



**OBSERVATIONS ON THE PHONETIC STRUCTURE  
OF THE MINOAN LINEAR A SCRIPT**

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**1996**

- ADDENDUM -

1. The null and alternate hypotheses 4-6 listed on page 42, serve to define only three of the Sixteen Test Series described in this thesis. The first, Test Series Ten, specifically examines the distribution patterns generated by the *e*, *i* and *o*, *u* vowel groups within each of the three word categories. The second, Test Series Fifteen, compares the frequency distributions of homophones both between and within the different word categories. Finally, Test Series Sixteen, involves experimental values for several Linear A signs. The formulation of the null and alternate hypotheses 4-6, as applied to these three test series, is meant simply to convey that a comparison is effected between any two given items within the respective word category. Below is a detailed list of what each of the above null and alternate hypothesis involves :

**Null and Alternate Hypothesis 4 :**

	$H_{O4}$ : Linear A = Linear A
	$H_{A4}$ : Linear A $\neq$ Linear A
<b>Test Series Ten</b>	$H_{O4}$ : Linear A <i>e</i> series = Linear A <i>i</i> series
	$H_{A4}$ : Linear A <i>e</i> series $\neq$ Linear A <i>i</i> series
	$H_{O4}$ : Linear A <i>o</i> series = Linear A <i>u</i> series
	$H_{A4}$ : Linear A <i>o</i> series $\neq$ Linear A <i>u</i> series
<b>Test Series Fifteen</b>	$H_{O4}$ : Linear A <i>pa</i> = Linear A <i>pa</i> <sub>(3)</sub>
	$H_{A4}$ : Linear A <i>pa</i> $\neq$ Linear A <i>pa</i> <sub>(3)</sub>
	$H_{O4}$ : Linear A <i>pu</i> = Linear A <i>pu</i> <sub>(2)</sub>
	$H_{A4}$ : Linear A <i>pu</i> $\neq$ Linear A <i>pu</i> <sub>(2)</sub>
	$H_{O4}$ : Linear A <i>ra</i> = Linear A <i>ra</i> <sub>(2)</sub>
	$H_{A4}$ : Linear A <i>ra</i> $\neq$ Linear A <i>ra</i> <sub>(2)</sub>
	$H_{O4}$ : Linear A <i>ta</i> = Linear A <i>ta</i> <sub>(2)</sub>
	$H_{A4}$ : Linear A <i>ta</i> $\neq$ Linear A <i>ta</i> <sub>(2)</sub>
<b>Test Series Sixteen</b>	$H_{O4}$ : Linear A <i>L20</i> = Linear A <i>L32</i> (YA)
	$H_{A4}$ : Linear A <i>L20</i> $\neq$ Linear A <i>L32</i> (YA)
	$H_{O4}$ : Linear A <i>L41</i> = Linear A <i>L26</i> (NA)
	$H_{A4}$ : Linear A <i>L41</i> $\neq$ Linear A <i>L26</i> (NA)

$H_{O4}$  : Linear A L79 = Linear A L30 (DA)

$H_{A4}$  : Linear A L79  $\neq$  Linear A L30 (DA)

$H_{O4}$  : Linear A L80 = Linear A L52 (A)

$H_{A4}$  : Linear A L80  $\neq$  Linear A L52 (A)

$H_{O4}$  : Linear A L88 = Linear A L25 (NU)

$H_{A4}$  : Linear A L88  $\neq$  Linear A L25 (NU)

$H_{O4}$  : Linear A L65 = Linear A L68+L96 (YU)

$H_{A4}$  : Linear A L65  $\neq$  Linear A L68+L96 (YU)

**Null and Alternate Hypothesis 5 :**

$H_{O5}$  : non-Greek Linear B = non-Greek Linear B

$H_{A5}$  : non-Greek Linear B  $\neq$  non-Greek Linear B

**Test Series Ten**

$H_{O5}$  : non-Greek Linear B *e* series = non-Greek Linear B *i* series

$H_{A5}$  : non-Greek Linear B *e* series  $\neq$  non-Greek Linear B *i* series

$H_{O5}$  : non-Greek Linear B *o* series = non-Greek Linear B *u* series

$H_{A5}$  : non-Greek Linear B *o* series  $\neq$  non-Greek Linear B *u* series

**Test Series Fifteen**

$H_{O5}$  : non-Greek Linear B *pa* = non-Greek Linear B *pa*<sub>(3)</sub>

$H_{A5}$  : non-Greek Linear B *pa*  $\neq$  non-Greek Linear B *pa*<sub>(3)</sub>

$H_{O5}$  : non-Greek Linear B *pu* = non-Greek Linear B *pu*<sub>(2)</sub>

$H_{A5}$  : non-Greek Linear B *pu*  $\neq$  non-Greek Linear B *pu*<sub>(2)</sub>

$H_{O5}$  : non-Greek Linear B *ra* = non-Greek Linear B *ra*<sub>(2)</sub>

$H_{A5}$  : non-Greek Linear B *ra*  $\neq$  non-Greek Linear B *ra*<sub>(2)</sub>

$H_{O5}$  : non-Greek Linear B *ta* = non-Greek Linear B *ta*<sub>(2)</sub>

$H_{A5}$  : non-Greek Linear B *ta*  $\neq$  non-Greek Linear B *ta*<sub>(2)</sub>

**Null and Alternate Hypothesis 6 :**

$H_{O6}$  : Greek Linear B = Greek Linear B

$H_{A6}$  : Greek Linear B  $\neq$  Greek Linear B

**Test Series Ten**

$H_{O6}$  : Greek Linear B *e* series = Greek Linear B *i* series

$H_{A6}$  : Greek Linear B *e* series  $\neq$  Greek Linear B *i* series

$H_{O6}$  : Greek Linear B *o* series = Greek Linear B *u* series

$H_{A6}$  : Greek Linear B *o* series  $\neq$  Greek Linear B *u* series

**Test Series Fifteen**

$H_{O6}$  : Greek Linear B *pa* = Greek Linear B *pa*<sub>(3)</sub>

$H_{A6}$  : Greek Linear B *pa*  $\neq$  Greek Linear B *pa*<sub>(3)</sub>

$H_{O6}$  : Greek Linear B *pu* = Greek Linear B *pu*<sub>(2)</sub>

$H_{A6}$  : Greek Linear B *pu*  $\neq$  Greek Linear B *pu*<sub>(2)</sub>

for these syllables had been re-calculated accordingly and that these results are shown in brackets. Note that the graphs which are presented in the thesis for each of these syllables are based upon the original counts, whereas the chi square calculations for each syllable involve the re-calculated or bracketed figures. The latter have been derived by counting the (purely Greek) suffixes only once in each instance. These suffixes have also been entirely removed from the non-Greek Linear B words from Knossos. The omission or reduction of the specifically Greek usages for the syllables in question was essentially intended to level out the counts between the Linear A and B samples. It occurred to me that the sign L91, for example, might have a phonetic value approximating Linear B *qe*, but that<sup>i</sup> it may not possess the Greek sentence connective -q<sup>u</sup>e.

4. As is also stated in section 4a.2, the Linear A sign-groups are not organized or 'pooled' like the Greek Linear B material. Certainly it would have been desirable, perhaps even beneficial, to have done so, and the idea had in fact occurred to me at the outset of this project. However, I decided that it was unwarranted for a number of reasons. To begin with, Greek is a known language whereas the language(s) contained in the non-Greek Linear B and the Linear A material is unknown. Organizing the Linear A index along the same lines as the Greek Linear B index would have required some preconceptions or assumptions about the likely structure of the Linear A script and the language it expresses. By leaving the material in an 'as is' state we are in a position to actually test these assumptions. Moreover, our primary source for comparing and testing the Linear A sign distributions is the non-Greek Linear B material from Knossos, and this has likewise been left 'unedited', though ethnic adjectives derived from place-names otherwise attested in the corpus have been removed. Since we already have the name ko.no.so = Knossos recorded in the index,



$H_{O6}$  : Greek Linear B  $ra$  = Greek Linear B  $ra_{(2)}$

$H_{A6}$  : Greek Linear B  $ra \neq$  Greek Linear B  $ra_{(2)}$

$H_{O6}$  : Greek Linear B  $ta$  = Greek Linear B  $ta_{(2)}$

$H_{A6}$  : Greek Linear B  $ta \neq$  Greek Linear B  $ta_{(2)}$

2. Section 4a.2 describes the procedure according to which the lexical data has been organized. It will be recalled that the various inflections of a given Greek Linear B word have been combined or ‘pooled’ to form single entries. Generally speaking, the order for recording the inflectional patterns mirrors, as far as possible, the logical sequence found in any textbook dealing with Greek grammar. Thus, insofar as nouns and adjectives are concerned, the sequence is nominative, accusative, dative and genitive cases respectively. For verbs and adverbs the order is present, aorist, future, and imperative tenses, followed by participles and infinitives. It will be appreciated, however, that only the forms which appear in the inscriptions are in fact recorded. Consequently there is little control over which inflected form is ‘representative’, since this is largely dictated by the nature of the sample. Certainly, the nominative singular stands out as the most commonly encountered case ending for nouns and adjectives, while the present tense is arguably the most frequently attested verbal form. The Greek index is in fact designed to minimize unnecessary sign repetition primarily from word-stems, while enabling counts to be made for each inflectional and/or orthographic variation. The ordering of these variations is itself ultimately of little consequence since all examples are counted.

3. It was noted on page 52 that the accusative allative  $-\delta\epsilon$  accounts for 23 of the 39 counts for  $de$  in final position. A similar observation was made for the distribution of final  $pi$  on page 60 (where 32 out of 37 examples involve the instrumental suffix  $-\phi\iota$ ) and final  $qe$  on page 62 (where all the examples involve the sentence connective  $-q^ue$ ). It was also stated in each instance that the initial, medial and final distributions

for example, it seemed unnecessary to also add the *hellenized* adjectival forms ko.no.si.yo and ko.no.si.ya to the list. Note, however, that ethnic adjectives not otherwise attested as place-names have been retained in the index. Yet another factor in the decision not to 'pool' either the Linear A sign-groups or the non-Greek Linear B words is the fact that each of these indices contains less than half the number of words or lexical entries recorded in the modified Greek Linear B index. The Linear A and non-Greek Linear B entries were therefore left 'unedited' with a view to preserving the statistical viability of the samples.

5. Footnote 6 on page 41 requires some clarification. As stated there the Linear A sign-frequencies which supply the figures for the chi square tests in this thesis are not identical to those presented in Appendix IV, but are derived from the averages produced between the two Linear A distribution sets contained therein. For example, the I, M, F distributions for L52 (A) in the first set, which involves all the Linear A sign-groups as listed in Appendix III, are 76 (80.85%), 11 (11.70%) and 7 (7.45%) respectively. In the second set, however, which involves only the Haghia Triadha sign-groups, the count is 26 (86.67%), 2 (6.67%) and 2 (6.67%). The difference between the two sets is thus reconciled by utilizing the average yields derived from them, which in this case are 51 (82.25%), 6.5 (10.48%) and 4.5 (7.25%). Hence the fact that some of the observed absolute frequencies used in this thesis do not involve whole numbers. My intention here was to provide a 'corrective' factor against the occurrence of a number of repetitive sign-groups derived primarily from the religious inscriptions involving the so-called 'libation formula'. Certainly this process tends to bias the statistical data somewhat in favour of the Haghia Triadha material it is true, but then the Haghia Triadha corpus provides for just over half of the Linear A sign-groups cited in Appendix A in any case. Unfortunately, the use of averages means that

the frequency counts for several signs are considerably reduced, effectively locking them out of the chi square tests. It has, in fact, been brought to my attention that the use of percentages in the chi square goodness-of-fit test is generally not a valid practice, that the calculations should have instead utilized the absolute syllable counts since the summand  $(fo - fe)^2 / fe$  is not homogeneous in the  $f$  values. I believed (mistakenly, it turns out) that by converting to percentages I was actually making the summand  $(fo - fe)^2 / fe$  homogeneous in the  $f$  values, thus overcoming the problem of cells with counts below five. Since my reasoning here seems to have been faulty, the chi square estimates which utilize percentages in this thesis (all of which are already shown in brackets in the various tables) must unfortunately be viewed with some skepticism. I can only say in defense that the chi square procedure generally supports what we can already see in the graphs. Thus, while some modifications to parts of the statistical data presented in this thesis are necessary, I believe that the conclusions derived from this data are still valid. Certainly the entire procedure needs to be 'fine-tuned' somewhat.

7. With respect the 'experimental' values cited in Test Sixteen, I would also like to add that their application does yield several orthographic parallels both within the Linear A corpus and between Linear A and Knossian Linear B:

A.KA.NU.WE.L20 [	KN Zc 7	KU.PA <sup>3</sup> .WE.YA	HT 24a.1
		PA.SA.WE?.YA	HT 24a.4
].WA.L20	PS Za 2.3	A.TA.I.L88.WA.YA	IO Za 2.1; 2.2; 3; 4; 7; SY Za 1; PK Za 12.1; KO Za 1.1; TL Za 1.1
		A.NA.TI.L88.WA.YA [	IO Za 8
L41.RU.[	PH 2.3	na.ru	Mn
L79.TA.RA <sup>2</sup>	HT 84.1	DA.TA.RA	HT 6a.1; 9b.1?
L79.TA.RI.[	KH 90.2	DA.TA.RE	HT 62+73.2; 88.5
L79.TU.NE	HT 7b.1; 87.1; 117b.1	DA.TU	HT 123a.6
DA.L79.MI.NE	KN Zf 31:C	da.da.re.yo	Pn

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L80.DI.KI	PH 2.2	A.DI.KI.TE.TE.PI	PK Za 11.1; 12.1
L80.TI.KI?	HT 93a.6	A.TI.KI.TA.A	TY Zb 4
L80?.SA.RA <sup>2</sup>	HT 89.1	a.sa.ro	Mn
L80.SU.QA.RE	TL Za 1.1	A.SU.PU.WA	ARKH 2.5
L80.TE.YA	PK 1.4	a.te.yo	Mn
A.TA.I.L88.WA.YA	IO Za 2.1; 2.2; 3; 4; 7; SY Za 1; PK Za 12.1; KO Za 1.1; TL Za 1.1	A.TA?.NU.WI?.YA [	HT Zb 159
TE.L88	HT 8a.3; 98a.3	te.nu	Mn
A.L65.[.]NA.[	HT Zd 155	a.yu.ma.na.ke	Gd
DU.L65.A	HT 15.1	DU.YA	HT 7a.3
TE.L65	ZA 17.3	te.yo	Mn

As is apparent we now have three Linear A signs designating the pure vowel *a* - viz., A52, A35 and A80 - and this, in turn, suggests that other *a* and *i/e* series syllables, like those of the *u* series, were also written with more than one 'doppelgänger' or homophone. It is interesting to note in connection with this observation that another six 'untranscribed' Linear A signs - viz., A08, A09, A33, A37, A83, A'13 - involve apparent spelling alternations which lend considerable credence to the likelihood that Linear A not only has a third *a* series, but also a third *i/e* series :

L08.YU	HT 119.4	KA.YU	HT 88.3
SA.L09.RE	HT 29.4	SA.QE.RI	HT 11b.4
DA.RU.L33	HT 7b.2	DA.RU.NE [	HT 98b.2
U.L37.ZA	HT 10a.2, .3; 85a.3	U.DE.ZA	HT 122a.1, b.3
L83.TU.YA	HT 115b.3	YA.TU.YA	ZA 8a.2
L83.TU	HT 9a.2, b.3; 119.4; HT 122a.6	cf., A.TU	HT 87.5
YA.SA.SA.RA.L'13	IO Za 6.2, PS Za 2.3	YA.SA.SA.RA.ME	TL Za 1.2, IO Za 2.1, IO Za 12, KO Za 1.1

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Abstract: Ventris's decipherment of Linear B in 1952 raised hopes among both archaeologists and linguists alike that the earlier Linear A script would itself also soon be deciphered. Fundamental here, of course, was the observation that both scripts shared almost identical sign repertoires and that it was therefore a simple matter of "transferring" the established Linear B phonetic values to similarly shaped Linear A signs. The result has been a plethora of "decipherment theories", ranging from Louvo-Hittite to North-West Semitic, each of which necessarily contradicts the other. Not surprisingly, there has also been marked disagreement among "would-be decipherers" not only as to the total number of phonetic signs actually employed by the Linear A syllabary, but also regarding the identification of many individual Linear A signs actually employed by the Linear A syllabary, but also regarding the identification of many individual Linear A signs with those of Linear B. Significantly, each of these "decipherment theories" deals only with a relatively small portion of the extant Linear A material. None is "holistic" in scope. This "shortcoming" is itself partly due to the fact the Linear A inscriptions are comparatively scarce, often poorly preserved, and seldomly "neat" in appearance. The many inherent epigraphical and textual ambiguities, as well as the somewhat terse nature of many of the Linear A inscriptions, have made the Linear A script a tough nut to crack. Not only does Linear A remain "undeciphered", it appears that it is, in fact, "undecipherable". At the same time, it is widely maintained by scholars that the ascription of any phonetic values to Linear A (whether or not these are derived from Linear B) can only be substantiated by a "cogent" decipherment of the Linear A material. This means, of course, that there must be clear grammatical and syntactical structure according to the rules governing a known language. Since Linear A has not been deciphered, it follows also that the transference of the B values to Linear A has not been demonstrated. Indeed, the likelihood that Linear A is, for all intents and purposes, "undecipherable", further implies that the application of the B values to Linear A is, in effect, "unprovable". The present study is divided into two broad sections. The first introduces the many arguments for and against the application of the Linear B phonetic values to Linear A as determined by stylistic similarities between individual A and B signs. The second section is more ambitious in scope, and involves a detailed statistical analysis of the frequency distribution patterns generated by corresponding Linear A and B signs. The aim, of course, is to test, in lieu of a "cogent" decipherment, the premise that similarly shaped Linear A and B signs also share the same phonetic values. The results speak for themselves.



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**1996**

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**COURSE :** Master of Arts

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the university libraries, being available for photocopying and loan.

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## 1. PROBLEMS WITH THE DECIPHERMENT OF LINEAR A



1.1 "The Minoan scripts have served as a silk hat for anyone with a linguistic rabbit to produce. For the Cretan texts will yield translations in any language one chooses, and either of two devices will always work the trick. One of these is the identification of Minoan signs, on grounds of similarity of form, with signs of a known script, on the assumption that the values of the known signs can be taken over by the Minoan. The other is identification of the prototype of the sign, naming it in whatever language the decipherer proposes to read, and assigning a value, usually by acrophony."<sup>1</sup>

1.2 It is generally acknowledged by Mycenologists that the Linear B script was "modelled", either directly or indirectly, upon the earlier Minoan Linear A script. This, of course, is suggested not only by the geographical and chronological proximity of the two scripts, and their comparable cultural contexts, but also by their overall resemblance to one another. The numerous sign-forms common to both scripts has, not surprisingly, induced the widely held belief among would-be decipherers that established Linear B phonetic values and spelling conventions apply also to the Minoan script. Indeed, the application, whether wholly or partly, of the Linear B phonetic values to Linear A has been a fundamental premise of all Linear A decipherment theories. "Linear A", as one scholar puts it, "is gotten at only through transference of values from Linear B and by noting which characters have been lost, which newly invented, in moving from the Minoan to the Mycenaean script."<sup>2</sup> Linear A has, of course, been variously "deciphered" as Louvo-Hittite, proto-Greek, North-West Semitic, and even Indo-Iranian.<sup>3</sup> In the majority of cases,

<sup>1</sup> J.E. Henle, *A Study in Word Structure in Minoan Linear B*. (New York. 1953) :1

<sup>2</sup> T. G. Palaima, "The Development of the Mycenaean Writing System." *Texts, Tablets and Scribes: Studies in Mycenaean Epigraphy and Economy Offered to Emmett L. Bennett, Jr.* (Ed. J.P. Olivier & T.G. Palaima), *Minos Supp. 10* (1988) : 320

<sup>3</sup> For Luwian and Hittite interpretations, cf., L.R. Palmer, "Luwians and Linear A." *Transactions of the Philological Society* (1958) : 75-100, and "Linear A and the Anatolian languages" *Atti e Memorie del Primo Congresso Internazionale di Micenologia I* (Rome. 1968) : 339-54; also V.I. Georgiev, "L'etat actuel dechiffrement des textes en lineaire A", in the same volume, pp 355-382; and S. Davis, *The Decipherment of the Minoan Linear A and Pictographic Scripts*. (Johannesburg. 1967); for general considerations refer to G. Huxley, *Crete and the Luwians*. (Oxford. 1961) and "Crete and the Luwians : Some Problems Reconsidered." *BICS* 23 (1976) : 118; for proto-Greek and Thracian elements in Linear A, cf., G. Nagy, "Observations on the Sign-Grouping and Vocabulary of Linear A." *A.J.A* 69 (1965):295-330; and P.G. Van Soesbergen, "Thracian Personal, Ethnic and Topographic Names in Linear A and B." *Kadmos* 18 (1979) : 26-39; for Semitic interpretations, cf., C. H. Gordon, *Evidence for the Minoan Language*. (New Jersey. 1966); also J.G.P. Best, *Some Preliminary Remarks on the Decipherment of Linear A*. (Amsterdam. 1972); for Indo-Iranian

however, "decipherment" has usually entailed little more than comparative etymological guess-work, often involving only a few personal names and some basic vocabulary words, between Linear A and the languages in question : "no one", as D.W. Packard says, "has yet been able to interpret a significant portion of the Linear A corpus with reference to any known language."<sup>4</sup> Why the apparent failure ?

1.3 Certainly the greatest obstacle to decipherment has been the fact that, unlike Linear B, there are relatively few surviving Linear A inscriptions to begin with, and many of these are in such a poor state of preservation, or have been so carelessly draughted in the first place, that they are virtually illegible.<sup>5</sup> "With Linear A", as J.P. Goold and M. Pope have commented, "the paucity of material occasions considerable perplexity when one has to decide whether a given symbol is a variant of some known sign or a different sign altogether."<sup>6</sup> Indeed, not only has there been marked disagreement among scholars as to the total number of phonetic signs actually employed by the Linear A script to begin with (estimates range from between seventy to one hundred ten syllabic signs), there has also been some confusion regarding the identification of many individual Linear A signs with those of Linear B.<sup>7</sup> The many epigraphical and textual uncertainties are themselves

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interpretations see R. Kamm, "Über die Bruchzahlen der Linear A-Schrift" *Orbis 14* (1965a) : 546-559; "Eine statistische Grundanalyse der minoischen Linear-A-Schrift" *Orbis 14* (1965b) : 237-249; "Über den Lautstand der minoischen Linear A-Schrift an Hand einiger Ritualtext- und Hagia Triada-Wörter" *Orbis 14* (1965c) : 410-432; "Beweise für phonetisch-sibyllischen Charakter der kretisch-mykenischen Linearschriften" *Orbis 15* (1966) : 541-558; "Systematik der Hagia Triada-Ideogramme und -Ligaturen" *Minos 8* : 130-148; and "The World of the Hagia Triada Tablets" *Orbis 16* : 242-268

<sup>4</sup> D.W. Packard, *Minoan Linear A*. (University of California Press. 1974) : 29

<sup>5</sup> The Linear A corpus comprises, at last count (cf., F. Vandenabeele, "La Chronologie des Documents en Lineaire A." *BCH 109* (1985) : 3-20), of only some 1,427 individual documents - ranging in both type (from clay labels and tablets to wall graffiti and religious texts), and date (from at least c. 1900 B.C., to c. 1425 B.C.) - collected from some thirty Minoan sites. Consequently, the number of contemporary Linear A inscriptions from any one given site is generally small. Certainly the largest single hoard of Linear A texts discovered to date are those from the neopalatial site of Hagia Triadha, where some 150 clay tablets, the economic records of three separate establishments, form the nucleus of the collection. We have only to compare these figures to the 3,000 and 1,200 Linear B documents found respectively at Knossos and Pylos, in order to fully appreciate how despairingly little Linear A has actually survived.

<sup>6</sup> G.P. Goold & M. Pope, *Preliminary Investigations into the Cretan Linear A Script*. (Cape Town. 1955): pg (vi)

<sup>7</sup> The Linear A sign L100, to name but one example, is variously equated by some scholars with Linear B \*52 (*no*) and by others with \*28 (*i*), since it resembles both these signs in shape. cf., also M. Pope & J. Raison, "Les Variantes du Signe L100 du Lineaire A." *Kadmos 16* (1977) : 16-23, where it is proposed that L100 is in fact two distinct signs, viz., L100a and L100b, corresponding to Linear B \*52 and \*28 respectively.

A01		L29		L56		L79		L101	
A02		L30		L57		L80		L102	
A03		L31		L58		L81		L102'	
A04		L32		L59		L81'		L103	
A06		L33		L60		L82		L109	
A07		L34		L61		L83		L110	
A08		L35		L62		L84		L111	
A09		L36		L63		L85		L113	
A10		L37		L64		L86		L114	
A11		L39		L65		L87		L115	
A12		L41		L66		L88		L117	
A13		L42		L67		L89		L120	
A14		L43		L68		L90		L122	
A15		L44		L69		L91		L125	
A16		L45		L70		L92		L126	
A20		L48		L71		L93		L'01	
A21		L48'		L72		L94		L'06	
A22		L49		L74		L95		L'07	
A23		L51		L75		L96		L'08	
A24		L52		L75'		L97		L'09	
A25		L52'		L75''		L98		L'10	
A26		L53		L76		L99		L'11	
A27		L54		L77		L99'		L'12	
A28		L55		L78		L100		L'13	

Fig (1a) : Signary of the Principal Linear A Symbols

compounded by the somewhat limited range of apparent vocabulary items actually recorded on most Linear A inscriptions. "The Minoan record-keepers," says T.G. Palaima, "used clay tablets to record very basic and condensed kinds of information, resorting to full phonetic writing only to the most minimal degree."<sup>8</sup> Indeed, the bulk of our extant Linear A vocabulary appears to consist primarily of proper names, and is consequently of little value as a potential aid for decipherment.<sup>9</sup> Certainly evidence of a purely morphological or syntactical nature, the primary criteria for identifying any given language, has been difficult to demonstrate, or rather to substantiate, in Linear A: "there are", as L.R. Palmer says, "few intelligible sentences" in the entire corpus.<sup>10</sup> Needless to say, attempts at soliciting such evidence have failed to convince.<sup>11</sup> The situation is, of course, exacerbated by the very ambiguous nature of the Linear B spelling-rules which "make it possible to find plausible 'yields' in several languages."<sup>12</sup> The possibility that the Linear A inscriptions may not in fact constitute a homogeneous linguistic group must also be reckoned with.<sup>13</sup>

<sup>8</sup> T.G. Palaima, *op cit* : 324

<sup>9</sup> cf., G.P. Goold & M. Pope, *Preliminary Investigations into the Cretan Linear A Script*. (Cape Town. 1955): pg (iv), : "In the Haghia Triada material there are tablets which consist of nothing but ideograms and numerals, and the utility of the ideogram does not seem to have been questioned even in the Mycenaean age. Indeed, if the passage of the Odyssey (XIX, 175) refers to the conditions of the bronze age, and if Crete was then a multi-lingual area, ideograms would probably have represented the best means of recording commercial transactions. But however useful for commodities, ideograms cannot express the complexity of proper names. It is possible that the phonogram was invented to meet this need, and that the writing of proper names was still almost all that it was used for in Linear A. In this case a decipherment of the language cannot be carried very far, though research would not be entirely fruitless. Proper names can tell something, especially if they decline."

<sup>10</sup> L.R. Palmer (1968) : 347

<sup>11</sup> Perhaps the most notable of these attempts is Palmer's Luwian decipherment of the so-called "libation formula", cf., [supra n.3]. For problems associated with Palmer's interpretation see M. Pope, "The Minoan Goddess ASASARA - an Obituary", *BICS* 8 (1961) : 29-31; also G.R. Hart, "The Hittite and Luwian Decipherment Theories" *BICS* 21 (1974) : 166-67; for a general criticism of the Semitic decipherment theories, see M. Pope, "The Linear A Question." *Antiquity* 32 (1958) : 97-99; and W.G. Lambert, "The Semitic Decipherment Theory", *BICS* 21 (1974) : 166

<sup>12</sup> D.W. Packard, *op cit* : 28-29

<sup>13</sup> "The religious inscriptions," as Packard (*ibid* : 23) notes, "have little in common with the commercial documents", though it is possible that fundamental differences "between commercial and religious vocabulary" are ultimately to blame "for this lack of common sign-groups."

## 2. THE ORIGINS OF THE LINEAR B SCRIPT

2.1 "It is becoming increasingly apparent that the difference between the Linear A and the Linear B scripts is a serious one; not a matter of gradual development, nor of an elegant variation, but of a radical adaptation of the old to the new; or perhaps even a new construction following roughly an older model. The language also, and the names appearing on the accounts, are clearly different, and where the same sign is used in both Linear A and B there is no guarantee that the same value is assigned to it. At the same time the affinity of Knossos in LM II in script and methods of book-keeping is clearly shown to be with the Mycenaean mainland rather than with the rest of Crete. Is it possible that we should speak of the Minoan Linear Script and the Mycenaean Linear Script rather than of Minoan Linear A and B? We cannot be sure where Linear B was created, or when, but it need not have been at Knossos. Yet it is clearly longer and more widely known in the Mycenaean than in the Minoan civilisation, and so might well deserve a new and distinctive name."<sup>1</sup>

2.2 The origin and development of Linear B is, of course, a key issue for the decipherment of Linear A since the longer the time difference between the two scripts the greater their presumed phonetic and structural differences. There is, however, little agreement among Mycenologists as to when or where the Linear B script was first created. Suggested dates range from c.1600 B.C. (ie., MMIII) to c.1425 B.C. (ie., LMII), while probable locations likewise vary from Crete, to the Greek Mainland, and even the Cyclades.<sup>2</sup> The consensus of scholarly opinion has, however, traditionally favoured the view that Linear B was created on the Greek Mainland where it underwent a long process of independent and localised development. Indeed, as early as 1935, Arthur Evans had already concluded that, though Linear B "illustrates in many of its features a more developed stage in the Art of Writing, it cannot be regarded as simply a later outgrowth of A", claiming that many Linear B signs appeared to be of a more advanced or elaborate design in comparison to their assumed Linear A counterparts.<sup>3</sup> Evans further asserted that

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<sup>1</sup> E.L. Bennett (1953), quoted by M. Ventris & J. Chadwick, *Documents in Mycenaean Greek*. (Second and Revised Edition. Cambridge. 1973) : 37

<sup>2</sup> cf., J.T. Hooker, *The Origin of the Linear B Script. Minos Supplement 8* (Salamanca. 1979); J.-P. Olivier, "L'origine de l'écriture lineaire B" *SMEA 20* (1979): 43-52; A. Heubeck, "L'origine della lineare B", *SMEA 23* (1982) : 195-207; cf., also T. G. Palaima [*op cit loc*]

<sup>3</sup> A.J. Evans, *The Palace of Minos IV*. (Oxford. 1935) : 683

several Linear B signs actually stood "in a nearer relation to the pictorial prototypes" of the so-called Hieroglyphic or Pictographic script of the Old Palace period, suggesting the possibility that both Linear A and B were ultimately derived from this common source.<sup>4</sup>

An early palaeographical study by M. Pope likewise favoured an early date for the (mainland) creation of Linear B.<sup>5</sup> According to Pope the Linear A from the LM IB site at Haghia Triadha, which he characterises as "more economic of line, less curvaceous, and in many cases specifically different" stylistically from Linear B, "is an unsuitable parent" for the Mycenaean script.<sup>6</sup> Instead Pope's analysis led him to conclude that the closest parallels to Linear B sign-forms were found in the Linear A inscriptions painted on the insides of two clay cups, discovered by Evans in the Area of the Monolithic Pillars at Knossos (KN Zc 6 and 7) and dated by him to MM IIIA.<sup>7</sup>

**2.3** Supposed structural differences between Linear A and B, often cited as evidence for the early differentiation of the two scripts, include the apparent lack in Linear A of "double writing" (that is, ideograms complemented with phonetic signs which spell the name of the object depicted); the occurrence in Linear A of retrograde writing; the absence in Linear A of rule-lines; and the Linear A practice of splitting entries from one line to the next. It has also been claimed as significant that some 80% of the Linear A ideograms, including almost the entire Linear A fractional and ligaturing systems, all vital elements of the Minoan accounting system, were eliminated in Linear B.<sup>8</sup> Insofar as the apparent phonetic differences between the two scripts are concerned, Ventris and Chadwick, for example, have claimed that only "forty-five" of "the eighty-seven known syllabic signs on Mycenaean tablets ... have close equivalents in Linear A, while ten have more doubtful parallels; leaving twenty-nine Mycenaean signs (or exactly a third) as apparent innovations. The last category", they add "includes many of the rarer signs, and in a

<sup>4</sup> *ibid* : 683

<sup>5</sup> M. Pope, "The Date of Linear B." *Kretika Chronika 15-16* (1961) : 310-319

<sup>6</sup> *ibid* : 311ff

<sup>7</sup> *ibid* : 311-314, figs. 1 and 2

<sup>8</sup> cf., T.G. Palaima, *op cit* : 323ff



B01		da	B25		ha	B49		?	B72		pe
B02		ro	B26		ru	B50		pu	B73		mi
B03		pa	B27		re	B51		du	B74		ze
B04		te	B28		i	B52		no	B75		we
B05		to	B29		pu(2)	B53		ri	B76		ra(2)
B06		na	B30		ni	B54		wa	B77		ka
B07		di	B31		sa	B55		nu	B78		qe
B08		a	B32		qo	B56		pa(3)	B79		zu
B09		se	B33		ra(3)	B57		ya	B80		ma
B10		u	B34		ai(2)	B58		su	B81		ku
B11		po	B35		ai(2)	B59		ta	B82		yai?
B12		so	B36		yo	B60		ra	B83		dwo
B13		me	B37		ti	B61		o	B84		?
B14		do	B38		e	B62		pte	B85		au
B15		mo	B39		pi	B63		?	B86		?
B16		qa	B40		wi	B64		swi	B87		?
B17		za	B41		si	B65		yu	B89		?
B18		?	B42		wo	B66		ta(2)	B90		dwo
B19		?	B43		ai	B66a		two			
B20		zo	B44		ke	B67		ki			
B21		qi	B45		de	B68		ro(2)			
B22		?	B46		ye	B69		tu			
B23		mu	B47		?	B70		ko			
B24		ne	B48		nwa	B71		dwe			

Fig. (1b) : Signary of the Principal Linear B Symbols and their Phonetic Values

Source

comparison of running texts the proportion of divergent signs may be as little as 15 per cent."<sup>9</sup> The likely motive behind the invention of new signs was, of course, to accommodate those "Greek syllables whose vowel or consonant sounds had no equivalent in 'Minoan' ... Thus", continue Ventris and Chadwick, "for the syllables expressing the Greek labio-velar sounds *q*" and *g*", which we might expect to be foreign to 'Minoan', we admittedly have innovations in [\*21] *qi* and [\*32] *qo*, but [\*78] *qe* is a frequent sign at Ayia Triada; [\*15] *mo* and possibly [\*13] *me* are new, but [\*80] *ma* and [\*73] *mi* are not; and so on. Such an explanation", they conclude, "of the need for innovation might presuppose that the value of the existing Linear A signs had suffered a wholesale re-shuffling in the process."<sup>10</sup> A comparison of the Linear A and B signaries by J.G.P. Best, for example, led that scholar also to conclude that "at the most twenty-four new signs with vowels were created in Linear B, with the increase of signs with *e* and *o* as a particularly striking feature."<sup>11</sup>

2.4 "For such a view of the [MM III] origin of Linear B, there are," says S. Dow, "two difficulties. It has to assume that Linear B writing was used on the Mainland for perhaps three centuries (1600-1300) without leaving one trace. There is also the difficulty of imagining why illiterate Mainland rulers would go to the vast trouble of importing administrators and scribes to create a new system of writing, so as to use it for administrative procedures that they can hardly have known much about."<sup>12</sup> Indeed, a recent re-appraisal of the palaeographical evidence by T.G. Palaima convincingly argues against the supposed MM III origin of Linear B : "The [epigraphical] trend", says Palaima, "is for sign forms in Linear A to develop from MM III through LM IB *in the direction of Linear B*. One does not arrive at the end of the Minoan palace period with a Linear A that

<sup>9</sup> M. Ventris and J. Chadwick *op cit* : 39

<sup>10</sup> *ibid* : 39

<sup>11</sup> J.G.P. Best, *op cit* : 10

<sup>12</sup> S. Dow, "The Linear Scripts and the Tablets as Historical Documents. Part (a) : Literacy in Minoan and Mycenaean Lands," *History of the Middle East and the Aegean Region c. 1800-1380 B.C. Cambridge Ancient History. Vol.2.1.* (Third Edition. Cambridge University Press. 1980) : 602

is an exact formal equivalent of our datable Linear B. Nor", he adds, "should one expect this. After all," continues Palaima, "Linear B is an adaptation of the Minoan script and, as such, undoubtedly would have been modelled upon the ideal characters of its predecessor, ie., the standard forms of signs used to teach the art of writing, purer forms unadulterated by the modifications brought about by habitual use."<sup>13</sup> Though Palaima concedes that "there is a noticeable development" in what he designates "the information recording and retrieval techniques and capabilities on clay records moving from MM II (Hieroglyphic and Linear A) to LM IB (Linear A) and then onto the Mycenaean IIIB period (Linear B)", he also adds that the overall differences between the two scripts are not nearly as extreme as has traditionally been asserted.<sup>14</sup> He suggests, for example, that differences in the Linear A and B ideographic repertoires ultimately reflect the "different record-keeping interests and concerns" of centres of different rank within the Minoan-Mycenaean settlement hierarchy.<sup>15</sup> At the same time, Palaima views the "invention of generic ideograms" by Mycenaean scribes purely as a "response to the need to record new subjects", and rare Linear A ideograms are likewise explained as local scribal innovations.<sup>16</sup> The greater use of ligaturing in the Linear A system, on the other hand, is said to be a characteristic feature of the "extremely abbreviated" nature of Linear A documents as a whole, while the replacement of the Minoan fractional system by the Mycenaean system of weights and measures is down-played as "an adaptation of script to a different system of measurement."<sup>17</sup> Of particular note is the fact that Palaima brings the number of Linear B phonograms with no apparent Linear B parallels down to sixteen: "The other unparalleled Linear B signs", says Palaima, "with the exception of \*12 (*so*), \*14 (*do*), \*15 (*mo*), \*32 (*go*) and \*72 (*pe*) of the presumably weakly represented Linear A *e*- and *o*- series, are either doublet or complex signs ... or rare signs to which no values have been assigned and

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<sup>13</sup> T.G. Palaima, *op cit* : 309

<sup>14</sup> *ibid* : 331

<sup>15</sup> *ibid* : 325ff

<sup>16</sup> *ibid* : 328ff

<sup>17</sup> *ibid* : 328

which are often used in the Knossos tablets in transcribing apparent Minoan personal and place names, eg., \*18, \*19, \*63, \*64, \*83, \*84."<sup>18</sup> At the other end of the scale, Palaima claims that only sixteen of the approximately one hundred and ten Linear A phonetic signs were dispensed with in Linear B, these being "generally of rare and occasionally isolated occurrence ... Several are seen to function as monograms or logograms in the texts where they are found."<sup>19</sup> These observations lead Palaima to conclude that "the adjustment in the phonetic repertory moving from Linear A to Linear B is not so extreme."<sup>20</sup> Elsewhere, Palaima reiterates that "there are no compelling reasons (palaeographical, phonological or structural) for dating the origin of the Linear B scripts to MM III or for viewing Linear B as anything other than a transformation of the Linear A writing system in its most advanced stage (LM IB)."<sup>21</sup>

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<sup>18</sup> *ibid* : 322

<sup>19</sup> *ibid* : 323

<sup>20</sup> *ibid* : 323

<sup>21</sup> *ibid* : 323

### 3. THE APPLICATION OF THE LINEAR B PHONETIC VALUES TO LINEAR A

#### 3a. General Considerations

**3a.1** "Implicit in any direct transference of phonetic values from Linear B to Linear A is the assumption that the two scripts distinguish the same set of vowels and consonants. It is remarkable that this assumption has been made so readily, but once explicit its vulnerability becomes obvious. The Greeks, even if they wanted to copy the Linear A syllabary, may have been prevented from doing so by severe phonological incompatibilities." <sup>1</sup>

**3a.2** As Table (1) on page (12) illustrates, some fifty-six of the sixty-one principal Linear B phonetic signs can be assigned plausible Linear A counterparts on the basis of similarity of shape.<sup>2</sup> That identity in sign:shape also implies a corresponding identity in phonetic value is, of course, another matter - "such an identity", claim Ventris and Chadwick, "could only be proved by a cogent decipherment" of the Linear A material, "which," they add, "in view of our complete ignorance of the "Minoan" language is probably impossible."<sup>3</sup> Since Linear A is, for all intents and purposes, "undecipherable", it follows also that the application of the Linear B phonetic values and spelling conventions to Linear A is still largely a matter of conjecture. Indeed, some scholars have expressed serious reservations as to whether the Linear A writing system is even phonetically motivated in the first place, let alone that it involves a syllabary. W.C. Brice, for example, argues that "under close examination and with cross-referencing within the corpus, the [Linear A] sign-groups tend to disintegrate, and the apparent distinction between ideograms and phonetic signs no longer holds valid. A few signs," he adds, "... appear to be

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<sup>1</sup> D.W. Packard, "Computer Techniques in the Study of the Minoan Linear Script A", *Kadmos* 10 (1971): 57-58

<sup>2</sup> The Linear A and B sign correspondences cited in Table (1) involve several identifications which are not recognised by Palaima, viz., I (A100/B28), DO (A101/B14), SO (A07/B12), QO (A12/B32), and PE (A90/B72), but which are variously cited by other authors, cf., G.P. Goold & M. Pope, (1955) : 24; M. Ventris and J. Chadwick, (1973) : 33, Fig. 6; D.W. Packard (1974) : 66, n. 3. As is also apparent the Linear A and B signs are here designated by their more familiar L (=A) and B series numbers in order primarily to maintain some distinction between the two scripts.

<sup>3</sup> M. Ventris & J. Chadwick, *op cit* : 32

	A	E	I	O	U
Vowels	A52/B08	A447/B38	A1007/B28	A877/B61	A97/B10
D-	A30/B01	A102/B45	A51/B07	A1017/B14	A93/B51
K-	A29/B77	A24/B44	A103/B67	A45/B70	A98/B81
M-	A95/B80	A847/B13	A76/B73	? /B15	A277/B23
N-	A26/B06	A61/B24	A60/B30	? /B52	A25/B55
P-	A02/B03	A907/B72	A56/B39	A217/B11	A64/B50
Q-	A62/B16	A91/B78	A487/B21	A127/B32	
R-	A53/B60	A54/B27	A727/B53	A22/B02	A55/B26
S-	A31/B31	A77/B09	A577/B41	A077/B12	A59/B58
T-	A74/B59	A92/B04	A78/B37	A397/B05	A067/B69
W-	A75/B54	A94/B75	A287/B40	? /B42	
Y-	A32/B57	A817/B46		? /B36	A967/B65
Z-	A23/B17	A16/B74		A107/B20	? /B79

Table (1) : Phonetic grid showing corresponding Linear A and B signs.

always parasitical (perhaps as phonetic complements) but these are in a small minority."<sup>4</sup> Brice, of course, likens both the form and structure of certain Linear A tablets from Haghia Triadha to the account archives from Susa written in the much earlier (c.3200 B.C.), and predominantly ideographic, Proto-Elamite script.<sup>5</sup> "Clearly," says Brice, "in view of the discrepancy of space and time, it would be absurd to postulate any direct link between the writing systems of early Susa and of Haghia Triada : but both may belong to a common

<sup>4</sup> W.C. Brice, "The Writing System of Linear A", *BICS* 15 (1967a) : 105

<sup>5</sup> cf., W.C. Brice, "The Writing System of the Proto-Elamite Account Tablets of Susa." *Bulletin of the John Reynolds Library* 45 (1962) : 15-39; "A Comparison of the Account Tablets of Susa in the Proto-Elamite Script with those of Hagia Triada in Linear A." *Kadmos* 2 (1963) : 27-38; "The Structure of Linear A, with some Proto-Elamite and Proto-Indic Comparisons." *Europa. Festschrift für Ernst Grumach* (Ed. W.C. Brice. Berlin. 1967b); P. Meriggi, "Comparaison des Systemes Ideographiques Mino-Mycenien et Proto-Elamique", *Minos* VI. 11-12 (1972) : 9-17; and M.W. Stolper, "Proto-Elamite Texts from Tall-i Malyan", *Kadmos* 24 (1985) : 1-12

substratum of fundamentally ideographic writing which was early replaced by essentially phonetic systems in Egypt and Mesopotamia, but which continued in use until well into the second millennium B.C., in the Indus valley and in part at least of Crete."<sup>6</sup>

### 3b. The Classical Cypriot Syllabary

**3b.1** "The presence of Cypro-Minoan at Enkomi as early as 1500 B.C., at least a century before the earliest Linear B at Knossos, suggests that some form of Linear A rather than Linear B is the ancestor of the Cypriot scripts ... If so, the Classical Cypriot Syllabary may represent a separate line of descent from Linear A, and may therefore contain evidence independent from Linear B for the structure and phonetic values of Linear A."<sup>7</sup>

**3b.2** That at least some Linear A signs may have had the same or similar phonetic values as their assumed Linear B counterparts is tentatively suggested by the few archaic and classical Cypriot syllabic signs which closely parallel certain Linear B signs both in sound and shape.<sup>8</sup> If, as J. Chadwick says, "each of these ... signs has a common ancestor, and each ... has the same or similar value, then this must surely have been the value of the ancestral sign too. Granted some uncertainties about the identification of individual signs," he continues, "it seems clear that in the main the Linear B syllabic values must hold good also for Linear A; though it must not be supposed that Linear A had necessarily the same consonant structure or the five-vowel basis of Linear B, since this is dictated by the phonemic system of Greek."<sup>9</sup> The Cypriot syllabary, of course, differs from Linear B in two important respects, viz., it fails to distinguish between *d-* and *t-*, but does so in the case of *r-* and *l-*.<sup>10</sup> It is perhaps also significant that the Cypriot *t-* series appears to be an amalgam of signs corresponding to both *d-* and *t-* series signs in Linear B. Specifically, Cypriot *ta*, *te* and *tu* resemble Linear B *da*, *di* and *du*, while Cypriot *ti* and *to* agree with Linear B *ti* and *to*.<sup>11</sup> This observation, not surprisingly, has led to claims "that the *d-* series

<sup>6</sup> W.C. Brice (1967a) : 105

<sup>7</sup> D.W. Packard, (1974) : 22

<sup>8</sup> cf., M. Ventris & J. Chadwick, *op cit* : 60ff

<sup>9</sup> *ibid* : 388

<sup>10</sup> *ibid* : 387

<sup>11</sup> cf., T.B. Mitford, "Studies in the Signaries of South-Western Cyprus", *Institute of Classical Studies. Bull. Supp. No. 10.* (University of London. 1961) : Plates IV, VIII, XV, XIX, XXII, XXV and XXVIII.

is an innovation in Linear B taken over perhaps from a related but not identical Minoan sound."<sup>12</sup> Packard, for example, citing the supposed *d/l* ambivalence in Greek (eg., Linear B *da.pu(2).ri.to.jo* / λαβυρινθος, δαφνη / λαφνη) as a possible related phenomenon, suggests that the original Linear A syllabary may have expressed a series of signs with a consonantal value "between *d* and *l* ... [and] which Linear B adopted to represent *d* as opposed to *t*, but Cypriot used for *l* as opposed to *r*. A true *d* sound (a voiced dental stop), if it existed in Linear A," he says, "might then have been written *t* as in Cypriot."<sup>13</sup> Yet, even Packard concedes that such an interpretation is not without its difficulties. "The Cypriot sign for *ta*", he says, "is identical in shape with Linear B *da* which is not what the theory would predict. In addition," continues Packard, "Linear B *ro/lo* appears in Cypriot as *lo* rather than as *ro*."<sup>14</sup> A more likely explanation for "the anomalous voiced dental series in Linear B", says Packard, is "that Linear A distinguished two types of dentals which differed in some way other than in voicing. Linear B", he continues, "may have used the extra dental series to distinguish voicing while Cypriot simply discarded the redundant signs ... If true," Packard concludes, "this hypothesis would imply that the *d* series in Linear A is not necessarily voiced, and that the *t* series is not necessarily unvoiced."<sup>15</sup> The entire argument, of course, hinges upon the assumption that the classical Cypriot syllabary is in fact derived from Linear A rather than Linear B.<sup>16</sup> As Ventris and Chadwick have warned, however, "the attempt to trace a continuous and detailed descent" between the Minoan, Mycenaean and Cypriot linear writing systems "is fraught with obstacles which are likely to remain insuperable so long as evidence for the successive links is missing, and until more of the successive stages have been deciphered."<sup>17</sup>

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<sup>12</sup> D.W. Packard, (1974) : 116

<sup>13</sup> *ibid* : 116

<sup>14</sup> *ibid* : 116

<sup>15</sup> *ibid* : 116-17

<sup>16</sup> cf., G.P. Goold & M. Pope, *op cit* : (xi) : The Classical Cypriot Syllabary's "possession of a complete *-o* series, its differentiation between *l-* and *r-*, and its indication of final consonants by using the *-e* series, all point towards evolution from Linear B. And it has nothing in common with Linear A which is not also shared by Linear B."

<sup>17</sup> M. Ventris & J. Chadwick, *op cit* : 66



### 3c. Minoan Phonology and Linear B

**3c.1** "If the [Linear B] script represents accurately the phonetics of Mycenaean Greek, then it follows that this dialect had no descendants recorded in classical times. If the Mycenaean confused the *sounds* of *l* and *r*, then their descendants could never have separated them again correctly. We have therefore to reconcile our suggestion that Mycenaean is likely to be the ancestor of Arcadian with the admitted difficulties of the script. It is certain that Linear B is derived from an earlier Minoan script, probably represented by Linear A. It is therefore a reasonable assumption that the form of the syllabary reflects not Greek but another language which we may for convenience designate *Minoan*." <sup>18</sup>

**3c.2** Among the characteristic Linear B short-comings in expressing the Greek language is the omission of final consonants in words, "a practice which", says J.T. Hooker, "effectively obscures the case-endings of *a*-stem and *o*-stem nouns and adjectives."<sup>19</sup> This has, in turn, led to the suggestion that the original language for which the script was created consisted "mainly of open syllables, [with] final consonants being either absent or at least not significant ..." <sup>20</sup> The failure of Linear B to differentiate between long and short vowels or to distinguish between the voiceless, voiced, and aspirated stops has likewise led to the suggestion that the original language did not make these phonemic distinctions.<sup>21</sup> Palmer goes one step further to claim that "the neglect of the oppositions *voiceless* : *voiced* : *aspirate*, which are essential to Greek, strongly suggests that the ancestral form of the syllabary was created for a non-Indo-European language."<sup>22</sup> An obvious exception to the rule, of course, involves the opposition of the dental series - viz., *d/t(h)* - which, as we have seen, is not attributed to Minoan in any case.<sup>23</sup>

**3c.3** One peculiar feature of the Linear B script, often claimed as unnecessary "for a rendering of the Greek language", is the use of the so-called "doublet" or "complex" signs,

<sup>18</sup> *ibid* : 69

<sup>19</sup> J.T. Hooker, *Linear B - An Introduction*. (Bristol. 1980) : 50

<sup>20</sup> Ventris & Chadwick, *op cit* : 67

<sup>21</sup> *ibid* : 69

<sup>22</sup> L.R. Palmer, "Observations on the Linear B Tablets from Mycenae" *BICS* 2 (1955) : 39

<sup>23</sup> Ventris and Chadwick (*op cit* : 70), for example, suggest that the Minoan language may "have had two dental sounds distinguished by their place of articulation, and this distinction being useless in Greek, the signs were adopted to represent an opposition which was important for Greek. This", they continue, "is the more probable in view of a precisely similar development in the adaptation to Greek of the Phoenician alphabet. The opposition *ḏ* / *t* being unknown in Greek, the sign for *ḏ* was superfluous; but it was seized upon to represent the distinction of *t* / *th*, which was important for Greek."

LINEAR B	LINEAR A	VALUE	OCCURRENCE IN LINEAR B
B25	-	A(2)	ko.ri.*25.da.na / ko.ri.ya.da.na ; cf., κοριανδρον me.nu.*25 / me.nu.wa ; cf., Μίνυαι ? *25.ne.u.te / a-ne-u-te
B34 B35	A69	AI(2) AI(2)	*34.ke.ya / *35.ke.ya *34.nu.me.no / *35.nu.me.no au.to.*34.ta / au-to-*35-ta *34.ke.u / ai.ke.u ? *35.ki.no.o / ai.ki.no ? *35.ki.*25.ri.ya = Αιγιαλια ? *35.ku.pi.ti.yo = Αιγυπτιος
B56	A01	PA(3)	*56.ra.ku.ya / pa-ra-ku-ya *56.ti / pa.ti ka.ra.*56.so / ka.ra.pa.so ku.su.*56.ta = ξυμπαντα ?
B62	-	PTE	tu.ru.*62.ri.ya / tu.ru.pe.te.[ri.ya ?] = στρυπτηρια *62.no = πτερνο ra.*62.re = ραπτηρες
B29	A34	PU(2)	a.*29.ka / a.pu.ka *29.re.wa / ru.re.wa ; cf., Φυλευς *29.ru.da.ro = Φλυδαρος ? *29.te.re = φυτηρες ? da.*29.ri.to.yo = Δαβυρινθοιο ; cf., Λαβυρινθος
B76	A58	RA(2)	a.ke.ti.*76 / a.ke.ti.ri.ya = ακεστρια e.ri.qo.*76 = Επιπολαι ? ki.*76.i.yo / ki.ri.ya.i.yo = Κιλλαιος, Κιρραιος ta.*76.to / ta.ra.to = Στρατων ? qa.*76.ti.yo = Q <sup>a</sup> αλλαντιος ?
B33	-	RA(3)	o.ka.*33 / o.ka.ra e.*33.wo = ελαιον pi.ye.*33 = φιελαι pe.*33.ko.ra.i.ya / pe.ra.ko.ra.i.ya = Περαιγολαια
B68	-	RO(2)	ku.pa.*68 / ku.pa.ro ; cf., κυπειρος tu.*68 = τυροι ke.*68 = κεριον ku.*68 = Κυριος ?
B66	A86	TA(2)	ra.wa.ra.*66 / ra.wa.ra.ti.ya = Λαυρανθιας a.re.*66 = Αρετιας ?
B48	A114	NWA	e.*48.ri.yo / e.nu.wa.ri.yo ; cf., Ενυαλος
B71	A03 ?	DWE	te.mi.*71 / te.mi.de.we ; cf., τερμοεις
B90	A117?	DWO	*90.yo / du.wo.yo *90 = δυο ; cf., δ[ʃ]ωδεκα
B87	A66?	TWE	o.da.*87.ta / o.da.tu.we.ta = οδαι <sup>w</sup> εντα
B66a	-	TWO	o.*66a.we.o / o-tu-wo-we
B85	-	SWA	pi.*85 = Πισφα ?
B64	A43	SWI	a.*64.ya / a.si.wi.ya ; cf., Ασιος

Table (2) : The Linear B Homophones and their Linear A counterparts.

commonly referred to as *homophones*.<sup>24</sup> Their existence in Linear B has led to claims that these signs are in fact phonetic relics of the original Minoan syllabary. Indeed, several examples find close Linear A correlates, cf., Table (2) on page (16). L.R. Palmer, of course, postulated that the original Minoan syllabary, or more precisely the ancestral form of the Linear B syllabary, operates upon a system of phonemic oppositions which he described as *plain : palatalized : labialized*.<sup>25</sup> "When the syllabary ... was adapted for the purpose of writing Greek," says Palmer, "the very different phonemic system of this Indo-European language was analysed by an ear attuned to Aegean distinctions."<sup>26</sup> According to Palmer, the original "Aegean" palatalized consonants - viz., *kya = za* (\*17), *kye = ze* (\*74), *kyo = zo* (\*20), *kyu = zu* (\*79), *pya* (\*56), *pye = pte* (\*62), *pyu* (\*29), *rya* (\*76), *ryo* (\*68), *tya* (\*66) - were identified as aspirates by the Greeks, while many of the labialized sounds - viz., *dwe* (\*71), *dwo* (\*90), *kwa = qa* (\*16), *kwe = qe* (\*78), *kwi = qi* (\*21), *kwo = qo* (\*32), *nwa* (\*48), *twe* (\*87), *two* (\*66a), to which we may also add *swa* (\*85), *swi* (\*64) - were retained as labio-velars.<sup>27</sup> These observations, in turn, led Palmer to re-arrange the traditional Linear B phonetic grid as shown in Table (3) on page 18. "The imperfections of the [Linear B] graphic system", concludes Palmer, "need no further emphasis, and much interpretation is required to deduce the phonemic system of Mycenaean."<sup>28</sup>

**3c.4** Much has also been made of the apparent fact that certain vowel sounds, *i/e* and *o/u* for instance, were regularly confused by Mycenaean scribes, especially, it seems, when they were recording non-Greek words.<sup>29</sup> The prevalence of this phenomenon in the

<sup>24</sup> *ibid* : 46

<sup>25</sup> L.R. Palmer, *The Interpretation of Mycenaean Greek Texts*. (Oxford. 1963) : 36ff

<sup>26</sup> *ibid* : 38

<sup>27</sup> *ibid* : 38-39

<sup>28</sup> *ibid* : 40

<sup>29</sup> For the postulated existence of a non-Indo-European linguistic substratum within Linear B, refer to D.A. Hester, "The *i/e* Alternation in Mycenaean Greek." *Minos VI*. (1958) : 34-35, who suggests that orthographic variations within Linear B are evident on two distinct levels, viz., (i) *between words identified as Greek*, and (ii) *between words of uncertain or unknown etymology*.

a (*08)	ai (*43)	e (*38)	i (*28)	o (*61)	u (*10)
pa (*03)		pe (*72)	pi (*39)	po (*11)	pu (*50)
pja (*56)		pje (*62)			pju (*29)
da (*01)		de (*45)	di (*07)	do (*14)	du (*51)
		dwe (*71)		dwo (*90)	
ta (*59)		te (*04)	ti (*37)	to (*05)	tu (*69)
tja (*66)		twe (*87)		? two (*66a)	
ka (*77)		ke (*44)	ki (*67)	ko (*70)	ku (*81)
kja (*17)		kje (*74)		kjo (*20)	kju ? (*79)
kwa ? (*16)		kwe (*78)	kwi (*21)	kwo (*32)	
ma (*80)		me (*13)	mi (*73)	mo (*15)	mu (*23)
na (*06)		ne (*24)	ni (*30)	no (*52)	nu (*55)
nwa (*48)					
ra (*60)	rai (*33)	re (*27)	ri (*53)	ro (*02)	ru (*26)
rja (*76)				rjo (*68)	rju ? (*34)
sa (*31)		se (*09)	si (*41)	so (*12)	su (*58)
swa (*85)			swi (*64)		
ja (*57)	jai (*82)	je (*46)		jo (*36)	ju (*65)
wa (*54)		we (*75)	wi (*40)	wo (*42)	
ha (*25)					

Table (3) : L.R. Palmer's Linear B phonetic grid.<sup>30</sup>

Knossian Linear B material in particular (refer to Table (4) on pages 19-20), where at least 45% of all identifiable words (mainly personal and place names) are "suspect of non-Greek origin" and therefore presumed to be a legacy of the pre-Greek population of Crete, has led to claims that such graphemic confusion is likely to reflect real differences between the phonemic structures of the Greek and Minoan languages.<sup>31</sup> Goold and Pope, for example, noting the apparent weakness in Linear A of the *-o* series signs, as well as the *o/u* ambivalence between the few sign-groups common to both scripts (for which see below), concluded that the Linear A script "did not contain a vowel approximating to the Greek *-o*, [and that] when the Mycenaeans took over the whole of the syllabary ... they were compelled to resort to other means of representing Greek syllables of the *-o* series; they therefore took over some of the Minoan special phonetic signs (which may have

<sup>30</sup> *ibid* : 40; Note that in Palmer's original grid the signs \*64 and \*85 are assigned the values *rjo* and *sja* respectively, but are here given the values *swi* and *swa*, for which see M. Ventris & J. Chadwick *op cit* : 390.

<sup>31</sup> L.R. Palmer, (1963) : 41; cf., O. Landau, *Mykenisch-Griechische Personennamen*. (Goteborg.1958)

**(e/i) alternations** : 1. a.ke.wa.ta (Py-Mn) / a.ki.wa.ta (Kn-Mn) = Αρχεῖστας ? / Αρχιῖστας ?; 2. a(3).ke.wa.to (Kn-Mn) / a(3)ki.wa.to (Kn-Mn); 3. a.te.mi.to (Py-God) / a.ti.mi.te (Py-God) = Αρτεμιτος / Αρτιμιτει ?; 4. e.pa.sa.na.ti (Py-Wn) / i.pa.sa.na.ti (Py-Wn); 5. i.pe.me.de.ya (Py-God) = Ιφεμεδεια ? / Ιφιμεδεια; 6. ku.te.so (Py-Noun) = κυτεσος / κυτισος; 7. me.nu.wa (Kn-Mn) = Μενυας ? / Μινυας; 8. po.se.da.o (Py-God) / po.si.da.i.yo (Py-Adject) = Ποσειδαων / Ποσιδαιον; 9. qa.me.si.yo (Kn-Mn) / qa.mi.si.yo (Kn-Mn) = Q<sup>a</sup>αμεσιος ? / Q<sup>a</sup>αμισιος ?; cf., also the compd personal names : Αρχιλοχος / Αρχελοχος and Τηλιμαχος / Τηλεμαχος

**(i/e) alternations** : 10. di.pa (Kn-Py-Noun) = διπας ? / δεπας; 11. i.mi.ri.yo (Kn-Mn) / Ιμεριος ?; 12. i.qo (Kn-Py-Noun) = ιππος ? / \*ekwos

**(e/o) alternations** : 13. a.re.pa (Py-Noun) / a.ro.pa (Py-Noun) = αλειφαρ / αλοιφα

**(i/u) alternations** : 14. mo.ri.wo.do (Kn-Noun) = μολιῖδος / μολυβδος; 15. ta.ni.ko (Py-Mn) / ta.nu.ko (Py-Mn)

**(o/u) alternations** : 16. a.pu = ἄπο at both Kn and Py; compare Arc., Cypr., Lesb. and Thess. απυ; 17. do.ni.ya[ (Kn-Obse) / du.ni.ya (Kn-Obse); 18. o.du.ru.wo (Kn-Th-Pn) / u.du.ru.wo (Kn-Pn); 19. pa.ra.ko (Py-Mn) = Πλακος / pa.ra.ku (Py-Mn); 20. po.ro.du.ma.te (Py-Title) / po.ru.da.ma.te (Py-Title) = Προδαρματε ? / Πρυδυρματε ?; 21. ro.ko (Py-Mn) / ro.u.ko (Py-Mn) / ru.ko (Py-Mn) = Λουκος ? / Λυκος; 22. to.ma.ko (Kn-Mn) = Στομαργος / tu.ma.ko (Kn-Mn); 23. to.ri.yo (Py-Mn) / tu.ri.yo (Py-Kn-Mn) = Τυριος ?; 24. u.ru.pi.ya.yo (Py-Eth) / Ολυμπιαοι ?; 25. e.wi.su.zo.ko (Kn-Adject) / e.wi.su.\*79.ko (Py-Adject), if \*79 = zu : compd of εῖσι- = ισο- < εἰσι-; cf., Hom. ειση, + -ζυγο

**(a/e) alternations** : 26. i.ka.se (Kn-Mn) / i.ke.se (Kn-Mn); 27. ka.to.ro (Kn-Mn) = Καστορος / ke.to.ro (Kn-Mn); 28. pu.ta.ri.ya (Kn-Noun) / pu.te.ri.ya (Kn-Noun) = φυταλιαν / φυτηλιαν; 29. sa.za.ro (Kn-Mn) / sa.ze.ro (Kn-Mn)

**(a/i) alternations** : 30. no.sa.ro (Kn-Mn) / no.si.ro (Kn-Mn); 31. qa.nwa.so (Kn-Pn) / qi.nwa.so (Kn-Mn?); 32. ra.wi.zo (Kn-Mn) / ri.wi.so (Kn-Mn)

**(a/o) alternations** : 33. a.re.pa.zo.o (Py-Occup) / a.re.po.zo.o (Py-Occup) = αλειφαζοοι / αλειφοζοοι; 34. ko.ri.a(2).da.na (Py-My-Noun) / ko.ri.ya.da.na (My-Noun) / ko.ri.yo.da.na (Kn-Noun) = κοριανδρον; 35. su.ma.no (Kn-Mn) / su.mo.no (Kn-Mn); 36. u.po.ra.ki.ri.ya (Py-Pn) / u.pa.ra.ki.ri.ya (Py-Pn), cf., Υπερακρια; 37. wa.na.so.i (Py-Pn) / wa.no.so.i (Py-Pn)

**Table (4) :** Orthographic variations in Linear B

**(a/u) alternations** : 38. du.pu2.ra.zo (Kn-Mn) / da.pu2.ra.zo (El-Mn); 39. ka.pa3.no (Kn-Mn) / ku.pa3.ni (Th-Mn?); 40. me.ri.da.ma.te (Py-Title) / me.ri.du.ma.te (Kn-Title) = Μελιδαρματε / Μελιδυρματε ?, cf., po.ru.da.ma.te (Py-Title) / po.ro.du.ma.te (Py-Title) = Πρυδαρματε ? / Προδυρματε ?

**(u/w) alternations** : 41. e.ke.ra(2).u.na (Py-Mn) / e.ke.ra(2).wo.ne (Py-Mn) = Ενχελιαων; 42. e.u.wa.ko.ro (Py-Mn) / e.wa.ko.ro (Kn-Th-Mn) = Ευαγορος; 43. me.u.yo (Kn-Adject) / me.wi.yo (Kn-Adject) = μειων; 44. ra.u.ra.ta (Kn-Mn) / ra.wa.ra.ta (Py-Mn?) = Λαυρατας; 45. ra.u.ra.ti.ya (Py-Pn) / ra.wa.ra.ti.ya (Py-Pn) = Λαυρανθιας; 46. ru.ko.u.ro (Py-Mn) / ru.ko.wo.ro (Py-Mn) = Λυκογορος

**(y/w) alternations** : 47. pa.ya.so (Kn-Mn) / pa.wa.so (Kn-Mn); 48. te.ya.ro (Kn-Mn) / te.wa.ro (Py-Mn)

**(a/y) alternations** : 49. a.ke.te.re (Py-Occup) / a(2).ke.te.re (Kn-Occup) / ya.ke.te.re (Py-Occup) = ασκητηρες; 50. a.sa.ro (Kn-Mn) / ya.sa.ro (Kn-Mn) = Ασσαρος

**(d/t) alternations** : 51. a.ta.wo.ne.[ (Kn-Mn) / a.da.wo.ne.[ (Kn-Mn); 52. ka.ta.no (Py-Mn) / ka.da.no (Kn-Mn) = Καδανωρ; 53. ka.ta.ro (Kn-My-Mn) / ka.da.ro (Py-Mn) = Καθαρος; 54. ku.to (Kn-Mn) / ku.do (Kn-Mn) = Κυδων; 55. qa.ti.ya (Kn-Mn) / qa.di.yo (Kn-Mn); 56. to.ni.ya (Kn-Adject?) / do.ni.ya[ (Kn-Obsc); 57. tu.ni.ya (Kn-Pn) / du.ni.ya (Kn-Obsc); 58. wo.ti.yo (Kn-Py-Mn) / wo.di.yo (Kn-Py-Mn) = Φορθιος / Φορδιος

**(k/q) alternations** : 59. ]do.ke.u (Kn-Obsc) / do.qe.u (Kn-Mn); 60. ka.mo (Kn-Pn) / qa.mo (Kn-Pn); 61. ka.mi.ni.to (Kn-Mn) / qa.mi.ni.[ (Kn-Obsc); 62. ki.ke.ro (Kn-Mn) / qi.qe.ro (Kn-Mn)

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**Table (4)** : Orthographic variations in Linear B (*cont.*)

approximated in sound) and fabricated others."<sup>32</sup> J.G.P. Best, on the other hand, takes the argument one step further by claiming that vowel alternations of the types *a/e*, *a/o*, *e/i* and *o/u*, which are apparent in Linear B, and which he posits also for Linear A, "cannot be satisfactorily explained from the phonological rules of Indo-European languages" but are instead "features typical of North-West Semitic dialects."<sup>33</sup> Since Semitic has only three principal vowels, Best has to adopt the view that the Linear A signs which find equivalents in the Linear B *e* and *o* series signs are actually homophones for the *i* and *u* series respectively.<sup>34</sup> Best then goes on to argue that "such phenomena in consonant notation as  $k = \gamma / \kappa / \chi$ ,  $p = \beta / \pi / \phi$ ,  $s = \sigma, \check{s}$ ,  $r = \rho / \lambda$ , ... and presumably also  $d = \delta / \lambda$ ", are likewise "the final stage of a development that started in the North-West Semitic dialects of the Near East."<sup>35</sup>

### 3d. Script vs Language

**3d.1** "... viewed absolutely as a method of phonetic writing ... [the Linear B script] was by virtue of its economy and potentialities superior to anything then in existence. Accordingly, whilst it is clear that it was an adaptation to Greek of a system devised by the speakers of another language, it does not necessarily follow that this system represented the phonemic structure of the original language any more expertly; and whoever attempts to deduce this phonemic structure from the nature of the Mycenaean syllabary is treading on very uncertain ground."<sup>36</sup>

**3d.2** As A. Morpurgo-Davies has pointed out, any reconstruction of the phonemic structure of the Minoan language based upon the so-called "peculiarities" of the Linear B script involves two fundamental difficulties. "First," says Morpurgo-Davies, "scholars have often identified the language for which the script was invented with the language of Linear A or the language of the Minoans. For this", she adds, "there is no evidence at the

<sup>32</sup> G.P. Goold & M. Pope, *op cit* : (x)

<sup>33</sup> J.G.P. Best, *op cit* : 14-15

<sup>34</sup> *ibid* : 12 ; Best expresses this with the following formulae :

$$i = i_{(1)} / i_{(2)} > i / e \text{ and } u = u_{(1)} / u_{(2)} > o / u$$

"In these formulae," says Best, " $i_{(1)} / i_{(2)}$  and  $u_{(1)} / u_{(2)}$  are to be regarded as allophones of a single phoneme *i* and *u* respectively, and *i/e* and *u/o* as different phonemes which developed, according to phonetic laws, from a single phoneme *i* and *u* respectively." Best (*ibid* : 15), also explains the apparent *a/o* and *a/e* alternations with the formulae  $a = a_{(1)} / a_{(2)} > a / o$  and  $a = a_{(1)} / a_{(2)} > a / e$  which he claims is further evidence for the Semitic structure of the Linear A syllabary.

<sup>35</sup> *ibid* : 17

<sup>36</sup> J.P. Goold & M. Pope, *op cit* : x-xi

moment. Secondly," continues Morpurgo-Davies, "the theory has been based on the assumption that there must be a close correspondence between language and script, but this is often not the case in ancient scripts which aim not only at expressing phonemic distinctions but also at their own internal economy. Examples of this", she says, "may be quoted from a number of Near Eastern scripts."<sup>37</sup> The fact remains, of course, that the Mycenaean graphemic tradition was itself a spontaneous cultural achievement motivated primarily by the need to keep administrative records : "In interpreting Linear B", warns J.T. Killen, "it is always worth remembering that, for the scribe who wrote the tablet, the most important thing on it was very probably the number."<sup>38</sup> In other words, we are here dealing with a system of writing specifically designed to record business transactions, not the nuances of language.<sup>39</sup> "The circumstances of writing and storing the [Linear B] tablets were such", explains S. Levin, "as to favor the use of a jargon", incorporating words from "several speech communities", Greek being the most obvious, and reducing them to a basic syllabic format "without concern for structural incompatibility ... Uniformity of language in such records," Levin continues, "far from being imperative, would not figure as a great convenience; much more to the point is *uniformity of script*."<sup>40</sup>

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<sup>37</sup> A. Morpurgo-Davies, "The Structure of the Minoan Language" *BICS* 21, (1974) : 161

<sup>38</sup> J.T. Killen, "The Minoan Documents." *BICS* 21, (1974) : 162

<sup>39</sup> cf., Ventris and Chadwick, (*op cit* : 67) : "The suggestion that documents of the type so far found require a less accurate notation than continuous prose is true, but dangerous in view of our restricted knowledge of the extent of literacy; we have already one sentence running to twenty-three words, and another of complicated construction has seventeen."

<sup>40</sup> S. Levin, "Greek and Non-Greek Inflections in Linear B." *Mycenaean Studies : Proceedings of the Third International Colloquium for Mycenaean Studies, 4-8 Sept.* E.L. Bennett Jr. (Ed.) 1961 : 153-154; cf., also G. Nagy, who likewise claims (*op cit* : 296-297), that that "the loss of integral [phonetic] precision in any given [Linear B] syllable-sign, and ... the fact that a writing system does not necessarily bear an apparent organic relation to the language it approximates ... is an important lesson to keep in mind during any analysis of the *linguistic* substructure of the Linear A script. (It would, for example, be hazardous indeed to question the authenticity of Greek entities in Linear B vocabulary on the grounds that the respective syllabary is not "suitable" for writing Greek.) The lessening integral precision of the Linear B syllable-sign is, moreover, inversely proportionate to the need for increasing integral precision of the Linear B sign-group. This involves a strong tendency toward the scribal rubric - a factor which", Nagy concludes, "transcends phonemes, morphology, and even syntax."



### 3e. Linear A and B Parallels

**3e.1** "Over 900 personal names and nearly 100 place names are attested on the Knossos Linear B tablets. Some of the names have Greek-like etymologies, but a large number do not ... It is a natural assumption that many of these names reflect a pre-Greek population. The Linear B place names represent a wide geographic distribution in East and Central Crete and include the region of Hagia Triada where the Linear A archives were found. Since these Linear A documents precede the Linear B tablets at Knossos by only a few years, it would be surprising if personal names and place names were not common to the two groups."<sup>41</sup>

**3e.2** The application of the Linear B phonetic values to Linear A yields a number of sign-groups that are seemingly common to both scripts, particularly between the Hagia Triada archives and the Linear B material from Knossos. "Several scholars", as Packard says, "have prepared lists of these parallels, but the correspondences have not been examined systematically and are usually presented simply to engender a general confidence in the validity of the Linear B values as a group."<sup>42</sup> The problem, of course, is that there are few exact matches between the two scripts. Indeed, of the one hundred and eight possible Linear A and B parallels cited in Table (5) on pages 25 to 30, only twelve sign-groups are identically matched, and many of these involve uncertain readings.<sup>43</sup> The remaining ninety-six examples are necessarily speculative in nature since all involve changes in spelling to at least one syllable. "It is clear that these have some value as confirmatory evidence for the phonetic values," says Packard, "but, before assuming complete faith in these confirmed values, we must face a difficult statistical problem. How can we be sure that an erroneous assignment of phonetic values in Linear A might not produce parallels with Linear B?"<sup>44</sup> Linear A and B parallels involving sign-groups composed of only two syllables, for example, are obviously more likely to be coincidental

<sup>41</sup> D.W. Packard, (1974) : 72

<sup>42</sup> *ibid* : 72

<sup>43</sup> The Linear A sign-groups are, of course, here transliterated according to the phonetic correspondences presented in Tables (1) and (2).

