there is no clear

126 See nn. 70 and 98.

127 See Melena (2014) 60; Judson (2017b) 120.

128 H21: *a-ke-ti-ra<sub>2</sub>* (Ab 564), *me-re-ti-ra<sub>2</sub>* (Ab 789.B), *o-ti-ra<sub>2</sub>* (Ab 417.B), *pe-ki-ti-ra<sub>2</sub>* (Ab 578.B), *ra-pi-ti-ra<sub>2</sub>* (Ab 555.B); *ra-qi-ti-ra<sub>2</sub>* on Ab 356.B is excluded as this word is attributed to another, unknown, writer by PTT<sup>2</sup> (tentatively) and ARN, and to H642 by LSP; cf. *ku-te-ra<sub>3</sub>* [ (Ab 562). H23: *a-ke-ti-ra<sub>2</sub>-o* (Ad 290, 666), *me-re-ti-ra<sub>2</sub>-o* [ (Ad 308), *o-ti-ra<sub>2</sub>-o* (Ad 663), *pe-ki-ti-ra<sub>2</sub>-o* (Ad 694), *ra-qi-ti-ra<sub>2</sub>-o* (Ad 667); cf. *ku-te-ra-o* (Ad 390, 679) and *ze-pu<sub>2</sub>-ra-o* (Ad 664).

129 E.g. *a-ke-ti-ri-ja* (Aa 717) ~ *a-ke-ti-ra<sub>2</sub>* (Aa 815).

130 *a-ke-ti-ri-ja*: Aa 717 (H1), Aa 85 (H4). *a-ke-ti-ra<sub>2</sub>*: Aa 815 (H1); Ab 564 (H21). *a-ke-ti-ra<sub>2</sub>-o*: Ad 290, 666 (H23). *a-ke-ti-ri-ja-i*: Fn 187.5 (H2); Un 219.4 (H15?).

131 See Palaima and Sikkenga (1999) 605; Judson (2017b) 123.

132 As mentioned above (n. 80), the unusual plene spelling of an /Rw/ sequence in *a<sub>2</sub>-ru-wo-te* /Hal-wontei/? (toponym, An 657.8, H1) might have been influenced (if this interpretation is correct) by the morpheme boundary between the liquid and glide. Compare the similar plene spelling in the perfect participle *a-ra-ru-wo-a* /arar-woha/ (‘assembled, fitted (with)’, KN Ra(1)-series), which may be influenced by the morpheme boundary and/or the reduplication; cf. also the varying treatment of the boundary between compound elements in the name of the ‘Further Province’ (section 5). On these and other further possible examples of morphology influencing spelling see Viredaz (1983) 147; Woodard (1997) 71–2, 102 n. 31; Consani (2003) 113–14; Meißner (2007) 104–5; Melena (2014) 40–1. Note, however, that the levels of certainty of the etymological interpretations of these

pattern for the use of particular spellings for these suffixes: terms containing both /-went-/ and /-wont-/ are attested with multiple spellings (e.g. *te-mi-dwe-ta* ~ *te-mi-de-we-te* /termid-went-/: n. 87; *a<sub>2</sub>-pa-tu-wo-te*, toponym in /-t<sup>(h)</sup>-wont-/, vs *ne-do-wo-ta-de* /Ned-wonta-de/ ‘to Nedwōn’).<sup>133</sup> The perfect participle suffix /-wos, -woh-/ is found with all three possible spellings, as seen in the name *wi-du-wo-i-jo* ~ *wi-do-wo-i-jo* ~ *wi-dwo-i-jo* /Wid-woh-ios/ (the only other example of this suffix is *te-tu-ko-wo-a<sub>2</sub>* /*te-tuk<sup>h</sup>-woh-a/* ‘finished’).<sup>134</sup> Similarly, all three spellings are found both where the /CwV/ sequence crosses a morpheme boundary and where it does not. Of the seven different lemmata in which the CwV signs appear, four involve a morpheme boundary within the /CwV/ sequence (two adjectives, *te-mi-dwe-ta* /termid-went-a/ and *pe-ru-si-nwa-o* /perusinw-āhōn/, and two names, *wi-dwo-i-jo* /Wid-woh-ios/ and *o-two-we-o* /Ort<sup>h</sup>w-ōwehos/) while three do not (*dwo* /dwo/ ‘two’,<sup>135</sup> the name *e-nwa-ri-jo*<sup>136</sup> and the ethnic adjective *ti-nwa-si-j-/ti-j-*). Alternative spellings for several of these have already been noted (*wi-du-wo-i-jo/wi-do-wo-i-jo*, *ti-mi-de-we-te*, *o-to-wo-  
<we->o/o-to-wo-we-i/o-tu-wo-we*, *du-wo-u-pi*); as can be seen here and in the other examples above, there is similarly no clear pattern in the use of the Cu-wV and CV-wV plene spellings in these contexts. The synchronic transparency of these suffixes and morpheme boundaries may have varied – it seems possible, though not certain, that the formation of vocabulary words containing productive suffixes such as /termid-went-/ could have been morphologically transparent to a Mycenaean writer, but highly unlikely that this would have been the case with a name such as /Widwohios/ – but no different orthographic treatment of words along these lines can be observed. Overall, with a few exceptions (the apparent choice to use word-final *ra<sub>3</sub>* only to mark nominative plural forms; possible individual preferences for particular spellings of the feminine agent noun suffix), scribes seem to have made their own – varying – choices in spelling these morphological features just as they did for the spelling of complete lexemes.

