LINEAR B AND THE PLACE OF MYCENAEAN IN THE HISTORY OF GREEK

This thesis is submitted in accordance with the regulations for the Part II examination in the Honours School of Classics, University of Manchester

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INTRODUCTION

In 1953 Michael Ventris and John Chadwick deciphered Linear B, a syllabic script inscribed on clay tablets and used to record a dialect of Greek called Mycenaean. In this thesis I aim to provide the reader with an overview of the Linear B script and some of the key areas in which Mycenaean Greek has impacted the study of the Greek language; the latter has been divided into two sections depending on to what extent Mycenaean has elucidated or complicated relevant issues.

I will first provide a description of the Linear B writing system, focussing on the phonetic values of the symbols in the syllabary and how these relate to later Greek phonemes, and then discuss the difficulties posed by the script and the effects that limitations and ambiguities have had on modern interpretation. In the next two chapters I will make a detailed assessment of a selection of the most outstanding issues and, in the case of those problems which have not yet been solved, outline explanations offered in secondary literature; by the end of this section I hope to have identified the main reasons for disagreement. Throughout this dissertation evidence from the Linear B corpus and from later inscriptions and literary Greek will be taken into account, as well as principles of historical linguistics: Indo-European (IE) reconstructions have proved invaluable in the analysis of Mycenaean texts.

Unless otherwise indicated, phonemic interpretations of Linear B words are taken from the second edition of Ventris and Chadwick’s seminal work Documents in Mycenaean Greek and appear in the form /xyz/. Attestations are presented in the form <(C)V>, where C and V may represent any consonant or vowel included in the syllabary.
CHAPTER ONE

LINEAR B
LINEAR B SYMBOLS

The Linear B writing system consists of eighty-nine syllabic symbols,¹ of which seventy-three have known values.² There are forty-three ideograms (many unidentified), a system of weights and measures, and a rudimentary numerical system. Each sign of the syllabary represents an open syllable consisting of a consonant and a vowel, <CV>, two consonants and a vowel, <CCV>, or an independent vowel, <V>. Not every consonant series features every vowel: there are no symbols for /uu/ or /ji/ and no <qu>, <zi> or <zu>.³

Vowels and Diphthongs

There are five vowel signs, representing the Greek inherited vowels /a/, /e/, /i/, /o/ and /u/; no distinctions are made between long and short vowels, e.g. <do-ke> (KN Ws 1707) for /dōke/, cf. <a-mi-ni-so> (PY An 943) for /Amnisos/.

The vowel sign <u> is used regularly to record the glide of the long and short inherited diphthongs /eu/, /au/ and /ou/, e.g. <ka-ke-u> for /khalkeu/ (PY An 607), <ke-ka-u-me-no> for /keauménos/ (PY Ta 641) and <o-u-qe> for /oukʷe/ ( > oûte; KN Le 641, PY Aq 64, etc.).

There are special signs for the diphthongs /ai/ and /au/, transcribed <a₃> and <au> respectively. These are generally used word-initially, e.g. <a₃-ka-sa-ma> for /aiksmans/, later aikʰmás (PY Jn 829), <a₃-ku-ti-jo> (a man’s name from KN Db 1105, cf. Od. 2. 15,

¹ Horrocks, 2010: 11
² Ferrera, 2010: 16
³ Chadwick, 2007: 254
Aigúptios)\(^1\) and \(<\text{au-to-jo}>\) for /autojo/, gen. sg. autos (PY Eb 156). These symbols are not used word-internally or for case endings, e.g. \(<\text{po-ka}>\) for /pokai/, nom. pl. ‘fleeces’ (KN Dp 997),\(^2\) possibly because the initial vowel of a case ending usually forms one syllable with the final consonant of the stem to fulfil the open syllable requirement, and there is neither a \(<\text{Ca}x>\) nor a \(<\text{Cau}>\) series. The series \(<\text{jV}>\) is used to represent a diphthongal glide adjacent to another vowel, e.g. \(<\text{e-re-pa-te-jo}>\) for dat. sing. /elephanteioi/ (PY Ta 722),\(^3\) and \(<\text{o-jo}>\) for the archaic genitive ending -\(\text{oio}\).\(^4\) Occasionally a more complete form is found, e.g. \(<\text{ko-to-i-na}>\) at Knossos (Uf 1031) and \(<\text{ko-to-na}>\) at Pylos (e.g. Aq 64, Ea 817 etc.), both apparently representing /ktoinā/.\(^5\) The hiatus of the dative singular ending /-eii/ from personal names in /-ēs/ is represented by \(<\text{Ce-i}>\), e.g. \(<\text{e-u-me-de-i}>\) for /Eumēdei/.

**Liquids, Nasals and Semi-vowels**

The liquids /\(l\)/ and /\(r\)/ are represented by just one set of symbols (i.e. there is no distinction between the two) and the format \(<\text{rV}>\) is used to transcribe syllables beginning with either liquid: e.g. \(<\text{me-ri-to}>\) for /melitos/ (PY Un 718),\(^7\) \(<\text{ta-ra-nu}>\) for /thranus/ (PY Ta 722),\(^8\) and \(<\text{pe-re-u-ro-na-de}>\) for /Pleurōnade/, ‘to Pleurōn’ (PY An 1).\(^9\) Syllable-final liquids are generally omitted, e.g. \(<\text{pa-te}>\) for /patēr/ (PY An 607), \(<\text{ka-ko}>\) for /halkos/ (PY Jn 389 etc.).\(^10\)

Consonantal /\(m\)/ and /\(n\)/ were both represented, e.g. \(<\text{a-mi-no-so}>\) for /Amnisos/ (PY An 943, KN Fp 1) and \(<\text{ku-mi-no}>\) for /kuminōn/, cumin (MY Ge 602).

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\(^{1}\) Ventris & Chadwick, 1973: 537  
\(^{2}\) Ventris & Chadwick, 1973: 572  
\(^{3}\) Fortson, 2010: 267-268  
\(^{4}\) Chadwick, 1987: 23  
\(^{5}\) Ventris & Chadwick, 1973: 556  
\(^{6}\) Ventris & Chadwick, 1973: 43  
\(^{7}\) Hooker, 1980: 156-57  
\(^{8}\) Fortson, 2010: 267-68  
\(^{9}\) Ventris & Chadwick, 1973: 570  
\(^{10}\) Ventris & Chadwick, 1973: 45
The semi-vowel /u/ has its own series of signs, e.g. <ko-wa> for /koryāl/ (KN Ag 1654, PY Aa 62 etc.), later kourā or Att. körē, girl. The <jV> series is used as a glide between vowels, /j/ (e.g. <i-je-re-u> for /hiereu/, KN Am 821 etc.\(^1\)) or to show diphthongs (see above).

**Consonants**

The labial stops /p/ and /pʰ/ are grouped together in one <CV> series, i.e. voice and aspiration are not distinguished; evidence for /b/ is scarce. This series of symbols is transliterated <pV>, e.g. <pa-i-to> for /Phaistos/ (KN Da 1156, F 841 etc.), <pa-ta> for /pantal/ (KN C 917), <a-pi> for /amphi/ (KN G 820 etc.) and <ka-ra-a-pi> for /karāhaphi/ (with heads, instrumental plural, PY Ta 722).\(^2\)

The velar stops /k/, /kʰ/ and /g/ are represented by the same series of signs with no distinction between voiced and unvoiced or aspirated and unaspirated: e.g. <ka-ko> for /khalkos/, bronze (PY Jn 389, Sa 794 etc.), <a-ko-ro> for /agros/, field (KN Dl 932).

There is no distinction between the aspirated and unaspirated voiceless dentals /tʰ/ and /t/, with both being represented by the series transcribed <tV>: e.g. <e-re-ta> for /eretai/, ‘rowers’ (KN As 5941) and <e-re-u-te-ra> for /eleuthera/ (PY Na 395). The voiced dental /d/ had its own series of symbols: e.g. <de> for the connective and allative particles /-de/ (PY An 607 etc., KN Fp 1 etc.), also <do-ra> for /dōra/ (PY Tn 316). From this we can see that Greek had already devoiced the Indo-European voiced aspirates at this stage,\(^3\) in the dental series at least: <te-ke> appears for /thēke/, 3\(^{rd}\) sg. aor. of ti-thē-mi < IE root *dhēh.\(^4\) This is

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\(^1\) Ventris & Chadwick, 1973: 78  
\(^2\) Fortson, 2010: 268  
\(^3\) Palmer, 1963: 42  
\(^4\) PY Ta 711; Ventris & Chadwick, 1973: 584; Fortson, 2010: 463
apparently the only case in Linear B in which voiced and unvoiced consonants are distinguished from one another.

It remains unclear exactly which phoneme was represented by the \(<zV>\) series. It often appears where we would expect a ζ (/zd/) in alphabetic Classical Greek (e.g. \(<ze-u-ke-si>\) for /zeugesi/, yokes, PY Fn 50, < IE *jeug-), hence the modern use of “z” in transcription. However, Chadwick points out that in Mycenaean we might expect the pronunciation to be /dz/, and that the \(<zV>\) series may represent an unvoiced version of that cluster, /ts/.\(^1\) Often the \(<zV>\) series represents phonemes that developed from IE combinations of a stop and the palatal approximant *\(i̯\), e.g. \(<me-zo-a_2>\), later meίzdona, from IE *meg̑ios-a,\(^3\) and \(<to-peza>\), later trápezda, from IE *τ̣-ped-i-, table.\(^4\) Symbols from the \(<zV>\) series also appear where later phonemes had a velar component, e.g. \(<su-za>\) for /suki̯ai/ (KN F 81 etc.), cf. later Gk. sukē, fig tree; also \(<ka-za>\) for /kʰalkia/, brazen (KN Sp 4452), and \(<ai-za>\) for /aigijā/, goats (PY Ub 1318), cf. later Gk. aigeios.\(^5\) Palmer uses this to support his theory that the phonology of the pre-Greek ‘Minoan’ language of Linear A featured a crucial phonemic distinction between palatalised and non-palatalised consonants (\(<ra_2>\) and \(<ro_2>\) may support this interpretation: see below) but does not commit to proposing a definite phonetic value to the \(<zV>\) series.\(^6\) However, Horrocks argues that other *-\(C-i\) clusters were already fricativised at this stage, citing \(<to-so>\) (/tos(s)os/, < IE *tot-jos) as an example:\(^7\) this may imply an affricate for the \(<zV>\) series.

\(^1\) Chadwick, 1987: 27  
\(^2\) Palmer, 1963: 45; Colvin, 2007: 12-13  
\(^3\) PY Sh 733; Colvin, 2007: 14  
\(^4\) Palmer, 1963: 41; Colvin, 2007: 14  
\(^5\) Palmer, 1963: 37; Ventris & Chadwick, 1973: 537  
\(^6\) Palmer, 1963: 36-39  
\(^7\) Horrocks, 2010: 12
The series \(<sV>\) corresponds to later Greek \(<a-mi-ni-so>\) for /Amnisos/ (PY An 943 etc.). Where \(s\) appears word-initially before another consonant it is not represented, e.g. \(<pe-mo>\) for /spermo/ (PY Eb 846 etc.).