<sup>44</sup> D.W. Packard, (1971) : 56

than those involving sign-groups which are three or more syllables in length. Yet even here Packard estimates that five of the approximately two hundred or so complete Linear A sign-groups composed of three syllables will find exact matches (up to and including the consonant of the third syllable) in Linear B words of equal length by sheer chance alone.<sup>45</sup> Using these same parameters, we may further add that the number of coincidental matches between the two groups increases to as many one hundred and fifteen when the vowels are completely ignored!<sup>46</sup> While these predictions are, as Packard himself admits, "based on inexact assumptions", they nevertheless demonstrate the need for caution.<sup>47</sup>

**3e.3** The likelihood of coincidental matches between the two scripts can, of course, be somewhat reduced by introducing certain criteria into the selection process. Packard, for example, suggests that only complete sign-groups longer than two syllables should be admitted for the purpose of comparison.<sup>48</sup> This would still leave an impressive forty or so potential Linear A and B parallels, which, as Packard says, "demonstrates conclusively that at least some of the Linear B phonetic values are valid for Linear A ... [though] it does not ... prove that they are all correct or even that every value is correct which is involved in one or even two parallels with the Knossos names."<sup>49</sup> Certainly the most striking feature of these parallels is the apparent confusion of the vowels *i* with *e* and *u* with *o* in the Mycenaean versions of Linear A names which, as we have already noted above,

<sup>45</sup> D.W. Packard, (1974) : 73 : "Assuming that each script contains exactly 60 signs of equal frequency we can calculate what number of Linear A sign-groups will *happen* to share two signs and the consonant of the third sign with a Linear B word. There are just over 200 complete words in Linear A composed of exactly three signs and a few more than 1000 in Linear B. For any pair there is one chance in sixty that the first sign will match and one chance in sixty that the second will match. Since we only require the same consonant in the third sign the chance of a match here will be one in twelve. Coincidence up to the third consonant may then be expected in one pair out of 43,200 (60 times 60 times 12). Since there are 200,000 possible pairs (each of 200 Linear A with each of 1000 Linear B), we might then expect a total of about five random matches (200,000 divided by 43,200)."

<sup>46</sup> viz., 200,000 divided by 1,728 (ie., 12 x 12 x 12)

<sup>47</sup> D.W. Packard (1974) : 91

<sup>48</sup> *ibid* : 90

<sup>49</sup> *ibid* : 93

	<u>Linear A</u>	<u>Reference</u>	<u>Linear B</u>	<u>Source / Type</u>
1.	A.MA	MA1b, ZA7b	a.ma	KN : Noun
2.	A.MA.YA	KH14	a.me.ya	KN : Mn
3.	?] A.NA.QA	HT126a	a.na.ka	KN : Mn
4.	A.RA.NA.RE	HT1a	a.ra.na.ro	KN : Mn
5.	A.RU.DA.RA	HT28b, HT62	a.ro.do.ro.o	KN : Shr?
6.	A?.SA.RA(2)	HT89	a.sa.ro	KN : Mn
7a.	A.SE.YA	HT115a	a.si.wi.yo	KN, PY, MY : Mn
7b.	A.SU.YA	HT11a	a.si.wi.ya a.swi.ya a.si.ya.ti.ya	PY : Adj. PY : Adj. PY : Pn
8.	A.TI.KA [?	ZAW2	a.ti.ka	KN : Mn
9.	A.TU	HT87	a.te.yo	KN : Mn
10.	DA.KU.SE.NE	HT103	da.ko.so	KN : Mn
11.	DA.NA.SI	HT126a	da.na	KN : Mn?
12.	DA.MI.NU	HT117a	da.mi.ni.yo	KN : Eth. Adj.
13.	DA.RE.KU[?	ZA16	da.ra.ko	KN : Pn
14.	DA.SI.L85	HT13, HT85a HT99b, HT122a	?] da.so	KN : Pn
15.	DA.TA.RA	HT6a, HT9b?	da.ta.ra.mo	KN : Pn
16.	DA.TU	HT123a	da.te.we.ya	KN : Eth. Adj.
17a.	DA.U.L120.I	HT120	da.wo	KN : Pn
17b.	DA.WE.DA	HT10a, HT85a, HT93a, HT122a		
18.	DI.DE.RU	HT86a, HT95a,b	di.de.ro	KN : Mn
19.	DI.KA.TU[?	HT52a	di.ka.ta	KN : Pn
20.	?] DI.PA?.YA?[?	PH7a	di.pi.ya	KN : Eth. Adj?
21.	DU.PU(2).RI [?	HTZ160	da.pu.ri.to.yo da.pu(2).ri.to.yo du.pu(2).ra.zo	KN : Shr. KN : Shr. KN : Mn
22.	I.DU.WI	MA1a	i.du o.du.we	KN : Wn KN : Mn
23.	I.KA	HT26b, HT91 HT93a	i.ka.se	KN : Mn
24.	I.KU.SU?	HT35	e.ko.so	KN : Pn
25.	I.NA.YA	PKZ11, APZ2a	i.ni.ya	PY : Wn
26.	I.RA(2)	HTW225	e.ra	KN : Pn
27.	I.SA.RI	PH6	i.za.re	KN : Mn
28.	I.TA	HT25b	i.ta.ya	KN : Wn

Table (5) : Linear A and B Parallels

	<u>Linear A</u>	<u>Reference</u>	<u>Linear B</u>	<u>Source / Type</u>
29.	I.TA.NU?	HT28b	i.ta.no	KN : Mn
30.	KA.KU	HT62	ka.ko	KN, PY : Noun
31.	KA.NA	HT23a	ka.a.na	KN : Obsc.
32.	KA.PA	HT6a, HT8b, HT94b, HT102 HT105, HT140	ka.pa	KN : Pn
33.	KA.PO.RU	HT115a	ka.pu.ro	KN : Mn
34.	KA.RU	HT75, HT84, HT97a	ka.ro	KN : Pn
35.	KA.SA.RU	HT10b	ka.sa.ro	KN : Mn
36.	KA.SU	PK1	ka.so	KN : Obsc.
37.	KA.U.DE.TA	HT13	ka.u.da ?] ka.di.ti.ya	KN : Pn KN : Eth. Adj.
38.	KA.YU?	HT88	ka.yo	KN : Mn
39.	KE.KI.RU	HT94a	ki.ke.ro	KN : Mn
40.	KI.DA.RO	HT117a	ki.da.ro ki.do.ro ki.du.ro	KN : Mn KN : Mn PY : Mn
41.	KI.RA	HT103	ke.ra.ya ki.ra.di.ya	KN : Mn KN : Eth. Adj.
42a.	KI.RE.TA(2)	HT85b, HT129	ki.ri.ta	KN : Pn
42b.	KI.RI.TA(2)	HT114a, HT121	ki.ri.ta.i	KN : Pn
43.	KI.WE.SI	TY3a	ke.u.sa	KN : Mn
44.	KO.A.DU.WA	TY3b	ko.a.ta	KN : Mn
45.	KO.YA	HT119, HT62?	ku.yo ku.ya.ro	KN : Mn KN : Mn
46a.	KU.DO.NI	HT13, HT85a	ku.do.ni.ya	KN : Pn
46b.	KA.U.DO.NI	HT26b		
46c.	]KU.DO.NA [	HT64		
47.	KU.KU.DA.RA	HT117a	ku.ka.da.ro	KN : Mn
48.	KU.MI?	HT10a	ku.mi.so	KN : Mn
49.	KU.MI.NA.QE	HT54a, HTW214a	ku.mi.no	MY : Noun
50.	KU.NI.SU	HT10a, HT86a,b, HT95a,b	ko.no.so	KN : Pn
51.	KU.NI.TE	KH92	ku.ni.ta	KN : Mn
52.	KU.PA(3).NA.TU	HT47a, HT119	ka.pa(3).na.to	KN : Mn
53.	KU.PA(3).NU	HT1a, HT3, HT49a HT88, HT117, HT122a	ka.pa(3).no	KN : Mn

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Table (5) : Linear A and B Parallels (cont.)

	<u>Linear A</u>	<u>Reference</u>	<u>Linear B</u>	<u>Source / Type</u>
54.	MA.DI	HT3, HT69, HT85b, HT97a, HT118, HT6a, HT97a, HT102	ma.di	KN : Mn
55.	MA.RE	PH19, HT128a?	ma.ri	KN : Pn
56.	MA.SI.DU	HT43	ma.si.dwo	KN : Mn
57.	ME.KI.DI	ZA1	me.ki.ti	KN : Mn
58.	?] MI.YA.RU	ZAZg35	mi.ya.ra.ro	KN : Mn
59.	NA.DA.RE	HT117a	no.da.ro	KN : Mn
60.	PA.DE	HT9a,b, HT122a	pa.de pa.ti pa(3).ti	KN : Deity KN : Deity KN : Deity
61.	PA.I.TO	HT97a, HT120 HT122a	pa.i.to	KN : Pn
62.	PA?.NWA.I [?	HT43	qa.nwa.so	KN : Pn
63.	PA.RA [?	HT128a	pa.ra	KN : Mn?
64.	PA.SE.YA	HT93a, HTW201 HTW202	pa.sa.ya	KN : Deity
65.	PA.YA.RE	HT8b, HT29, HT117a, TY3a	pa.ya.ro	KN : Mn
66.	?] PA.YA.SA [?	PH11b	pa.ya.so	KN : Mn
67.	PI.PI	HT85a, HT97a	pi.pi.tu.na	KN : Deity
68.	PU.PI [?	TY2	po.po	KN : Wn
69.	PU(2).RE.[	PKZ15	pu(2).re.o	KN : Obsc.
70.	QA.QA.RU	HT118, HT93a, HT122b	qa.qa.ro	KN : Mn
71a.	QA.RA(2).WA	HT86a	qa.ra(2).wo	KN : Mn
71b.	QE.RA(2).U	HT1a, HT3, HT95a,b	qa.ra.o qa.ra	KN : Mn KN : Pn
72.	QE.PU	HT9a,b	qa.i.po	KN : Mn
73.	QE.SI.TI	MAZ11	qi.si.ta	KN : Mn
74.	RA.SWI.TI	HT17, HT19	ra.su.to	KN : Pn
75a.	RE.RO	HTW212b, HT45a	re.ri.yo	KN : Eth. Adj.
75b.	RE?.RU	HT55a		
76.	RI.MI.SI	HT119	ri.ma.zo	KN : Mn
77.	RI.TA.MA	HT115a	re.ta.mo	PY : Mn
78.	RU.SA	HT96a	ru.sa.ma	KN : Wn
79.	RU.YA	KNW26a, HT7a?	ra.ya	KN : Pn
80.	SA.DI	HT100, HT111b	sa.de.so	KN : Mn?
81.	SA.MA.RO	HT88, HT39	sa.ma.ra	KN : Pn

Table (5) : Linear A and B Parallels (cont.)

	<u>Linear A</u>	<u>Reference</u>	<u>Linear B</u>	<u>Source / Type</u>
82.	SA.YA.MA	HT31	si.ya.ma sa.yu sa.yo	KN : Mn? KN : Wn KN : Pn
83.	SE.KU.TU	HT115a	si.ki.to	KN : Mn
84.	SI.DU[?]	HT123b, HT110a?	se.do	KN : Mn
85.	SI.KI.RA	HT8a	si.ki.ro	KN : Obsc.
86.	SI.MI.TA	HT96a	si.mi.do	KN : Mn
87.	SIRU [?]	HT90	ze.ro	KN : Mn
88.	SI.TU	ZA17	si.to	KN, MY : Noun
89.	SU.KA	HTW209a	su.ko	KN, PY : Noun
90a.	?] SU.KI.RI?.TA	PHW18	su.ki.ri.ta	KN : Pn
90b.	SU.KI.RI.TE.I.YA	HTZ158	su.ki.ri.ta.ya	KN : Eth. Adj.
91.	SU.MA?	HT115a	su.ma.no	KN : Mn
92.	SU.PU	HT31	su.po su.pu.wo	KN : Mn KN : Mn
93.	SU.SE?	HT32	su.se	KN : Mn
94.	TA.NA.TI	HT7a, HT10b, HT49a, HT98a	ta.na.to	KN : Mn
95.	TA.RA	HT84, HT89	ta.ra	KN : Pn
96.	?] TA.RA.I [?	KNZ13	ta.ra.i	KN : Mn
97.	TA.PA(3)?.DU?	PRZ1	ta.pa.da.no ta.u.pa.du.we	KN : Mn KN : Mn
98.	TA.TI	HT26a, HT97a	ta.to	KN : Mn
99.	TA(2).TI.TE	PK1	ta.ta.ta	KN : Mn?
100.	TI.NI	HT51a	ti.no te.nu	KN : Wn? KN : Mn
101.	TU.MA	HT110b, HT94a	ti.ma	KN : Mn
102.	U.SU	HT117a	u.su	KN : Obsc.
103.	U.TA(2).NI	HT103	u.ta.no	KN : Pn
104a.	WA.DI.NI	HTW208a	wa.du.na	KN : Mn
104b.	WI.DI.NA	HT28a		
105.	WA.TU.MI	HTW206a	wa.to	KN, TH : Pn
106.	WE.SE	TY2	wi.so	KN : Wn
107.	YA.MI.DA.RE	HT122a	ya.ma.ta.ro [?	KN : Mn
108.	YA.QI	HT28a,b	ya.qo	KN : Pn

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Table (5) : Linear A and B Parallels (cont.)

leads on to claims that Linear A does not in fact express the vowels *e* and *o*.<sup>50</sup> Seemingly contradictory, however, at least where the vowel *o* is concerned, are the two identical Linear A and B pairs (A) pa.i.to = (B) pa.i.to and (A) ki.da.ro = (B) ki.da.ro.<sup>51</sup> In discussing the latter of these, Goold and Pope theorized "that the phonetic value of Linear A sign 22 was not exactly *ro*, but something like it - at a sheer guess *riu*", citing the "possible equation" of (A) sa.ma.ro = (B) sa.ma.ri.jo in support of these claims.<sup>52</sup> Packard, following suit, proposes "a unified explanation ... [covering] both the weakness of the two Linear A vowel series and the hypothetical consonant series in Linear B (as postulated by Palmer) by imagining that the Greeks used some of the superfluous consonant signs to form the needed vowel series. Palatalized *tu*, for example, might be used for *to*. If the two of the original vowel series were split up in this way (*i* and *u*)," says Packard, "the third would be left more or less intact and could result in the preponderance of the homophones in the *a* series in Linear B."<sup>53</sup> At the other end of the scale, the *e/i* and *o/u* ambivalence between Linear A and B parallels has also led to claims that the Linear A syllabary distinguishes only three primary vowels - viz., *a*, *i*, *u* - and that those signs corresponding in phonetic value to the Linear B *e* and *o* coloured syllables are infact homophones for the vowels *i* and *u* in Linear A. Compare, for example, the pairs (A) ka.po.ru = (B) ka.pu.ro and (A) ke.ki.ru = (B) ki.ke.ro. Indeed, the possibility that Linear A may have possessed "a weaker

<sup>50</sup> Phonetic confusion between Linear A and B parallels is, of course, not only evident for the vowels *o/u* and *e/i*, but extends virtually across the entire phonetic grid to include *a/o*, *a/u*, *a/e*, *a/i*, *i/o*, *e/o*, *e/u*, *i/u*, *d/t*, *s/z*, *y/w*, and *u/w* type alternations. Several examples also show confusion between normal and "complex" signs, viz., *ra/ra(2)*, *ta/ta(2)*, *du/dwo*, and *su/swi*. "One might hope to reach a finer discrimination", says Packard (*ibid*:78), "by segregating the alternations into a priori categories such as "plausible" (*i/e*, *o/u*, *u/wa*) and "implausible" (*e/u*, *u/a* etc.), but such an arbitrary division contributes little." Note, however, that more than 60% of these assumed parallels differ in spelling by virtue only of their final syllables, where approximately eight out of every ten alternations involve the vowel *-o*, suggesting, in turn, that Minoan and other non-Greek names were simply "accomodated" to Greek inflectional patterns. The Linear B spelling variations of non-Greek words presented above in Table (4), on the other hand, show that initial and medial word positions account for more than 95% of the differences in spelling. The fact that there is very little variation with respect final word position is not surprising, however, given that these words have already been "hellenized".

<sup>51</sup> The reading of the Linear A sign-group here transliterated as pa.i.to depends, of course, on the equation A100 = B28 [i], rather than A100 = B52 [no].

<sup>52</sup> J.P. Goold & M. Pope, *op cit* : x

<sup>53</sup> D.W. Packard (1974) : 115

vowel structure but a stronger consonant structure" is claimed as indicative of the fact that Linear A expresses a Semitic language.<sup>54</sup>

### 3f. Orthographic Variation in Linear A

**3f.1** "If progress is to be made, we cannot ignore the evidence provided by the decipherment of Linear B. An uncritical borrowing of all the phonetic values, however, is not the proper way to use this evidence. While we may be encouraged by certain preliminary indicators which seem to support the hypothesis of shared values, we must not hesitate to subject the evidence to a systematic scrutiny."<sup>55</sup>

**3f.2** The extremely inflected nature of the Greek language was, of course, a key element in the decipherment of the Linear B script. Indeed, several years prior to Ventris's decipherment A. Kober was able to demonstrate how inflection in Linear B can provide evidence for determining the phonetic values of unknown signs.<sup>56</sup> "After collecting several ... inflectional paradigms in Linear B," writes Packard, "Kober was able to draw up a small table in which signs in each row have the same (unkown) consonant, and signs in each column share the same (unkown) vowel. Her method led directly to Ventris's famous 'grid', and many of her specific observations were fully confirmed by the decipherment."<sup>57</sup> Evidence deduced from "possible morphological and orthographic alternation" is therefore "internal" to the script "and requires no explicit identification of the language or the meaning of any individual word."<sup>58</sup> As Packard notes, however, "the success of this method is ... highly dependent [not only] on the conventions of the syllabary ... [but also on] the nature of the inflection. A Semitic language," he says "might show a far less obvious pattern."<sup>59</sup> The application of the Linear B phonetic values to Linear A in fact yields "more than 100 groups of Linear A words [which] are involved in alternations which superficially resemble inflection or orthographic variation."<sup>60</sup> Table (6) on pages 31 to 33 presents some

<sup>54</sup> J.G.P. Best, *op cit* : 13

<sup>55</sup> D.W. Packard (1974) : 70

<sup>56</sup> A. Kober, "The Minoan Scripts: Fact and Theory", *AJA* 52 (1948) : 82-103

<sup>57</sup> D.W. Packard (1974) : 70

<sup>58</sup> *ibid* : 71-72

<sup>59</sup> *ibid* : 71

<sup>60</sup> *ibid* : 71



sixty pairs of Linear A sign-groups organised into five general categories : (i) those which involve alternations to initial syllables, (ii) those which involve alternations to internal syllables, (iii) those which involve alternations to final syllables, (iv) those which involve apparent prefixes, and (iv) those which involve apparent suffixes :

(i) Alternations Involving Initial Syllables

<u>Sign-Group</u>	<u>Reference</u>	<u>Sign-Group</u>	<u>Reference</u>
1a. A.TA.I.L88.WA.YA	IOZ2, IOZ3, IOZ4, IOZ7, SYZ1, SYZ2, PKZ12, KOZ1, TLZ1	1b. YA.TA.I.L88.U.YA	[? APZ1
2a. A.DI.KI.TE.TE.PI	PKZ11, PKZ12	2b. YA.DI.KI.TE.TE.PI	PKZ8, PKZ15
3a. A.SA.SA.RA.ME	IOZ10, PKZ4, PKZ11, PKZ16?, PRZ1	3b. YA.SA.SA.RA.ME	TLZ1, IOZ2, IOZ9, IOZ12, KOZ1, PKZ14
4a. A.DU	HT85, HT86a, HT88, HT92, HT95b, HT99a, HT133, KH4	4b. YA.DU	HT122a
5a. A.KU	PA1	5b. YA.KU	MA2b
6a. A.SE	HT93, HT132, ZAZ3	6b. YA.SI	KNZ4
7a. QA.RA(2).WA	HT111a, HT132	7b. QE.RA(2).U	HT1a, HT3, HT95a,b
8a. QA.KU.RE	HTW217a	8b. QE.KU.RE	HT20
9a. K.U.DO.NI	HT13, HT35a	9b. KAU.DO.NI	HT26b
10a. A.TA.DE	CRZf1	10b. AU?.TA.DE	KO?Zf1
11a. WA.DI.NI	HTW208a	11b. WI.DI.NA	HT28a

(ii) Alternations Involving Internal Syllables

<u>Sign-Group</u>	<u>Reference</u>	<u>Sign-Group</u>	<u>Reference</u>
12a. KI.RE.TA(2)	HT85b, HT129	12b. KI.RI.TA(2)	HT114a, HT121
13a. ?]DI.RA.DI.NA	PH1a	13b. DI.RE.DI.NA	HT98a
14a. A.SU.YA	HT11a	14b. A.SE.YA	HT 115a
15a. WA.DI.NI	HTW208a	15b. WA.DU.NI.MI	HT6b, HT85b

Table (6) : Orthographic Variations in Linear A

## (iii) Alternations Involving Final Syllables

<u>Sign-Group</u>	<u>Reference</u>	<u>Sign-Group</u>	<u>Reference</u>
16a. YA.SA.SA.RA.ME	TLZ1, IOZ2, IOZ12, 10Z9, KOZ1, PKZ14?	16b. YA.SA.SA.RA.MA.NA	KNZ10
17a. I.L41.NA.MA	IOZ2, KOZ1, APZ2a, TLZ1, VRYZ1	17b. I.L41.NA.MI.NA	PKZ10
18a. KU.PA(3).NU	HT1a, HT3, HT49a, HT88, HT117a, HT122a	18b. KU.PA(3).NA.TU	HT47a, HT119
		18c. KU.PA(3).NA.TU.NA.TE	[?] APZ2b
19a. DA.KU.SE.NE	HT103	19b. DA.KU.SE.NE.TI?	HT104
20a. PA.RO.SU	HT20	20b. PA.RO.SU.TI?	HT104
21a. KI.RE.TA(2)	HT85b, HT129	21b. KI.RE.TA.NA	HT2, HT8a, HT108, etc
22a. ?] SU.KI.RI? TA	PHW18	22b. SU.KI.RI.TE.I? YA	HTZ158
23a. PI.TA.KA.SE	HT21a	23b. PI.TA.KE.SI	HT87
24a. U.TA.I.SE [?	KH7b	24b. U.TA.I.SI	KH16
25a. DA.TA.RA	HT6a, HT9b?	25b. DA.TA.RE	HT62, HT88
		25c. DA? TA.RO	HT116a
26a. RU.YA	KNW26a, HT7a	26b. RU.YA.TA.DI	HTW208b
		26c. ?] RU.YA?.SE.ME	HT128a
27a. RU.MA.TA	HT29, HT99b	27b. RU.MA.TA.SE	ZA17
		27c. ?] RU.MA.TI	HT170?b
28a. WA.TU.MI	HTW206a	28b. WA.TU.MI?.RE	HT128a
29a. KU.DO.NI	HT13, HT85a	29b. ?] KU.DO.NA? [?	HT64
30a. I.NA.YA	PKZ11, APZ2a?	30b. I.NA.WA	PH6
31a. SA.RU	HT86a,b, HT94a, HT95a,b, HT123a	31b. SA.RO	HT9a, HT17, HT19, etc
		31c. SA.RA(2)	HT11b, HT30, HT32, etc
32a. YA.DU	HT122a	32b. YA.DI	PHW16a
		32c. YA.DE?	HT119
33a. TE.KE	HT85a	33b. TE.KI	HT13, HT122a
34a. MA.RU	HT117a	34b. MA.RE	PH19, HT155, HT128a?
35a. KI.RA	HT103	35b. KI.RO	HT1a, HT15, HT30, etc
36a. ?] QA.DO [?	HT108	36b. ] QA?.DU	HT51b
37a. RE.RO	HTW212b, HT45a	37b. RE?.RU	HT55a
38a. DU.DO [?	HT36	38b. DO.DU	HT99b

Table (6) : Orthographic Variations in Linear A (*cont.*)

## (iv) Prefixes

<u>Sign-Group</u>	<u>Reference</u>	<u>Sign-Group</u>	<u>Reference</u>
39a. YA.KU	MA2b	39b. A.YA.KU	KNZ13
40a. KA.RU	HT75, HT84, HT97a	40b. A.KA.RU	HT2, HT86a,b
41a. PA.RA.NE	HT115a,b	41b. A.PA.RA.NE	HT96a,b
42a. SA.RA(2)	HT11b, HT30, HT32, etc	42b. A?.SA.RA(2)	HT89
43a. KI.RA	HT103	43b. ?]I.KI.RA	HT25a
44a. RE.RO	HTW212b, HT45a	44b. KA.RE.RO	HTW203
45a. SA.RU	HT86a,b, HT94a, HT95a,b, HT123a	45b. KA.SA.RU	HT10b
46a. KU.PA	HT110a, HTW220a	46b. KA.KU.PA	HT16, HTW215a
47a. KI.RU	MIZ1	47b. KE.KI.RU	HT94a
48a. PA.YA	PH1b, MA4b	48b. KU.PA.YA	HT116a
49a. SU.PU	HT31	49b. QE.SU.PU	HT87
50a. QE.TI	HT7a	50b. U.QE.TI	PLA:b
51a. KI.RA	HT103	51b. SI.KI.RA	HT8a
52a. TE.TU	HT13, HT7a, HT85b	52b. SI.TE.TU	ZA17
53a. NA.TI	HT97a	53b. TA.NA.TI	HT7a, HT10b, HT49a, etc

## (v) Suffixes

<u>Sign-Group</u>	<u>Reference</u>	<u>Sign-Group</u>	<u>Reference</u>
54a. A.SE	HT93a, HT131, ZAZ3	54b. A.SE.YA	HT115a
55a. KU.PA	HT110a, HTW220a	55b. KU.PA.YA	HT116a
56a. PA.SE	HT18, HT27b	56b. PA.SE.YA	HT93a, HTW201, HTW202
57a. L83.TU	HT9a,b, HT119, HT122a	57b. L83.TU.YA	HT115b
58a. KA.PA	HT6a, HT8b, HT94b, etc	58b. KA.PA?.QE	HT6a
59a. SA.RO	HT9a, HT17, HT19, etc	59b. SA.RO.TE	HT38

Table (6) : Orthographic Variations in Linear A (cont.)

**3f.3** "The morphological alternations," says Packard, "must be considered as a group, and careful attention must be given to the problem of statistical control. Only a dozen consonants are distinguished in the Linear B orthography. Using these values for Linear A, if each of the twelve consonants occurred with the same frequency (which they do not), we could predict that one twelfth of the alternating pairs listed [above] ... would share a common consonant by chance alone."<sup>61</sup> Just over half of the sign-groups cited in Table (6), moreover, are composed of only two syllables and must therefore be treated with some caution given "the probability of coincidence when dealing with such short words."<sup>62</sup> This is particularly relevant in the case of *o/u*, *a/u* and *i/u* type alternations, which are evidenced solely by bisyllabic words. Of the longer sign-groups, on the other hand, only those recurring on the religious inscriptions offer any firm contextual support that we are indeed dealing with legitimate instances of inflection or orthographic fluctuation.<sup>63</sup> Certainly the most plausible cases of phonetic confusion in Linear A, if only for the length of some of the sign-groups involved,, would suggest that *e/i*, *a/e*, *a/y*, and perhaps also *u/w* and *d/t*, were occasionally confused by Minoan scribes.

**3f.4** One singular observation, insofar as the phonetic structure of the Linear A syllabary is concerned, is, of course, the apparent weakness of the vowels *e* and *o*: "Only two signs (RO and DO) occur with any strength," says Packard, "a disparity which cannot be attributed to chance. Signs with the vowel *e* also show some weakness though not nearly so pronounced. It will be remembered that no signs have been reliably identified as representing the pure vowels *e* and *o*."<sup>64</sup> The hypothesis that Linear A expresses only three primary vowels is, as we have already noted, also suggested by the *i/e* and *o/u* fluctuation that exists not only between predominantly non-Greek words in the Linear B archives from Knossos, but also between Linear A and B parallels. "Since there is reason to doubt that

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<sup>61</sup> *ibid* : 73

<sup>62</sup> *ibid* : 91

<sup>63</sup> *ibid* : 91

<sup>64</sup> *ibid* : 112

the Linear A syllabary distinguishes five vowels," says Packard, "one might also wonder whether the same consonants are represented as in Linear B (*d, j, k, m, n, p, q, r, s, t, w, z*). An alternative possibility", he continues, "is that Linear A has a graphemic repertory unlike that of Linear B and that some of the Linear A phonetic values may have no parallel in Linear B and vice versa."<sup>65</sup> Thus, while "the emergence of doublets such as KI.RE.TA<sub>2</sub> and KI.RI.TA<sub>2</sub> or DA.TA.RA and DA.TA.RE has been taken as confirmation that the Linear B phonetic values may be safely transferred to Linear A", there is, concludes Packard, "no reason to believe that confirmation of some phonetic values confirms by implication the entire group."<sup>66</sup>

### 3g. Comparative Statistical Analysis of Linear A and B

**3g.1** "The relative frequency of each syllabic sign can give some clue to its phonetic value. Such evidence is not entirely free from suspicion since it depends, at least partially, on the phonetic pattern of the unknown underlying language."<sup>67</sup>

**3g.2** It has long been observed that the syllabic structure of Linear B, and presumably therefore, of Linear A, lends itself quite readily to what we might term *statistical fingerprinting*. G.P. Goold and M. Pope, for example, included, but made no specific reference to, an "approximate frequency list" in their *Preliminary Investigations into the Cretan Linear A Script* published in 1955, wherein the frequency distributions of individual Linear A signs were presented according to their initial, medial or final positions within sign-groups.<sup>68</sup> The value of such a purely statistical approach as an independent means of investigating the transference to Linear A of the Linear B phonetic values was soon recognised and developed by several scholars.<sup>69</sup> Certainly the most exhaustive of these

<sup>65</sup> *ibid* : 115

<sup>66</sup> *ibid* : 71

<sup>67</sup> *ibid* : 80

<sup>68</sup> G.P. Goold and M. Pope, *op cit* : 26

<sup>69</sup> cf., G. Nagy, "Greek-like Elements in Linear A," *Greek, Roman and Byzantine Studies* 4 (1963):181-211; R. Kamm, "Eine statistische Grundanalyse der minoischen Linear-A-Schrift," *Orbis* 14 (1965) : 237-249; M. Setatos, "Comparaison des tablettes myceniennes sur la base d'une statistique phonetique," *Minos* 10 (1969): 96-108

studies has been the contribution of D.W. Packard.<sup>70</sup> Packard's methodology is simple enough : the relative frequency distributions for corresponding Linear A and B signs are generated from Linear A and B word-indices with respect their initial, medial and final positions within words, and the results are then tabulated and compared. The Linear B material is itself "divided into several classes (place names, personal names etc.), and separate tables of frequency [are] compiled for signs in words of different classes and at different geographical locations."<sup>71</sup> By this means Packard was not only able to produce statistical evidence for the apparent "disparity" of signs containing the vowels *e* and *o* in Linear A, but was also able to detect a similar phenomenon in certain categories of Linear B words from Knossos, suggesting, once again, the possibility that the Minoan language may have been "characterized by a weakness (or total lack) of syllables with *e* and *o* ..."<sup>72</sup> At the same time, however, Packard concedes that "the lack of an *o* series or an *e* series in the Linear A syllabary would not, in itself, permit any deduction about the phonetic structure of the language. Underdifferentiation", he says, "is exhibited in many contemporary syllabaries. But shortcomings in the Linear A script cannot explain the weakness of *e* and *o* in the Linear B names which seem to be inherited from the Minoan substratum."<sup>73</sup>

**3g.3** In order to test the transference of Linear B phonetic values to Linear A signs, Packard employs two rather different statistical approaches. The first involves the use of several "fictitious" or "random decipherments" of the Linear A material primarily as a means for assessing the extent to which possible parallels with Linear B words are likely to result from pure chance.<sup>74</sup> Here Packard was able to show "conclusively" that the "Linear B phonetic values produce substantially more parallels than any of the random

<sup>70</sup> D.W. Packard, "Contextual and Statistical Analysis of Linear A" *Atti e Memorie del Primo Congresso Internazionale di Micenologia I, Rome*. (1968) : 389-394; cf., D.W. Packard (1971) and (1974), [*op cit loc*]

<sup>71</sup> *ibid* : 390

<sup>72</sup> Packard, (1974) : 112ff

<sup>73</sup> *ibid* : 113

<sup>74</sup> *ibid* : 72ff

decipherments", though, at the same time, he is somewhat vague as to which phonetic values are actually "confirmed" by the procedure.<sup>75</sup> Packard's second statistical approach is rather more ambitious in scope, and essentially involves a comparison of the observed frequency distributions of Linear A and B signs with expected frequency distributions based upon a very hypothetical "condition of symmetry", according to which "the frequency of a sign" is said to be "proportional to the overall frequency of its vowel and its consonant."<sup>76</sup> Despite the fact that Packard himself admits to there being a "lack of any firm theoretical foundation for these tests", he goes on to note that the "predicted values" obtained for Linear B "automatically fulfil the conditions of "symmetry" ... Most of the predictions", he says, "agree fairly well with the actual frequencies ..."<sup>77</sup> With respect his application of this test to the Linear A phonetic values, Packard simply says that "most fall within the range we might expect, but ... several ... do not."<sup>78</sup> Expected frequencies for missing Linear A and B signs were also calculated using "a method of iterative approximation", and several "predictions" regarding the phonetic values of individual Linear A signs postulated.<sup>79</sup> Some measure of objectivity for assessing the degree of "divergence between the observed and predicted rates", was further provided by Packard in the form of chi square distributions, though he made little comment on the results.<sup>80</sup> In any event, Packard himself stresses the point that the "hypothesis of symmetrical distribution", upon which his calculations were based, "is obviously false" - "although", he adds, "the frequencies of many signs follow a consistent and predictable pattern, disagreement with this pattern is only partial and inconclusive evidence against a phonetic value."<sup>81</sup>

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<sup>75</sup> *ibid* : 93

<sup>76</sup> *ibid* : 82

<sup>77</sup> *ibid* : 82; cf., n.30 : "The ratio between the predicted rate of *ka* and *ke* is identical with the ratio between predictions for *da* and *de*, *pa* and *pe*, and so forth. Moreover, there is a fixed ratio, for example, between the prediction for each sign containing *p* and the corresponding sign containing *t*."

<sup>78</sup> Packard (1971) : 54

<sup>79</sup> Packard (1974) : 82-3

<sup>80</sup> *ibid* : 82; cf., n.31 : "Chi-square here is not serving in its traditional function as a statistical test of the validity of a hypothesis. No one could seriously propose symmetry as an accurate predictor of frequency distribution ... Chi-square here serves only as a relative indicator drawing attention to those frequencies which differ most radically from symmetry."

<sup>81</sup> *ibid* : 84





## 4. LINEAR A AND B SIGN-FREQUENCY DISTRIBUTIONS AND CHI SQUARE ANALYSIS

### 4a. The Present Study : Aims and Method

**4a.1** "The Linear A and B phonetic repertoires are reasonably close to one another, much more so than previous purely statistical comparisons have suggested." <sup>1</sup>

**4a.2** Packard's statistical analysis of the Linear A and B scripts, while encouraging a certain degree of confidence in the application of at least some of the Linear B phonetic values to Linear A, involves much in the way of circumstantial or indirect evidence. "With more refined techniques", comments Packard, "we may be able to draw further conclusions."<sup>2</sup> The remainder of this paper is devoted in theme to a statistical re-evaluation of the Linear A and B scripts along the general lines initiated by Packard more than twenty years ago. The main difference, however, between this study and Packard's is that here a direct comparison between the two scripts is attempted. There are also fundamental differences in the way the inscriptional evidence has been organised. In fact, only three broad categories have been collated for the purposes of this study :

- (i) Greek Linear B;
- (ii) "non-Greek" Linear B words from Knossos;
- (iii) Linear A.

**4a.2** Category (i) is by far the largest, comprising some 1,352 Linear B words plausibly identified as Mycenaean-Greek.<sup>3</sup> Rather than list each and every Greek word as it occurs within the Linear B corpus I have instead combined orthographical and morphological variations of individual words in such a way as to allow for only one entry per "lexical item". Thus, for example, the personal name a.da.ma.yo (=Aδμαος), which is also spelled a.da.ma.o and further appears in the genitive case as a.da.ma.o.yo, is rendered in the index

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<sup>1</sup> T.G. Palaima, *op cit loc* : 331

<sup>2</sup> Packard (1971) : 58

<sup>3</sup> The Mycenaean-Greek Linear B word-index is presented in Appendix (I)

as a.da.ma.yo [/.o /o.yo]; the name a.da.ra.te.ya (= Ἀδραστειῶ) and its variant form a.da.ra.ti.ya, is listed as a.da.ra.te.[/.ti.].ya; the noun ko.no (= χοῖνος), also found as ko.i.no, is recorded as ko.[.i.].no; the verbal adjective o.pe.ro (= οφηλῶν), found also in the forms o.pe.ro.ta, o.pe.ro.te, and o.pe.ro.sa, and the 3rd pl. present indicative of the verb o.pe.ro.si are likewise combined to read o.pe.ro [/.ro.ta /.te /.sa /.si ], and so on. The aim, of course, is to generate more reliable statistical data by reducing the "background noise" which may result from such unnecessary sign repetition. Category (ii), on the other hand, involves some 652 "unetymologised" words sampled, as it were, by a simple process of elimination from the Knossian Linear B material, and which, we may suppose, represent a substratum of Minoan words consisting primarily of personal and place names.<sup>4</sup> Note that no attempt has here been made to combine apparent spelling variations into single entries, though ethnic adjectives are normally excluded from the index when the place name proper has been otherwise recorded. Finally, Category (iii) consists of some 600 Linear A sign-groups, transliterated according to the Linear B phonetic values presented in Tables (1) and (2) on pages 12 and 16 respectively.<sup>5</sup> Since no assumptions can be entered into concerning the language or languages recorded in the Linear A texts, all sign-groups are simply listed as they occur within the corpus. Recurrent sign-groups are, of course, recorded only once.

#### 4b. Chi Square Testing : Application and Interpretation

**4b.1** Our immediate aim is to test the hypothesis that the Linear B phonetic values are "transferrable" to Linear A signs simply on the basis of similarity in shape. This is achieved easily enough by first collating the initial, medial and final frequency counts for the corresponding signs in each of the above categories, and then using this data as the basis for two somewhat different chi square ( $\chi^2$ ) test procedures - viz., the *test of*

<sup>4</sup> The unetymologised or non-Greek Linear B words from Knossos is presented in Appendix (II).

<sup>5</sup> The provisional Linear A index is set out in Appendix (III).

*homogeneity* and the *goodness-of-fit test* - as a means for objectively assessing the degree to which the resulting sample distribution patterns conform to each other.<sup>6</sup> A fundamental premise of chi square, of course, is that the populations being sampled approximate normal distribution patterns with known proportional relationships.<sup>7</sup> Specifically, chi square is used to establish whether the mean variance obtained between sample distribution patterns is due to differences in the sampling process or whether this variance is too great for this to be the case. The former is said to be a *chance difference* while the latter is considered to be a *statistically significant difference*.

**4b.2** Assumptions concerning the sample data are expressed as *null and alternative hypotheses* : "The null hypothesis ( $H_0$ ) is the hypothesized parameter value which is compared with the sample result. It is rejected only if the sample result is unlikely to have occurred given the correctness of the hypothesis. The alternative hypothesis ( $H_A$ ) is accepted only if the null hypothesis is rejected."<sup>8</sup> Since it is assumed that the "non-Greek" or Category (ii) words from Knossos are primarily of "Minoan" origin, we would naturally expect to find a far greater agreement between the distribution patterns of this group and those of Linear A or Category (iii) words, than between the distribution patterns of either of these categories and those of the Greek Linear B or Category (i) words. Indeed, the

<sup>6</sup> Both the absolute and relative sign-frequencies for each of the above categories are presented in full in Appendix (IV). As can be seen, sign-frequency distributions have here been calculated for both Linear A as a whole and also for the Haghia Triadha corpus. The Linear A distribution figures presented in the text, on the other hand, are the "average yields" produced by these two sets of calculations. The intention here was again to reduce "background noise" resulting from faulty readings, repetitive sign-groups and the like.

<sup>7</sup> A *standard normal distribution pattern* is, of course, an ideal type wherein the peak or kurtosis of the distribution curve occurs at the *mean* with 50% of all other possible values evenly dispersed on either side of this central point. A definite proportional relationship exists between the mean ( $\mu$ ), the standard deviation ( $\sigma$ ) and the area under the distribution curve : "the mean plus one standard deviation ( $\mu + 1\sigma$ ) will always encompass 34.13 percent of the area under the curve ... The mean plus two standard deviations ( $\mu + 2\sigma$ ) includes 47.72 percent of the area, and the mean plus three standard deviations ( $\mu + 3\sigma$ ) bound 49.86 percent of the area. And, since the normal curve is symmetrical, these values also hold when the standard deviation is subtracted from the mean." [quoted from V.E. Cangelosi, P.H. Taylor & P.F. Rice, *Basic Statistics*. (West Publishing Co. 2nd Ed. 1979.): 113-14]. Since a normal distribution is continuous - that is, it contains every fractional value within a given range of values - the probability that a randomly selected variable falls between any two points under the distribution curve can be determined. Note that the square of any standard normal variable yields a chi square variable.

<sup>8</sup> L. J. Kazmier, *Theory and Problems of Business Statistics*. (Schaum's Outline Series. 1976.) : 155

expectation is that the frequency distributions of the corresponding syllables between both Linear A and the "non-Greek" Linear B from Knossos *will behave in a like manner* when compared to those of Greek Linear B. In keeping with the general aims of this study the following *null and alternative hypotheses* have been formulated :

$H_{O1}$  : Linear A = non-Greek Linear B from Knossos

$H_{A1}$  : Linear A  $\neq$  non-Greek Linear B from Knossos

$H_{O2}$  : non-Greek Linear B from Knossos = Greek Linear B

$H_{A2}$  : non-Greek Linear B from Knossos  $\neq$  Greek Linear B

$H_{O3}$  : Linear A = Greek Linear B

$H_{A3}$  : Linear A  $\neq$  Greek Linear B

$H_{O4}$  : Linear A = Linear A

$H_{A4}$  : Linear A  $\neq$  Linear A

$H_{O5}$  : non-Greek Linear B from Knossos = non-Greek Linear B from Knossos

$H_{A5}$  : non-Greek Linear B from Knossos  $\neq$  non-Greek Linear B from Knossos

$H_{O6}$  : Greek Linear B = Greek Linear B

$H_{A6}$  : Greek Linear B  $\neq$  Greek Linear B

**4b.3** The chi square *test of homogeneity* specifically examines the possibility that two or more samples have been drawn from like population groups with similar distribution patterns. It will be noted, however, that the parameters of each sample are different since only the absolute sign-frequencies are used in this particular chi square procedure. Because we are testing for homogeneity, the totals of the various corresponding categories for each sample being tested are summed and these larger aggregates then used to generate hypothetical frequency distributions. The proportional differences between the observed and hypothesized values for each category are then determined. This is achieved by simply squaring the differences between the observed and expected frequencies of a given category and then dividing this result by the expected frequency for that category. The individual chi square variables generated for each category are then tallied to yield the  $\chi^2$

test statistic. The chi square *test of homogeneity* is expressed by the following formula :

$$\chi^2 test = \sum \frac{(fa-fe)^2}{fe} + \sum \frac{(fb-fe)^2}{fe}$$

where

- $fa$  = the observed frequency of the variable of the first sample population
- $fe$  = the expected frequency of the variable of the first sample population
- $fb$  = the expected frequency of the variable of the second sample population
- $fe$  = the expected frequency of the variable of the second sample population

**4b.4** One major limitation of the chi square *test of homogeneity*, however, is that the expected sample frequency for any classification cannot equal less than five. This constraint, of course, means that thirty-one of the sixty main phonetic signs cannot be tested via this method insofar as the first null hypothesis ( $Ho_1$ ) is concerned. Similarly, some nineteen signs cannot be tested with respect the second null hypothesis ( $Ho_2$ ), and another thirty signs cannot be tested for the third ( $Ho_3$ ). This problem can be somewhat compensated for by simply calculating a chi square *goodness-of-fit test* for those syllables which cannot be tested via the previous method. Here the  $\chi^2$  test statistic is calculated as follows :

$$\chi^2 test = \sum \frac{(fo-fe)^2}{fe}$$

where

- $fo$  = the frequency of the variable of the sample population
- $fe$  = the frequency of the variable of the hypothetical or historical population

**4b.5** Though this chi square procedure is also subject to the same limitation as the test of homogeneity, the fact that we are here dealing with the relative frequency distribution figures means that we are presented with fewer instances in which expected frequencies actually number less than five. As with the previous procedure, the chi square goodness-of-fit test analyses the differences between the obtained and expected frequencies. This particular chi square technique specifically tests the shape of a sample

distribution against a hypothetical or historically known distribution pattern. It will be noted, however, that any given sample population can here serve either as the observed or the expected population according to which null hypothesis is being tested. With respect to the first null hypothesis ( $H_{01}$ ), for example, the relative frequency distributions obtained for Linear A serve as the sample population ( $f_o$ ) while those for the "non-Greek" Linear B words from Knossos function as our historical or expected population ( $f_e$ ). Likewise for the null hypotheses ( $H_{02}$ ) and ( $H_{03}$ ), where both the "non-Greek" Linear B and Linear A serve as the sample ( $f_o$ ), and Greek Linear B as the expected ( $f_e$ ), populations. The application of both chi square test procedures is illustrated below with respect to the initial, medial and final distributions for the syllable *da* in both Linear A and the "non-Greek" Linear B words from Knossos. As is apparent, the two procedures yield different  $\chi^2$  test result. Indeed, it is typically the case that the goodness-of-fit test results are much higher than those produced by the test of homogeneity. In this study preference is given to the chi square test of homogeneity, since this allows for some assumptions to be drawn concerning the sample populations being tested. The chi square goodness-of-fit test is applied only when there is insufficient data to perform the former procedure.

**4b.6** As noted above, acceptance or rejection of a particular null hypothesis depends upon the extent to which a computed  $\chi^2$  test statistic agrees or disagrees with a critical  $\chi^2$  value. "For the null hypothesis to be accepted, the differences between observed and expected frequencies must be attributable to sampling variability at the designated level of significance ... the chi-square test statistic is based on the magnitude of this difference for each category in the frequency distribution."<sup>9</sup> In order to determine the critical  $\chi^2$  value against which we may compare the test statistic it is first necessary to determine both the degrees of freedom (*d.f.*) and the level of confidence or alpha ( $\alpha$ ) value. The former simply refers to the number of observations that are free to vary in a given set of observations

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<sup>9</sup> Kazmier, *op cit* : 196

**Example (1) : Application of the Chi Square Test of Homogeneity**

**(1.) Observed Absolute Frequency Distribution Patterns for the Syllable *da***

	Linear A (fa)	Linear B at KN (fb)	Total
I	27.50	32.00	59.50
M	21.00	26.00	47.00
F	8.00	8.00	16.00
T	56.50	66.00	122.50

**(2.) Expected Absolute Frequency Distribution Patterns for the Syllable *da***

	Linear A (fe)	Linear B at KN (fe)	Total
I	$(59.50 \div 122.50) \times 56.50 = 27.44$	$(59.50 \div 122.50) \times 66 = 32.06$	59.50
M	$(47 \div 122.50) \times 56.50 = 21.68$	$(47 \div 122.50) \times 66 = 25.32$	47.00
F	$(16 \div 122.50) \times 56.50 = 7.38$	$(16 \div 122.50) \times 66 = 8.62$	16.00
T	$= 56.50$	$= 66.00$	122.50

$$(3.) \chi^2_{test} = \sum \frac{(fa-fe)^2}{fe} + \sum \frac{(fb-fe)^2}{fe}$$

$$= (27.50 - 27.44)^2 \div 27.44 + (21 - 21.68)^2 \div 21.68 + (8 - 7.38)^2 \div 7.38$$

$$+ (32 - 32.06)^2 \div 32.06 + (26 - 25.32)^2 \div 25.32 + (8 - 8.62)^2 \div 8.62$$

$$= 0.00013 + 0.02133 + 0.05209 + 0.00011 + 0.01826 + 0.04459$$

$$\chi^2 \text{ test statistic} = 0.13651$$

**Example (2) : Application of the Chi Square Goodness-of-Fit Test**

$$\chi^2_{test} = \sum \frac{(fo-fe)^2}{fe}$$

	(fo) <sup>1</sup>	(fe) <sup>2</sup>	(fo - fe)	(fo - fe) sq	(fo - fe) sq / fe
I	48.67 %	48.48 %	0.19	0.0361	0.00074
M	37.17 %	39.39 %	[2.22]	4.9284	0.12512
F	14.16 %	12.13 %	2.03	4.1209	<u>0.33973</u>

$$\chi^2 \text{ test statistic} = 0.46559$$

<sup>1</sup> fo = the relative frequency distribution patterns for the syllable *da* in Linear A

<sup>2</sup> fe = the relative frequency distribution patterns for the syllable *da* in non-Greek Linear B words from Knossos

when dealing with statistical data generated from sample populations.<sup>10</sup> A different  $\chi^2$  distribution is, of course, generated for each degree of freedom.<sup>11</sup> Strictly speaking, there are two different methods for calculating the degrees of freedom depending upon which chi square test is being performed. When testing for homogeneity, for example, the degrees of freedom are calculated by first organising the data as a table in which the rows represent the different categories of data (ie., initial, medial and final distributions) and the columns the different samples (eg., Linear A vs the "unetymologised" Linear B). It is then a simple matter of multiplying the number of rows minus one ( $r - 1$ ) by the number of columns minus one ( $c - 1$ ), which in this case yields 2 *d.f.* Insofar as the *goodness-of-fit test* is concerned, the degrees of freedom are determined by simply subtracting one from the number of categories of data in the frequency distribution. As can be seen, both methods here yield the same number of degrees of freedom. Note that in cases where only one degree of freedom is allowed the following correction factor must also be applied when computing the  $\chi^2$  test statistic :  $\chi^2_{test} = \sum \frac{([fo-fe] - .5)^2}{fe}$ . In such cases, when  $([fo-fe] - .5)$  equals less than zero, it is treated as if it is zero. Note also that this correction factor is applied only when the size of the sample is less than fifty.

<sup>10</sup> When calculating the sample standard deviation (ie., the average variance produced by a given set of variables in relation to their arithmetic mid-point or mean), for example, the degrees of freedom are said to equal the number of observations less one ( $n - 1$ ). This is due to the fact that when the arithmetic mean is subtracted from each individual value within a given set of observations, the sum of the differences is always equal to zero. Consequently, any one variable in a given set of variables is not free to vary. The absolute frequency distribution for the Linear A syllable *da* with respect its initial, medial and final occurrences, for example, is 27.5, 21 and 8 respectively. The arithmetic mean is determined by simply dividing the sum of the observations (56.5) by the number of observations (3), which in this case yields 18.83. If the first two values (ie., 27.5 and 21) from the above set of three are chosen, the third value must necessarily be 8 since the sum of the differences about the mean is equal to 0 :

$$\begin{array}{rclcl} (27.5 - 18.83) & + & (21 - 18.83) & + & (X - 18.83) & = & 0 \\ 8.666 & + & 2.166 & + & (X - 18.83) & = & 0 \\ & & 10.83 & + & (X - 18.83) & = & 0 \\ & & & & X - 8 & = & 0 \end{array}$$

therefore  $X = 8$

<sup>11</sup> Proportionally speaking, the mean of any given chi square distribution curve is equal to the number of degrees of freedom, while the average variance or standard deviation is two times this number (ie.,  $2 \times d.f.$ ). Significantly, the chi square distribution begins to approximate a normal distribution curve as the number of degrees of freedom increases. cf., Cangelosi et al, *op cit* : 249



4b.7 The  $\alpha$  level, on the other hand, serves to define the critical  $\chi^2$  values - "the boundaries for the regions of acceptance and rejection" - for a particular null hypothesis: "The purpose of the alpha level is to provide a way to decide whether the observed difference between the sample mean and hypothesized mean ( $\bar{X} - \mu_H$ ) is a chance difference (sampling variation), or whether the difference ( $\bar{X} - \mu_H$ ) should be declared a statistically significant difference."<sup>12</sup> The selection of an  $\alpha$  value is itself "a management decision rather than a statistical decision" and is based upon the margin of error one assumes can be tolerated in a particular case.<sup>13</sup> An  $\alpha$  level of 0.05, for example, means simply that the region of acceptance for any given null hypothesis incorporates ninety five percent of the area under the distribution curve, which at *d.f.* = 2 is defined by a critical  $\chi^2$  value of 5.99147. At the same time, however, there is a five percent margin of error for rejecting the null hypothesis when it is in fact true.<sup>14</sup> Characteristically, as the margin of error decreases, the area under the distribution curve (as delineated by critical  $\chi^2$  values) increases.<sup>15</sup> Thus, for example, a comparison of the initial, medial and final absolute frequency distribution patterns for the syllable *da* between Linear A and "non-Greek" Linear B from Knossos (=Ho<sub>1</sub>) yields a  $\chi^2$  test statistic of 0.13651. On the other hand, the  $\chi^2$  test statistic generated for the same syllable between "non-Greek" Linear B from Knossos and Greek Linear B (=Ho<sub>2</sub>) is 11.93066. A similar  $\chi^2$  test statistic is produced also for the same syllable between Linear A and Greek Linear B (=Ho<sub>3</sub>), which registers 12.86272. Clearly, the  $\chi^2$  test statistic for the first null hypothesis falls well within the range of the critical  $\chi^2$  value of 0.211 given for  $\alpha = 0.900$  at *d.f.* = 2, whereas the results for

<sup>12</sup> Quoted from Cangelosi et al, *ibid* : 173

<sup>13</sup> *ibid* : 182

<sup>14</sup> When the level of significance is at 0.05 "it is predetermined when  $H_0$  is correct that 95 percent of the time any difference that is due to chance will be *attributed to chance* and 5 percent of the time any difference due to chance will be labelled incorrectly *a statistically significant difference*. Thus an alpha level of 0.05 establishes that 5 percent of the time we would fail to identify that the true mean is equal to  $\mu_H$  when in fact, it is." Quoted from Cangelosi et al, *ibid* : 173-4

<sup>15</sup> Tables listing the different critical  $\chi^2$  values for the various degrees of freedom and levels of confidence are presented by Cangelosi et al, *ibid* : 508, Appendix L, and Kazmier, *op cit* : 365, Appendix 7.

the second and third null hypotheses both exceed the critical value even at an  $\alpha$  level of 0.005. Consequently, the first null hypothesis is accepted, whereas the second and third are rejected. In other words, the correspondence of the Linear A sign L30 with the Linear B sign \*01 = *da* simply on the basis of external form appears to be valid. Each chi square computation, then, is a self-contained test designed to measure the observed (squared) mean variance between the respective distribution patterns of corresponding Linear A and B syllabic signs as defined by a particular null hypothesis.<sup>16</sup> The mean variance is, as we have seen, expressed by the computed chi square test statistic and evaluation of this statistic is effected by comparing it to the critical chi square value determined by the chosen level of confidence for the appropriate number of degrees of freedom. Note that in this study the following levels of significance have been chosen :

**Level (1+)** : A sign's phonetic value receives strong verification in all three (ie., initial, medial and final) word positions. The result is, of course, determined by a critical  $\chi^2$  value of 5.99147 at d.f. = 2 and  $\alpha = 0.05$

**Level (1-)** : A sign's phonetic value is verified in all three (ie., initial, medial, and final) word positions, though here the result is determined by a critical  $\chi^2$  value of 10.5966 at d.f.=2 and  $\alpha = 0.005$

**Level (2+)** : A sign's phonetic value receives strong verification in only two of the three word positions. The result is here determined by a critical  $\chi^2$  value of 3.84146 at d.f. = 1 and  $\alpha = 0.05$ .

**Level (2-)** : A sign's phonetic value is verified in only two of the three word positions. The result is here determined by a critical  $\chi^2$  value of 7.87944 at d.f. = 1 and  $\alpha = 0.005$

Note that a zero (0) value means that a given sign has failed to be confirmed with respect its ascribed phonetic value; n/a means that a sign is not available for comparison.

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<sup>16</sup> The individual chi square calculations are set out in full in Appendix (V).

## 5a. CHI SQUARE TEST SERIES ONE TO THREE

**5a.1** The initial, medial, and final frequency distributions for the fifty-six primary Linear A and B phonetic signs are presented on pages 50 to 75 in Tables (7) through (19) and Figures (2) to (14). Chi Square Test Series One examines the Linear A sign-frequencies against those of the "non-Greek" Linear B from Knossos ( $=H_{01}$ ); Chi Square Test Series Two examines the sign-frequencies of the "non-Greek" Linear B from Knossos against those of Greek Linear B ( $=H_{02}$ ); and Chi Square Test Series Three examines the Linear A sign-frequencies also against those of Greek Linear B ( $=H_{03}$ ). The chi square test results are set out in phonetic grid format on pages 76 to 78 in Tables (20) to (22). Table (23) on page 79 translates these results according to the four levels of significance outlined on page 47. A summary of these results is found on pages 80 to 83.

TABLE (7) : PURE VOWEL SIGNS

(7.1) : B08 / A52 [A]	I	M	F	T
1. Greek Linear B (5,651 signs)	204 88.31%	12 5.19%	15 6.49%	231 4.08%
2. "Non-Greek" at Knossos (2,092 signs)	53 88.33%	4 6.67%	3 5.00%	60 2.87%
3. Linear A (1,595 signs)	51 82.25%	6.5 10.48%	4.5 7.25%	62 3.89%
(7.2) : B38 / A44 [E]	I	M	F	T
1. Greek Linear B (5,651 signs)	150 70.75%	37 17.45%	25 11.79%	212 3.75%
2. "Non-Greek" at Knossos (2,092 signs)	19 76.00%	4 16.00%	2 8.00%	25 1.20%
3. Linear A (1,595 signs)	0 0.00%	0 0.00%	0.5 100.00%	0.5 0.03%
(7.3) : B28 / A100 [I]	I	M	F	T
1. Greek Linear B (5,651 signs)	34 29.57%	47 40.87%	34 29.57%	115 2.03%
2. "Non-Greek" at Knossos (2,092 signs)	16 39.02%	21 51.22%	4 9.76%	41 1.96%
3. Linear A (1,595 signs)	24.5 44.95%	15 27.52%	15 27.52%	54.5 3.42%
(7.4) : B61 / A87 [O]	I	M	F	T
1. Greek Linear B (5,651 signs)	64 40.76%	25 15.92%	68 43.31%	157 2.77%
2. "Non-Greek" at Knossos (2,092 signs)	19 67.86%	4 14.29%	5 17.86%	28 1.34%
3. Linear A (1,595 signs)	3 54.55%	0.5 9.09%	2 36.36%	5.5 0.34%
(7.5) : B10 / A97 [U]	I	M	F	T
1. Greek Linear B (5,651 signs)	11 6.08%	84 46.41%	86 47.51%	181 3.20%
2. "Non-Greek" at Knossos (2,092 signs)	10 29.41%	21 61.76%	3 8.82%	34 1.63%
3. Linear A (1,595 signs)	15.5 64.58%	5 20.83%	3.5 14.58%	24 1.50%

Fig. (2.1) : B08 / A52 [A]

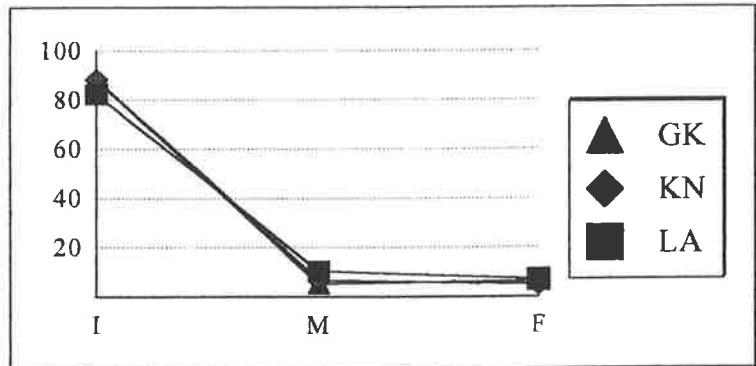


Fig. (2.2) : B38 / A44 [E]

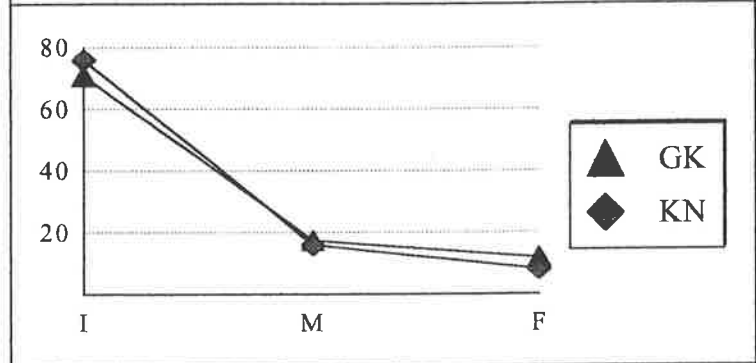


Fig. (2.3) : B28 / A100 [I]

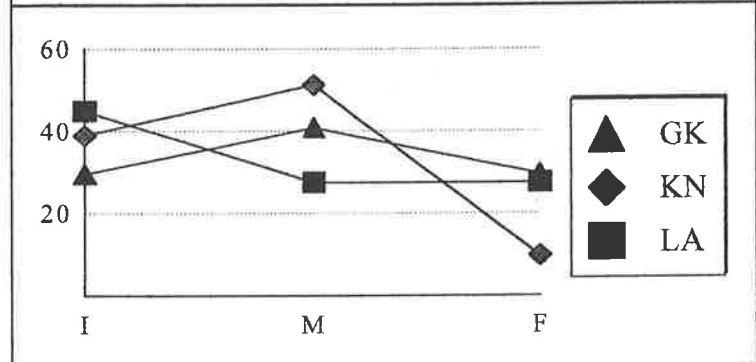


Fig. (2.4) : B61 / A87 [O]

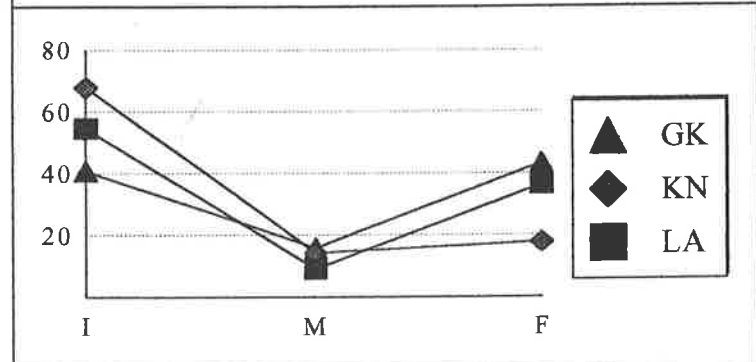


Fig. (2.5) : B10 / A97 [U]

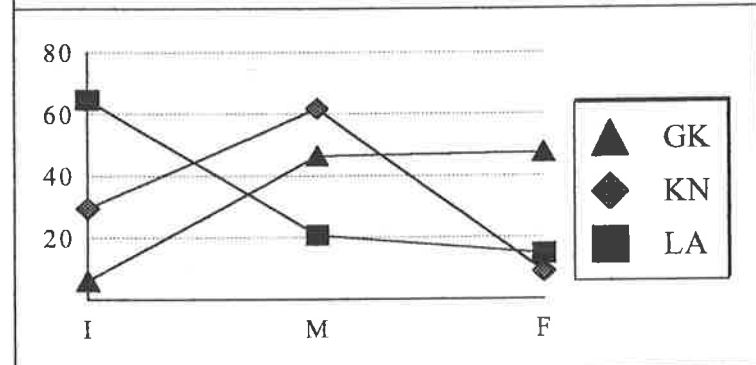


TABLE (8) : D- SERIES SIGNS

(8.1) : B01 / A30 [DA]	I	M	F	T
1. Greek Linear B (5,651 signs)	15 25.00%	42 70.00%	3 5.00%	60 1.06%
2. "Non-Greek" at Knossos (2,092 signs)	32 48.48%	26 39.39%	8 12.12%	66 3.16%
3. Linear A (1,595 signs)	27.5 48.67%	21 37.17%	8 14.16%	56.5 3.54%

(8.2) : B45 / A102 [DE]	I	M	F	T
1. Greek Linear B* (5,651 signs)	17 22.37% (31.48%)	20 26.32% (37.04%)	39 (17) 51.32% (31.48%)	76 (54) 1.34%
2. "Non-Greek" at Knossos (2,092 signs)	3 30.00%	4 40.00%	3 30.00%	10 0.48%
3. Linear A (1,595 signs)	3 16.22%	12 64.86%	3.5 18.92%	18.5 1.16%

\* Note that the accusative allative  $-\delta\epsilon$  here accounts for 23 of the 39 counts for *DE* in final position. The Initial, Medial and Final distributions for *DE* have thus been re-calculated accordingly, and the results here shown in brackets.