## 9. Conclusions: learning to spell in Linear B

Despite the overall consistency of most Linear B spelling conventions, the results of this study show a complex picture in situations where the writing system in principle allows for two or more different spellings. In such cases, it is rare for only one option to occur in practice – the only possible examples of this at Pylos are the exclusive use of *au* (not *a-u-*) for word-initial /au/, the almost entirely consistent use of *a<sub>3</sub>* for initial /ai/, the restriction of medial V-i sequences to the representation of /Vhi/ rather than /Vi/, and the

examples vary considerably: for difficulties with some of these examples and some alternative explanations see e.g. Petrakis (2016) 76–7, 84 n. 98, 95–7; Judson (2020b) 63–4.

<sup>133</sup> *a<sub>2</sub>-pa-tu-wo-te*: Cn 599.3.4.5.7 (H21). *ne-do-wo-ta-de*: An 661.13 (H1); also *ne-do-wo-te* /Ned-wontei/ (dat.-loc.), Cn 4.6 (H21).

<sup>134</sup> Sa 682 (H26).

<sup>135</sup> Ub 1315.3 (H31); Eb 338.B, Eo 278 (H41).

<sup>136</sup> An 724.12 (H1).

(exclusive?) use of *pte* rather than *pe-te*. In all other cases, variation between and/or within the work of different scribes is entirely normal: even where there appears to be an individual or collective preference for a particular spelling, some variation still occurs (as seen with the use of  $a_2/a$ ,  $pu_2/pu$  and  $wi-j-/u-j-$ ), while in others there is constant variation between two or even three options (as seen for  $ra_3$  and the *CwV* and *RRV* signs). The high level of variation in these cases may lead us to question how far scribes' apparent individual or collective preferences in other cases are a real phenomenon and how far they are due to the nature of the writing system: it is inevitable that examples of (for instance) /*ha*/ spelt with *a* or of /*pte*/ spelt *pe-te* will be harder to securely identify than examples which are unambiguously represented by  $a_2$  or *pte*. If anything, then, the true level of variation is likely to be higher than the data presented here has shown; it is possible that the orthographic practices presented as 'consistent' in section 5 should really be seen as (strong) preferences with some variation, while those presented in section 6 as showing a strong preference for the use of extra signs over their core alternatives might in reality be closer to the level of variation seen in section 7.