See below for an extended discussion of the \(<qV>\) series.

“Optional” Symbols and Unidentified Syllabograms

Certain syllabograms appear to be “optional”, i.e. they are not always used in place of other spelling conventions.

The symbol \(<ra_3>\) has been identified as /rai/ or /lai/ (e.g. \(<e-ra_3-wo>\) for /elaiwon/, ‘olive oil’).\(^1\)

\(<ra_2>\) and \(<ro_2>\) have been identified as /(r/l)ja/ and /(r/l)jo/ (e.g. \(<a-ro_2-e>\) for /arioes/, better).\(^2\)

Aspiration may be indicated by the sign \(<a_2>\) (/ha/),\(^3\) e.g. \(<ke-re-a_2>\) for /skelehal/ < pre-Gk. *skelesa, PY Ta 641, as well as \(<ra_2>\), which has been interpreted as either /rha\(^4\) or (more commonly: see above) /rja/. The symbol \(<pu_2>\) appears to represent /phu/ (e.g. \(<pu-te-re>\) for /phutēres/, planters).\(^5\)

Some syllabograms have been identified which represent syllables in the form CCV, namely \(<dwe>, <dwo>, <nwa>, <pte>, <twe>\) and \(<two>\). Alternative spellings for some of

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\(^1\) Hooker, 1980: 65  
\(^3\) Hooker, 1980: 50  
\(^4\) Hooker, 1980: 50  
\(^5\) Chadwick, 1987: 27
these complex onset syllables appear in the tablets: e.g. <ke-se-nu-wi-ja> for /kṣenwia/, 
hospitality (PY Fr 573 etc.).

Syllabograms in Isolation

Syllabograms were generally joined together in a series running from left to right to make words, which were separated by vertical lines. Occasionally they were also used in isolation, either as abbreviations (e.g. <ai> appears as an abbreviation of <ai-ka-na-jo> (PY Un 1185) and <ku> appears in place of <ku-mi-no> (PY Un 1319), but the majority of abbreviations remain unidentified) or as monograms, in which several syllabograms were joined together into a single sign (e.g. <kapo>, a single symbol created by the fusion of <ka> and <po> and interpreted as /karpo/, fruit). Syllabograms could also be joined to an ideogram: e.g. <ko>, abbreviation of <ko-wo> (/kōos/, cf. Hom. kōas, fleece) linked to the ideogram HIDE serves to identify the hide as a sheepskin, PY Un 718.

Ideograms

The ideograms form a separate series of signs, with each representing a physical object rather than a phonetic sequence. We know of forty-three ideograms: some are instantly identifiable in virtue of their form (e.g. the deer ideogram shows clearly a deer’s head: ḫ) but many are more abstract and a large number remain unidentified. Occasionally ideograms were modified to reflect particular aspects of the objects they represented, e.g. the famous Pylos tablet Ta 641, in which an ideogram of a ‘three-eared’ (i.e. three-handled) jug appears next to the word <ti-ri-o-we-e> and a four-handled jug next to <qe-to-ro-we>.

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1 Chadwick, 2007: 256
2 Hooker, 1980: 37-38
3 Ventris & Chadwick, 1973: 557
4 Hooker, 1980: 39-40
5 Ventris & Chadwick, 1973: 282-283
(compounds of /kʷet-ro-/ and /tri-/ with /-ōyes/, eared). This was not always the case, however, and ideograms cannot be viewed as directly representative of the objects they appear to describe: a tripod ‘with one foot’ (<e-me po-de>) is drawn with three on the same tablet.¹

The exact role of the ideograms is unclear as they usually appear next to a detailed description of the object. Ventris and Chadwick offer the most obvious explanation that the ideograms were there partly to enable illiterate members of the household to read the tablets,² but this does not necessarily explain the more abstract ideograms and the use of syllabogram adjuncts; perhaps the ideograms were more for the benefit of scribes or literate secretaries who needed to process tablets at speed.

**Numerals, Weights & Measures**

The Mycenaean scribes had a decimal counting system, as can be seen from their numerical sign-set, which has symbols for 1, 10, 100, 1,000 and 10,000;³ place-value notation was apparently unknown and there was no zero. Numbers are exclusively used for recording numbers of people and animals or amounts of goods, e.g. PY Cn 04, which records the number of rams and ewes in the possession of each shepherd. The main mathematical achievements of the scribes are in adding up totals, e.g. KN Dc 1154, which shows ninety-one rams and nine “<o>+RAM”, giving a total of one hundred.

Three sets of measurement symbols existed, for measuring dry goods (presumably a measurement of volume), liquids, and items by weight.⁴ Rather than the fractional system of

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¹ Ventris & Chadwick, 1973: 336, 498-499
² Ventris & Chadwick, 1973: 49
³ Hooker, 1980: 44-45
⁴ Hooker, 1980: 44
Linear A, Linear B had independent units of fixed value\(^1\) (comparable to the Imperial system, e.g. pounds, ounces etc.)\(^2\) which were arranged from left to right in descending order of size with the quantifying numbers noted to the right of each symbol.

**SPELLING RULES**

Numerous attempts have been made to establish set rules and patterns for Linear B spelling that are either dependent on the syllabification of individual words\(^3\) or on some kind of phonetic hierarchy:\(^4\) however, such arguments are beyond the scope of this thesis and I will instead address the basic spelling practices as they appear on the tablets, with the exception of those covered in the previous section.

When a syllable begins with two consonants but cannot be represented by one of the \(<CCV>\) symbols (a common occurrence given the limited number of \(<CCV>\) symbols in the syllabary and the relative frequency of consonant clusters in Greek),\(^5\) the convention was to split it into separate syllables: e.g. the first syllable of /tripodes/ is rendered in Linear B \(<ti-ri>\):\(^6\) the first vowel is to be regarded as a ‘dead’ vowel and in most cases mirrors the following vowel, as it does in this example.\(^7\)

Ventris and Chadwick write that /m/ and /n/ are “omitted before a following consonant”,\(^8\) but it would be more accurate to say that along with /l/, /r/ and /s/ they are omitted when they

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1 Ferrera, 2010: 19  
2 Ventris & Chadwick, 1973: 54-55  
3 Woodard, 1997: 19-58  
4 Woodard, 1997: 58-112  
5 Horrocks, 2010: 12  
6 PY Ta 641  
7 Hooker, 1980: 49-50  
8 Ventris & Chadwick, 1973: 42
appear as the final consonant in a closed syllable; for example, *amphoreus* and *amnisos* appear at first glance to the modern English reader to share identical syllabification of the first two syllables, namely /am-pho-/ and /am-ni-. However, in the Mycenaean corpus these appear as <a-po-re-we>\(^1\) and <a-mi-ni-so>\(^2\), indicating that the correct syllabification was /am.pho-/ and /a.mni-. In contrast, velars, labials and dentals in the same position were represented using the same method as outlined above for complex onset syllables, introducing an ‘empty’ vowel:\(^3\) e.g. <te-ko-to-ne> for /tektones/, carpenters (KN Am 826 etc.).

Word-final consonants were generally omitted: see below.

**LIMITATIONS OF THE SYSTEM**

Soon after the decipherment it became obvious that certain features of the Linear B syllabary posed significant problems to those attempting to interpret the tablets. Although Duhoux reminds us that the Linear B script has several characteristics beneficial to interpretation (such as word division)\(^4\) its negative aspects are perhaps more numerous.

The Linear B system was differentiated from Linear A by Evans as early as 1903,\(^5\) and it is inevitable that the casual observer will draw an immediate distinction based on superficial differences in layout (e.g. the use of lines to divide words in Linear B and the comparative ‘neatness’ of the inscriptions). A more detailed comparison shows that the range of symbols differs, with some symbols found in Linear A but not Linear B and vice versa.

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\(^1\) PY Na 49  
\(^2\) PY An 943; KN Gg 705  
\(^3\) Ferrera, 2010: 19-20  
\(^4\) Duhoux, 1984: 47  
\(^5\) Pope, 2008: 2; Palmer, 1963: 1
For various reasons the Linear B syllabary is thought to have been a later relative of Linear A, “borrowed” by (possibly bilingual) Greek speakers to record their own language: first, whilst the majority of symbols are common to both scripts, many Linear A signs do not feature in the Linear B tablets\(^1\) and at least a third of the Linear B signs are apparently innovations not found in Linear A.\(^2\) This would indicate modifications probably caused by the adaptation of the syllabary to the writing of a different language, though Ventris and Chadwick argue that the presence of both “old” Linear A symbols and “new” Linear B symbols in the same consonant series (e.g. \(\text{/operators}/<\text{mo}>\)) appears to be a Mycenaean innovation, but \(\text{/operators}/<\text{ma}>\) clearly derives from the “cat’s head” hieroglyph of Linear A\(^3\) implies a more radical re-assignment of phonemic representation.\(^4\) either way, the syllabary has clearly been altered by those who wished to record the Greek language. Secondly, the Linear A tablets are considerably older than their B counterparts, originating from between the eighteenth and fifteenth centuries BC.\(^5\) they were found below the second destruction levels at the archaeological sites of Knossos, Phaistos and Agia Triada.\(^6\) There is no evidence of Linear A after the collapse of Minoan civilisation\(^7\) but soon afterwards the Linear B tablets began to be produced, also on the island of Krete,\(^8\) from which we can conclude that Greek speakers began to manage the palaces and surrounding countryside. Lastly, although the phonetic values discovered by Ventris have been applied to Linear A syllabograms where signs correspond in form, there is no consensus on what language the Linear A tablets represent.\(^9\)

\(^1\) Chadwick, 1987: 45  
\(^2\) Ventris & Chadwick, 1973: 39  
\(^3\) Ventris & Chadwick, 1973: 39-40  
\(^4\) Ventris & Chadwick, 1973: 39-40  
\(^5\) Duhoux, 2001: 229  
\(^6\) Ventris & Chadwick, 1973: 28  
\(^7\) Chadwick, 1987: 45  
\(^8\) Hooker, 1980: 8  
\(^9\) Duhoux, 2001: 232
The evidence for borrowing helps to explain several of the difficulties faced by translators: although the script was undoubtedly manipulated in order to be used for writing Greek, defining features such as the requirement to write in open syllables were retained. Whilst this is an effective writing method for languages such as Japanese in which most words are made up almost entirely of open syllables, Greek is rich in closed syllables and consonant clusters. A comparison can be made with how English words, comparable to Greek in their use of closed syllables, are represented in modern Japanese: for example, Eng. vector is rendered be-ku-to-ro in Katakana script. In Mycenaean, the most common result of the discrepancy between spoken language and writing conventions is the omission of consonants. The difficulties posed by this are perhaps best outlined by Beattie in his acerbic 1956 rebuttal of Ventris’ decipherment: criticising the amateur code-breaker’s analysis of the Pylos tablet Ta 641, he points out that the word famously deciphered as <qe-to-ro-we> (four-eared, from proto-Greek *kʷet- and *ou̯es) could, taking into account the possibility of additional stops not represented by the spelling conventions, be interpreted in over 92,000 different ways. Although it is now generally accepted that Linear B records Greek, Beattie’s scepticism reflects the difficulties posed by the syllabic writing system on the tablets.