(8.3) : B07 / A51 [DI]	I	M	F	T
1. Greek Linear B (5,651 signs)	22 61.11%	14 38.89%	0 0.00%	36 0.64%
2. "Non-Greek" at Knossos (2,092 signs)	15 62.50%	7 29.17%	2 8.33%	24 1.15%
3. Linear A (1,595 signs)	10 23.53%	20 47.06%	12.5 29.41%	42.5 2.66%

(8.4) : B14 / A101 [DO]	I	M	F	T
1. Greek Linear B (5,651 signs)	13 27.08%	30 62.50%	5 10.42%	48 0.85%
2. "Non-Greek" at Knossos (2,092 signs)	3 17.65%	8 47.06%	6 35.29%	17 0.81%
3. Linear A (1,595 signs)	8 47.06%	6.5 38.24%	2.5 14.71%	17 1.07%

(8.5) : B51 / A93 [DU]	I	M	F	T
1. Greek Linear B (5,651 signs)	5 45.45%	6 54.55%	0 0.00%	11 0.19%
2. "Non-Greek" at Knossos (2,092 signs)	9 40.91%	11 50.00%	2 9.09%	22 1.05%
3. Linear A (1,595 signs)	10.5 28.00%	17 45.33%	10 26.67%	37.5 2.35%

Fig. (3.1) : B01 / A30 [DA]

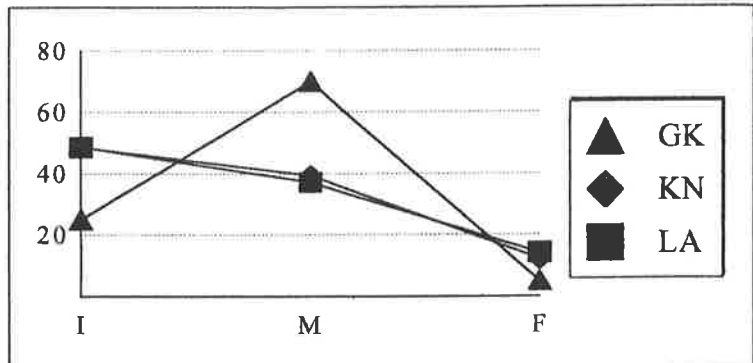


Fig. (3.2) : B45 / A102 [DE]

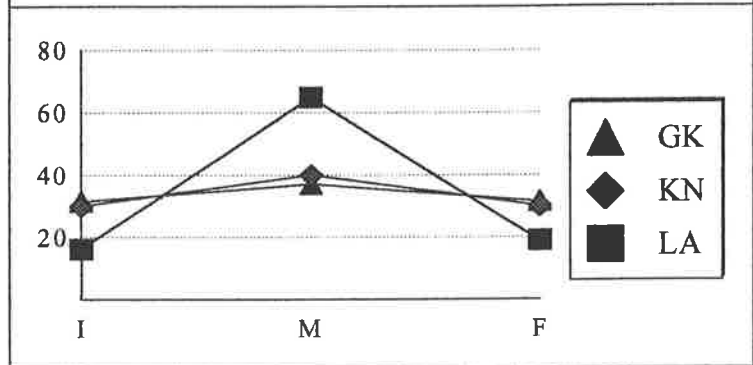


Fig. (3.3) : B07 / A51 [DI]

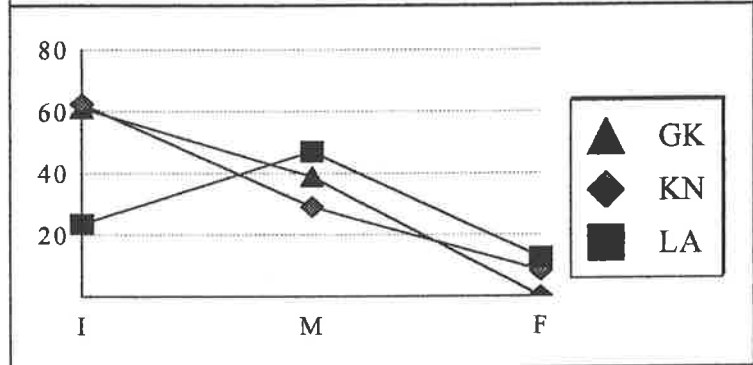


Fig. (3.4) : B14 / A101 [DO]

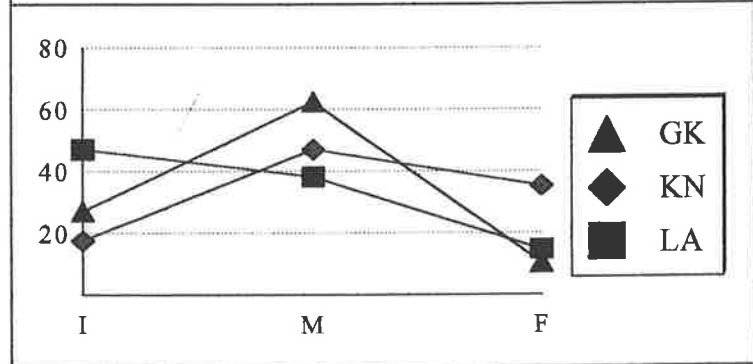


Fig. (3.5) : B51 / A93 [DU]

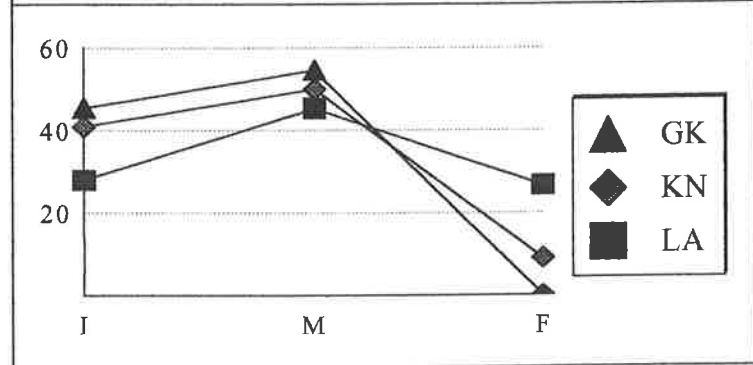


TABLE (9) : K- SERIES SIGNS

<b>(9.1) : B77 / A29 [KA]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	60 41.67%	64 44.44%	20 13.89%	144 2.55%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	29 47.54%	23 37.70%	9 14.75%	61 2.92%
<b>3. Linear A</b> (1,595 signs)	25 48.54%	12 23.30%	14.5 28.15%	51.5 3.23%
<b>(9.2) : B44 / A24 [KE]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	34 21.12%	108 67.08%	19 11.80%	161 2.85%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	9 33.33%	15 55.56%	3 11.11%	27 1.29%
<b>3. Linear A</b> (1,595 signs)	1.5 21.43%	2.5 35.71%	3 42.86%	7 0.44%
<b>(9.3) : B67 / A103 [KI]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	19 32.76%	35 60.34%	4 6.90%	58 1.03%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	21 52.50%	19 47.50%	0 0.00%	40 1.92%
<b>3. Linear A</b> (1,595 signs)	15 37.50%	22 55.00%	3 7.50%	40 2.51%
<b>(9.4) : B70 / A45 [KO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	37 23.72%	65 41.67%	54 34.62%	156 2.76%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	12 30.77%	14 35.90%	13 33.33%	39 1.87%
<b>3. Linear A</b> (1,595 signs)	2.5 41.67%	1.5 25.00%	2 33.33%	6 0.38%
<b>(9.5) : B81 / A98 [KU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	31 60.78%	18 35.29%	2 3.92%	51 0.90%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	24 80.00%	4 13.33%	2 6.67%	30 1.44%
<b>3. Linear A</b> (1,595 signs)	23 44.23%	21 40.38%	8 15.38%	52 3.26%



Fig. (4.1) : B77 / A29 [KA]

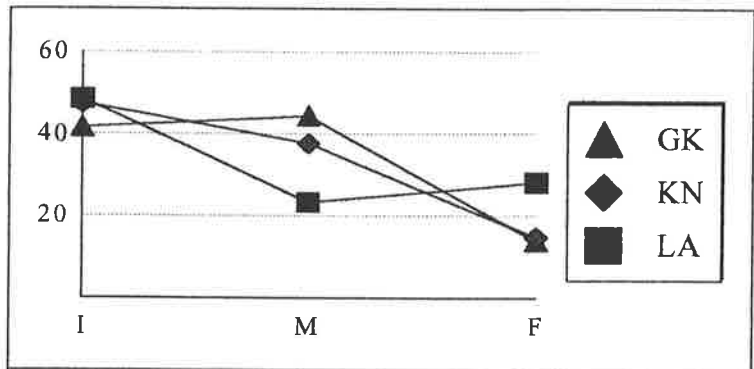


Fig. (4.2) : B44 / A24 [KE]

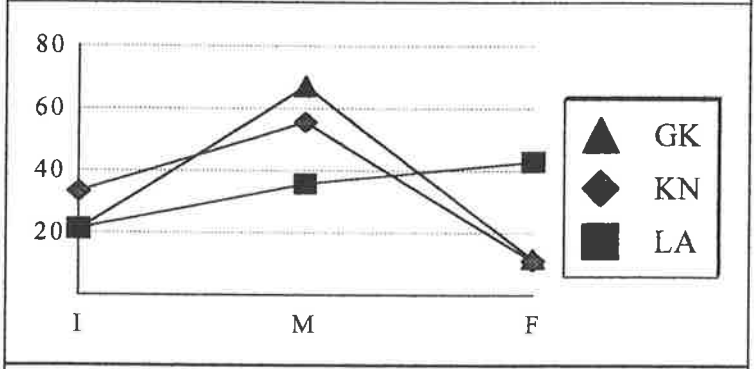


Fig. (4.3) : B67 / A24 [KI]

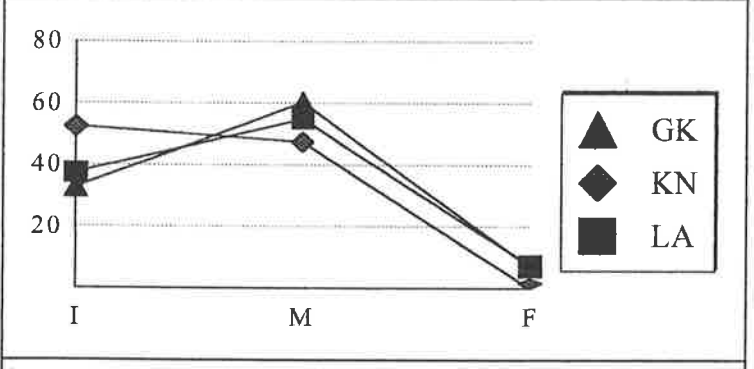


Fig. (4.4) : B70 / A45 [KO]

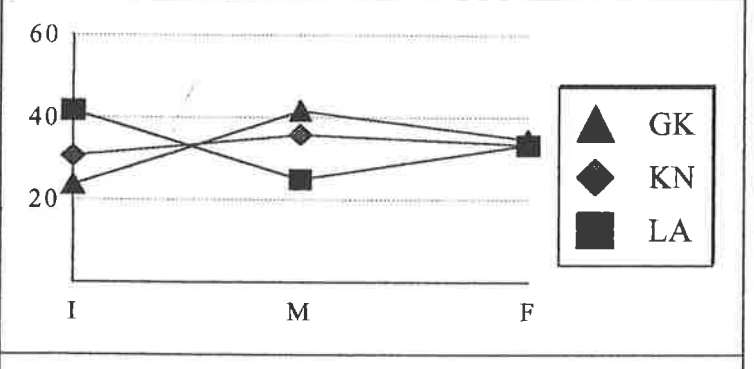


Fig. (4.5) : B81 / A98 [KU]

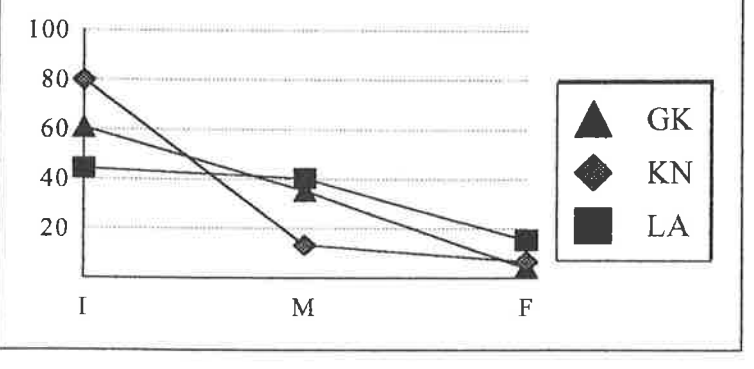


TABLE (10) : M- SERIES SIGNS

(10.1) : B80 / A95 [MA]	I	M	F	T
1. Greek Linear B (5,651 signs)	19 30.65%	36 58.06%	7 11.29%	62 1.10%
2. "Non-Greek" at Knossos (2,092 signs)	16 37.21%	24 55.81%	3 6.98%	43 2.06%
3. Linear A (1,595 signs)	11 24.44%	21.5 47.78%	12.5 27.78%	45 2.82%
(10.2) : B13 / A84 [ME]	I	M	F	T
1. Greek Linear B (5,651 signs)	32 32.00%	65 65.00%	3 3.00%	100 1.77%
2. "Non-Greek" at Knossos (2,092 signs)	5 31.25%	8 50.00%	3 18.75%	16 0.77%
3. Linear A (1,595 signs)	1.5 10.34%	7.5 51.72%	5.5 37.93%	14.5 0.91%
(10.3) : B73 / A76 [MI]	I	M	F	T
1. Greek Linear B (5,651 signs)	6 19.35%	24 77.42%	1 3.23%	31 0.55%
2. "Non-Greek" at Knossos (2,092 signs)	8 28.57%	16 57.14%	4 14.29%	28 1.34%
3. Linear A (1,595 signs)	8 19.51%	23 56.10%	10 24.39%	41 2.57%
(10.4) : B15 / A ? [MO]	I	M	F	T
1. Greek Linear B (5,651 signs)	5 9.43%	21 39.62%	27 50.94%	53 0.94%
2. "Non-Greek" at Knossos (2,092 signs)	4 14.81%	6 22.22%	17 62.96%	27 1.29%
3. Linear A (1,595 signs)	n/a n/a	n/a n/a	n/a n/a	n/a n/a
(10.5) : B23 / A27 [MU]	I	M	F	T
1. Greek Linear B (5,651 signs)	6 66.67%	3 33.33%	0 0.00%	9 0.16%
2. "Non-Greek" at Knossos (2,092 signs)	2 25.00%	6 75.00%	0 0.00%	8 0.38%
3. Linear A (1,595 signs)	1 28.57%	1.5 42.86%	1 28.57%	3.5 0.22%

Fig. (5.1) : B80 / A95 [MA]

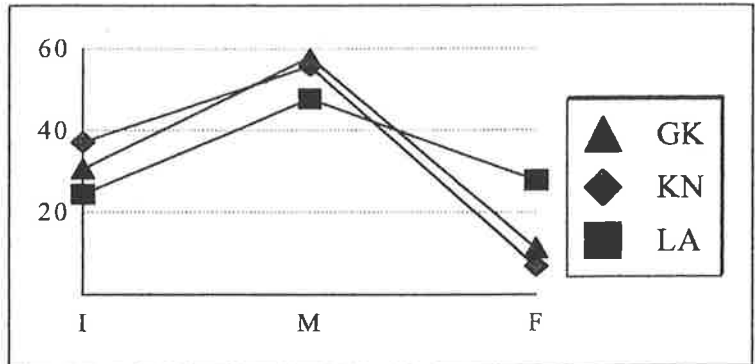


Fig. (5.2) : B13 / A84 [ME]

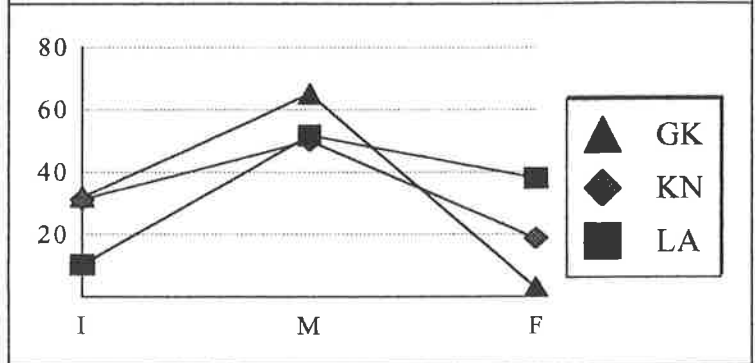


Fig. (5.3) : B73 / A76 [MI]

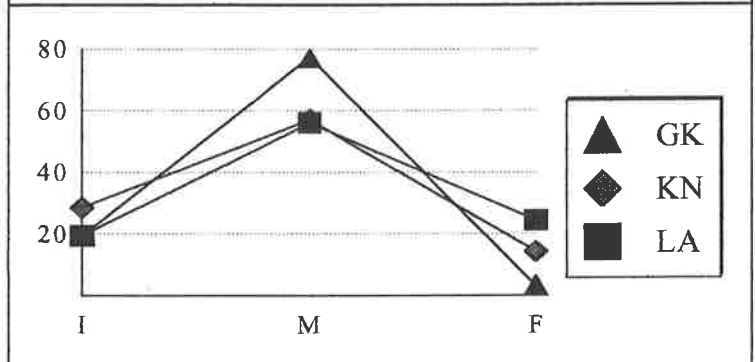


Fig (5.4) : B15 / A ? [MO]

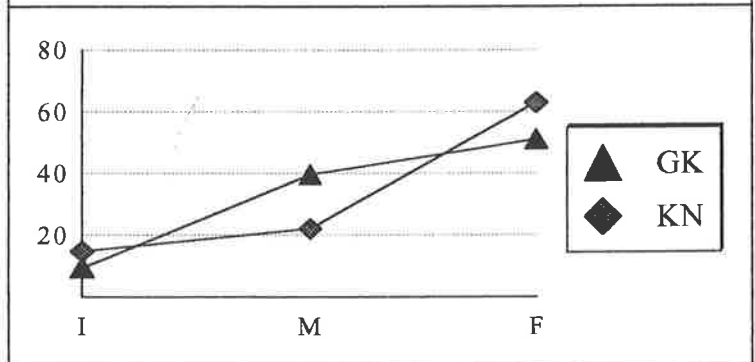


Fig. (5.5) : B23 / A27 [MU]

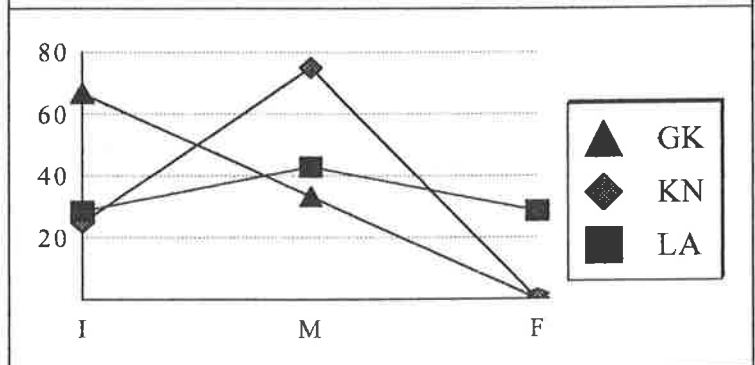


TABLE (11) : N- SERIES SIGNS

(11.1) : B06 / A26 [NA]	I	M	F	T
1. Greek Linear B (5,651 signs)	6 7.89%	37 48.68%	33 43.42%	76 1.34%
2. "Non-Greek" at Knossos (2,092 signs)	4 8.89%	32 71.11%	9 20.00%	45 2.16%
3. Linear A (1,595 signs)	6 10.00%	26 43.33%	28 46.67%	60 3.76%
(11.2) : B24 / A61 [NE]	I	M	F	T
1. Greek Linear B (5,651 signs)	9 11.54%	41 52.56%	28 35.90%	78 1.38%
2. "Non-Greek" at Knossos (2,092 signs)	0 0.00%	10 58.82%	7 41.18%	17 0.81%
3. Linear A (1,595 signs)	2 8.16%	9 36.73%	13.5 55.10%	24.5 1.54%
(11.3) : B30 / A60 [NI]	I	M	F	T
1. Greek Linear B (5,651 signs)	0 0.00%	42 91.30%	4 8.70%	46 0.81%
2. "Non-Greek" at Knossos (2,092 signs)	0 0.00%	19 79.17%	5 20.83%	24 1.15%
3. Linear A (1,595 signs)	2.5 9.09%	12.5 45.45%	12.5 45.45%	27.5 1.72%
(11.4) : B52 / A ? [NO]	I	M	F	T
1. Greek Linear B (5,651 signs)	3 2.22%	46 34.07%	86 63.70%	135 2.39%
2. "Non-Greek" at Knossos (2,092 signs)	4 7.84%	4 7.84%	43 84.31%	51 2.44%
3. Linear A (1,595 signs)	n/a n/a	n/a n/a	n/a n/a	n/a n/a
(11.5) : B55 / A25 [NU]	I	M	F	T
1. Greek Linear B (5,651 signs)	0 0.00%	19 90.48%	2 9.52%	21 0.37%
2. "Non-Greek" at Knossos (2,092 signs)	1 4.17%	17 70.83%	6 25.00%	24 1.15%
3. Linear A (1,595 signs)	2 10.00%	12 60.00%	6 30.00%	20 1.25%

Fig. (6.1) : B06 / A26 [NA]

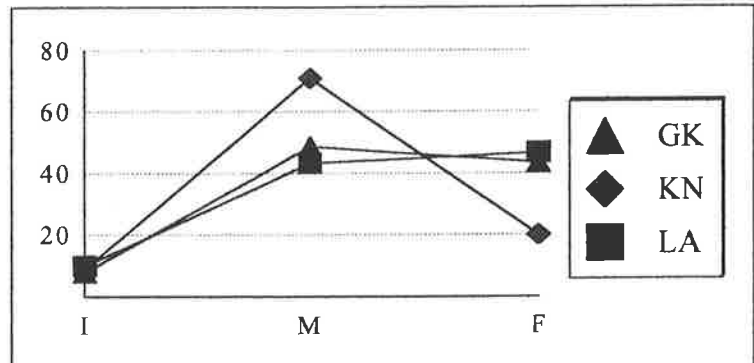


Fig. (6.2) : B24 / A61 [NE]

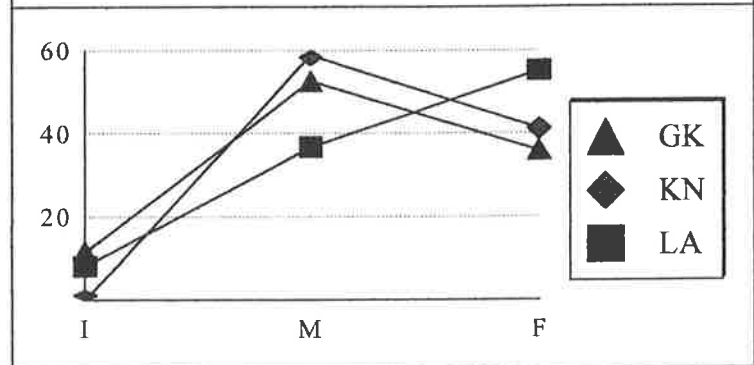


Fig. (6.3) : B30 / A60 [NI]

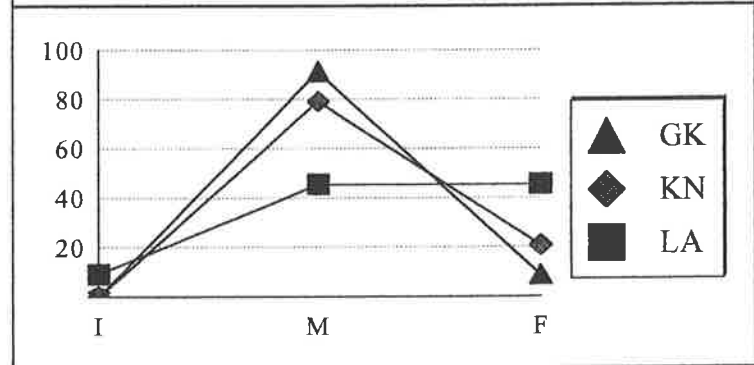


Fig. (6.4) : B52 / A ? [NO]

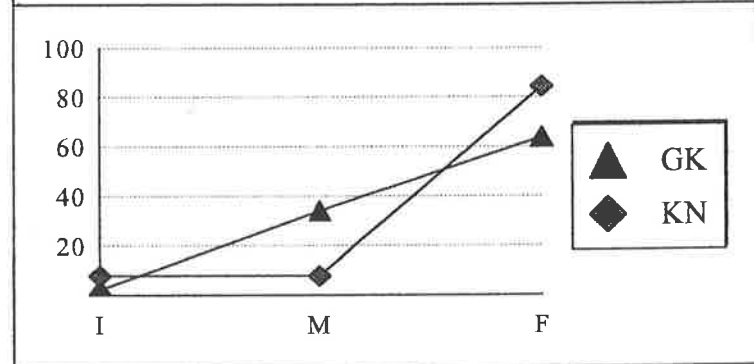


Fig. (6.5) : B55 / A25 [NU]

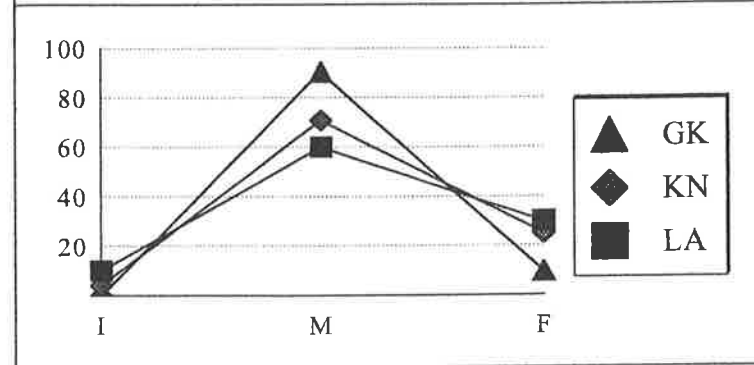


TABLE (12) : P- SERIES SIGNS

<b>(12.1) : B03 / A02 [PA]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	36	32	8	76	
(5,651 signs)	47.37%	42.11%	10.53%	1.34%	
<b>2. "Non-Greek" at Knossos</b>	20	15	4	39	
(2,092 signs)	51.28%	38.46%	10.26%	1.87%	
<b>3. Linear A</b>	16.5	11	6	33.5	
(1,595 signs)	49.25%	32.84%	17.91%	2.10%	
<b>(12.2) : B72 / A90 [PE]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	46	32	1	79	
(5,651 signs)	58.23%	40.51%	1.27%	1.40%	
<b>2. "Non-Greek" at Knossos</b>	10	8	0	18	
(2,092 signs)	55.56%	44.44%	0.00%	0.86%	
<b>3. Linear A</b>	0	0	1	1	
(1,595 signs)	0.00%	0.00%	100.00%	0.06%	
<b>(12.3) : B39 / A56 [PI]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B*</b>	33	62	37 (6)	132 (101)	
(5,651 signs)	25.00%	46.97%	28.03%	2.33%	
	(32.67%)	(61.39%)	(5.94%)		
<b>2. "Non-Greek" at Knossos</b>	12	7	1	20	
(2,092 signs)	60.00%	35.00%	5.00%	0.96%	
<b>3. Linear A</b>	9	6	2.5	17.5	
(1,595 signs)	51.43%	34.29%	14.29%	1.10%	
* Note that the instrumental suffix $-\phi\iota$ here accounts for 32 of the 37 counts for <i>PI</i> in final position. The Initial, Medial and Final distributions for <i>PI</i> have thus been re-calculated accordingly, and the results here shown in brackets.					
<b>(12.4) : B11 / A21 [PO]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	64	34	11	109	
(5,651 signs)	58.72%	31.19%	10.09%	1.93%	
<b>2. "Non-Greek" at Knossos</b>	8	6	9	23	
(2,092 signs)	34.78%	26.09%	39.13%	1.10%	
<b>3. Linear A</b>	1	1	0	2	
(1,595 signs)	50.00%	50.00%	0.00%	0.12%	
<b>(12.5) : B50 / A64 [PU]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	20	11	1	32	
(5,651 signs)	62.50%	34.38%	3.13%	0.57%	
<b>2. "Non-Greek" at Knossos</b>	10	5	1	16	
(2,092 signs)	62.50%	31.25%	6.25%	0.77%	
<b>3. Linear A</b>	3.5	3	3	9.5	
(1,595 signs)	36.84%	31.58%	31.58%	0.60%	

Fig. (7.1) : B03 / A02 [PA]

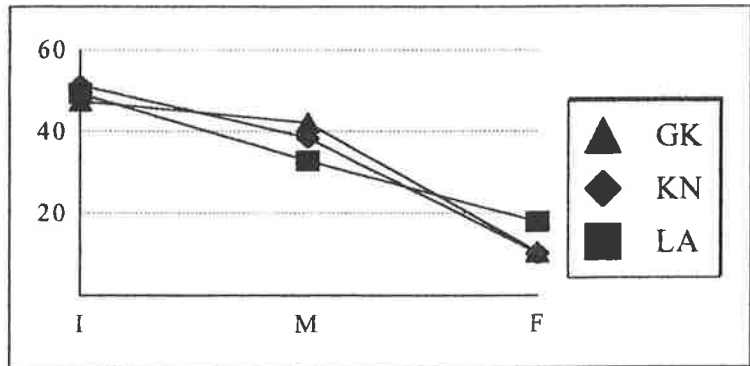


Fig. (7.2) : B72 / A90 [PE]

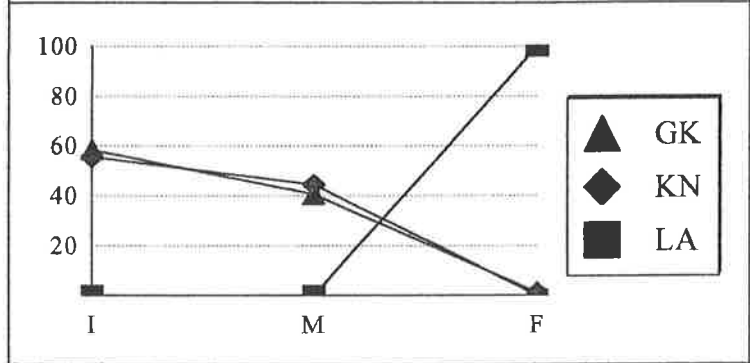


Fig. (7.3) : B39 / A56 [PI]

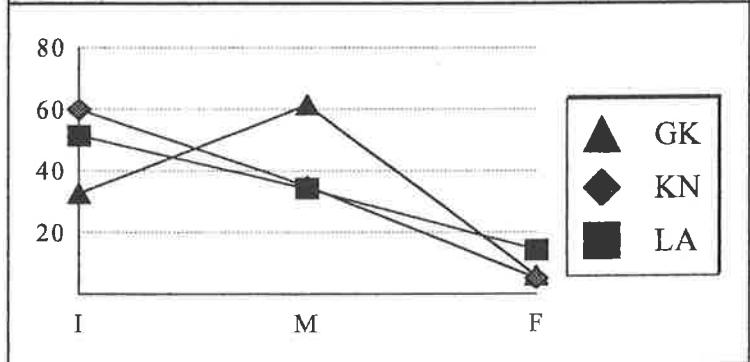


Fig. (7.4) : B11 / A21 [PO]

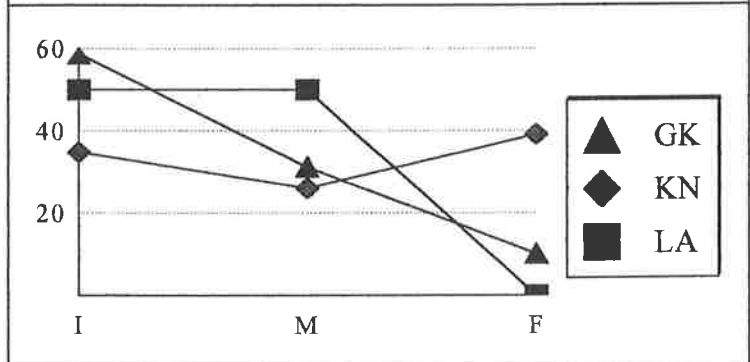


Fig. (7.5) : B50 / A64 [PU]

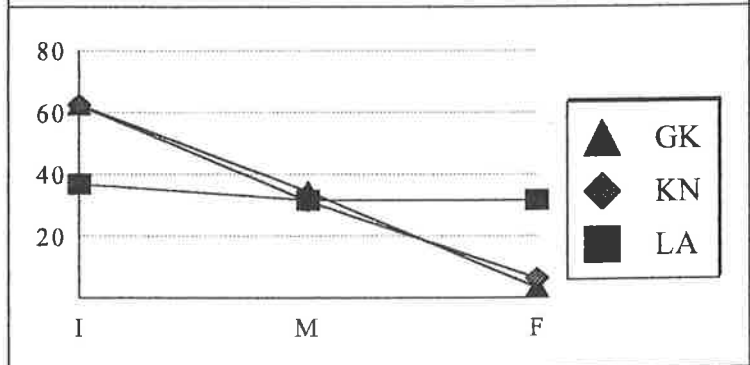


TABLE (13) : Q- SERIES SIGNS

(13.1) : B16 / A62 [QA]	I	M	F	T
1. Greek Linear B (5,651 signs)	9 29.03%	13 41.94%	9 29.03%	31 0.55%
2. "Non-Greek" at Knossos (2,092 signs)	21 61.76%	9 26.47%	4 11.76%	34 1.63%
3. Linear A (1,595 signs)	11 52.38%	6.5 30.95%	3.5 16.67%	21 1.32%

(13.2) : B78 / A91 [QE]	I	M	F	T
1. Greek Linear B* (5,651 signs)	20 26.32% (66.67%)	9 11.84% (30.00%)	47 (1) 61.84% (3.33%)	76 (30) 1.34%
2. "Non-Greek" at Knossos (2,092 signs)	4 57.14%	3 42.86%	0 0.00%	7 0.34%
3. Linear A (1,595 signs)	12.5 58.14%	4.5 20.93%	4.5 20.93%	21.5 1.35%

\* Note that the sentence connective -q"ε here accounts for 100% of the count for *QE* in final position. The Initial, Medial and Final distributions for *QE* have thus been re-calculated accordingly, and the results here shown in brackets.

(13.3) : B21 / A48 [QI]	I	M	F	T
1. Greek Linear B (5,651 signs)	3 25.00%	8 66.67%	1 8.33%	12 0.21%
2. "Non-Greek" at Knossos (2,092 signs)	10 76.92%	3 23.08%	0 0.00%	13 0.62%
3. Linear A (1,595 signs)	0 0.00%	0 0.00%	1 100.00%	1 0.06%

(13.4) : B32 / A12 [QO]	I	M	F	T
1. Greek Linear B (5,651 signs)	7 11.86%	36 61.02%	16 27.12%	59 1.04%
2. "Non-Greek" at Knossos (2,092 signs)	3 16.67%	7 38.89%	8 44.44%	18 0.86%
3. Linear A (1,595 signs)	n/a	n/a	n/a	n/a



Fig. (8.1) : B16 / A62 [QA]

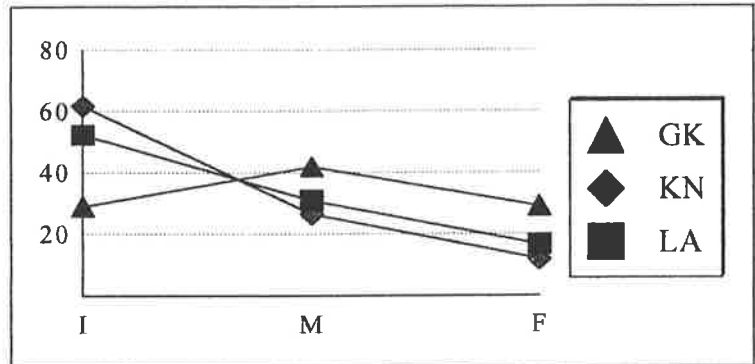


Fig. (8.2) : B78 / A91 [QE]

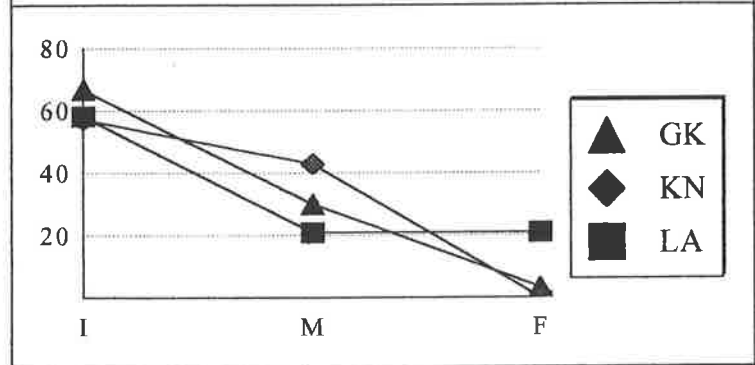


Fig. (8.3) : B21 / A48 [QI]

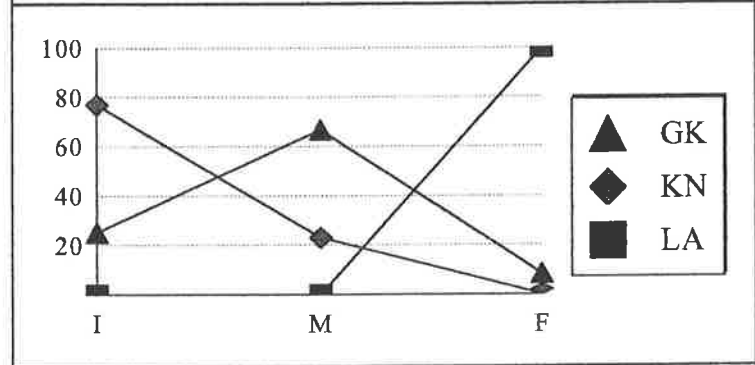


Fig. (8.4) : B32 / A12 [QO]

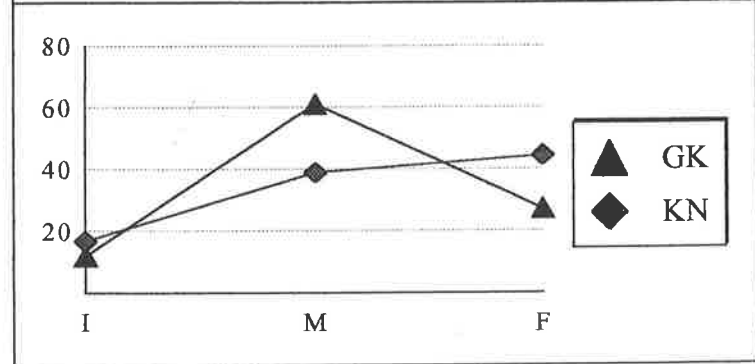


TABLE (14) : R- SERIES SIGNS

<b>(14.1) : B60 / A53 [RA]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	21 12.21%	115 66.86%	36 20.93%	172 3.04%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	13 14.77%	51 57.95%	24 27.27%	88 4.21%
<b>3. Linear A</b> (1,595 signs)	7 13.08%	25.5 47.66%	21 39.25%	53.5 3.35%
<b>(14.2) : B27 / A54 [RE]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	18 10.59%	120 70.59%	32 18.82%	170 3.00%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	4 17.39%	11 47.83%	8 34.78%	23 1.10%
<b>3. Linear A</b> (1,595 signs)	4.5 9.09%	23.5 47.47%	21.5 43.43%	49.5 3.10%
<b>(14.3) : B53 / A72 [RI]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	8 5.23%	138 90.20%	7 4.58%	153 2.70%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	4 9.76%	32 78.05%	5 12.20%	41 1.96%
<b>3. Linear A</b> (1,595 signs)	5.5 18.33%	18 60.00%	6.5 21.67%	30 1.88%
<b>(14.4) : B02 / A22 [RO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	4 1.95%	95 46.34%	106 51.71%	205 3.62%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	1 1.01%	18 18.18%	80 80.81%	99 4.74%
<b>3. Linear A</b> (1,595 signs)	1 5.56%	7 38.89%	10 55.56%	18 1.13%
<b>(14.5) : B26 / A55 [RU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	8 13.79%	48 82.76%	2 3.45%	58 1.03%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	10 38.46%	12 46.15%	4 15.38%	26 1.25%
<b>3. Linear A</b> (1,595 signs)	10.5 24.71%	16 37.65%	16 37.65%	42.5 2.66%

Fig. (9.1) : B60 / A53 [RA]

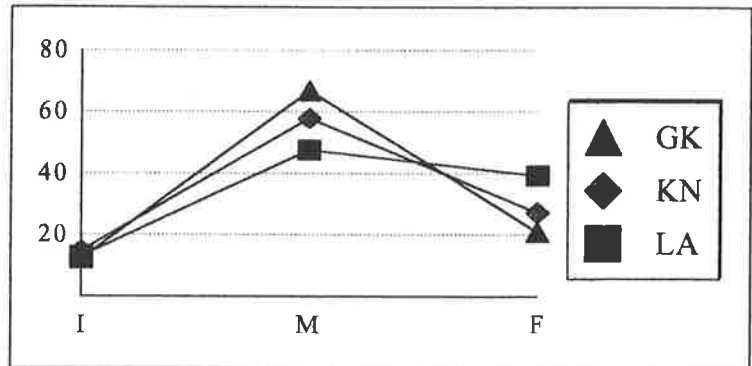


Fig. (9.2) : B27 / A54 [RE]

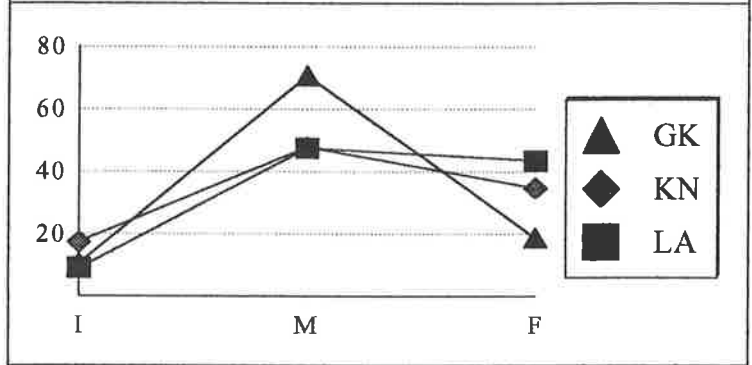


Fig. (9.3) : B53 / A72 [RI]

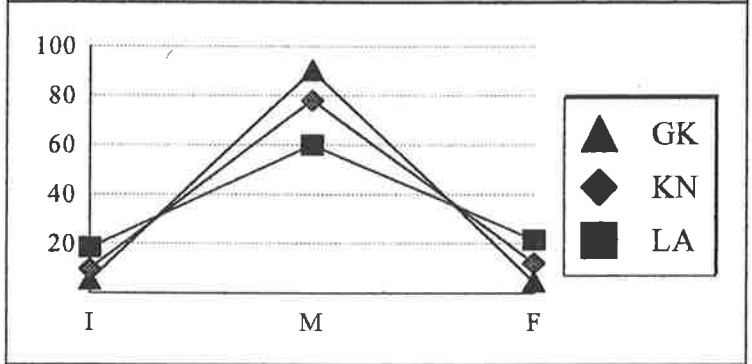


Fig. (9.4) : B02 / A22 [RO]

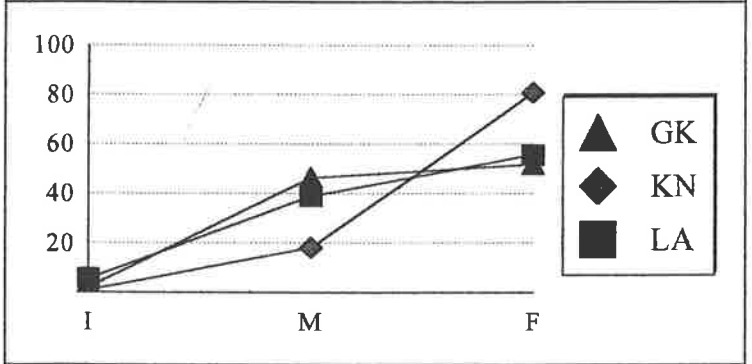


Fig. (9.5) : B26 / A55 [RU]

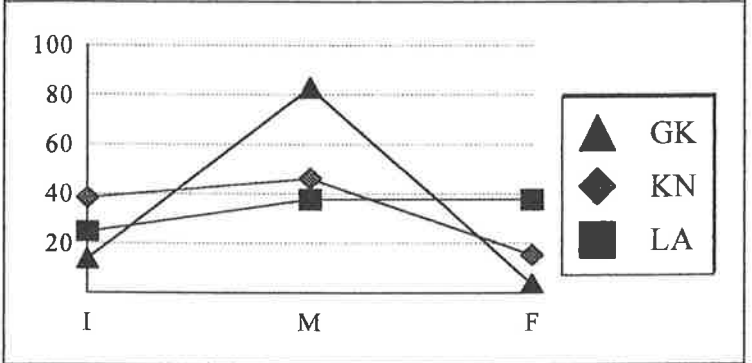


TABLE (15) : S- SERIES SIGNS

<b>(15.1) : B31 / A31 [SA]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	9 20.00%	25 55.56%	11 24.44%	45 0.80%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	19 41.30%	23 50.00%	4 8.70%	46 2.20%
<b>3. Linear A</b> (1,595 signs)	16 40.00%	18 45.00%	6 15.00%	40 2.51%
<b>(15.2) : B09 / A77 [SE]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	3 8.11%	27 72.97%	7 18.92%	37 0.65%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	4 36.36%	3 27.27%	4 36.36%	11 0.53%
<b>3. Linear A</b> (1,595 signs)	1.5 7.32%	9 43.90%	10 48.78%	20.5 1.29%
<b>(15.3) : B41 / A57 [SI]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	10 10.64%	50 53.19%	34 36.17%	94 1.66%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	20 55.56%	12 33.33%	4 11.11%	36 1.72%
<b>3. Linear A</b> (1,595 signs)	14.5 35.80%	14.5 35.80%	11.5 28.39%	40.5 2.54%
<b>(15.4) : B12 / A07 [SO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	0 0.00%	25 55.56%	20 44.44%	45 0.80%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	0 0.00%	5 7.58%	61 92.42%	66 3.16%
<b>3. Linear A</b> (1,595 signs)	1 100.00%	0 0.00%	0 0.00%	1 0.06%
<b>(15.5) : B58 / A59 [SU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	5 38.46%	7 53.85%	1 7.69%	13 0.23%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	16 72.73%	5 22.73%	1 4.55%	22 1.05%
<b>3. Linear A</b> (1,595 signs)	11.5 35.94%	10.5 32.81%	10 31.25%	32 2.01%

Fig. (10.1) : B31 / A31 [SA]

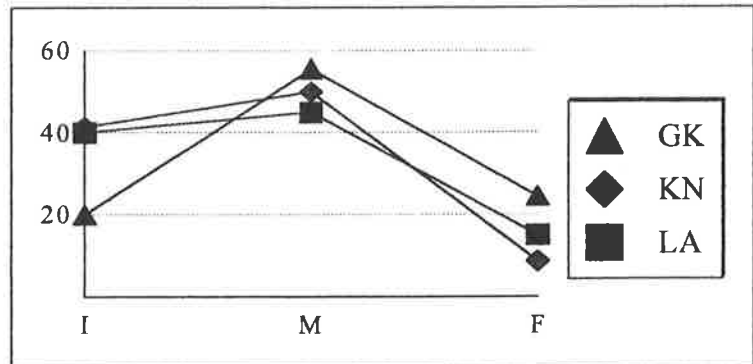


Fig. (10.2) : B09 / A77 [SE]

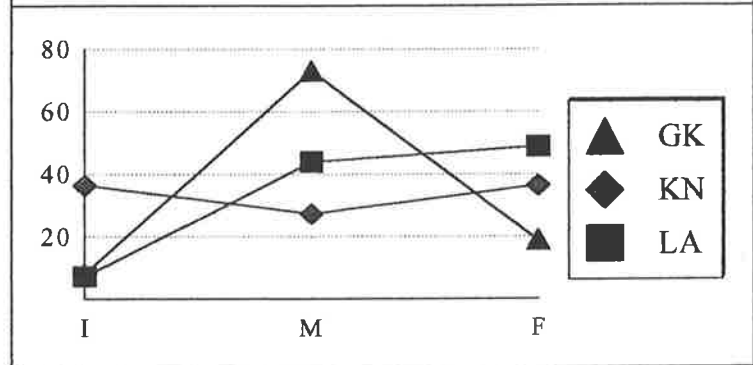


Fig. (10.3) : B41 / A57 [SI]

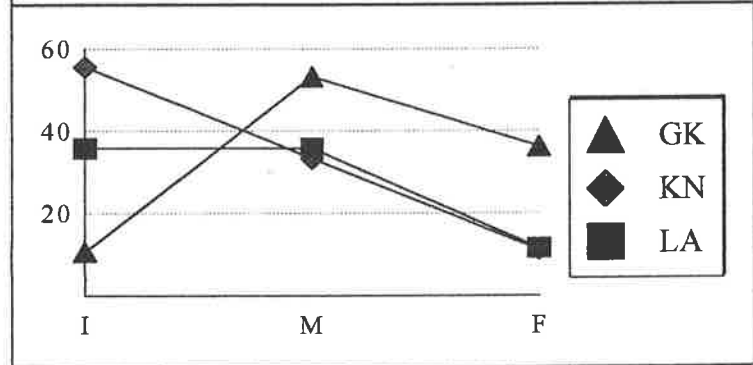


Fig. (10.4) : B12 / A07 [SO]

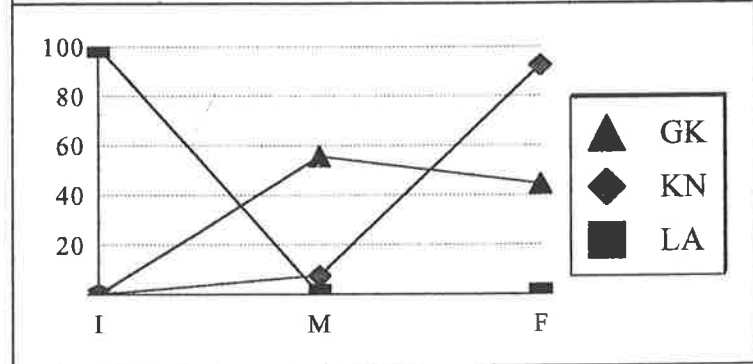


Fig. (10.5) : B58 / A59 [SU]

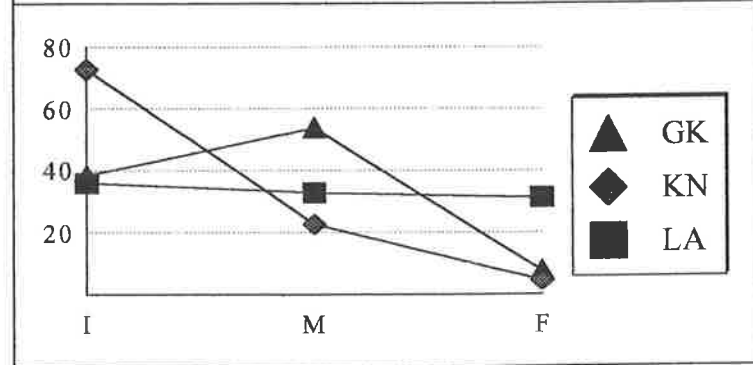


TABLE (16) : T- SERIES SIGNS

<b>(16.1) : B59 / A74 [TA]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	19 9.13%	71 34.13%	118 56.73%	208 3.68%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	23 22.33%	36 34.95%	44 42.72%	103 4.93%
<b>3. Linear A</b> (1,595 signs)	13 20.00%	35 53.85%	17 26.15%	65 4.07%
<b>(16.2) : B04 / A92 [TE]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	24 14.63%	91 55.49%	49 29.88%	164 2.90%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	12 38.71%	11 35.48%	8 25.81%	31 1.48%
<b>3. Linear A</b> (1,595 signs)	6.5 22.41%	6 20.69%	16.5 56.90%	29 1.82%
<b>(16.3) : B37 / A78 [TI]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	12 16.00%	61 81.33%	2 2.67%	75 1.33%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	10 25.64%	18 46.15%	11 28.21%	39 1.87%
<b>3. Linear A</b> (1,595 signs)	9.5 17.59%	20 37.04%	24.5 45.37%	54 3.39%
<b>(16.4) : B05 / A39 [TO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	26 14.77%	64 36.36%	86 48.86%	176 3.11%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	5 5.81%	15 17.44%	66 76.74%	86 4.12%
<b>3. Linear A</b> (1,595 signs)	0 0.00%	2 50.00%	2 50.00%	4 0.25%
<b>(16.5) : B69 / A06 [TU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (5,651 signs)	16 47.06%	17 50.00%	1 2.94%	34 0.60%
<b>2. "Non-Greek" at Knossos</b> (2,092 signs)	11 50.00%	10 45.45%	1 4.55%	22 1.05%
<b>3. Linear A</b> (1,595 signs)	8 19.28%	18.5 44.58%	15 36.14%	41.5 2.60%

Fig. (11.1) : B59 / A74 [TA]

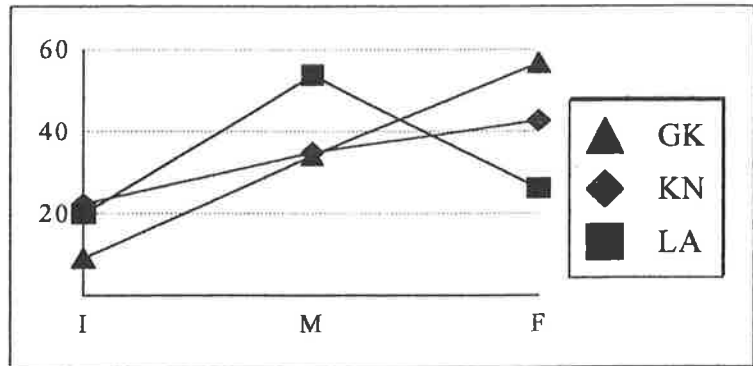


Fig. (11.2) : B04 / A92 [TE]

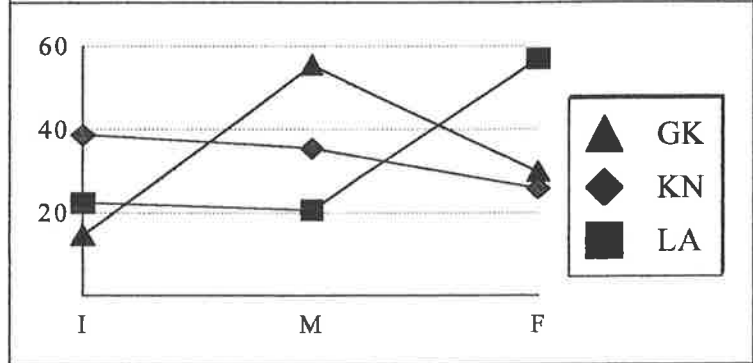


Fig. (11.3) : B37 / A78 [TI]

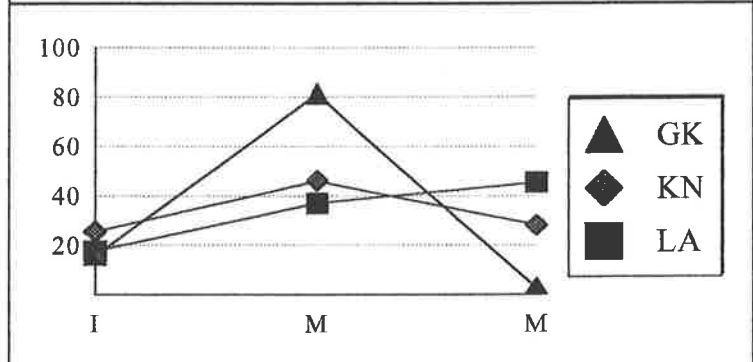


Fig. (11.4) : B05 / A39 [TO]

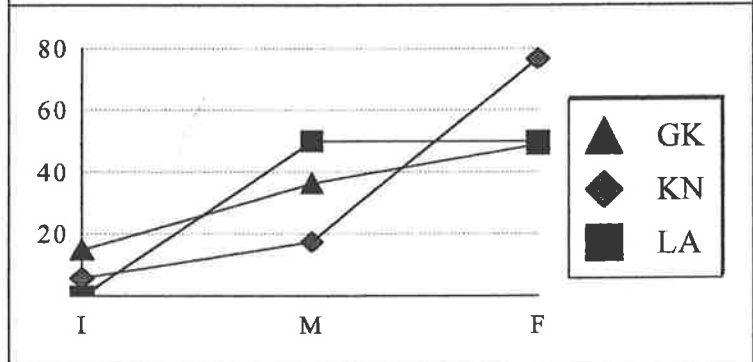


Fig. (11.5) : B69 / A06 [TU]

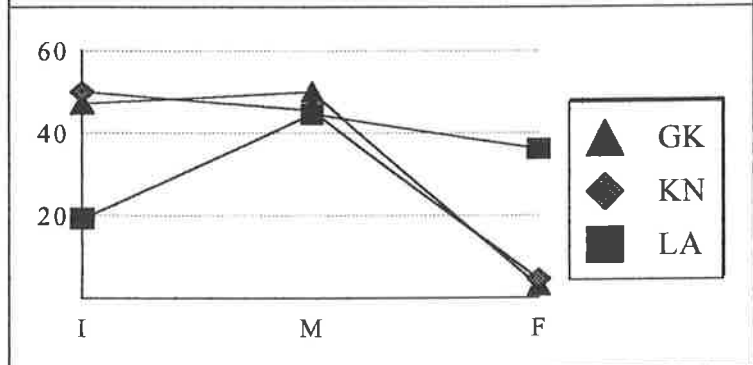


TABLE (17) : W- SERIES SIGNS

(17.1) : B54 / A75 [WA]	I	M	F	T
1. Greek Linear B (5,651 signs)	13 15.12%	46 53.49%	27 31.40%	86 1.52%
2. "Non-Greek" at Knossos (2,092 signs)	12 38.71%	15 48.39%	4 12.90%	31 1.48%
3. Linear A (1,595 signs)	5 38.46%	4.5 34.62%	3.5 26.92%	13 0.82%
(17.2) : B75 / A94 [WE]	I	M	F	T
1. Greek Linear B (5,651 signs)	21 15.11%	44 31.65%	74 53.24%	139 2.46%
2. "Non-Greek" at Knossos (2,092 signs)	4 15.38%	10 38.46%	12 46.15%	26 1.25%
3. Linear A (1,595 signs)	1 9.52%	9.5 90.48%	0 0.00%	10.5 0.66%
(17.3) : B40 / A28 [WI]	I	M	F	T
1. Greek Linear B (5,651 signs)	16 26.23%	43 70.49%	2 3.28%	61 1.08%
2. "Non-Greek" at Knossos (2,092 signs)	17 62.96%	8 29.63%	2 7.41%	27 1.29%
3. Linear A (1,595 signs)	1 9.52%	6 57.14%	3.5 33.33%	10.5 0.66%
(17.4) : B42 / A ? [WO]	I	M	F	T
1. Greek Linear B (5,651 signs)	22 11.96%	71 38.59%	91 49.46%	184 3.25%
2. "Non-Greek" at Knossos (2,092 signs)	8 24.24%	7 21.21%	18 54.55%	33 1.58%
3. Linear A (1,595 signs)	n/a	n/a	n/a	n/a



Fig. (12.1) : B54 / A75 [WA]

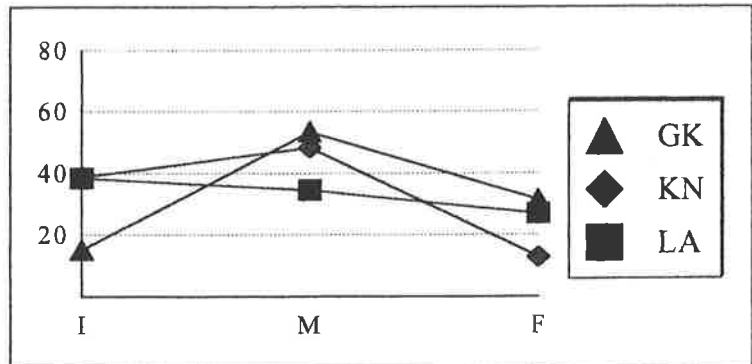


Fig. (12.2) : B75 / A94 [WE]

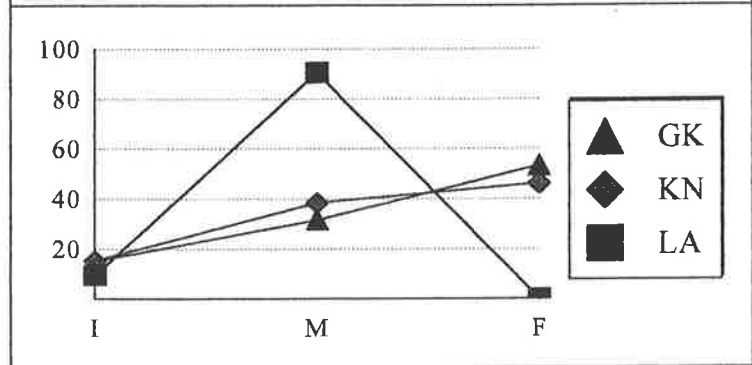


Fig. (12.3) : B40 / A28 [WI]

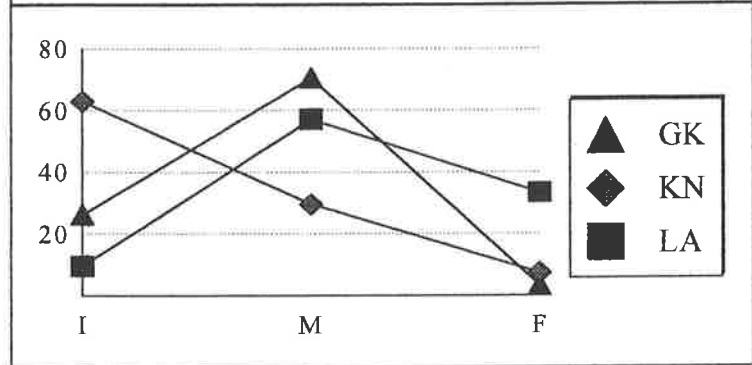


Fig. (12.4) : B42 / A ? [WO]

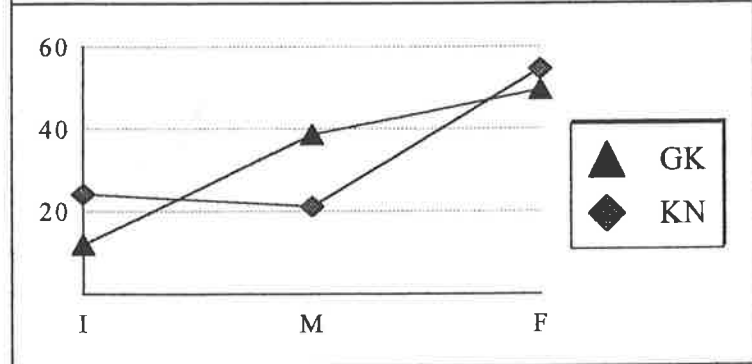


TABLE (18) : Y- SERIES SIGNS

<b>(18.1) : B57 / A32 [YA]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	1	53	115	169	
(5,651 signs)	0.59%	31.36%	68.05%	2.99%	
<b>2. "Non-Greek" at Knossos</b>	13	36	29	78	
(2,092 signs)	16.67%	46.15%	37.18%	3.74%	
<b>3. Linear A</b>	16	15.5	25.5	57	
(1,595 signs)	28.07%	27.19%	44.74%	3.57%	
<b>(18.2) : B46 / A81 [YE]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	0	28	2	30	
(5,651 signs)	0.00%	93.33%	6.67%	0.53%	
<b>2. "Non-Greek" at Knossos</b>	1	6	2	9	
(2,092 signs)	11.11%	66.67%	22.22%	0.43%	
<b>3. Linear A</b>	1	1	1	3	
(1,595 signs)	33.33%	33.33%	33.33%	0.19%	
<b>(18.3) : B36 / A ? [YO]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	1	40	216	257	
(5,651 signs)	0.39%	15.56%	84.05%	4.54%	
<b>2. "Non-Greek" at Knossos</b>	0	7	32	39	
(2,092 signs)	0.00%	17.95%	82.05%	1.87%	
<b>3. Linear A</b>	n/a	n/a	n/a	n/a	
(1,595 signs)	n/a	n/a	n/a	n/a	
<b>(18.4) : B65 / A96 [YU]</b>					
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>	
<b>1. Greek Linear B</b>	n/a	n/a	n/a	n/a	
(5,651 signs)	n/a	n/a	n/a	n/a	
<b>2. "Non-Greek" at Knossos</b>	n/a	n/a	n/a	n/a	
(2,092 signs)	n/a	n/a	n/a	n/a	
<b>3. Linear A</b>	1	3	6	10	
(1,595 signs)	10.00%	30.00%	60.00%	0.63%	

Fig. (13.1) : B57 / A32 [YA]

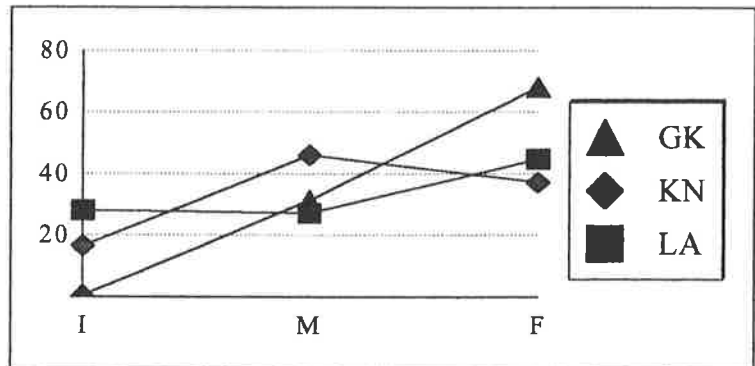


Fig. (13.2) : B46 / A81 [YE]

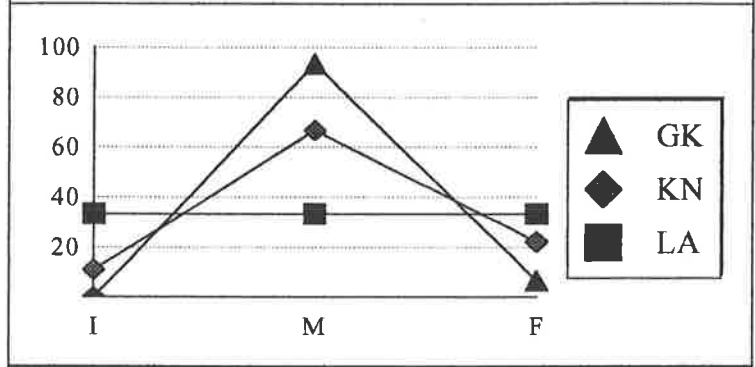


Fig. (13.3) : B36 / A ? [YO]

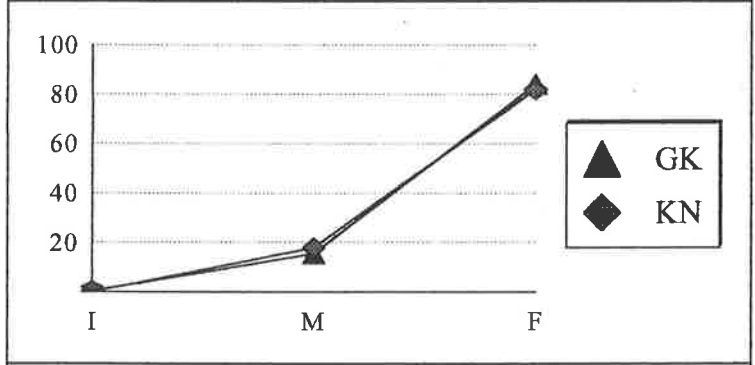


Fig. (13.4) : B65 / A96 [YU]

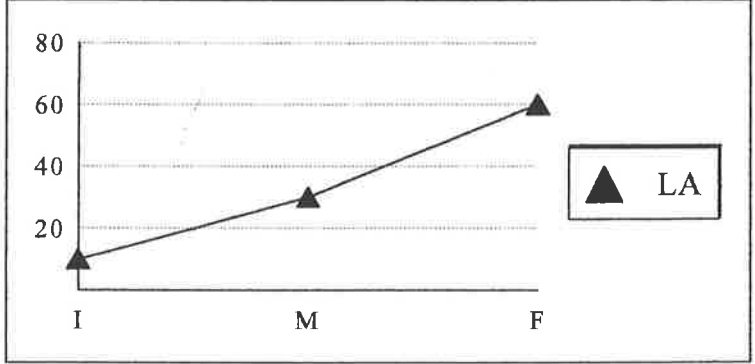


TABLE (19) : Z- SERIES SIGNS

(19.1) : B17 / A23 [ZA]	I	M	F	T
1. Greek Linear B (5,651 signs)	2 20.00%	3 30.00%	5 50.00%	10 0.18%
2. "Non-Greek" at Knossos (2,092 signs)	1 10.00%	6 60.00%	3 30.00%	10 0.48%
3. Linear A (1,595 signs)	1 10.00%	4 40.00%	5 50.00%	10 0.63%
(19.2) : B74 / A16 [ZE]	I	M	F	T
1. Greek Linear B (5,651 signs)	4 44.44%	3 33.33%	2 22.22%	9 0.16%
2. "Non-Greek" at Knossos (2,092 signs)	3 37.50%	4 50.00%	1 12.50%	8 0.38%
3. Linear A (1,595 signs)	0 0.00%	0 0.00%	1 100.00%	1 0.06%
(19.3) : B20 / A10 [ZO]	I	M	F	T
1. Greek Linear B (5,651 signs)	3 20.00%	7 46.67%	5 33.33%	15 0.27%
2. "Non-Greek" at Knossos (2,092 signs)	2 11.76%	1 5.88%	14 82.35%	17 0.81%
3. Linear A (1,595 signs)	n/a n/a	n/a n/a	n/a n/a	n/a n/a
(19.4) : B79 / A ? [ZU]	I	M	F	T
1. Greek Linear B (5,651 signs)	0 0.00%	1 100.00%	0 0.00%	1 0.02%
2. "Non-Greek" at Knossos (2,092 signs)	n/a n/a	n/a n/a	n/a n/a	n/a n/a
3. Linear A (1,595 signs)	n/a n/a	n/a n/a	n/a n/a	n/a n/a

Fig. (14.1) : B17 / A23 [ZA]

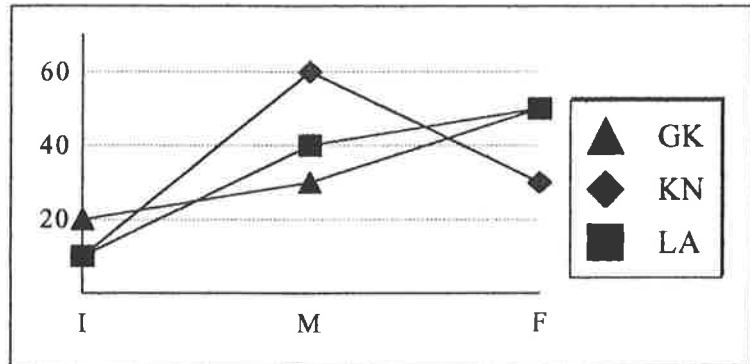


Fig. (14.2) : B74 / A16 [ZE]

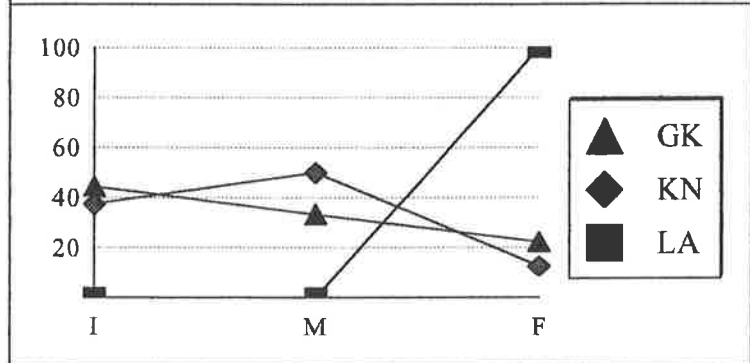


Fig. (14.3) : B20 / A10 [ZO]

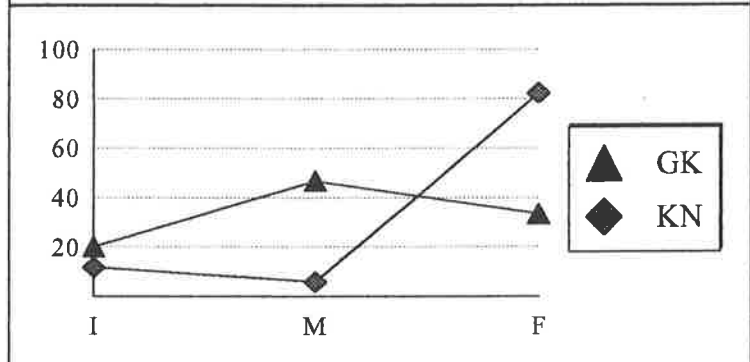
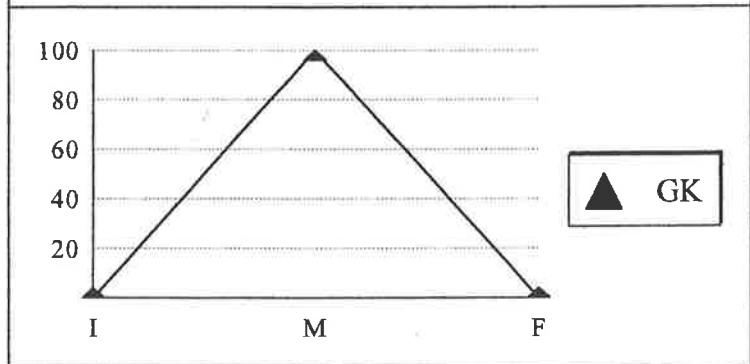


Fig. (14.4) : B79 / A ? [ZU]



		A	E	I	O	U
Vowels	d.f. = 2	(3.60786)	n/a	7.39141	(23.66577)	(72.94514)
	d.f. = 1	(0.96500)	n/a	2.0061	(3.96400)	7.62565
D-	d.f. = 2	0.13651	(25.87231)	10.52843	(62.66021)	(38.50980)
	d.f. = 1	0.00000	(9.60982)	4.84989	(12.89645)	0.00000
K-	d.f. = 2	4.26394	(102.07526)	n/a	(7.17070)	(82.25900)
	d.f. = 1	0.81472	(10.63826)	0.67712	(3.01281)	7.02597
M-	d.f. = 2	6.83018	(33.67033)	1.43030	n/a	n/a
	d.f. = 1	0.00000	(13.35995)	0.00000	n/a	(13.72485)
N-	d.f. = 2	(46.55563)	n/a	n/a	n/a	n/a
	d.f. = 1	7.55385	0.72778	3.35248	n/a	0.00000
P-	d.f. = 2	(6.60554)	n/a	(18.49930)	n/a	(113.19587)
	d.f. = 1	0.00000	n/a	0.00000	n/a	(10.12841)
Q-	d.f. = 2	(4.25799)	n/a	n/a	n/a	
	d.f. = 1	0.00000	(10.75100)	n/a	n/a	
R-	d.f. = 2	2.22167	(6.11549)	(19.05026)	n/a	4.04211
	d.f. = 1	0.00000	0.00000	(10.61885)	3.17869	0.00000
S-	d.f. = 2	(5.10299)	(37.57756)	4.48142	n/a	n/a
	d.f. = 1	0.00000	(13.44854)	0.52436	n/a	1.72997
T-	d.f. = 2	6.47842	5.99897	2.90661	n/a	10.23569
	d.f. = 1	0.46454	0.00000	0.00000	n/a	1.56840
W-	d.f. = 2	(19.15728)	(118.74364)	(161.56870)	n/a	
	d.f. = 1	(3.63903)	(47.02340)	(69.13629)	n/a	
Y-	d.f. = 2	5.56435	(66.66750)		n/a	n/a
	d.f. = 1	0.25108	(21.24242)		n/a	n/a
Z-	d.f. = 2	(20.00000)	n/a		n/a	n/a
	d.f. = 1	(6.33750)	n/a		n/a	n/a

**Table (20) :** Chi Square Results for Test Series One : Linear A vs "Non-Greek" Linear B

Note : brackets ( ) = Goodness-of-Fit distributions; n/a = not available

		A	E	I	O	U
Vowels	d.f. = 2	(0.76457)	(1.72840)	6.46064	(33.17444)	(126.10557)
	d.f. = 1	(0.00000)	(0.31890)	0.00000	6.49382	10.80058
D-	d.f. = 2	11.93066	(0.37570)	n/a	(81.55262)	n/a
	d.f. = 1	8.75735	(0.00000)	0.00000	(21.33131)	(0.65980)
K-	d.f. = 2	0.82324	(9.08078)	(21.52690)	0.88804	n/a
	d.f. = 1	0.00000	1.04765	2.15593	0.00000	5.56875
M-	d.f. = 2	(3.13661)	n/a	n/a	(13.54729)	n/a
	d.f. = 1	0.00000	(3.23461)	0.63989	1.38140	(76.27741)
N-	d.f. = 2	(23.09402)	(13.06214)	n/a	n/a	n/a
	d.f. = 1	5.93956	0.00000	(17.02823)	10.67406	(27.62455)
P-	d.f. = 2	(0.64603)	n/a	(34.35598)	(94.17410)	n/a
	d.f. = 1	0.00000	0.00000	4.22956	0.00000	0.00000
Q-	d.f. = 2	7.33285	n/a	(144.65736)	(21.03791)	
	d.f. = 1	3.28470	(6.31537)	4.09105	1.69547	
R-	d.f. = 2	2.02700	(25.23939)	n/a	n/a	n/a
	d.f. = 1	0.42548	(11.36739)	(4.76604)	24.65140	6.96598
S-	d.f. = 2	6.91116	(143.10173)	30.48602	n/a	(49.80291)
	d.f. = 1	1.33082	(43.16557)	0.78838	33.72356	(18.31736)
T-	d.f. = 2	11.49017	10.34233	20.47636	18.52665	n/a
	d.f. = 1	1.00578	0.00000	3.35242	0.39229	0.00000
W-	d.f. = 2	8.99688	(2.41429)	n/a	(20.95991)	
	d.f. = 1	1.07191	0.23214	10.65436	1.63028	
Y-	d.f. = 2	n/a	n/a		n/a	n/a
	d.f. = 1	10.28998	(41.29094)		0.00000	n/a
Z-	d.f. = 2	(43.00000)	(13.67342)		(111.14173)	n/a
	d.f. = 1	(12.11750)	(4.75901)		(37.77755)	n/a

Table (21) : Chi Square Results for Test Series Two : "Non-Greek" Linear B vs Greek Linear B

Note : brackets ( ) = Goodness-of-Fit distributions; n/a = not available

		A	E	I	O	U
Vowels	d.f. = 2	(5.89776)	n/a	4.39672	(8.71094)	(599.79346)
	d.f. = 1	(0.35006)	n/a	0.29412	(3.63902)	2.50915
D-	d.f. = 2	12.86272	4.33995	17.62294	(25.92451)	n/a
	d.f. = 1	8.82850	1.61653	3.99346	1.92487	(7.71521)
K-	d.f. = 2	9.14649	(96.43098)	(1.21057)	(20.30045)	n/a
	d.f. = 1	3.47798	(14.20627)	0.00000	(6.27475)	0.74445
M-	d.f. = 2	4.70274	n/a	n/a	n/a	n/a
	d.f. = 1	0.00000	n/a	0.00000	n/a	(23.65180)
N-	d.f. = 2	0.45572	(16.02617)	n/a	n/a	n/a
	d.f. = 1	0.00000	1.86447	13.26094	n/a	(54.32560)
P-	d.f. = 2	(7.28760)	n/a	(34.47331)	n/a	n/a
	d.f. = 1	0.00000	n/a	2.50899	n/a	(10.28228)
Q-	d.f. = 2	2.94734	(8.16660)	n/a	n/a	
	d.f. = 1	2.19730	(3.41532)	n/a	n/a	
R-	d.f. = 2	7.86226	12.75446	n/a	n/a	25.44779
	d.f. = 1	0.33293	(7.342283)	(40.13521)	0.00000	5.26860
S-	d.f. = 2	4.29934	(58.78371)	12.11920	n/a	(80.56698)
	d.f. = 1	0.00000	4.37950	0.00000	n/a	0.00000
T-	d.f. = 2	19.29965	(50.39550)	37.74752	n/a	14.38600
	d.f. = 1	0.33662	10.29658	2.26698	n/a	1.35593
W-	d.f. = 2	(43.32488)	(164.65935)	n/a	n/a	
	d.f. = 1	(6.81355)	(53.95933)	(12.36018)	n/a	
Y-	d.f. = 2	n/a	n/a		n/a	n/a
	d.f. = 1	0.33512	n/a		n/a	n/a
Z-	d.f. = 2	(8.33333)	n/a		n/a	n/a
	d.f. = 1	(3.00833)	n/a		n/a	n/a

Table (22) : Chi Square Results for Test Series Three : Linear A vs Greek Linear B

Note : brackets ( ) = Goodness-of-Fit distributions; n/a = not available



		A	E	I	O	U
<b>Vowels</b>	<i>Test (1)</i>	(1+)	n/a	1-	(2-)	2-
	<i>Test (2)</i>	(1+)	(1+)	1-	2-	0
	<i>Test (3)</i>	(1+)	n/a	1+	(1-)	2+
<b>D-</b>	<i>Test (1)</i>	1+	(0)	1-	(0)	2+
	<i>Test (2)</i>	0	(1+)	2+	(0)	(2+)
	<i>Test (3)</i>	0	1+	2-	2+	(2-)
<b>K-</b>	<i>Test (1)</i>	1+	(0)	2+	(1-)	2-
	<i>Test (2)</i>	1+	1-	2+	1+	2-
	<i>Test (3)</i>	1-	(0)	(1+)	(2-)	2+
<b>M-</b>	<i>Test (1)</i>	1-	(0)	1+	n/a	(0)
	<i>Test (2)</i>	(1+)	(2+)	2+	2+	(0)
	<i>Test (3)</i>	1+	n/a	2-	0	(0)
<b>N-</b>	<i>Test (1)</i>	2-	2+	2+	n/a	2+
	<i>Test (2)</i>	2-	2+	(0)	0	(0)
	<i>Test (3)</i>	1+	2+	0	n/a	(0)
<b>P-</b>	<i>Test (1)</i>	(1-)	n/a	2+	n/a	(0)
	<i>Test (2)</i>	(1+)	2+	2-	2-	2-
	<i>Test (3)</i>	(1-)	n/a	2-	n/a	(0)
<b>Q-</b>	<i>Test (1)</i>	(1+)	(0)	n/a	n/a	
	<i>Test (2)</i>	1-	(2-)	2-	2+	
	<i>Test (3)</i>	1+	(1-)	n/a	n/a	
<b>R-</b>	<i>Test (1)</i>	1+	(1-)	(0)	2+	1+
	<i>Test (2)</i>	1+	(0)	(2-)	0	2-
	<i>Test (3)</i>	1-	(2-)	(0)	2-	2-
<b>S-</b>	<i>Test (1)</i>	(1+)	(0)	1+	n/a	2+
	<i>Test (2)</i>	1-	(0)	2+	0	(0)
	<i>Test (3)</i>	1+	2-	2+	n/a	2+
<b>T-</b>	<i>Test (1)</i>	1-	1-	1+	n/a	1-
	<i>Test (2)</i>	2+	1-	2+	1-	2+
	<i>Test (3)</i>	2+	0	2+	n/a	2+
<b>W-</b>	<i>Test (1)</i>	(2+)	(0)	(0)	n/a	
	<i>Test (2)</i>	1-	(1+)	0	2+	
	<i>Test (3)</i>	(2-)	(0)	(0)	n/a	
<b>Y-</b>	<i>Test (1)</i>	1+	(0)		n/a	n/a
	<i>Test (2)</i>	0	(0)		2+	n/a
	<i>Test (3)</i>	2+	n/a		n/a	n/a
<b>Z-</b>	<i>Test (1)</i>	(2-)	n/a		n/a	n/a
	<i>Test (2)</i>	(0)	(2-)		(0)	n/a
	<i>Test (3)</i>	(1-)	n/a		n/a	n/a

**Table (23)** : Chi Square Levels of Significance for Test Series One to Three.

Note : brackets ( ) = Goodness-of-Fit results; n/a = not available

### 5b. Summary of Results

**5b.1** As can be seen, some thirty-four (or 74%) of the forty-six Linear A signs whose frequency distributions were examined receive varying degrees of confirmation of their phonetic values in the first test series (Linear A vs "non-Greek" Linear B). The results of the second test series ("non-Greek" vs Greek Linear B), though yielding forty-two possible matches, are in fact proportionally similar (71.2%) to the yields of the first set, since the total population of signs here stands at fifty-nine. The results of the third test series (Linear A vs Greek Linear B), on the other hand, appear to almost mirror the results of the first set, producing also a total of thirty-four out of forty-six matches :

	<i>Test (1)</i>	<i>Test (2)</i>	<i>Test (3)</i>
<b>Level (1+)</b>	11	9	8
<b>Level (1-)</b>	9	6	6
<b>Level (2+)</b>	9	16	10
<b>Level (2-)</b>	5	11	10
<b>Total Matches</b>	34	42	34
<b>n/a</b>	15	2	16
<b>failed</b>	12	17	11
<b>Total Signs</b>	61	61	61
<b>less n/a</b>	46	59	46

**Table (24) :** Break-down of the Results for Chi Square Test Series One to Three

**5b.2** Closer inspection of these results, however, reveals that not all syllables produce the same levels of correspondence between the three groups. As Table (25) bears out, eight syllables - viz., *a, i, ka, ma, pa, qa, ra, sa* - confirmed at

**Level (1)**

**Test (1)** : (a), i, da, di, ka, (ko), ma, mi, (pa), (qa), ra, (re), ru, (sa), si, ta, te, ti, tu, ya

**Test (2)** : (a), (e), i, (de), ka, ke, ko, (ma), (pa), qa, ra, sa, te, wa, (we)

**Test (3)** : (a), i, (o), de, ka, (ki), ma, na, (pa), qa, (qe), ra, sa, (za)

**Level (2)**

**Test (1)** : (o), u, du, ki, ku, na, ne, ni, nu, pi, ro, su, (wa), (za)

**Test (2)** : o, di, (du), ki, ku, (me), mi, mo, na, ne, pe, pi, po, pu, (qe), qi, qo, (ri), ru, si, ta, ti, to, tu, wo, yo, (ze)

**Test (3)** : u, di, do, (du), (ko), ku, mi, ne, pi, (re), ro, ru, se, si, su, ta, ti, tu, (wa), ya

**Failed**

**Test (1)** : (de), (do), (ke), (me), (mu), (pu), (qe), (ri), (se), (we), (wi), (ye)

**Test (2)** : u, da, (do), (mu), (ni), no, (nu), (re), ro, (se), so, (su), wi, ya, (ye), (za), (zo)

**Test (3)** : da, (ke), mo, (mu), ni, (nu), (pu), (ri), te, (we), (wi)

**n/a**

**Test (1)** : e, mo, no, pe, po, qi, qo, so, to, wo, yo, yu, ze, zo, zu

**Test (2)** : yu, zu

**Test (3)** : e, me, no, pe, po, qi, qo, so, to, wo, ye, yo, yu, ze, zo, zu

**Table (25)** : Summary of Chi Square Results for Test Series One to Three.

Note : brackets ( ) = Goodness-of-Fit test results

Level (1) in the first series of calculations receive similar confirmation also in the other two sets, while another four syllables - viz., *du, ku, ne, pi* - register at Level (2) in all three test series. Of the remaining twenty-two syllables confirmed in the first series of calculations, only ten - viz., *da, di, mi, ni, nu, ru, si, ta, ti, tu* - produce reasonably consistent results with respect the second and third test series, while the other twelve - viz., *o, u, ki, ko, na, re, ro, su, te, wa, za, ya* - appear to be somewhat contradictory.