However, even assuming that the relatively restricted securely identifiable evidence used in this study is representative of the real situation, some forms of orthographic variation can be seen to be fundamental components of the Linear B writing system as a whole, and must therefore have been learned as such. Note that there is no clear correlation between the origins of the extra signs – some of which were inherited from Linear A, while others were new creations in Linear B – and the level of variation shown in their use: both inherited signs (*au*,  $pu_2$ , *nwa*,  $ra_2$ ) and newly created ones ( $a_3$ ,  $ro_2$ ,  $ra_3$  and the remaining *CwV* signs; the status of *pte* is debated) are found at all three levels of variation.<sup>137</sup> The level of flexibility present in the spelling of particular sequences is therefore not simply a product of the incorporation of extra signs into the writing system at different points in its development, and variation cannot be attributed to newer signs being less fully established as orthographic options. Nor is there evidence to posit separate orthographic traditions in the training of different groups of scribes, as identified by Duhoux (1986). The only case where there is no certain example of individual variation, despite the existence of overall variation, is that of /*wy*/, spelt *wi-j-* by some scribes and *u-j-* by others, and, as said above, this could be ascribed to preferences for the spelling of the (relatively few) lexemes in which this cluster appears rather than for the spelling of the sequence *per se*; equally, chances of attestation and/or interpretation may have played a part. In the majority of types of spelling variation, the consideration of not just the attested spelling(s) in any individual scribe's work, but also of their overall number of identifiable examples of the relevant phonemic sequences, demonstrates clearly that the latter is the main determining factor in whether writers appear to have been consistent in their spelling: scribes with higher numbers of relevant examples almost always show

<sup>137</sup> See Judson (2017b).

variation, and apparent consistency is nearly always the result of a relatively low number of (identifiable) examples.

All of this therefore points not to separate orthographic traditions used in teaching different groups of writers but to a single tradition, learned by all writers at Pylos, which included certain acceptable and normal forms of orthographic variation (of course, this does not necessarily mean teaching by a single individual). At the time of writing of the Pylos tablets, trainee scribes must have learned that, for instance, /dwe/ could be spelt as any of *de-we*, *du-we* or *dwe*, or that /ha/ could be spelt as  $a_2$  or *a*. Within any community of practice, however, learning may take place through interaction with other members of the community as much as through formal teaching.<sup>138</sup> Some form of teaching, however this is envisioned,<sup>139</sup> must certainly have occurred in order to convey the basic orthographic conventions of the writing system; however, situations in which communal preferences can be seen despite the existence of some variation seem less likely to be due to this kind of instruction. Rather, individual preferences for (e.g.) the representation of /ha/ by  $a_2$  rather than *a* could have converged to form a communal preference, which could then be passed on to learners interacting with (texts written by) more experienced writers, without the existence of such a preference ever necessarily being formally taught. The general favouring of the less ambiguous/more precise extra sign in these cases is potentially indicative of the writers' mindsets: they would aim for clarity for the sake of future readers (themselves or others) in many cases, but would not always feel it necessary since contextual cues and a knowledge of the palatial administrative system would in most cases be perfectly adequate for a Mycenaean reader to read a core spelling correctly. However, the fact that such a mindset does not seem to have applied in the cases of the complex signs or of  $ra_3$ , again leads to a question of how far this apparent preference for some of the extra signs may be merely a result of the relative difficulty of identifying their core alternatives. This difficulty likewise leaves it ultimately unclear whether cases such as that of *pte* vs *pe-te*, with the apparently (almost) exclusive use of a single spelling, represent an orthographic convention that was taught as such, or a communal preference that developed and was transmitted through interactions with other writers and their work in the way suggested above.

Finally, although there is some evidence – particularly from the representation of diphthongs – to suggest that the spelling of certain case-endings was a feature of writers' training, by and large the orthographic tradition clearly focused on the spelling(s) of phonemic sequences rather than that of specific lexemes or morphological features. Instances of particular words being consistently spelt in the same way by individual or multiple scribes are not so frequent or widespread as to be necessarily due to this having

<sup>138</sup> On learning within communities of practice in general see Lave and Wenger (1991); on archaeological applications of this concept see e.g. Dobres (2000), esp. chapters 5–6.

<sup>139</sup> The general nature of the Pylian scribes' orthographic training, as demonstrated by this study, is in principle equally compatible with any of the various formats which have been envisaged for that training (e.g. a form of schooling or of apprenticeship: see n. 7).

being taught as the only correct spelling; if not due to chances of attestation, they are again likely to be the result of the development of individual or communal preferences in the course of scribes' work and interactions with each other.<sup>140</sup> Largely, however, the evidence of widespread variation – even within the same word in the work of a single writer, sometimes on the same tablet – implies that writers generally applied their knowledge of the Linear B orthographic conventions for phonemic representation to words as they wrote them, rather than accessing a mental lexicon of correct spellings. The question of how to spell a particular word could therefore be approached differently at different times, depending not just on the writer's training but also on the word's context, the potential desire to emphasise a particular feature of the word (such as a case-ending) or a whole variety of other, now unreconstructable, aspects of the writer's mindset at that particular time. Occasionally, we can see the process of decision-making as writers changed their minds (as in H2's replacement of [ro] with r<sub>0</sub>: section 7), while similar decisions can also be seen in occasional deviations from standard spellings under the influence of other factors such as analogy or morphology (nn. 80 and 132), and in cases where two different orthographic conventions come into conflict (n. 23).