**Ambiguity of Symbols**

The ambiguity of many symbols presents a barrier to interpretation. The difficulties posed by, for example, the lack of distinction between /r/ and /l/ and between /p/ and /pʰ/ can be seen from the Pylos tablet Ea 800, on which is found a word written in Linear B <ㄪ>, transliterated <pa-ro>, which could be interpreted as /pa-ro-/ /pa-lo-/ /pʰa-ro-/ or /pʰa-lo-/: six possibilities even before considering unrepresented final consonants, consonant clusters,

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1 Duhoux, 1984: 41  
2 Daub, Inoue & Bird, 1990: 11  
3 Beattie, 1956: 10
diphthongs and vowel length. Possible later Greek words <pa-ro> could be matched with include pàllō, pâlos, páros, parós, parón and parôn. In this example it is possible to make a judgement based on the context of the word on the tablet (Kretheus, <ke-re-te-u>, holds a lease, <o-na-to>, from Molog’oros, <pa-ro mo-ro-go-ro>)\(^1\) and interpret the word as paro, from. Nevertheless, the fact that Linear B does not mark aspiration (with the exception of the limited number of optional signs) is a disadvantage when recording a language which had a crucial phonemic distinction between aspirated and unaspirated stops. The lack of distinction between the various Greek velars is equally problematic: <ka-ko> taken out of its context could be taken to be either /kako-/ or /khalko-/.

One word which remains a mystery is <ka-na-to> (MY Ue 611), variously interpreted as /kanastron/, /kanasthon/ or /gnathoi/\(^2\). On the same tablet is found <pa-ke-te-re>: Ventris and Chadwick find themselves at a loss as to whether it is a form of spházō, pégnumi, or some other word altogether.\(^3\)

### Word-final Consonants

Another serious limitation of Linear B is the fact that word-final consonants are not represented, e.g. <ka-ra-we> for /græes/ (old women, cf. later Gk grães).\(^4\) This is an obvious disadvantage when recording a language which relies on inflexion to convey meaning. Exceptions to this rule are nouns with a stem ending in a dorsal consonant,\(^5\) e.g. wanaks which appears as <wa-na-ka>, where the final vowel is again ‘dead’, but final /-s/, /-n/, /-r/ etc. are not represented. Consequently a word written <to-so> could be intended as a masculine singular nominative, /tosos/, a masculine singular accusative, /toson/, a dative,

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1. Ventris & Chadwick, 1973: 240
2. Ventris & Chadwick 1973: 331-332, 495
3. Ventris & Chadwick, 1973: 331-332, 496
4. KN Ap 694; Ventris & Chadwick, 1973: 165
5. Palmer, 1963: 26
/tosoi/ or even a genitive plural, /tosōn/:¹ this obviously leaves room for mistranslation. Garrett argues that that it is possible that neither the merger of word-final nasals nor the loss of word-final consonants had taken place at this time, given the lack of representation of word-final consonants; this issue is clouded further by the appearance of <e-me> (PY Ta 641 etc.) for emei, one, a dative would become, in later Greek, eni,² as he argues that this sound change was a direct consequence of the word final *-m > -n merger.³ Colvin, on the other hand, points out that these sound changes are often thought to be early because Homeric poetry provides no metrical evidence for the presence of word-final obstruents,⁴ whilst many apparently pre-Mycenaean features can be detected. There is little evidence in the Linear B corpus to support either interpretation.

¹ Hooker, 1980: 50
² Hooker, 1980: 60
³ Garrett, 2006: 141
⁴ Colvin, 2007: 13
CHAPTER TWO

THEORIES (MAINLY) CONFIRMED AND QUESTIONS (LARGELY) ANSWERED
DIGAMMA

There is a sequence of symbols representing /u̯V/ and transcribed <wV> in the Linear B syllabary: these appear largely where we would expect them to. There are signs for /u̯a/, /u̯el/, /u̯i/ and /u̯o/, but no sign for /u̯u/. The voiced labiovelar approximant was lost in later Greek but is well attested in dialect inscriptions; evidence for it can also be found in the Homeric texts, in which certain words require an extra consonant in order to scan (e.g. Il. 1.33, /edyeisen/ is required), and in comparative evidence from other languages. The presence of digamma left other traces in Greek: in some dialects the loss of postconsonantal /u/ resulted in compensatory lengthening of the preceding vowel (e.g. proto-Gk. *ksen̂yos > Ion. kseĩnos). Hiatus is usually avoided in Greek poetry, but in Homeric epic it occurs frequently as the result of the loss of an original digamma: e.g. aîî̯opa oĩnon, Il. 1.142, a formulaic phrase in which hiatus would be avoided by restoring the original digamma of oĩnon, cf. Lat. uinum.

Mycenaean Attestations

- <wa-na-ka> for /wanaks/ (KN Vc 73, PY Na 334, etc.) later Greek ánax, lord (frequently in Homer, e.g. Il. 1.390, 1.422 etc., also in later authors e.g. Aesch. Persians 378)
- <wo-i-ko-de> for /woikonde/ (KN As 1519) later Greek oikade, homeward (cf. Lat. uīcus, village and Skt. viś-, house)

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1 Chadwick, 2007: 254-255
2 West, 1996: 227-228
3 Karali, 2001: 979; Wetzels and Sezer, 1986: 310
4 Bakker, 1988: 1
• <ko-wo> for /korwos/ (PY Aa 62, KN Ag 87, MY Oe 121, etc.) later Greek kóros
  (Ion. koūros, Dor. kōros), boy

• <-wi-de> for /-wide/ (PY Eq 153, PY Ta 711), cf. Homeric íde,¹ 3rd sg. aor. from oūda,
  know (< IE *u̯id-, cf. Skt. vid-)

• <wi-ri-ni-jo> for /vrūnios/, later hrínos, hide

On the other hand, the presence of /u/ in Mycenaean has meant that some etymologies
have had to be reconsidered. It had been thought that Greek hēneka was a compound of hên
(one) and (w)eka (from (w)ekōn, willing),² perhaps partly because it would explain the Ionic
variant heĩneka (cf. proto-Gk. *ksenyos > Ion. kseīnos). The Mycenaean spelling <e-ne-ka>
(KN Am 821, PY Ae 303, etc.) precludes this explanation. Similarly, the spelling <po-se-da-o>
for /Poseidaōn/ means that the traditional reconstruction (prompted by later inscriptive
spellings) of an earlier form with digamma has had to be reassessed.³

¹ Ventris & Chadwick, 1973: 591
² Hooker, 1984: 52
³ Hooker, 1984: 52
LABIOVELARS

In this section I will give a brief overview of the reconstruction of Indo-European velar consonants with a focus on labiovelars in Greek, and then provide selected examples of Mycenaean attestations. To outline some of the controversies that still surround labiovelars I will discuss the difficulties posed by Mycenaean <i-qo> in the context of Linear B and Greek language development.

The attestation of labiovelars in Mycenaean was particularly important in confirming previously held theories about the development of Greek. Three series of velar consonants are reconstructed for Indo-European: the ‘plain’ velars, *k, *g, and *gʰ, articulated with the back of the tongue against the soft palate;¹ the palatal velars, *k̑, *g̑ and *g̑ʰ, articulated with the tongue positioned further forward to meet the hard palate;² and the labiovelars, *kʷ, *gʷ and *gʷʰ, velar stops characterised by a rounding of the lips during articulation (distinct from consonant clusters of a velar and labiovelar approximant, such as *kw: e.g. IE *kw > Skt. kv, cf. *kʷ > k).³

¹ Crystal, 2008: 509
² Clark, Yallop & Fletcher, 2007: 64; Fortson, 2010: 55
³ Fortson, 2010: 54-55
An Overview of the Reconstruction of Indo-European Velar Consonants

The labiovelars were originally reconstructed to explain the existence of correspondence sets such as the following (using examples from the Attic dialect of Greek): ¹

<table>
<thead>
<tr>
<th>IE</th>
<th>Greek</th>
<th>Latin</th>
<th>Germanic</th>
<th>Sanskrit</th>
</tr>
</thead>
<tbody>
<tr>
<td>*k</td>
<td>K</td>
<td>c (k)</td>
<td>h</td>
<td>k</td>
</tr>
<tr>
<td><em>krek-</em></td>
<td>krekt-</td>
<td>-</td>
<td>-</td>
<td>krest-</td>
</tr>
<tr>
<td><em>keh-</em></td>
<td>cã-ruš</td>
<td>hör-rus</td>
<td>ea-ke</td>
<td></td>
</tr>
<tr>
<td>²k</td>
<td>K</td>
<td>c (k)</td>
<td>h</td>
<td>*k &gt; *č &gt; š</td>
</tr>
<tr>
<td><em>pek-</em></td>
<td>Pokos</td>
<td>puku</td>
<td>Go. fahu</td>
<td>pašu</td>
</tr>
<tr>
<td><em>kerd-</em></td>
<td>kard-</td>
<td>cord-</td>
<td>NE heart</td>
<td>šrát-</td>
</tr>
<tr>
<td>*kʷ</td>
<td>t/__i</td>
<td>qu</td>
<td>hw</td>
<td>k/e</td>
</tr>
<tr>
<td>²kʷ</td>
<td>Te</td>
<td>que</td>
<td>-</td>
<td>ea</td>
</tr>
<tr>
<td>²kʷ</td>
<td>p/__C</td>
<td>qu</td>
<td>hw</td>
<td>k/e</td>
</tr>
<tr>
<td><em>lek-</em></td>
<td>Leipo</td>
<td>linguo</td>
<td>leithwan</td>
<td>ri-na-k-</td>
</tr>
<tr>
<td><em>sek-</em></td>
<td>hepomai</td>
<td>sequor</td>
<td>sailwan-an</td>
<td>sac-</td>
</tr>
<tr>
<td>*g</td>
<td>g</td>
<td>g</td>
<td>-</td>
<td>g</td>
</tr>
<tr>
<td><em>gras-</em></td>
<td>grá-tis</td>
<td>grá-men'</td>
<td>-</td>
<td>gráz-ate</td>
</tr>
<tr>
<td>²g</td>
<td>g</td>
<td>g</td>
<td>k</td>
<td>*g &gt; *j &gt; j</td>
</tr>
<tr>
<td>²genu</td>
<td>gomu</td>
<td>genu</td>
<td>kniu</td>
<td>jánu</td>
</tr>
<tr>
<td>²gʷ</td>
<td>b/__i</td>
<td>u</td>
<td>-</td>
<td>j/__{*i</td>
</tr>
<tr>
<td>²gʷ</td>
<td>Bios</td>
<td>uis</td>
<td>-</td>
<td>ji-va</td>
</tr>
<tr>
<td>²gʷ</td>
<td>Bois</td>
<td>-</td>
<td>NHG kuh</td>
<td>gauš</td>
</tr>
<tr>
<td>²gʷ-em-</td>
<td>bain-ō</td>
<td>uen-io</td>
<td>qin-an</td>
<td>gam-ati</td>
</tr>
<tr>
<td>²gʷ</td>
<td>ball-ō</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>²gʷ</td>
<td>d/__i</td>
<td>u</td>
<td>q</td>
<td>g</td>
</tr>
<tr>
<td>²snp-gʷelbos</td>
<td>Adelphos</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>²gʷ</td>
<td>th/___i</td>
<td>f</td>
<td>w</td>
<td>gh</td>
</tr>
<tr>
<td>²gʷ</td>
<td>ërm-ös</td>
<td>form-us</td>
<td>NE warm</td>
<td>gharma-</td>
</tr>
<tr>
<td>²gʷ</td>
<td>pʰ/__C</td>
<td>u</td>
<td>u</td>
<td>*jh/__{*i &gt; h</td>
</tr>
<tr>
<td>²snp-gʷ</td>
<td>nipʰ-a</td>
<td>niu-em</td>
<td>snaiws</td>
<td>snea</td>
</tr>
</tbody>
</table>