	A	E	I	O	U
<b>Vowels</b>	(A52)		A100	(A87) ?	A97 ?
<b>D-</b>	A30	[A102]	A51	[A101] ?	A93 ?
<b>K-</b>	A29		A103 ?	(A45) ?	A98 ?
<b>M-</b>	A95		A76		
<b>N-</b>	A26 ?	A61 ?	A60 ?		A25 ?
<b>P-</b>	(A02)		A56 ?		
<b>Q-</b>	(A62)	([A91])			
<b>R-</b>	A53	(A54)		A22 ?	A55
<b>S-</b>	(A31)	([A77]) ?	A57		A59 ?
<b>T-</b>	A74	A92	A78		A06
<b>W-</b>	(A75) ?				
<b>Y-</b>	A32				
<b>Z-</b>	(A23) ?				

**Table (26)** :The Linear A signs confirmed by Chi Square Test Series One. Note : ( ) = confirmation by Goodness-of-Fit Test only; [ ] = confirmation in Test Series Three only;

? = Level (2) type confirmation only.

**5b.3** Certainly the most striking feature of the first set of chi square tests are the high levels of correspondence generated by the *-a*, *-i*, and *-u* series signs which is in marked contrast to the few positive results produced by the *-e* and *-o* series respectively, cf., Table (26). Indeed, of the fourteen Linear A *-e* and *-o* coloured syllables tested in the first series of calculations (Linear A vs "non-Greek" Linear B), only three - viz., *ko*, *re*, *te* - record a Level (1) type correspondence, while another three - viz., *o*, *ne*, *ro* - register at Level (2). The rest - viz., *de*, *do*, *ke*, *me*, *qe*, *se*, *we*, *ye* - actually fail the first series of chi square tests altogether. A further twelve *-e* and *-o* series signs could not in fact be tested. A similar situation,

is apparent also in the third series of chi square tests (Linear A vs Greek Linear B) where we find a total of nine matches involving *-e* and *-o* coloured syllables, three of which - viz., *o*, *de*, *qe* - register at Level (1), and the remaining six - viz., *do*, *ko*, *ne*, *re*, *ro*, *se* - at Level (2). Note, however, that, of the five Linear A *-e* and *-o* coloured syllables - viz., *o*, *ko*, *ne*, *re*, *ro* - confirmed in both the first and third test series, two - viz., *o*, *ko* - are based on very low frequency counts and are therefore best disregarded. The results for the three remaining *-e* and *-o* coloured syllables, while reasonably consistent in both test series, yield mostly Level (2) type correspondences, and are likewise of an inconclusive nature. The second series of chi square tests, on the other hand, clearly shows that most of the *-e* and *-o* series syllables of the "non-Greek" words at Knossos conform almost exclusively to Greek Linear B distribution patterns.

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## 6a. CHI SQUARE TEST SERIES FOUR AND FIVE

6a.1 As noted above, Mycenaean transliterations of non-Greek words show evidence of extensive phonemic confusion, particularly between the vowels *e/i* and *o/u*. Similar alternations also feature in the Linear A and B parallels cited in Table (5) on pages 25 to 28. The consequences of this phenomenon insofar as the statistical verification of the phonetic values of individual Linear A signs is concerned are immediately apparent - such confusion is likely to generate conflicting distribution patterns. Alternations between *e/i* and *o/u* would certainly account, at least in part, for the few confirmations produced by the first set of chi square tests with respect to the Linear A *e* and *o* coloured syllables. Statistical evidence for both *e/i* and *o/u* type alternations is in fact furnished on two different levels. The first involves a simple comparison of the initial, medial and final frequency distributions of individual *e* and *o* coloured syllables for the "non-Greek" Linear B words from Knossos with those corresponding to the Linear A *-i* and *-u* series respectively and *vice versa*, cf., Tables (27) to (30) and Figures (15) to (18) on pages 86 to 101. The second is designed to overcome the problem of low frequency counts, and essentially compares the conflated *e/i* and *o/u* distribution patterns between the two groups, cf., Tables (31) to (32) and Figures (19) to (20) on pages 102 to 109. The results of Chi Square Test Series Four, which deals with the first set of distribution patterns, are presented in Table (33) on page 110. Note that low frequency counts here permit the application of the chi square goodness-of-fit procedure only. The results of Chi Square Test Series Five, which examines the conflated *e/i* and *o/u* distribution patterns, are shown in Table (34) on page 111. Table (35) on page 112 translates these results according to the four designated levels of significance. A summary of these results is found on pages 113 to 114.

TABLE (27) : E/I ALTERNATIONS

<b>(27.1) : B38 [e] / A100 [I]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		19 76.00%	4 16.00%	2 8.00%	25 1.20%
<b>2. Linear A</b> (1,595 signs)		24.5 44.95%	15 27.52%	15 27.52%	54.5 3.42%
<b>(27.2) : B45 [de] / A51 [DI]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		3 30.00%	4 40.00%	3 30.00%	10 0.48%
<b>2. Linear A</b> (1,595 signs)		10 23.53%	20 47.06%	12.5 29.41%	42.5 2.66%
<b>(27.3) : B44 [ke] / A103 [KI]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		9 33.33%	15 55.56%	3 11.11%	27 1.29%
<b>2. Linear A</b> (1,595 signs)		15 37.50%	22 55.00%	3 7.50%	40 2.51%
<b>(27.4) : B13 [me] / A76 [MI]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		5 31.25%	8 50.00%	3 18.75%	16 0.77%
<b>2. Linear A</b> (1,595 signs)		8 19.51%	23 56.10%	10 24.39%	41 2.57%
<b>(27.5) : B24 [ne] / A60 [NI]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		0 0.00%	10 58.82%	7 41.18%	17 0.81%
<b>2. Linear A</b> (1,595 signs)		2.5 9.09%	12.5 45.45%	12.5 45.45%	27.5 1.72%



Fig. (15.1) : B38 [e] / A100 [I]

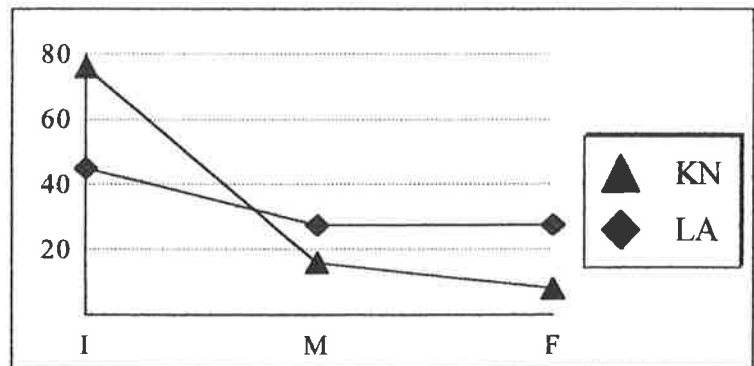


Fig. (15.2) : B45 [de] / A51 [DI]

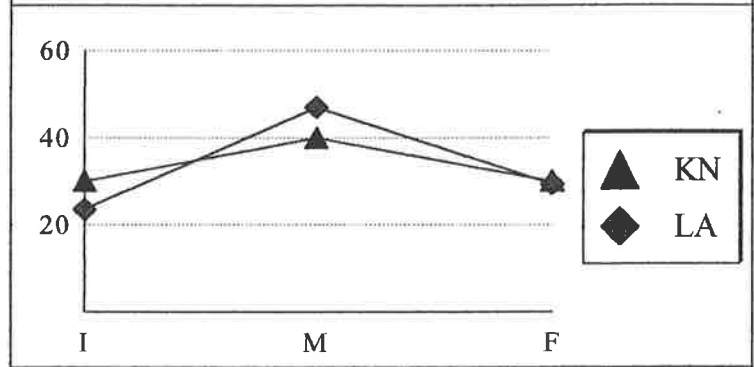


Fig. (15.3) : B44 [ke] / A103 [KI]

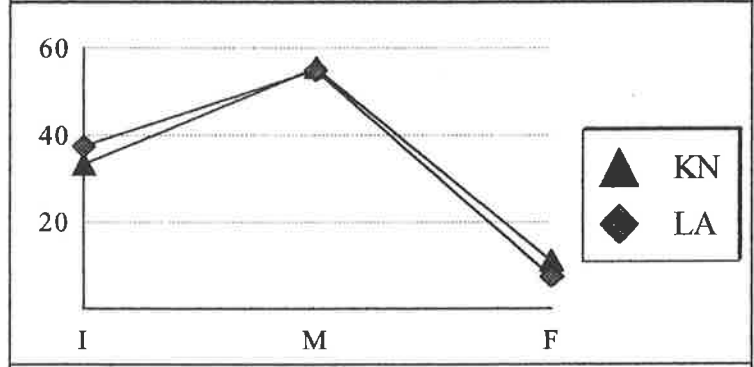


Fig. (15.4) : B13 [me] / A76 [MI]

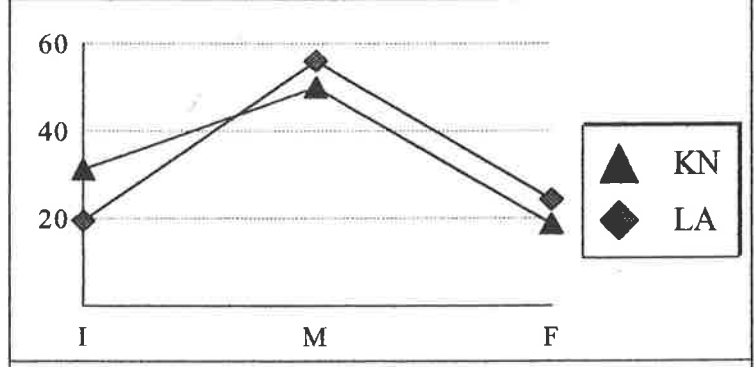


Fig. (15.5) : B24 [ne] / A60 [NI]

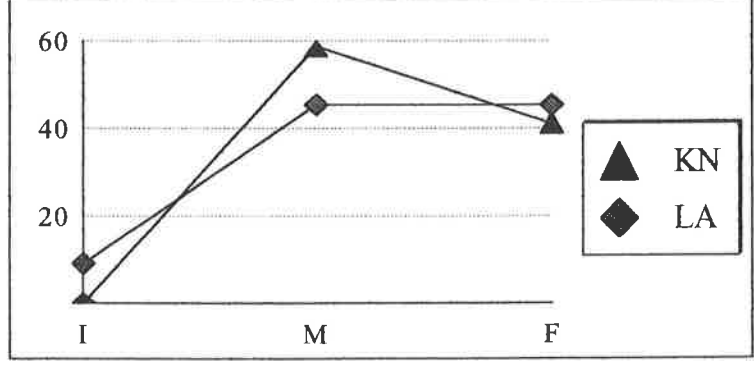


TABLE (27) : E/I ALTERNATIONS (*cont.*)

(27.6) : B72 [pe] / A56 [PI]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	10 55.56%	8 44.44%	0 0.00%	18 0.86%
2. Linear A (1,595 signs)	9 51.43%	6 34.29%	2.5 14.29%	17.5 1.10%
(27.7) : B27 [re] / A72 [RI]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	4 17.39%	11 47.83%	8 34.78%	23 1.10%
2. Linear A (1,595 signs)	5.5 18.33%	18 60.00%	6.5 21.67%	30 1.88%
(27.8) : B09 [se] / A57 [SI]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	4 36.36%	3 27.27%	4 36.36%	11 0.53%
2. Linear A (1,595 signs)	14.5 35.80%	14.5 35.80%	11.5 28.39%	40.5 2.54%
(27.9) : B04 [te] / A78 [TI]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	12 38.71%	11 35.48%	8 25.81%	31 1.48%
2. Linear A (1,595 signs)	9.5 17.59%	20 37.04%	24.5 45.37%	54 3.39%
(27.10) : B75 [we] / A28 [WI]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	4 15.38%	10 38.46%	12 46.15%	26 1.25%
2. Linear A (1,595 signs)	1 9.52%	6 57.14%	3.5 33.33%	10.5 0.66%

Fig. (15.6) : B72 [pe] / A56 [PI]

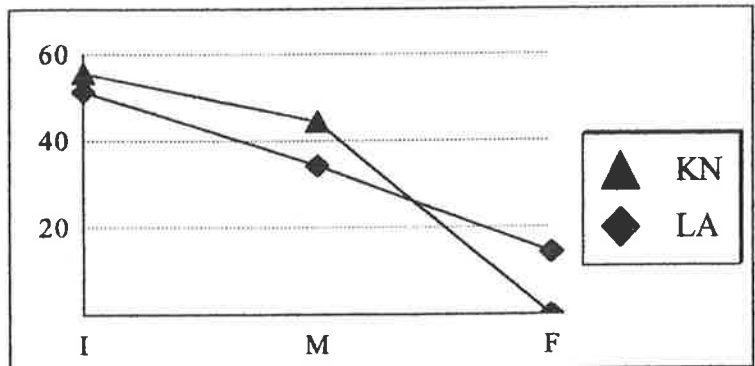


Fig. (15.7) : B27 [re] / A72 [RI]

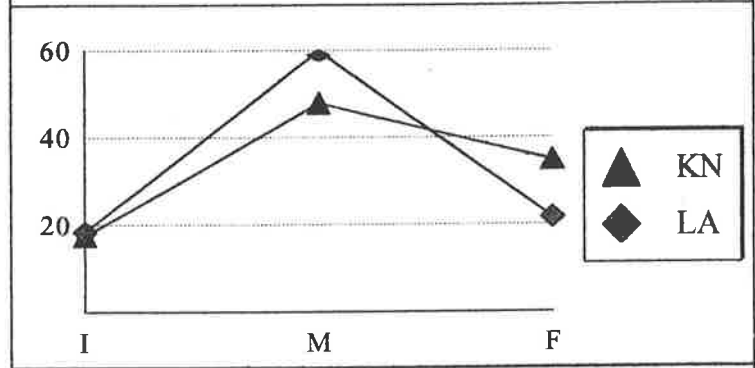


Fig. (15.8) : B09 [se] / A57 [SI]

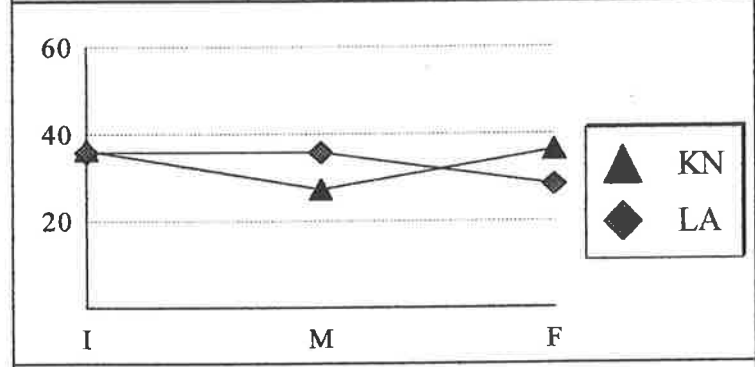


Fig. (15.9) : B04 [te] / A78 [TI]

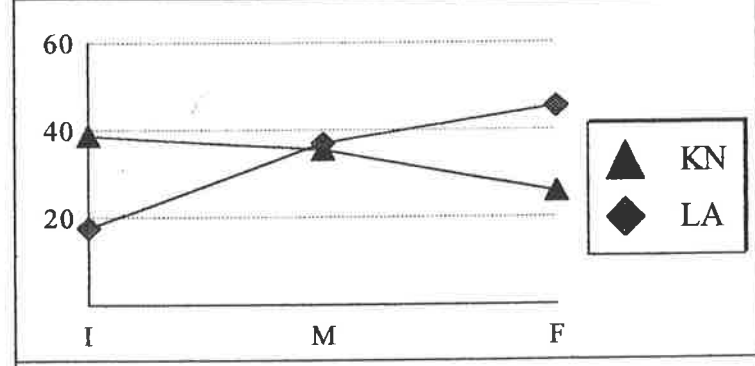


Fig. (15.10) : B75 [we] / A28 [WI]

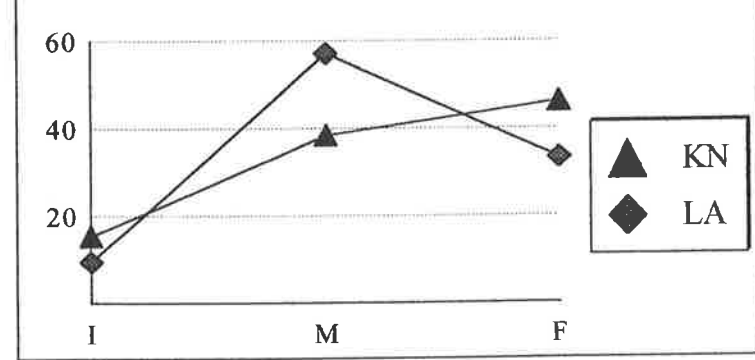


TABLE (28) : I/E ALTERNATIONS

<b>(28.1) : B28 [i] / A44 [E]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		16 39.02%	21 51.22%	4 9.76%	24 1.96%
<b>2. Linear A</b> (1,595 signs)		0 0.00%	0 0.00%	0.5 100.00%	0.5 0.03%
<b>(28.2) : B07 [di] / A102 [DE]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		15 62.50%	7 29.17%	2 8.33%	24 1.15%
<b>2. Linear A</b> (1,595 signs)		3 16.22%	12 64.86%	3.5 18.92%	18.5 1.16%
<b>(28.3) : B67 [ki] / A24 [KE]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		21 52.50%	19 47.50%	0 0.00%	40 1.92%
<b>2. Linear A</b> (1,595 signs)		1.5 21.43%	2.5 35.71%	3 42.86%	7 0.44%
<b>(28.4) : B73 [mi] / A84 [ME]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		8 28.57%	16 57.14%	4 14.29%	28 1.34%
<b>2. Linear A</b> (1,595 signs)		1.5 10.34%	7.5 51.72%	5.5 37.93%	14.5 0.91%
<b>(28.5) : B30 [ni] / A61 [NE]</b>		<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)		0 0.00%	19 79.17%	5 20.83%	24 1.15%
<b>2. Linear A</b> (1,595 signs)		2 8.16%	9 36.73%	13.5 55.10%	24.5 1.54%

Fig. (16.1) : B28 [i] / A44 [E]

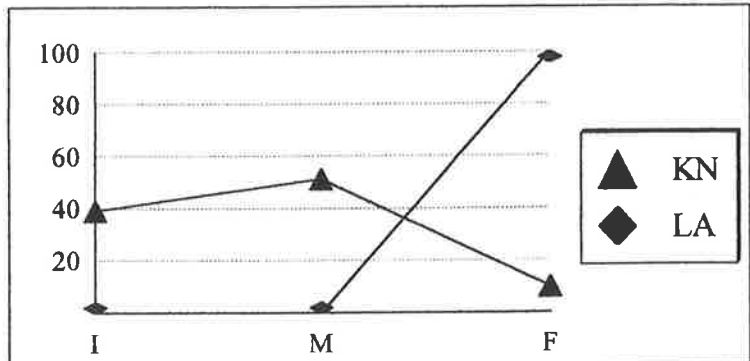


Fig. (16.2) : B07 [di] / A102 [DE]

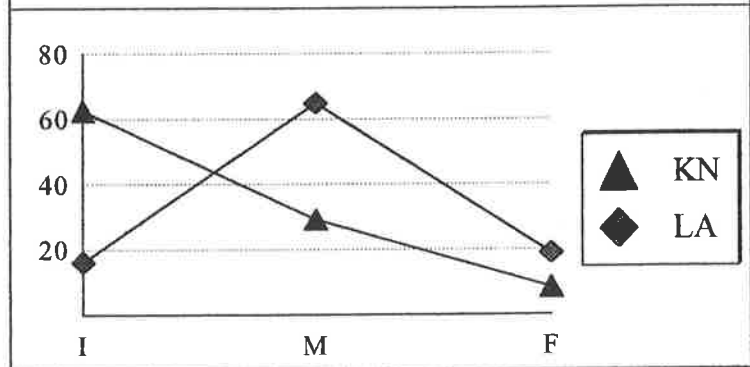


Fig. (16.3) : B67 [ki] / A24 [KE]

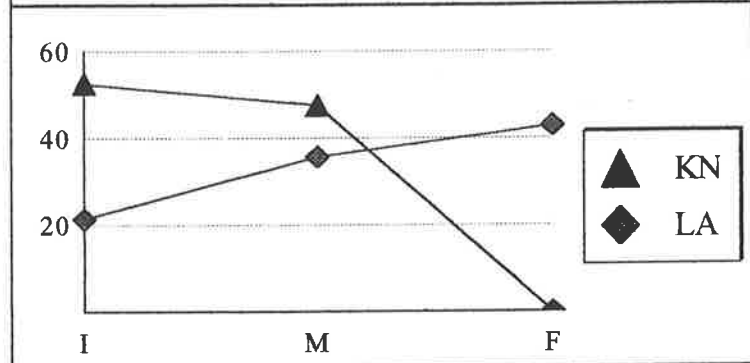


Fig. (16.4) : B73 [mi] / A84 [ME]

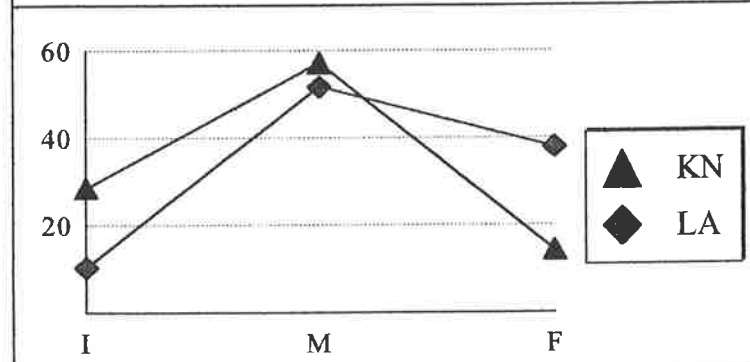


Fig. (16.5) : B30 [ni] / A61 [NE]

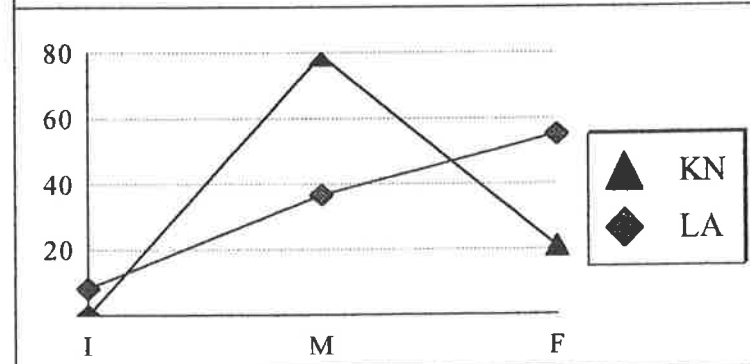


TABLE (28) : I/E ALTERNATIONS (*cont.*)

(28.6) : B39 [pi] / A90 [PE]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	12 60.00%	7 35.00%	1 5.00%	20 0.96%
2. Linear A (1,595 signs)	0 0.00%	0 0.00%	1 100.00%	1 0.06%
(28.7) : B53 [ri] / A54 [RE]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	4 9.76%	32 78.05%	5 12.20%	41 1.96%
2. Linear A (1,595 signs)	4.5 9.09%	23.5 47.47%	21.5 43.43%	49.5 3.10%
(28.8) : B41 [si] / A77 [SE]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	20 55.56%	12 33.33%	4 11.11%	36 1.72%
2. Linear A (1,595 signs)	1.5 7.32%	9 43.90%	10 48.78%	20.5 1.29%
(28.9) : B37 [ti] / A92 [TE]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	10 25.64%	18 46.15%	11 28.21%	39 1.87%
2. Linear A (1,595 signs)	6.5 22.41%	6 20.69%	16.5 56.90%	29 1.82%
(28.10) : B40 [wi] / A94 [WE]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	17 62.96%	8 29.63%	2 7.41%	27 1.29%
2. Linear A (1,595 signs)	1 9.52%	9.5 90.48%	0 0.00%	10.5 0.66%

Fig. (16.6) : B39 [pi] / A90 [PE]

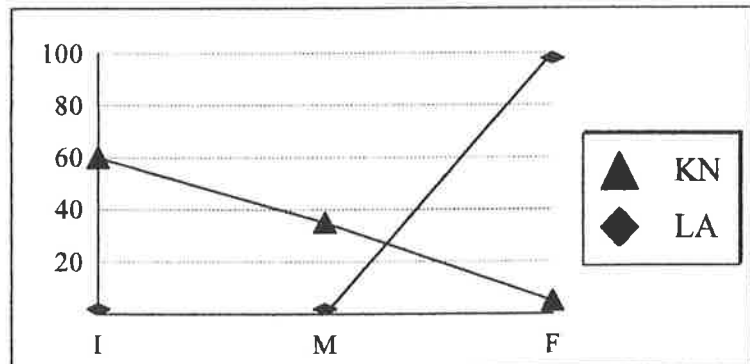


Fig. (16.7) : B53 [ri] / A54 [RE]

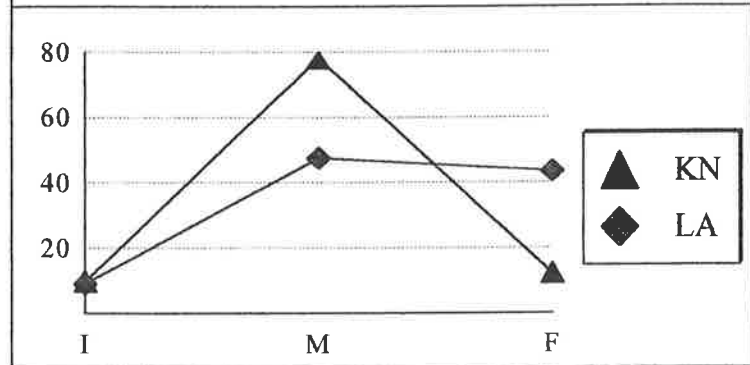


Fig. (16.8) : B41 [si] / A77 [SE]

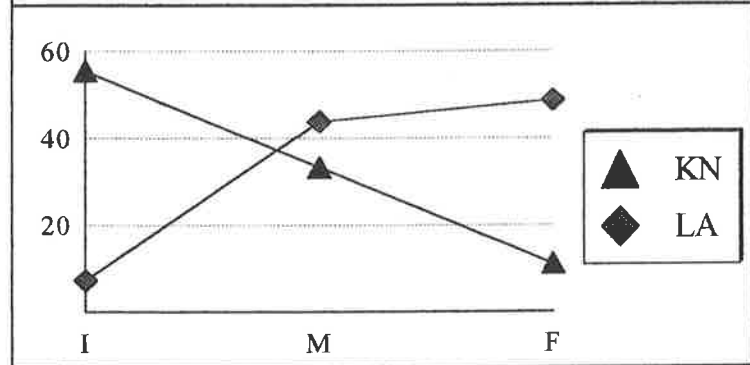


Fig. (16.9) : B37 [ti] / A92 [TE]

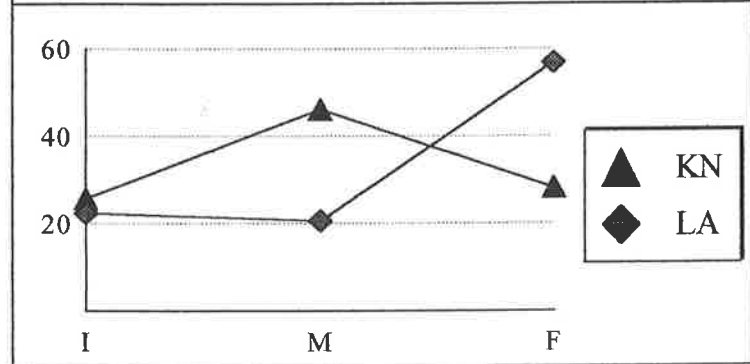


Fig. (16.10) : B40 [wi] / A94 [WE]

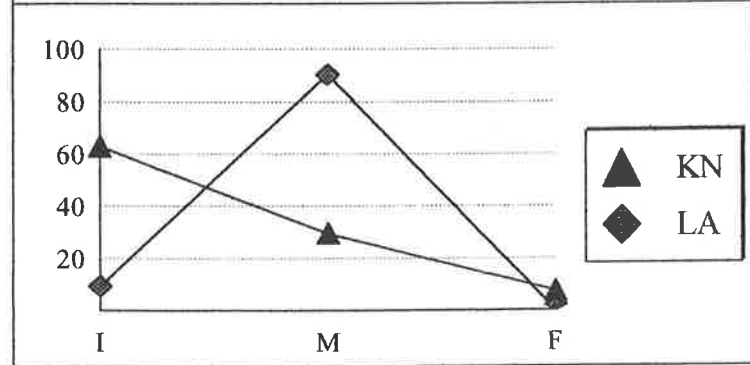


TABLE (29) : O/U ALTERNATIONS

<b>(29.1) : B61 [o] / A97 [U]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	19 67.86%	4 14.29%	5 17.86%	28 1.34%
<b>2. Linear A</b> (1,595 signs)	15.5 64.58%	5 20.83%	3.5 14.58%	24 1.50%
<b>(29.2) : B14 [do] / A93 [DU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	3 17.65%	8 47.06%	6 35.29%	17 0.81%
<b>2. Linear A</b> (1,595 signs)	10.5 28.00%	17 45.33%	10 26.67	37.5 2.35%
<b>(29.3) : B70 [ko] / A98 [KU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	12 30.77%	14 35.90%	13 33.33%	39 1.87%
<b>2. Linear A</b> (1,595 signs)	23 44.23%	21 40.38%	8 15.38%	52 3.26%
<b>(29.4) : B15 [mo] / A27 [MU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	4 14.81%	6 22.22%	17 62.96%	27 1.29%
<b>2. Linear A</b> (1,595 signs)	1 28.57%	1.5 42.86%	1 28.57%	3.5 0.22%
<b>(29.5) : B52 [no] / A25 [NU]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	4 7.84%	4 7.84%	43 84.31%	51 2.44%
<b>2. Linear A</b> (1,595 signs)	2 10.00%	12 60.00%	6 30.00%	20 1.25%



Fig. (17.1) : B61 [o] / A97 [U]

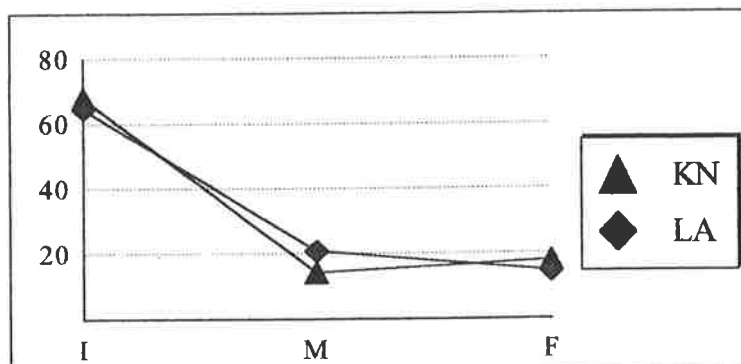


Fig. (17.2) : B14 [do] / A93 [DU]

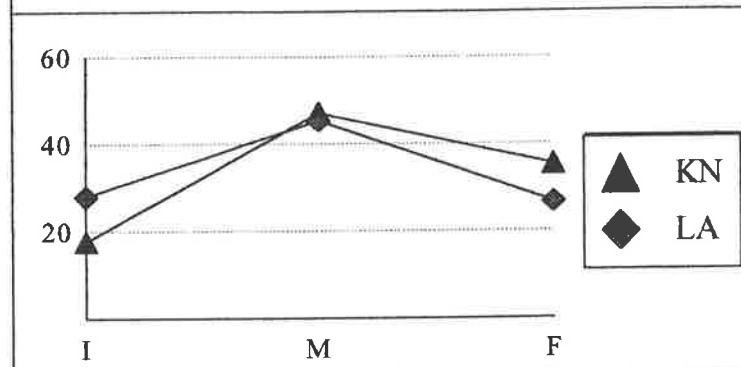


Fig. (17.3) : B70 [ko] / A98 [KU]

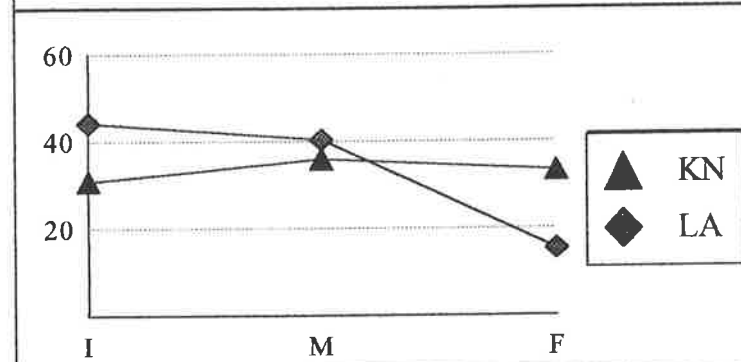


Fig. (17.4) : B15 [mo] / A27 [MU]

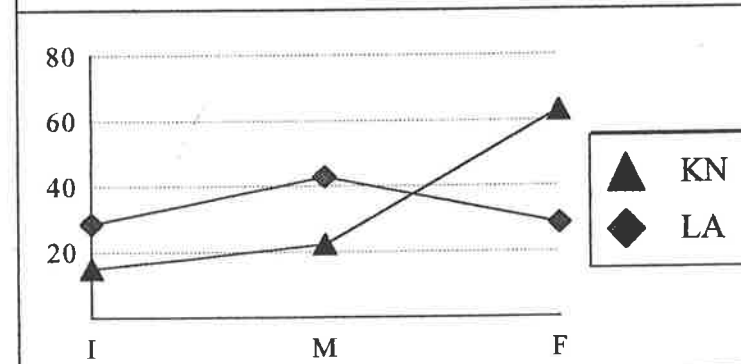


Fig. (17.5) : B52 [no] / A25 [NU]

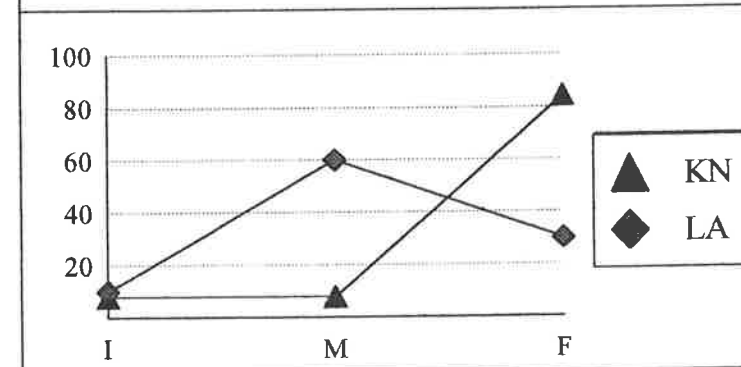


TABLE (29) : O/U ALTERNATIONS (*cont.*)

<b>(29.6) : B11 [po] / A64 [PU]</b>				
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	<b>I</b> 8 34.78%	<b>M</b> 6 26.09%	<b>F</b> 9 39.13%	<b>T</b> 23 1.10%
<b>2. Linear A</b> (1,595 signs)	3.5 36.84%	3 31.58%	3 31.58%	9.5 0.60%
<b>(29.7) : B02 [ro] / A55 [RU]</b>				
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	<b>I</b> 1 1.01%	<b>M</b> 18 18.18%	<b>F</b> 80 80.81%	<b>T</b> 99 4.74%
<b>2. Linear A</b> (1,595 signs)	10.5 24.71%	16 37.65%	16 37.65%	42.5 2.66%
<b>(29.8) : B12 [so] / A59 [SU]</b>				
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	<b>I</b> 0 0.00%	<b>M</b> 5 7.58%	<b>F</b> 61 92.42%	<b>T</b> 66 3.16%
<b>2. Linear A</b> (1,595 signs)	11.5 35.94%	10.5 32.81%	10 31.25%	32 2.01%
<b>(29.9) : B05 [to] / A06 [TU]</b>				
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	<b>I</b> 5 5.81%	<b>M</b> 15 17.44%	<b>F</b> 66 76.74%	<b>T</b> 86 4.12%
<b>2. Linear A</b> (1,595 signs)	8 19.28%	18.5 44.58%	15 36.14%	41.5 2.60%
<b>(29.10) : B36 [yo] / A96 [YU]</b>				
<b>1. "Non-Greek" at Knossos</b> (2,092 signs)	<b>I</b> 0 0.00%	<b>M</b> 7 17.95%	<b>F</b> 32 82.05%	<b>T</b> 39 1.87%
<b>2. Linear A</b> (1,595 signs)	1 10.00%	3 30.00%	6 60.00%	10 0.63%

Fig. (17.6) : B11 [po] / A64 [PU]

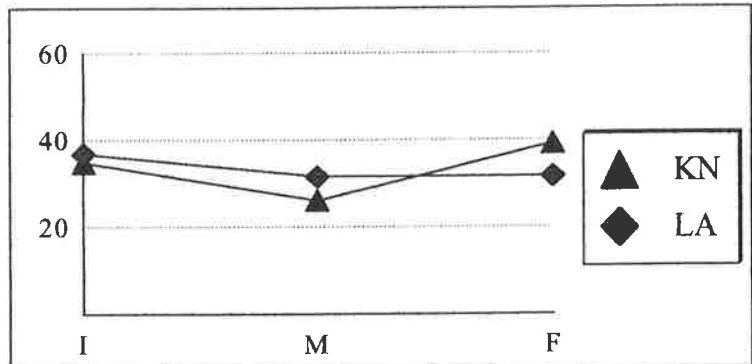


Fig. (17.7) : B02 [ro] / A55 [RU]

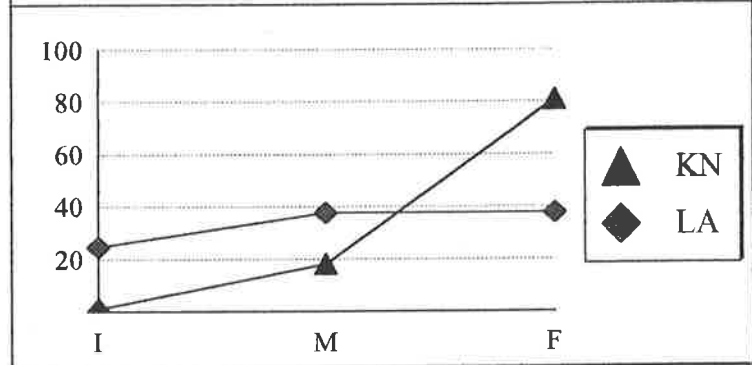


Fig. (17.8) : B12 [so] / A59 [SU]

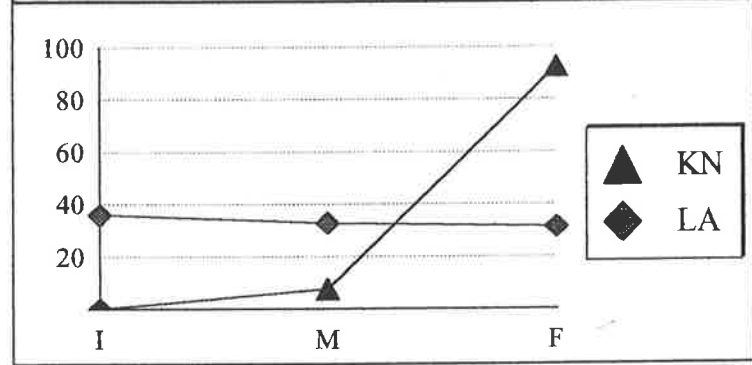


Fig. (17.9) : B05 [to] / A06 [TU]

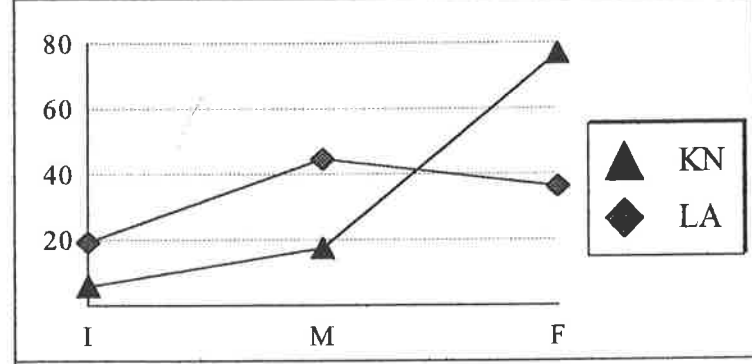


Fig. (17.10) : B36 [yo] / A96 [YU]

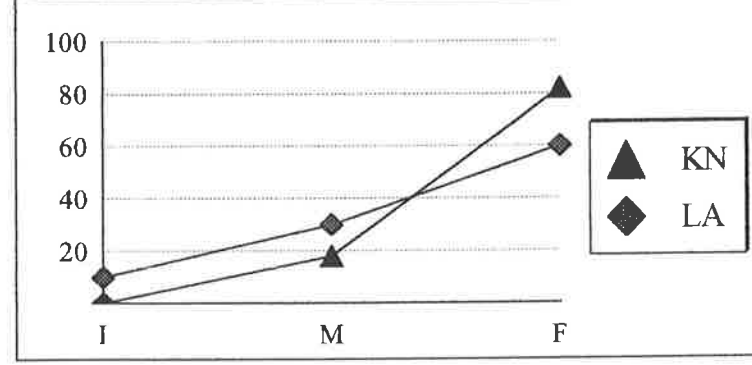


TABLE (30) : U/O ALTERNATIONS

<b>(30.1) : B10 [u] / A87 [O]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	10 29.41%	21 61.76%	3 8.82%	34 1.63%
2. Linear A (1,595 signs)	3 54.55%	0.5 9.09%	2 36.36%	5.5 0.34%
<b>(30.2) : B51 [du] / A101 [DO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	9 40.91%	11 50.00%	2 9.09%	22 1.05%
2. Linear A (1,595 signs)	8 47.06%	6.5 38.24%	2.5 14.71%	17 1.07%
<b>(30.3) : B81 [ku] / A45 [KO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	24 80.00%	4 13.33%	2 6.67%	30 1.44%
2. Linear A (1,595 signs)	2.5 41.67%	1.5 25.00%	2 33.33%	6 0.38%
<b>(30.4) : B23 [mu] / A ? [MO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	2 25.00%	6 75.00%	0 0.00%	8 0.38%
2. Linear A (1,595 signs)	n/a n/a	n/a n/a	n/a n/a	n/a n/a
<b>(30.5) : B55 [nu] / A ? [NO]</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	1 4.17%	17 70.83%	6 25.00%	24 1.15%
2. Linear A (1,595 signs)	n/a n/a	n/a n/a	n/a n/a	n/a n/a

Fig. (18.1) : B10 [u] / A87 [O]

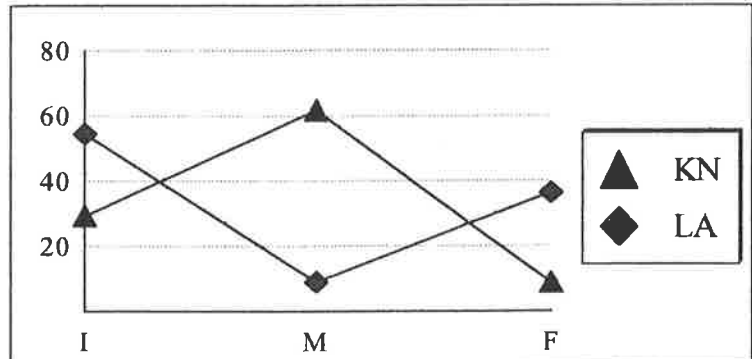


Fig. (18.2) : B51 [du] / A101 [DO]

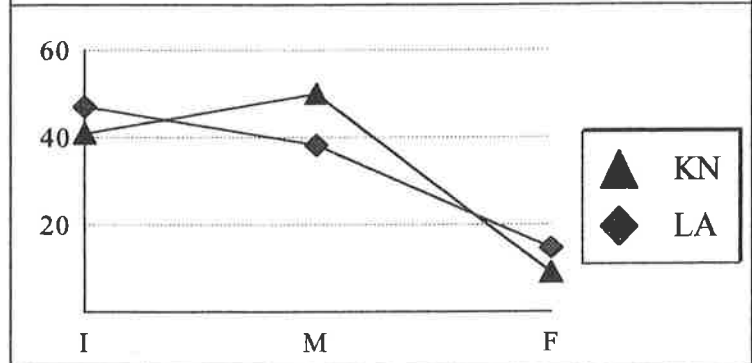


Fig. (18.3) : B81 [ku] / A45 [KO]

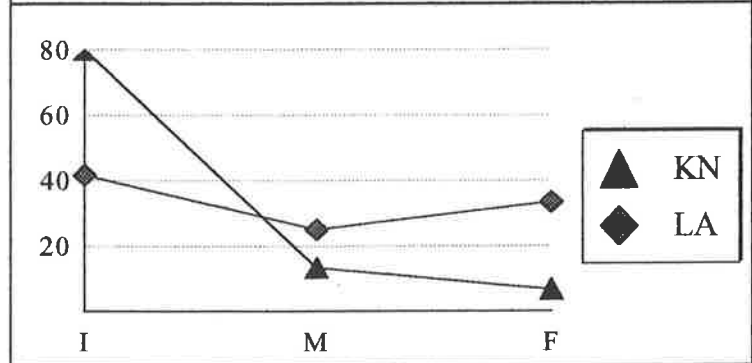


Fig. (18.4) : B23 [mu] / A? [MO]

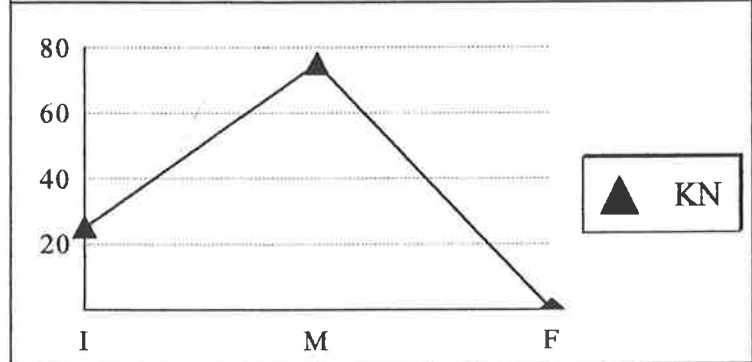


Fig. (18.5) : B55 [nu] / A? [NO]

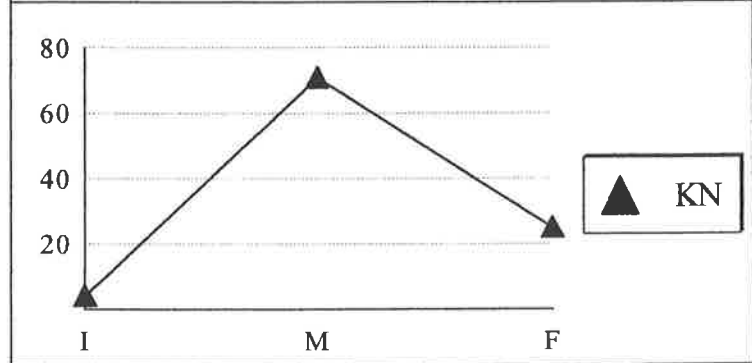


TABLE (30) : U/O ALTERNATIONS (*cont.*)

(30.6) : B50 [pu] / A21 [PO]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	10 62.50%	5 31.25%	1 6.25%	16 0.77%
2. Linear A (1,595 signs)	1 50.00%	1 50.00%	0 0.00%	2 0.12%
(30.7) : B26 [ru] / A22 [RO]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	10 38.46%	12 46.15%	4 15.38%	26 1.25%
2. Linear A (1,595 signs)	1 5.56%	7 38.89%	10 55.56%	18 1.13%
(30.8) : B58 [su] / A07 [SO]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	16 72.73%	5 22.73%	1 4.55%	22 1.05%
2. Linear A (1,595 signs)	1 100.00%	0 0.00%	0 0.00%	1 0.06%
(30.9) : B69 [tu] / A39 [TO]	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	11 50.00%	10 45.45%	1 4.55%	22 1.05%
2. Linear A (1,595 signs)	0 0.00%	2 50.00%	2 50.00%	4 0.25%

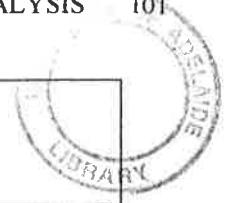


Fig. (18.6) : B50 [pu] / A21 [PO]

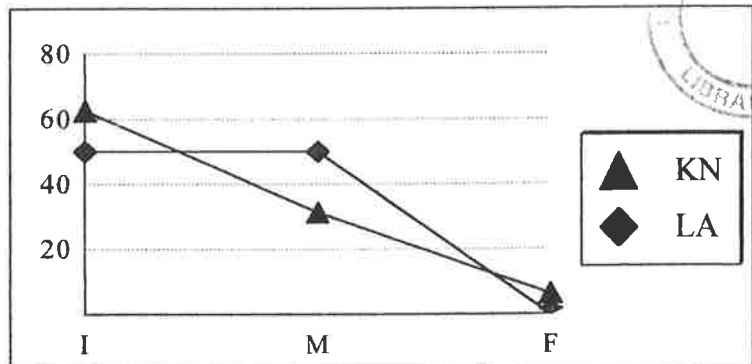


Fig. (18.7) : B26 [ru] / A22 [RO]

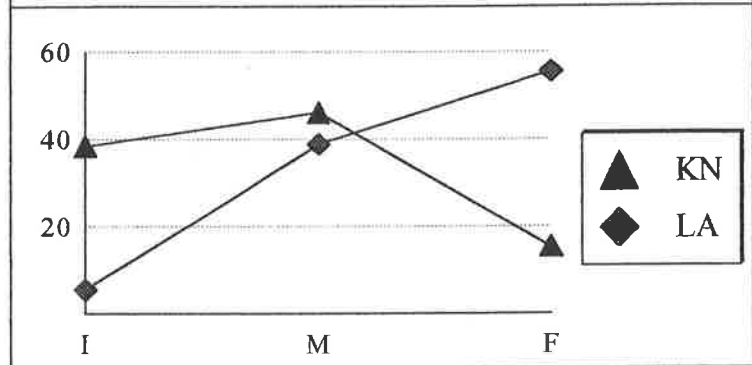


Fig. (18.8) : B58 [su] / A07 [SO]

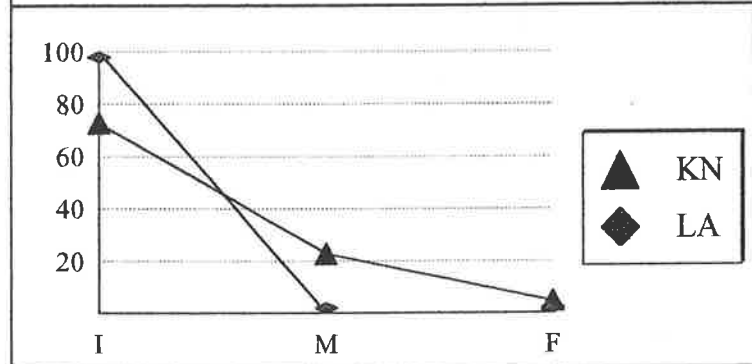


Fig. (18.9) : B69 [tu] / A39 [TO]

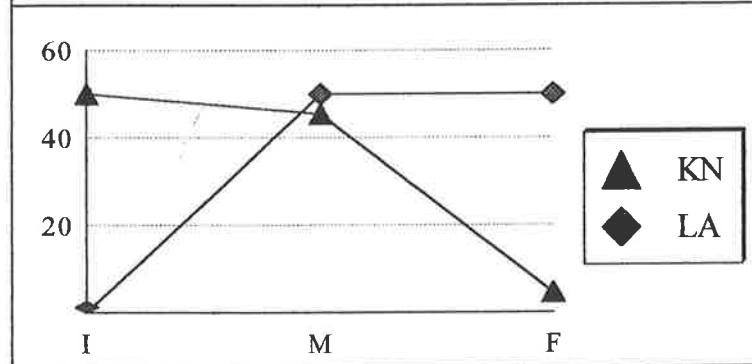


TABLE (31) : CONFLATED E/I SERIES

**(31.1) : B38[e]+B28[i] / A44[E]+A100[I]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	35 53.04%	25 37.88%	6 9.09%	66 3.15%
2. Linear A (1,595 signs)	24.5 44.54%	15 27.27%	15.5 28.18%	55 3.45%

**(31.2) : B45[de]+B07[di] / A102[DE]+A51[DI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	18 52.94%	11 32.35%	5 14.71%	34 1.62%
2. Linear A (1,595 signs)	13 21.31%	32 52.46%	16 26.23%	61 3.82%

**(31.3) : B44[ke]+B67[ki] / A24[KE]+A103[KI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	30 44.78%	34 50.75%	3 4.48%	67 3.20%
2. Linear A (1,595 signs)	16.5 35.12%	24.5 52.13%	6 12.77%	47 2.95%

**(31.4) : B13[me]+B73[mi] / A84[ME]+A76[MI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	13 29.54%	24 54.55%	7 15.91%	44 2.10%
2. Linear A (1,595 signs)	9.5 17.12%	30.5 54.95%	15.5 27.93%	55.5 3.48%

**(31.5) : B24[ne]+B61[ni] / A61[NE]+A60[NI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	0 0.00%	29 70.73%	12 29.27%	41 1.96%
2. Linear A (1,595 signs)	4.5 8.65%	21.5 41.35%	26 50.00%	52 3.26%



Fig.(19.1) :

$B38[e]+B28[i]/A44[E]+A100[I]$

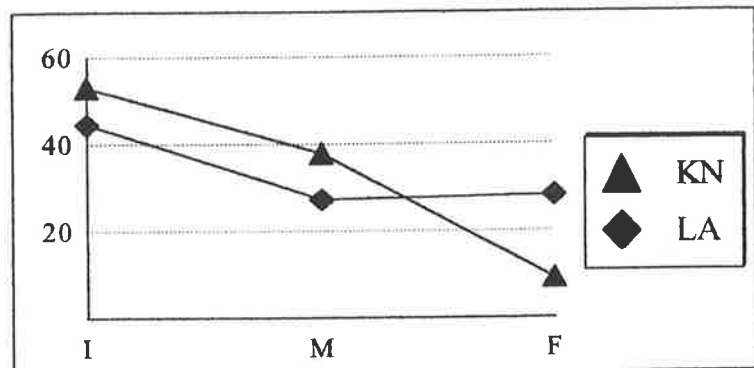


Fig.(19.2) :

$B45[de]+B07[di]/A102[DE]+A51[DI]$

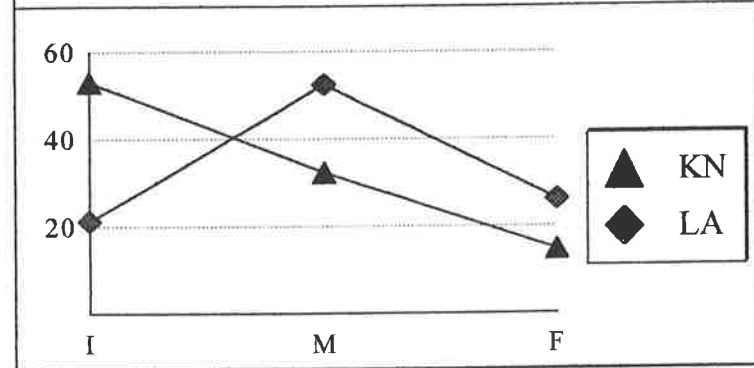


Fig.(19.3) :

$B44[ke]+ B67[ki]/A24[KE]+A103[KI]$

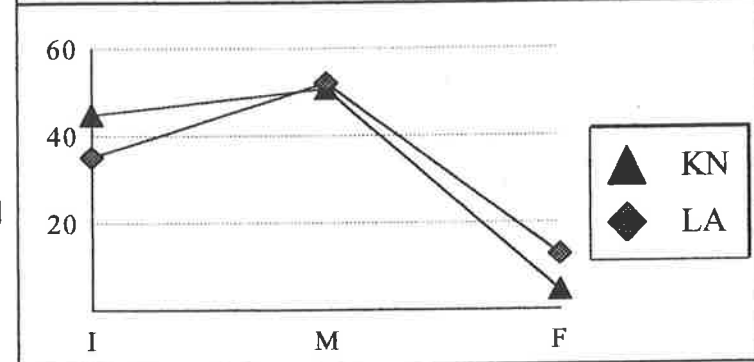


Fig.(19.4) :

$B13[me]+B73[mi]/A84[ME]+A76[MI]$

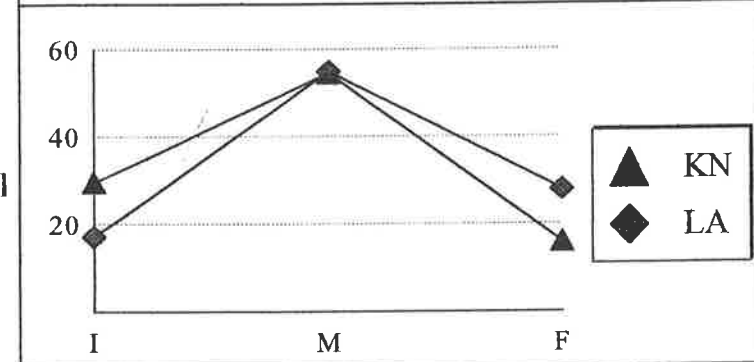


Fig.(19.5) :

$B24[ne]+B61[ni]/A61[NE]+A60[NI]$

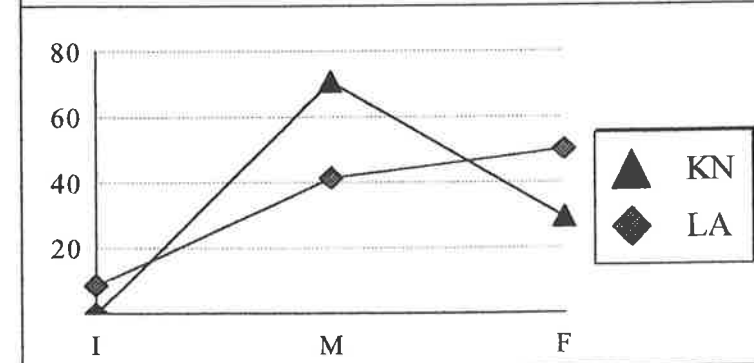


TABLE (31) : CONFLATED E/I SERIES (*cont.*)**(31.6) : B72[pe]+B39[pi] / A90[PE]+A56[PI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	22 57.89%	15 39.47%	1 2.63%	38 1.82%
2. Linear A (1,595 signs)	9 48.65%	6 32.43%	3.5 18.92%	18.5 1.16%

**(31.7) : B27[re]+B53[ri] / A54[RE]+A72[RI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	8 12.50%	43 67.19%	13 20.31%	64 3.06%
2. Linear A (1,595 signs)	10 12.58%	41.5 52.20%	28 35.22%	79.5 4.98%

**(31.8) : B09[se]+B41[si] / A77[SE]+A57[SI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	24 51.06%	15 31.91%	8 17.02%	47 2.25%
2. Linear A (1,595 signs)	16 26.23%	23.5 38.52%	21.5 35.25%	61 3.82%

**(31.9) : B04[te]+B37[ti] / A92[TE]+A78[TI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	22 31.43%	29 41.43%	19 27.14%	70 3.35%
2. Linear A (1,595 signs)	16 19.28%	26 31.32%	41 49.40%	83 5.20%

**(31.10) : B75[we]+B40[wj] / A94[WE]+A28[WI]**

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	21 39.62%	18 33.96%	14 26.42%	53 2.53%
2. Linear A (1,595 signs)	2 9.52%	15.5 73.81%	3.5 16.67%	21 1.32%

Fig.(19.6) :  
 $B72[pe]+B39[pi]/A90[PE]+A56[PI]$

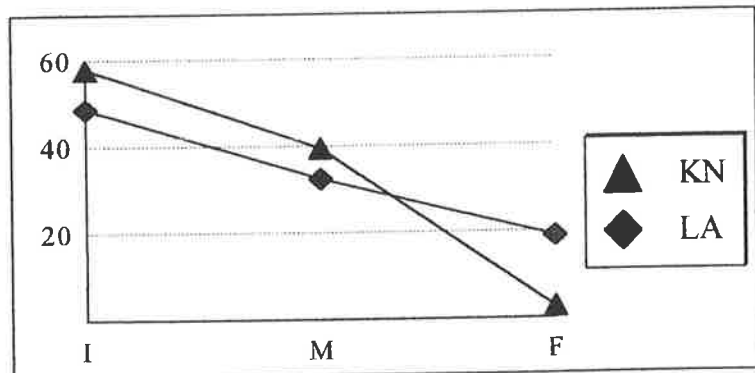


Fig.(19.7) :  
 $B27[re]+B53[ri]/A54[RE]+A72[RI]$

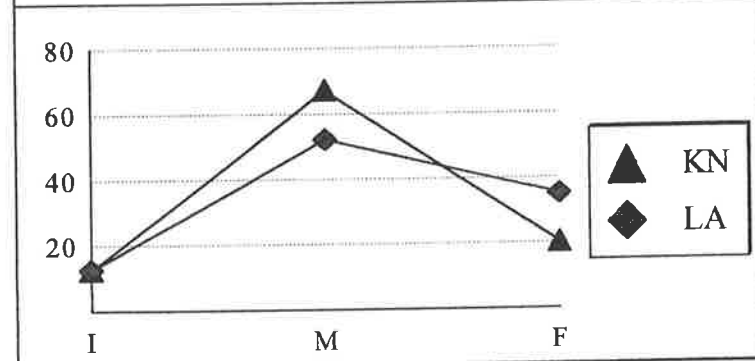


Fig.(19.8) :  
 $B09[se]+B41[si]/A77[SE]+A57[SI]$

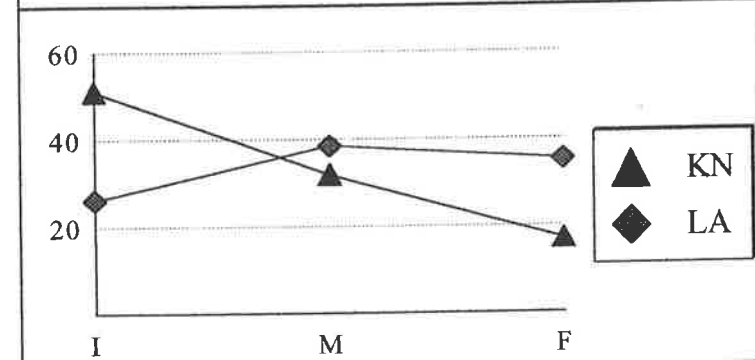


Fig.(19.9) :  
 $B04[te]+B37[ti]/A92[TE]+A78[TI]$

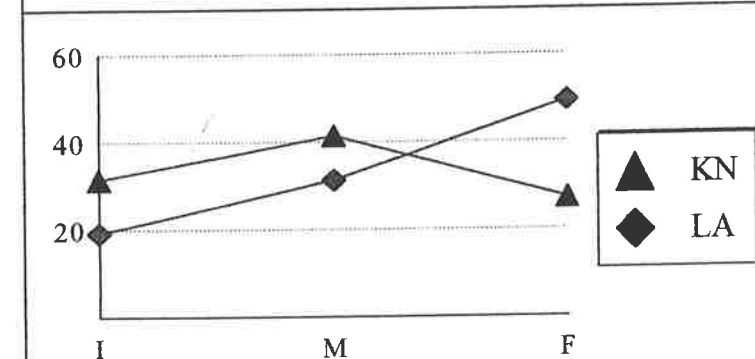


Fig.(19.10) :  
 $B75[we]+B40[wi]/A94[WE]+A28[WI]$

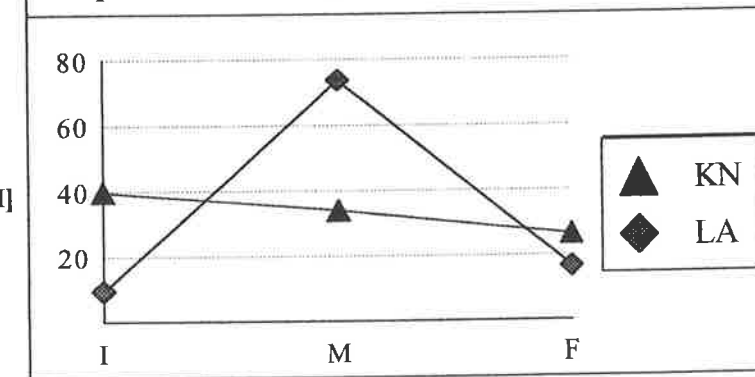


TABLE (32) : CONFLATED O/U SERIES

## (32.1) : B61[o]+B10[u] / A87[O]+A97[U]

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	29 46.77%	25 40.32%	8 12.90%	62 2.96%
2. Linear A (1,595 signs)	18.5 62.71%	5.5 18.64%	5.5 18.64%	29.5 1.85%

## (32.2) : B14[do]+B51[du] / A101[DO]+A93[DU]

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	12 30.77%	19 48.72%	8 20.51%	39 1.86%
2. Linear A (1,595 signs)	18.5 33.94%	23.5 43.12%	12.5 22.93%	54.5 3.42%

## (32.3) : B70[ko]+B81[ku] / A45[KO]+A98[KU]

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	36 52.17%	18 26.09%	15 21.74%	69 3.30%
2. Linear A (1,595 signs)	25.5 43.97%	22.5 38.79%	10 17.24%	58 3.64%

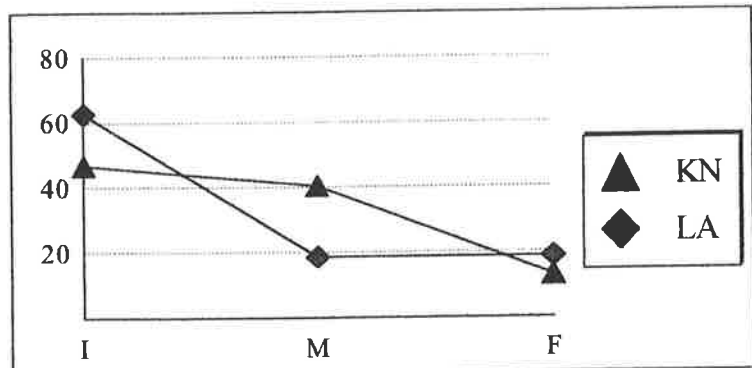
## (32.4) : B15[mo]+B23[mu] / A27[MU]

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	6 17.14%	12 34.29%	17 48.57%	35 1.67%
2. Linear A (1,595 signs)	1 28.57%	1.5 42.86%	1 28.57%	3.5 0.22%

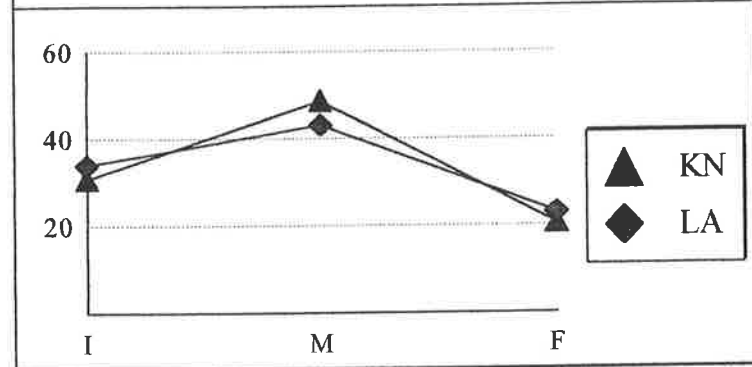
## (32.5) : B52[no]+B55[nu] / A25[NU]

	I	M	F	T
1. "Non-Greek" at Knossos (2,092 signs)	5 6.67%	21 28.00%	49 65.33%	75 3.58%
2. Linear A (1,595 signs)	2 10.00%	12 60.00%	6 30.00%	20 1.25%

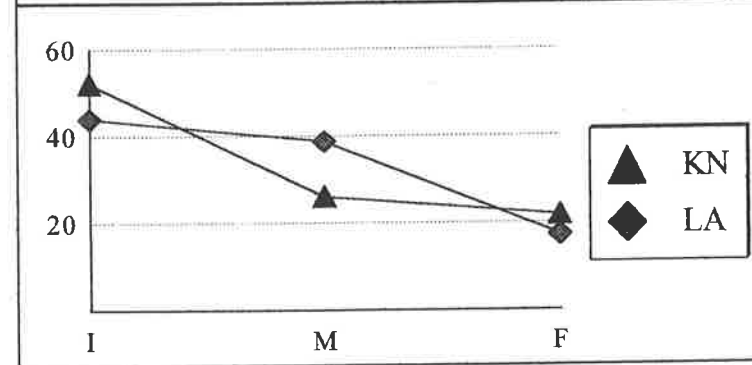
**Fig.(20.1) :**  
**B61[o]+B10[u]/A87[O]+A97[U]**



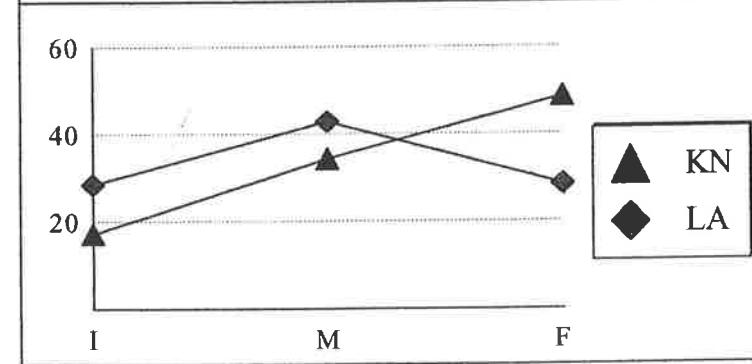
**Fig.(20.2) :**  
**B14[do]+B51[du]/A101[DO]+A93[DU]**



**Fig.(20.3) :**  
**B70[ko]+B81[ku]/A45[KO]+A98[KU]**



**Fig.(20.4) :**  
**B15[mo]+B23[mu]/A27[MU]**



**Fig.(20.5) :**  
**B52[no]+B55[nu]/A25[NU]**

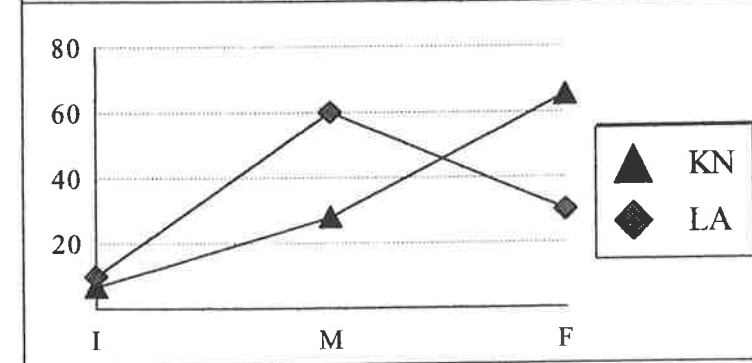


TABLE (32) : CONFLATED O/U SERIES (*cont.*)**(32.6) : B11[po]+B50[pu] / A21[PO]+A64[PU]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	18 46.15%	11 28.20%	10 25.64%	39 1.86%
2. Linear A (1,595 signs)	4.5 39.13%	4 34.78%	3 26.09%	11.5 0.72%

**(32.7) : B02[ro]+B26[ru] / A22[RO]+A55[RU]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	11 8.80%	30 24.00%	84 67.20%	125 5.97%
2. Linear A (1,595 signs)	11.5 19.01%	23 38.02%	26 42.97%	60.5 3.79%

**(32.8) : B12[so]+B58[su] / A07[SO]+A59[SU]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	16 18.18%	10 11.36%	62 70.45%	88 4.21%
2. Linear A (1,595 signs)	12.5 37.88%	10.5 31.82%	10 30.30%	33 2.07%

**(32.9) : B05[to]+B69[tu] / A39[TO]+A39[TU]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. "Non-Greek" at Knossos (2,092 signs)	16 14.81%	25 23.15%	67 62.04%	108 5.16%
2. Linear A (1,595 signs)	8 17.58%	20.5 45.05%	17 37.36%	45.5 2.85%