Further work on other aspects of Pylian writing practices will be needed to establish how this single orthographic tradition, which required consistency in phonemic representation in many cases but permitted variation in others, compares with scribes' training in other practices – in particular, that of palaeography, given the ongoing debate over whether the scribes of Pylos can be divided into 'classes' representing separate training groups (as recent work has suggested may equally not be the case: section 2). However, this analysis of orthographic variation has shown that writers generally made on-the-spot choices as to the best spelling to use in the context of the particular text they were writing, influenced by their training in the writing system's conventions, by the practices of other members of their community, and by a wide variety of other orthographic, linguistic and administrative factors. It thus adds to the growing picture of these writers' practices in and attitudes towards their writing: whether in the context of orthography or in other aspects of their writing practices – such as creating new signs,<sup>141</sup> formatting and editing their own or others' documents,<sup>142</sup> developing new and individual administrative techniques<sup>143</sup> or representing varying aspects of their spoken language<sup>144</sup> – the Mycenaean scribes were practical, flexible writers, employing a range of strategies for the optimum presentation of their administrative documents, and making full use of rather

140 Of course, interactions with other writers or their texts and observation of their preferences will not always have led to scribes following those preferences. In the most extended example we have of one scribe interacting with another's work – H1's creation of summary landholding documents from H41's preliminary texts – H1 can be seen in many cases to be deliberately making different decisions from H41 about various aspects of text presentation, including orthography (see Salgarella (2019) 74–81; Judson (2020a) 538–9, 541).

141 See e.g. Palaima and Sikkenga (1999); Judson (2017b); Petrakis (2017).

142 See e.g. Palaima (1999); Karagianni (2015); Nakassis (2018); Judson (2020a).

143 Palaima (1999); Salgarella (2019).

144 Thompson (2021).

than being constrained by the conventions by which they had learned to use the Linear B writing system.