¹ The purpose of this section is to assess the Greek reflexes of IE velars. As a result some outcomes of the IE velars in Latin, Sanskrit and Germanic have not been represented in the table, e.g. the post-nasal reflex of *gʷ in Latin: *n-gʷen- > Lat. in-guen (Meier-Brügger, 2003: 135). Correspondences are taken from Rtx (2001) and Fortson (2010).
² < *gras-men
In isolation the Latin, Greek and Germanic evidence could indicate that Indo-European had only two velar phonemes: the reflexes of the plain and palatilised velars appear to be identical to one another. However, the cognates in Sanskrit consistently show an alternation between velar stops (e.g. grās-ate) and various kinds of fricatives (e.g. jānu) which are typologically likely to have developed from a palatalised consonant;¹ this cannot be explained by phonemic split as there is no clearly identifiable conditioning environment within the languages involved. For these reasons, palatalised and plain velars are reconstructed for IE.

The establishment of conditioning environments within Greek makes it clear that a conditioned split has taken place in that language: for example, in the case of *kʷ, Latin /qu/ and Germanic /hw/ are cognate to Greek /p/ before a back vowel or consonant, but before a front vowel the same phonemes are cognate to Greek /t/ (see examples above). The only consonant that could feasibly have produced reflexes such as labiovelars in Latin and Germanic and labial consonants in other centum languages is a labiovelar:² an unvoiced and unaspirated labiovelar was reconstructed, *kʷ, along with a voiced labiovelar, *gʷ, and a voiced aspirated labiovelar, *gʷʰ. In Indic, Balto-Slavic and other daughter branches of Indo-European the labiovelar series merged with the palatal velars, leaving behind velar reflexes such as those in the table, whilst in many western European branches (e.g. Latin and Germanic) as well as Tocharian and Hittite the plain and palatal velars merged.³ Languages exhibiting the former merger are generally labelled satem languages, whilst those that show the latter merger are called centum.⁴

¹ Fortson, 2010: 55
² Clackson, 2007: 37
³ Fortson, 2010: 58-59; Clackson, 2007: 51
⁴ These names reflect the development of IE *k into k in Latin (written c) and s in Avestan: *kimtom > Lat. centum and Av. satem (Fortson, 2010: 58-59; Clackson, 2007: 51).
It was thought likely that the labiovelars had survived intact into ‘proto-Greek’, partly because of the differing reflexes outlined above and partly because there were important differences between their reflexes in particular dialects: e.g. Arcadian had a sound written with either ζ or a special letter resembling Cyrillic І, which represents the outcome of an IE labiovelar preceding /i/ or /e/ and is distinct from the Attic-Ionic reflex in the same position, /t/. Similarly, pisures appears in Homer (Od. 5.70 etc.), whilst Lesbian shows pessures, Boeotian pētares and Att.-Ion. téssares: all are descended from IE *kʷ étu̯ores. Similarly, Thessalian kis and Attic tis both descend from the IE form *kʷ is. Despite the rich variation between dialects, none of the forms found in extant literature contained phonemes that could be interpreted as labiovelars; Arcadian “І” was most likely /t/, given its alternation with alphabetic ζ.

In Mycenaean, a particular series of consonants (represented here as <qV>) appear largely where labiovelars had been reconstructed for proto-Greek; the fact that the same series appears in all positions shows that split had not yet taken place. Given that Linear B rarely distinguishes aspiration or voice, the same series can be taken to represent /kʷ/, /gʷ/ and /kʷh/ (from IE *gʷh, showing the regular Greek devoicing of IE voiced aspirates).

Examples of Labiovelars Attested in Mycenaean

- IE *-kʷe (enclitic and) > Gk. te; Myc. <qe> for /-kʷe/, KN Ch 896, PY Ad 671 etc.

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1 Colvin, 2006: 33
2 Fortson, 2010: 253-254
3 Fortson, 2010: 146
4 Fortson, 2010: 253
5 Colvin, 2006: 33
• IE *leikʷ- (leave behind) > Gk. leip-; Myc. <re-qo-me-no> for /leikʷomenoi/, KN As 1517, cf. Gk. leipómenoi.¹

• IE *amphi-gʷ-tó-³ (possibly free-standing⁴ or with splayed legs,⁵ from *ampʰi, around, and the zero-grade of root *gʷem-, come, with the verbal adjective suffix *-tó-) > Gk. –batós, cf. epibatós, climbable and Hom. ampʰibainō, bestride;⁶ Myc. <a-pi-qo-to> for /amphi-gʷotos/,⁷ PY Ta 642.⁸

Examples of /kʷh/ in the Linear B texts are scant: some personal names may exhibit endings deriving from IE *gʷh-, such as <qe-re-qo-ta-o> for /Kʷéle-kʷhontāo/,⁹ gen. cognate to later Tēlephontas (PY En 659); Watkins suggests also <a-no-qo-ta>, interpreted as /anorkʷhontās/¹⁰ (< IE *anr̥gʷh-on- with a Greek agent suffix -tās/).¹¹

Examples of Greek Reflexes of IE Labiovelars Affected by Dissimilation in Proximity to /u/

When adjacent to /u/, the labiovelars had already lost their labial quality through dissimilation and fallen together with the velars when the Mycenaean tablets were the fact that labiovelars are retained in other positions in Mycenaean Greek shows that this

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¹ Ventris & Chadwick, 1973: 579; Colvin, 2006: 12
² E.g. Herodotus Histories 1.99.2
³ Fortson, 2010: 109
⁴ Ventris & Chadwick, 1973: 341
⁵ Palmer, 1980: 31; disputed by Jones, 1965: 191
⁶ E.g. Od. 5.371; also surround, Od. 12.74
⁷ Palmer gives several examples of a word-internal o reflex of IE syllabic resonants in Mycenaean (e.g. <a-no-wo-to> from *anousp-to-, 1980: 41) and reports a “tendency to confuse a and o” (1980: 41); cf. usual reflex of IE nasal resonants in Greek, e.g. hepta < *septm̥, (a)n̥ < *n̥. Colvin ascribes this alternation to the presence of a preceding labial (2007, 11), whilst Risch suggests dialect differences (Hainsworth, 1968: 69)
⁹ Colvin, 2006: 12; Ventris & Chadwick, 1973: 577
¹⁰ Watkins, 1995: 383-384; note also the contemporary attestation of the divine name Eualios, KN V 52, linked to andreipontos in Iliad 2.651 etc.
¹¹ Sihler, 1995: 273-274
¹² Rix, 1976: 85-86
sound change occurred before the later split. Exceptions to this include <qo-u-qo-ta> (KN L 480), thought to represent /gʷouqʷotāi/ (later boubotas),\(^1\) and <o-u-qe> (KN Le 641, PY Aq 64, etc.) for /oukʷel/, later *oute; Palmer ascribes such anomalies to either analogical retention of the labiovelar or the words being combinations which post-date the earlier sound change.\(^2\)

- IE *gʷou-kʷolos (oxherd, from *gʷous, ox, and the o-grade of root *kʷel-, to turn) > Gk. boukolos; Myc. <qo-u-ko-ro> for /gʷou-kolos/, PY An 18, Nn 831 etc.,\(^3\) cf. IE *ai̯g-kʷolos > Gk. ai̯polos (goatherd).\(^4\)

- IE *h₁eγegʷh- (to speak solemnly)\(^5\) > Gk. eukʰ-; Myc. <e-u-ke-to> for /eukhetoi/,\(^6\) PY Eb 297, Ep 704; cf. IE *gʷh(e/o)n- (slay) > Gk. pʰon-os (murder) and tʰeín-ō (to kill).

**Problems Posed by the Labiovelars, with Reference to <i-qo>**

Despite having provided conclusive evidence to support a key Indo-European reconstruction, the Mycenaean labiovelars are not without controversies of their own. Although we have consistent attestations of particular phonemes in positions where labiovelars had previously been reconstructed, and those symbols are largely unaffected by the conditioning environments outlined above (with the exception of the u-proximity reflexes), it is important to remember that writing cannot be used as an accurate guide to pronunciation: we cannot know for certain the exact phonetic realisation of the phonemes represented by the <qV> series.