Fig.(20.6) :

$$B11[po]+B50[pu]/A21[PO]+A64[PU]$$

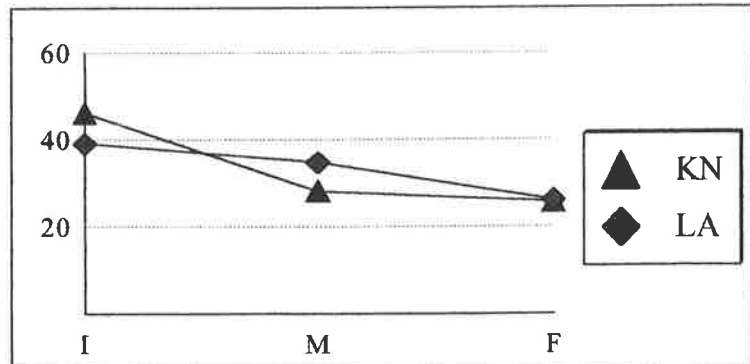


Fig.(20.7) :

$$B02[ro]+B26[ru]/A22[RO]+A55[RU]$$

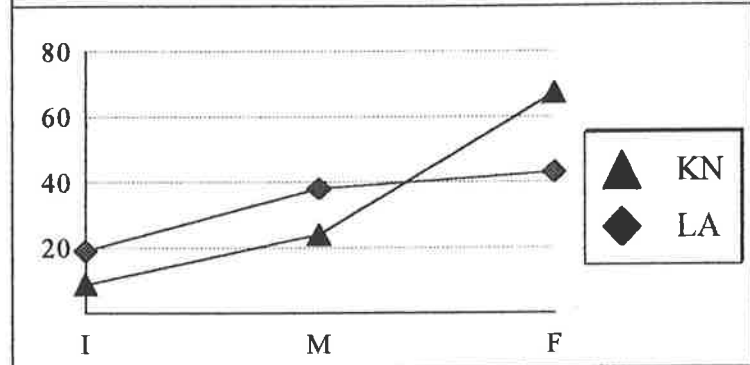


Fig.(20.8) :

$$B12[so]+B58[su]/A07[SO]+A59[SU]$$

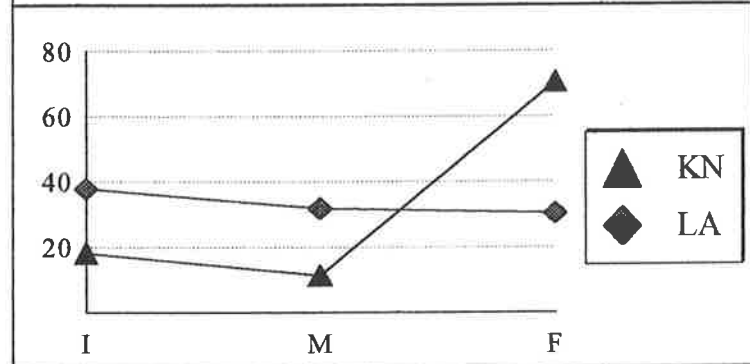
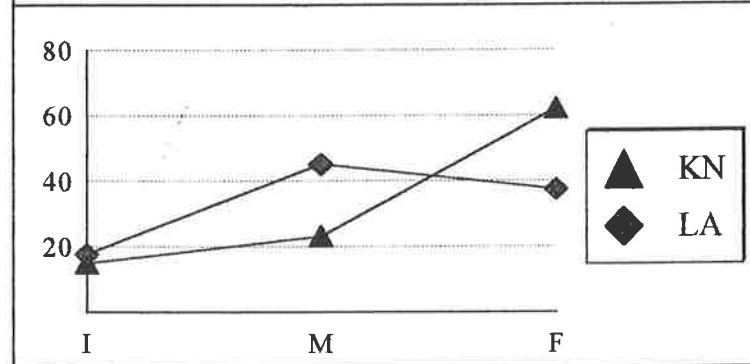


Fig.(20.9) :

$$B05[to]+B69[tu]/A39[TO]+A06[TU]$$



A100 [I] / B38 [e]	d.f. = 2 d.f. = 1	68.60876 19.87033	A97 [U] / B61 [o]	d.f. = 2 d.f. = 1	3.75402 0.54661
A44 [E] / B28 [i]	d.f. = 2 d.f. = 1	n/a n/a	A87 [O] / B10 [u]	d.f. = 2 d.f. = 1	152.40009 64.71276
A51 [DI] / B45 [de]	d.f. = 2 d.f. = 1	2.65305 1.07584	A93 [DU] / B14 [do]	d.f. = 2 d.f. = 1	8.23839 1.90051
A102 [DE] / B07 [di]	d.f. = 2 d.f. = 1	91.39990 45.75479	A101 [DO] / B51 [du]	d.f. = 2 d.f. = 1	7.16511 3.31606
A103 [KI] / B44 [ke]	d.f. = 2 d.f. = 1	1.70037 0.40411	A98 [KU] / B70 [ko]	d.f. = 2 d.f. = 1	16.11403 5.89986
A24 [KE] / B67 [ki]	d.f. = 2 d.f. = 1	n/a 20.48392	A45 [KO] / B81 [ku]	d.f. = 2 d.f. = 1	135.14168 27.24887
A76 [MI] / B15 [me]	d.f. = 2 d.f. = 1	6.85119 2.03624	A27 [MU] / B15 [mo]	d.f. = 2 d.f. = 1	50.74129 30.11447
A84 [ME] / B73 [mi]	d.f. = 2 d.f. = 1	51.18495 11.35603	A? [MO] / B23 [mu]	d.f. = 2 d.f. = 1	n/a n/a
A60 [NI] / B24 [ne]	d.f. = 2 d.f. = 1	n/a 3.16113	A25 [NU] / B52 [no]	d.f. = 2 d.f. = 1	382.60366 34.69516
A61 [NE] / B30 [ni]	d.f. = 2 d.f. = 1	n/a 76.96613	A? [NO] / B55 [nu]	d.f. = 2 d.f. = 1	n/a n/a
A56 [PI] / B72 [pe]	d.f. = 2 d.f. = 1	n/a 2.33263	A64 [PU] / B11 [po]	d.f. = 2 d.f. = 1	1.48331 0.20051
A90 [PE] / B39 [pi]	d.f. = 2 d.f. = 1	n/a n/a	A21 [PO] / B50 [pu]	d.f. = 2 d.f. = 1	n/a n/a
A48 [QI] / B78 [qe]	d.f. = 2 d.f. = 1	n/a n/a	A? [QU] / B32 [qo]	d.f. = 2 d.f. = 1	n/a n/a
A91 [QE] / B21 [qi]	d.f. = 2 d.f. = 1	n/a 4.46219	A12 [QO] / B? [qu]	d.f. = 2 d.f. = 1	n/a n/a
A72 [RI] / B27 [re]	d.f. = 2 d.f. = 1	8.08907 2.84735	A55 [RU] / B02 [ro]	d.f. = 2 d.f. = 1	n/a 42.31476
A54 [RE] / B53 [ri]	d.f. = 2 d.f. = 1	91.97092 11.59265	A22 [RO] / B26 [ru]	d.f. = 2 d.f. = 1	134.25548 28.28505
A57 [SI] / B09 [se]	d.f. = 2 d.f. = 1	4.42378 1.53468	A59 [SU] / B12 [so]	d.f. = 2 d.f. = 1	n/a 120.90470
A77 [SE] / B41 [si]	d.f. = 2 d.f. = 1	172.96186 44.06310	A07 [SO] / B58 [su]	d.f. = 2 d.f. = 1	n/a n/a
A78 [TI] / B04 [te]	d.f. = 2 d.f. = 1	26.41503 11.01551	A06 [TU] / B05 [to]	d.f. = 2 d.f. = 1	94.94394 49.34713
A92 [TE] / B37 [ti]	d.f. = 2 d.f. = 1	43.63082 13.79016	A39 [TO] / B69 [tu]	d.f. = 2 d.f. = 1	n/a 59.36589
A28 [WI] / B75 [we]	d.f. = 2 d.f. = 1	14.86687 5.15687	A96 [YU] / B36 [yo]	d.f. = 2 d.f. = 1	n/a 13.09188
A94 [WE] / B40 [wi]	d.f. = 2 d.f. = 1	146.20180 50.95841	A? [YO] / B65 [yu]	d.f. = 2 d.f. = 1	n/a n/a

Table (33) : Chi Square Results for Test Series Four : *e/i, i/e, o/u* and *u/o* alternations between Linear A and the "non-Greek" Linear B words from Knossos. Note : n/a = not available



<b>B38 [e] + B28 [i] / A44 [E] + A100 [I]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(41.43141) (3.64998)
<b>B45 [de] + B07 [di] / A102 [DE] + A51 [DI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	9.96954 0.00000
<b>B44 [ke] + B67 [ki] / A24 [KE] + A103 [KI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(17.46159) 0.21855
<b>B12 [me] + B73 [mi] / A84 [ME] + A76 [MI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	3.24494 0.63534
<b>B24 [ne] + B61 [ni] / A61 [NE] + A60 [NI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	n/a 4.82416
<b>B72 [pe] + B39 [pi] / A90 [PE] + A56 [PI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(103.62939) 0.00000
<b>B27 [re] + B53 [ri] / A54 [RE] + A72 [RI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	4.11252 0.00000
<b>B09 [se] + B41 [si] / A77 [SE] + A57 [SI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	7.97852 0.58588
<b>B04 [te] + B37 [ti] / A92 [TE] + A78 [TI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	8.12826 0.00000
<b>B75 [we] + B40 [wi] / A94 [WE] + A28 [WI]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(73.22718) (25.35263)
<b>B61 [o] + B10 [u] / A87 [O] + A97 [U]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(19.64400) (7.22565)
<b>B14 [do] + B51 [du] / A101 [DO] + A93 [DU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	0.28668 0.00000
<b>B70 [ko] + B81 [ku] / A45 [KO] + A98 [KU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	2.35225 0.00000
<b>B15 [mo] + B23 [mu] / A? [MO] + A27 [MU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(17.99963) (9.07698)
<b>B52 [no] + B55 [nu] / A? [NO] + A25 [NU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(57.36014) 6.72337
<b>B11 [po] + B50 [pu] / A21 [PO] + A64 [PU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	(2.61105) (0.92113)
<b>B02 [ro] + B26 [ru] / A22 [RO] + A55 [RU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	10.35486 0.00000
<b>B12 [so] + B58 [su] / A07 [SO] + A59 [SU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	16.39474 0.00000
<b>B05 [to] + B69 [tu] / A39 [TO] + A06 [TU]</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	8.89860 1.13291

**Table (34) :** Chi Square Results for Test Series Five : *e/i* and *o/u* alternations between Linear A and the "Non-Greek" Linear B words from Knossos. Note : brackets ( ) = Goodness-of-Fit

Test results; n/a = not available

	Test (4)	Test (5)		Test (4)	Test (5)
A100 [I] / B38 [e] A44 [E] / B28 [i]	(0) n/a	(2+)	A97 [U] / B61 [o] A87 [O] / B10 [u]	(1+) (0)	(2-)
A51 [DI] / B45 [de] A102 [DE] / B07 [di]	(1+) (0)	1-	A93 [DU] / B14 [do] A101 [DO] / B51 [du]	(1-) (1-)	1+
A103 [KI] / B44 [ke] A24 [KE] / B67 [ki]	(1+) (0)	2+	A98 [KU] / B70 [ko] A45 [KO] / B81 [ku]	(2-) (0)	1+
A76 [MI] / B13 [me] A84 [ME] / B73 [mi]	(1-) (0)	1+	A27 [MU] / B15 [mo] A? [MO] / B23 [mu]	(0) n/a	(0)
A60 [NI] / B24 [ne] A61 [NE] / B30 [ni]	(2+) (0)	2-	A25 [NU] / B52 [no] A? [NO] / B55 [nu]	(0) n/a	2-
A56 [PI] / B72 [pe] A90 [PE] / B39 [pi]	(2+) n/a	2+	A64 [PU] / B11 [po] A21 [PO] / B50 [pu]	(1+) n/a	(1+)
A48 [QI] / B78 [qe] A91 [QE] / B21 [qi]	n/a (2-)	n/a	A? [QU] / B12 [qo] A12 [QO] / B? [qu]	n/a n/a	n/a
A72 [RI] / B27 [re] A54 [RE] / B53 [ri]	(1-) (0)	1+	A55 [RU] / B02 [ro] A22 [RO] / B26 [ru]	(0) (0)	1-
A57 [SI] / B09 [se] A77 [SE] / B41 [si]	(1+) (0)	1-	A59 [SU] / B12 [so] A07 [SO] / B58 [su]	(0) n/a	2+
A78 [TI] / B04 [te] A92 [TE] / B37 [ti]	(0) (0)	1-	A06 [TU] / B05 [to] A39 [TO] / B69 [tu]	(0) (0)	1-
A28 [WI] / B75 [we] A94 [WE] / B40 [wi]	(0) (0)	(0)	A96 [YU] / B36 [yo] A? [YO] / B65 [yu]	n/a (0)	n/a

**Table (35) :** Summary of the Chi Square Results for Test Series Four and Five : *e/i* and *o/u* alternations between Linear A and the "non-Greek" Linear B words from Knossos.

Note : ( ) = Goodness-of-Fit Test Results; 0 = failed ; n/a = not available.

## 6b. Summary of Results

6b.1 As can be seen, five pairs of Linear A and B signs involving *i/e* alternations (viz., A51 [DI] / B45[de], A103 [KI] / B44 [ke], A76 [MI] / B13 [me], A72 [RI] / B27 [re], A57 [SI] / B41 [se]) register a Level (1) type correspondence, while another two pairs (viz., A60 [NI] / B24 [ne], A56 [PI] / B72 [pe]) are confirmed at Level (2). The remaining three pairs (viz., A100 [I] / B38 [e], A78 [TI] / B04 [te], A28 [WI] / B75 [we]) actually failed the chi square goodness-of-fit tests. These results are in marked contrast to those generated by the *e/i* type alternations, where all but one (viz., A91 [QE] / B21 [qi]) of the nine pairs tested failed. A somewhat similar situation prevails also with respect the *u/o* and *o/u* type alternations. Of the nine pairs of signs involving the former type of alternation for which a goodness-of-fit test was calculated, three (viz., A97 [U] / B61 [o], A93 [DU] / B14 [do], A64 [PU] / B11 [po]) are confirmed at Level (1) and one other (viz., A98 [KU] / B70 [ko]) at Level (2). The five remaining pairs failed the chi square tests. At the same time, all but one (viz., A101 [DO] / B51 [du]), of the six Linear A and B pairs involving *o/u* type alternations whose distribution patterns were tested likewise failed. The statistical evidence is therefore reasonably consistent in showing that Mycenaean scribes were prone to confuse the vowels *i* with *e* and *u* with *o*, preferring, in fact, to write *e* over *i* and *o* over *u*, when recording "Minoan" and other non-Greek words. The one instance, moreover, in which two corresponding syllables are clearly interchanged (viz., A101 [DO] / B51 [du] and A93 [DU] / B14 [do]) suggests also an *o/u* ambivalence in Linear A (viz., A93 [DU] / A101 [DO]). It is interesting to note,

however, that A101 [DO] actually failed to be confirmed individually in the first test series (Linear A vs "non-Greek" Linear B), though it did register at level (2) in the third series (Linear A vs Greek Linear B).

**6b.2** These observations, of course, lead on to the supposition that the Linear A script does not in fact distinguish the vowels *e* and *o*, but has instead two somewhat different pairs of *i* and *u* grade vowels. That this may have indeed been the case is further suggested by the results of Test Series Five with respect the conflated *e/i* and *o/u* distribution patterns for both Linear A and the "non-Greek" Linear B at Knossos. As can be seen, five (viz., *de/di*, *me/mi*, *re/ri*, *se/si*, *te/ti*) of the ten *e/i* type alternations for which a chi square test was calculated are confirmed at Level (1) and four (viz., *e/i*, *ke/ki*, *ne/ni*, *pe/pi*) at Level (2). A similar result is produced by the *o/u* type alternations, where five (viz., *do/du*, *ko/ku*, *po/pu*, *ro/ru*, *to/tu*) of the nine cases tested also receive Level (1) confirmations, while three more register at Level (2).

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## 7a. CHI SQUARE TEST SERIES SIX TO NINE

**7a.1** There is, then, a great deal of statistical evidence supporting an *e/i* and *o/u* ambivalence between the "non-Greek" Linear B words from Knossos and Linear A. The real issue, of course, is whether the two scripts distinguish the same set of vowels. Table (36) and the associated graphs shown on pages 116 and 117 present a comparison of the combined initial, medial and final counts of the syllabic signs which constitute each vowel series with respect the three word categories. Note that initial pure vowels are excluded from these figures. The total vowel distribution patterns are also shown on page 118 in Table (37.1,2) and Figure (22.1,2). Chi Square Test Series Six examines the Linear A vowel distribution patterns against those of the "non-Greek" Linear B from Knossos ( $=H_{01}$ ); Chi Square Test Series Seven examines the vowel distribution patterns of the "non-Greek" Linear B words from Knossos against those of Greek Linear B ( $=H_{02}$ ); and Chi Square Test Series Eight examines the vowel distribution patterns of Linear A against those of Greek Linear B ( $=H_{03}$ ). The relevant chi square results are shown in Table (38) on page 119. The results of Chi Square Test Series Nine, which deals with the vowel distribution totals, are included in the summary of results found on pages 119 and 120.

TABLE (36) : LINEAR A AND B VOWEL DISTRIBUTIONS

(36.1) : -A SERIES	I	M	F	T
1. Greek Linear B (4,962 signs)	210 18.01%	549 47.08%	407 34.91%	1166 23.50%
2. "Non-Greek" at Knossos (1,895 signs)	203 31.18%	300 46.08%	148 22.73%	651 34.35%
3. Linear A (1,359.5 signs)	155 29.98%	207 40.04%	155 29.98%	517 38.03%
(36.2) : -E SERIES	I	M	F	T
1. Greek Linear B (4,962 signs)	228 14.70%	625 46.06%	260 39.24%	1113 22.43%
2. "Non-Greek" at Knossos (1,895 signs)	59 28.23%	97 46.41%	53 25.36%	209 11.03%
3. Linear A (1,359.5 signs)	35 17.46%	84.5 42.14%	81 40.40%	200.5 14.75%
(36.3) : -I SERIES	I	M	F	T
1. Greek Linear B (4,962 signs)	129 17.25%	524 70.05%	95 12.70%	748 15.07%
2. "Non-Greek" at Knossos (1,895 signs)	117 36.91%	162 51.10%	38 11.99%	317 16.73%
3. Linear A (1,359.5 signs)	75 22.42%	157 46.94%	102.5 30.64%	334.5 24.61%
(36.4) : -O SERIES	I	M	F	T
1. Greek Linear B (4,962 signs)	185 12.05%	559 36.42%	791 51.33%	1535 30.93%
2. "Non-Greek" at Knossos (1,895 signs)	50 9.54%	102 19.47%	372 70.99%	524 27.65%
3. Linear A (1,359.5 signs)	13.5 26.73%	18.5 36.63%	18.5 36.63%	50.5 3.71%
(36.5) : -U SERIES	I	M	F	T
1. Greek Linear B (4,962 signs)	91 22.75%	214 53.50%	95 23.75%	400 8.06%
2. "Non-Greek" at Knossos (1,895 signs)	83 42.78%	91 46.91%	20 10.31%	194 10.24%
3. Linear A (1,359.5 signs)	71 27.63%	107.5 41.83%	78.5 30.54%	257 18.90%

Fig. (21.1) : -A SERIES

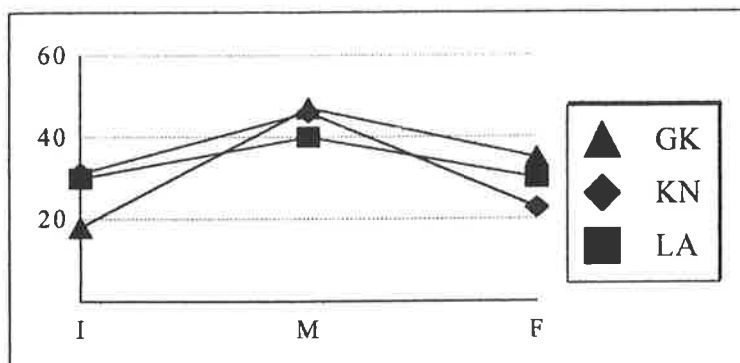


Fig. (21.2) : -E SERIES

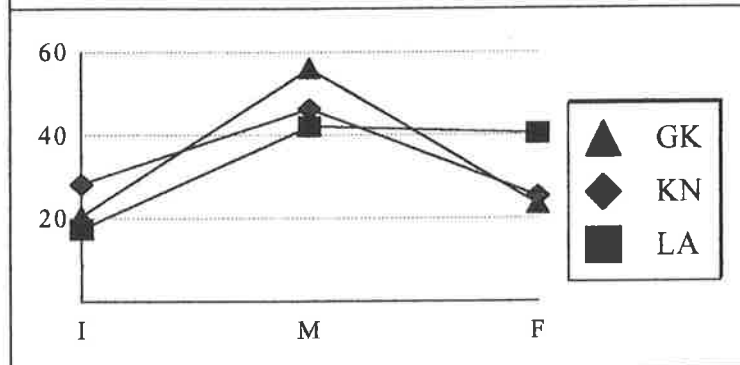


Fig. (21.3) : -I SERIES

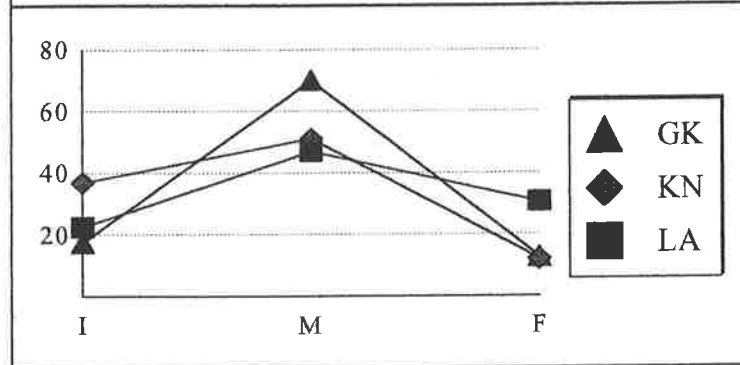


Fig. (21.4) : -O SERIES

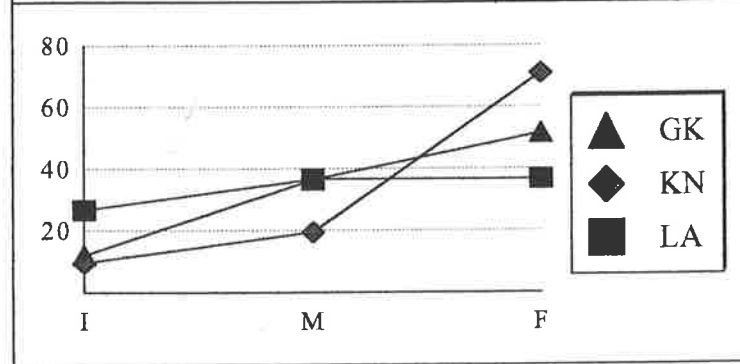
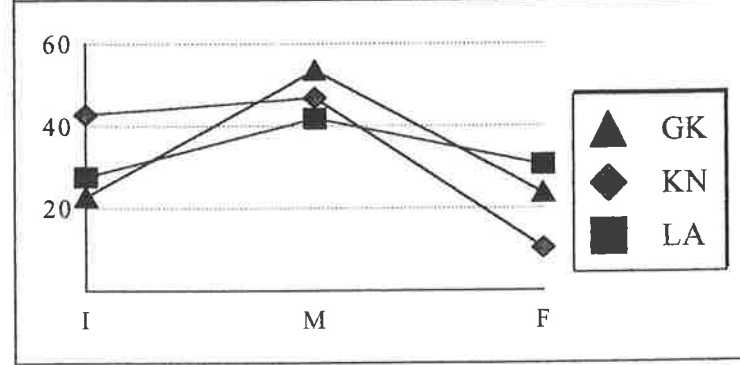


Fig. (21.5) : -U SERIES



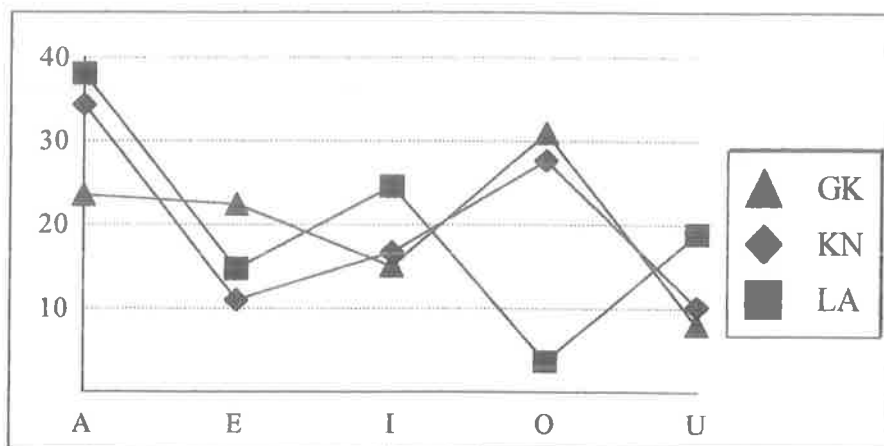


Fig. (22.1) : Total frequency distributions of the Linear A and B vowels.

TABLE (37.1) : VOWEL TOTALS

	A	E	I	O	U
<b>1. Greek Linear B</b> (4,962 Signs)	1166 23.50%	1113 22.43%	748 15.07%	1535 30.93%	400 8.06%
<b>2. "Non-Greek" at Knossos</b> (1,895 Signs)	651 34.35%	209 11.03%	317 16.73%	524 27.65%	194 10.24%
<b>3 Linear A</b> (1,359.5 Signs)	517 38.03%	200.5 14.75%	334.5 24.61%	50.5 3.71%	257 18.90%

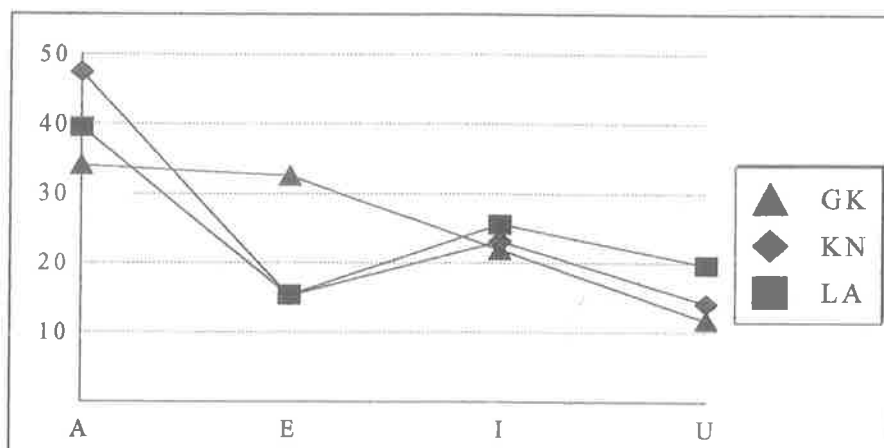


Fig. (22.2) : Total frequency distributions of the Linear A and B vowels with the -o series excluded.

TABLE (37.2) : VOWEL TOTALS

	A	E	I	U
<b>1. Greek Linear B</b> (3,427 Signs)	1166 34.02%	1113 32.48%	748 21.83%	400 11.67%
<b>2. "Non-Greek" at Knossos</b> (1,371 Signs)	651 47.48%	209 15.24%	317 23.12%	194 14.15%
<b>3 Linear A</b> (1,309 Signs)	517 39.49%	200.5 15.32%	334.5 25.55%	257 19.63%



		<i>Test 6</i>		<i>Test 7</i>		<i>Test 8</i>	
<b>-A</b>	<b>d.f. = 2</b>	8.39380	1-	52.24500	0	30.23138	2+
	<b>d.f. = 1</b>	0.42892		11.20972		0.00000	
<b>-E</b>	<b>d.f. = 2</b>	12.66423	2+	8.21814	1-	25.95446	2+
	<b>d.f. = 1</b>	1.82596		1.88414		0.22979	
<b>-I</b>	<b>d.f. = 2</b>	38.42929	2-	49.77301	2+	63.69747	0
	<b>d.f. = 1</b>	4.58375		1.22560		14.55156	
<b>-O</b>	<b>d.f. = 2</b>	26.80474	2+	63.32258	0	10.54938	1-
	<b>d.f. = 1</b>	0.64307		10.14063		0.76645	
<b>-U</b>	<b>d.f. = 2</b>	28.81412	2+	31.19290	2-	8.59830	1-
	<b>d.f. = 1</b>	2.58115		6.02389		0.00000	

**Table (38)** : Chi Square Results for Test Series Six to Eight : Linear A and B Vowel Distributions.

### 7b. Summary of Results

**7b.1** As can be seen, the vowel *a* records a Level (1) type confirmation for Test Series Six (Linear A vs "non-Greek" Linear B from Knossos), while the remaining four vowels each register at Level (2). The results of Test Series Eight (Linear A vs Greek Linear B) follow a somewhat similar pattern to those of the sixth, with the failure of the vowel *i* and the higher confirmation levels for *o* and *u* being particularly noteworthy features in this case. Test Series Seven ("non-Greek" Linear B vs Greek Linear B), by contrast, records higher confirmation levels for the vowels *e* and *i*, but scores badly with respect the vowels *a*, *o* and *u*. Note, however, that the failure here of the vowel *o* is almost certainly due to quantitative as opposed to qualitative differences since the "non-Greek" Linear B words from Knossos comprise mainly of proper names and do not feature the broader range of vocabulary items expressed by the Greek Linear B material. Indeed, the high incidence of *o* in final word position in both Linear B categories can only but reflect Greek inflectional patterns. Closer inspection of the results for Test Series Seven, moreover, reveals that distribution patterns generated by the vowels *a*, *e*, *i*, and *u* produce the least variance in final word position. The results of Test Series Six, on the other hand,

show the opposite to be true : final word position consistently produces the greatest variance between all corresponding Linear A and B vowels. This, of course, suggests that "Minoan" and other non-Greek words have simply undergone some degree of morphological change consistent with Greek inflectional patterns.

**7b.2** As Table (37.1) and Figure (22.1) also illustrate, the totals for the vowels *i*, *o*, and *u* in the "non-Greek" Linear B category approximate those of Greek Linear B, whereas the totals for the vowels *a* and *e* agree with those of Linear A. Note, however, that all three null hypotheses failed the chi square test of homogeneity (Test Series Nine), where  $H_{O2}$  ("non-Greek" Linear B from Knossos vs Greek Linear B) registers the lowest variable at 168.26914, followed by  $H_{O1}$  (Linear A vs "non-Greek" Linear B from Knossos) and  $H_{O3}$  (Linear A vs Greek Linear B) at 336.04472 and 636.51123 respectively. More impressive, on the other hand, are the very different distribution patterns shown in Table (37.2) and Figure (22.2) based on the same Linear A and B vowels totals, except that in this case the *o* series has been omitted from the count. A chi square test of homogeneity, now performed at d.f. = 3 at an  $\alpha$  level of 0.005 and a critical  $\chi^2$  value of 12.8381, here produces the lowest chi square variable for  $H_{O1}$  which registers at 23.40153, followed by  $H_{O3}$  and  $H_{O2}$  at 157.58255 and 157.98383 respectively !

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## 8a. CHI SQUARE TEST SERIES TEN

**8a.1** The *e/i* and *o/u* ambivalence in the non-Greek Linear B material has led to claims that the Linear A syllabary discerns two pairs of *i* and *u* grade vowels, an assumption which, as we have noted above, finds expression in the phonetic equations :  $i = i_{(1)}/i_{(2)} > i/e$  and  $u = u_{(1)}/u_{(2)} > o/u$ . Table (39) and the associated graphs on pages 122-23 present a comparison of the initial, medial and final distribution patterns for the vowels *e* against *i* and *o* against *u* within each of the three word categories, viz., Linear A ( $H_{04}$ ), "non-Greek" Linear B from Knossos ( $H_{05}$ ), and Greek Linear B ( $H_{06}$ ). The relevant chi square test results are summarised on page 124.

TABLE (39) : LINEAR A AND B VOWEL DISTRIBUTIONS

## (39.1) : GREEK LINEAR B

	I	M	F	T
1. [E] SERIES (4,962 signs)	228 14.70%	625 46.06%	260 39.24%	1113 22.43%
2. [I] SERIES (4,962 signs)	129 17.25%	524 70.05%	95 12.70%	748 15.07%

## (39.2) : NON-GREEK LINEAR B FROM KNOSSOS

	I	M	F	T
1. [E] SERIES (1,895 signs)	59 28.23%	97 46.41%	53 25.36%	209 11.03%
2. [I] SERIES (1,895 signs)	117 36.91%	162 51.10%	38 11.99%	317 16.73%

## (39.3) : LINEAR A

	I	M	F	T
1. [E] SERIES (1,354.5 signs)	35 17.46%	84.5 42.14%	81 40.40%	200.5 14.80%
2. [I] SERIES (1,354.5 signs)	75 22.42%	157 46.94%	102.5 30.64%	334.5 24.69%

## (39.4) : GREEK LINEAR B

	I	M	F	T
1. [O] SERIES (4,962 signs)	185 12.05%	559 36.42%	791 51.33%	1535 30.93%
2. [U] SERIES (4,962 signs)	91 22.75%	214 53.50%	95 23.75%	400 8.06%

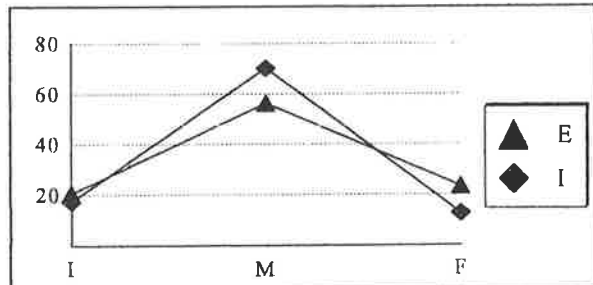
## (39.5) : NON-GREEK LINEAR B FROM KNOSSOS

	I	M	F	T
1. [O] SERIES (1,895 signs)	50 9.54%	102 19.47%	372 70.99%	524 27.65%
2. [U] SERIES (1,895 signs)	83 42.78%	91 46.91%	20 10.31%	194 10.24%

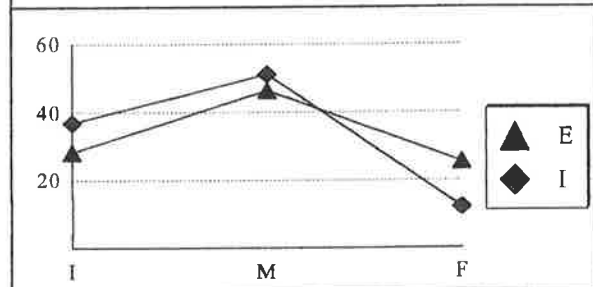
## (39.6) : LINEAR A

	I	M	F	T
1. [O] SERIES (1,354.5 signs)	13.5 26.73%	18.5 36.63%	18.5 36.63%	50.5 3.73%
2. [U] SERIES (1,354.5 signs)	71 27.63%	107.5 41.83%	78.5 30.54%	257 18.97%

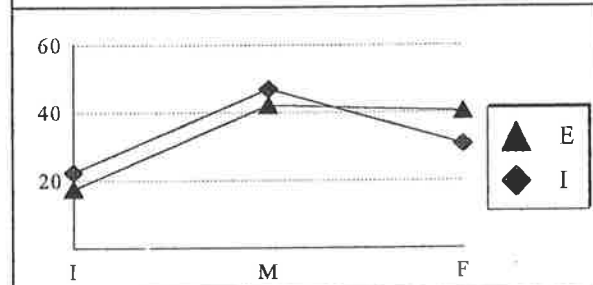
**Fig. (23.1) :** Distribution patterns of the - e and - i coloured syllables for Greek Linear B.



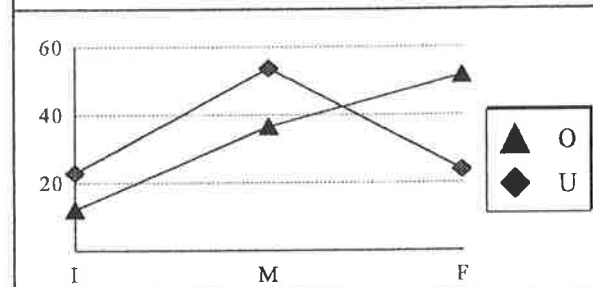
**Fig. (23.2) :** Distribution patterns of the - e and - i coloured syllables for the "non-Greek" Linear B from Knossos.



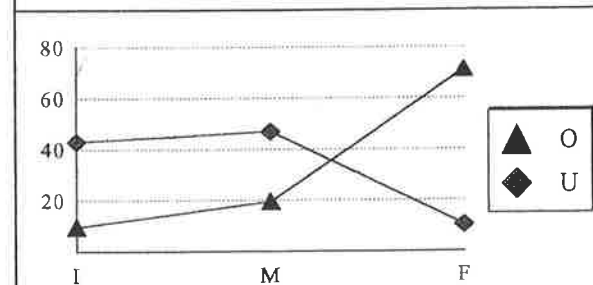
**Fig. (23.3) :** Distribution patterns of the - e and - i vowel coloured syllables for Linear A.



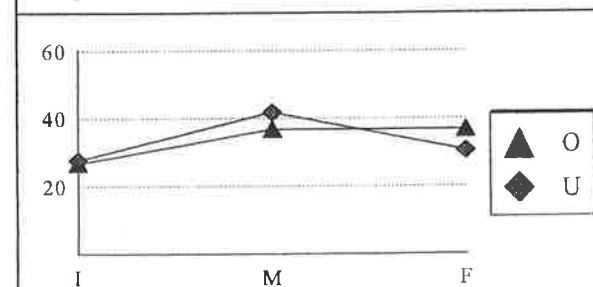
**Fig. (23.4) :** Distribution patterns of the - o and - u coloured syllables for Greek Linear B.



**Fig. (23.5) :** Distribution patterns of the - o and - u coloured syllables for the "non-Greek" Linear B from Knossos.



**Fig. (23.6) :** Distribution patterns of the - o and - u vowel coloured syllables for Linear A.



<b>Greek Linear B</b>	<b>E/I</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	43.09634 9.56146	0
<b>"non-Greek" Linear B at Knossos</b>	<b>E/I</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	16.41147 0.54368	2+
<b>Linear A</b>	<b>E/I</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	5.61802 0.21286	1+
<b>Greek Linear B</b>	<b>O/U</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	102.13326 2.50500	2+
<b>"non-Greek" Linear B at Knossos</b>	<b>O/U</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	219.59687 6.76086	2-
<b>Linear A</b>	<b>O/U</b>	<b>d.f. = 2</b> <b>d.f. = 1</b>	0.78588 0.00000	1+

**Table (40) :** Chi Square Results for Test Series Ten : Linear A and B  
Vowel Distributions.

### 8b. Summary of Results

**8b.1** As can be seen, the vowels *e* and *i* produce remarkably similar distribution patterns in all three word categories. A chi square analysis, however, yields the highest  $\chi^2$  test statistic for Greek Linear B, which actually fails the test, followed by the "non-Greek" Linear B from Knossos, which registers at Level (2), and Linear A which scores at Level (1). A similar situation is found also with the distribution patterns of the vowels *o* and *u*, which register at Level (2) for both Linear B categories, but produce a Level (1) correspondence for Linear A. The statistical evidence is therefore wholly consistent with the supposition that the Linear A syllabary does not express the vowels *e* and *o*, but instead discerns two *i* grade and two *u* grade vowels.

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## 9a. CHI SQUARE TEST SERIES ELEVEN TO FOURTEEN

9a.1 Statistical evidence for both the Linear A and B consonants is likewise furnished by simply conflating the initial, medial and final counts of individual syllables according to their respective consonant series (viz., *d-*, *t-*, *r-*, *m-*, *n-*, *p-*, *k-*, *q-*, *s-*, *z-*, *y-*, *w-*) for each of our three word categories. The resulting "conflated" initial, medial and final distribution patterns are presented in Table (41) and Figure (24) on pages 126 to 129. The totals of each consonant series are also compared in Figure (25) on page 130. Chi Square Test Series Eleven examines the consonant distribution patterns of Linear A against those of "non-Greek" Linear B ( $H_{01}$ ); Chi Square Test Series Twelve examines the consonant distribution patterns of "non-Greek" Linear B against those of Greek Linear B ( $H_{02}$ ); and Chi Square Test Series Thirteen examines the Linear A consonant distribution patterns also against those of Greek Linear B ( $H_{03}$ ). The relevant chi square test results are presented in Table (42) on page 131. The results of Chi Square Test Series Fourteen, which deals with the consonant totals, are presented in the summary on pages 131-2.

TABLE (41) : CONFLATED CONSONANT SERIES

<b>(41.1) : D- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (4,685 signs)	72 30.90%	114 48.93%	47 20.17%	233 4.97%
<b>2. "Non-Greek" at Knossos</b> (1,872 signs)	63 44.68%	56 39.72%	22 15.60%	141 7.53%
<b>3. Linear A</b> (1,354.5 signs)	59 33.81%	76.5 43.84%	39 22.35%	174.5 12.88%
<b>(41.2) : T- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (4,685 signs)	97 14.70%	304 46.06%	259 39.24%	660 14.09%
<b>2. "Non-Greek" at Knossos</b> (1,872 signs)	61 21.40%	92 32.28%	132 46.32%	285 15.22%
<b>3. Linear A</b> (1,354.5 signs)	38 18.86%	83.5 41.44%	80 39.70%	201.5 14.88%
<b>(41.3) : R- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (4,685 signs)	59 7.42%	535 67.30%	201 25.28%	795 16.97%
<b>2. "Non-Greek" at Knossos</b> (1,872 signs)	32 11.23%	126 44.21%	127 44.56%	285 15.22%
<b>3. Linear A</b> (1,354.5 signs)	28.5 13.94%	94.5 46.21%	81.5 39.85%	204.5 15.10%
<b>(41.4) : M- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (4,685 signs)	68 26.67%	149 58.43%	38 14.90%	255 5.44%
<b>2. "Non-Greek" at Knossos</b> (1,872 signs)	35 28.69%	60 49.18%	27 22.13%	122 6.52%
<b>3. Linear A</b> (1,354.5 signs)	21.5 20.77%	53.5 51.69%	28.5 27.54%	103.5 7.64%
<b>(41.5) : N- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (4,685 signs)	18 5.01%	187 52.09%	154 42.90%	359 7.66%
<b>2. "Non-Greek" at Knossos</b> (1,872 signs)	9 5.39%	87 52.10%	71 42.51%	167 8.92%
<b>3. Linear A</b> (1,354.5 signs)	12.5 9.40%	60.5 45.49%	60.5 45.49%	133 9.82%
<b>(41.6) : P- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. Greek Linear B</b> (4,685 signs)	208 47.17%	174 39.46%	59 13.38%	441 9.41%
<b>2. "Non-Greek" at Knossos</b> (1,872 signs)	69 47.92%	57 39.58%	18 12.50%	144 7.69%
<b>3. Linear A</b> (1,354.5 signs)	34.5 38.98%	32 36.16%	22 24.86%	88.5 6.53%



Fig. (24.1) : D- SERIES

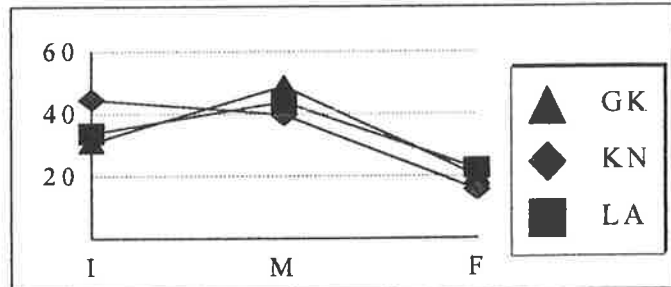


Fig. (24.2) : T- SERIES

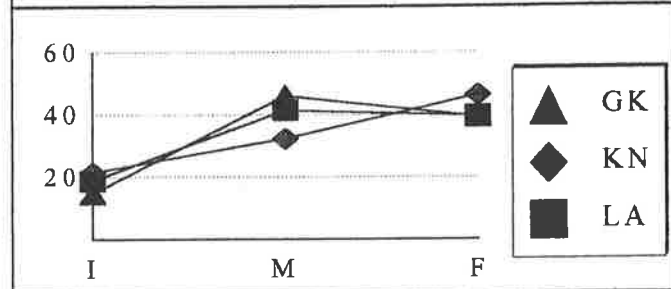


Fig. (24.3) : R- SERIES

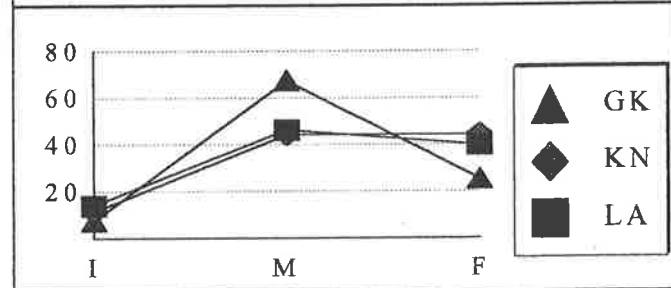


Fig. (24.4) : M- SERIES

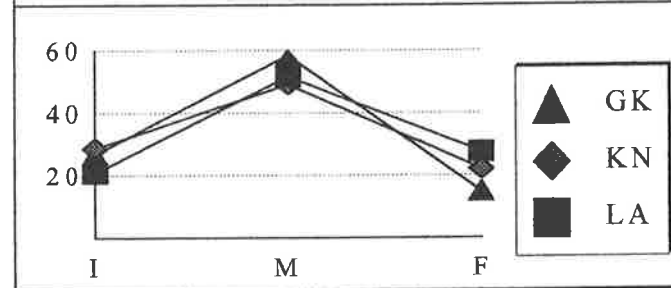


Fig. (24.5) : N- SERIES

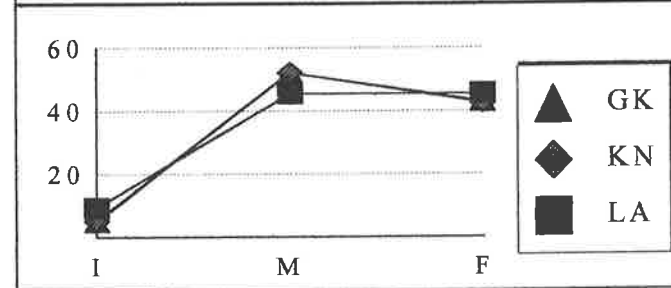


Fig. (24.6) : P- SERIES

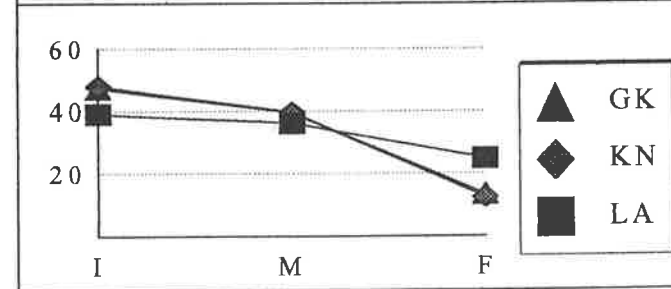


TABLE (41) : CONFLATED CONSONANT SERIES (*cont.*)

<b>(41.7) : K- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. Greek Linear B (4,685 signs)	181 31.75%	290 50.88%	99 17.37%	570 12.17%
2. "Non-Greek" at Knossos (1,872 signs)	95 48.22%	75 38.07%	27 13.71%	197 10.52%
3. Linear A (1,354.5 signs)	67 42.81%	59 37.70%	30.5 19.49%	156.5 11.55%
<b>(41.8) : Q- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. Greek Linear B (4,685 signs)	39 21.91%	66 37.08%	73 41.01%	178 3.80%
2. "Non-Greek" at Knossos (1,872 signs)	38 52.78%	22 30.56%	12 16.67%	72 3.85%
3. Linear A (1,354.5 signs)	23.5 54.02%	11 25.29%	9 20.69%	43.5 3.21%
<b>(41.9) : S- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. Greek Linear B (4,685 signs)	27 11.54%	134 57.26%	73 31.20%	234 4.99%
2. "Non-Greek" at Knossos (1,872 signs)	59 32.60%	48 26.52%	74 40.88%	181 9.67%
3. Linear A (1,354.5 signs)	44.5 33.21%	52 38.81%	37.5 27.98%	134 9.89%
<b>(41.10) : Z- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. Greek Linear B (4,685 signs)	9 26.47%	13 38.24%	12 35.29%	34 .73%
2. "Non-Greek" at Knossos (1,872 signs)	6 17.14%	11 31.43%	18 51.43%	35 1.87%
3. Linear A (1,354.5 signs)	1 9.09%	4 36.36%	6 54.54%	11 .81%
<b>(41.11) : Y- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. Greek Linear B (4,685 signs)	2 .44%	121 26.54%	333 73.03%	456 9.73%
2. "Non-Greek" at Knossos (1,872 signs)	14 11.11%	49 38.89%	63 50.00%	126 6.73%
3. Linear A (1,354.5 signs)	18 25.71%	19.5 27.86%	32.5 46.43%	70 5.17%
<b>(41.12) : W- SERIES</b>				
	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. Greek Linear B (4,685 signs)	72 15.32%	204 43.40%	194 41.28%	470 10.03%
2. "Non-Greek" at Knossos (1,872 signs)	41 35.04%	40 34.19%	36 30.77%	117 6.25%
3. Linear A (1,354.5 signs)	7 20.59%	20 58.82%	7 20.59%	34 2.51%

Fig. (24.7) : K- SERIES

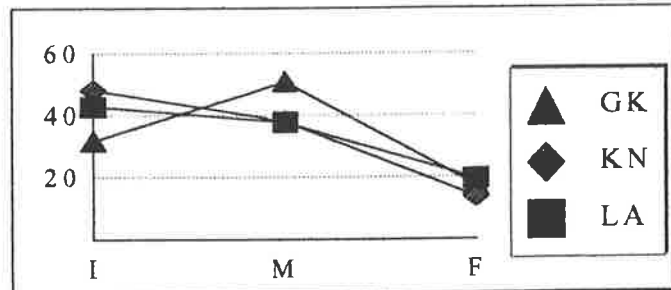


Fig. (24.8) : Q- SERIES

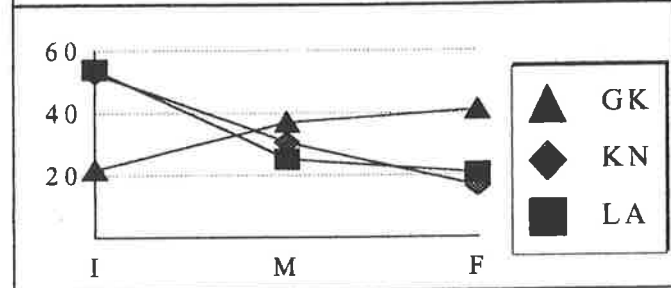


Fig. (24.9) : S- SERIES

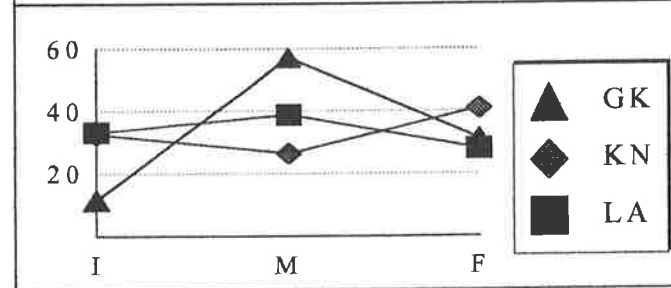


Fig. (24.10) : Z- SERIES

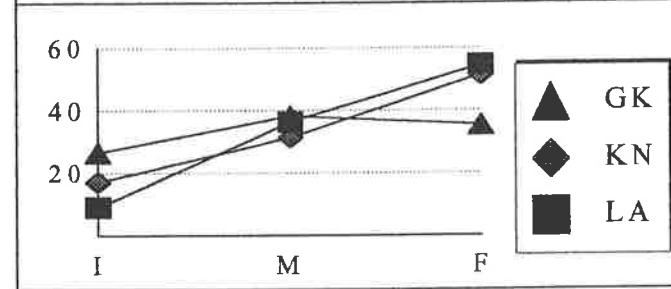


Fig. (24.11) : Y- SERIES

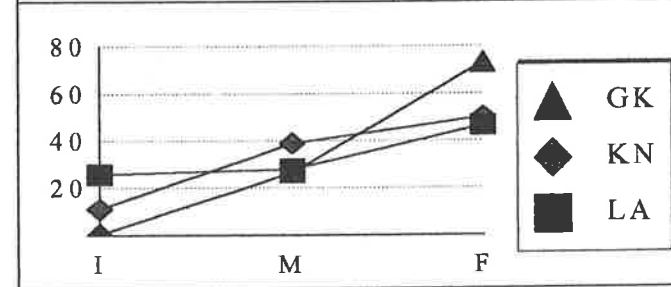
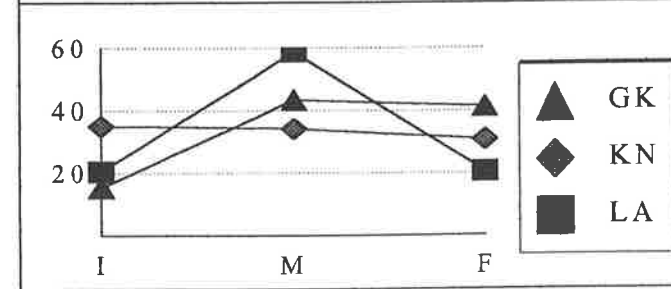


Fig. (24.12) : W- SERIES



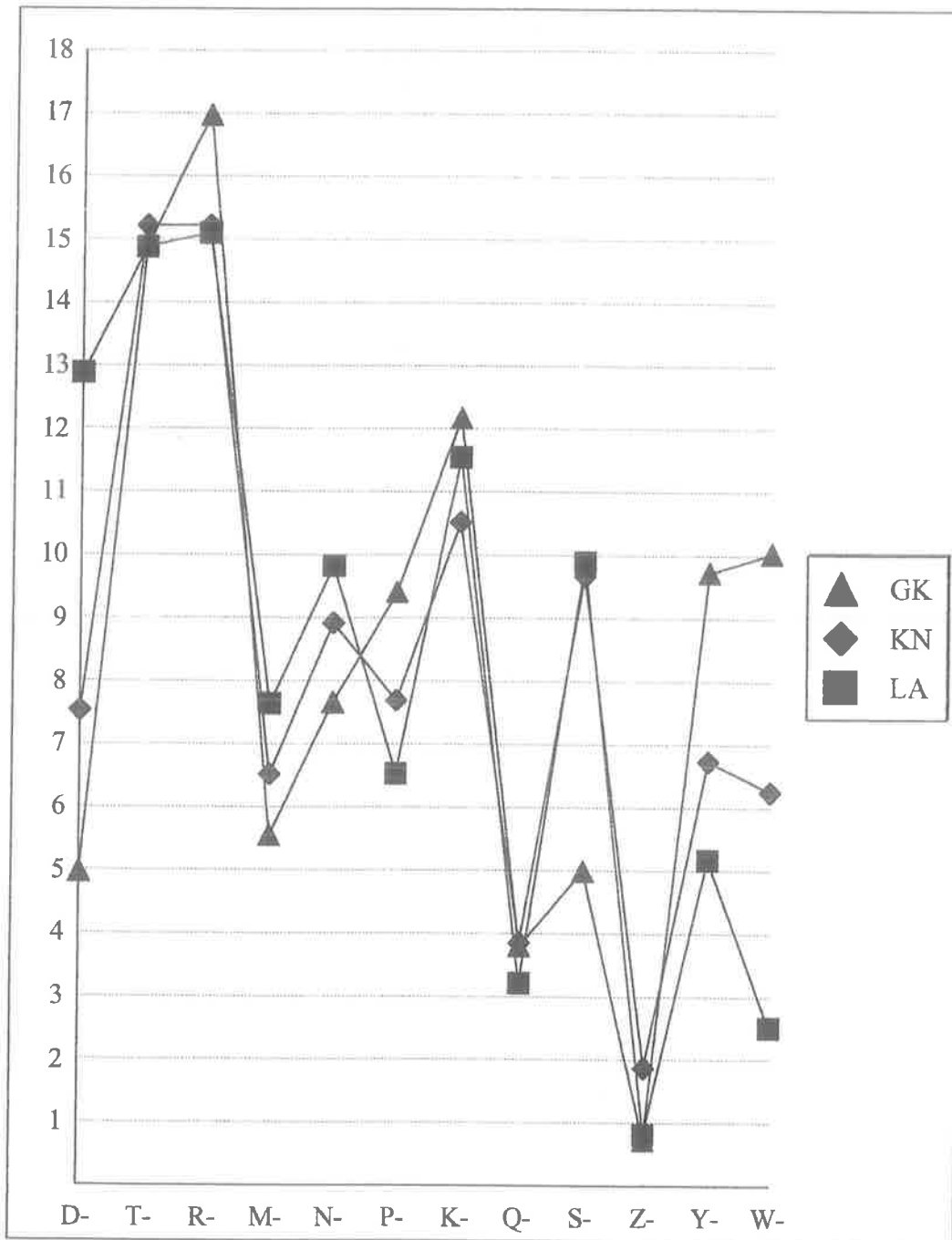


Fig. (25) : Total frequency distributions for the Linear A and Linear B consonant series.

Note : These figures are found in the (T)otal column of Table (41) on pages 126-8

		<i>Test 11</i>		<i>Test 12</i>		<i>Test 13</i>	
<b>D-</b>	d.f. = 2 d.f. = 1	4.53616 0.43462	1+	6.49182 2.33250	1-	8.00056 0.45790	1-
<b>T-</b>	d.f. = 2 d.f. = 1	4.30469 0.00000	1+	16.78292 0.95906	2+	2.44414 0.31674	1+
<b>R-/L-</b>	d.f. = 2 d.f. = 1	1.43069 0.48332	1+	47.54542 0.24568	2+	31.59294 0.28375	2+
<b>M-</b>	d.f. = 2 d.f. = 1	2.13553 0.19931	1+	3.90166 0.67414	1+	7.94967 0.00000	1-
<b>N-</b>	d.f. = 2 d.f. = 1	2.43343 0.46694	1+	0.03558 0.00000	1+	3.96874 0.59184	1+
<b>P-</b>	d.f. = 2 d.f. = 1	6.01212 0.00000	1-	4.53204 0.00000	1+	26.08853 0.00000	2+
<b>K-</b>	d.f. = 2 d.f. = 1	2.35102 0.16816	1+	17.27467 0.00000	2+	9.14708 0.36829	1-
<b>Q-</b>	d.f. = 2 d.f. = 1	0.51289 0.00000	1+	10.79196 0.21209	2+	10.05671 1.26980	1-
<b>S-</b>	d.f. = 2 d.f. = 1	7.28787 1.62043	1-	46.54224 6.66161	2-	26.62129 0.91203	2+
<b>Z-</b>	d.f. = 2 d.f. = 1	(4.73553) (0.75685)	(1+)	1.95025 0.00000	1+	(22.00450) (10.01190)	(0)
<b>Y-</b>	d.f. = 2 d.f. = 1	7.55752 0.34251	1-	n/a 11.69679	0	n/a 2.22197	2+
<b>W-</b>	d.f. = 2 d.f. = 1	6.71440 0.00000	1-	23.48992 0.00000	2+	5.66127 0.00000	1+

**Table (42) :** Results for Chi Square Test Series Eleven to Thirteen : Consonant Distribution Patterns in Linear A and B. Note : brackets ( ) = Goodness-of-Fit Test results; n/a = not available.

**9b. Summary of Results**

**9b.1** As can be seen, all twelve consonants register Level (1) type confirmations for Chi Square Test Series Eleven (Linear A vs "non-Greek" Linear B). This is in marked contrast to the results of Test Series Twelve ("non-Greek" Linear B vs Greek Linear B) and Thirteen (Linear A vs Greek Linear B), which record only five and seven Level (1) type confirmations respectively. As is further borne out by Fig. (25), not only do the consonants of both Linear A and the "non-Greek" Linear B from Knossos display almost identical preferences for initial, medial and final word positions, they also appear to occur in proportionally similar numbers within the two categories. Indeed, a chi square analysis (Test Series Fourteen),

here performed at d.f. = 11 with an  $\alpha$  level of 0.005 and a critical  $\chi^2$  value of 26.7569, in fact yields the lowest test statistic for  $H_{O1}$  (Linear A vs "non-Greek" Linear B) which registers at 61.14073, followed by  $H_{O2}$  ("non-Greek" Linear B vs Greek Linear B) at 129.64553 and  $H_{O3}$  (Linear A vs Greek Linear B) at 263.78198. Note, however, that when the  $d$ - and  $w$ - series are excluded from the computation,  $H_{O1}$  yields a chi square test statistic of only 14.45506, which, at d.f. = 9, falls well within the critical  $\chi^2$  value of 16.9190 at the .05 level of confidence !

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## 10a. CHI SQUARE TEST SERIES FIFTEEN

**10a.1** Of the ten "homophones" common to both Linear A and B (cf., Table (2) on page 16), only four - viz.,  $pa_{(3)}$ ,  $pu_{(2)}$ ,  $ra_{(2)}$ ,  $ta_{(2)}$  - occur in reasonably sufficient numbers to permit the application of the chi square goodness-of-fit test procedure. Table (43) and the associated graphs on pages 134-35 present a comparison of the initial, medial and final distribution patterns for these signs with respect the Greek Linear B, "non-Greek" Linear B and Linear A categories. Additional statistical evidence relating specifically to the phonetic values of these signs is furnished by simply comparing the frequency distributions of each homophone against that of the normal sign it supposedly approximates in sound within each category. These latter figures are found in Tables (44) to (47) and Figs. (27) to (30) on pages 136-39. The chi square test results are presented in Table (48) on page 140, followed by a brief summary.

TABLE (43) : LINEAR A AND B HOMOPHONES

(43.1) : B56 / A01 [PA <sub>3</sub> ]		I	M	F	T
1. Greek Linear B	0	1	1	2	
(5,651 signs)	0.00%	50.00%	50.00%	0.04%	
2. "Non-Greek" at Knossos	9	8	2	19	
(2,092 signs)	47.37%	42.11%	10.53%	0.91%	
3. Linear A	4	7.5	7.5	19	
(1,595 signs)	21.05%	39.47%	39.47%	1.19%	
(43.2) : B29 / A34 [PU <sub>2</sub> ]		I	M	F	T
1. Greek Linear B	7	2	0	9	
(5,651 signs)	77.78%	22.22%	0.00%	0.16%	
2. "Non-Greek" at Knossos	0	8	1	9	
(2,092 signs)	0.00%	88.89%	11.11%	0.43%	
3. Linear A	1	3.5	2	6	
(1,595 signs)	16.67%	58.33%	33.33%	0.38%	
(43.3) : B76 / A58 [RA <sub>2</sub> ]		I	M	F	T
1. Greek Linear B	0	11	7	18	
(5,651 signs)	0.00%	61.11%	38.39%	0.32%	
2. "Non-Greek" at Knossos	0	2	3	5	
(2,092 signs)	0.00%	40.00%	60.00%	0.24%	
3. Linear A	0	4.5	6.5	11	
(1,595 signs)	0.00%	40.91%	59.09%	0.69%	
(43.4) : B66 / A86 [TA <sub>2</sub> ]		I	M	F	T
1. Greek Linear B	0	0	3	3	
(5,651 signs)	0.00%	0.00%	100.00%	0.05%	
2. "Non-Greek" at Knossos	0	2	2	4	
(2,092 signs)	0.00%	50.00%	50.00%	0.19%	
3. Linear A	1	2	5	8	
(1,595 signs)	12.50%	25.00%	62.50%	0.50%	



Fig. (26.1) : B56 / A01 [PA<sub>3</sub>]

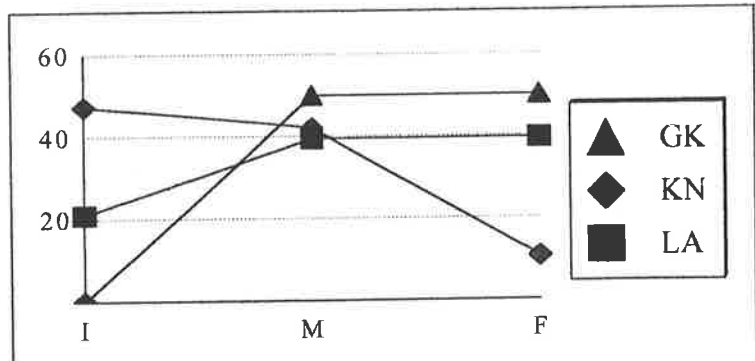


Fig. (26.2) : B29 / A34 [PU<sub>2</sub>]

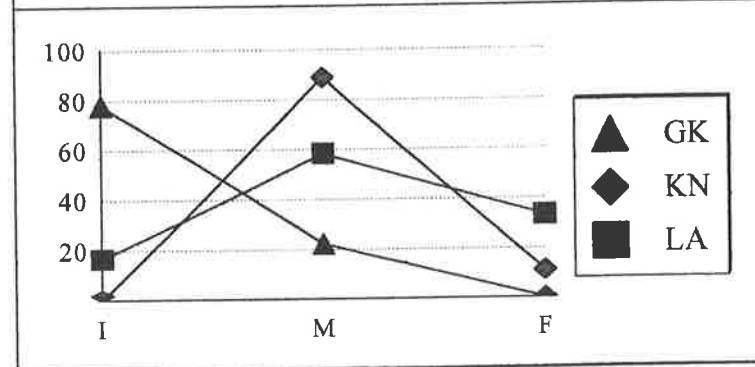


Fig. (26.3) : B76 / A58 [RA<sub>2</sub>]

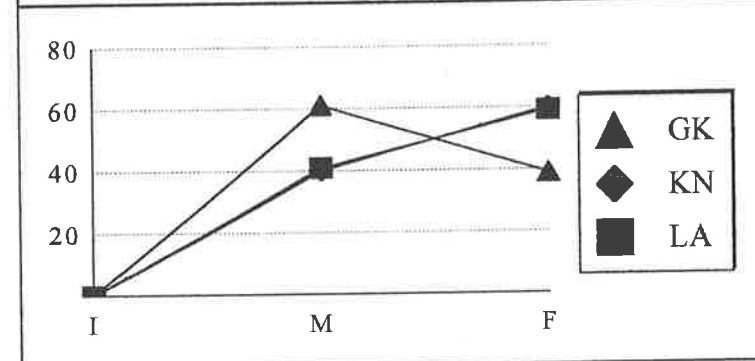
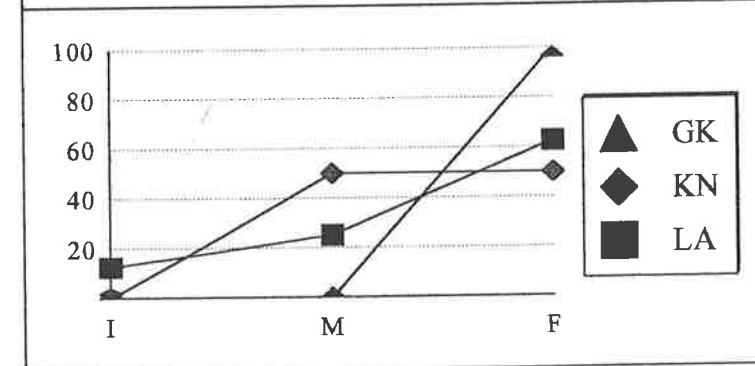


Fig. (26.4) : B66 / A86 [TA<sub>2</sub>]



## TABLES (44) - (45) : LINEAR A AND B HOMOPHONES

## (44.1) : GREEK LINEAR B

	I	M	F	T
1. B03 [PA] (5,651 signs)	36 47.37%	32 42.11%	8 10.53%	76 1.34%
2. B56 [PA <sub>3</sub> ] (5,651 signs)	0 0.00%	1 50.00%	1 50.00%	2 0.04%

## (44.2) : NON-GREEK LINEAR B FROM KNOSSOS

	I	M	F	T
1. B03 [PA] (2,092 signs)	20 51.28%	15 38.46%	4 10.26%	39 1.87%
2. B56 [PA <sub>3</sub> ] (2,092 signs)	9 47.37%	8 42.11%	2 10.53%	19 0.91%

## (44.3) : LINEAR A

	I	M	F	T
1. A02 [PA] (1,595 signs)	16.5 49.25%	11 32.84%	6 17.91%	33.5 2.10%
2. A01 [PA <sub>3</sub> ] (1,595 signs)	4 21.05%	7.5 39.47%	7.5 39.47%	19 1.19%

## (45.1) : GREEK LINEAR B

	I	M	F	T
1. B50 [PU] (5,651 signs)	20 62.50%	11 34.38%	1 3.13%	32 0.57%
2. B29 [PU <sub>2</sub> ] (5,651 signs)	7 77.78%	2 22.22%	0 0.00%	9 0.16%

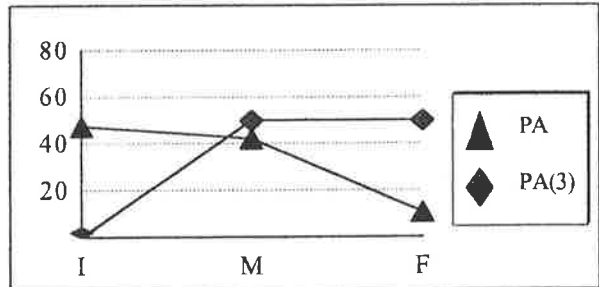
## (45.2) : NON-GREEK LINEAR B FROM KNOSSOS

	I	M	F	T
1. B50 [PU] (2,092 signs)	10 62.50%	5 31.25%	1 6.25%	16 0.77%
2. B29 [PU <sub>2</sub> ] (2,092 signs)	0 0.00%	8 88.89%	1 11.11%	9 0.43%

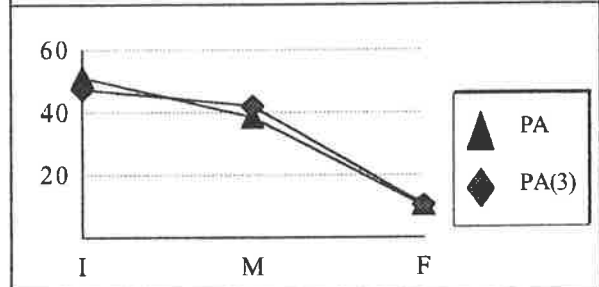
## (45.3) : LINEAR A

	I	M	F	T
1. A64 [PU] (1,595 signs)	3.5 36.84%	3 31.58%	3 31.58%	9.5 0.60%
2. A34 [PU <sub>2</sub> ] (1,595 signs)	1 16.67%	3.5 58.33%	2 33.33%	6 0.38%

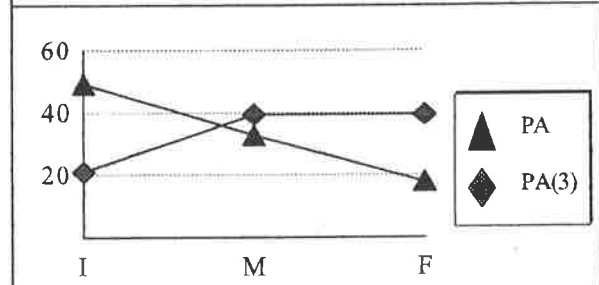
**Fig. (27.1) :** Distribution patterns of  $pa$  and  $pa_{(3)}$  for Greek Linear B.



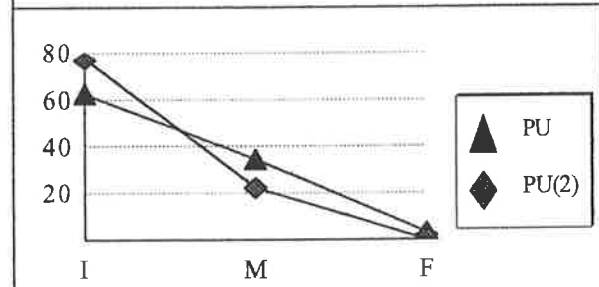
**Fig. (27.2) :** Distribution patterns of  $pa$  and  $pa_{(3)}$  for "non-Greek" Linear B from Knossos.



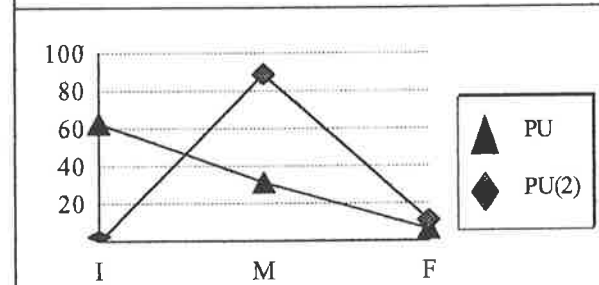
**Fig. (27.3) :** Distribution patterns of  $pa$  and  $pa_{(3)}$  for Linear A.



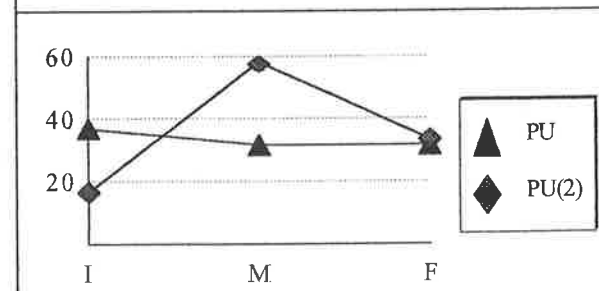
**Fig. (28.1) :** Distribution patterns of  $pu$  and  $pu_{(2)}$  for Greek Linear B.



**Fig. (28.2) :** Distribution patterns of  $pu$  and  $pu_{(2)}$  for "non-Greek" Linear B from Knossos.



**Fig. (28.3) :** Distribution patterns of  $pu$  and  $pu_{(2)}$  for Linear A.



**TABLES (46) - (47) : LINEAR A AND B HOMOPHONES**

**(46.1) : GREEK LINEAR B**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. <b>B60 [RA]</b> (5,651 signs)	21 12.21%	115 66.86%	36 20.93%	172 3.04%
2. <b>B76 [RA<sub>2</sub>]</b> (5,651 signs)	0 0.00%	11 61.11%	7 38.39%	18 0.32%

**(46.2) : NON-GREEK LINEAR B FROM KNOSSOS**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. <b>B60 [RA]</b> (2,092 signs)	13 14.77%	51 57.95%	24 27.27%	88 4.21%
2. <b>B76 [RA<sub>2</sub>]</b> (2,092 signs)	0 0.00%	2 40.00%	3 60.00%	5 0.24%

**(46.3) : LINEAR A**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. <b>A53 [RA]</b> (1,595 signs)	7 13.08%	25.5 47.66%	21 39.25%	53.5 3.35%
2. <b>A58 [RA<sub>2</sub>]</b> (1,595 signs)	0 0.00%	4.5 40.91%	6.5 59.09%	11 0.69%

**(47.1) : GREEK LINEAR B**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. <b>B59 [TA]</b> (5,651 signs)	19 9.13%	71 34.13%	118 56.73%	208 3.68%
2. <b>B66 [TA<sub>2</sub>]</b> (5,651 signs)	0 0.00%	0 0.00%	3 100.00%	3 0.05%

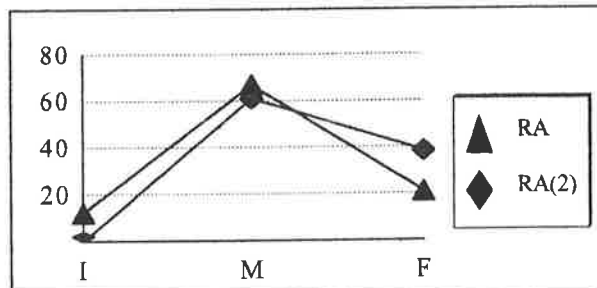
**(47.2) : NON-GREEK LINEAR B FROM KNOSSOS**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. <b>B59 [TA]</b> (2,092 signs)	23 22.33%	36 34.95%	44 42.72%	103 4.93%
2. <b>B66 [TA<sub>2</sub>]</b> (2,092 signs)	0 0.00%	2 50.00%	2 50.00%	4 0.19%

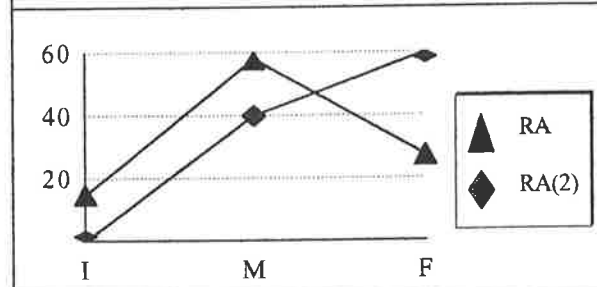
**(47.3) : LINEAR A**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
1. <b>A74 [TA]</b> (1,595 signs)	13 20.00%	35 53.85%	17 26.15%	65 4.07%
2. <b>A86 [TA<sub>2</sub>]</b> (1,595 signs)	1 12.50%	2 25.00%	5 62.50%	8 0.50%

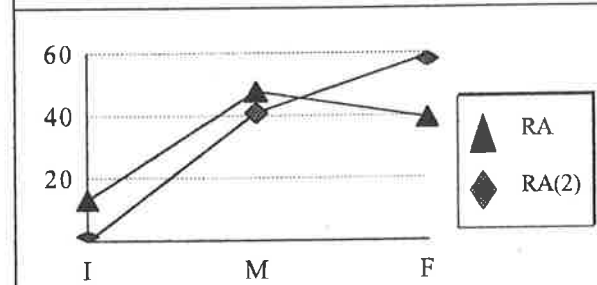
**Fig. (29.1) :** Distribution patterns of  $ra$  and  $ra_{(2)}$  for Greek Linear B.