## Works cited

- ARN = Godart, L. and A. Sacconi (2019–20) *Les archives du roi Nestor. Corpus des inscriptions en linéaire B de Pylos*. Volume 1: *Séries Aa-Fr*. Volume 11: *Séries Gn-Xn*, Pisa and Rome.
- Bartoněk, A. (2003) *Handbuch des mykenischen Griechisch*, Heidelberg.
- Bennet, J. (2001) 'Agency and bureaucracy: thoughts on the nature and extent of administration in Bronze Age Pylos', in S. Voutsaki and J. T. Killen (eds.), *Economy and politics in the Mycenaean palace states: proceedings of a conference held on 1–3 July 1999 in the Faculty of Classics, Cambridge*, Cambridge, 25–37.
- J. Bennet, A. Karnava and T. Meissner (eds.) (forthcoming) *KO-RO-NO-WE-SA: Proceedings of the 15th Mycenaean Colloquium 21–24 September 2021, Athens, Crete*.
- Bennet, J. and J. Driessen (eds.) (1998–9) *A-NA-QO-TA: studies presented to J.T. Killen*, Salamanca.
- Carlier, P., C. de Lamberterie, M. Egetmeyer, N. Guilleux, F. Rougemont and J. Zurbach (eds.) (2012) *Études mycéniennes 2010. Actes du xiii<sup>e</sup> colloque international sur les textes égéens*. Sèvres, Paris, Nanterre, 20–23 septembre 2010, Pisa and Rome.
- Chadwick, J. (1968) 'The organisation of the Mycenaean archives', in A. Bartoněk (ed.), *Studia Mycenaea: proceedings of the Mycenaean Symposium, Brno, April 1966*, Brno, 11–21.
- Colvin, S. (2006) 'Autosegmental phonology and word-internal -h- in Mycenaean Greek', *Glotta* 82, 36–54.
- Consani, C. (2003) *Sillabe e sillabari. Fra competenza fonologica e pratica scrittoria*, Alessandria.
- CoPY = Judson, A. P. (2020), 'Concordance of Pylos scribal attributions', online at: <https://hcommons.org/docs/judson-copy/>.
- DĀMOS = Aurora, F., A. Nesøen, D. Nedić, H. Løken and A. Bersi (2013), 'DĀMOS – Database of Mycenaean at Oslo', online at: [www2.hf.uio.no/damos/](http://www2.hf.uio.no/damos/).
- Davis, J. L., S. R. Stocker, S. Vitale, J. Bennet, H. Brecoulaki and A. P. Judson (forthcoming) 'The date of the final destruction of the Palace of Nestor at Pylos', in Bennet et al. (forthcoming).
- DMic = Aura Jorro, F. (1985–93) *Diccionario micénico*. Volumes 1–11, Madrid.
- DMic Supl. = Aura Jorro, F., A. Bernabé, E. R. Luján, J. Piquero and C. Varias García (2020) *Suplemento al diccionario micénico*, Madrid.
- Dobres, M.-A. (2000) *Technology and social agency: outlining a practice framework for archaeology*, Oxford.
- Driessen, J. (2000) *The scribes of the Room of the Chariot Tablets at Knossos: interdisciplinary approach to the study of a Linear B deposit*, Salamanca.
- Duhoux, Y. (1986) 'The teaching of orthography in Mycenaean Pylos', *Kadmos* 25.2, 147–54.
- (1987) 'Linéaire B crétois et continental. Éléments de comparaison', in P. Ilievski and L. Crepajcic (eds.), *Tractata Mycenaea: proceedings of the Eighth International Colloquium on Mycenaean Studies*, held in Ohrid, 15–20 September 1985, Skopje, 105–28.
- (2007) 'Le linéaire B note-t-il une langue vivante ou figée? Les leçons de Cnossos', *AC* 76, 1–23.
- (2011) 'How were the Mycenaean scribes taught?', in E. Kyriakidis (ed.), *Proceedings of the International Colloquium 'The inner workings of Mycenaean bureaucracy'*, University of Kent, Canterbury, 19–21 September 2008, 95–118.
- EDG = Beekes, R. S. P. and L. van Beek (2010) *Etymological dictionary of Greek*, Leiden and Boston.
- Godart, L. (2012) 'Du nouveau à l'horizon du linéaire B', in P. Carlier et al. (2012) 79–106.
- Ilievski, P. (1959) 'The adverbial suffix -θεν in Mycenaean', *ZAnt* 9, 105–28.
- Jiménez Delgado, J. M. (2011) 'Distribución y uso de los signos \*76 (ra<sub>2</sub>) y \*68 (ro<sub>2</sub>) en Lineal B', in R. Carande Herrero and D. López-Cañete Quiles (eds.), *Pro tantis redditur: homenaje a Juan Gil en Sevilla*, Zaragoza, 31–42.
- Judson, A. P. (2017a) 'The mystery of the Mycenaean 'labyrinth': the value of Linear B pu<sub>2</sub> and related signs', *SMEA* n.s. 3, 53–72.

