Diversity and Variation
in the writing systems of Bronze Age Greece

Anna Judson & Ester Salgarella
Mycenaean Epigraphy Group, Cambridge

AWLL 12
26th March 2019
Cambridge
Writing Systems of Bronze Age Greece

Linear A
1800-1450 BCE
Undeciphered: ‘Minoan’
Writing Systems of Bronze Age Greece

**Linear A**
- 1800-1450 BCE
- Undeciphered: ‘Minoan’

**Linear B**
- 1400-1200 BCE
- Deciphered: Greek

KN E 777, Ashmolean Museum
Linear B: uniformity or diversity?

- “In spite of their number and of their chronological and geographic remoteness these tablets are strikingly similar in the form of writing adopted” [1]

- “The epigraphy of the tablets is remarkably uniform in all palatial assemblages” [2]

Map created with Antiquity À-la-Carte [http://awmc.unc.edu/wordpress/alacarte/](http://awmc.unc.edu/wordpress/alacarte/)

### The Linear B syllabary

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# The Linear B syllabary

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*18 ꞊ *19 ꞊ *22 ꞊ *34 ꞊ *47 ꞊
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Knossos only

Pylos only
The Linear B sematograms

- Signs denoting objects being counted:
  - E.g. 𐂃 ‘HORSE’, 𐂚 ‘BRONZE’

- Also numerals, weight/measure signs, punctuation, etc.
The Linear B sematograms

- Signs denoting objects being counted:
  - E.g. 𐂃 ‘HORSE’, 𐂚 ‘BRONZE’
- Also numerals, weight/measure signs, punctuation, etc.

- 25% of sematograms found at multiple sites = basic/core repertoire
- 75% found at only one site = local expansions on core repertoire

Drawing: **KN Da 1098**, *Corpus of Mycenaean Inscriptions from Knossos* II (1990)
Consistency in complex rules re. representation of /CC/ clusters:

Plene spelling: \(<C_1V_1-C_2V_2> = /CCV/\), e.g. *ko-to-na* /ktoina/* ‘plot of land’

Partial spelling: \(<CV> = /CCV/>\), e.g. *wo-do-we* /wordowen/* ‘rose-scented’
Linear B orthography

• Consistency in complex rules re. representation of /CC/ clusters:

  Plene spelling: $<C_1V_1-C_2V_1> = /CCV/$, e.g. *ko-to-na /ktoina/ ‘plot of land’

  Partial spelling: $<CV> = /CCV/$, e.g. *wo-do-we /wordowen/ ‘rose-scented’

• But ‘built-in’ variation between ‘extra’ and ‘core’ signs

  • E.g. /p^h_u/ = pu ~ pu₂
  • /pte/ = pe-te ~ pte

(See A.P. Judson, forthcoming in *Written Language & Literacy*)
Linear B orthography

• Consistency in complex rules re. representation of /CC/ clusters:
  
  **Plene spelling:** \(<C_1 V_1 - C_2 V_1> = /CCV/\), e.g. *ko-to-na /ktolina* ‘plot of land’
  
  **Partial spelling:** \(<CV> = /CCV/\), e.g. *wo-do-we /wordowan* ‘rose-scented’

• But ‘built-in’ variation between ‘extra’ and ‘core’ signs
  
  • E.g. */p^h/u/ = pu ~ pu_2
  
  • */pte/ = pe-te ~ pte

  (See A.P. Judson, forthcoming in *Written Language & Literacy*)

• Cf. different choices e.g. in spelling non-Greek words:
  
  • *e-pa-sa-na-ti* (woman’s name, Pylos Hand 1) ~ [[e]] > *i-pa-sa-na-ti* (Hand 41)
Linear B palaeography

- Increasing use of palaeographic variation to date texts, esp. at Knossos
- Assumptions:
  1) chronological significance to variation
  2) easily identifiable processes of development – generally simplification over time
Linear B palaeography

A.P. Judson, *The Undeciphered Signs of Linear B* (PhD, 2016)
Drawings: APJ
The Cretan context

- **Relationship between Linear A and Linear B**
  1) Palaeographical & Phonological analysis (shared signs)
  2) Structural analysis
  3) Palaeographical analysis

- **Diversity & variation within Linear A**
  1) Structural analysis
  2) Palaeographical analysis

Map: author’s elaboration on Google Earth
### LB Core Syllabary

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### LB Additional Syllabary

### Homomorphic and/or Homophonic signs

#### LB Additional Syllabary

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**Legend:**

- *A18: KN
- *A19: KN, PY, TH
- *A22: KN, TH
- *A34 (= *A35): KN, PY, TH
- *A47: KN, HV
- *A49: KN
- *A56: KH, KN, PY, TH
- *A68: PY, TH
- *A64: PY, PY
- *A65: KN, MY, PY, TH
- *A79: KN, MY, PY
- *A82: KN, MY, PY
- *A83: KN, PY
- *A86: KN, PY
- *A89: KN

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*After Steele & Meissner 2017, Melena 2014*
LA > LB: 1) Palaeographical & phonological analysis

**LB Core Syllabary**

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<td>-</td>
</tr>
</tbody>
</table>