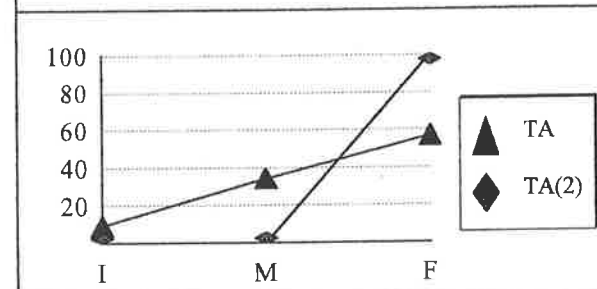
**Fig. (29.2) :** Distribution patterns of  $ra$  and  $ra_{(2)}$  for "non-Greek" Linear B from Knossos.



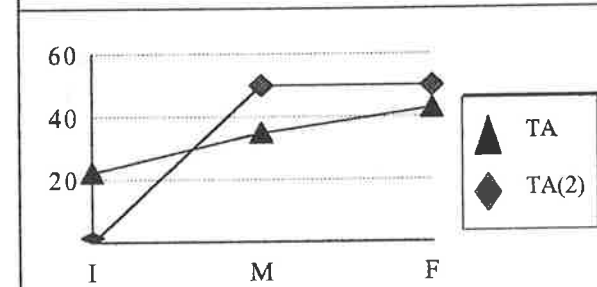
**Fig. (29.3) :** Distribution patterns of  $ra$  and  $ra_{(2)}$  for Linear A.



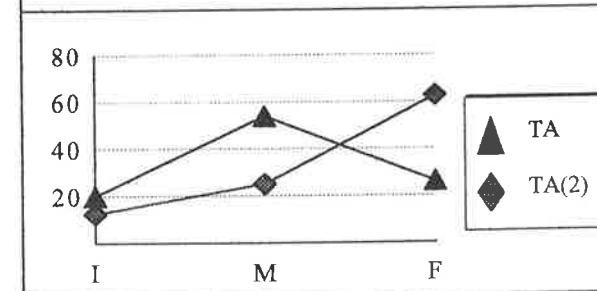
**Fig. (30.1) :** Distribution patterns of  $ta$  and  $ta_{(2)}$  for Greek Linear B.



**Fig. (30.2) :** Distribution patterns of  $ta$  and  $ta_{(2)}$  for "non-Greek" Linear B from Knossos.



**Fig. (30.3) :** Distribution patterns of  $ta$  and  $ta_{(2)}$  for Linear A.



		<i>PA(3)</i>		<i>PU(2)</i>		<i>RA(2)</i>		<i>TA(2)</i>	
$H_{01}$	d.f. = 2 d.f. = 1	94.32648 14.18248	0	n/a 52.62791	0	n/a 000000	2+	n/a 14.88500	0
$H_{02}$	d.f. = 2 d.f. = 1	n/a 31.46546	0	n/a n/a	n/a	n/a 18.55897	0	n/a n/a	n/a
$H_{03}$	d.f. = 2 d.f. = 1	n/a 4.02404	2-	n/a 104.29924	0	n/a 16.97949	0	n/a n/a	n/a
		<i>PA(3) vs PA</i>		<i>PU(2) vs PU</i>		<i>RA(2) vs RA</i>		<i>TA(2) vs TA</i>	
$H_{04}$	d.f. = 2 d.f. = 1	43.43939 16.72373	0	33.75133 10.56241	0	n/a 10.34918	0	66.88580 16.85339	0
$H_{05}$	d.f. = 2 d.f. = 1	0.65163 0.22676	1+	n/a 107.52089	0	n/a 43.34672	0	n/a 7.13334	2-
$H_{06}$	d.f. = 2 d.f. = 1	n/a 31.46546	0	n/a 7.44967	2-	n/a 14.15527	0	n/a n/a	n/a

**Table (48) :** Results for Chi Square Test Series Fifteen : Homophone Distribution  
Patterns in Linear A and B.

### 10b. Summary of Results

**10b.1** The high number of failures produced by this series of computations is not surprising given the very low absolute frequency counts of these four homophones in Linear A and both Linear B categories. Indeed, the only positive result, insofar as null hypotheses one to three are concerned, is the Level (2) type correspondence generated by the signs A58 / B76 (=RA<sub>2</sub>) for  $H_{01}$  (Linear A vs "non-Greek" Linear B). Note, however, that this result is influenced by the fact that the signs A58 and B76 both have a zero count in initial word position. As can be seen, the frequency distributions of these two signs are in fact identical in both categories, cf., Fig (25.3).6 The Level (2) correspondence generated by A01/B56 (=PA<sub>3</sub>) for  $H_{03}$  (Linear A vs Greek Linear B), on the other hand, is best discounted owing to the very low occurrence of B56 in the Greek Linear B material. As is further apparent, a comparison of the frequency distributions of B56 (pa<sub>3</sub>) and B03 (pa) yields a Level (1) type correspondence for  $H_{05}$  (ie., for the "non-Greek" Linear B words from Knossos). The Linear B sign B03 (pa), it will be recalled, also produced a Level

(1) type correspondence in Test Series Two ("non-Greek" Linear B vs Greek Linear B). The only other significant result produced by this series of calculations is the Level (2) type correspondence recorded by the pairs B29 ( $pu_2$ ) / B50 ( $pu$ ) for  $H_{06}$  (ie., for the Greek Linear B words). Indeed, closer inspection reveals that the frequency distributions generated by both B29 and B50 are virtually identical, cf., Fig (28.1). Note that B50 also produced a Level (2) type correspondence in Test Series Two ("non-Greek" Linear B vs Greek Linear B). The statistical evidence, therefore, conclusively demonstrates the existence of at least two 'true' homophones in Linear B - viz., B56 / B03 (=  $pa$ ) and B29 / B50 (=  $pu$ ). The evident similarity, moreover, between the frequency distributions produced by the signs A58 / B76 (=  $RA_2$ ) is, at the same time, tantalizing proof that at least some of these homophones may have had the same phonetic values also in Linear A.

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## 11. CONCLUSIONS

11.1 Some thirty-eight of the forty-six individual Linear A signs whose initial, medial and final distribution patterns were examined (cf., Test Series One and Three) were found to conform with the distribution patterns produced by their respective Linear B counterparts. Significantly, more confirmations were recorded for the *a*, *i* and *u* series syllables than for the *e* and *o* series, with Test Series One (Linear A vs "non-Greek" Linear B from Knossos) generating notably higher levels of correspondence than Test Series Three (Linear A vs Greek Linear B). At the same time, however, the distribution patterns of most *e* and *o* series syllables of the "non-Greek" Linear B words from Knossos were found to be virtually identical to those of the Greek Linear B category (cf., Test Series Two). Forestalling any immediate judgement concerning the assumed 'linguistic homogeneity' of the "non-Greek" Linear B material from Knossos (or of Linear A, for that matter), a comparison was made between the frequency distributions of individual *e* and *o* coloured syllables of this category and those of the *i* and *u* coloured syllables in Linear A (and *vice versa*), in order to investigate claims of an *e/i* and *o/u* ambivalence between the two scripts. The ensuing chi square analysis (cf., Test Series Four and Five) proved not only successful in demonstrating that Mycenaean scribes almost certainly confused the vowels *i* with *e* and *u* with *o* when recording 'Minoan' and other non-Greek words, it also raised the possibility of an *e/i* and *o/u* fluctuation in Linear A. An investigation of the 'conflated' vowel distribution patterns for Linear A and both Linear B categories (cf., Test Series Six to Eight) highlighted further differences in the way the five vowels are deployed in the two scripts, with the greatest source of disagreement invariably found in final word position. Not surprisingly, a comparison of the respective Linear A and B vowel totals (cf., Test Series Nine) provided strong support for all vowels in Linear A except the *o* series. Indeed, further analysis of the Linear A and B vowel distribution patterns (cf., Test Series Ten) revealed a definite statistical relationship between the Linear A vowels *e/i*

and *o/u*, suggesting, in turn, that the Linear A *e* and *o* series signs functioned as homophones for the *i* and *u* series respectively. Equally impressive are the evident similarities between the 'conflated' Linear A and B consonant distribution patterns (cf., Test Series Eleven to Fourteen), especially between Linear A and the "non-Greek" Linear B words from Knossos, where all twelve consonants produced very high correspondence levels. Finally, a comparison of the distribution patterns of four Linear A and B homophones (cf., Test Series Fifteen) successfully demonstrated the existence of at least two 'true' homophones in Linear B - viz., *pa*<sub>3</sub> and *pu*<sub>2</sub> - and perhaps one other - viz., *ra*<sub>2</sub> - in Linear A. It is, of course, significant that these homophones belong to a secondary *a* and *u* series.

**11.2** Viewed absolutely as an exercise in sampling statistics our chi square analysis of the Linear A and B sign-frequency distributions clearly provides overwhelming support not only for the thesis that the same or closely similar phonetic values apply to stylistically identical syllabograms in both scripts, but also that the "non-Greek" Linear B words from Knossos are indeed predominantly 'hellenized' versions of Minoan names.<sup>1</sup> The statistical evidence, moreover, also suggests that the primary difference between the respective phonetic structures of the two scripts lays not with the consonants but with the vowels, where Linear A appears to have expressed six vowel grades - viz., *a*, *a'*, *i*, *i'*, *u*, *u'* - as opposed to the five - viz., *a*, *e*, *i*, *o*, *u* - found in Linear B. Indeed, on the basis of these observations, it is now possible to reconstruct the Linear A syllabary as shown in Table (49) on page 145. As can be seen the phonetic grid accounts for some fifty-nine out of a possible total of seventy-eight Linear A syllabic signs. Our Linear A sign-frequency analysis, on the other hand, involves a total of

<sup>1</sup> Against the latter conclusion, it can, of course, be argued that the supposed phonetic similarities between the Linear A and B scripts are ultimately due to their common syllabic structure and, consequently, do not strictly reflect any real "distribution of sounds" in the (presumably) different language(s) they each express. Packard (1974 : 80ff), for example, illustrates this point by showing that "the high initial frequency of the pure vowel signs can be predicted from the structure of the syllabary", citing the very similar behaviour of the pure vowels not only in Linear A and B, but also in Classical Cypriot and Akkadian Cuneiform. This is certainly a valid argument, though, as Packard himself admits, "high initial frequency" is by no means an 'indicator' exclusively of the pure vowels signs : "some Linear B consonants signs", he says, "show deceptively vowel-like distributions."

	A	A'	I	I'	U	U'
<b>Vowels</b>	A52	?	A100	A44	A97	A87
<b>D-</b>	A30	?	A51	A102	A93	A101
<b>T-</b>	A74	A86	A78	A92	A06	A39
<b>R-/L-</b>	A53	A58	A72	A54	A55	A22
<b>M-</b>	A95	?	A76	A84	A27	?
<b>N-</b>	A26	?	A60	A61	A25	?
<b>P-</b>	A02	A01	A56	A90	A64	A34
<b>K-</b>	A29	?	A103	A24	A98	A45
<b>Q-</b>	A62	?	A48	A91	?	A12
<b>S-</b>	A31	?	A57	A77	A59	A07
<b>Y-</b>	A32	?	?	A81	A96	?
<b>W-</b>	A75	?	A28	A94	?	?
<b>Z-</b>	A23	?	?	A16	?	A10

**Table (49) :** The Linear A Phonetic Grid

ninety-six signs - a difference of some eighteen signs. Note, however, that eleven of these - viz., A04, A08, A35, A36, A42, A66, A82, A89, A99, A117, A122 - are evidenced only in bisyllabic sign-groups and may ultimately prove to be ideographic. Two more signs - viz., A13, A68 - are likely to be variants of A84 [ME] and A96 [YU] respectively, while another three signs - viz., A03, A43, A114 - correspond in shape to the Linear B homophones B71 (*dwe*), B64 (*swi*) and B48 (*nwa*). This leaves a total of eighty Linear A phonetic signs, twenty of which have not been assigned a phonetic value, and which, in turn, is roughly similar to the

**TABLES (50) : EXPERIMENTAL VALUES****(50.1) : A20 / A32 [YA]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. A20</b>	0.5	0.5	1	2
(1,595 signs)	25.00%	25.00%	50.00%	0.13%
<b>2. A32 [YA]</b>	16	15.5	25.5	57
(1,595 signs)	28.07%	27.19%	44.74%	3.57%

**(50.2) : A41 / A26 [NA]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. A41</b>	0.5	4.5	2.5	7.5
(1,595 signs)	6.67%	60.00%	33.33%	0.47%
<b>2. A26 [NA]</b>	6	26	28	60
(1,595 signs)	10.00%	43.33%	46.67%	3.76%

**(50.3) : A79 / A30 [DA]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. A79</b>	4	1.5	0.5	6
(1,595 signs)	66.67%	25.00%	16.67%	0.38%
<b>2. A30 [DA]</b>	27.5	21	8	56.5
(1,595 signs)	48.67%	37.17%	14.16%	3.54%

**(50.4) : A80 / A52 [A]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. A80</b>	3	0.5	1	4.5
(1,595 signs)	66.67%	11.11%	22.22%	0.28%
<b>2. A52 [A]</b>	51	6.5	4.5	62
(1,595 signs)	82.25%	10.48%	7.25%	3.89%

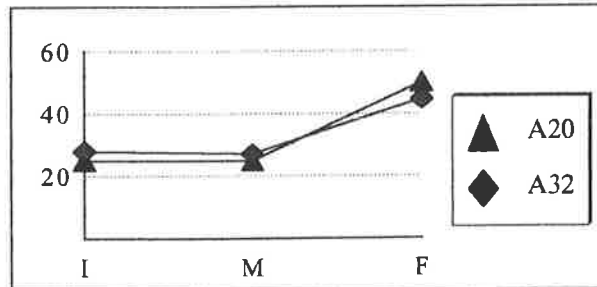
**(50.5) : A88 / A25 [NU]**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. A88</b>	0	5	2.5	7.5
(1,595 signs)	0.00%	66.67%	33.33%	0.47%
<b>2. A25 [NU]</b>	2	12	6	20
(1,595 signs)	10.00%	60.00%	30.00%	1.25%

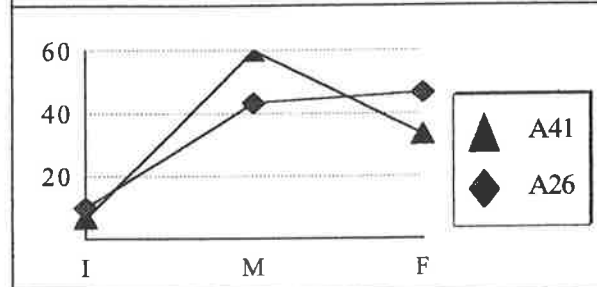
**(50.6) : A65 / A68+A96 [YU] :**

	<b>I</b>	<b>M</b>	<b>F</b>	<b>T</b>
<b>1. A65</b>	0	2	1.5	3.5
(1,595 signs)	0.00%	57.14%	42.86%	0.22%
<b>2. A68+A96 [YU]</b>	1	11	7	19
(1,595 signs)	5.26%	57.89%	36.84%	1.19%

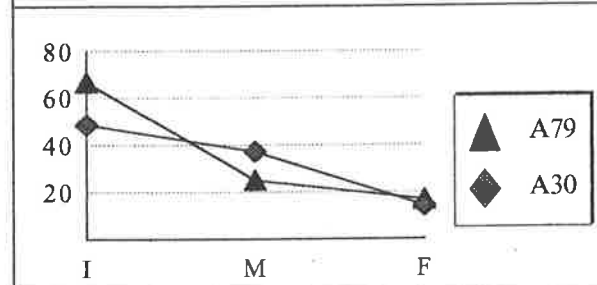
**Fig. (31.1) :** Distribution patterns of A20 / A32 [YA]



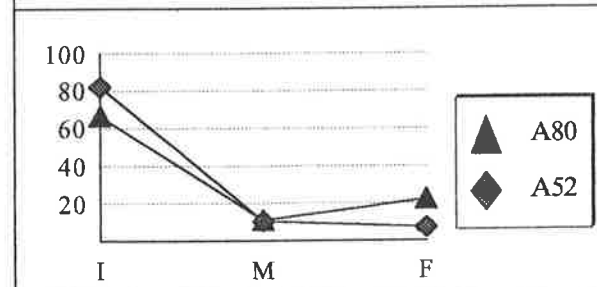
**Fig. (31.2) :** Distribution patterns of A41 / A26 [NA]



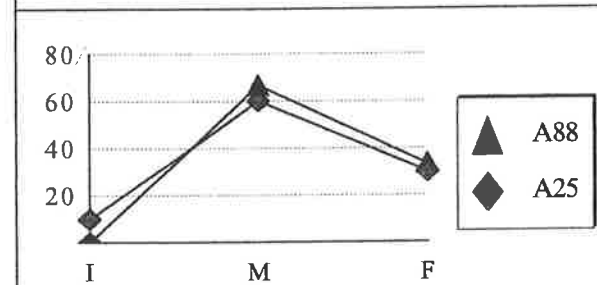
**Fig. (31.3) :** Distribution patterns of A79 / A30 [DA]



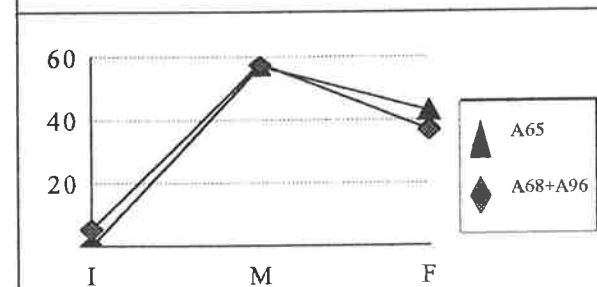
**Fig. (31.4) :** Distribution patterns of A80 / A52 [A]



**Fig. (31.5) :** Distribution patterns of A88 / A25 [NU]



**Fig. (31.6) :** Distribution patterns of A65 / A68+A96 [YU]



A20 / A32 [YA]	d.f. = 2 d.f. = 1	1.13056 0.34034	1+
A41 / A26 [NA]	d.f. = 2 d.f. = 1	11.63318 5.33920	2-
A79 / A30 [DA]	d.f. = 2 d.f. = 1	11.08663 3.94927	2-
A80 / A52 [A]	d.f. = 2 d.f. = 1	33.89956 2.76482	2+
A88 / A25 [NU]	d.f. = 2 d.f. = 1	n/a 0.90144	2+
A65 / A68+A96 [YU]	d.f. = 2 d.f. = 1	n/a 0.71093	2+

Table (51) : Results for Chi Square Test Series  
Sixteen : Experimental Linear A Values

↵

number required by our phonetic grid. The expectation, of course, is that the frequency distributions of these untranscribed Linear A signs will correspond to those of the eighteen or so missing 'homophones' in our grid. Unfortunately, only five of the twenty untranscribed Linear A signs - viz., A20, A41, A79, A80, A88 - occur in sufficient numbers to produce reliable distribution patterns for such a comparison to be made. The relevant sign-frequencies are presented in Table (50) and associated graphs on pages 146 and 147. As is immediately apparent, the distribution patterns of all five untranscribed Linear A signs conform reasonably well with the distribution patterns of five of the eighteen syllables which lack homophones in our phonetic grid - viz., A20 (=YA'), A41 (=NA'), A79 (=DA'), A80 (=A'), and A88 (=NU'). Equally suggestive, are the combined initial, medial, and final distribution patterns of the Linear A signs A68 and A96 (= YU), long suspected to be variants of the same sign, when compared against those produced by A65, (cf., Fig. 31.6). While these results may be fortuitous (they are based, after all, on very low total frequencies), they are nonetheless remarkable for their consistency.

---

	A	A'	I	I'	U	U'
Vowels						
D-						
T-						
R-/L-						
M-						
N-						
P-						
K-						
Q-						
S-						
Y-						
W-						
Z-						

Table (52) : The Linear A Phonetic Grid





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## APPENDIX (I)

This appendix presents all Linear B words which are widely recognised as being of Mycenaean-Greek origin. The index has itself been compiled from the following sources : A. Morpugo, *Mycenaeae Graecatis Lexicon*, (Rome. Edizioni dell' Ateneo, 1963); J. Chadwick, *Documents in Mycenaean Greek*, (Second and Revised Edition. Cambridge University Press. 1973), especially the "Mycenaean Glossary" on pp 527-93; J. Chadwick & L. Baumbach, "The Mycenaean Greek Vocabulary I", *Glotta* 41 (1963) : 157-271; L. Baumbach, "The Mycenaean Greek Vocabulary II", *Glotta* 49 (1973) : 151-90; L.R. Palmer, *The Interpretation of Mycenaean Greek Texts*. (Oxford University Press. 1963); J.P. Olivier, L. Godart, C. Seydel & C. Sourvinou (eds), *Index Generaux du Linear B*, (Rome. Edizioni dell' Ateneo. 1973). For an explanation of the various spelling conventions utilized in this index refer to page 38 of the main text. Each sign-group is followed by an abbreviation indicating its general provenance (Kn = Knossos, Py = Pylos, My = Mycenae, Th = Thebes, Ti = Tiryns, El = Eleusis) and a transliteration in predominantly Greek characters.



## A [B08]

1. a.da.ma.yo [/.o/.o.yo]	Py : *Αδματος, -οιο
2. a.da.ra.ko.[	Kn : 'Ανδράρχωι
3. a.da.ra.ro	Kn : *Ανδραλος
4. a.da.ra.te.ya	Py : 'Αδράστεια
5. a.da.ra.ti.yo	Py : 'Αδράστιος
6. a.de.te [/.te.re]	Py : άνδετήρ, -τήρε
7. a.di.ri.ya.te [/.pi +.qe]	Py : *άνδριάντε[ι] + -φι, + -q <sup>e</sup>
8. a.di.ri.yo	Kn : *Ανδριος, 'Ανδρίων
9. a.du.ru.po.to	Kn : *Αδρυπτος
10. a.e.ri.qo	Py : 'Αέριq <sup>o</sup> ς ?
11. a.e.ri.qo.ta	Py : 'Αεριq <sup>o</sup> ίτας, cf., 'Ηεριφοίτης
12. a.e.ti.to.[	Py : άν + e-ti
13. a.i.qe.u [/.we/.wo]	Py : 'Αιιρ <sup>q</sup> εύς, 'Αιιρ <sup>e</sup> εύς; cf., *'Αιφόντας
14. a.ka.ma.wo [/.yo]	Py : 'Αλκμάq <sup>o</sup> ς, -q <sup>o</sup> ι
15. a.ka.me.ne.[	Kn : 'Αχαιμένης, 'Αλκαμένης
16. a.ka.ra.no	Py : άκάρανος
17. a.ka.re.u	Kn : 'Αγαλλεύς, 'Ανγαρεύς
18. a.ka.sa.no [+ .qe]	Kn - Py : 'Αλξάνωρ + -q <sup>e</sup>
19. a.ka.ta.yo [/.yo.yo]	Kn - Py : 'Ακταίος, -οιο
20. a.ka.to	Kn : *Αγαθος, 'Αγάθων
21. a.ka.wo [/.wo.ne]	Kn - Py : 'Αλκάq <sup>o</sup> ων, -q <sup>o</sup> ωνει
22. a.ke	Py - My : άγει
23. a.ke.ha	Py : άνγέα
24. a.ke.e	Py : άγει, cf., άγος = τεμένη
25. a.ke.i	Py : άγει ?
26. a.ke.ra.wo	Kn - Py : 'Αγέλαq <sup>o</sup> ς, 'Αρχέλαq <sup>o</sup> ς
27. a.ke.ra2.te	Py : άγήραντες, cf., άγείρω
28. a.ke.re	Py : άγήρει, cf., άγείρω
29. a.ke.re.mo [/.mo.no]	Kn : άγρεμών, -ονος
30. a.ke.re.se	Py : άγρησε, άγρήσει, cf., άγρέω
31. a.ke.re.u [/.re.we]	Py : 'Αγρεύς ?, -ηq <sup>e</sup> ι

32. a.ke.ro	Py : ἄγγελος, ἄγεροι
33. a.ke.ro	Py : ἄγγελος
34. a.ke.ta	Kn - Py : ἄγῆτας, ἄκέστας
35. a.ke.te.re	Py : ἀσκητήρες, cf., ἀσκέω
36. a.ke.ti.ra2 [/.ra2.o]	Py - Th : ἀσκήτριαι, ἀκέστριαι, -ων
37. a.ke.ti.ri.ya [/.ya.i]	Kn - Py - My : ἀσκήτριαι, ἀκέστριαι
38. a.ke.ti.yo	Py : ἄκεστιος
39. a.ke.u [/.wo]	Kn : ἄλκεύς, -φας
40. a.ke.wa.ta	Py : ἄρχεφαστας
41. a.ke.wa.to	Py : ἄρχεφαστος
42. a.ki.re.u [/.re.we]	Kn - Py : ἄχιλλεύς, -ηφει
43. a.ki.ri.ya	Kn : ἄγρια
44. a.ki.ti.to	Py : ἄκτιτος
45. a.ki.to [/.to.yo]	Py : ἄλκιθώϊ, -οιο
46. a.ki.wa.ta	Kn : ἄρχίφαστας
47. a.ko.mo.ni.yo	Kn : ἄκμόνιος
48. a.ko.ra	Kn - Py : ἀγορά
49. a.ko.ra.ya [/.yo]	Kn : ἀγοραία, -αίοι
50. a.ko.ra.yo	Kn : ἄγοραίος
51. a.ko.ro	Kn - Py : ἄγρος
52. a.ko.ro.da.mo.yo	Kn : ἄκροδάμοιο
53. a.ko.ro.qo.ro	Kn : ἄγρόφολος, cf., Lat. Agricola
54. a.ko.ro.ta	Kn - Py - My : ἄγρότας
55. a.ko.ro.we [/.we.e /.we.i]	Kn - Py : ἀχρώφης, ἀκρώφης, -φει, -φει
56. a.ko.so.ne [/.ni.ya]	Kn - Py : ἄξονες, ἄξόνια
57. a.ko.so.ta [/.ta.o]	Py : ἄλξοιτας, ἄξοτας, -ταο
58. a.ko.te.u	Py : ἄκοντεύς
59. a.ko.to	Kn : ἄκτωρ
60. a.ko.to.no	Py : ἄκτοινοι
61. a.ku.ri.yo.[	Kn : ἄργύριος
62. a.ku.ro	Py : ἄργυρώϊ
63. a.ku.tu.ru.wo.[	Kn : ἄλκτρύων



64. a.ku.wo	Kn : Ἄλκυων
65. a.ma	Kn : ἄμα, cf., ἀμάω
66. a.ma.ko.to	Kn : αἵμακτω ?
67. a.ma.ru.ta [/.ta.o ]	Py : Ἀμαρύνθαι, -θαι
68. a.ma.to.wo	Py : Ἀμαθόφος
69. a.me.no	Py : Ἄρμενος, Ἄσμενος, Ἀμείνων
70. a.mo [/.mo.si /.ta ]	Kn - Py : ἄρμο, ἄρμοσι, ἄρμοτα
71. a.mo.ke.re.[.we ]	Py : Ἀρμοκλέφης
72. a.mo.ta.yo	Py : Ἀρμοσταίος
73. a.mo.te [/.te.re ]	Kn : ἄρμοτε, -τηρ
74. a.mo.te.wo	Py : ἄρμοτήφος, ἄρμοστήφος
75. a.mo.te.yo.na [+ .de ]	Py : ἄρμοτείωνα + -δε
76. a.mu.ta.wo [/.wo.no ]	Kn - Py - Th : Ἀμυθάφων, -φονος
77. a.na.[.i].ta [/.to ]	Kn : ἀναι(σ)τοί
78. a.na.ke.e	Py : ἀνάγειν, cf., ἀνάγω
79. a.na.mo.to	Kn : ἀνάρμοστοι
80. a.na.qo.ta	Kn : Ἀναρ <sup>o</sup> ο[ί]τας, cf., Ἀναβότας
81. a.ne.ha	My : Αἰνέα
82. a.ne.mo	Kn : ἀνέμων
83. a.ne.mo.i.ye.re.ya	Kn : ἀνέμων ἱέρειαι
84. a.ne.ta [+ .de ]	Py : ἄνετα + -δε
85. a.ni.o.ko	Kn : ἀνίοχος
86. a.ni.ya [+ .pi ]	Kn - Py : ἀνίαι + -φι
87. a.ni.ya.to	Kn : Ἀνίατος
88. a.no.ke.wa	Py : ἀνορ- + ?, ἀνο- +?
89. a.no.ke.we	Kn - Py : Ἀνορ- + ?, Ἀνο- +?
90. a.no.me.de	Py : Ἀνομήδης, Ἀνορμήδης, cf., Ἀνδρομήδης
91. a.no.no	Py : ἄνωπος
92. a.no.po	Py : ἄνωπος
93. a.no.po	Py : Ἀνορ- + ?, Ἀνο- +?
94. a.no.qo.ta [/.ta.o ]	Kn : Ἀνορ <sup>o</sup> όντας, -ταο, cf., Ἀνδρειφόντης
95. a.no.ra.ta	Py : Ἀνορ- + ?, Ἀνο- +?

96. α.νο.τα	Πψ : 'Ανορ- + ?, 'Ανο- +?
97. α.νο.ωε	Πψ : ἄνωΨες
98. a.no.wo.to	Κη : ἀνόΨτον, ἀνούοτον
99. a.no.ze.we	Ρυ : 'Ανορ- + ?, 'Ανο- +?
100. a.no.zo.yo	Κη : 'Ανορ- + ?, 'Ανο- +?
101. a.nu.to [/to.yo ]	Κη - Th - Ti : *Ανυτος, -οιο
102. a.o.ri.me.ne	Ρυ : 'Αορίμενης
103. a.pa.i.ti.yo	Κη : 'Αφαίστιος, -ίων
104. a.pa.re.u	Κη : 'Αφαρεύς
105. a.pa.si.yo.yo	Κη : 'Ασπασιοίο
106. a.pa.u.ro	Κη : *Αφαυρος
107. a.pe.do.ke	Ρυ : ἀπέδωκε
108. a.pe.e.si	Ρυ : ἀπέενσι, cf., ἄπειμι
109. a.pe.i.si	Κη : ἄπεισι
110. a.pe.ne.wo	Ρυ : ἀπηνήΨων
111. a.pe.o [/o.te /a.sa ]	Κη - Ρυ : ἀπέων, ἀπέοντες, ἀπέασσαι
112. a.pe.ri.wa.to	Ρυ : 'ΑμπελιτάΨων
113. a.pi	Κη - Ρυ : ἀμφί
114. a.pi.ha.ro	Ρυ : 'Αμφιάλος
115. a.pi.do.ra	Μυ : 'Αμφίδωραι
116. a.pi.do.ro.[	Κη : 'Αμφίδωρος
117. a.pi.e.ke	Ρυ : ἀμφι- + ?
118. a.pi.e.ra	Ρυ - Μυ : 'Αμφιέρας, -αι
119. a.pi.ka.ra.do.yo	Ρυ : 'Αμφικλάδοιο
120. a.pi.ke.ne.a [	Ρυ : 'Αμφιγένεα
121. a.pi.me.de [/de.o ]	Κη - Ρυ : 'Αμφιμήδης, -δεος
122. a.pi.po.re.we	Κη : ἀμφιφορήΨες
123. a.pi.qo.i.ta	Κη : 'Αμφιγ <sup>ο</sup> ίτας, cf., 'Αμφιφοίτας
124. a.pi.qo.ro [/ro.i ]	Ρυ - Th : ἀμφίγ <sup>ο</sup> ολοι, -λων, -λοιθι, cf., ἀμφίπολος
125. a.pi.qo.to	Ρυ : ἀμφίγ <sup>ο</sup> οτος, cf., *ἀμφίβατος
126. a.pi.qo.[i].ta [/ta.o ]	Κη - Ρυ : 'Αμφιγ <sup>ο</sup> [ί]τας, -ται, -ταο, cf., 'Αμφιφοίτας
127. a.pi.ra.wo	Κη : 'ΑμφίλαΨος, -λαΨον

128. a.pi.wa.to Kη : 'Αμφίφαστος
129. a.pi.ya.ko.ro.yo [ Kη : 'Αμφιάγροιο, 'Αμφιαγόροιο
130. a.pi.ya.re.[ Kη : 'Αμφιάρης, 'Αμφιαρεύς
131. a.pi.[o.].yo [/.yo.to ] Ργ : 'Αμφίων, -οντος
132. a.po.re.we Ργ - Μγ : ἀμφορήφε
133. a.po.te.ro.te Ργ : ἀμφοτέρωθεν
134. a.pu Kη - Ργ : ἀπύ = ἀπό
135. a.pu.da.se.we Kη : ἀπυδασσήφες, -ηφει
136. a.pu.do.ke Kη : ἀπύδοκε
137. a.pu.do.si Kη - Ργ : ἀπύδοσις
138. a.pu.do.so.mo Kη : ἀπυδοσμός
139. a.pu.ke Ργ : ἀμπύκες, cf., ἄμπυξ
140. a.pu.ko.wo.ko Ργ : ἀμπυκφόργοι
141. a.ra.i.yo Ργ : 'Αραίος
142. a.ra.ka.te.ya [/.ya.o ] Kη - Ργ - Th : ἀλακατεΐαι, -αων, cf., ἤλακάτη
143. a.ra.ko Kη : ἄρακος
144. a.ra.ro.mo.te.me.na [/.no ] Kη : cf., ἀρμάζω ? + -μένα, -μένω
145. a.ra.ru.ya [/.wa.a ] Kη : ἀραρυΐα, -υΐαι, ἀράρφοα
146. a.re Kη : ἄρει
147. a.re.i.yo Kη - Ργ : 'Αρήϊος
148. a.re.ka.sa.da.ra [+qe ] Ργ : 'Αλεξάνδρα + -q<sup>e</sup>
149. a.re.ke.se.u Kη - Μγ : 'Αλεξεύς
150. a.re.ki.si Kη : 'Αλέξις
151. a.re.ki.si.to [/.to.yo ] Kη : 'Αλέξι-
152. a.re.ko.to.re Kη : 'Αλεκτόρει
153. a.re.ku.tu.ru.wo [/.wo.ne /.no ] Ργ : 'Αλεκτρύων, -φονει, -ονος
154. a.re.[i.].me.ne Th : 'Αρειμένης
155. a.re.pa [/.pa.te ] Ργ : ἄλειφαρ, ἀλειφάτει
156. a.re.pa.[/.po.].zo.o Ργ : ἀλειφαζόωι, ἀλειφοζόςος
157. a.re.ta.wo.[ Kη : 'Αρετάφων
158. a.re.ta2 Kη : 'Αρητίας
159. a.re.to.to Ργ : 'Αρέθοντος, 'Αρέτοντος

160. a.re.ya	Py : *Αρηα
161. a.re.yo	Kn : 'Αρηῖος
162. a.ri.ke.u	Kn : 'Αλικεύς
163. a.ri.qa	Py : 'Αρίσγ <sup>α</sup> ς, cf., 'Αρίσβας
164. a.ri.wo [/.wo.ne ]	Py : 'Αρίφων, -νει
165. a.ro.pa	Py : ἀλοιφά
166. a.ro.po	Py : ἄλοιφοι
167. a.ro.ta	Py : ἄλωστα
168. a.ro.u.ra	Py : ἄρουρανς
169. a.ro.ye.u	Py : 'Αλοιεύς, cf., 'Αλωεύς
170. a.ro2.a [/.e ]	Kn : ἀροία ?, ἀρίοες ?, cf., ἄριστος
171. a.se.e	Py : *Αλσει, *Αλσος
172. a.se.so.si	Py : ἀσησόνσι, cf., ἄσαι
173. a.si.wi.[/.swi.].ya	Py : *Ασφιαί
174. a.si.wi.yo	Kn - Py - My : *Ασφιος
175. a.so.qi.yo	Kn - Py : 'Ασώq <sup>α</sup> ιος, cf., 'Ασωπός
176. a.ta.ma.ne.u [/.we ]	Py : 'Αθαμανεύς, -ηφει
177. a.ta.na.po.ti.ni.ya	Kn : 'Αθάναι Πότνιαι
178. a.ta.no [/.no.re /.ro ]	Kn - Py : 'Αντάνωρ, -ρει, -ρος
179. a.ta.o [/.o.yo ]	Kn - Py : *Ανταος, -οι, -οιο, cf., 'Ανταίος
180. a.ta.ra [+ .qe ]	Py : ἄντλα + -q <sup>α</sup> ε
181. a.ta.ra.si.yo	Py : ἀταλά[ν]σιοι
182. a.ta.wo [/.wo.ne ]	Kn - Py : 'Ανθάφωv, -νει
183. a.te.mi.to [/.te ]	Py : 'Αρτέμιτος
184. a.te.mo	Kn : *Ανθεμος, 'Ανθέμων
185. a.te.ra.wo	Py : 'Αντέλαφος
186. a.te.re.e.te.yo	Py : ἀντλητείοι
187. a.te.u.ke	Kn : ἀτευχής
188. a.ti.ke.ne.ya	Py : 'Αντιγένειαι
189. a.ti.pa.mo	Kn : 'Αντίφαμος
190. a.ti.ro	Kn : *Αντιλος
191. a.ti.ya	Py : ἄντια, cf., ἀντίον

192. a.ti.ya.wo	Py : Ἐντιάφων
193. a.to	Kn : Ἐνθος
194. a.to.mo	Kn - Py : ἄρθμός
195. a.to.po.qo [/.qo.i ]	Py - My : ἄρτοπόδοις, cf., ἄρτοκόπος
196. a.to.ro.qo	Py : ἄνθρωποι, cf., ἄνθρωποι
197. a.tu.ko	Kn - Py : Ἐτυχος
198. a.wa.ra.ka.na [/.na.o ]	Py : ἄφλαχνα, cf., ἀύλαξ < *ἄφλαξ
199. a.wa.ta	Py : Ἐφατας, cf., ἄητης
200. a.we.ke.se.u [/.we ]	Py : Ἐφεξεύς, -ηφει, cf., ἀέξω
201. a.wi.to.do.to	Kn : Ἐφιστόδοτος, cf., ἄϊστος
202. a.wo.i.yo	Kn - Py : Ἐφώιος, -οι, cf., Ἐφως
203. a.wo.ro	Kn : Ἐφορος
204. a.ze.ti.ri.ya	Kn : cf., a-ke-ti-ra2

**HA [B25]**

1. ha.nu.me.no	Py : Ἐνύμενος, cf., ἄνύτω < ἄνύω
2. ha.ru.wo.te	Py : Ἐλφόντει, cf., Ἐλοῦς
3. ha.te.ro	Py : ἄτερον

**AI [B43]**

1. ai.ka.sa.ma	Py : αἶξμανς, cf., ἔγχεος αἰχμή
2. ai.ke.u	Py : Αἰγεύς
3. ai.ki.ha.ri.yo	Py : Αἰγιαλίωι
4. ai.ki.e.we	Py : Αἰγίηφε
5. ai.ki.pa.ta	Kn - Py : αἰγιπά[σ]τας, -αι
6. ai.ki.po	Kn : Αἶγπος
7. ai.nu.me.no	Py : Αἰνύμενος
8. ai.pu.ke.ne.ya	Py : Αἰπυγένειαι
9. ai.sa	Th : αἶσα
10. ai.so.ni.yo	Py - My : Αἰσώνιος
11. ai.ta.re.u.si	Py : Αἰθαλεύσι
12. ai.ta.ro	Py : Αἶθαλος
13. ai.ta.ro.we	Kn - Py : Αἰθάλοφενς
14. ai.te.re	Kn : αἰτήρες

15. ai.ti.yo.qo [/.qe ]  
 16. ai.to  
 17. ai.wa  
 18. ai.wa.ta  
 19. ai.wa.ya  
 20. ai.wo.ro [+ .qe ]  
 21. ai.za
- Py : Αιθίοq<sup>ς</sup>, Αιθίοq<sup>ος</sup>, -ει, cf., Αιθίοπες, Αιθίοq  
 Κn : Αἶθων  
 Κn : Αἶφανς  
 Κn : Αἶφατας  
 Py : Αἶφαια  
 Κn : Αἶφολος + -q<sup>ε</sup>  
 Py : αἶdα < \*αἶγια, cf., αἶγειος, αἶξ

**AU [B85]**

1. au.ke.wa  
 2. au.ri.yo  
 3. au.ro  
 4. au.ta.mo  
 5. au.ta2  
 6. au.te  
 7. au.te.ra  
 8. au.to.ai2.ta.ra  
 9. au.to.a.[  
 10. au.to.ha.[/.ai.].ta  
 11. au.to.te.qa.to  
 12. au.to.yo  
 13. au.u.te
- Py : Αὐγέφας, -αν  
 Κn - Th : Αὐλιος  
 Κn : cf., αὐλός  
 Py : Αὐθαίμων  
 Κn : cf., Αὐτο-  
 Py : αὐστήρ  
 Py : Αὐθήραι  
 Py : αὐτο- + ?  
 Py : Αὐτο- + ?  
 Κn - Py : Αὐτο- + ?  
 Th : Αὐτοθηg<sup>αἰος</sup>, cf., Θηβαἰός  
 Py : αὐτοῖο  
 Κn : αὐφέτες ?

**E [B38]**

1. e.do.me.ne.u [/.we ]  
 2. e.e.si  
 3. e.e.to  
 4. e.ka.ma.pi  
 5. e.ka.ma.te [+ .qe ]  
 6. e.ka.no  
 7. e.ka.ra  
 8. e.ka.sa.te.u [  
 9. e.ka.te.re.ta  
 10. e.ke [/.ke.e + .qe ]
- Py : Ἐδομενεύς, -ηφι  
 Κn : εἴνσι, cf., εἰσί  
 Py : cf., εἰμί, ἴημι  
 Py : ἐχμάπφι  
 Py : ἐχμάτει + -q<sup>ε</sup>, cf., ἔχμα  
 Py : Ἐχάνωρ  
 Py : ἐσχάρα  
 Py : Ἐξανθεύς  
 Κn : cf., a-te-re-te-a  
 Κn - Py : ἔχει, ἔχεεν + -q<sup>ε</sup>

11. e.ke.a	Kn : ἔνχεα
12. e.ke.da.mo	Kn - Py : Ἐχέδαμος, -ωι
13. e.ke.i.ya	Py : ἐνχείαι ?, cf., ἐγγεῖη
14. e.ke.i.ya.ta	Py : Ἐνχειάτας
15. e.ke.i.yo.yo	Py : Ἐνχειοίο, Ἐχειοίο
16. e.ke.me.de	Kn - Py : Ἐχεμήδης
17. e.ke.ne	My : Ἐγγένης
18. e.ke.nu.wo	Kn : Ἐχένυος
19. e.ke.ri.ra.[/ra2.].wo [/u.na /wo.ne /no ]	Py : Ἐνχελιάφων, -φονει, -φονος
20. e.ke.ro	Py - My : Ἐνχηρος
21. e.ke.ro.qo.no [+qe ]	Py : ἐνχηρόq"οινοι, -ον, + -q"ε, cf., ποινη
22. e.ke.ti.ra.wo	Kn : Ἐγερτίλαφος
23. e.ke.yo.to	Py : ἐνκειόντοι, cf., ἔγκειμαι
24. e.ki.no [/no.yo ]	Kn - Py : Ἐχινος, -οιο
25. e.ki.wo	Py : Ἐχιφος, Ἐχίφων
26. e.ko.me.na.ta.o	Py : Ἐρχομενάταο
27. e.ko.me.no	Py : Ἐρχόμενος
28. e.ko.si [/te ]	Kn - Py : ἔχονσι, ἔχοντες
29. e.ko.to [/to.ri.yo ]	Py : Ἐκτωρ, -ωι
30. e.ku.se.we [+qe ]	My : ἐνχυσήφες + -q"ε
31. e.ma.ha [/ha.o ]	Kn - Py - Th : Ἐρμάαι, -αο
32. e.ma.ta	Py : ἔρματα, cf., εἶρω
33. e.me [+de ]	Py : ἔμει + -δε, cf., εἶς
34. ] e.na.ri.po.to	Kn : ἐνάλειπτος
35. e.ne.e.si	Py : ἐνεένσι, cf., ἔνειμι
36. e.ne.ka	Kn - Py : ἔνεκα, εἵνεκα
37. e.ne.ke.se.u	Kn : Ἐνεξεύς
38. e.ne.me.na	Py : -μένα
39. e.ne.o	Kn : ἐνέων
40. e.ne.si.da.o.ne	Kn : Ἐνεσιδάωνει
41. e.ne.wo.pe.ze [/zo ]	Py : ἐννεφοπέδζα, -ω, cf., πούς
42. e.ni [+qe ]	Kn : ἔνι ? + -q"ε
43. e.ni.ya.u.si.yo	Py : Ἐνιαυσίωι, cf., ἐνιαυτός
44. e.nu.wa.[/nwa.].ri.yo	Kn - Py : Ἐνυαλίωι, Ἐνυάλιος, Ἐνφάλιος

45. e.o [/o.te ]	Kn - Py : ἐών, ἐόντες
46. e.pe.i.ya.o	Th : cf., Ἐπέας
47. e.pe.ke.u	Py : Ἐπειγεύς
48. e.pi [+qe ]	Kn - Py : ἐπί + -q <sup>ε</sup>
49. e.pi.[.de.].da.to	Py : ἐπίδαστος, ἐπιδέδαστοι
50. e.pi.ki.to.ni.ya	Kn : ἐπιχιτώνια
51. e.pi.ko.ru.si.yo	Kn : ἐπικορυσίω, cf., κόρυς
52. e.pi.ko.wa	Kn : ἐπιχόφα, cf., χέω
53. e.pi.ko.wo	Kn - Py : ἐπικόφοι, cf., κοέω
54. e.pi.pu.ta	Py : ἐπίφυτα
55. e.pi.qo.ra2	Py : cf., Ἐπιπόλαι
56. e.pi.ro.pa.ya	Kn : ἐπιλωπαία
57. e.pi.u.ru.te.we	Py : ἐπιφρυτήφες, cf., ρυτήρ
58. e.pi.we.ti.ri.yo	Py : ἐπιφέστριος, cf., ἐφεστρίς
59. e.pi.wo.qa.ta.o	Py : Ἐπιφό <sup>α</sup> ταο ?
60. e.pi.ya.ta	Py : Ἐπίαλτας
61. e.po.me.ne.u	Py : Ἐπομενεύς
62. e.po.mi.yo	Kn : ἐπωμίω, cf., ὤμος
63. e.qa.ro	Kn : Ἐνγ <sup>α</sup> ρος
64. ?]e?.qe.ra.wo	Kn : Ἐq <sup>ε</sup> ελάφος ?
65. e.qe.si.ya [/yo ]	Kn : ἐq <sup>ε</sup> έσια, ἐq <sup>ε</sup> έσιος, cf., ἔπομαι
66. e.qe.ta [/ta.e /i ]	Kn - Py : ἐq <sup>ε</sup> έτας, -ται, -ταε, -ται, cf., ἐπέτας
67. e.qo.te	Py : ἐq <sup>ε</sup> όντες
68. e.ra	Py - Th : Ἔραι
69. e.ra.pe.me.na	Kn : ἐρραπμένα, -αι, cf., ῥάπτω
70. e.ra.pe.[/pi.].ya [/ya.o ]	Py : ἐλάφεια, -ιαί, -ιαων
71. e.ra.po	Py : Ἐλάφων λιμένει
72. e.ra.se	Py : ἔλασε
73. e.ra.te.i [/i.yo ]	Py : Ἐλάτει, Ἐλάτειος
74. e.ra.te.re.wa.o [/we +.pi ]	Py : Ἐλατρεφάων, -ηφες, -φαφι
75. e.ra.to [+ .de ]	Kn : Ἔρατος, Ἔλατος + -δε
76. e.ra.wa [/wo ]	Kn - Py : ἔλαιφα, ἔλαιφον
77. e.re.e	Py : ἔρεεν
78. e.re.e.u [/we /wo ]	Py : Ἐλεεύς, -ηφει, ηφος



79. e.re.i [/e ] Py : Ἐλει
80. e.re.mo Py : ἔρημον
81. e.re.pa [/pa.ta /to /te [/te.yo /o /ya +.pi +-qe ] Kn - Py : ἐλέφανς, -τα, -τος, -τει, -τειος, -εος, -εια, +-φι, + -q<sup>u</sup>e
82. e.re.pa.[i.i].ro Kn : Ἐλεφαίρος, -ων
83. e.re.ta [/a.o ] Kn - Py : ἐρέται, -αων
84. e.re.u.te.ra [/ro ] Py : ἐλεύθερα, -ον
85. e.re.u.te.re Py : ἐρευτήρει, -ρες, cf., ἐρευτάς
86. e.re.u.te.ro.se Py : ἐλευθέρωσε
87. e.re.wi.yo Py : Ἐρηΐων
88. e.ri.ka Kn : ἔλικας
89. e.ri.ke.re.we Kn : Ἐρικλέφης
90. e.ri.ko.wo Py : Ἐρίγοφος, Ἐρίκοφος
91. e.ri.no.wo [/wo.te /to ] Py : -ἴόνται, -ἴόντος
92. e.ri.nu [/nu.we ] Kn : Ἐρινύς, -ει
93. e.ri.qi.ya Py : Ἐρίγ<sup>u</sup>ια
94. e.ri.qi.yo Py : Ἐρίγ<sup>u</sup>ιος, cf., βίος
95. e.ri.ta Py : Ἐριθα
96. ] e.ri.ta.ri.yo [ Kn : Ἐριθάλιος
97. e.ri.we.ro Py : Ἐριϕηρώι, cf., ἐρίηρος
98. e.ru.mi.ni.ya Py : ἐλυμνίαι
99. e.ru.si.yo Py : Ἐρυσσίωι, cf., Ἐρύσσιος
100. e.ru.ta.ra Py : Ἐρύθρας
101. e.ru.ta.ra [+ .pi ] Kn - Py - My : ἐρυθραί, ἐρυθράφι
102. e.ru.to.ro [/ri.yo ] Kn : Ἐρυθρός, Ἐρύθριος
103. e.sa.pa.ke.me.na Kn : ἐσπαργμένα
104. e.so Py : ἔνσω, cf., εἶσω
105. e.so.to Kn : ἐσ[σ]όντοι
106. e.ta.wo.ne.u [/we /wo ] Kn - Py : Ἐταϕονεύς, -ηϕει, -ηϕος
107. e.ta.ye.u Py : Ἐταιεύς
108. e.te Kn - Py : ἔνθεν
109. e.te.do.mo Kn - Py : ἔντες + δόμος
110. e.te.wa [/wa.no /o ] Kn - Py : Ἐτέϕας, -αινώι, -αων
111. e.te.wa.tu.wo Kn : Ἐτεϕάστως

112. e.te.wa.yo [/yo.yo ]	Py : 'Ετεφαίος, -οιο
113. e.te.we	Py : 'Εντήφει
114. e.te.wo.ke.re.we.i.yo	Py : 'Ετεφοκλέφειος
115. e.ti.me.de.i	Py : 'Εντιμήδει
116. e.ti.ra.wo [/wo.yo ]	Py : 'Εντιλάφος, 'Ερτιλάφος, -οι, -οιο
117. e.ti.we	Py : έρτιφεν?, cf., έρτης
118. e.to	Py : έστον
119. e.to.ki.ya	Py : έντοιχια
120. e.to.mo.yo	Py : 'Ετοίμοιο
121. e.to.wo.ko [/ko.i ]	Kη - Py : έντόφοργοι
122. e.u.da.i.ta	Kη : Εύδαίτας
123. e.u.da.mo	Kη - Th : Εύδαμος, Εύδαίμων
124. e.u.de.we.ro	Py : Εύδειφέλος
125. e.u.do.no	Py : Εϋ- + ?
126. e.u.ka.no	Py : Εϋ- + ?
127. e.u.ka.ro	Py : Εϋκαλος
128. e.u.ke.to [+qe ]	Py : εϋχετοι + -q"ε
129. e.u.ko.me.no	Kη - Py : Εϋχόμενος
130. e.u.ko.ro	Kη : Εϋκολος, Εϋχορος, Εϋκλος
131. e.u.me.de [/de.i ]	Py : Εϋμήδης, -δει
132. e.u.me.ne	Py : Εϋμένης
133. e.u.me.ta	Kη : Εϋμήτας
134. e.u.na.wo	Kη : Εϋναφος
135. e.u.o.mo.[	Kη : Εϋορμος
136. e.u.po.ro [/ro.wo +qe ]	Kη - Py : Εϋπορος, Εϋφορος, Εϋπωλος, -οφος, + -q"ε
137. e.u.ru.da.mo	Kη : Εϋρύδαμος
138. e.u.ru.po.to.re.mo.yo	Kη - Py : Εϋρυπτολέμοιο
139. e.u.ru.qo.ta	Kη : Εϋρυq"όντας, Εϋρυq"οίτας
140. e.u.ru.wo.ta	Py : Εϋρφώτας, cf., Εϋρώτας
141. e.u.ta.re.wo	Py : Εϋθαλήφος
142. e.u.to.ro.qo	Py : Εϋτροq"ος, cf., Εϋτροπος
143. e.u.wa.ko.ro	Py : Εϋάγορος, Εϋαγρος
144. e.u.wa.re	Py : Εϋαρης
145. e.u.we.to [/to.ro ]	Py : Εϋήτωρ, Εϋέστωρ, -τορος

146. e.wa.ko.ro Kη - Th : Εὐάγορος, Εὔαγρος  
 147. e.we.pe.se.so.me.na My : εὐεπσησόμενα  
 148. e.wi.ri.po [/pi.ya ] Py : Εὔριπος, Εὐρίπαι  
 149. e.wi.su.zo.ko Kη : ἐΨισυ- + ?  
 150. e.wi.su.\*79.ko Py : cf., e-wi-su-zo-ko

**I [B28]**

1. i.do.me.ne.ya Py : Ἰδομένεια  
 2. i.do.me.ni.yo Py : Ἰδομενίωι  
 3. i.e.[/ye].re.u [/ya ] Kη - Py : ἱερεύς, ἱέρεια, -ας  
 4. i.ke.ta Kη : Ἰκέτας  
 5. i.mi.ri.yo Kη : Ἰμριος  
 6. i.pe.me.de.ya [+qe ] Py : Ἰφεμέδειαι + -q<sup>ε</sup>  
 7. i.po.no Kη : cf., ἱπνός  
 8. i.po.po.qo [+qe ] Py : ἱπποφόρ<sup>ο</sup>οι + -q<sup>ε</sup>, cf., ἱπποφορβός  
 9. i.qa.ro Kη : Ἰq<sup>α</sup>αλος, cf., Ἰπαλος  
 10. i.qe.ya Py : ἰq<sup>ε</sup>ειαι, cf., ἰππειος  
 11. i.qo [/qo.yo /qi.ya /yo ] Kη - Py : ἰq<sup>ο</sup>οι, -οιο, -ια, -αι, -ιω, cf., ἵππος  
 12. i.qo.e.qe Kη : ἰq<sup>ο</sup>- + ?  
 13. i.su.ku.wo.do.to Kη : Ἰσχυόδοτος  
 14. i.te.u Kη : Ἰστεύς  
 15. i.te.we Py : ἰστή<sup>φ</sup>ει  
 16. i.te.ya.o Py : ἰσταιάων, cf., ἰστός  
 17. i.to.we.sa Py : ἰστό<sup>φ</sup>εσσα  
 18. i.wa.ka [/ka.o ] Kη - Py : Ἰ<sup>φ</sup>άχας, -αο  
 19. i.wa.ko Kη : Ἰ<sup>φ</sup>άκ[κ]χος  
 20. i.wa.si.yo.ta Py : Ἰ<sup>φ</sup>ασιώται  
 21. i.wa.so Py : Ἰ<sup>φ</sup>άσοι  
 22. i.wa.so Py : Ἰ<sup>φ</sup>ασος  
 23. i.ya.te Py : ἰατέρ  
 24. i.ya.wo.ne Kη : Ἰά<sup>φ</sup>ονει, Ἰά<sup>φ</sup>ονες  
 25. i.ye.re.wi.yo Kη : ἱερή<sup>φ</sup>ιος, ἱερή<sup>φ</sup>ιον  
 26. i.ye.re.wo Py : ἱερή<sup>φ</sup>ος  
 27. i.ye.ro [/ro.yo ] Kη - Py : ἱερόν, -οιο

28. i.ye.ro	Kn : 'Ιέρων
29. i.ye.ro.wo.ko	Py : ιεροφόργος
30. i.ye.si [/.to +.qe ]	Py : ιένσι, ιέντο + -q"ε
31. i.yo [/.yo.te ]	Kn - Py - My : ιόντες
32. i.yo [/.ye.we ]	Py - My : ιός, ιέφει
33. i.*65	Py : ιύς
34. i.za.a.to.mo.i	Py : ιτσα-? + άρθμοί

**O [B61]**

1. o.ha	Py : ὦ 'α, cf., o-da-a2
2. o.da.ha	Py : ὦ δ[ε]αα
3. o.da.ke.[/.ku /.tu].we.[/.twe.]ta	Kn : ὀδάκ <sup>w</sup> εντα, ὀδάτ <sup>w</sup> εντα
4. o.ka	Py : ὀρχά, ὄλκας
5. o.ka	Py : ὀχά
6. o.ka.ri.yo	Py : Οἰχάλιος
7. o.ke.te.u	Py : 'Οχετεύς
8. o.ko.me.ne.u	Py : 'Ορχομενεύς
9. o.ku	Kn : *Ωκυς
10. o.ku.ka	Py : *Ογυγας, -αι
11. o.ku.na.wo	Kn : 'Ωκύναφος
12. o.mi.ri.yo.i	Kn : 'Ομρίοι, cf., 'Ομβρίοις
13. o.mo.pi	Kn : οἴμοφι
14. o.na.se.u	Kn - Py : 'Ονασεύς
15. o.na.te.re	Py : ὀνατήρες
16. o.na.to [/.ta ]	Py : ὄνατον, ὄνατα
17. o.ne.u	Kn : 'Ορνεύς
18. o.ni.ti.ya.pi	Py : ὀρنيθίαφι
19. o.no [/.na ]	Kn - Py - My : ὄνον, ὄνοι, ὄνα
20. o.no.ka.ra	Py : *Ονο + καράρει
21. o.pa.wo.ta	Kn - Py : ὀπί + ἀφόρτα
22. o.pe.ra.no [/.no.re /.ro ]	Py - My : 'Οφελάνωρ, -ρει, -ρος
23. o.pe.re.ta	Py : 'Οφελέστας
24. o.pe.ro	Kn - Py - My : ὄφελος

25. o.pe.ro2 [/ro.ta /te /si /sa +.de ] Py : ὀφήλων, ὀφήλοντα, ὀφήλοντες,  
ὀφηλόνσι, ὀφηλόνσα + -δε
26. o.pe.ta Kn : Ὀφέλτας
27. o.pi Kn - Py : ὀπί
28. o.pi.ha.ra Py : ὀπίαλα
29. o.pi.da.mi.yo Py : ὀπιδάμιοι
30. o.pi.de.se.mo Py : ὀπιδέσμοι
31. o.pi.i.ya.pi Kn : ὀπί-ιάφι
32. o.pi.ka.pe.e.we [+ .qe ] Py : ὀπί- + ?, + -q<sup>ε</sup>
33. o.pi.ke.re.mi.ni.ya [/ya.pi ] Py : ὀπικελέμνιανος
34. o.pi.ke.ri.yo [+ .de ] Py : Ὀπισχέριον + -δε
35. o.pi.ko.ru.si.ya Kn : ὀπικορύσια
36. o.pi.ko.wo Py : cf., e-pi-ko-wo
37. o.pi.me.ne Py : ὀπί μήνει
38. o.pi.ra3.te.re Py : ὀπिरαιστήρες
39. o.pi.ri.mi.ni.yo Kn : Ὀπιλίμνιος
40. o.pi.ro.qo Py : ὀπίλοι<sup>ο</sup>ι, -ων, cf., ἐπίλοιπος
41. o.pi.si.yo Kn - Py : Ὀψιος
42. o.pi.su.ko [+ .qe ] Py : ὀπισύκοι + -q<sup>ε</sup>
43. o.pi.te.e.ke.e.we Py : ὀπιτευχεή<sup>ε</sup>ες, -η<sup>ε</sup>ει
44. o.pi.tu.ra.yo Py : Ὀπιθυραίοι
45. o.po.qo Kn : ὀπώ<sup>ο</sup>ω, -οι, cf., πρόσωπον
46. o.po.ro My : ὦ ὄφλον
47. o.po.ro.me.no Py : Ὀπλόμενος
48. o.qa [/qa.wo.ni ] Py : Ὀq<sup>ο</sup>ας, -α<sup>ο</sup>νι, cf., Ὀπας
49. o.re.ha [/e.wo ] Py : Ὀρέας, -η<sup>ο</sup>ς
50. o.re.i Kn : ὄρει
51. o.re.ne.a [/ya /o ] Kn : ὠλένεια, ὠλενέω
52. o.re.ta Py : Ὀρέστας
53. o.ro.me.no Py : [ὀπί] ὀρόμενος
54. o.ru.ma.to Py : cf., Ἐρύμανθος
55. o.ta.ki My : Οἰτάλκι
56. o.te Py : ὄτε
57. o.ti.na.wo Py : Ὀρτινά<sup>ο</sup>ς

58. o.to.[/tu.].wo.[/two.].we [/we.i /o ] Py : 'Ορθόφως, -φει, -φος  
 59. o.to.wo.wi.ye Py : 'Ορθο- + ?  
 60. o.u [+ .qe ] Kn - Py : ού + -q<sup>ε</sup>  
 61. o.u.ki Kn : ούχι, ούκις, cf., ούτις  
 62. o.wi.de.ta.i Py : όφιδέρται  
 63. o.wi.ro Kn : 'Οφίλος  
 64. o.wo.we Py : οίφώφης, όφόφενς

**U [B10]**

1. u.de Th : υίδε  
 2. u.do [/do.ro ] Kn - Py : ύδωρ, ύδροι  
 3. u.pa.[/po.].ra.ki.ri.ya Py : cf., 'Υπεράκρια  
 4. u.po Kn - Py : ύπό  
 5. u.po.we Kn : ύποφέστης  
 6. u.ra.yo Kn : 'Υλαίος, 'Υραίος  
 7. u.re.u Py : 'Υλ[λ]εύς  
 8. u.ru.to Py : [ώ] φρύντοι, cf., ρύσθαι  
 9. u.wa.mi.ya Py : 'Υάμια  
 10. u.wa.ta Kn - Py : 'Υάτας, 'Υάντας  
 11. u.wo.qe.we Kn : ύ[F]οq<sup>η</sup>φες

**DA [B01]**

1. da.i.qo.ta Kn : Δαιq<sup>ο</sup>όντας, cf., Δηφόντης  
 2. da.i.ya.ke.re.u Py : δαιαγρεύς  
 3. da.ko.ro [/ro.i ] Py : δάκορω, -ροι, -ροι, cf., ζάκορος  
 4. da.ma.o.te [ Kn : δαμάοντες  
 5. da.ma.te Py : cf., δάμαρ-  
 6. da.mi.ni.ya [/yo ] Py : Δάμνια, Δάμνιοι  
 7. da.mi.yo Py : δάμιον  
 8. da.mo Kn - Py : δάμος, -ωι  
 9. da.mo.ke.re.we.i Py : Δαμοκλέφει  
 10. da.na.yo Kn : Δαναίος  
 11. da.ra.mu.ro Kn : Δραμύλος  
 12. da.sa.to Py : δασάτο

13. da.so.mo	Py : δασμός
14. da.to.ro	Kn : Δαίτρος
15. da.wa.no	Kn : ΔΨάνος
<b>DE [B45]</b>	
1. de.de.me.na [/.no ]	Kn - Py : δεδεμένοι, -α, -ω
2. ] de.di.[.da.].ku.ya	Kn : δεδιδαχυία[ι]
3. de.do.me.na	Kn : δεδόμενα
4. de.ka.sa.to	Kn - Py : δέξατο
5. de.ke.se.u	Kn : Δεξεύς, Δερξεύς
6. de.ki.si.wo [/.wo.yo ]	Kn - Py : ΔεξιΨώι, -οιο
7. de.ko.to [/.to.yo ]	Kn - Py : Δέκτος, -οιο
8. de.ma.si	Kn : Δέρμασι
9. de.me.o.te	Py : δεμέοντες
10. de.mi.ni.yo [/.ya ]	Py - My : δέμνιο, -ια
11. de.re.u.ko	Kn : δλεύκος
12. de.so.mo	Kn : δέσμοις
13. de.u.ka.ri.yo	Py : Δευκαλίων
14. de.u.ki.yo [+ .qe ]	My : Δεύκιος, Δευκίων + -q <sup>u</sup> e
15. de.we.ra	Kn : ΔΨείλας
16. de.we.ro	Py : ΔΨείλος
17. de.we.ro.ai.ko.ra.i.ya	Py : Δεῦρο + Αιγόλιαα

**DI [B07]**

1. di.da.ka.re	Kn : διδασκαλεί
2. di.do.si [/.to ]	Kn - Py : διδόνσι, [ού] διδότοι
3. di.du.mo	Kn - My : Διδυμώι
4. di.nu.wa.ta	Py : cf., Δινύττας
5. di.pa	Kn - My : δίπας
6. di.pi.si.ye.wi.yo	Py : cf., di-pi-si-yo
7. di.pi.si.yo.i	Py : Διψίοι
8. di.pt.e.ra [/.ra3 ]	Py : δίφθερα, -ραι
9. di.pt.e.ra.po.ro	Kn - Py : διφθεράφορος, -ρωι
10. di.u.[/.wi.].ya	Kn - Py : ΔίΨιας, ΔίΨιαι

11. di.u.yo [/.ya.yo + .qe]	Py : Δίφιον, Διφιαίον + -q <sup>u</sup> e
12. di.wa.yo	Kn : Διφαίος ?
13. di.we [/.wo ]	Kn - Py : Δίφει, Δίφος
14. di.wi.ya.ta	Py : ΔιF- + ?
15. di.wi.ya.wo	Kn - Py - Th : ΔιFάFων
16. di.wi.ye.u [/.we ]	Py : Διφιεύς, -ηφει
17. di.wi.ye.ya	Kn : ΔιF- + ?
18. di.wi.yo [/.yo.yo + .de ]	Kn - Py : Δίφιον, -οιο + -δε
19. di.wo	Kn - Py : ΔίFων
20. di.wo.nu.so [/.so.yo ]	Py : ΔιFόνυσος, -οιο
21. di.zo	Kn : Δίτσος, -οι
22. di.*65.pa.ta	Kn : Διυφάντας

**DO [B14]**

1. do.e.ra [/.ro /.ro.i /.yo ]	Kn - Py : δόελα, -αι, δόελος, -οι, -οιι, -οιο
2. do.ke	Py : δώκε
3. do.po.ta	Py : δοσπόται
4. do.ra [+ .qe ]	Py : δώρα + -q <sup>u</sup> e
5. do.ri.ka.no	Kn : Δολιχάνωρ
6. do.ri.ka.o	Kn - Py : Δολιχάων
7. do.ri.ye.we	Py : Δωρήφει
8. do.ro.me.u	Py : Δρομεύς
9. do.se [/.so.si ]	Py : δώσει, δωσόνσι
10. do.si.mi.yo [/.ya + .qe ]	Py - My : δόσμιος, -ιαι, + -q <sup>u</sup> e
11. do.so.mo	Py : δόσμος, -ον
12. do.wa	Kn : δόρφα
13. do.we.yo [+ .qe ]	Kn - Py : δορφείος, -οι, + -q <sup>u</sup> e

**DU [B51]**

1. du.ri	Kn : Δύρις
2. du.ru.to.mo	Py : δρυτόμοι
3. du.wo.u.pi	Py : δφούφι ?, δφοιύμφι ?
4. du.wo.u.pi.de	Py : δύο- + ?
5. du.wo.yo [/.yo.yo ]	Py : Δφοιός, -οιο



**KA [B77]**

1. ka.a.ra.pi	P <sub>y</sub> : κραάπφι, καραάπφι
2. ka.da.no	K <sub>n</sub> : Καδάνωρ
3. ka.e.sa.me.no [/no.yo]	P <sub>y</sub> - Th : Καεσάμενος, -οιο
4. ka.e.se.u [/we ]	P <sub>y</sub> - M <sub>y</sub> : Καεσεύς, -η <sub>φ</sub> ει
5. ka.ka.re.a	K <sub>n</sub> : χαλκάρεα
6. ka.ka.po	P <sub>y</sub> : Κάκκαβος
7. ka.ke.u [/wi /we /u.si]	K <sub>n</sub> - P <sub>y</sub> - M <sub>y</sub> : χαλκεύς, -η <sub>φ</sub> ι, -η <sub>φ</sub> ες, -εύσι
8. ka.ke.u	P <sub>y</sub> : Χαλκεύς
9. ka.ki.yo [/ke.ya.pi ]	K <sub>n</sub> : χαλκίω, χαλκείαφι
10. ka.ko	P <sub>y</sub> : χαλκός, -οι
11. ka.ko.de.ta	K <sub>n</sub> : χαλκόδετα
12. ka.ma [/ma.e ]	K <sub>n</sub> - P <sub>y</sub> : χάμαι
13. ka.ma.e.u [/we ]	P <sub>y</sub> : χάμαι + -εύς, -η <sub>φ</sub> ει, -η <sub>φ</sub> ες
14. ka.ma.ti.yo.yo	Th : Χαρμαντιόιο
15. ka.mo.ni.yo	K <sub>n</sub> : Σκαμώνιος
16. ka.na.pe.u [/we /wo /u.si ]	P <sub>y</sub> - M <sub>y</sub> : κναφεύς, -η <sub>φ</sub> ει, -η <sub>φ</sub> ος, -ευσι
17. ka.na.to	M <sub>y</sub> : γνάθοι
18. ka.ne.ya	P <sub>y</sub> : κάνεια
19. ka.ni.to	K <sub>n</sub> : Κάνιθος
20. ka.nu.se.u	K <sub>n</sub> : Γανυσεύς
21. ka.pa.ri.yo [/yo.ne ]	K <sub>n</sub> : Καρπαλίων, -ει
22. ka.pa.si.ya	P <sub>y</sub> : Καρπάσια
23. ka.pa.ti.ya	P <sub>y</sub> : Καρπάθια
24. ka.pi.ni.ya	P <sub>y</sub> : καπνίας
25. ka.po	K <sub>n</sub> : κάρποι [ἔλαι <sub>φ</sub> ας]
26. ka.pte	K <sub>n</sub> : Σκαπτήρ
27. ka.ra.do.ro {+ .de }	P <sub>y</sub> : Χάραδρος, Χαράδρω, + -δε
28. ka.ra.ko [	P <sub>y</sub> : γλάχων
29. ka.ra.ma.to	K <sub>n</sub> : κλασμάτων
30. ka.ra.na.ta	K <sub>n</sub> : Κρανατάς
31. ka.ra.pi	P <sub>y</sub> : Κράμβις
32. ka.ra.re.we	K <sub>n</sub> - P <sub>y</sub> : χλαρή <sub>φ</sub> ες
33. ka.ra.te.ra	M <sub>y</sub> : κρατήρα

34. ka.ra.to	My : κάλαθος
35. ka.ra.u.ko	Pγ - My : Γλαύκος
36. ka.ra.u.ro	Pγ : Κάλαυρος
37. ka.ra.u.ya	My : Κλαΐας
38. ka.ra.we	Kη : γράφες
39. ka.ra.wi.ko	Pγ : Κλαΐσκος
40. ka.ra.wi.po.ro [/.ro.yo]	Pγ : κλαΐφόρος, -οιο
41. ka.ri.se.u	Kη - Pγ - My : Χαρισεύς
42. ka.ri.si.yo	Pγ : Χαρίσιος
43. ka.ro	Pγ : καιρός, cf., καιροσέων
44. ka.ro.qo	Kη - Pγ - My : Χάροq <sup>ο</sup> , Χάροq <sup>ς</sup> , cf., Χάροπος, Χάροψ
45. ka.ru.ke	Pγ : κάρυκει, cf., κήρυξ
46. ka.ru.we [/.pi + .qe ]	Pγ : καρύει, + -φι, + -q <sup>ε</sup> , cf., κάρυον
47. ka.sa.to	Kη - Pγ - My : Ξάνθος, -ωι
48. ka.si.ko.no	Kη - Pγ : κασι- + ?
49. ka.so	Pγ : Κάσος
50. ka.ta.no	Pγ : Κατάνωρ
51. ka.ta.ro	Kη - My : Κάθαρος
52. ka.ta.wa	Pγ : ΚάταρΦαι ?
53. ka.ta.wo	Kη : ΚάταρΦος
54. ka.te.u	Kη : Καστεύς
55. ka.to [/.to.ro ]	Kη : Κάστωρ, -ρος
56. ka.tu.ro2 [/.re.wi.ya.i ]	Kη - Pγ : κανθυλίων, κανθυλήΦιαι
57. ka.u.no	Th : Χαύνος
58. ka.wa.do.ro	Pγ : ΚάλΦανδρος
59. ka.wo	Kη : καλΦός
60. ka.zo.e	Pγ : katsoes, cf., κακός

**KE [B44]**

1. ke.do.yo	Pγ : κερδώιος, κερδοίο
2. ke.i.ya.ka.ra.na	Pγ : cf., ke-e + κράνα, cf., κρήνη
3. ke.ka.u.me.no	Pγ : κεκαυμένος

4. ke.ke.me.na [/na.o /no /no.yo ] Kn - Py : κεκεσεμένα, -νας, -ναι, -νάων, -νω,  
-νοιο
5. ke.ku.ro Kn - Py : Κερκυλώι
6. ke.ma.ta Kn : κέρματα
7. ke.me.u Kn : Κελμεύς
8. ke.ni.qa [/qe.te.we ] Kn - My : χέρνιϑς, χέρνιϑα, χερνιϑτήϑες, cf.,  
χέρνιψ, χέρνιβον
9. ke.ra [/ra.a /e ] Kn - Py : κέρας, κέραα, κέραε
10. ke.ra Py : γέρας
11. ke.ra.[i].ya.pi Kn : κεραιάφι
12. ke.ra.me.u [/we /wi /wo ] Py - My : κεραμεύς, -ηϑε, -ηϑι, -ηϑος
13. ke.ra.me.ya Kn : Κεράμεια
14. ke.ra.no [+ .qe ] Kn : Κέλαινος + -ϑε
15. ke.ra.so My : Κεράσω
16. ke.re Kn : Κρής
17. ke.re.ha Py : σκέλεα
18. ke.re.no Py : Γερήνος
19. ke.re.si.yo.we.ke Py : κρησιοϑέρϑης
20. ke.re.te.u Py : Κρηθεύς
21. ke.re.wa Kn : Κλέϑας
22. ke.ro Py : Γέρων, Χείλων
23. ke.ro.ke.re.we.o Py : Χηροκλέϑεος
24. ke.ro.si.ya Py : γερόνσια
25. ke.ro.ta Kn : γέροντα
26. ke.ro.te Kn : γέροντες
27. ke.ro.u.te.u Py : Κελουθεύς
28. ke.ro.wo [/wo.yo ] Py : Κερόϑος, -οιο
29. ke.sa.da.ra Py : Κεσσάνδρα
30. ke.sa.do.ro [/ro.yo ] Kn : Κέσσανδρος, -οιο
31. ke.sa.me.no Py : Κεσσάμενος
32. ke.se.ne.[/nu.].wi.ya [/yo] Kn - Py : ξένϑια, ξένϑιον
33. ke.se.nu.wo Py : Ξένϑων
34. ke.u.po.da [/da.o ] Kn - Py : χευσπόνδας