- (2017b) 'Processes of script adaptation and creation in Linear B: the evidence of the "extra" signs', in P. M. Steele (ed.), *Understanding relations between scripts: the Aegean writing systems*, Oxford and Philadelphia, 111–26.
- (2019) 'Orthographic variation as evidence for the development of the Linear B writing system', *Written Language and Literacy* 22.2: *Writing systems: Past, present (. . . and future?)* (ed. T. Joyce and R. Crellin), 179–97.
- (2020a) 'Scribes as editors: tracking changes in the Linear B documents', *AJA* 124.4, 523–49.
- (2020b) *The undeciphered signs of Linear B: interpretation and scribal practices*, Cambridge.
- Karagianni, A. (2015) 'Linear B administration: the communicative aspects of written media and the organisation of the Mycenaean bureaucracy', in S. Enderwitz and R. Sauer (eds.), *Communication and materiality: written and unwritten communication in pre-modern societies*, Berlin and Boston, 25–60.
- Kyriakidis, E. (1996–7) 'Some aspects of the role of scribes in Pylian palace administration', *Minos* 31–2, 201–29.
- Lang, M. (1958) 'The Palace of Nestor excavations of 1957: part II', *AJA* 62.2, 181–91, Plates 43–9.
- Lave, J. and E. Wenger (1991) *Situated learning: legitimate peripheral participation*, Cambridge.
- Lejeune, M. (1972a) 'Peut-on lire au- pour 85-?', in M. Lejeune (ed.), *Mémoires de philologie mycénienne. Troisième série (1964–1968)*, Rome, 179–99.
- (1972b) *Phonétique historique du mycénien et du grec ancien*, Paris.
- (1997) 'Pré-mycénien et proto-mycénien', in M. Lejeune (ed.), *Mémoires de philologie mycénienne. Quatrième série (1969–1996)*, Rome, 197–212.
- LSP = Godart, L. (2021) *Les scribes de Pylos*, Pisa and Rome.
- Lupack, S. (2008) 'The northeast building of Pylos and An 1281', in A. Sacconi, L. Godart, M. Del Frego and M. Negri (eds.), *Colloquium Romanum. Atti del XII colloquio internazionale di micenologia*, Roma 20–25 febbraio 2006. Volume II, Pisa and Rome, 467–84.
- Meißner, T. (2007), 'Notes on Mycenaean spelling', *CCJ* 53, 96–111.
- Melena, J. L. (2000–1), '24 joins and quasi-joins of fragments in the Linear B tablets from Pylos', *Minos* 35–6, 357–69.
- . (2014) 'Mycenaean writing', in Y. Duhoux and A. Morpurgo Davies (eds.), *A companion to Linear B: Mycenaean Greek texts and their world*. Volume III, Louvain-la-Neuve and Walpole, MA, 1–186.
- Nakassis, D. (2012) 'Labor mobilization in Mycenaean Pylos', in P. Carlier et al. (2012) 269–83.
- (2013) *Individuals and society in Mycenaean Pylos*, Leiden and Boston.
- (2018) 'Beauty in clay: aesthetics and script in Mycenaean Greece', in M. Λαγογιάννη-Γεωργακαράκου (ed.), *Οι αμέτρητες όψεις του ωραίου στην αρχαία τέχνη* [The countless aspects of beauty in ancient art], Athens, 51–6.
- Olivier, J.-P. (2012) 'Πυλιακά παραφερνάλια', in P. Carlier et al. (2012) 107–21.
- Palaima, T. G. (1983) 'Evidence for the influence of the Knossian graphic tradition at Pylos', in P. Oliva and A. Frolíková (eds.), *Concilium Eirene XVI: proceedings of the 16th International Eirene Conference*, Prague 31.8–4.9.1982. Volume III, Prague, 80–4.
- (1998–9) 'Special vs. normal Mycenaean: hand 24 and writing in the service of the king?', in Bennet and Driessen (1998–9) 205–21.
- (1999) 'Kno2 - Tn 316', in S. Deger-Jalkotzy, S. Hiller and O. Panagl (eds.), *Floerant studia Mycenaea: Acten des x. internationalen mykenologischen Colloquiums in Salzburg vom 1.–5. Mai 1995*. Volume II, Vienna, 437–62.
- (2011) 'Scribes, scribal hands and palaeography', in Y. Duhoux and A. Morpurgo Davies (eds.), *A companion to Linear B: Mycenaean Greek texts and their world*. Volume II, Louvain-la-Neuve and Walpole, MA, 33–136.
- (2020) 'Problems in Minoan and Mycenaean writing style and practice: the strange case of \*33 ra<sub>3</sub> on Pylos tablet Aa 6r', in B. Davis and R. Laffineur (eds.), *Neoteros: studies in Bronze Age Aegean art and archaeology in honor of Professor John G. Younger on the occasion of his retirement*, Leuven and Liège, 4–14.