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1. ‘Giving pasture’, only in Pindar: Nem. 4. 52, Isth. 6. 32; Ventris & Chadwick, 1973: 578
2. Palmer, 1980: 41
3. Rix, 1976: 86
4. Rix, 1976: 86-88; Fortson, 2010: 70, 130
5. ‘Feierlich sprechen’; Rix, 2001: 253
6. Colvin, 2006: 12
The debate over the Mycenaean word *i-po* is a particularly interesting one in view of this problem. The word itself is almost certain to mean horse, corresponding to later Greek *hippos*, given its appearance next to ideograms of horses (as on the Knossos tablet Ca 895, in which *i-po* appears next to the ideogram for a horse and in the company of the words *po-ro*, from *pālos*, foal and *o-no*, for *ōnos*, ass¹) and association with chariots on storage inventory tablets found at Knossos (mostly in the adjectival form *i-qi-jā*, e.g. KN Sd 0409, Sd 0413, Sd 0404, Sd 0402 etc.,² and in a compound noun *i-po-e-qe*, (e.g. Sd 0413), probably referring to a piece of equipment; possibly “harness-saddles”).³ The Indo-European form from which Classical Greek *hippos* descends has long been reconstructed as *ek̑u̯os* and the Greek reflex regarded as anomalous (we would expect *ep(p)os* to result through regular sound change):⁴ the Mycenaean evidence has done more to confuse the issue than clarify it. Given that a velar stop *k* followed by *u̯* was, in IE, distinct in articulation from the labiovelar consonant *kʷ* (as we can see from outcomes in other languages, e.g. Sanskrit and Lithuanian;⁵ see above) it is curious that the IE cluster *k̑u̯* (which would have become *kuy* in proto-Greek after “centum” merger) appears in Mycenaean as *i-po*. Merger of the phoneme *kʷ* and cluster /kuy/ to the extent that it was acceptable to write both using the same consonant series, *qV*, would explain the spelling:⁶ comparable is Ventris and Chadwick’s proposal that some Mycenaean words in *qe-rV*- are derivatives of *hēr* from an earlier *g̑ yer*-: e.g. *qe-ri-jo* for /kʰyērion/ > later Gk. *hērion* (KN Ag 1654).⁷

This interpretation, however, does not remove the difficulties of tracing the development to Classical Greek /-pp-/. Duhoux interprets the Mycenaean spelling as

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¹ Gallavotti, 1958: 76; Ventris & Chadwick, 1973: 210-211
² Ventris & Chadwick, 1973: 365-367
³ Ventris & Chadwick, 1973: 364-365, 516
⁴ Fortson, 2010: 268
⁵ Fortson, 2010: 55
⁶ Hooker, 1980: 53-54
⁷ Ventris & Chadwick, 1973: 81
representative of an intermediate stage /-kkʷ/-, whilst Meier-Brügger suggests /-kʷkʷ/- in the case of the latter the spelling <i-qo> would be in line with the convention of not representing geminate consonants, and /-pp/- would result by regular sound change (cf. *leikʷ- > Gk. leip-). Gallavotti ventures further into the realm of speculation and suggests that the labiovelar series had in fact taken on a plosive quality, resulting in the alternate spellings of a male personal name, <qe-re-qo-ta-o> and <pe-re-qo-ta>, on the same tablet; there is also an alternative spelling <i-po-po-qo-i> for /h)ippophorph⁷⁸⁰/ihi, horse-feeders. Palmer, on the other hand, refutes Gallavotti’s suggestion and prefers to ascribe the difference to assimilation, with the rarer form (<qe-re-qo-ta-o>) resulting from assimilation of the initial <pe> of <pe-re-qo-ta> under the influence of <qo>. He provides several other examples to support this interpretation, not just from Mycenaean Greek (e.g. <o-pe-qa>, PY Cn 570.2 and <o-qe-qa>, PY Cn 45.9) but from Latin (IE *penkʷe > Lat. quinque), a similar argument could be applied to <i-po-po-qo-i>, with the first p resulting from dissimilation under the influence of the -gʷ-. Palmer suggests <i-ku-wo-ipi> (KN V 280) as an alternative spelling of <i-qo> which proves that the <qV> series retained a labiovelar quality, but the tablet is problematic and Palmer’s assertion rests largely on unproven speculation about religious practices.

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1. Duhoux, 1984: 35
3. Ventris & Chadwick, 1973: 45
4. PY En 659; Gallavotti, 1958: 76-83
5. PY Fn 79; Palmer, 1980: 40
8. Hainsworth, 1968: 70-71
CHAPTER THREE
SYNCRETISM AND NOMINAL MORPHOLOGY

Nominal morphology is a subject of much disagreement, and in this section I will outline the difficulties of identifying inflectional endings in Mycenaean; however, taking one
tablet as an example I hope to show how it is possible to identify nominal endings and gain an impression of how the various declensional paradigms might have looked at this period.

Disagreements mainly concern the genitive, dative, locative, instrumental and ablative cases of the both the singular and the plural. In the dual, many Indo-Europeanists refuse to reconstruct IE endings due to the lack of comparative evidence;¹ Mycenaean has, however, had an impact on the study of the nominative and accusative endings.

**Identifying Case Endings**

As discussed previously, the nature of the Linear B script makes it extremely difficult to identify word-final consonants, as well as diphthongs and vowel length. As a consequence it is necessary to rely largely on comparative evidence when attempting to interpret Mycenaean inflectional endings, and to attempt to match reconstructed or later attested endings to the Linear B spellings.

An example of the difficulties caused by the script can be seen in the singular declension of the feminine ā-stems. Ventris and Chadwick provide a table of feminine ā-stem endings in Mycenaean:²

| Nom. | i-je-re-j | po-ti-nil-j | a | a |

¹ Fortson, 2010: 117; Meier-Brügger, 2003: 190; Sihler, 1995: 255
² Ventris & Chadwick, 1973: 83
The endings in the rightmost column are to be interpreted /-āl/, /-ān/, /-ās/ and /-āil/, despite all being represented by exactly the same phonemic symbols in the Linear B script. It is generally necessary to use context to identify case-endings. For example, the following sentence appears on the Pylos tablet Jn 310:

a-ke-re-wa | ka-ke-we | ta-ra-si-ja | e-ko-te

The first word is the name of a town: it appears on a list of nine towns elsewhere (PY CN 608, Vn 20)\(^1\) and with the allative suffix -de (PY Vn 20), indicating place to which; here it is probably locative in function. The second word, <ka-ke-we>, appears elsewhere at Pylos (Ma 365) and Knossos (Fh 386); another form of the same word, <ka-ke-wi>, appears on MY Oe 121, and a third form <ka-ke-u> is commonly attested (KN V 958, PY An 607 etc.). Taking into account the omission of final /-s/ we can assume that <ka-ke-u> is a nominative with an -eus ending, a highly productive suffix in Mycenaean: cf. Homeric λύκευς, smith, Il. 12. 295.\(^2\) With this in mind, <ka-ke-wi> is likely a dative λάκευ-ι,\(^3\) and <ka-ke-we> a nominative plural, λάκευ-ες.\(^4\) The final word <e-ko-te> is a derivative of ekhō, an

<table>
<thead>
<tr>
<th></th>
<th>ta-ra-si-j</th>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen.</td>
<td>i-je-re-j</td>
<td>a</td>
</tr>
<tr>
<td>Dat.</td>
<td>po-ti-ni-j</td>
<td>a</td>
</tr>
</tbody>
</table>

---

\(^1\) Ventris & Chadwick, 1973: 142
\(^2\) Ventris & Ventris & Chadwick, 1973: 549
\(^3\) -eũ- became classical Greek -ει, e.g. basileι; there is also a dative form ka-ke-we at Pylos, reflecting the alternative dative ending –ei: see below for a fuller discussion of this.
\(^4\) -eũ-es became classical Greek -εῖς, e.g. basileις
extremely well-attested verb in Mycenaean;¹ also common is the spelling <Co-te> for the ending /-ontes/. This word is most probably /ekʰ ontes/, having,² agreeing with /kʰ alkē̯-es/. The third word, <ta-ra-si-ja>, appears on several tablets and is linked either to later talasia, quantity distributed,³ or a proposed *talani-siā, derivative of talantos.⁴ Either way, it is clear that it cannot be the subject of the verb: although it is technically conceivable that <ka-ke-we> could be an accusative (showing the third declension dual accusative ending /-e/) and <ta-ra-si-ja> could represent any of the feminine ā-stem endings outlined above,⁵ it would make little sense to translate the sentence as ‘allotted amounts having two smiths’; consequently <ta-ra-si-ja> must be the object, and so represent an accusative ending /-ān/. If this interpretation is correct the sentence would also exhibit the usual SOV word order of most ancient Indo-European languages. Such processes of deduction are often necessary to extract meaning from ambiguous Linear B spellings.

¹ Ventris & Ventris & Chadwick, 1973: 542
² Ventris & Ventris & Chadwick, 1973: 88-89
³ Ventris & Ventris & Chadwick, 1973: 353
⁴ Palmer, 1963: 279
⁵ Classical talasia is a first declension (ā-stem) noun.
GENITIVES, INSTRUMENTALS, DATIVES AND LOCATIVES

In Indo-European the nominal system featured eight cases: nominative, vocative, accusative, genitive, dative, locative, instrumental and ablative. In classical Greek only five remained (the IE locative and instrumental syncretised with the dative, and the ablative with the genitive), with the loss of the dative lowering the number to four in Modern Greek. In Mycenaean, problems lie in determining what stage the process of syncretism had reached for each case. Nominative and accusative forms present few difficulties,\(^1\) but there is significant disagreement concerning to what extent the instrumental, dative and locative cases had syncretised with one another; there have even been suggestions that the ablative survived into Mycenaean.

SINGULAR

The Genitive Singular of the Masculine ā-Stems

The feminine ā-stems show the expected outcomes as far as the script allows us to judge (see below for a discussion of the dative plural); however, the masculine ā-stems pose problems. The classical Greek endings for the nominative and genitive singulars were /-ā/ and /-ās/, alternating with /-ē/ and /-ēs/ in Attic-Ionic: these are reliably explained as having descended from the Indo-European ā-stem endings *-ā and *-ās respectively (most probably reflexes of earlier *-eh₂-Ø and *-eh₂-s).\(^2\) In the masculine declension, however, the nominative is /-as/ and the genitive /-ō/,\(^3\) from earlier /-āo/ (e.g. Homeric Atreïdāo, II. 1.203).

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\(^3\) Written with the spurious diphthong -ou in classical Attic.
In the nominative, final /-s/ was introduced by analogy to the masculine o-stem ending /-o-s/ and thematic ending /-s/,
possibly because the /-s/ morpheme had been interpreted as characteristic of the masculine gender. Similarly, the nominative plural of the ā-stems, /-ai/, was formed by analogy to the o-stem declension in which the pronominal ending /-oi/ had replaced inherited IE *-ās (these changes had already happened in Mycenaean: the <rās> sign is used to represent the nominative plural, e.g. <di-pte-raš> for /dipʰtʰerai/). Given the level of interaction between o-stems and ā-stems it is not surprising that many thought the origin of /-āo/ must lie in analogy with the o-stems.