**KI [B67]**

- |                           |  |
|---------------------------|--|
| 1. ki.e.[/.ye.]u [/.wo ]  | Py : Χιεύς, -εΨο                             |
| 2. ki.ni.di.ya [/.ya.o ]  | Py : Κνιδίαι, -αων                           |
| 3. ki.nu.ra               | Py : Κίνυρας                                 |
| 4. ki.ra [+ .qe ]         | My : γίλα + -q <sup>h</sup> ε, cf., νεογιλός |
| 5. ki.ri.ya.[/.ra2.].i.yo | Kn - Py : Κιλ[λ]αίος, Κιρ[ρ]αίος             |
| 6. ki.ri.ko               | Kn : Κρίκος                                  |
| 7. ki.ri.se.we            | Py : χρισήΨες                                |
| 8. ki.ri.ta               | Kn : χριστά                                  |
| 9. ki.ri.ta               | Py : κρίθαν[ς]                               |
| 10. ki.ri.ti.yo.yo        | Py : Κριθιοίο                                |
| 11. ki.ri.*82.yo          | Py : ΚρισΨαίος                               |
| 12. ki.ti.me.na           | Kn - Py : κτίμενα, -ας, -αι                  |
| 13. ki.ti.ta              | Py : κτιάν, -ται                             |
| 14. ki.ti.ye.si           | Py : κτιένσι                                 |
| 15. ki.to [/.to.na /.ne ] | Kn : χιτών, χιτώνας, -ες                     |
| 16. ki.to.pi              | Kn : χιτώμφι                                 |
| 17. ki.u.ro.i             | Py : κιωρούι, cf., κίουρος                   |
| 18. ki.wo [+ .qe ]        | Py : κίΨων + -q <sup>h</sup> ε               |
| 19. ki.wo.na [+ .de ]     | Py : ΚιΨώνα + -δε                            |

**KO [B70]**

- |                                  |   |
|----------------------------------|---|
| 1. ko.do.ro                      | Py : Κόδρος                             |
| 2. ko.[.i.]no                    | Py - My : σχοίνος                       |
| 3. ko.ka.ro                      | Py : Κώκαλος                            |
| 4. ko.ki.re.ya                   | Py : κονχίλεια                          |
| 5. ko.ki.yo                      | Py : Κοκκίων                            |
| 6. ko.ku                         | Kn : Κόκκυξ                             |
| 7. ko.ku.ro                      | Kn : Γονγύλος                           |
| 8. ko.ma.ta                      | My : Κόματα                             |
| 9. ko.ma.we [/.we.ta /.te /.to ] | Kn - Py : ΚομάΨενς, -νται, -ντει, -ντος |
| 10. ko.na [/.no ]                | Py : κοινάς                             |
| 11. ko.no.ni.pi                  | Kn - Py : κονόνιφι                      |
| 12. ko.o.ke.ne [/.ne.i ]         | My : Κοογένης, -ει                      |

13. ko.pe.re.u [/.we /.wo ] Kη - Py : Κοπρεύς, -ηΨε, -ηΨος
14. ko.re.te [/.te.re /.ri /.ri.yo ] Kη - Py : ? + -τηρ, -τηρες, -τηρει, -τηρι, -τηριος, -ον
15. ko.ri.si.ya Py : Κορίνσια
16. ko.ri.to [/.si.yo ] Py : Κόρινθος, Κορίνσιοι
17. ko.ri.yo Kη : Σκόλιος
18. ko.ro Kη - Py : Χοίρος, Χώλος
19. ko.ro Py : χωρών
20. ko.ro.no.we.sa Py : κορωνόΨεσσα
21. ko.ro.to Kη - My : χρώστος
22. ko.ro.yo.wo.wi.ya Py : Χωροίο + -ΨόρΨια
23. ko.ru [+ .pi + .qe ] Kη - Py : κόρυς, κορύπφι, + -q<sup>u</sup>ε
24. ko.ru.da.ro.yo Py : Κορυδαλλοίο
25. ko.ru.ta.ta Py : Κορυθάται
26. ko.ru.to Kη : Κόρυθος
27. ko.ru.to Py : κορύθος, cf., κόρυς
28. ko.so.u.to [+ .qe ] Kη - Py : Ξούθος + -q<sup>u</sup>ε
29. ko.te.ri.ya Py : χω[σ]στήρια[ι]
30. ko.to Kη : Κώθων
31. ko.to.[i].na [/.na.o /.no /.ne.ta /.we ] Kη - Py : κτοίνα, -αν, -ανς, -αων, -ω, -εται, -ηΨε
32. ko.to.no.o.ko [+ .de ] Py : κτοινόχας, -ον + -δε
33. ko.tu.ro2 [/.ro2.ne ] Py - Th : Κοτυλίων, -νει
34. ko.tu.we [/.wo ] Py : Γορτύει, -ος
35. ko.wi.ro.wo.ko Kη : κοΨιλοΨόργος
36. ko.wo [/.wa ] Kη - Py : κόρΨος, -ω, -οι, -ωι, κόρΨα, -αι
37. ko.wo Py : κώΨος

**KU [B81]**

1. ku.da.yo [+ .qe ] Kη : Κυδαίος, Χυδαίος + -q<sup>u</sup>ε
2. ku.do Kη : Κύδων
3. ku.ka My : Γύγαι
4. ku.ka.ro Kη : Κύκαλος
5. ku.ke.re.u Py : Κυκλεύς

6. ku.mo.no	Kn : Γυμνώτι
7. ku.na.ke.ta.i	Pγ : κυναγέται
8. ku.na.ya	Pγ : γύναια
9. ku.ne	Mγ : Κύνης
10. ku.ne.u	Kn : Κυνεύς
11. ku.pa.ro [/ro2 /ro.we]	Kn - Pγ : κύπαιρος, -ον
12. ku.pe.se.ro	Kn : Κύψελος
13. ku.pi.ri.yo	Kn - Pγ : Κυπρίος
14. ku.ra.no	Kn : Κύλλανος, Κυράνωρ
15. ku.ro2 [/ro2.yo ]	Kn - Pγ : Κύριος, -ωι, -οιο
16. ku.ru.ka	Kn : Γλύκας
17. ku.ru.me.no [/no.yo /ni.yo ]	Kn - Pγ - Th : Κλυμένος, -οιο, -ιος
18. ku.ru.so [/so.yo /sa.pi ]	Kn - Pγ : χρυσός, -ωι, -ω, -οις, -οιο, χρυσάφι
19. ku.ru.so.wo.ko	Pγ : χρυσοφόρτοι
20. ku.ru.su.pa3	Kn : χρυσ- + ?
21. ku.sa.me.ni.yo	Pγ : Κυσσαμένιος
22. ku.su	Kn : ξύν
23. ku.su.pa [/pa.[pa3].ta ]	Kn - Pγ : ξύμπαν, ξύμπαντα
24. ku.su.to.ro.qa	Kn - Pγ : ξύνστροφα, cf., συστροφή
25. ku.ta.[i.i].si.yo	Kn : Κυταίσιος
26. ku.te.ra3 [/ra.o ]	Pγ : Κυθήραι, Κυθηράων
27. ku.te.re.u	Pγ : Κυθηρεύς
28. ku.te.ro	Kn : Κύθηρος
29. ku.te.so [/se.yo [/ya ]	Pγ : κύτεσος, -ειος, -οις, -εια
30. ku.wa.no [/ni.yo + .qe]	Pγ : κυφάνωι, κυφανίοις +-q <sup>e</sup>
31. ku.wa.no.wo.ko.i	Mγ : κυφανοφόρτοι

**MA [B80]**

1. ma.ka.ta	Pγ : Μαχάτας
2. ma.ka.wo	Pγ : Μαχάφων
3. ma.ma.ro	Kn - Pγ : Μάρμαρος
4. ma.na.si.we.ko	Pγ : Μνασιφέρτος
5. ma.ni.ko	Pγ : Μάνιχος
6. ma.no	Mγ : Μάνω

7. ma.ra.me.na [	P <sub>y</sub> : Μαλάμενα
8. ma.ra.ni.yo	P <sub>y</sub> : Μαλάνιος
9. ma.ra.pi	P <sub>y</sub> : μαλάφι
10. ma.ra.pi.yo	K <sub>n</sub> : Μαράφιος
11. ma.ra.tu.wo	M <sub>y</sub> : μάραθρον
12. ma.ra3.wa	P <sub>y</sub> : Μαρραίφα
13. ma.re.wo	P <sub>y</sub> : Μαλ[λ]ήφος
14. ma.ri.ta	P <sub>y</sub> : Μαλίτας
15. ma.ro [+ .pi ]	P <sub>y</sub> : Μαλώμφι
16. ma.ta.ko	P <sub>y</sub> : Μάλθακος
17. ma.te [/.te.re + .de ]	P <sub>y</sub> : ματήρ, μάτρει, + -δε
18. ma.ti.ko	K <sub>n</sub> : Μάτιχος, Μάντισκος
19. ma.to.ru.pu.ro	P <sub>y</sub> : Ματρόπυλος

**ME [B13]**

1. me.de.i.yo	K <sub>n</sub> : Μήδειος
2. me.ka.o	P <sub>y</sub> : Μεγάο
3. me.ki.ta	K <sub>n</sub> : μέγιστα
4. me.ki.to.ki.ri.ta	P <sub>y</sub> : Μεγιστόκριτα
5. me.na [/.no ]	K <sub>n</sub> - P <sub>y</sub> : μήνα, -ος
6. me.no.e.ya	P <sub>y</sub> : μηνόεια
7. me.nu.ha [/.wa ]	K <sub>n</sub> - P <sub>y</sub> : cf., Μινύαι
8. me.ra.to	P <sub>y</sub> : Μέλανθος
9. me.re.ti.ri.ya [/.ra2 /ra2.o ]	P <sub>y</sub> : μελέτριαι, -αιον
10. me.re.u	P <sub>y</sub> : Μηλεύς
11. me.re.u.ro	P <sub>y</sub> : μέλευρον
12. me.ri.da.[.du.].ma.te [/.si ]	K <sub>n</sub> - P <sub>y</sub> : μελιδαμάρτε, μελιδυμάρτε, -ες
13. me.ri.te.wo	P <sub>y</sub> : μελιτήφος
14. me.ri [/.ri.to /ti.yo ]	K <sub>n</sub> - P <sub>y</sub> : μέλι, -τος, -ιος
15. me.ri.wa.ta	K <sub>n</sub> - P <sub>y</sub> : Μελίφατας
16. me.sa.po	P <sub>y</sub> : Μέσσαπος
17. me.sa.to [/.ta ]	K <sub>n</sub> : μεσ[σ]άτο, -αι
18. me.ta [+ .qe ]	P <sub>y</sub> : μετά + -q <sup>e</sup>
19. me.ta.ka.wa	P <sub>y</sub> : Μετακάλφαι

20. me.ta.ke.ku.me.na Kη : μετακεχυμένα  
 21. me.ta.ki.ti.ta Py : μετακίται  
 22. me.ta.no [/no.re ] Kη - Py : Μετάνωρ, -ρει  
 23. me.ta.pa [/pi.yo + .de ] Py : Μέταπα, + -δε, Μετάπιοι  
 24. ] me.ta.ra.wo [ Kη : Μεταλάφος  
 25. me.te.we Py : Μεθήφει, Μητήφει  
 26. me.ti.ya.no [/no.ro ] Kη - Py : Μεστιάνωρ, Μετιάνωρ, -ανορος  
 27. me.to.qe.u Py : Μετωρ<sup>ε</sup>εύς, cf., Μέτωπος  
 28. me.tu.ro Kη : Μεθύλλος  
 29. me.u.[/wi].yo [/yo.e /ha ] Kη - Py : μείφιος, μείφιοες, μείφιοα, cf., μείων  
 30. me.za.na [/ne ] Py : cf., Μεσσάνα  
 31. me.za.wo [/wo.ni ] Kη - Py : Medzáφων, -ονι, cf., μέγας  
 32. me.zo [/zo.ha /e ] Kη - Py : μέδζος, μέδζοα, μέδζοε, -οες, cf., μείζων

**MI [B73]**

1. mi.ka.ri.yo [/yo.yo ] Py : Μικκάλιος, -οιο  
 2. mi.ka.ta Py : μικτάς, -ται  
 3. mi.ra Py : Σμίλα  
 4. mi.ra.ti.ya [/ya.o ] Py : Μιλατίαι, -αων  
 5. mi.to.we.sa [/sa.e ] Kη - Py : μιλτοφέσσα, -αι, μιλτοφέσσα[ι]+εν  
 6. mi.ya.ro Kη : cf., μαιίνω

**MO [B15]**

1. mo.re.u Py : Μωλεύς  
 2. mo.ri.wo Py : Μολίφων  
 3. mo.ri.wo.do Kη : μόλιφδος, cf., μόλιβος  
 4. mo.ro.qa Kη - Py : μο[ι]ροqq<sup>α</sup>άς  
 5. mo.ro.qo.ro [/ro.yo ] Py : Μολογ<sup>α</sup>ρώι, -οιο, χφ., Μολοβρός

**MU [B23]**

1. mu.ko Py : Μύκων, Μύσχων  
 2. mu.te.we Py : Μυρτήφει  
 3. mu.ti.ri Py : Μύρτιλις  
 4. mu.ti.ri.ko Py : Μυστιλίσκος



5. mu.to.na Py : Μύρτωνας

6. mu.yo.me.no Py : μυιομένωι

### NA [B06]

1. na.pu.ti.yo Kn - Py : Ναπύυτιος

2. na.si.yo Kn : Νάσιος

3. na.u.do.mo Kn - Py : ναυδόμοι

4. na.u.si.ke.re.we Kn : Ναυσικλέφης

5. na.wi.ro Kn : Νάφιλος

6. na.wi.yo Py : νάφιον

### NE [B24]

1. ne.de.wa.ta [/.ta.o ] Py : Νεδφάτας, -ταο

2. ne.do.wo.ta [/.te +.de] Py : Νεδφόντα, -τει, + -δε

3. ne.e.ra.wo Py : Νεελάφωι, cf., Νηλεύς

4. ne.ki.ri.de [/.si ] Kn : cf., νεκρός

5. ne.ri.to Py : Νεριτώι

6. ne.ti.ya.no [/.no.re ] Py : Νεστιάνωρ, -ρει

7. ne.wo [/.wo.yo /.wa ] Kn - Py - My - Th : νέφος, -οι, -ον, -οι, -οιο, -α, -αι

8. ne.wo.ki.to Py : Νέφο- + ?

9. ne.wo.pe.o Py : Νέφο- + ?

### NO [B52]

1. no.e.u Py : Νοεύς

2. no.pe.re.ha [/.e ] Py : νωφέλεα, -εε

3. no.ri.wo.ko [/.ko.yo /.ki.de] Py - Th : ? + -φόργοι

### PA [B03]

1. pa.di.yo Kn : Πανδίων

2. pa.ka.a.ka.ri Py : Παγά ~ Αχαρις

3. pa.ka.na Kn : φάσγανα

4. pa.ke.te.re [/.ri.ya ] Py - My : πακτήρες, -ια

5. pa.ke.we Kn : παχέφες, cf., παχύς

6. pa.ki.ya.ne [/.na /.pi /.si /.ni.ya /.yo /.yo.yo +.de ] Py : ? + -άνες, -άνα, -άμφι,  
-άνσι, -άνια, -άνιος, -ανιοίο, + -δε
7. pa.ko.to Py : φάκτω
8. pa.ko.we Py : σφακόφεν
9. pa.ma.ko Py : φάρμακον
10. pa.na.ki My : Φαινάκι, cf., Φαίναξ
11. pa.na.pi Py : Φανάφι
12. pa.na.re.yo Kn - Py : Πανάρειος, -ωι
13. pa.pa.ro Kn - Py : Βάρβαρος, Πάρπαρος
14. pa.pa.yo Py : Παμφαίος
15. pa.qo.si.yo [/.yo.yo ] Kn - Py : Πανγ<sup>ω</sup>σίος, -οιο, cf., Παμβωτάδα
16. pa.qo.ta Py : Πανγ<sup>ω</sup>τάς
17. pa.ra.ke.se.we Py : Πραξήφει
18. pa.ra.ke.te.e.u [/.we ] Py : πράξε- ?
19. pa.ra.ko Kn - Py : Πλάκος, Φαλαίκος, -ωι
20. pa.ra.ti.yo Kn : Παλλαντιώι
21. pa.ra.to Kn : Πλάτων
22. pa.ra.wa.yo Kn - Py : παραφαίω, cf., παρειαί
23. pa.ra.ya [/.yo ] Kn - Py - Th : παλαιά, -αί, -ιοί
24. pa.re Kn : Φάλες
25. pa.ro Kn - Py - My : πάρο
26. pa.ro.ke.ne.to Py : [οὐ] πάρο γένετο
27. pa.sa [/.si /.ta /.te /.to ] Kn - Py : πάνσα, -ι, πάντα, -ες, -ος
28. pa.sa.ko.me.no Kn : Ψακόμενος
29. pa.sa.ro Py : ψάλω
30. pa.si Py : φάσι
31. pa.ta Py : Φάνται
32. pa.ta.ya [/.yo.i ] Kn - Py : παλταία, παλταίοι
33. pa.te [+ .de ] Kn - Py : πατήρ + -δε
34. pa.wo [/.we.a /.ha /.o /.pi /.si ] Kn - My : φάρφος, -εα, -εων, -φι
35. pa.wo.ke [/.ko + .qe ] Py : πανφόργες, πανφόργων + -q<sup>ε</sup>
36. pa.ya.wo.ne Kn : Παιαφόνει, cf., Παιήων

**PE [B72]**

1. pe.da	Kn : πέδα [Fǎστυ]
2. pe.da.i.ye.ro [	Kn : πέδα ιερόν
3. pe.de.we.se	Pγ : πέδFεσσα
4. pe.di.ra [/ro /ro.i ]	Pγ : πέδιλα, πεδίλων, πεδίλοι
5. pe.di.ye.[/e].we	Pγ : πεδιήFες, cf., Πεδιείς
6. pe.di.ye.wi.ya	Pγ : πεδιήFιαι ?
7. pe.i	Pγ : σφεί?, σφείς ?
8. pe.ke.u	My : Σπερχεύς
9. pe.ki.ti.ra2 [/ra2.o ]	Pγ : πεκτρία, -αιάων
10. pe.ko	Pγ : περκός, cf., περκνός
11. pe.ma [/mo ]	Kn - Pγ : σπέρμα, -ο
12. pe.ne.we.ta [/te ]	Kn : σφηνFέντα, σφηνFέντε, cf., σφηνόπους
13. pe.pi.te.me.no.yo	Th : Πεπιθμενοίο
14. pe.po.ro	Kn - Pγ : Πέπλος
15. pe.qa.to	Kn : πεgg <sup>u</sup> άτον, cf., *ped - g <sup>u</sup> aton
16. pe.[/ra3.].ra.[.a.].ko.ra.i.ya [/yo ]	Pγ : Περαιγολαία
17. pe.ra3.qo	Pγ : Περαg <sup>u</sup> οί, cf., Περαιβοί
18. pe.re	Kn - Pγ : φέρει
19. pe.re.ke.u [/we ]	Pγ - My : πλεκεύς, -ηFες, -ηFει
20. pe.re.ku.ta	Pγ : πρεσγύτας
21. pe.re.ku.wa.na.ka	Pγ : ΠρεσγυFάναξ
22. pe.re.o.ro.na [+ .de ]	Pγ : Πλεύρωνα +—δε
23. pe.re.qo.no [/no.[/ni.].yo]	Pγ : Πρεσg <sup>u</sup> ώνος ?, -οιο
24. pe.re.qo.ta	Kn - Pγ : Πηλεg <sup>u</sup> όντας, -ται
25. pe.re.u.ro.ni.yo	Pγ : Πλευρώνιος
26. pe.re.wo.te	Pγ : ΦρηFότει, ΦλειFόντει
27. pe.re.*82 [/.*82.yo ]	Pγ : ΠρέσFαι, -αιωι
28. pe.ri.ke	My : πέλικες
29. pe.ri.ke.we	My : ΠερικλέFης
30. pe.ri.me.de [/de.o ]	Pγ : Περιμήδης, -εος
31. pe.ri.mo	Kn - Pγ : Πέρμιος
32. pe.ri.no	Pγ : Πέρινος
33. pe.ri.qo.ta [/ta.o ]	Pγ : Περιg <sup>u</sup> ώτας, -ταο, cf., Περιβωτάδας

34. pe.ri.ra.wo	Ry : Περιλάφος
35. pe.ri.ro.qo	Kn : περίλοιποι, cf., περίλοιπος
36. pe.ri.ta	Kn : Περίτας
37. pe.ri.te.u	Kn - Ry : Περιθεύς
38. pe.ri.to.wo	Kn : Πειρίθοφος
39. pe.ro [+ .qe ]	Kn : Πέλλων, Φέλλος + -q <sup>ε</sup>
40. pe.ru.si.nu.wa [/.nwa /.nwa.o /.wo ]	Kn - Ry - My : περυσίνφαι, -φα, -φαων, -φον
41. pe.se.ro [/.ro.yo ]	Kn - My : Ψέλλος, -οιο
42. pe.ta.o.ni.yo	Th : Πεταόνιος
43. pe.ta.ro	Ry : Πέταλος
44. pe.te.re.wa	Kn : πετέφα
45. pe.to.no [/.ni.yo + .de]	Ry : Πέθνος, -οιοι, + -δε
46. pe.*65.ka	Ry : πεύκη

**PI [B39]**

1. pi.ha.[/.ye.]ra [/.ra3 ]	Ry : φιάλαι, φιέλαι
2. pi.ke.re.u [/.we /.wo ]	Ry : Πικρεύς, -ηφει, -ηφος
3. pi.ra.ka.ra	Kn : Φίλαγρα
4. pi.ra.ka.wo [+ .qe ]	Kn : Φιλαχαίφος + -q <sup>ε</sup>
5. pi.ra.ki [/.ki.yo ]	Kn - My : Φίλαγος
6. pi.ra.me.no	Kn - Ry : Φιλάμενος
7. pi.ra.yo	Ry : Φιλαίος
8. pi.re.ta	Ry : Φιλήται
9. pi.ri.no	Kn : Φιλίνος
10. pi.ri.sa.ta	Kn : Φιλίστας
11. pi.ri.ta	Ry : Φιλίστα
12. pi.ri.ta.wo [/.wo.no ]	Ry : Βριθάφων, Πλινθάφων, -ονος
13. pi.ri.to.yo	Kn : Φιλιστοίο
14. pi.ri.ya.me.ya	Ry : Πριαμείας
15. pi.ri.ya.o	Ry : φλιάων, cf., φλιαί
16. pi.ri.[/.e.]ye [/.ye.te ..te.re /.si ]	Kn - Ry : πριετήρ, -τηρε, -τηρσι
17. pi.ro.i.ta	Kn : Φιλοίτας
18. pi.ro.ka.te	Ry : Φιλοκάρτης
19. pi.ro.na	Ry : Φίλωνα

20. pi.ro.ne.ta	Ry : Φιλωνήτας
21. pi.ro.pa.ta.ra	Ry : Φιλοπάτρα
22. pi.ro.pe.se.wa	Th : Φιλοπήΐαι, Φιλοπεισέΐαι, cf., Πεισέας
23. pi.ro.qa.wo	Kn : Φιλο[q]q <sup>a</sup> ΐων, cf., Φιλοκτήμων
24. pi.ro.qo.[	Ry : Φιλο- + ?
25. pi.ro.te.ko.to	Ry : Φιλοτέκτων
26. pi.ro.we.ka	Ry : Φιλοΐέργος
27. pi.ro.wo.na	Ry : Φιλοΐώνα
28. pi.sa.wa.ta	Kn : Πισΐάτας
29. pi.ta.ke.u	Ry : Πιθακεύς
30. pi.ti.ro2.we.sa	Ry : πιτι[ι]οΐέσσα, cf., πτίλον
31. pi.we.ri.de	My : Πιΐεριδι, cf., Πιερίδες
32. pi.we.ri.ya.ta	Ry : Πιΐερίάτας
33. pi.*82 [+ .de ]	Ry : Πίΐΐα[ν] + -δε

**PO [B11]**

1. po.da.ko [+ .qe ]	Kn : Πόδαργος + -q <sup>a</sup> ε
2. po.de	Ry : πόδει
3. po.i.te.u	Kn : Φοιτεύς ?
4. po.i.ti.yo	Kn : Φοίτιος
5. po.ka	Kn : πόκαι
6. po.ka.ta.ma	Ry : πός + κτάμα, cf., κτήμα
7. po.ke.we	Ry : Φωκήΐει, cf., Φωκεύς
8. po.ke.wi.ya [/ya.i ]	Ry : φοργ <sup>a</sup> είαι, -είαι, cf., φορβεία
9. po.ki.ro.nu.ka	Kn : ποικιλόνυχα
10. po.ki.ro.qo	Ry : Ποικιλόq <sup>a</sup> ος ?
11. po.ku.ta [/te.ro ]	Kn - Ry : πος ? + -χύτας
12. po.ma.ko	Ry : Ποίμαρχος, -αγος
13. po.ma.no.ri	Kn : Ποιμάνορι
14. po.me	Kn : Ποιμήν
15. po.me [/me.ne /no ]	Kn - Ry : ποιμήν, -νει, -νος
16. po.mi.ni.yo	Kn : Ποιμνίων, Ποιμνίος
17. po.ni.ke [/ke.a /ki.ya /yo /pi + .qe ]	Kn - Ry : φοινίκει, -εα, -ια, -αι, -ιον, -φι, + -q <sup>a</sup> ε

18. po.ni.ke.ya [ Kη : Φοινικείαι
19. po.no.qa.ta Kη - Ρy : Πο[ρ]νοqάται, cf., Πάρνοψ
20. po.pi Ρy : πόπι, cf., \*ποδ + -φι
21. po.pu.ro [/.re.ya /.yo ] Kη : πορφυριώ, -είαι, -είοι
22. po.qa Ρy - Th : φοργά, cf., φορβή
23. po.qa.te.u Ρy : φοιgαστεύς
24. po.ri.ko Ρy : Πόλιχος, Πόλισκος
25. po.ri.wa Kη : πολιFά, cf., πολιός
26. po.ri.wo Kη : ΠολίFος
27. po.ro Kη : Πώλος
28. po.ro Kη : πωλώ
29. po.ro.[/.ru.].du.ma.te Ρy : προ-, cf., du-ma
30. po.ro.e.ke.te.ri.ya Ρy : προελκτήρια
31. po.ro.ko.wa [/.wo ] Kη - My : προχοFά, προχοFοί, cf., προχολή, πρόχοος
32. po.ro.qa.ta.yo Ρy : cf., Προσπάλα
33. po.ro.te.ke My : προθήκε
34. po.ro.te.u Ρy : Πρωτεύς
35. po.ro.to Kη : Πρώτος
36. po.ro.u.te.u [/.we /.wo] Kη - Ρy : Πλουτεύς, -ηFει, -ηFος
37. po.ro.wi.to [/.to.yo ] Ρy : ΠλωFίστος, -οιο
38. po.ru.da.si.yo Kη - Ρy : Πολυδαίσιος
39. po.ru.e.ro Ρy : Πολυ + ?
40. po.ru.ka.to Kη : Πολύκαστος
41. po.ru.po.de [+ .qe ] Ρy : πολυπόδει + -qε
42. po.ru.qo.ta Ρy : Πολυqόντας, cf., Πολυφόντης
43. po.ru.qo.to Kη : Πολυgότος
44. po.ru.te.we Kη : Πολυ- + ?
45. po.ru.to Ρy : Πολυ- + ?
46. po.ru.we.wo Ρy : Πολυ- + ?
47. po.se.da.o [/.o.no /.ne /.ni ] Kη -Ρy : Ποσειδάων, -ωνος, -ονει, -ονι
48. po.si Kη : πόσι
49. po.si.da.e.ya Ρy : Ποσιδάειαι
50. po.si.da.i.ye.u.si Ρy : Ποσιδαιεύσι
51. po.si.da.i.yo [ +.de ] Ρy : Ποσιδαίον +- δε

52. po.si.ke.te.re	Ry : πός + ικ[ε]τήρες
53. po.so.pe.re.i	Ry : Ποσοφέλει
54. po.so.re.ya	Ry : Ψόλεια
55. po.so.ri.yo [/yo.no ]	Ry : Ψολίων, -ονος
56. po.so.ro	Ry : Ψόλων
57. po.te.u [/te.wo ]	Ry : Ποντεύς, Φοιτεύς, -ηφος
58. po.ti.ni.ya	Kn - Ry - Th - My : Πότνια, -ιας, -ιαί
59. po.ti.ni.ya.[/wi.].we.[.i.].yo [/yo.yo /ya ]	Kn - Ry : Ποτνιαφείος, -ιος, -οιο, -ια
60. po.ti.pi [+ .qe ]	Ry : πορτίφι + -q <sup>e</sup> , cf., πόρτις
61. po.to [/ti.yo ]	Kn : Πόντος, -ιος
62. po.to.re.ma.ta	Ry : Πτολεμάτας, -ται
63. po.to.ri.ka.ta	Kn : Πτολικάσται, Πτολιχται
64. po.to.ri.yo	Kn : Πτολίων

**PTE [B62]**

1. pte.no	Kn : πτέρνω
2. pte.re.wa	Kn : πετέφας

**PU [B50]**

1. pu.ka.ti.ri.ya	Kn - My : πυκταλίαι
2. pu.ka.wo	Ry : πυρκάφοι, cf., πυρκαεύς
3. pu.ko.so	Ry : πύξος
4. pu.ko.wo	Ry : Πυρκόφος
5. pu.ra.ko [	Kn : Φύλακος
6. pu.ra.so	Kn : Πύρασος
7. pu.ra.ta [/ta.o ]	Ry : Πυλάτας, Πυλάρτας, -ταο
8. pu.ra.u.to.ro	Ry : πυραύστρω
9. pu.re.wa	Kn : Φυλέφας
10. pu.ri	Kn : Πύρις
11. pu.ro [/ro.yo ]	Ry : Πύλος, -οιο
12. pu.ta	Kn : φυτά
13. pu.ta.[/te.].ri.ya	Kn : φυτάλια, -ιαν
14. pu.te	Kn : φυτήρ
15. pu.te.u	Ry : Πυθεύς, Φυτεύς

16. pu.ti.ya Py : Πυθίας  
 17. pu.wa Kn : Πύρφα  
 18. pu.wa.ne Py : Πυρφάνες  
 19. pu.wi.no Py : Πυρφίνος, -οι  
 20. pu.wo Kn - Py - My : Πύρφος, Πύρσφος

**PU2 [B29]**

1. pu2.ra2.a.ke.re.u [/.ki.ri.yo ] Py : Φυλίας Ἴαγρεύς, -ιος  
 2. pu2.re.wa Th : Φυλήφαι  
 3. pu2.ru.da.ro Kn : Φλύδαρος  
 4. pu2.si.ya.ko Py : Φυσίαρχος  
 5. pu2.te.re Kn - Py : φυτήρες  
 6. pu2.ti.ya Py : Φυτίας, Φυθίας  
 7. pu2.to Kn : Φύθος

**QA [B16]**

1. qa.da.ro Kn : Q<sup>α</sup>άνδαρος, cf., Πάνδαρος  
 2. qa.da.so Kn : Q<sup>α</sup>άδαςος, cf., Πήδαςος  
 3. qa.me.[/.mi.].si.yo Kn : Q<sup>α</sup>αμέσιος, Q<sup>α</sup>αμίσιος, cf., Πάμισος  
 4. qa.nu.wa.so Kn : Q<sup>α</sup>ανφάσος, cf., Πανύασος  
 5. qa.ra.to.ro Py : σφ<sup>α</sup>άλαθρον, cf., σπάλαθρον  
 6. qa.ra2 [/.ra2.te /.to + .de] Py - Th : Q<sup>α</sup>άλλανς, Q<sup>α</sup>αλίας, + -q<sup>ε</sup>, cf., Πάλλαντος, Φαλίας  
 7. qa.ra2.ti.yo Kn : Q<sup>α</sup>αλλάντιος  
 8. qa.si.re.u [/.wi.yo.te ] Py - Th : g<sup>α</sup>ασιλεύς, g<sup>α</sup>ασιληφόντες, cf., βασιλεύς  
 9. qa.si.re.wi.ya Kn - Py : g<sup>α</sup>ασιλήφια

**QE [B78]**

1. qe.qi.no.to [/.me.na /.no] Py : g<sup>ε</sup>εg<sup>ι</sup>ινώτοι ?, g<sup>ε</sup>εg<sup>ι</sup>ινώμενα ?, -οι, cf., δινέω, δινωτός  
 2. qe.ra.di.ri.yo Kn : Q<sup>η</sup>ηλάνδριος, cf., Τηλάνδριος  
 3. qe.ra.si.yo [/.ya ] Kn : cf., Θήρα  
 4. qe.ra.yo Kn : Q<sup>η</sup>ηραίος, cf., Θηραίος  
 5. qe.re.ma.o Kn - Py : Q<sup>η</sup>ηλέμαος, cf., \*Τηλέμαος



6. qe.re.me.ne.u	Py : Q <sup>u</sup> ηλεμενεύς, Q <sup>u</sup> ρενεύς, cf., Τηλεμενεύς, Πρεμενεύς
7. qe.re.qo.ta.o	Py : Q <sup>u</sup> ηλεq <sup>u</sup> όνταο, cf., Τηλεφόντας
8. qe.re.ti.ri.yo	Py : Q <sup>u</sup> [ε]λεθρίω ?, cf., πέλεθρον, πλέθρον, βλήτρον
9. qe.re.wa [/wa.o ]	Kn - Py : Q <sup>u</sup> ηλέφας, -αος, cf., Τελέας
10. qe.ri.yo	Kn : Q <sup>u</sup> ηρίων, cf., Θηρίων
11. qe.ro	Kn : Q <sup>u</sup> ήρων, cf., Θήρων
12. ] qe.ro.me.no	Py : Q <sup>u</sup> ελόμενος, cf., Πελόμενος
13. qe.ro2	Kn : σq <sup>u</sup> έλιον, -ω, cf., σπέλ(λ)ιον = ψέλιον
14. qe.ta.ra.ye.u	Py : Q <sup>u</sup> ετραιεύς ?, cf., τετρα- ?
15. qe.te.o [/yo /a /ha ]	Kn - Py : q <sup>u</sup> ειτείος ?, cf., τίνω ?
16. qe.te.re.u	Py : Q <sup>u</sup> ετρεύς, cf., τετρα- ?
17. qe.te.se.u	Kn : Q <sup>u</sup> θεισεύς, cf., Φθεισήνωρ
18. qe.to.ro.po.pi	Py : q <sup>u</sup> ετρόποπι, cf., τετράποδα
19. qe.to.ro.we	Py : Q <sup>u</sup> ετρόφης, cf., ti.ri.yo.we
20. qe.ya.me.no	Py : q <sup>u</sup> ειάμενος ?, cf., θειάμενος

**QI [B21]**

1. qi.ri.ya.to	Kn : q <sup>u</sup> ρίατο, cf., πρίατο
2. qi.si.pe.e	Py : q <sup>u</sup> σίφεε, cf., ξίφος
3. qi.wo	Th : cf., Βίον

**QO [B32]**

1. ] qo.i.na [	Kn : q <sup>u</sup> οινά, cf., ποινή
2. qo.o	Py : g <sup>u</sup> ώνς, cf., βοῦς
3. qo.qo.ta.o	Py : g <sup>u</sup> og <sup>u</sup> οτάο, -τάων
4. qo.u.ka.ra	Py : g <sup>u</sup> ουκάρα[ς]
5. qo.u.ko.ro [/ro.yo ]	Py : g <sup>u</sup> ουκόλοι, -οιο, cf., βουκόλος
6. qo.u.qo.ta	Kn : G <sup>u</sup> ουg <sup>u</sup> όται, cf., Βουβότας
7. qo.wa.ke.se.u [	Kn : G <sup>u</sup> οφαξεύς

**RA [B60]**

1. ra.e.ya	Py : λαεία ?, cf., λᾶας
2. ra.ke	Py : λάχε, -ει

3. ra.ke.da.no [/.no.re ]	My : Λακεδάνωρ, -ανόρει
4. ra.ma.ni.yo	Pγ : Λάμνιος
5. ra.pa.do	Pγ : Λαμπαδών
6. ra.pa.sa.ko [/.ko.yo ]	Pγ : Λαμψάκωι, -οιο
7. ra.pa.to	Κη : λαπατώ
8. ra.pi.ti.ra2	Pγ : ράπτριαι
9. ra.ptē [/.pte.re /.si ]	Κη - Pγ : ράπτῆρ, ραπτῆρες, ραπτῆρσι
10. ra.ptē.ri.ya	Pγ : ράπτῆριαι
11. ra.qi.ti.ra2 [/.ra2.o ]	Pγ : λαϑ <sup>τ</sup> ρίαι, cf., λάζομαι
12. ra.u.ra.ta	Κη : Λαυράτας
13. ra.u.ra.ti.ya [/.yo ]	Pγ : Λαυρανθίας, -ιος
14. ra.wa.ke.ta [/.si.ya /.yo /.yo.yo ]	Κη - Pγ : λαΨαγέτας, -ται, -σιος, -ον
15. ra.wa.ra.ta [/.ta2 /.ti.ya /.yo ]	Pγ : Λαυρανθίας
16. ra.wi.ya.ya [/.ya.o ]	Pγ : λαΨιαίαι, -αων, cf., ληϊάδες
17. ra.wo.do.ko	Pγ : ΛαΨοδόκος
18. ra.wo.ke.ta	Κη - Pγ : ΛαΨόσχετας
19. ra.wo.po.qo	Κη : ΛαΨόφοργ <sup>ο</sup> ς, cf., Λεώφορβος
20. ra.wo.qo.no [/.no.yo ]	Κη : ΛαΨοϑ <sup>ο</sup> νός, -οιο, cf., Λαοφόνος
21. ra.wo.qo.ta	Pγ : ΛαΨοϑ <sup>ο</sup> ντάς

**RE [B27]**

1. re.ka	Pγ : Λέσχα
2. re.ke.[.e].to.ro.te.ri.yo	Pγ : λεχεστρωτήριον
3. re.pi.ri.yo	Pγ : Λέπριος
4. re.po.to	Κη : λεπτόν
5. re.qo.me.no	Κη : λειϑ <sup>ο</sup> μένοι, cf., λείπονται
6. re.qo.na.to.mo	Pγ : ? + -τομος
7. re.u.ka.so	Pγ : Λευκάσωι
8. re.u.ka.ta	Κη : Λευκάτας
9. re.u.ka.ta.ra.ya [	Pγ : Λευκτραία
10. re.u.ko [/.ka ]	Κη - Pγ - My : λεύκος, -ω, -α, -αι
11. re.u.ko [/.ko.yo ]	Pγ - Th - My : Λεύκος, -ωι, -οιο
12. re.u.ko.nu.ka	Κη : λευκόνυχα
13. re.u.ko.ro.o.pu2.ru	Pγ : Λευκοόφρυς

14. re.u.ko.to.ro	Py : Λεύκτρον
15. re.wo	Kn : Λέφων
16. re.wo.pi [+ .qe ]	Py : λεφόμφι + -q <sup>e</sup>
17. re.wo.te.yo [/re.yo ]	Py : λεφοντείοις, λεφοτρείω
18. re.wo.to.ro.ko.wo	Py : λεφοτροχόφοι, -ων, cf., λοετροχός

**RI [B53]**

1. ri.me.ne	Py : λιμένει
2. ri.na.ko.ro	Py : λινάγορος, λινάγοροι
3. ri.ne.ya [/ya.o ]	Py : λινείαι, -αων
4. ri.no	Kn - Py : λίνον
5. ri.pa.ro	Kn : Λίπαρος, Λιπάρων
6. ri.sa.pi	Py : Λισσάφι
7. ri.ta	Kn : λίτα
8. ri.yo [+ .de ]	Py : 'Ρίον + -δε

**RO [B02]**

1. ro.i.ko	Py : ροϊσκό ?
2. ro.u.si.ye.wi.ya	Py : Λουσιήφιαι
3. ro.u.so [/si.yo ]	Py : Λούσος, -ιος
4. ro.wo	Py : cf., ρέω

**RU [B26]**

1. ru.ke.wo.wo.wi.ya	Py : Λυνκήφος + φόρφια
2. ru.ki.ya [/yo ]	Py : Λυκίας, -ιος
3. ru.ko	Py : Λύκος, Λύκων
4. ru.ko.ro [/ro.yo ]	Py : Λύγρος, -ιοι
5. ru.ko.wo.[/u.].ro	Py : Λυκοφόρος
6. ru.na.so	Kn : Λύρνασος
7. ru.ro	Kn - Py : Λύρος
8. ru.si	Kn : Λύσις

**SA [B31]**

1. sa.ka.re.u [/we /wo]	Py : Σανγαρεύς, -ηφει, -ηφος
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2. sa.mu.ta.yo	Kn - Py - My : Σαμυθαῖος
3. sa.ni.yo	Py : Σαννίων
4. sa.pa.ka.te.ri.ya	Kn : σφακτήρια
5. sa.pi.de	Py - My : σάρπιδες
6. sa.ra.pe.da [/.do ]	Py : -πεδα, -ον
7. sa.ri.no.[/.nu.].wo.te	Py : ΣαλινΨόντει
8. sa.sa.ma	Kn : σάσαμα
9. sa.u.ri.yo	Kn : Σαύριος

**SE [B09]**

1. se.re.mo.ka.ra.a.pi [/.o.re]	Py : σειλημοκ[α]ράφι
2. se.ri.na.te	Kn : Σελινάτας
3. se.ri.no	My : σέλινον

**SI [B41]**

1. si.ha.ro	Py : σίαλινος
2. si.da.yo	Kn : Σιδαῖος
3. si.ma	Py : Σίμα
4. si.mi.te.u	Kn : Σμινθεύς
5. si.mo	Py : Σίμος, Σίμων
6. si.ra.no	Py : Σιλανός
7. si.ri.yo [/.yo.yo ]	Py : Σίριος, -οιο
8. si.to	My : σίτος, -ων, -οι
9. si.to.ko.wo	Py : σιτοχόφοι, -οι
10. si.to.po.qo	Kn : σιτοπόκος, cf., a.si.to.po.qo

**SU [B58]**

1. su.ko	Py : σύκων
2. su.qo.ta [/.ta.o ]	Py : συγ <sup>α</sup> ώτας, -αων, cf., συβώτης
3. su.ra.se	Py : συλάσει, cf., συλάω
4. su.ra.te	Py : συλατήρ
5. su.za	Kn - Py : σύτσει, cf., συκέα

**TA [B59]**

1. ta.de.so	Kn - Th : Τάρδησος
2. ta.mi.ye.u	Pγ : Ταμιεύς
3. ta.na.wa	Pγ : ταναΨάς ?, cf., ταναός
4. ta.na.wo	Kn : ΤανάΨος
5. ta.pa.e.o.te	Kn : τάρφα + ἔοντες, cf., ταρφέες
6. ta.ra.ke.wi.yo	Pγ : ΤραχεΨίος
7. ta.ra.ma.ta [/.ta.o ]	Pγ : Θαλαμάτας, -αι, -αο
8. ta.ra.mi.ka	Pγ : Θαλαμικά, -ισκα
9. ta.ra.nu [/.nu.we ]	Kn - Pγ : θρανύς, θρανύες
10. ta.ra.sa.ta	Kn : Θαλασσάτας
11. ta.ra.si.ya	Kn - Pγ - Mγ : ταλάσια, -αν
12. ta.ra.[/.ra2.].to	Pγ : Στράτων
13. ta.re.u [/.wa ]	Pγ : Θαλεύς, -εΨαι
14. ta.ta.ke.u	Pγ : Σταρταγεύς
15. ta.ta.ro	Kn - Pγ : Τάνταλος, -οι
16. ta.te.re	Pγ : στατήρες
17. ta.ti.qo.we.u [/.wo ]	Pγ : Στατιγ <sup>u</sup> οΨεύς, -ηΨος, cf., Στήσιππος
18. ta.to.mo	Kn - Pγ : σταθμός
19. ta.u.ro	Kn : Ταύρος

**TE [B04]**

1. te.i.ya	Pγ : θείαι
2. te.ke	Pγ : θήκε, cf., τίθημι
3. te.ko.to.ne	Kn - Pγ : τέκτονες
4. te.me.no	Pγ : τέμενος
5. te.mi	Kn : τέρμις
6. te.mi.de.[/.dwe.].we [/.we.te /.ta ]	Kn - Pγ : τερμιδ <sup>w</sup> έν, τερμιδ <sup>w</sup> έντε, -τα, cf., τερμιόεις
7. te.mi.ro	Kn : Τέρμιλος
8. te.mi.ti.ya [/.yo ]	Pγ : Θεμίστια, -ιοι
9. te.o [/.o.i /.yo ]	Kn - Pγ : θεόν, θεοί, θεοίο
10. te.o.do.ra [+qe ]	Mγ : Θεοδώρα + -q <sup>u</sup> e
11. te.o.po.ri.ya	Kn : Θεοφόρια

12. te.pa [/.pa.i ]	Kn - My : cf., τάπης
13. te.pe.u	Pu : Τερπεύς
14. te.qa [+ .de ]	My : Θηγ <sup>α</sup> άνς + -δε, cf., Θήβαι
15. te.qa.ya	Kn - Pu : Θηγ <sup>α</sup> αία, cf., Θηβαίος
16. te.ra.po.ti [/.si.yo ]	Kn : Θεραπόντι, -σιος
17. te.ra.wo [/.wo.ne ]	Pu - My : Τελάφων, -νει, cf., Τελέων
18. te.re.ta [/.ta.o ]	Kn - Pu : τελεστάς, -ται, -ταο
19. te.re.ya [/.ya.e ]	Pu : τελεία ?, τελειάεν ?
20. te.re.ya.wo	Kn : Τελειάφων
21. te.se.u	Pu : Θησεύς
22. te.te.re.u	Pu : Τερθρεύς
23. te.tu.ko.wo.a [/.ha ]	Kn - Pu : τετυχ <sup>φ</sup> όα, cf., τεύχω, τετευχώς
24. te.u.ke.pi	Pu : τευχέσφι, cf., τεύχεα

**TI [B37]**

1. ti.mi.ti.ya	Pu : Θιμίστιας
2. ti.mi.to.a.ke.e	Pu : cf., Θμίστος + ἄγκος
3. ti.qa.yo [/.yo.yo ]	Kn - Pu : Θισγ <sup>α</sup> αίος, -οιο, cf., Θίσβη
4. ti.ra	Kn : τίλαι, cf., τίλλω
5. ti.ri.o.[/.yo.].we [/.we.e]	Pu : τριώφες, -εε
6. ti.ri.po [/.po.de ]	Pu : τρίπος, τρίποδε
7. ti.ri.po.di.ko	My : τριπόδισκοι
8. ti.ri.po.di.ko	Pu : Τριποδισκώι
9. ti.ri.se.ro.e	Pu : Τρισηρόει
10. ti.ri.to	Kn : Τρίτος, Τρίτων
11. ti.ri.yo.qa	Kn : Τριόγ <sup>α</sup> ας, cf., Τριόπας

**TO [B05]**

1. to.i [/.yo /e + .qe]	Pu : τουι, τοίο, + -q <sup>ε</sup>
2. to.ke.u	Pu : Στοιχεύς
3. to.ko	Kn : τόκος
4. to.ko.do.mo	Pu : τοιχοδόμοι
5. to.ko.so.ta	Kn : τοξότας
6. to.ko.so.wo.ko	Pu : τοξοφόργοι

7. to.ma.ko Kη : Στόμαργος
8. to.na.ta Kη : Θοινάτας
9. to.no Py : θόρνος, cf., θρόνος
10. to.no [+ .qe ] Kη : Θοίνος + -q<sup>u</sup>e
11. to.no.e.ke.te.ri.yo Py : θόρνο + έκτήριον
12. to.pa Py : τόρπας, cf., τάρπη
13. to.pe.za [/zo ] Kη - Py : τόρπεδα, -ω, cf., τράπεζα
14. to.qi.da.so Py : Τορq<sup>u</sup>ιδάσωι
15. to.qi.de [/de.ya /yo +.we.sa ] Py : τορq<sup>u</sup>ίδει, -εια, -ειω, + -Fεσσα, cf., τρέπω
16. to.ra.ke Py : θώρακες
17. to.ro Kη : Τρώς
18. to.ro.no.wo.ko Kη : θρονοFόργοι, -ωι
19. to.ro.o Py : Τρός
20. to.ro.qa [/qo ] Kη : τρόq<sup>u</sup>α, -ον, cf., τροφή
21. to.ro.qe.yo.me.no Py : τροq<sup>u</sup>ειόμενος, cf., τροπέω
22. to.ro.ya Py : Τρώια
23. to.sa [/so /so.yo +.ne +.de ] Kη - Py - My - Th : τόσ[σ]α, -αι, -ος, -ον, -οι, -οιο, + -νε, + -δε
24. to.si.ta Py : Θορσίτας
25. to.to Py : τότο [Fέτος]
26. to.u.ka Kη : cf., τεύχω
27. to.wa.no [/no.re ] Kη - Py : ΘοFάνωρ, ΘορFάνωρ, -ανόρει

**TU [B69]**

1. tu.da.ra Kη : Τύνδαρας
2. tu.ka.na Kη : Στύγνα
3. tu.ka.te [/te.re /ta.si +.qe ] My : θυγάτηρ, -τρει, -τάρσι, + -q<sup>u</sup>e
4. tu.ke.ne.u Py : Στυγνεύς
5. tu.ma.i.ta Kη : Θυμαίτας
6. tu.ma.ko Kη : cf., στύμα, στόμα
7. tu.qa.ni.ya.so Kη : cf., Τυ[μ]πανέαι
8. tu.ri.ya.ti Py : Θυριάτις
9. tu.ri.ya.yo Py : Θυριαίος
10. tu.ri.yo Kη - Py : Τύριος, Θυρίων

11. tu.ro2 Py : cf., τυρός  
 12. tu.ru.pe.[/.pte.].te.ri.ya Kn - Py : στρυπτηρία  
 13. tu.ru.we.u Py : Θρυεύς  
 14. tu.wo [/.we.a ] Py : θύος, -εα  
 15. tu.we.ta Py : Θύεσται  
 16. tu.wi.no [/.no.no ] Kn : ΤΨίνων, -ονος

**WA [B54]**

1. wa.de.o Py : Φαδέος, cf., 'Ηδέος  
 2. wa.do.me.no Py : Φαδομένωι, cf., ἥδομαι  
 3. wa.du.ri.yo Kn - Py : Φαδύλιος, cf., 'Ηδύλος  
 4. wa.ke.i.yo Kn : Φάχειος  
 5. wa.na.ka [/.ka.te /.ke.te /.te.ro /.ka.to ] Kn - Py - Th : Φάναξ, Φανάκτει, -τερος, -ον, -τος, cf., ἄναξ  
 6. wa.na.ta.yo [/.yo.yo ] Kn - Py : Φαρναταίος, -ωι, -οιο, cf., 'Αρναίος  
 7. wa.ni.ko Py : Φαρνίσκος, cf., 'Αρνίσκος  
 8. wa.no [/.no.yo + .qe ] Kn - Py : cf., \*Ένοψ + -q<sup>e</sup>  
 9. wa.pa.ro.yo Py : Φαπάλοιο, cf., 'Απαλός  
 10. wa.ra.wi.ta Kn : ΦραΨίστα ?  
 11. wa.tu Kn - Py : Φάστυ, cf., ἄστυ  
 12. wa.tu.o.ko Py : Φαστύοχος, cf., 'Αστυόχη  
 13. wa.tu.wa.o.ko Py : Φαστυάοχος ?

**WE [B75]**

1. we.a.[/.ya.].re.pe Py : ύ + ἀλειφές  
 2. we.a.[/.ha.].re.ya [/.yo] Py : ύάλεια, -ειος, cf., ύαλος  
 3. we.ha.no.i Py : Φεάνουι, cf., έανός  
 4. we.e.wi.ya Kn - Py : ύηΨίαι, cf., ύειος  
 5. we.i.we.sa My : ΥίΨέσσαι, cf., υιός  
 6. we.ka.di.yo Kn : Φεργάδιος, Φεκάδιος, cf., 'Εργάδεις  
 7. we.ka.ta [/.ta.e ] Kn : Φεργάται, Φεργάταιε, cf., έργατης  
 8. we.ke Py : cf., ke-re-si-yo-we-ke  
 9. we.ke.i.ya Kn : cf., έργασία  
 10. we.ke.se Kn : Φέξε, cf., Φέχω



11. we.pe.za	Py : Φέπεδα ?, Φέσπεδα ?
12. we.re.ke	Py : Φρέγες ?
13. we.re.ne.ya	Py : Φρήνεια, cf., ρήν
14. we.ru.ma.ta	Py : Φελύματα, cf., εϊλυμα
15. we.to	Py : Φέτος, cf., έτος
16. we.wa.da.ro	Kn : ΦερΦάνδρος ?
17. we.we.e.a	Kn - Py : ΦερΦέα, cf., έρεά
18. we.we.si.ye.ya [/ya.o ]	Py : ΦερΦεσειάι, -αων
19. we.we.si.yo [/yo.yo ]	Kn : ΦερΦέσιος, -οιο
20. we.ye.ke.a [/ha /e ]	Py : ύΦείκεα, ύΦείκεε, cf., ύ+ εικής
21. we.yo.we	Kn - Py : υιήΦες, cf., υιήν

**WI [B40]**

1. wi.da.yo	Kn : Φιδαίος, cf., 'Ιδαίος
2. wi.de	Py : Φίδε, cf., ίδε
3. wi.do.[/du./dwo.].wo.i.yo	Py : Φιδφοίος
4. wi.pi.no.o	Kn : Φιφίνοος, cf., 'Ιφίνοος
5. wi.pi.o	Kn : Φιφίων, cf., 'Ιφίων
6. wi.ri.ne.[/ni.].o [/yo ]	Kn : Φρινέω, -είω, -ιω
7. wi.ri.ne.we	Kn : ΦρινήΦει
8. wi.ri.no	Py : Φρίνοι, cf., ρήνός
9. wi.ri.ya.no	Py : Φριανός, cf., 'Ριανός
10. wi.ri.za	Kn - Py : Φρίδζα, cf., ρίζα
11. wi.ro	Kn : Φίλος, Φίρος, cf., 'Ιλος, 'Ιρος
12. wi.so.wo.pa.na	Py : Φισφο- + ?, cf., ίσος
13. wi.ti.mi.yo	Py : Φίσθμιος, cf., 'Ισθμος
14. wi.tu.ri.yo	Kn : Φιτύλιος, cf., 'Ιτυλος
15. wi.ya.da.ra	Py : Φιάνδρας, cf., 'Ιανειρα
16. wi.yo.qo.ta [/ta.o ]	Kn : Φιοq <sup>h</sup> όντας, -ταο, cf., 'Ιοφών

**WO [B42]**

1. wo.de.wi.yo [/yo.yo ]	Kn : ΦορδήΦιος, -οιο, cf., ρόδον
2. wo.di.ye.ya	Kn - Py - My : Φορδίεια
3. wo.di.yo	Kn - Py : Φόρδιος

4. wo.do.we Py : ΦορδόΦεν  
 5. wo.[i].ko [+ .de ] Kn - Th : Φοικίον + -δε, cf., οϊκόνδε  
 6. wo.ka Py : Φόχα, cf., ὄχα  
 7. wo.na.si Kn : Φοινάσσι, cf., οϊνάδες  
 8. wo.ne.wa Py : ΦορνέΦας, cf., \*Αρνειας  
 9. wo.ne.we Py : ΦορνεΦες, cf., ἄρνεια  
 10. wo.no Py : Φοίνος, cf., οϊνος  
 11. wo.no.qo.so Kn : Φοινόq"σος, cf., Οϊνοψ  
 12. wo.no.wa.ti.si Py : ΦοινοΦά[σ]τισι ?, cf., Οϊνόη  
 13. wo.ro.ma.ta Py : Φλώματα, cf., λώμα  
 14. wo.ro.ne.ya My : Φρόνεια cf., ἄρνεια  
 15. wo.ti.yo Kn - Py : Φόρθιος, cf., \*Ορθιος  
 16. wo.tu.ko [ Py : Φορτύγων, cf., 'Ορτύγων  
 17. wo.we.u Kn - Py : ΦορΦεύς, cf., wo.wo  
 18. wo.wi.ya Py : ΦόρΦια, cf., ὄρια  
 19. wo.wo Py : ΦόρΦος, cf., ὄρος  
 20. wo.yo Py : Φοίο, cf., οϊο  
 21. wo.ze [/ze.e /.zo /.zo.te] Py : Φόρdzei, -εεν, -ων, -όντες, -οντει, cf., ἔρδω, ρέζω  
 22. wo.zo.me.na [/no ] Kn : Φορdζόμενα, -ω

**YA [B57]**

1. ya.ke.te.re Py : cf., a-ke-te-re, a2-ke-te-re

**YO [B36]**

1. yo.qi Py : oqq"i = ὄ,τι

**ZA [B17]**

1. za.ku.si.ya [/yo ] Py - My : Dζακύνσια, -ιοι, cf., Ζάκυνθος  
 2. za.we.te [/te.ra ] Kn - Py : τσαΦέτες, τσαΦέστερα, cf., σήτες, τήτες

**ZE [B74]**

1. ze.pu2.ra3 [/ra.o ] Py : Dζέφυραι, -αων, cf., Ζεφυρία  
 2. ze.so.me.no Py : ζεσ[σ]όμενωι

3. ze.u.ke.si                      Py : dzeuγέσ[σ]ι, cf., ζευγος

4. ze.u.ke.u.si                    Py : dzeuγεύσι, cf., ζευγίται

### ZO [B20]

1. zo.a                                Kn: dzόα, cf., ζόη

2. zo.wi.yo                        Kn - Py : TsώFιος, DzώFιος, cf., ΣωFo-, ZωFo-

3. zo.wo                            Py : ZωFάς, ΣωFάς



## APPENDIX (II)

This appendix presents some 652 words from the Linear B archives at Knossos which are apparently of non-Greek origin, and which presumably represent a substratum of predominantly Minoan personal and place names. The primary sources used in the compilation of this index are the same as those listed in the preface to Appendix (I). Each sign-group is followed by an abbreviation designating the type of word it is : Mn = Man's name, Wn = Woman's name, Gd = name of divinity, Shr = name of Shrine, Pn = Place name, Eth = Ethnic Adjective, Adj = Adjective, Obj = name of object.



**A [B08]**

1. a.de.ra2	Wn
2. a.di.nwa.ta	Mn
3. a.e.da.do.ro	Mn
4. a.yu.ma.na.ke	Gd ?
5. a.ka	Pn
6. a.ka.de	Mn
7. a.ka.ta.ra.te.so	Pn ?
8. a.ke.e.to	Mn
9. a.ke.ra.no	Mn
10. a.ko.i.da	Mn
11. a.ku.na.i	Pn
12. a.ma.no	Mn ?
13. a.me.a	Mn
14. a.me.ya	Mn
15. a.me.ya.si	Mn
16. a.mi.ke.te.to	Mn ?
17. a.mi.ni.so	Pn
18. a.mi.nwa.[	Mn ?
19. a.mi.to.no	Mn
20. a.na.ka	Mn
21. a.na.ki.ti	Mn
22. a.ne.ra.to	Mn
23. a.ne.u.da	Mn
24. a.pa.ta.wa	Pn
25. a.pa3.da.ro	Mn
26. a.pa3.no	Mn
27. a.pe.ti.ra2	Mn ?
28. a.pi.da.ta	Mn
29. a.po.te	Mn ? Pn ?
30. a.qa.to	Mn
31. a.qe.mo	Mn
32. a.qi.ra.[	Mn ?
33. a.qi.ru	Mn

34. a.qi.ro	Mn
35. a.qo.ta	Mn
36. a.ra.na.ro	Mn
37. a.ro.do.ro.o	Gd ? Shr ?
38. a.sa.mi.to	Obj
39. a.sa.ro	Mn
40. a.ta.ma.ta	Mn
41. a.ta.ti.nu	Mn
42. a.te.i.ya.ta	Mn
43. a.ti.yo	Mn
44. a.te.yo	Mn
45. a.ti.ka	Mn
46. a.to.mo.no	Mn
47. a.to.qo.te.ra.to	Mn ?
48. a.tu.qo.ta	Mn
49. a.u.ta.na	Mn ?
50. a.wa.ti.ka.ra	Wn
51. a.ze.o	Mn
52. a.ze.ta	Mn
53. ] a.qa.ro	Mn

**AI [B43]**

1. ai.zo.ro	Mn
2. ].ai.tu.ti.ya.[	Pn - Eth

**AU [B85]**

1. au.ri.mo	Pn
-------------	----

**E [B38]**

1. e.ke.a	Mn
2. e.ke.se	Mn
3. e.ko.so	Pn
4. e.mi.ya.ta	Mn
5. e.pi.da.o	Mn
6. e.po.ro	Mn ?

7. e.pu2.no	Mn ?	3. o.du.we	Mn
8. e.ra	Pn	4. o.ya	Pn ?
9. e.ra.ne	Mn ?	5. o.ka.ra	Mn ?
10. e.ra.wo	Mn ?	6. o.ki.ro	Mn
11. e.re.u.ti.ya	Gd	7. o.ko.te	Mn
12. e.ri.sa.ta	Mn	8. o.ku.no	Mn
13. e.ri.*19	Mn	9. o.mi.ri.so	Mn
14. e.ro.e	Mn ?	10. o.mu.ka.ra	Mn ?
15. e.ro.u.ta	Mn	11. o.na	Pn ?
16. e.ti.wa	Pn ?	12. o.nu.ka	Obj
17. e.we.ki.ta	Mn ?	13. o.qa.ya	Mn
18. e.we.wa.ta	Mn	14. o.ri.mo	Wn ?
19. e.wo.ta	Pn	15. o.ro.qa	Mn
		16. o.sa.po.to	Wn ?
		17. o.to.ro.qa	Mn
		18. o.we.to	Mn
		19. ].o.se.ko.do	Mn ?
		20. o.*22.di	Mn
<b>I [B28]</b>		<b>U [B10]</b>	
1. i.ke.se	Mn	1. u.du.ru.wo	Pn
2. i.da.ra.ta	Mn	2. u.yo.na	Wn
3. i.du	Wn	3. u.ka	Pn ?
4. i.ya.pu2.we	Pn	4. u.pa.ra	Wn
5. i.ka.se	Mn	5. u.pa3	Mn
6. i.ke.se.ra	Mn	6. u.qa.mo	Pn ?
7. i.ku.tu.re	Mn ?	7. u.ra.mo.no	Mn
8. i.pe.ta	Mn	8. u.ro2	Mn
9. i.ra.ko.to	Mn	9. u.ta.yo	Mn
10. i.ro.to	Mn	10. u.ta.no	Pn ? Mn ?
11. i.ta.ya	Wn	11. ].u.pi.ri.[	Pn
12. i.ta.mo	Wn		
13. i.ta.no	Mn ?		
14. i.ti.nu.ri	Mn		
15. i.to	Mn		
16. i.za.re	Mn		
<b>O [B61]</b>		<b>DA [B01]</b>	
1. o.du	Mn	1. da.da.re.yo	Pn
2. o.du.ru.we	Pn	2. da.i.pi.ta	Mn



3. da.i.ra	Mn
4. da.i.ta.ra.ro	Mn
5. da.i.wo.wo	Mn
6. da.i.ze.to	Mn
7. da.ya.ro	Mn
8. da.ko.so	Mn
9. da.mi.ni.yo	Pn ? Mn ?
10. da.na	Mn ?
11. da.na.mo	Mn ?
12. ] da.na.ro	Mn
13. ] da.nwa.re	Mn
14. da.nu.wo	Mn ?
15. da.nwa	Gd ?
16. da.o.ta	Mn
17. da.pu.ri.to.yo	Shr
18. da.pu2.ri.to.yo	Shr
19. da.ra.ko	Pn
20. da.ru.pa3	Mn
21. ] da.so	Pn
22. da.ta.ya.ro	Mn
23. da.ta.ra.mo	Pn
24. da.te.ne.ya	Wn
25. da.te.wa	Mn
26. da.te.we.ya	Pn - Eth ?
27. da.we.ro	Mn ?
28. da.wi	Mn
29. da.wo	Pn
30. da.zo	Mn ?
31. da.*22.to	Pn
32. da.dwo.ya	Pn

**DE [B45]**

1. ] de.a.ta	Mn
2. de.ni.mo	Mn
3. de.u.yo.i	Gd ?

**DI [B07]**

1. di.de.ro	Mn
2. di.ka.ta	Pn
3. di.ka.ta.ro	Mn
4. di.ki.nu.wo	Mn
5. di.ko.to	Mn ?
6. di.pa	Obj
7. di.pi.ya	Pn - Eth
8. di.qa.ra [	Wn ?
9. di.ra	Mn
10. di.ra.qo	Mn
11. di.so	Mn
12. di.ta.ka.so	Mn
13. di.wo.a.ne [	Mn ?
14. di.wo.pu.ka.ta	Mn ?
15. di.za.so	Mn

**DO [B14]**

1. do.qe.u	Mn
2. do.ri.wo	Mn ?
3. do.ti.ya	Pn

**DU [B51]**

1. du.ni	Mn
2. du.pi.yo	Mn
3. du.pu2.ra.zo	Mn
4. du.pu2.so	Mn
5. du.ru.po	Mn
6. du.sa.ni	Wn
7. du.ta.so	Mn
8. du.to	Mn
9. du.tu.wa	Wn

**DWO [B90 + B83]**

- |                |    |
|----------------|----|
| 1. dwo.yo      | Mn |
| 2. dwo.re.yo   | Pn |
| 3. ].dwo.re.to | Mn |

**KA [B77]**

- |                  |            |
|------------------|------------|
| 1. ka.da.i.so    | Mn         |
| 2. ka.da.i.to    | Mn         |
| 3. ] ka.da.ra.so | Mn ?       |
| 4. ] ka.di.ti.ya | Pn - Eth   |
| 5. ka.yo         | Mn         |
| 6. ka.ma.yo      | Pn - Eth   |
| 7. ka.ma.to      | Mn         |
| 8. ka.mi.ni.to   | Mn         |
| 9. ka.mo         | Pn ?       |
| 10. ka.na.a.po   | Mn         |
| 11. ka.na.po.to  | Mn         |
| 12. ka.na.to.po  | Wn         |
| 13. ka.ne.u.ta   | Mn         |
| 14. ka.pa        | Pn ?       |
| 15. ka.pa.ra2    | Pn - Eth ? |
| 16. ka.pa3.na.to | Mn         |
| 17. ka.pa3.no    | Mn         |
| 18. ka.pa3.so.ta | Wn         |
| 19. ka.pu.ro     | Mn         |
| 20. ka.ra.na.ko  | Mn ?       |
| 21. ka.ro        | Pn ?       |
| 22. ka.sa.no     | Mn         |
| 23. ka.sa.ro     | Mn         |
| 24. ka.so        | Obj        |
| 25. ka.ta.mo     | Mn         |
| 26. ka.ta.no     | Pn ?       |
| 27. ka.ta.ra     | Pn         |
| 28. ka.ta2.ro    | Mn         |
| 29. ka.u.da      | Pn ?       |

**KE [B44]**

- |                |          |
|----------------|----------|
| 1. ke.do.si.ya | Pn - Eth |
| 2. ke.po       | Wn       |
| 3. ke.pu       | Wn       |
| 4. ke.pu2.ye.u | Mn       |
| 5. ke.ra.ya    | Mn       |
| 6. ke.ro2      | Obj      |
| 7. ke.to.ro    | Mn       |
| 8. ke.u.sa     | Mn       |
| 9. ke.dwo.*18  | Mn       |

**KI [B67]**

- |                     |          |
|---------------------|----------|
| 1. ki.da.pa         | Obj      |
| 2. ki.da.ro         | Mn ?     |
| 3. ki.do.ro         | Mn ?     |
| 4. ki.ke.ro         | Mn       |
| 5. ki.ma.ta         | Mn       |
| 6. ki.mu.ko         | Mn       |
| 7. ki.mu.ku         | Mn       |
| 8. ki.nu.qa         | Wn       |
| 9. ki.ra.di.ya      | Pn - Eth |
| 10. ki.ra.pa3.so    | Mn ?     |
| 11. ki.re.i.so      | Mn       |
| 12. ki.ri.ya.si     | Mn       |
| 13. ki.ri.ne.to     | Mn       |
| 14. ki.ri.ta        | Pn       |
| 15. ki.ri.ta.i      | Pn       |
| 16. ki.si.wi.ye.ya  | Wn ?     |
| 17. ki.si.wi.yo.[   | Mn       |
| 18. ki.ta.ne.to     | Mn       |
| 19. ki.ta.no        | Obj      |
| 20. ki.u.ro         | Mn       |
| 21. ki.zo           | Wn ?     |
| 22. ].ki.*18.i.so.[ | Mn       |

**KO [B70]**

1. ko.a	Mn ?
2. ko.a.ta	Mn
3. ko.ki.da	Mn ?
4. ko.ni.da.yo	Mn
5. ko.no.so	Pn
6. ko.pi	Wn
7. ko.pu.ra	Wn ?
8. ko.ri.ya.do.no	Obj
9. ko.ro.ya.ne	Mn
10. ko.ro.sa.no	Mn
11. ko.so	Mn
12. ko.ti	Mn

**KU [B81]**

1. ku.do.ni.ya	Pn
2. ku.i.so	Mn
3. ku.ya.ro	Mn
4. ku.yo	Mn
5. ku.ka.da.ro	Mn
6. ku.ka.no	Mn
7. ku.ka.so	Mn
8. ku.ke.so	Mn
9. ku.mi.so	Mn
10. ku.mo.no.so	Mn
11. ku.ni.ta	Mn
12. ku.pa.nu.we.to	Mn
13. ku.pa.ro	Obj
14. ku.pa.sa	Pn ?
15. ku.pe.re.te	Mn
16. ] ku.ru.ni.ta	Mn ?
17. ku.ru.nu	Mn
18. ku.ta.i.si.[	Mn ?
19. ku.ta.i.to	Pn
20. ku.ta.to	Pn

21. ku.to	Mn
22. ku.tu.qa.no	Mn ? Wn ?
23. ku.wa.ta	Mn
24. ku.wa.to	Mn

**MA [B80]**

1. ma.di	Mn
2. ma.di.qo	Mn
3. ma.ke.ra	Mn
4. ma.ke.ra.mo [	Mn ?
5. ma.ki.nu.wo	Mn ?
6. ma.ki.ro.ne	Gd
7. ma.mi.di.zo	Mn ?
8. ma.na.ye.u [	Mn
9. ma.ri	Pn
10. ma.ri.ne.wo	Gd ?
11. ma.sa	Pn
12. ma.si.dwo	Mn
13. ma.so	Mn
14. ma.so.mo	Pn ?
15. ma.ta.u.ro	Mn
16. ma.tu.we	Mn ? Wn ?

**ME [B13]**

1. me.ki.ti	Mn
2. me.na.wa.te [	Mn
3. me.ra	Pn ?
4. me.ri	Obj
5. me.*86.ta	Mn

**MI [B73]**

1. mi.ya.ra.ro	Mn
2. mi.ka.ta	Mn ?
3. mi.ka.to	Mn ?
4. mi.ni.so	Mn

5. mi.ru.ro	Mn	6. pa.ya.ro	Mn
6. mi.sa.ra.yo	Mn	7. pa.ya.so	Mn
7. mi.ta.qo	Mn	8. pa.ke.ta	Mn
8. mi.ti	Mn	9. ] pa.ko	Mn
<b>MO [B15]</b>		10. pa.na.so	Pn ?
1. mo.ni.ko	Mn	11. pa.ra	Mn ?
2. mo.qo.so	Mn	12. pa.ra.u.yo	Mn ?
3. mo.re	Mn	13. pa.sa.ya	Gd ?
4. mo.ri.wo.do	Obj	14. pa.ta.u.na	Mn ?
<b>MU [B23]</b>		15. pa.ti	Mn
1. ] mu.da	Mn	16. pa.to.ro	Mn
2. mu.ka.ra	Mn ?	17. pa.wa.so	Mn
<b>NA [B06]</b>		18. pa.wi.no	Mn
1. na.e.ra.ya	Mn	19. pa.za.ti	Mn
2. na.ki.zo	Mn ?	20. pa.ze	Mn ?
3. na.ru	Mn	<b>PA3 [B56]</b>	
4. na.su.wo	Mn	1. pa3.du.nu.ka	Mn
<b>NO [B52]</b>		2. pa3.i.ti	Gd ?
1. no.da.ro	Mn	3. pa3.ko.we	Pn
2. no.nu.we	Mn ? Wn ?	4. pa3.na.ro	Mn
3. no.sa.ro	Mn	5. pa3.ni.sa.ta	Mn
4. no.si.ro	Mn	6. pa3.po.so	Wn ?
<b>NU [B55]</b>		7. pa3.ri.to	Mn
1. nu.to	Mn	8. pa3.ro2	Mn
<b>PA [B03]</b>		9. pa3.ti	Gd
1. pa.de	Gd	<b>PE [B72]</b>	
2. pa.i.to	Pn	1. pe.da.i.ra	Mn
3. pa.ya.ni	Wn	2. pe.ka.wo	Mn
4. pa.ya.ni.yo	Mn ? Gd ?	3. pe.ko	Mn ?
5. pa.ya.o.ne	Mn ?	4. pe.ko.to	Adj
		5. pe.qo.no	Mn
		6. pe.re.ke	Mn ?
		7. pe.re.ko	Mn

8. pe.re.*82.ta	Mn
9. pe.ri.ye.ya	Mn ? Wn ?
10. pe.te.ki.ya	Mn

**PI [B39]**

1. pi.ya.mu.nu	Wn
2. pi.ya.se.me	Mn
3. pi.ya.si.ro	Mn
4. pi.ki.nu.wo	Mn
5. pi.ma.na.ro	Mn
6. pi.mo.no	Mn
7. pi.pi.tu.na	Gd
8. pi.ra.qo	Mn
9. pi.ri.ye	Obj
10. pi.ri.u.wo	Mn
11. pi.wa.to	Mn ?
12. pi.za.ra	Mn ?

**PO [B11]**

1. po.ka.ro	Mn
2. po.ki.te	Mn
3. po.po	Wn
4. po.ro.de.qo.no	Mn ? Gd ?
5. po.ro.i.ra	Mn ? Wn ?
6. po.ro.su.re	Mn ?
7. po.ro.tu.qo.no	Mn
8. po.*34.wi.do	Mn

**PU [B50]**

1. pu.da.so.[	Mn ?
2. pu.ko.to	Mn ?
3. pu.na.so	Pn
4. pu.na.to	Mn
5. pu.nu.so	Mn
6. pu.ra.so	Mn

7. pu.so	Pn
8. pu.te	Mn
9. pu.to.ro	Mn
10. pu.zo	Wn ?