- Palaima, T. G. and Sikkenga, E. (1999) 'Linear A > Linear B', in P. P. Betancourt, V. Karageorghis, R. Laffineur and W.-D. Niemeier (eds.), *Meletemata: studies in Aegean archaeology presented to Malcolm H. Wiener as he enters his 65th year*. Volume II, Liège and Austin, 599–608.
- Panayotou, A. (1987) 'Variations graphiques en linéaire B. Les signes "complexes"', in *Studies in Greek linguistics: proceedings of the 8th Annual Meeting of the Department of Linguistics, Faculty of Philosophy, Aristotelian University of Thessaloniki, 27–29 April 1987*. A Festschrift for John Chadwick, Thessaloniki, 35–58.
- (1992) 'À nouveau les signes "complexes" en linéaire B', in J.-P. Olivier (ed.), *Mykenaiika. Actes du ix<sup>e</sup> Colloque international sur les textes mycéniens et égéens organisé par le Centre de l'antiquité grecque et romaine de la Fondation hellénique des recherches scientifiques et l'École française d'Athènes (Athènes, 2–6 octobre 1990)*, Athens and Paris, 515–18.
- Petrakis, V. (2008) 'e-ke-ra<sub>2</sub>-wo ≠ wa-na-ka: the implications of a probable non-identification for Pylian feasting and politics', in L. A. Hitchcock, R. Laffineur and J. L. Crowley (eds.), *DAIS: the Aegean feast. Proceedings of the 12th International Aegean Conference / 12e Rencontre égéenne internationale, University of Melbourne, Centre for Classics and Archaeology, 25–29 March 2008*, Liège and Austin, 391–9, Plates LXXIII–LXXIV.
- (2016) 'Writing the wanax: spelling peculiarities of Linear B wa-na-ka and their possible implications', *Minos* 39, 61–158 (addenda 407–10).
- (2017) 'Figures of speech? Observations on the non-phonographic component in the Linear B writing system', in M.-L. Nosch and H. Landenius Enegren (eds.), *Aegean Scripts: proceedings of the 14th International Colloquium on Mycenaean Studies, Copenhagen, 2–5 September 2015*. Volume 1, Rome, 127–68.
- PT<sup>3</sup> = Melena, J. L. with R. J. Firth (2021) *The Pylos tablets*, 3rd edn, Leioa.
- PTT<sup>2</sup> = Olivier, J.-P. and M. Del Freo (2020) *The Pylos tablets transcribed*, 2nd edn, Padua.
- Ruijgh, C. J. (1967) *Études sur la grammaire et le vocabulaire du grec mycénien*, Amsterdam.
- Salgarella, E. (2019) 'Non-connective behaviour of the particle -qe in the Linear B documents from Pylos', *SMEA n.s.* 5, 71–84.
- Shelmerdine, C. W. (1998–9) 'The southwestern department at Pylos', in Bennet and Driessen (1998–9) 309–37.
- Skelton, C. (2010) 'Re-examining the Pylos Megaron tablets', *Kadmos* 48, 107–23.
- SP = Palaima, T. G. (1988) *The Scribes of Pylos*, Rome.
- Thompson, R. J. E. (1996–7) 'Dialects in Mycenaean and Mycenaean among the dialects', *Minos* 31–2, 313–33.
- (2002–3) 'Special vs. normal Mycenaean revisited', *Minos* 37–8, 337–69.
- (2005) 'Two notes on Mycenaean labial stops', *ZAnt* 55, 107–15.
- (2021) 'Mycenaean scribes and Mycenaean dialect: interpreting linguistic variation in the Linear B documents', in J. Bennet (ed.), *Representations: material and immaterial modes of communication in the Bronze Age Aegean*, Oxford, 309–28.
- Vasilogamvrou, A., J. Bennet, A. Karagianni, V. Petrakis, N. Karadimas and E. Kardamaki (forthcoming) 'An assemblage of Linear B administrative documents from Ayios Vasileios, Laconia: preliminary report on the study of the documents in their archaeological context', in Bennet et al. (forthcoming).
- Viredaz, R. (1983) 'La graphie des groupes de consonnes en mycénien et chypriote', *Minos* 18, 125–207.
- Vitale, S. (2006) 'The LH III B–LH III C transition on the Mycenaean mainland: ceramic phases and terminology', *Hesperia* 75.2, 177–204.
- Vitale, S., S. R. Stocker and J. L. Davis (forthcoming) 'The destructions of the Palace of Nestor at Pylos and its LH III A predecessor as a methodological case study', in R. Jung and E. Kardamaki (eds.), *Synchronizing the destructions of the Mycenaean palaces*, Vienna.
- Woodard, R. D. (1997) *Greek Writing from Knossos to Homer: a linguistic interpretation of the origin of the Greek alphabet and the continuity of ancient Greek literacy*, Oxford and New York.