The development of the o-stem genitive singular from IE to Greek can be traced thus:

* -o-sjo > * o-hjo > * o-įjio > o-įjo > -o-o > -o

The masculine ā-stem genitive singular was thought to have developed in a similar manner after the o-stem ending was adopted by analogy:

* -a-sjo > * ā-hjo > * ā-įjio > *ā-įjo > ā-o

The evidence of Mycenaean Greek brought this reconstruction into question. The o-stem genitive singular is widely attested as <-Co-jo>, e.g. <te-o-jo> for /tʰeoio/, of the god (PY Eb 416 etc., cf. Homer II. 1.28). This ending is the expected outcome of IE *-osjo: near *i an original *s was first aspirated to *h (*-ohio) and then assimilated to /i/ (*-oi̯o > -ojo/) in

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1 We do not know whether this *-s was present in Mycenaean Greek, as word-final consonants are not generally represented; with the exception of the genitive singular, Ventris & Chadwick draw no distinction between the masculine and feminine paradigms in Mycenaean (1973: 83-84).
2 Rix, 1976: 132; Sihler, 1995: 274
3 Rix, 1976: 133
4 Ruigigh, 1967: 76
5 Mycenaean <-Co-jo>; Homeric -oio.
6 This sequence represents potential morphological forms depending on the form of the o-stem ending at the time in which the analogy was made; Sihler summarises popular opinion by saying that the analogy was made when the o-stem ending had developed to -o-j (1995: 274).
early Greek\(^1\) (the aspirate that resulted from the loss of intervocalic \(*-s\)- was later lost in all positions, but may still have been pronounced in Mycenae: \(<ke-re-\alpha\>\) for /skeleha/ < pre-Gk. \(*skelesa, legs,\) although \(<\alpha\>\) is not used consistently).\(^2\) The apparently analogous ā-stem ending might have been expected to appear as \(<-\alpha-jo\>\) on the Linear B tablets, but no such ending is attested: instead, the genitive singular ending of masculine ā-stem nouns is \(<-Ca-\alpha>\), interpreted phonemically as /-āo/. If it did indeed descend from an earlier \(*\alpha-jo\) after the o-stem ending, it would show the results of a sound change (loss of intervocalic /-j-/\) that had not yet affected the ending to which it is supposedly analogous. Sihler offers two explanations: first, that the original reconstruction is correct, but that intervocalic /-j-/ was lost earlier when preceded by a long vowel than a short vowel;\(^3\) second, that the singular form was altered first by analogy to the plural \(*-āhōn (later /-āōn/)\).\(^4\) Geiss, on the other hand, suggests that /-āo/ was the result of a pronominal ending \(*-so\) being introduced to the ā-stem declension, giving Greek \(*-āsō\) which would yield \(*-āho\) and then -āo by regular sound change;\(^5\) Hajnal compares this to Latin /-ārum/, from \(*-ā-sōm\).\(^6\) Unless further evidence is uncovered it seems unlikely that any agreement will be reached.

**Instrumental Singular**

Whether or not there was a separate ending for the instrumental and dative cases in the singular declensions remains a matter of debate. In the athematic declension, for example, the early IE singular instrumental ending was either \(*-h\)\(_1\) or \(*-eh\)\(_1\), which would give

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1. Rix, 1976: 80
2. PY Ta 641; Fortson, 2010: 254; Szemerényi, 1987c: 1318-1319
3. Also Szemerényi, 1987a: 1083
5. Geiss, 1956: 144; for a counter-argument see Szemerényi, 1987a: 1081-1083
6. Hajnal, 1995: 21
*-e and *-ē respectively in late IE, whilst the dative was *-ei. This dative ending survived into Mycenaean¹ (alternating with /-il/) as <Ce>. Given the fact that i-diphthongs and vowel length are not adequately marked in Linear B the endings /-i/ and /-ei/ could both appear as <Ce> in Mycenaean texts. As a result we cannot be certain that the dative and instrumental singulars had fully syncretised at this point in time.² For example, on PY Ta 641 Ventris and Chadwick interpret <e-me po-de>, describing a tripod, as a dative phrase with the original IE ending (i.e. /emei podei/, with one foot); but it could just as easily be an instrumental continuing the IE instrumental endings *-e or *-ē, although there is no way of knowing which of the two it would have been.³ Szemerényi considers the matter beyond doubt, maintaining that the presence of a plural instrumental guarantees the presence of a singular; though even he admits that the cases are only clearly distinguished in the plural.⁴ The Linear B script ensures that the matter is not likely to be settled.

The Dative and Locative Singulars

There is a degree of uncertainty about the dative-locative singular endings; the most frequently occurring ending is <Ce> but several examples of datives in <Ci> occur. Presumably these endings are the continuation of the IE dative, *-ei,⁵ and locative, *-i (the ending which governed the dative, locative and instrumental singular functions in the classical period continued the original locative ending *-i). Palmer suggests that dialect differences might be the cause of this as datives in <Ci> are more common at Mycenae,⁶

¹ Weiss, 2010: 106; fossilised forms survive into classical Greek, e.g. Di(w)eipilos, dear to Zeus (Colvin, 2007: 13).
² Colvin, 2007: 13; Horrocks, 2010: 12
³ Sihler, 1995: 250-252
⁴ Szemerényi, 1987b: 1244
⁵ It had been suggested that IE had an alternative athematic dative singular ending, *-ai, which was continued in Greek; it was the Mycenaean evidence that showed there was only one ending, *-ei (Morpurgo Davies, 1984: 77).
⁶ Palmer, 1963: 47
Hooker is of the opinion that the confusion between /-ei/ and /-i/ was symptomatic of the transfer from the old dative to the new dative-locative,¹ and if this is the case then the preponderance of /-i/ forms in Mycenae could be the result of an isogloss. On the other hand, Morpurgo Davies points out that one scribe writes both <-Ce> and <-Ci>, indicating that perhaps the difference was not dialectal.² Ruijgh describes the distribution of <-Ce> and <-Ci> as irregular,³ but Beekes attempts a more thorough analysis and notes that the <-Ci> ending is most frequently used for s-stem nouns, and that among the attested examples of such nouns those ending <-Ci> are proterodynamic;⁴ Hajnal agrees, arguing that <-Ci> was a proterodynamic athematic ending, whilst <-Ce> was hysterodynamic.⁵ It is unlikely that any agreement will be reached unless more conclusive evidence is unearthed.

¹ Hooker, 1980: 58
² Morpurgo Davies, 1966: 200
³ Ruijgh, 1967: 85-86
⁴ Beekes, 1985: 117-122
⁵ Hajnal, 1997: 105
### PLURAL

#### Dative, Locative and Instrumental Plurals

In all declensions, the original IE dative plural endings had been replaced by reflexes of the IE locative endings:

<table>
<thead>
<tr>
<th>Declension</th>
<th>Case</th>
<th>IE Ending</th>
<th>Expected Outcome$^1$</th>
<th>Mycenaean Representation</th>
<th>Mycenaean Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athematic</td>
<td>dat.</td>
<td>*-b$^h(y)os$</td>
<td>/-si/</td>
<td>-si</td>
<td>&lt;pa-si&gt;</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>*-su$^2$</td>
<td></td>
<td></td>
<td>/pansi/</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>*-b$^h$is</td>
<td>/-p$^h$i(s)/</td>
<td>-pi</td>
<td>&lt;po-pi&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/popp$^3$i$^3$</td>
</tr>
<tr>
<td>O-Stem</td>
<td>dat.</td>
<td>*-o-b$^h(y)os$</td>
<td>-oi-hi/</td>
<td>-Co-i</td>
<td>&lt;te-o-i&gt;</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>*-oi-su</td>
<td></td>
<td></td>
<td>/theoi(h)i/</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>*-oís</td>
<td>/-ois$^4$</td>
<td>-Co</td>
<td>&lt;e-re-pa-te-jo&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/elep$^b$anteiois/</td>
</tr>
<tr>
<td>Ā-Stem</td>
<td>dat.</td>
<td>*ā-b$^h(y)os$</td>
<td>/-ā-hi/</td>
<td>-Ca-i</td>
<td>&lt;a-ke-ti-ri-ja-i&gt;</td>
</tr>
<tr>
<td></td>
<td>loc.</td>
<td>*ā-su</td>
<td></td>
<td></td>
<td>/asketrijā(h)i/</td>
</tr>
<tr>
<td></td>
<td>instr.</td>
<td>*ā-b$^h$is</td>
<td>/-ā-p$^h$i(s)/</td>
<td>-Ca-pi</td>
<td>&lt;a-ni-ja-pi&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/(h)āniāp$^3$i/</td>
</tr>
</tbody>
</table>

In the thematic declension there is a clear distinction between the dative and instrumental plurals: the dative is represented by <-Co-i>, usually interpreted as /-oi(h)i/ but often disputed,$^5$ whilst the instrumental ending <-Co> must represent /-ois/ from IE *-ōís.$^6$ It has been argued that the dative-locative plural had syncretised with the instrumental, and that

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$^1$ Based on which cases syncretised and which sound changes took place between Indo-European and proto-Greek, i.e. devoicing of mediae aspiratae, intervocalic *-s- > -h-, etc..

$^2$ *-su is reconstructed to explain endings in Indo-Iranian and Balto-Slavic (Sihler, 1995: 253); Weiss ascribes the Greek forms in -si to analogy to the singular ending *-i (2010: 107).

$^3$ From pod-p$^h$i, by assimilation of d to p$^h$.

$^4$The initial vowel of IE *-ōís was shortened to -o- via Osthoff’s Law (Sihler, 1995: 263); whether this sound change occurred in Indo-European is undetermined (Fortson, 2010: 70-71) and Mycenaean, of course, conceals vowel length.

$^5$ Hooker, 1980: 55

$^6$ Hooker, 1980: 55
the spellings <-Co-i> and <-Co> were both representative of */oisi/ \(^1\) but many have rejected this interpretation.\(^2\) There are sporadic examples of <-Co-i> representing anı-diphthong: <ko-to-na> is apparently the same word as <ko-to-i-na>, both having been identified as */ktoina/ \(^3\). However, the fact that the thematic <-o> ending frequently agrees with the conspicuous athematic instrumental ending <-pi> (see below for examples) implies that two cases existed and the spellings were divergent in order to distinguish between the two.\(^4\) Ruijgh argues that <-o-i> cannot represent */oi(h)i/ because lost /s/ had already been restored in vowel-stems of the third declension (the IE athematic declension): he gives as an example <ka-ke-u-si>,\(^5\) but /khalkeu̯P/ appears elsewhere as a consonant stem.\(^6\) Regardless of this word’s suitability as evidence for such an assertion, intervocalic /s/ was restored by analogy, and analogical change can never be expected to be regular in the same way as sound change.\(^7\)

If the Mycenaean spelling <-Co-i> is to be read as */oihi/, the question remains of where the /-s-/ of later alphabetic spellings in */oisi/ originated.\(^8\) Rix and Sihler argue that the /-s-/ was analogically “restored”, taking as a model the /-s-/ of the consonant stems which, of course, had not been lost in the original sound change.\(^9\) In fact, before Mycenaean was deciphered these forms featuring aspirates had been postulated as the basis for later forms with an analogically restored /-s-/;\(^10\) Mycenaean proved that the intervocalic /s/ had been lost and restored rather than retained from the beginning.\(^11\) Both the instrumental and locative endings survived in various forms within various dialects: Attic showed both endings in