**LB Additional Syllabary**

**New signs in LB**

**LB Undeciphered Signs**

<table>
<thead>
<tr>
<th>Undeciphered signs</th>
<th>Place of attestation</th>
</tr>
</thead>
<tbody>
<tr>
<td>*18</td>
<td>KN</td>
</tr>
<tr>
<td>*19</td>
<td>KN, PY, TH</td>
</tr>
<tr>
<td>*22</td>
<td>KN, TH</td>
</tr>
<tr>
<td>*34 (=*35)</td>
<td>KN, PY, TH</td>
</tr>
<tr>
<td>*47</td>
<td>KN, HV</td>
</tr>
<tr>
<td>*49</td>
<td>KN</td>
</tr>
<tr>
<td>*56</td>
<td>KN, KN, PY, TH</td>
</tr>
<tr>
<td>*61</td>
<td>KN, PY</td>
</tr>
<tr>
<td>*63</td>
<td>PY, TH</td>
</tr>
<tr>
<td>*64</td>
<td>KN, PY</td>
</tr>
<tr>
<td>*65</td>
<td>KN, MY, PY, TH</td>
</tr>
<tr>
<td>*79</td>
<td>KN, MY, PY</td>
</tr>
<tr>
<td>*82</td>
<td>KN, MY, PY</td>
</tr>
<tr>
<td>*83</td>
<td>KN, PY</td>
</tr>
<tr>
<td>*84</td>
<td>KN, PY</td>
</tr>
<tr>
<td>*89</td>
<td>KN</td>
</tr>
</tbody>
</table>

After Steele & Meissner 2017, Melena 2014
LA > LB: 2) Structural analysis

**Structural level**

\[
\begin{align*}
LB &= AB \text{ signs} \quad + \quad B\text{-only signs} \\
LA &= AB \text{ signs} \quad + \quad A\text{-only signs}
\end{align*}
\]
LA > LB: 2) Structural analysis

LA simple signs

Distribution:
- AB signs: widespread in LA
- A-only signs: site-specific

LA composite signs

Distribution:
- Site-specific

Plates: authors’ elaboration based on GORILA V:xxii-xxvii
LA > LB: Structural Model

Characterising Features

AB ‘core’ = set of signs shared within LA and between LA & LB

A-only signs = subsets site-restricted

B-only signs = language-bound

Graph: after Salgarella 2018 (PhD dissertation)
LA > LB: Structural Model

Characterising Features

**AB ‘core’** = set of signs shared within LA and between LA & LB

- **A-only signs** → site-restricted
- **B-only signs** → language-bound

Implications

For ‘**LA**’: not one, but many ‘**LA varieties**’

For ‘**LB**’: **LB** as a chronologically later variety, as developed at Knossos (to accommodate Greek)

Graph: after Salgarella 2018 (PhD dissertation)
LA > LB: 3) Palaeographical analysis

Current interpretative model: ‘master sign model’ (Driessen 2000)

Graph: after Salgarella 2018 (PhD dissertation)
# LA > LB: 3) Palaeographical analysis

## LA & LB sign variants distribution

### Within LA

<table>
<thead>
<tr>
<th>Khania</th>
<th>Zakros</th>
<th>Arkhanes</th>
<th>Mallia</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a</td>
<td>a</td>
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</tbody>
</table>

### Between LA and LB

![Drawings by author after GORILA (LA) and CoMIK (LB)](image-url)
LA > LB: Palaeographical Model

‘flow’ of variants continued from LA into LB

Graph: after Salgarella 2018 (PhD dissertation)
LA > LB: Palaeographical Model

‘flow’ of variants continued from LA into LB

Implications

- Palaeographical continuity

No strong graphic standardisation process upon adaptation of the script to render Greek (LB)

- Palaeography ≠ chronology

Palaeography not reliable enough tool for assessing chronological development, because variation in sign shape does not always have chronological significance

Graph: after Salgarella 2018 (PhD dissertation)
LA > LB: Structural + Palaeographical Model

LB conforms to the way LA is structured

\[ LB \in LAs \]

High graphic similarity + continuation of 'variants'

1. 'Aegean Linear' Script

\[ LAs = [(A+x) + (A+y) + (A+z) + ...] + (A+B) \]

\[ x, y, z \ldots \text{ and } B \text{ subsets as theoretically equal} \]
Diversity and variation within LA

1) **Structure**: Existence of local ‘LAs’ (LA varieties)

2) **Palaeography**: considerable palaeographical variation within LA (site-specific palaeography)

3) **Language**: LA sign-sequences distribution & function/meaning (vocab distribution)

4) **Administrative practice**: local preferences (document type, ways of recording information)
Concluding Remarks

• LA(s) and LB **shared features**
  • Structural: core signs + local expansions
  • Palaeographical: high variation, same variants continued

• Less codification than assumed: **intra-systemic variation** (within LA & within LB)
  • LB: codification for spelling rules, but also individual preferences
  • LA? *terra incognita*

• Palaeography & Chronology?
  • Palaeographical variation: **palaeography no chronological tool** in either LA or LB

• Tension between **uniformity & diversity**
Thank you! e-u-ka-ri-to

IT