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\(^1\) E.g. Ruijgh, 1967: 73  
\(^2\) Colvin, 2007: 13; Morpurgo Davies, 1984: 97-98  
\(^3\) Ventris & Chadwick, 1973: 556  
\(^4\) Jones, 1958: 163  
\(^5\) Ruijgh, 1967: 77  
\(^6\) <Ka-ke-u> shows athematic endings in the Mycenaean corpus using the Linear B <-wV-> series; see above, ‘Establishing Case Endings’. Cf. inscriptional *basileios*.  
\(^7\) Jones, 1958: 173, n. 1  
\(^8\) Hooker, 1980: 55-56  
\(^9\) Rix, 1976: 130, 140-141, 157; Sihler, 1995: 263, 272  
\(^10\) Jones, 1958: 163-164  
\(^11\) Szemerényi, 1987c: 1317
inscriptions until the mid-fifth century BC whilst Pamphylian and Lesbian preserved /-oisi/. ¹
In the majority of dialects /-ois/ prevailed.²

The ā-stem ending was *ā-si in later IE, from an early IE *-eh₂- with the athematic ending *-si. Following the development of original intervocalic *-s- to *-h- in Greek the expected outcome is */-ā-hi/; the nominal ending */-Ca-i/> could indeed reflect this. In later Greek */-ais/ became standardised by analogy to */-ois/, with */-aisi/ and */-ēisi/ (Ionian) as variants created by analogy to */-ois/>.³ The ending */-aisi/ survived in Pamphylian and Lesbian Greek but became */-ais/ in the majority of dialects, including Arcado-Cypriot to which Mycenaean is most closely related.⁴

Although the dative and locative plural forms had syncretised by this point, there is evidence that they could still be used with a locatival function without prepositions: e.g. Pylos tablet Cn 608, which features a list of place names, some unmistakeably featuring reflexes of the IE locative endings in a context which makes it clear that they must be locatival (pigs are to be fattened at [location] e.g. */pa-ki-ja-si/>, cf. */pa-ki-ja-ne/> on PY Vn 19).⁵ In classical Greek such forms would require a preposition. Other forms suggested as continuing a locatival function include */we-te-i we-te-i/> from proto-Greek */yetos/ , year, on PY Es 644,⁶ but this could also be a fossilised form;⁷ a similar construction appears also in Sanskrit */dyávi-dyávi/>.⁸

¹ Sihler, 1995: 263
² Ruijgh, 1958: 97
³ Rix, 1976: 134
⁴ Ruijgh, 1958: 97
⁶ Horrocks, 1981: 130
⁷ Beekes, 1985: 117
⁸ Horrocks, 1981: 130
Instrumental Plurals

Of particular interest is the attestation of the instrumental plural ending /-pʰi(s)/, represented on the tablets as <-pi> for consonant stems and <-Ca-pi> for ā-stems (ultimately going back to an athematic IE suffix *-eh₂-). This is a direct continuation of the IE instrumental plural ending *-bʰi(s), through regular sound change of IE voiced aspirates to Greek unvoiced aspirates (cf. IE *bʰer- > Gk. pʰer-, to carry). In IE the ending was restricted to the athematic and ā-stem declensions, with the thematic stems having an instrumental plural ending *-ōis. In athematic nouns /-pʰi/ was ultimately replaced by the locative ending from IE *-su or *-si (later Greek /-sː/) through syncretism of the dative, locative and instrumental; the corresponding ā-stem ending has a complex history, but does not continue *-bʰi(s).

There are some survivals of /-pʰi/ in dialect inscriptions, but Morpurgo-Davies dismisses these as fossilised forms at best.¹ Homer provides more useful evidence in determining to what extent the instrumental plural was in regular use as a productive ending; its use appears to have been fairly arbitrary, with little consideration for the number or stem of the nouns to which it is attached. For example, a noun ḵpʰi appears repeatedly (Il. 1.38, Od. 18.156 etc.) and is apparently an instrumental from the athematic noun is, force, conveying the sense by force. Fortson points out that the noun is singular² (the plural usually carries the meaning sinews) and another word biēphi, from the singular biē, was created to the same pattern;³ the use of a plural ending is completely at odds with both the original IE

¹ Morpurgo Davies, 1969: 46-54
² Fortson, 2010: 261
³ Ruijgh, 1967: 83
morphology and established syncretism within Greek. Occasionally Homer attaches the */pʰi/* ending to o-stem nouns, e.g. *dakruópʰi,* with tears (Il. 17.696): the reconstructed IE */-bʰis/ does not feature in the thematic declension, in which the instrumental plural ending is */-óis/, and there are only three examples of this in Mycenaean Greek, all on the same tablet:2 <e-re-pa-te-jo-pi | o-mo-pi... e-re-pa-te-jo-pi>. Both these words appear to be o-stems and one is repeated, ruling out spelling error as an explanation for the discrepancy, but it has been suggested that they could be duals;3 IE reconstructions of dual inflectional morphemes are fraught with difficulties so it is not known whether or not */-bʰi(s)/ could have been used as a dual ending.4 In addition to this, the stem of <o-mo-pi/> has not been definitively identified.5 The Homeric texts also occasionally give */pʰi/* a locative meaning, e.g. órespʰi,* in the mountains (Il. 22.139) and possibly a genitive, although this is not certain6 (perhaps ósse *dakruópʰi* in térsono, both eyes became dry of tears, Od. 5.152). Occasionally it is used in conjunction with a preposition, e.g. ampʰi,* osteopʰi* (Od. 16. 145).7 Taking into account these examples it seems that the later oral poets used */pʰi/* as a stylistic archaism, a useful suffix that could be tacked onto any word when the metre required it and could take on the function of any oblique case but the accusative.8

In Mycenaean the situation appears to have been different. The ending */-pʰi/> is a plural ending limited to thematic and ā-stem nouns, with the exception (noted above) of tablet KN Se 1024+1006. The difference between instrumentals in the thematic and other declensions is particularly clear on the Ta series of tablets from Pylos. On Pylos tablet Ta

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1 Although it has been suggested that */pʰi/* already existed in Mycenaean as a component of personal names, e.g. *wi-pi-no-o* for */Ipʰi-no(h)os/, KN V 958 (Meier-Brügger, 2003: 197; Ventris & Chadwick, 1973: 591).
2 KN Se 1024+1006; Palmer, 1963: 49; Ventris & Chadwick, 1973: 369
3 Hajnal, 1995: 59-61
4 Waanders, 1997: 69; Rix, 1976: 117; Sihler suggests a suffix */-bʰi/* which was indifferent to number (1995: 248-249) and Mallory and Adams reconstruct */-bʰi-h₁/* as a dual ending (2006: 57).
5 Thompson, 1998: 243
6 Thompson, 1998: 225-226
7 Thompson, 1998: 220-224
8 Meissner, 2001: 180; Thompson, 1998: 219-220
714 a number of instrumental plural nouns and adjectives are governed by a participle from a previously unknown verb: \(<a\text{-}ja\text{-}me\text{-}na>\), which appears to mean *inlaid*. The objects being catalogued are footstools \(<ta\text{-}ra\text{-}nu>\) decorated with various images in ivory and gold. That the nouns are instrumental is clear from those with the easily recognisable case ending \(<-pi>\): e.g. \(<po\text{-}ni\text{-}ki\text{-}pi>\), identified as \(p^h\text{oinik}^h\text{i}/\), with \(p^h\text{oinik}^\text{-}\). However, the adjective which agrees with this noun (the two clearly belong together as they are separated from adjacent words by two instances of enclitic \(/-kwe/\) is \(<ku\text{-}ru\text{-}so\text{-}(qe)>\). In the context \(<ku\text{-}ru\text{-}so\>) must be a derivative of a word which would later be \(k^h\text{rusos}^\text{-}, \text{gold}^\text{-}\); the ending must be an instrumental plural to match \(<po\text{-}ni\text{-}ki\text{-}pi>\), and so can only be the reflex of the IE o-stem instrumental plural ending \(*\text{-}ō\text{is}^\text{-}\). This is repeated elsewhere: on PY Ta 714, \(<a\text{-}ja\text{-}me\text{-}no>\) governs three instrumentals in \(<-pi>\); although two of those examples have not been precisely identified (\(<ka\text{-}ru\text{-}pi>\) may be *nuts* or *flowers*, \(<ka\text{-}ra\text{-}a\text{-}pi>\) probably means *heads* but its form is problematic)\(^2\) their endings clearly show \(/-p^hi/\) and agree with \(<e\text{-}re\text{-}pa\text{-}te\text{-}ja\text{-}pi>\), easily identifiable as \(/e\text{lep}^h\text{anteiāp}^h\text{i}/\). Agreeing with these words are forms in \(<-Co>\); e.g. \(<e\text{-}re\text{-}pa\text{-}te\text{-}jo>\) and \(<re\text{-}wo\text{-}te\text{-}jo>\), again evidently representing the thematic instrumental plural \(-ō\text{is}^\text{-}\): therefore \(/e\text{lep}^h\text{anteiōi}^h\text{s}/\) and \(/le\text{wonteiōi}^h\text{s}/\), with ivory and with lions.\(^3\) Confusion of case function is an occasional feature of the tablets, however, as the instrumental plural ending is occasionally used for the locatival function: e.g. \(/Sp^h\text{agiāmp}^h\text{i}/\) for *at Spagianes*.\(^4\)

In the singular the situation is less clear. Ventris and Chadwick states simply that the instrumental and dative singulars had already syncretised in all declensions,\(^5\) but Chadwick is forced to acknowledge in the second edition of *Documents* that the ambiguity of the spellings

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1 Variousy translated as *palm-trees, griffins* (Fortson, 2010: 268), *date-palms* (Thompson, 2010: 194) or *purple* (Sihler, 1995: 252).
2 Fortson, 2010: 267-268
3 Ventris & Chadwick, 1973: 345-346
4 Pu-ki-ja-pi, PY Jn 829, Ma 221; Thompson, 2010: 197
5 Ventris & Chadwick, 1973: 83-86
means we cannot be certain this is the case.\textsuperscript{1} Among ā-stem nouns, for example, the IE endings for dative and instrumental were *-āi and *ā respectively; the inadequate representation of word-final diphthongs in /-i/ (as discussed previously) means that the Linear B spelling of both would be \textless -Ca\textgreater. To return to PY Ta 722, \textless po-ru-po-de(-qe)\textgreater and \textless ponike(-qe)\textgreater are said by Fortson to continue the IE athematic dative ending *-ei.\textsuperscript{2}

However, he himself reconstructs the early IE instrumental singular as *-h₁, a vocalised laryngeal which would yield /e/ in late IE and Greek through regular sound change (cf. \textit{thētos} < early IE *dhh₁-tō-), so these endings could be instrumental. Clackson provides *-eh₁\textsuperscript{3} which would give *ē in late IE and Greek through compensatory lengthening following the loss of a consonantal laryngeal (cf. \textit{e-thē-ka} < early IE *dheh₁-); also \textless -Ce\textgreater in Mycenaean.

**DUAL**

The nominative and accusative dual is attested in Mycenaean. The o-stem ending is \textless -Co\textgreater, presumably showing the expected ending /-ō/ from an earlier *-o-h₁.\textsuperscript{4} The masculine ā-stem nom./acc. dual is \textless -Ca-e\textgreater, phonemically /-āe/: there is still controversy over the IE reconstruction,\textsuperscript{5} but this ending may have come from an earlier *-eh₂-h₁, developing to /-ā-e/ by regular sound change. The feminine ā-stems surprised decipherers by appearing with the

\textsuperscript{1} Ventris & Chadwick, 1973: 400
\textsuperscript{2} Fortson, 2010: 267-268
\textsuperscript{3} Clackson, 2007: 92-93
\textsuperscript{4} Fortson, 2010: 128
\textsuperscript{5} Rix argues in favour of *-h₁ (1976: 159), and Greek e is the regular outcome of a vocalised laryngeal (cf. Gk \textit{thē-tos} < IE *dhh₁-tō-). Sihler disagrees as *-h₁ does not fit the Indo-Iranian evidence (1995: 256). Mallory and Adams provide *-h₁(e) (2006: 57).
ending <-Co> e.g. <to-pe-zo> for /torpedz-/ (PY Ta 715), rather than the long /-ā/ of both masculine and feminine first declension duals in later Attic. There is some disagreement over the origin and phonemic realisation of this ending.\(^1\) Rix interprets it as /-ā/ by analogy to the o-stem ending from *o-\(h\)_\(i\), which supplanted an original *-ai: but Szemerényi reconstructs an IE thematic ending *-oi and argues that Mycenaean continues this archaism.\(^2\)

It has been suggested that a dual dative or genitive ending appears in the Linear B corpus, spelt <-Ci\(i\)> and representing /-o\(i\)in/ (cf. later Att. -\(oi\));\(^3\) for example, the word <wa-na-so-i> has been presented as a dative dual.\(^4\) However, since these forms mirror the dative plural ending there is no way of ascertaining which of the two the scribe intended; in the case of <wa-na-so-i> the word could also be the dative plural of a place-name used with locatival function.\(^5\)

**A GREEK ABLATIVE?**

By the classical period the functions of the IE ablative had fallen together with those of the genitive in Greek, but it has been argued that a residual ablative survived into Mycenaean. There occasionally appears an ending <-Co> where, Morpurgo Davies argues, one would expect a genitive in /-o-\(jo\)/; she believes this is a reflex of the IE thematic ablative singular ending *-\(ōd\).\(^6\) Hooker suggests such spellings could be due to scribal error and gives several examples with final syllables in /-jo/ to illustrate how they could be confused with the

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\(^1\) Hooker, 1980: 52  
\(^2\) Szemerényi, 1987c: 1316; Szemerényi, 1996: 189-190  
\(^3\) According to Rix, from a proto-Greek o-stem ending *o\(j\)isin by analogy to dat.-loc. pl. *-o\(isi\) (1976: 135, 141); Sihler (1995: 265) and Fortson (2010: 128) argue that the evidence is too inconclusive to attempt an IE reconstruction.  
\(^4\) Palmer, 1963: 249  
\(^5\) Ventris & Chadwick, 1973: 478-479  
\(^6\) Morpurgo Davies, 1984: 82-83, 100
genitive ending -o-jo.\textsuperscript{1} It has been suggested that the instrumental plural ending /-p\textsuperscript{h}i/ appears in an ablative function in Mycenaean, contrasting with the locative ending /-si/\textsuperscript{2}, indicating a possible syncretism of the ablative and instrumental cases (contrasting with the usual Greek syncretism of ablative and genitive); Morpurgo Davies argues against this,\textsuperscript{3} but her use of evidence from Arcado-Cypriot to support her rebuttal of Ilievski’s claims brings the issue into question for those who do not accept Mycenaean as a direct “ancestor” of the Arcadian and Cypriot dialects.\textsuperscript{4} The fact that the ending /-p\textsuperscript{h}i/ is used with a locative function makes it difficult to establish from the context whether or not it is intended to be ablative elsewhere.

\textsuperscript{1} Hooker, 1980: 55
\textsuperscript{2} Ventris & Chadwick, 1973: 403
\textsuperscript{3} Morpurgo Davies, 1966: 197-202
\textsuperscript{4} Hainsworth, 1968: 69
TMESIS

Mycenaean has had controversial ramifications for the study of Homeric language, in particular the place of epic dialect in the wider context of the history of the Greek language and its relationship to contemporary spoken Greek. One particular aspect of Homeric language that was complicated by the decipherment of Linear B is the frequent use of tmesis. Given the prevalence of tmesis in Homer’s Iliad and Odyssey, it is perhaps not surprising that, once it had been established as representing the original state of affairs rather than an innovation, tmesis was regarded as an archaic feature still in use at the time of the poems’ construction. Once the Linear B tablets were deciphered and analysed, however, it became clear that in Greek verbs and preverbs had been used as unified words much earlier than had previously been supposed.

Tmesis, when encountered in texts such as Homer, is often thought by students of Greek to be a separation of a previously unified compound verb (a misconception no doubt encouraged by the name “tmesis” itself, related to Greek témnein, to cut). On the contrary, tmesis reflects a much earlier stage of the compound verb’s development. In Indo-European an independent particle (“preverb”) would have been used to modify a verb’s meaning;¹ in a similar way to that in which an adjective could be separated from its noun, preverbs stood independently from their verbs: e.g. ll. 3.142, katá dákru kʰéousa. As evidence to support this interpretation Watkins cites the example of cuneiform Hittite texts, in which preverbs appear as independent particles,² whilst in Old Avestan texts the adverbial particles was a

¹ Fortson, 2010: 154-55
² Watkins, 1967: 118
normal feature that was continued, with modifications, into Young Avestan.\(^1\) Archaic Latin texts show similar evidence, e.g. \textit{ob uōs sacrō}.\(^2\) In the majority of the daughter languages these preverbs became fused to the verb (e.g. classical Latin \textit{obsecrō}) and ceased to be a separate segment (the process of “univerbation”).

It is perhaps inaccurate to speak of “tmesis” with its implication of polarity (i.e. that the two components were either separate or together) when in fact the process of univerbation most likely involved the gradual standardisation of positioning the preverb directly before the verb: this eventually resulted in the two becoming so closely associated that the preverb could take no other position. As Chantraine observes, this preverb could not previously be described as either an adverb or a preposition;\(^3\) he goes on to state that in the Homeric texts these particles were still in the process of becoming adverbs or, through being associated with a particular grammatical case, prepositions.\(^4\) With the decipherment of Mycenaean came proof that this process had already been completed many centuries before the Homeric poems were recorded: preverbs are not generally marked as separate words (e.g. PY Aq 218, \textit{<a-na-ke-e>}, from later \textit{anagō})\(^5\) and do not appear in positions other than directly before their verb. One exception to this has been suggested: on PY Ae 134 and 108 \textit{o-pi... qe-to-ro-po-pi | o-ro-me-no>} may be an example of tmesis, but this interpretation is doubtful as \textit{o-pi> could be a preposition governing the instrumental.\(^6\) Certain particles had already become prepositions in that they were, as far as we can judge given the limitations of the script, linked to a particular case\(^7\) (although they were not yet indispensable as they would be in later Greek,

\(^{1}\) Fortson, 2010: 230  
\(^{2}\) Festus 206 L.; Fortson, 2010: 155  
\(^{3}\) Chantraine, 1953: 82  
\(^{4}\) Chantraine, 1953: 84  
\(^{5}\) Hajnal, 2004: 162  
\(^{6}\) Thompson, 2010: 197  
\(^{7}\) Horrocks, 1981: 12
e.g. use of independent locatives as outlined in the previous chapter.¹ For example, later *heneka* appears frequently on religious tablets with the genitive, as *<e-ne-ka>* (KN Am 821, PY Ae 303, etc.); *meta* and *ksun* are both attested, and *<pa-ro>* with the dative appears to carry an ablative meaning.²

The explanation for this could be that oral poetry preserved a syntactic archaism that had fallen out of everyday use centuries before; comparable is the evidence that the formulaic component *andreipʰõntēi* can scan only if a syllabic resonant is assumed, i.e. *anrpʰõntēi*; cf. Mycenaean *<a-no-qo-ta>*/*anorkʰontās/>, in which the development of a syllabic resonant to a vowel plus resonant is assumed³ (although it is important to distinguish between individual formulae and syntactically productive features such as tmesis). Alternatively, tmesis might have been preserved as a stylistic feature more appropriate to poetic composition than to palace records, but available for use by speakers and therefore acceptable as a feature of oral poetry;⁴ the fact that the augment was placed between verb and preverb implies that they were viewed as separate entities into the classical period and beyond.

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¹ Horrocks, 1981: 128-129  
² Palmer, 1963: 54-55  
³ Watkins, 1995: 384  
CONCLUSION

Mycenaean Greek can be rightly regarded as a “milestone” between Indo-European and classical Greek, and its decipherment has added much to our knowledge of Greek language development. Old opinions had to be reshaped and revised to accommodate the wealth of new evidence offered by the tablets: some were enhanced and some complicated, whilst others have little hope of finding general agreement.

The Linear B texts have been invaluable in broadening our knowledge of Greek language development, but present two major obstacles: the limited size of the corpus and the nature of the writing system. Many features of phonetics, grammar, word structure and lexicon are hidden by the Linear B script, with the result that opportunities for speculation are rife and many propositions are difficult to prove or disprove however far-fetched they may appear. Even where there has been a significant breakthrough, such as the attestation of the labiovelars, it is accompanied by further problems; in this case, the exact phonetic realisation of the syllabograms. Digamma appears largely as expected, but has still managed to scupper some widely-believed etymologies; the dative plurals appear as they were reconstructed, whilst masculine ā-stems present an awkward paradox. Such contradictions and complications may be an unfortunate characteristic of the Mycenaean corpus but they served to revitalise the study of Greek in the twentieth century, and continue to prompt discussion and debate in the twenty-first.

The nature of the surviving documents is problematic. Lists of commodities and brief notes concerning movements of goods and chattels require few verbal forms and have no

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1 Szemerényi, 1987c: 1315-1325
need of extended paragraphs of prose, let alone verse; the inscribed or painted jars feature only the names of men and towns.\textsuperscript{1} It is possible that longer documents such as letters may have been written in a less permanent medium than clay, and if any survived and were discovered many of the arguments presented in this thesis could perhaps be resolved. Until new evidence is uncovered it seems unlikely that any significant advances will be made; but all of these problems seem a small price to pay for the extraordinary insight we have gained into the lives and language of Mycenaean Greeks.

\textsuperscript{1} Hooker, 1980: 179-180
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