**QA [B16]**

1. qa.da.so	Mn
2. qa.di.yo	Mn
3. qa.i.po	Mn
4. qa.mo	Pn
5. qa.na.no.to	Pn
6. qa.nu.wa.so	Mn
7. qa.nwa.so	Pn
8. qa.qa.ro	Mn
9. qa.ra	Pn
10. qa.ra.i.so	Mn
11. qa.ra.yo	Mn
12. qa.ra.o	Mn
13. qa.ra.su.ti.yo	Mn
14. qa.ra2.ro	Mn
15. qa.ra2.wo	Mn
16. qa.sa.ko	Mn
17. qa.sa.ro.we	Pn
18. qa.si.da.ro	Mn
19. qa.ti.ya	Mn
20. qa.to.no.ro	Mn
21. qa.dwo.to	Mn ?

**QE [B78]**

1. qe.da.do.ro	Mn
2. qe.pa.ta.no	Wn ?
3. qe.ri	Mn
4. ] qe.sa.ma.ka	Gd ?

**QI [B78]**

1. qi.ya.to	Mn
2. qi.yu.zo	Mn
3. qi.ko.we.e	Pn ?
4. qi.na	Wn
5. qi.ni.te.we	Mn
6. qi.nwa.so	Mn
7. qi.qe.ro	Mn
8. qi.si.ta	Mn
9. qi.ta.ro	Mn
10. qi.zo	Mn

**QO [B32]**

1. qo.ya.si	Mn
2. qo.ya.te	Mn
3. qo.pa.ra.[	Mn ?

**RA [B60]**

1. ra.ya	Pn
2. ra.ku	Mn
3. ra.ma.na	Pn
4. ra.mo	Mn ?
5. ra.ni	Mn
6. ra.o.no	Mn
7. ra.sa.to	Mn
8. ra.su.to	Pn
9. ra.te.me	Mn
10. ra.to	Pn
11. ra.wa.ni	Mn
12. ra.wa.si.yo	Mn ? Eth ?
13. ra.wi.zo	Mn

**RE [B27]**

1. re.ka.ta	Mn
2. re.me.to	Mn

3. re.po.so	Mn
4. re.ri.yo	Pn - Eth

**RI [B53]**

1. ri.ma.zo	Mn
2. ri.u.no	Pn
3. ri.yo.no	Pn
4. ri.wi.so	Mn

**RO [B02]**

1. ro.ru	Mn
----------	----

**RU [B26]**

1. ru.da.to	Mn ?
2. ru.ki.to	Pn
3. ru.ma.no	Mn
4. ru.na.mo	Mn
5. ru.na.so	Mn
6. ru.nu	Wn
7. ru.pa3.ra.so	Mn
8. ru.sa.ma	Wn
9. ru.ta2	Mn
10. ru.ta2.no	Wn

**SA [B31]**

1. sa.de.so	Mn ?
2. sa.yo	Pn
3. sa.yu	Wn
4. sa.ma.da	Pn ? Mn ?
5. sa.ma.ra	Pn
6. ] sa.ma.ya.so	Mn
7. ] sa.ma.ru [	Mn ?
8. sa.ma.ti.ya	Wn
9. sa.me.ti.yo	Mn
10. sa.mi	Wn
11. sa.na.so.[	Mn ?

12. sa.na.to	Pn	20. si.za	Mn
13. sa.nu.we.ta	Mn		
14. sa.pa	Obj	<b>SU [B58]</b>	
15. sa.sa.yo	Mn	1. su.di.ni.ko	Mn
16. sa.u.ko	Mn	2. su.ke.re	Mn
17. sa.za.ro	Mn	3. su.ke.re.o	Mn
18. sa.ze.ro	Mn	4. su.ki.ri.ta	Pn
19. sa.zo	Mn	5. su.ki.ri.to	Mn
		6. su.ko	Mn
<b>SE [B09]</b>		7. su.ma.no	Mn
1. se.do	Mn	8. su.mi	Mn
2. se.me.tu.ro	Mn	9. su.mo.no	Mn
3. se.to.i.ya	Pn	10. su.po	Mn
4. se.we.ri.ko.yo	Mn	11. su.pu.wo	Mn
		12. su.ri.yo	Mn ?
<b>SI [B41]</b>		13. su.ri.mo	Pn
1. si.ya.du.we	Pn	14. su.ru.so	Mn
2. si.ya.ma	Mn ?	15. su.se	Mn
3. si.ya.ma.to	Gd ?	16. su.ta.no	Mn
4. si.ya.pu2.ro	Mn		
5. si.ki.to	Mn	<b>TA [B59]</b>	
6. si.mi.do	Mn	1. ta.ya.no	Mn
7. si.ne.e.ya	Wn	2. ta.na.to	Mn
8. si.ni.to	Mn	3. ta.pa.da.no	Mn
9. si.nu.ke	Wn	4. ta.pa.no	Mn
10. si.nu.mo.ro	Mn ?	5. ta.pe.ro	Mn
11. si.pa.ta.do	Mn	6. ta.qa.ra.ti	Mn
12. si.pe.we	Pn	7. ta.ra	Pn
13. si.pu2	Mn	8. ta.ra.i	Mn ?
14. si.qa	Mn ?	9. ta.ra.me.to	Mn ?
15. si.ra.ko	Mn	10. ta.ra.qo	Mn
16. si.ra.ro	Pn	11. ta.ra.to.no	Mn
17. si.ra.so	Pn ?	12. ta.si.ko [	Mn ?
18. si.ta.ro	Mn	13. ta.so	Mn
19. si.to	Obj	14. ta.su	Mn ? Wn ?

15. ta.ta.ta	Mn ?
16. ta.to	Mn
17. ta.u.na.so	Mn
18. ta.u.pa.du.we	Mn
19. ta.u.ro	Mn
20. ta.wa.ko.to	Mn ?
21. ta.za	Mn
22. ta.za.ro	Mn
23. ta.*49.ro	Mn

**TE [B04]**

1. ] te.ru.ro	Mn
2. te.ya.ro	Mn
3. te.yo	Mn
4. te.ki.ri.ne.to	Mn
5. te.me.u.[	Mn
6. te.mi	Mn
7. te.mi.ro	Mn
8. te.na.ya.so [	Mn
9. te.nu	Mn
10. te.pa.ra	Mn ? Pn ?
11. te.ra.pe.te	Mn
12. te.ru.sa	Mn

**TI [B37]**

1. ti.ya	Mn
2. ti.ma	Mn
3. ti.mi.za	Mn
4. ti.mu.nu.we	Mn
5. ti.mu.nu.wo	Mn
6. ti.no	Wn ?
7. ti.ri.yo.ko.so	Mn
8. ti.ri.sa.ta [	Mn
9. ti.ri.to	Pn
10. ti.wa.ti.ya	Pn - Eth

**TO [B05]**

1. to.mi.ka	Adj ?
2. to.pe.si	Mn
3. to.tu.no	Mn
4. to.u.na.ta	Mn
5. to.wi.no	Mn

**TU [B69]**

1. tu.ka.to	Wn
2. tu.ma.da.ro	Mn
3. tu.na.no	Obj
4. tu.ni.ya	Pn
5. tu.pa3.da.ro	Mn
6. tu.qa.ni.ya.so	Mn
7. tu.ri.so	Pn
8. tu.ti	Mn ?
9. tu.to	Mn
10. tu.zo	Wn?/Mn?
11. tu.*49.mi	Wn

**YA [B57]**

1. ] ya.mi.nu	Wn
2. ya.ma.ra	Mn
3. ya.ma.ta.ro [	Mn
4. ya.pa.ra.ro	Mn
5. ya.pe.re.so	Pn ?
6. ya.po	Pn
7. ya.pu2.wi.ya	Pn - Eth
8. ya.qo	Pn ?
9. ya.ra.to	Mn
10. ya.ro	Mn
11. ya.sa.no	Mn
12. ya.sa.ro	Mn
13. ya.ti.ri	Mn



**YE [B46]**

1. ye.zo Mn

**WA [B54]**

1. wa.du.ka.sa.ra Mn  
 2. wa.du.na Mn  
 3. wa.du.na.ro Mn  
 4. wa.ye Mn  
 5. wa.po Mn ?  
 6. wa.ra.ti Wn  
 7. wa.ru.wo.qo Mn  
 8. wa.to Pn  
 9. wa.wa.ka Wn ?  
 10. wa.wi Mn  
 11. wa.\*86.re Mn  
 12. wa.[.].ta Gd ?

**WE [B75]**

1. we.ra.to Mn  
 2. we.ro.pa.ta Mn  
 3. we.we.ro Mn  
 4. we.wo.ni.yo Mn

**WI [B40]**

1. wi.da.ka.so Mn  
 2. wi.da.ma.ro Mn  
 3. wi.da.ma.ta2 Wn  
 4. wi.du.ro Mn  
 5. wi.du.ru.ta Mn  
 6. wi.ya.ma.ro Mn  
 7. ] wi.ya.na.tu Wn  
 8. wi.ye.mo Mn  
 9. wi.ye.so Mn  
 10. wi.yo.ka.de Mn  
 11. wi.na.to Pn

12. wi.ra.ne Mn

13. wi.ra.ne.to Mn

14. wi.ri.ki.no Mn

15. wi.ro.yo Mn

16. wi.so Wn

17. wi.su.ro Mn

**WO [B42]**

1. wo.yu.ro Mn  
 2. wo.ra.ke.re [ Mn  
 3. wo.ro.to Mn  
 4. wo.ro.to.qo Mn  
 5. wo.si.yo.ne Mn  
 6. wo.wa.ro Mn  
 7. wo.wo Mn  
 8. wo.\*82.ni.yo Mn

**ZA [B17]**

1. ] za.ra.ro Mn

**ZE [B74]**

1. ze.me Mn ?  
 2. ze.ro Mn  
 3. ze.wa.so Mn ?

**ZO [B20]**

1. zo.do.so Mn  
 2. zo.ta Mn ?

**\*18**

1. \*18.to.no Wn

**\*22**

1. \*22.ya.[ Mn ?  
 2. \*22.ya.ta.ro Mn

**\*34**

- |             |      |
|-------------|------|
| 1. *34.zo   | Mn   |
| 2. ].*34.so | Mn ? |

**\*47**

- |              |      |
|--------------|------|
| 1. *47.da    | Pn ? |
| 2. *47.ku.to | Pn   |
| 3. *47.so    | Pn   |

4. *47.ti.yo	Mn
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5. ].*47.da	Pn ?
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**\*49**

1. *49.sa.ro	Mn
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2. *49.wo	Mn
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### APPENDIX (III)

This appendix presents the Linear A index from which the sign-frequency distribution patterns examined in this study were generated. Note that all Linear A sign-groups are here transliterated according to the phonetic values listed in Tables (1) and (2) on pages 12 and 16 respectively. The index was compiled by myself after first examining slides of all the inscriptions contained in W.C. Brice's *Inscriptions in the Minoan Linear Script of Class A* (Oxford. 1963). Each inscription was studied carefully against Brice's transcriptions and against the readings found in the most informative "Index du Lineaire A", *Incunabula Graeca 41* (Rome. 1971) by J. Raison and M. Pope. The remaining Linear A inscriptions found within the index have been collated from the following sources : A. Morpugo-Davies & G. Cadogan, "A Linear A Tablet from Pargos, Mirtos, Crete", *Kadmos 19* (1971):105-109; J.P. Olivier & O. Pelon, "Un Tesson Inscrit en Lineaire A de Mallia", *BCH 95* (1971):433-436; C. Davaras, "Two New Linear A Inscriptions on Libation Vessels from Petsophas", *Kadmos 11* (1972):101-112; S. Alexiou & W.C. Brice, "A Silver Pin from Mavro Spelio with an Inscription in Linear A : Her. Mus. 540", *Kadmos 11* (1972):113-124; E. Hallager, "Tablets and Roundels from Khania with Linear A Inscriptions", *Kadmos 12* (1973):20-27; F. Vandenaabeele, "Les Ideogrammes de Vases sur les Tablettes en Lineaire A de Haghia Triada et Phaistos", *BCH 98* (1974):5-21; L. Godart & J.P. Olivier, "Sur L'Epingle de Mavro Spelio", *BCH 100* (1976):309-314; S. Alexiou & W.C. Brice, "A Silver Pin from Platanos with an Inscription in Linear A : Her. Mus. 498", *Kadmos 15* (1976):18-27; E. Hallager, "A New Linear A Inscription from Khania", *Kadmos 16* (1978):9-11; J.P. Olivier, O. Pelon & F. Vandenaabeele, "Un Nouveau Document en Lineaire A au Palais de Mallia", *BCH 103* (1979):3-27; J.P. Olivier, L. Godart, & R. Laffineur, "Une Epingle Minoenne en or avec en Lineaire A", *BCH 105* (1981):3-25; C. Davaras, "Three New Linear A Libation Vessel Fragments from Petsophas", *Kadmos 20* (1981):2-6; W.C. Brice, "Notes on Linear A", *Kadmos 22* (1983):81-106; E. Hallager & M. Vlasakis, "Two New Roundels with Linear A from Khania", *Kadmos 23* (1984):1-10; P. Metaxa-Muhly, "Linear A Inscriptions from the Sanctuary of Hermes and Aphrodite at Kato Syme", *Kadmos 23* (1984):124-135; A. Karetsou, L. Godart & J.P. Olivier, "Inscriptions en Lineaire A du Sanctuaire de Sommet Minoen du Mont Iouktas", *Kadmos 24* (1985):89-147; K. Kopaka, "Une Nouvelle Inscription en Lineaire A de Zakros", *Kadmos 28* (1989):7-13.



**A [L52]**

1. A.DA	TY3b.5
2. A.DA.KI.SI.KA	KH5.1
3. A.DA.RA	KNZf31 : G
4. A.DA.L48.RI	KH92.1
5. ?]A.DI.DA.KI.TI.PA?.KU[?	KNZ6
6. A.DI.KI.TI.TE.PI	PKZ11.1, PKZ12.1
7. ?]A.DO.RA.[	KNZ7
8. A.DU	HT85a.1, HT86a.4, HT88.1, HT92.1, HT95b.1, HT99a.1, HT133.1, KH4.1
9. A.DU.ZA	PK1.2
10. A.KA.NU.WE.L20.[	KNZ7
11. A.KA.RU	HT2.1, HT86a.1, HT86b.1
12. A.KO.A.NA	PKZ11.6
13. A.KU	PA1.1
14. A.KU.MI.NA	ZAb6
15. A.KU.TU	TY3b.7
16. A.MA	MA1b, ZA7b.1
17. A.MA.RA.TU[?	SKZ1
18. A.MA.WA.SI	CRZf1.A
19. A.MA.YA	KH14.1
20. ?]A.MI.L80	HT170?b.5
21. ?]A.NA.QA	HT126a.2
22. ?]A.NA.TIL88.WA.YA[?	IOZa8
23. ?]A.PA.DU?.PA.[	PKZ12.4
24. A.PA.RA.NE	HT96a.1.2, HT96b.1
25. A.PI	KNZ16
26. A.PU2.NA[?	HT14.3
27. A.RA.[	KH79+89.2
28. A.RA.NA.RE	HT1a.3
29. A.RA.YU	HT87.5, HT97a+109.9, HT122b.3
30. A.RE	HT115b.4, HT29.5
31. A.RE.NE.SI[?	KNZ13
32. A.RE.SA.NA	TEZ2
33. A.RE.L41.RE.NA	ZAZ3.2
34. A.RI	PH6.1, PH6.3 ; HT141.2?
35. A.RI.NI.TA	HT25a.3
36. A.RI?.SU[?	PH13a.3 ; HT118.3?
37. A.RO.KU.[	HT45b+71.4
38. A.RU	HT9b.2, HT9a.5, HT49a.5

39. A.RU?.DA?.RA	HT28b.5, HT62+73.1
40. A.RU.MU.MI	ZA17.7
41. A.RU.RA.RI	HT11a.1
42. A.SA.DA.KA	MAW5a.1
43. A.SA.ME.NE	ZAZ3.1
44. A?.SA.RA2	HT89.1
45. A.SA.SA.[	PKZ16
46. A.SA.SA.RA.ME	IOZb10, PKZ4, PKZ11.3, PRZ1.3
47. A.SA.L88.MA.I[?	GOW1a.1
48. A.SE	HT93a.3, HT132.1, ZAZ3.1
49. ?]A.SE?.KO	HT24a.5
50. A.SE.YA	HT115a.4
51. A.SI.DA.TO.I	ARKH2.2-3
52. A.SI.YA.KA	HT28a.1, HT28b.1
53. A.SU.PU.WA	ARKH2.5
54. A.SU.YA	HT11a.4
55. A.TA.[	KH73.3
56. A.TA.DE	CRZfl.E
57. A.TA?.I.[	PRZ1.2
58. A.TA.I.L88.DE.KA	ZAZb3.2
59. A.TA.I.L88.WA.E?	PKZ11.1
60. A.TA.I.L88.WA.YA	IOZa2.1, IOZa3, IOZa4, IOZa7, SYZa1, SYZa2.2, PKZ12.1, KOZ1.1, TLZ1.1
61. A.TA.NA.TE	ZAb.6, ZA9.4, ZA10a.2
62. A.TA.NU.WI.YA[?	HTZ159
63. A.TA.RE	ZA8.1
64. A.TA.L178	KH11.5
65. A.TI.KA[?	ZAW2.1
66. A.TI.KI.TA.A	TYZ4
67. A.TU	HT87.5
68. A.TU.WE.SI.TI	KNZ5
69. A.WA.L41	KNZ f31 : E
70. A.YA	SYZa2.1, SYZa3
71. ?]A.YA.KU	KNZ13
72. ?]A.YE[?	IOZa1
73. A.L41?.DA.L85	SIZ1
74. A.L65.TE	HT96a.2
75. A.L68.[.].NA.MA.MA.TI.TI.L14	HTZ155
76. A.L151?.TU.L134?.RA?	PH2.1
77. ].A?.NU.[	PH13a.1

78. J.A.U

HT46b.2

**AU [L113]**

1. AU.TA.DE

KO?Zf2

**I [L100]**

1. I.DA

IOZa2.2, PKZ18?, ZA18b.1?

2. I.DA.A

KOZ1.2

3. I.DA.MA.TE

ARZ1, ARZ2

4. I.DA.MI.YA[?

SYZa1

5. I.DA.PA3

PH6.4

6. I.DO.RI.NI.TA

PH6.2

7. I.DU.NE.SI

HT13.5-6

8. I.DU.TI.TI?

HT104.3

9. ?]I.DU.WI

MA1a

10. I.KA

HT26b4, HT91.1, HT93a.9

11. I.KU.RI.NA

HT90.1

12. I.KU.SU?

HT35.1

13. ?]I.MI.SA.RA

HT27a.3

14. I.NA.I.DA.[

IOZa11.2

15. I.NA.TA.I.DO.DI.SI.KA

IOZa6.1

16. I.NA.WA

PH6.1

17. I.NA.YA[?

PKZ11.4, APZ2a.2?

18. I.PA.L85

PA1.1

19. I.QA.L85

HT131a.2-3, HT44b.1?

20. I.RA2

HTW225

21. I.SA.RI

PH6.4

22. I.TA?

HT25b.3

23. I.TA.NU?

HT28b.6

24. I.TI[?

HT62+73.3; IOZa12

25. I.TI.NI.SA

ZA15a.3

26. I.TI.TI.KU.NI

HT96a.1

27. I.YA

CRZf1.C, KNZ10b?

28. I.YA.PA.[

IOZa5

29. I.YA.PA.ME [

KH7a.3

30. ?]I.YA.RE.DI.YA

IOZa5

31. I.YA.TE

PHZb4

32. I.L41.NA.MA

IOZ2.1, KOZ1.3, APZ2a.1, TLZ1.3, VRYZa1\*

33. I.L41.NA.MI.NA

PKZ10

34. I.L88

HTW228

35. I.L122 HT102.2-3, HT102.4  
 36. J.I.KI.RA HT25a.5

**U [L97]**

1. U.DI.MI HT117a.4  
 2. ?]U?.DI.RI.KI[? PH7a.2  
 3. U.DE.ZA HT122a.1, HT122b.3  
 4. U.MI.NA.SI HT28a.1-2, HT117a.1-2  
 5. U.NA.KA.NA.SI IOZa2.1, IOZa9, TLZ1.2, KOZ1.3  
 6. U.NA.KA.NA.SII SYZa2.3  
 7. U.NA.RU.KA.NA.TI.PA.SE[? PKZ11.3-4, PKZ12.2  
 8. U.NU.L111 HT26a.3  
 9. U.QE.TI PLA : B  
 10. U?.RA2.TI HT108.3  
 11. U.RE.WI HT25a.2, HT25b.2  
 12. U.SU HT117a.2, HT58.4?  
 13. U.TA.I.SE[? KH7b.2  
 14. U.TA.I.SI KH16.2  
 15. U.TA2.NI HT103.1?  
 16. U.TI HT10b.1, MA2c.2  
 17. U.TI.NU IOZa2.2, IOZa6.1, IOZa11.2\*  
 18. U.L37.ZA HT10a.2, HT10a.3, HT85a.3  
 19. U.L69.SI HT15.1, HT140.1  
 20. U.L150.MA PHW17a  
 21. J.U.DU? HT47a.2-3, HT126a.4?  
 22. J.U.YA.SA.[ APZ1

**DA [L30]**

1. ?]DA.DE.KU HT127a.2  
 2. DA.DU.MA.TA HT95a.1  
 3. DA.I HT12.5, HT29.5  
 4. DA.KA HTW226  
 5. DA.KU.NA HT103.4  
 6. DA.KU.SE.NE HT103.2, HT103.4-5  
 7. DA.KU.SE.NE.TI HT104.1-2  
 8. DA.ME HT95a.2, HT95b.2, HT86a.4, HT106.3, HT120.1  
 9. DA.MI.NU HT117a.8  
 10. DA.NA.SI HT126a.1  
 11. DA.NE.KU.TI HT117a.8-9  
 12. DA.PA3 HT6b.5, HT79.1?



13. DA.QE.RA	HT6a.6, HT57a.1, HT120.1
14. DA.RE	HT7a.4, HT10b.1, HT10b.1, HT85a.5, HT122b.4
15. DA.RE.KU[?	ZA16.1
16. DA.RU.NE[?	HT98b.2
17. DA.RU.L33	HT7b.2
18. DA.SA	SEZ1
19. ?]DA.SI.DI.YA	HT126a.3
20. DA.SI.L85	HT13.5, HT85a.3-4, HT99b.1, HT122a.2
21. DA.TA?.RA	HT6a.1, HT9b.1?
22. DA.TA.RE	HT62+73.2, HT88.5
23. DA?.TA.RO	HT116a.1
24. DA.TU	HT123a.6
25. DA.U.L120.I?	HT1203-4
26. DA.WA.[	KNZ10b
27. DA.WE.DA	HT10a.4, HT85a.2, HT93a.7, HT122a.7
28. DA.L68.TE	HT34.1
29. DA.L79.MI.NE	KNZF31 : C
30. ].D.A.RA.[	PH7b.3

**DE [L102]**

1. DE.DI	HT94a.2
2. DE.NU.RA.YA	HT115a.1
3. DE.L68?.KU	HT93a.6
4. ].DE.PA3	HT11b.1
5. ].DE?.SI.[	HT51a.3

**DI [L51]**

1. DI.DI.KA.SE	ZAZ3.1
2. DI.DE.RU	HT86a.3, HT95a.4, HT95b.4, HT86b.3?
3. DI.KA.TU[?	HT52a.2
4. DI.KI.SE	HT87.3, HT117b.2
5. DI.NA.U	HT16.2, HT9a.3, HT9b.5, HT108.2
6. ?]DI.RA.DI.NA	PH1a.1
7. DI.RE.DI.NA	HT98a.2-3
8. DI.WE.NA	HT93a.2, HT102.3
9. DI.ZA.KE	HT1a.3
10. DI.L83	HTW217a.1
11. ?]DI.L88.L41[?	KNZ13
12. ?]DI.PA?.YA?[?	PH7a.1
13. ].DI.YA.I?	HT29.3

**DO [L101]**

1. DO.DI	HTW209a
2. DO.DI.NA	HTW210a
3. DO.DI.RA	HTW212a
4. DO.DU	HT99b.2
5. DO.RA	PHW20
6. DO.RI?.SE.DE.L79[?	ARKH2.3
7. DO.SU	HT1a.2
8. DO.YU?.DI	HT101.1
9. DO.YU.PU2	HT25a.4

**DU [L93]**

1. DU.DA.MA	HT6b.4
2. DU.DO[?	HT36.3
3. DU.ME?.DI	HT19.3
4. DU.PA3.NA	HT115b.2
5. ?]DU.PI.ZA?.NA	HT123b.4-5
6. ?]DU.PU2.RI?.[	HTZ160
7. ?]DU?.RA	MA2a
8. ?]DU.RA.RE[?	KNZ7
9. DU.RU.WI[?	HT25a.4
10. DU.YA	HT7a.3
11. DU.L37.ZA.SE	ZA17.1
12. DU.L65.A	HT15.1
13. ].DU.NE.MI	HT127a.1
14. ].DU?.SU?.[	HT62+73.4
15. ].DU.WA.NA?	KNZ10b

**KA [L29]**

1. KA?.DU.MA.NE	HT29.6
2. KA.KU	HT62+73.2
3. KA.KU.PA	HT16.1, HTW215a
4. KA.ME.[	HT140.3
5. KA.NA	HT23a.1, HT123b.4?
6. KA.NA.NI.TI	KHW2
7. KA.NI.YA.MI	CRZf1.B
8. KA.NU.TI	HT97a+109.3
9. KA.PA	HT6a.1, HT8b.3, HT94b.1, HT102.1, HT105.1, HT140.5
10. KA.PA?.QE	HT6a.5
11. KA.PO.RU	HT115a.5

12. KA.QE	HT140.3
13. KA.RA[?]	HT9b.2
14. KA.RE.RO	HTW203
15. KA.RI.L63.I	HT98a.4
16. KA.RO.NA	HT11a.2
17. KA.RO.PA3	HT31.3
18. KA?RO?.SU?	HT34.3
19. KA.RU	HT75, HT84.1, HT97a+109.1
20. KA.SA.RU	HT10b.3
21. KA.SI.A.TI	ISZ1
22. KA.SU	PK1.1
23. KA.TI	HT63.1, HT126b.2?
24. KA.U.DE.TA	HT13.1
25. KA.U.DO.NI	HT26b.2-3
26. KA.YU?	HT88.3
27. KA.[.]TU	HT47a.1

**KE [L24]**

1. KE.KI.RU	HT94a.2
2. ?]KE?.PA.YA[?	KNZ13

**KI [L103]**

1. KI.DA.RO	HT117a.9, HT27a.4?
2. KI.DA.TA	HT40.2, HT47a.4
3. KI.DE.MA.L09?.NA	HT31.4
4. KI.DI.NI?	HT93a.2-3
5. KI.KI.NA	HT88.2
6. KI.KI.RA.YA	HT85b.1
7. KI.RA	HT103.5
8. ?]KI.RE	ZA1a.1
9. KI.RE.TA.NA	HT2.3, HT8a.5, HT108.2, HT120.4-5
10. KI.RE.TA2	HT85b.1-2, HT129.1
11. KI.RE.YA.TU	PKZ8.2
12. KI.RI.TA2	HT114a.1, HT121.1
13. KI.RO	HT1a.1, HT15.4, HT30.4, HT34.6, HT88.3, HT93b.1, HT94a.1, HT117a.1, HT123a.2, HT123a.4, HT123a.5, HT123a.7, HT123a.9, HT123b.6
14. KI.RU	MIZ1
15. KI.TA.I	HT123a.1
16. KI.WE.SI	TY3a.1

17. KI.L63.RE HT37.3  
 18. ]KI.DU.KU. HT27a.5  
 19. ]KI.MI.[ HT54a.3

**KO [L45]**

1. KO.A.DU.WA TY3b.6  
 2. KO.RU HT23a.5, HT23b.3  
 3. KO.YA HT119.2, HT62+73.5?  
 4. ].KO.RI? HT11a.3

**KU [L98]**

1. KU.DA HT122a.8  
 2. ?]KU.DO.NA?[? HT64.1  
 3. KU.DO.NI HT13.4, HT85a.4  
 4. KU.DWE ZA16.1  
 5. KU.KU.DA.RA HT117a.7  
 6. KU.MA.YU[? HT20.2  
 7. KU.MI? HT110a.1  
 8. KU.MI.NA.QE HT54a.2, HTW214a  
 9. KU.NI.SU HT10a.1, HT86a.1, HT86b.1-2, HT95a.3, HT95b.3  
 10. KU.NI.TE KH92.1  
 11. KU.PA HT110a.2, HTW220a  
 12. KU.PA3.NU HT1a.3, HT3.6, HT49a.6, HT88.3, HT88.4,  
 HT117a.3, HT122a.6, HT122a.7  
 13. KU.PA3.NA.TU HT47a1-2, HT119.3  
 14. ?]KU.PA3.NA.TU.NA.TE[? APZ2b.1  
 15. KU.PA3.WE.YA HT24a.1  
 16. KU.PA.YA HT116a.1  
 17. KU.RA ZA17.4  
 18. KU.RA.RE? HT117a.3  
 19. KU.RA.L82? ARKH2.1-2  
 20. KU.RE.YU HT39.2, HT117b.1  
 21. ?]KU.RE?[ HT39.3  
 22. KU.RO HT11a.3, HT25b.4, HT11b.5, HT9a.6, HT9b.6, HT13.7,  
 HT27a.7, HT39.4, HT46a.1, HT67.2, HT74, HT85a.6, HT88.5,  
 HT89.4, HT94a.3, HT94b.3, HT97a+109.8, HT100.3, HT101.4,  
 HT102.5, HT104.4, HT110a.3, HT110b.1, HT116b.1, HT117a.6,  
 HT118.5, HT119.6, HT122a.8, HT122b.5, HT123a.7, HT123a.8,  
 HT123b.6, HT127b.2, HT127b.5  
 23. KU.RU.KU HT87.4

24. KU.RU.MA[?	HT115b.3
25. KU.TA.[	HT115b.4
26. ?]KU.ME.I	PKZ14
27. ].KU.MA.RO	HT96a.5
28. ].KU.ME.TA	HT51b.1
29. ].KU.NI.[	HT83.3

**MA [L95]**

1. MA.DA.TI	PK1.7
2. MA.DI	HT3.7, HT69.3, HT85b.5, HT97a+109.4, HT118.1
3. MA.DWE	HT6a.3, HT97a+109.6, HT102.3-4
4. MA.I.MI	HT89.2
5. MA.KA.I.SU	PK1.7
6. MA.KA.RI.TE?	HT117a.1, HT87.1-2
7. ?]MA.RI.TA2	HT90.2
8. MA.RE	PH19.2, HT128a.4?, HT55a.1?
9. MA.RU	HT117a.3
10. MA.SI.DU	HT43.1
11. MA.WE.RE?.I?	HT6b.3
12. MA.YA.[	KH90.1
13. ?]MA?.ZO?.RE.SA[?	PH10a.1
14. ].MA.I.[	IOZa12
15. ].MA.SI	HT5.2

**ME [L84]**

1. ME.KI.DI	ZA1
2. ME.ZA	HT10a.4, HT85b.3, HT154bis.1
3. ].ME?.RU	HT46a.1

**MI [L76]**

1. MI.DA.NI?	HT41.3
2. MI.DE.[	PH19.2
3. MI.KA.[	HT135a.2
4. MI.KI.SE.NA	HT26a.3
5. MI.NU.TE	HT86a.5, HT95a.2, HT95b.2-3, HT106.1
6. MI.RU.TA?.RA.RE	HT117a.4-5
7. MI?.TI.SA	HT31.1
8. MI.TU	HT117a.2, HT135a.2
9. MI?.TU.PA3.KI.[	AMZ1a
10. ].MI.DA	HT27b.1

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|---------------|-----------|
| 11. ]MI?NA?   | PKZ11.2   |
| 12. ]MI.NA[?  | KH79+89.1 |
| 13. ]MI.NU.MI | HT47a.6   |
| 14. ]MI.TA    | HT128a.3  |
| 15. ]MI.YA.RU | ZAZg35    |

**MU [L27]**

- |                |       |
|----------------|-------|
| 1. MU.RU.SA?RU | HT3.4 |
| 2. ]MU?.WI[    | HT78  |

**NA [L26]**

- |                             |                      |
|-----------------------------|----------------------|
| 1. NA.DA.RE                 | HT117a.5             |
| 2. ?]NA.[MI?].DA.DA.[KI.? [ | IOZa11.1             |
| 3. NA.MI.L85 [              | KNZ19.2              |
| 4. NA.TI                    | HT97a+109.4          |
| 5. NA.WI?.[                 | HT111b.3             |
| 6. NA.L68?.NE.[             | HT135a.3             |
| 7. NA.L111                  | HT115a.2, HT155a.2 ? |
| 8. ].NA.A.PA3?.[            | KNZ20                |
| 9. ].NA.KI                  | KH92.2               |
| 10. ].NA.NE.MI              | TRYZ1                |
| 11. ].NA.RA2[?              | HT64.2               |
| 12. ].NA.SI                 | APZ2.1               |

**NE [L61]**

- |             |                    |
|-------------|--------------------|
| 1. NE.MI.NA | HT115a.3, HT135a.1 |
| 2. NE.NI[   | HT89.5             |
| 3. ].NE.L63 | KNZ f31 : B        |

**NI [L60]**

- |                     |         |
|---------------------|---------|
| 1. NI.NU.QA.A.TU.I  | PLA : E |
| 2. NIL41            | KNW26   |
| 3. NI?.SI.[         | HT140.2 |
| 4. NI.YA.NU         | KNZc6   |
| 5. ].NI?.RA?.[      | PH11a.2 |
| 6. ].NI.KA.TE.YA.ME | PLA : A |
| 7. ].NIL67.YA.[     | PH9a    |

**NU [L25]**

- |             |                    |
|-------------|--------------------|
| 1. NU.DU.WA | HT40.1             |
| 2. NU.WI    | HT115a.2, HT115b.2 |

**PA [L02]**

- |                  |   |
|------------------|---|
| 1. PA.DE         | HT9a.2, HT9b.2, HT122a.5                  |
| 2. PA.I.KI.[     | HT62+73.5                                 |
| 3. PA.I.TO       | HT97a+109.3, HT120.6, HT122a.3            |
| 4. PA.KA         | HT85b.3                                   |
| 5. PA?.NWA.I[?   | HT43.1-2                                  |
| 6. PA.RA[?       | HT128a.1, PH3a.3?                         |
| 7. PA.RA.NE      | HT115a.4, HT115b.1                        |
| 8. PA.RI?        | PKZ11.4, PH3a.3?                          |
| 9. PA.RO.SU      | HT20.1, HT104.3?                          |
| 10. PA.SA.WE?.YA | HT24a.4                                   |
| 11. PA.SE        | HT18.1, HT27b.4                           |
| 12. PA.SE.YA     | HT93a.8, HTW201, HTW202                   |
| 13. PA.TA.DA     | HT?170.3, HTZ160                          |
| 14. PA.TA.NE     | HT94a.1, HT122a.6                         |
| 15. PA.TA.QE     | HT31.4                                    |
| 16. PA.YA        | PH1b.1, MA4b?                             |
| 17. PA.YA.RE     | HT8b.4, HT29.2, HT88.4, HT117a.5, TY3a.4? |
| 18. ?]PA.YA.SA[? | PH11b.1                                   |
| 19. ].PA.DA.NI   | KH79+89.3                                 |
| 20. ].PA.TA      | KH79+89.2                                 |
| 21. ].PA.RA.[    | HT83.2                                    |

**PA3 [L01]**

- |                 |                          |
|-----------------|--------------------------|
| 1. PA3.NI       | HT85a.2, HT102.2         |
| 2. PA3.NI.NA    | HT6b.6, HT93a.1, HT93a.8 |
| 3. PA3.KA.RA.TI | HT8a.2                   |
| 4. PA3.L87      | HT8b.2                   |
| 5. ].PA3.L135?  | PKZ8.1                   |

**PI [L56]**

- |                |                      |
|----------------|----------------------|
| 1. PI.PI       | HT85a.1, HT97a+109.1 |
| 2. PI.SA       | HT113.2, HT123b.2    |
| 3. PI.TA.KA.SE | HT21a.1              |
| 4. PI.TA.KE.SI | HT87.2               |
| 5. PI?.TA.RA   | HT96a.4              |

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|-----------------------------|----------|
| 6. PI.TA.YA                 | HT6a.2   |
| 7. PI.TE.QA?                | PKZ11.2  |
| 8. ?]PI?.YA.SU.MA.TI.TI.L14 | HTZ157   |
| 9. PII.69.TE                | HT116a.4 |
| 10. PI.[.].DO               | TY3a.2   |
| 11. ].PI?.MA.RE             | HT55a.1  |
| 12. ].PI.YU.RI.[            | KNZ19    |

**PO [L21]**

- |                |                  |
|----------------|------------------|
| 1. PO.TO.KU.RO | HT122b.6, HT131b |
|----------------|------------------|

**PU [L64]**

- |                  |                             |
|------------------|-----------------------------|
| 1. PU.KO         | HT31.1                      |
| 2. PU.PI.[       | TY2.1                       |
| 3. PU.RA2        | HT28a.3, HT116a.2, HT49a.1? |
| 4. PU.L82        | HT14.1, HT123a.3            |
| 5. ].PU.MA.KU?.[ | HT139.1                     |

**PU2 [L34]**

- |             |       |
|-------------|-------|
| 1. PU2.RE.[ | PKZ15 |
|-------------|-------|

**QA [L62]**

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|-------------------|-----------------------------------|
| 1. QA.KU.RE       | HTW217a.1                         |
| 2. QA.MI.KA.NA.RA | KNZ β1 : D                        |
| 3. QA.NU.MA       | HT116a.6, KH88.1                  |
| 4. QA.PA3         | HT31.2                            |
| 5. QA.QA.RU       | HT118.2, HT93a.5, HT122b.3        |
| 6. QA.RA2.WA      | HT86a.3                           |
| 7. QA.RE.TO       | HT111a.1, HT132.1-2               |
| 8. QA?.SA.KE.TI   | HT117a.7-8                        |
| 9. QA.TI.DA[?     | HT12.1                            |
| 10. QA.TI.L68     | ZA1a.2                            |
| 11. QA.L63.I      | HT8a.3, HT8b.3, HT85b.5, HT122a.4 |
| 12. QA.L85[?      | HT96b.1                           |
| 13. ].QA?.DU      | HT51b.2                           |
| 14. ].QA.DO [     | HT108.4                           |
| 15. ].QA?.TI      | HT61.1                            |



**QE [L91]**

1. QE.DE.MI.NU	MA1a, MA1b
2. QE.KA	HT85b.2, HT111a.1
3. QE.KU.RE	HT20.3
4. QE.PI.TA	HT6a.6
5. QE.PU	HT9a.3, HT9b.4
6. QE.RA2.U	HT1a.1, HT3.2, HT95a.5, HT95b.5
7. QE.SI.[	HT111b.2
8. QE.SI.TI	MAZ11
9. QE.SU.PU	HT87.4
10. QE.TI	HT7a.1
11. QE.TI.RA.DU	HT58.1
12. QE.TU?.[	HT62+73.6, HT41.1?
13. QE.TU.NE	HT12.3
14. QE.TU.SI	PHW14a
15. ].QE.TU	HT41.1

**RA [L53]**

1. RA.DE?.ME.TE	HT94a.4
2. ?]RA.ME	PKZ12.3
3. RA.NA.TU.SU.PU2.MI.WE.[	PK1
4. ?]RA.RE	HT96b.2
5. RA.RE.RA	HTW206b
6. RA.RI.DE.[	HT113.1
7. RA.SWI.TI	HT17.1, HT19.1
8. RA.TI.SE	HT6b.2
9. ].RA.A?[?	PH9.2
10. ].RA.NA.RE.[	HT47b.1
11. ].RA.RI	HT122a.1

**RE [L54]**

1. RE.DI.SE	HT85b.4
2. RE.RO	HTW212b, HT45a+71.1
3. RE?.RU[?	HT55a.2
4. RE.ZA	HT13.2, HT88.1
5. RE.L68.[	APZ2a.2
6. ].RE.TA2	HT125b.3
7. ].RE?.TI	MA2b.1
8. ].RE.TU	HT42.5

**RI [L72]**

- |                     |          |
|---------------------|----------|
| 1. RI?.KA           | HT146.2  |
| 2. RI.MI.SI         | HT119.2  |
| 3. RI?.MI?.SU.TU?.[ | HT49a.2  |
| 4. RI.NA.[          | PKZ16    |
| 5. RI?.RU.MA        | HT118.4  |
| 6. RI.TA.MA         | HT115a.1 |
| 7. ].RI?.L66        | HT146.1  |
| 8. ].RI.[.].SU [    | HT60.1   |

**RO [L22]**

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|-----------------|-------|
| 1. RO.L69.TI.DA | KNZ12 |
| 2. RO.L135      | PH12  |

**RU [L55]**

- |                    |                 |
|--------------------|-----------------|
| 1. RU.DO?.NA       | HT11b.3         |
| 2. ?]RU.MA.[       | HT64.2          |
| 3. RU.MA.TA        | HT29.1, HT99b.2 |
| 4. RU.MA.TA.SE     | ZA17.3          |
| 5. ?]RU.MA.TI      | HT170?b.4 (B)   |
| 6. ?]RU.MA.L147?.[ | PH7a.3          |
| 7. RU.MI.[         | ARKH2.6         |
| 8. RU.SA           | HT96a.3         |
| 9. RU.SA?.PA3?     | HT128b.2        |
| 10. RU.YA          | KNW26a, HT7a.2? |
| 11. ?]RU.YA?.SE.ME | HT128a.1        |
| 12. RU.YA.TA.DI    | HTW208b         |
| 13. ].RU.DI.[      | HT141.2-3       |
| 14. ].RU.I         | HTZ158a         |
| 15. ].RU?.I.KA?.[  | KNW3            |
| 16. ].RU.NA        | KN2             |

**SA [L31]**

- |              |  |
|--------------|--|
| 1. SA.DI     | HT100.1, HT111b.1  |
| 2. SA.MA     | HT6b.5, HT10a.1, HT52a.1   |
| 3. SA.MA.RO  | HT88.4-5, HT39.3?  |
| 4. SA.QE.RI? | HT11b.4  |
| 5. SA.RA2    | HT11b.1HT30.1, HT32.1, HT33.1, HT34.1, HT18.2,<br>HT28a.2, HT28b.3, HT90.1, HT93a.4, HT94b.3, HT99a.1, |

	HT100.4, HT101..3, HT102.1, HT105.3, HT114a.1-2, HT121.2, HT125a.4, HT130.2
6. SA.RA.RA	HT30.3
7. SA.RE.YU	HT20.4
8. SA.RO	HT9a.1, HT17.2, HT19.2, HT25b.2, HT42.2, HT62+73.6
9. SA.RO.TE	HT38.1
10. SA.RU	HT86a.2, HT86b.2, HT94a.2, HT95a.3, HT95b.1, HT123a.4
11. SA.SA?.ME	HT23a.4-5
12. SA.TA	HT115b.4, HT117a.7
13. SA.YA.MA	HT31.3
14. SA.L09?.RE?	HT29.4
15. SA.L15.ZE	HT16.4
16. SA.L82	HT114b.1
17. ].SA.LL41.[	PSZ2.1
18. ].SA.RA.DI	HT27a.5

**SE [L77]**

1. SE.KU.TU	HT115a.3
2. SE.WA.AU?.DE	ZAZg35
3. ].SE.DA.[	HT49b.3

**SI [L57]**

1. SI.DA	ARKH2.1
2. SI.DA.RE	HT17.3, HT49a.4, HT122a.5
3. ?]SI.DU.PA[?	HT123b.4-5
4. SI.DU.QA?[?	HT110a.1
5. SI?.I	HT34.1
6. SI.KA	HTW227
7. SI.KI.NE?	HT116a.5-6
8. SI.KI.RA	HT8a.4
9. SI.MA	PHZ4
10. SI.MI.TA	HT96a.2-3
11. SI.NI?.[	TEZ1
12. SI.RE.[	HT4.2
13. SI.RU.TE	IOZa2.1, PKZ11.4, SYZa3, APZ2, KOZ1.3, TLZ1.3, VRYZa1*
14. SI.TE.TU	ZA17.2
15. SI.TU	ZA17.3
16. SI.TU.NE	HTW221a
17. SI.TU.NE.TI	PK1.1
18. ?]SI.TU.RA2?.TI?	HT3.5

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|---------------|---------|
| 19. ].SI.PU.[ | HTZ161  |
| 20. ].SI.RA   | HT49a.4 |
| 21. ].SI.TA   | PH3a.1  |
| 22. ].SI.TI.[ | PH3b.2  |

**SO [L07]**

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|-------------|--------------------------|
| 1. SO.DI.RA | HT9b.3, HT9a.4, HT122a.5 |
|-------------|--------------------------|

**SU [L59]**

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|------------------------|-----------------|
| 1. SU.DU.[             | HT42.4          |
| 2. SU.KA               | HTW209a         |
| 3. SU.KI?.RE.SU        | HT37.1          |
| 4. ?]SU.KI.RI?.TA      | PHW18           |
| 5. SU.KI.RI.TE.I.YA    | HTZb158         |
| 6. SU?.MA?             | HT115a.6        |
| 7. SU.NE.[             | HT63.1-2        |
| 8. SU.NI.KA            | HTW204a, HTW205 |
| 9. SU.PA3.RA           | HT31.4          |
| 10. SU.PU              | HT31.2          |
| 11. SU.PU2.KA          | HT8b.1          |
| 12. SU.SE?             | HT32.3          |
| 13. ].SU?.YU.TA.[      | KN?22a.1        |
| 14. ].SU.MA.ME.[       | HT81.2          |
| 15. ].SU.MA.TI.ZA.I.TE | PK1.3           |

**TA [L74]**

- |                        |                                   |
|------------------------|-----------------------------------|
| 1. TA?.DA?.NE?         | HT49b.4                           |
| 2. TA.I.L65            | HT9b.4, HT9a.5, HT39.1            |
| 3. TA.MA.SI            | ZA17.6                            |
| 4. TA.NA.I.L88         | IOZa6.1                           |
| 5. ?]TA.NA.I.L88.L20[? | PSZ2.2                            |
| 6. TA.NA.RA.TE         | IOZa2.1                           |
| 7. TA.NA.TI            | HT7a.4, HT10b.4, HT49a.2, HT98a.2 |
| 8. TA.NA.TE            | ZA6b                              |
| 9. ?]TA.NU.A?.TI       | KNZ10a                            |
| 10. TA.NU.DE.KI.NA     | PLA : D                           |
| 11. ?]TA.NU.RI?.YA[?   | PKZ13                             |
| 12. TA.PA              | HT104.1                           |
| 13. TA.PA3.DU          | PRZ1.1                            |
| 14. TA.RA              | HT84.1, HT89.3                    |

15. ?]TA.RA.I[?	KNZ13
16. TA.RI?.NA	HT10b.2
17. TA.SA.ZA	KNZf31 : I
18. TA.TE.I.TU.ZA.RE	KNZf31 : J
19. TA.TI	HT26a.2, HT97a+109.5
20. ].TA.DO.[	HT66.3
21. ].TA?.DU.WE?.TE	HT4.2
22. ].TA?.NE.[	HT135b.1
23. ].TA?.NI	HT51a.1
24. ].TA.PI.SI.DI	HT4.3

**TA2 [L86]**

1. TA2.TI.TE	PK1.3
2. TA2.L80.TE	PK1.2
3. ].TA2.TU	HT154bis.2

**TE [L92]**

1. TE.KE	HT85a.5
2. TE.KI	HT13.3, HT122a.3
3. ?]TE.PU.A[?	KNZ13
4. TE.SU.DE.L89.KE.I	KNZ f31 : F
5. TE.TU	HT13.3, HT7a.5, HT85b.2
6. TE.L65	ZA17.3
7. TE.L82	HT17.1, HT19.2?
8. TE.L88	HT8a.3, HT98a.3
7. ].TE.RO.NI	HT26b.2

**TI [L78]**

1. TI?.DA?.TA?	HT123b.2
2. TI.DI.TE.QA.TI	KNZ f31 : H
3. TI.DU[?	TYZg1
4. TI.DU.KI[?	ZA1?b.1
5. TI.DU.NI	HT49a.3
6. TI.MA.RU.WI.TE	PYR1.1
7. TI.NI	HT51a.2
8. TI.NI.TA	HT27a.1
9. TI.NU.YA	HT115b.2
10. ?]TI.RE.U[?	PH1b
11. TI.TA.NA	HTW220
12. TI.TI.KU	HT35.1, ZAZ3.2

**TU [L06]**

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|-----------------------|---------------------|
| 1. TU.MA              | HT110b.1-2, HT94a.1 |
| 2. TU.NU              | KAZ1                |
| 3. TU.PA.DI.DA        | HT123b.3            |
| 4. TU.QA              | HT23a.4             |
| 5. TU.QE.NU           | HT25a.3             |
| 6. TU.RU.SA.RA2.[.]RE | KOZ1.2              |
| 7. TU.SU.PU2?         | HT49a.6             |
| 8. TU.L68.MA          | HT117a.3-4          |
| 9. TU.L79.RI?NA       | HT129.2             |
| 10. ].TU.ME.I         | PKZ14               |
| 11. ].TU.PA           | HT112a.2            |
| 12. ].TU.SA?          | HT79.2              |

**WA [L75]**

- |                        |                 |
|------------------------|-----------------|
| 1. WA.DI.NI            | HTW208a         |
| 2. WA.DU.NI.MI         | HT6b.1, HT85b.4 |
| 3. WA.KA.MI.ZA.RE.NA.[ | PK1.3           |
| 4. WA?.PI?.TI?.NA.RA2  | PHZ5 (R.P)      |
| 5. WA.TU.MI            | HTW206a         |
| 6. WA.TU.MI?.RE        | HT128a.2        |
| 7. ].WA.L20            | PSZ2.3          |

**WE [L94]**

- |             |         |
|-------------|---------|
| 1. WE.MI.[  | PSZ1    |
| 2. WE.SE    | TY2.5   |
| 3. ].WE?.YA | HT55b.2 |

**WI [L28]**

- |                |          |
|----------------|----------|
| 1. WI.DI.NA    | HT28a.5  |
| 2. ].WI.DU     | HT5.3    |
| 3. ].WIL87.MI? | KN?22b.1 |

**YA [L32]**

- |                      |               |
|----------------------|---------------|
| 1. YA.DE?            | HT119.4       |
| 2. YA.DI             | PHW16a        |
| 3. YA.DI.KI.TE.TE.PI | PKZ8.1, PKZ15 |
| 4. YA.DI.KI.TU       | IOZa2.1       |
| 5. YA.DI?.RA?.TI     | KN1a.1        |
| 6. YA.DU             | HT122a.7      |

7. ?]YA.KI.PA3?[]?	PH13.2
8. YA.KU	MA2b.2
9. YA.KU.TI	KN1b.1
10. ?]YA.MA[]?	MA2c.2
11. YA.MI.DA.RE	HT122a.4
12. ?]YA.PA.TA.I.DA.L88.DI[]?	PKZ9
13. ?]YA.QE	KNZ17
14. YA.QI	HT28a.4, HT28b.1
15. YA.RE.MI	HT87.3
16. YA.SA.SA.[]	PKZ14, IOZa9*
17. YA.SA.SA.RA.MA.NA	KNZ10a
18. YA.SA.SA.RA.ME	TLZ1.2, IOZa2.1, IOZa12, KOZ1.1
19. YA.SA.SA.RA.MU?	PLA : C
20. YA.SA.SA.RA.L'13	IOZa6.2, PSZ2.3
21. YA.SI	KNZ4
22. YA.SU.MA.TU.RE	SYZa2.2
23. YA.TA.I.L88.U.YA[]?	APZ1
24. YA.TI.DWE []	IOZa7
25. YA.TI?.TU.KU	LAZ1
26. YA.TU.YA	ZA8a.2
27. YA.YA.A []	PKZ18
28. ].YA?.L143?.TA?.A.NA.NE?	KNZ7

**YE [L81]**

1. YE.DI	HT8a.1, HT36.1, HT122b.1, HT140.1
2. ].YE.L83	HT94b.4

**YU [L96]**

1. YU.KI.TA	HT29.4
-------------	--------

**ZA [L23]**

1. ?]ZA.DWE	TY3b.1
2. ZA?.KI.SE.NU.TI	CRZf1 : D

**L04**

1. L04.L99?.DI.NE	HT6a.4
-------------------	--------

**L08**

1. L08.YU?	HT119.4
------------	---------

**L09**

1. L09.A HT96a.3

**L20**

1. L20?.SA.DI? PHW15

**L35**

1. L35.KA HT11b.2  
2. L35.L87 HT8b.4

**L36**

1. L36.TA HT10b.2  
2. L36.TE? HT26a.1

**L41**

1. L41.RU.L135?.L68 PH2.3  
2. ].L41.MI.NA.TE APZ2a.2

**L42**

1. L42.PA3 HT93a.1

**L66**

1. L66.RU HT10a.3  
2. L66.TE HT63.1

**L68**

1. ].L68.KU.NA.PA.KU.A.RI?.[ KNZ6  
2. ].L68.RA.[ HT80  
3. ].L68?.WI.[ HT78

**L69**

1. L69?.TI?.L12? KNZ6

**L79**

1. L79.TA.RA2? HT84.2  
2. L79.TA.RI.[ KH92.1  
3. L79.TU.[ HT94a.5  
4. L79.TU.NE HT7b.1, HT87.1, HT117b.1  
5. L79.L85 KH88.1, ZA1, ZA10



**L80**

- |                 |           |
|-----------------|-----------|
| 1. ?]L80.DI.KI  | PH2.2     |
| 2. L80.KI.WE.[  | KNZ12.1   |
| 3. L80.SU.QA.RE | TLZ1.1    |
| 4. L80.TE.YA    | PK1.4     |
| 5. L80.TI.KE?   | HT93a.6-7 |

**L83**

- |                       |                                   |
|-----------------------|-----------------------------------|
| 1. L83.TU             | HT9a.2, HT9b.3, HT119.4, HT122a.6 |
| 2. L83.TU.YA          | HT115b.3                          |
| 3. ]L83.KI.TA2        | HT122b.2                          |
| 4. ]L83.TI.KA.A.RE?.[ | HT4.1                             |

**L85**

- |            |         |
|------------|---------|
| 1. ]L85.KA | HT140.2 |
|------------|---------|

**L87**

- |             |                   |
|-------------|-------------------|
| 1. L87.DU   | HT123b.3, HTW223a |
| 2. L87.PE?  | HT123b.1          |
| 3. L87?.L35 | HT26b.4           |

**L88**

- |               |        |
|---------------|--------|
| 1. ]L88.NA.DI | MA2c.1 |
|---------------|--------|

**L89**

- |                   |       |
|-------------------|-------|
| 1. L89.DA.TI.YE [ | AMZ1b |
|-------------------|-------|

**L99**

- |               |                                      |
|---------------|--------------------------------------|
| 1. L99.I      | HT7a.2?, HT11a.4, HT62+73.5, HT93a.5 |
| 2. L99.PI.[.] | KNZ7                                 |

**L111**

- |            |        |
|------------|--------|
| 1. ]L111.[ | HT82.2 |
|------------|--------|

**L143**

- |                 |      |
|-----------------|------|
| 1. ]L143?.TO?.[ | KNZ6 |
|-----------------|------|

**L151**

- |                 |       |
|-----------------|-------|
| 1. L151?.SA.PA3 | PH2.4 |
|-----------------|-------|



## **APPENDIX (IV)**

### **Linear A and B Sign Frequency**

This appendix presents the individual sign-frequencies for Greek Linear B (Appendix I), "non-Greek" Linear B (Appendix II), all Linear A (Appendix III) and Linear A from Haghia Triadha only (also Appendix III). Note that the sign-numeration here follows Bennett's (B) system for Linear B and Carratelli's (L) system (as found in W.C. Brice) for Linear A.



1. SIGN-FREQUENCIES FOR GREEK LINEAR B<sup>1</sup>

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B01 [DA]</b>	15 25.00%	42 70.00%	3 5.00%	60 1.06%
<b>B02 [RO]</b>	4 1.95%	95 46.34%	106 51.71%	205 3.62%
<b>B03 [PA]</b>	36 47.37%	32 42.11%	8 10.53%	76 1.34%
<b>B04 [TE]</b>	24 14.63%	91 55.49%	49 29.88%	164 2.90%
<b>B05 [TO]</b>	26 14.77%	64 36.36%	86 48.86%	176 3.11%
<b>B06 [NA]</b>	6 7.89%	37 48.68%	33 43.42%	76 1.34%
<b>B07 [DI]</b>	22 61.11%	14 38.89%	0 0.00%	36 0.64%
<b>B08 [A]</b>	204 88.31%	12 5.19%	15 6.49%	231 4.08%
<b>B09 [SE]</b>	3 8.11%	27 72.97%	7 18.92%	37 0.65%
<b>B10 [U]</b>	11 6.08%	84 46.41%	86 47.51%	181 3.20%
<b>B11 [PO]</b>	64 58.72%	34 31.19%	11 10.09%	109 1.93%
<b>B12 [SO]</b>	0 0.00%	25 55.56%	20 44.44%	45 0.80%
<b>B13 [ME]</b>	32 32.00%	65 65.00%	3 3.00%	100 1.77%
<b>B14 [DO]</b>	13 27.08%	30 62.50%	5 10.42%	48 0.85%
<b>B15 [MO]</b>	5 9.43%	21 39.62%	27 50.94%	53 0.94%
<b>B16 [QA]</b>	9 29.03%	13 41.94%	9 29.03%	31 0.55%
<b>B17 [ZA]</b>	2 20.00%	3 30.00%	5 50.00%	10 0.18%
<b>B20 [ZO]</b>	3 20.00%	7 46.67%	5 33.33%	15 0.27%

<sup>1</sup> The total population of signs for Greek Linear B is 5,652

## 1. SIGN-FREQUENCIES FOR GREEK LINEAR B

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B21 [QI]</b>	3 25.00%	8 66.67%	1 8.33%	12 0.21%
<b>B23 [MU]</b>	6 66.67%	3 33.33%	0 0.00%	9 0.16%
<b>B24 [NE]</b>	9 11.54%	41 52.56%	28 35.90%	78 1.38%
<b>B25 [HA]</b>	3 11.11%	9 33.33%	15 55.56%	27 0.48%
<b>B26 [RU]</b>	8 13.79%	48 82.76%	2 3.45%	58 1.03%
<b>B27 [RE]</b>	18 10.59%	120 70.59%	32 18.82%	170 3.00%
<b>B28 [I]</b>	34 29.57%	47 40.87%	34 29.57%	115 2.03%
<b>B29 [PU<sub>2</sub>]</b>	7 77.78%	2 22.22%	0 0.00%	9 0.16%
<b>B30 [NI]</b>	0 0.00%	42 91.30%	4 8.70%	46 0.81%
<b>B31 [SA]</b>	9 20.00%	25 55.56%	11 24.44%	45 0.80%
<b>B32 [QO]</b>	7 11.86%	36 61.02%	16 27.12%	59 1.04%
<b>B33 [RA<sub>3</sub>]</b>	0 0.00%	4 50.00%	4 50.00%	8 0.14%
<b>B34 [AI<sub>2</sub>]</b>	0 0.00%	1 100.00%	0 0.00%	1 0.02%
<b>B36 [YO]</b>	1 0.39%	40 15.56%	216 84.05%	257 4.54%
<b>B37 [TI]</b>	12 16.00%	61 81.33%	2 2.67%	75 1.33%
<b>B38 [E]</b>	150 70.75%	37 17.45%	25 11.79%	212 3.75%
<b>B39 [PI]</b>	33 25.00%	62 46.97%	37 28.03%	132 2.33%
<b>B40 [WI]</b>	16 26.23%	43 70.49%	2 3.28%	61 1.08%

## 1. SIGN-FREQUENCIES FOR GREEK LINEAR B

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B41 [SI]</b>	10	50	34	94
	10.64%	53.19%	36.17%	1.66%
<b>B42 [WO]</b>	22	71	91	184
	11.96%	38.59%	49.46%	3.25%
<b>B43 [AI]</b>	21	0	0	21
	100.00%	0.00%	0.00%	0.37%
<b>B44 [KE]</b>	34	108	19	161
	21.12%	67.08%	11.80%	2.85%
<b>B45 [DE]</b>	17	20	39	76
	22.37%	26.32%	51.32%	1.34%
<b>B46 [YE]</b>	0	28	2	030
	0.00%	93.33%	6.67%	.53%
<b>B48 [NWA]</b>	0	2	1	3
	0.00%	66.67%	33.33%	0.05%
<b>B50 [PU]</b>	20	11	1	32
	62.50%	34.38%	3.13%	0.57%
<b>B51 [DU]</b>	5	6	0	11
	45.45%	54.55%	0.00%	0.19%
<b>B52 [NO]</b>	3	46	86	135
	2.22%	34.07%	63.70%	2.39%
<b>B53 [RI]</b>	8	138	7	153
	5.23%	90.20%	4.58%	2.70%
<b>B54 [WA]</b>	13	46	27	86
	15.12%	53.49%	31.40%	1.52%
<b>B55 [NU]</b>	0	19	2	21
	0.00%	90.48%	9.52%	0.37%
<b>B56 [PA<sub>3</sub>]</b>	0	1	1	2
	0.00%	50.00%	50.00%	0.04%
<b>B57 [YA]</b>	1	53	115	169
	.59%	31.36%	68.05%	2.99%
<b>B58 [SU]</b>	5	7	1	13
	38.46%	53.85%	7.69%	0.23%
<b>B59 [TA]</b>	19	71	118	208
	9.13%	34.13%	56.73%	3.68%
<b>B60 [RA]</b>	21	115	36	172
	12.21%	66.86%	20.93%	3.04%

## 1. SIGN-FREQUENCIES FOR GREEK LINEAR B

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B61 [O]</b>	64	25	68	157
	40.76%	15.92%	43.31%	2.77%
<b>B62 [PTE]</b>	2	0	0	2
	100.00%	0.00%	0.00%	0.04%
<b>B64 [SWI]</b>	0	1	0	1
	0.00%	100.00%	0.00%	0.02%
<b>B65 [YU]</b>	0	2	1	3
	0.00%	66.67%	33.33%	0.05%
<b>B66 [TA<sub>2</sub>]</b>	0	0	3	3
	0.00%	0.00%	100.00%	0.05%
<b>B67 [KI]</b>	19	35	4	58
	32.76%	60.34%	6.90%	1.03%
<b>B68 [RO<sub>2</sub>]</b>	0	4	7	11
	0.00%	36.36%	63.64%	0.19%
<b>B69 [TU]</b>	16	17	1	34
	47.06%	50.00%	2.94%	0.60%
<b>B70 [KO]</b>	37	65	54	156
	23.72%	41.67%	34.62%	2.76%
<b>B71 [DWE]</b>	0	1	0	1
	0.00%	100.00%	0.00%	0.02%
<b>B72 [PE]</b>	46	32	1	79
	58.23%	40.51%	1.27%	1.40%
<b>B73 [MI]</b>	6	24	1	31
	19.35%	77.42%	3.23%	0.55%
<b>B74 [ZE]</b>	4	3	2	9
	44.44%	33.33%	22.22%	0.16%
<b>B75 [WE]</b>	21	44	74	139
	15.11%	31.65%	53.24%	2.46%
<b>B76 [RA<sub>2</sub>]</b>	0	11	7	18
	0.00%	61.11%	38.89%	0.32%
<b>B77 [KA]</b>	60	64	20	144
	41.67%	44.44%	13.89%	2.55%
<b>B78 [QE]</b>	20	9	47	76
	26.32%	11.84%	61.84%	1.34%
<b>B79 [ZU]</b>	0	1	0	1
	0.00%	100.00%	0.00%	0.02%



## 1. SIGN-FREQUENCIES FOR GREEK LINEAR B

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B80 [MA]</b>	19	36	7	62
	30.65%	58.06%	11.29%	1.10%
<b>B81 [KU]</b>	31	18	2	51
	60.78%	35.29%	3.92%	0.90%
<b>B82 [YAI?]</b>	0	2	2	4
	0.00%	50.00%	50.00%	0.07%
<b>B83 [DWO]</b>	0	1	0	1
	0.00%	100.00%	0.00%	0.02%
<b>B85 [AU]</b>	13	0	0	13
	100.00%	0.00%	0.00%	0.23%



2. SIGN-FREQUENCIES FOR "MINOAN" LINEAR B AT KNOSSOS <sup>2</sup>

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B01 [DA]</b>	32 48.48%	26 39.39%	8 12.12%	66 3.16%
<b>B02 [RO]</b>	1 1.01%	18 18.18%	80 80.81%	99 4.74%
<b>B03 [PA]</b>	20 51.28%	15 38.46%	4 10.26%	39 1.87%
<b>B04 [TE]</b>	12 38.71%	11 35.48%	8 25.81%	31 1.48%
<b>B05 [TO]</b>	5 5.81%	15 17.44%	66 76.74%	86 4.12%
<b>B06 [NA]</b>	4 8.89%	32 71.11%	9 20.00%	45 2.16%
<b>B07 [DI]</b>	15 62.50%	7 29.17%	2 8.33%	24 1.15%
<b>B08 [A]</b>	53 88.33%	4 6.67%	3 5.00%	60 2.87%
<b>B09 [SE]</b>	4 36.36%	3 27.27%	4 36.36%	11 0.53%
<b>B10 [U]</b>	10 29.41%	21 61.76%	3 8.82%	34 1.63%
<b>B11 [PO]</b>	8 34.78%	6 26.09%	9 39.13%	23 1.10%
<b>B12 [SO]</b>	0 0.00%	5 7.58%	61 92.42%	66 3.16%
<b>B13 [ME]</b>	5 31.25%	8 50.00%	3 31.25%	16 0.77%
<b>B14 [DO]</b>	3 17.65%	8 47.06%	6 35.29%	17 0.81%
<b>B15 [MO]</b>	4 14.81%	6 22.22%	17 62.96%	27 1.29%
<b>B16 [QA]</b>	21 61.76%	9 26.47%	4 11.76%	34 1.63%
<b>B17 [ZA]</b>	1 10.00%	6 60.00%	3 30.00%	10 0.48%
<b>B18 [?]</b>	1 33.33%	1 33.33%	1 33.33%	3 0.14%

<sup>2</sup> The total population of "Minoan" Linear B signs is 2,029

## 2. SIGN-FREQUENCIES FOR "MINOAN" LINEAR B AT KNOSSOS

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B19 [?]</b>	0 0.00%	0 0.00%	1 100.00%	1 0.05%
<b>B20 [ZO]</b>	2 11.76%	1 5.88%	14 82.35%	17 0.81%
<b>B21 [QI]</b>	10 76.92%	3 23.08%	0 0.00%	13 0.62%
<b>B22 [?]</b>	2 50.00%	2 50.00%	0 0.00%	4 0.19%
<b>B23 [MU]</b>	2 25.00%	6 75.00%	0 0.00%	8 0.38%
<b>B24 [NE]</b>	0 0.00%	10 58.82%	7 41.18%	17 0.81%
<b>B26 [RU]</b>	10 38.46%	12 46.15%	4 15.38%	26 1.25%
<b>B27 [RE]</b>	4 17.39%	11 47.83%	8 34.78%	23 1.10%
<b>B28 [I]</b>	16 39.02%	21 51.22%	4 9.76%	41 1.96%
<b>B29 [PU<sub>2</sub>]</b>	0 0.00%	8 88.89%	1 11.11%	9 0.43%
<b>B30 [NI]</b>	0 0.00%	19 79.17%	5 20.83%	24 1.15%
<b>B31 [SA]</b>	19 41.30%	23 50.00%	4 8.70%	46 2.20%
<b>B32 [QO]</b>	3 16.67%	7 38.89%	8 44.44%	18 0.86%
<b>B34 [AI<sub>2</sub>]</b>	1 33.33%	2 66.67%	0 0.00%	3 0.14%
<b>B36 [YO]</b>	0 0.00%	7 17.95%	32 82.05%	39 1.87%
<b>B37 [TI]</b>	10 25.64%	18 46.15%	11 28.21%	39 1.87%
<b>B38 [E]</b>	19 76.00%	4 16.00%	2 8.00%	25 1.20%
<b>B39 [PI]</b>	12 60.00%	7 35.00%	1 5.00%	20 0.96%

## 2. SIGN-FREQUENCIES FOR "MINOAN" LINEAR B AT KNOSSOS

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B40 [WI]</b>	17	8	2	27
	62.96%	29.63%	7.41%	1.29%
<b>B41 [SI]</b>	20	12	4	36
	55.56%	33.33%	11.11%	1.72%
<b>B42 [WO]</b>	8	7	18	33
	24.24%	21.21%	54.55%	1.58%
<b>B43 [AI]</b>	1	1	0	2
	50.00%	50.00%	0.00%	0.10%
<b>B44 [KE]</b>	9	15	3	27
	33.33%	55.56%	11.11%	1.29%
<b>B45 [DE]</b>	3	4	3	10
	30.00%	40.00%	30.00%	0.48%
<b>B46 [YE]</b>	1	6	2	9
	11.11%	66.67%	22.22%	0.43%
<b>B47 [?]</b>	4	1	0	5
	80.00%	20.00%	0.00%	0.24%
<b>B48 [NWA]</b>	0	5	1	6
	0.00%	83.33%	16.67%	0.29%
<b>B49 [?]</b>	2	2	0	4
	50.00%	50.00%	0.00%	0.19%
<b>B50 [PU]</b>	10	5	1	16
	62.50%	31.25%	6.25%	0.77%
<b>B51 [DU]</b>	9	11	2	22
	40.91%	50.00%	9.09%	1.05%
<b>B52 [NO]</b>	4	4	43	51
	7.84%	7.84%	84.31%	2.44%
<b>B53 [RI]</b>	4	32	5	41
	9.76%	78.05%	12.20%	1.96%
<b>B54 [WA]</b>	12	15	4	31
	38.71%	48.39%	12.90%	1.48%
<b>B55 [NU]</b>	1	17	6	24
	4.17%	70.83%	25.00%	1.15%
<b>B56 [PA<sub>3</sub>]</b>	9	8	2	19
	47.37%	42.11%	10.53%	0.91%
<b>B57 [YA]</b>	13	36	29	78
	16.67%	46.15%	37.18%	3.74%

## 2. SIGN-FREQUENCIES FOR "MINOAN" LINEAR B AT KNOSSOS

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B58 [SU]</b>	16	5	1	22
	72.73%	22.73%	4.55%	1.05%
<b>B59 [TA]</b>	23	36	44	103
	22.33%	34.95%	42.72%	4.93%
<b>B60 [RA]</b>	13	51	24	88
	14.77%	57.95%	27.27%	4.21%
<b>B61 [O]</b>	19	4	5	28
	67.86%	14.29%	17.86%	1.34%
<b>B66 [TA<sub>2</sub>]</b>	0	2	2	4
	0.00%	50.00%	50.00%	0.19%
<b>B67 [KI]</b>	21	19	0	40
	52.50%	47.50%	0.00%	1.92%
<b>B68 [RO<sub>2</sub>]</b>	0	0	3	3
	0.00%	0.00%	100.00%	0.14%
<b>B69 [TU]</b>	11	10	1	22
	50.00%	45.45%	4.55%	1.05%
<b>B70 [KO]</b>	12	14	13	39
	30.77%	35.90%	33.33%	1.87%
<b>B72 [PE]</b>	10	8	0	18
	55.56%	44.44%	0.00%	0.86%
<b>B73 [MI]</b>	8	16	4	28
	28.57%	57.14%	14.29%	1.34%
<b>B74 [ZE]</b>	3	4	1	8
	37.50%	50.00%	12.50%	0.38%
<b>B75 [WE]</b>	4	10	12	26
	15.38%	38.46%	46.15%	1.25%
<b>B76 [RA<sub>2</sub>]</b>	0	2	3	5
	0.00%	40.00%	60.00%	0.24%
<b>B77 [KA]</b>	29	23	9	61
	47.54%	37.70%	14.75%	2.92%
<b>B78 [QE]</b>	4	3	0	7
	57.14%	42.86%	0.00%	0.34%
<b>B80 [MA]</b>	16	24	3	43
	37.21%	55.81%	6.98%	2.06%
<b>B81 [KU]</b>	24	4	2	30
	80.00%	13.33%	6.67%	1.44%

## 2. SIGN-FREQUENCIES FOR "MINOAN" LINEAR B AT KNOSSOS

	INITIAL	MEDIAL	FINAL	TOTAL
<b>B82 [YAI?]</b>	0	2	0	2
	0.00%	100.00%	0.00%	0.10%
<b>B83+B90 [DWO] 2</b>	2	4	1	7
	28.57%	57.14%	14.29%	0.34%
<b>B85 [AU]</b>	1	0	0	1
	100.00%	0.00%	0.00%	0.05%
<b>B86 [?]</b>	0	2	0	2
	0.00%	100.00%	0.00%	0.10%





3. SIGN-FREQUENCIES FOR LINEAR A <sup>3</sup>

	INITIAL	MEDIAL	FINAL	TOTAL
<b>A01 [PA<sub>3</sub>]</b>	4 17.39%	10 43.48%	9 39.13%	23 1.14%
<b>A02 [PA]</b>	18 43.90%	17 41.46%	6 14.63%	41 2.03%
<b>A03 [DWE]</b>	0 0.00%	0 0.00%	4 100.00%	4 0.20%
<b>A04 [?]</b>	1 100.00%	0 0.00%	0 0.00%	1 0.05%
<b>A06 [TU]</b>	9 17.31%	25 48.08%	18 34.62%	52 2.57%
<b>A07 [SO]</b>	1 100.00%	0 0.00%	0 0.00%	1 0.05%
<b>A08 [?]</b>	1 100.00%	0 0.00%	0 0.00%	1 0.05%
<b>A09 [?]</b>	1 100.00%	0 0.00%	0 0.00%	1 0.05%
<b>A14 [?]</b>	0 0.00%	0 0.00%	2 100.00%	2 0.10%
<b>A15 [?]</b>	0 0.00%	1 100.00%	0 0.00%	1 0.05%
<b>A16 [ZE]</b>	0 0.00%	0 0.00%	1 100.00%	1 0.05%
<b>A20 [?]</b>	1 25.00%	1 25.00%	2 50.00%	4 0.20%
<b>A21 [PO]</b>	1 50.00%	1 50.00%	0 0.00%	2 0.10%
<b>A22 [RO]</b>	2 10.53%	7 36.84%	10 52.63%	19 0.94%
<b>A23 [ZA]</b>	2 14.29%	6 42.86%	6 42.86%	14 0.69%
<b>A24 [KE]</b>	2 25.00%	3 37.50%	3 37.50%	8 0.40%
<b>A25 [NU]</b>	2 7.69%	16 61.54%	8 30.77%	26 1.29%
<b>A26 [NA]</b>	7 8.54%	41 50.00%	34 41.46%	82 4.06%

<sup>3</sup> The total population of Linear A signs is 2,021

## 3. SIGN-FREQUENCIES FOR LINEAR A

	INITIAL	MEDIAL	FINAL	TOTAL
A27 [MU]	1 25.00%	2 50.00%	1 25.00%	4 0.20%
A28 [WI]	1 8.33%	7 58.33%	4 33.33%	12 0.59%
A29 [KA]	27 44.26%	17 27.87%	17 27.87%	61 3.02%
A30 [DA]	30 42.86%	30 42.86%	10 14.29%	70 3.47%
A31 [SA]	16 31.37%	27 52.94%	8 15.69%	51 2.52%
A32 [YA]	27 32.14%	24 28.57%	33 39.29%	84 4.16%
A33 [?]	0 0.00%	0 0.00%	1 100.00%	1 0.05%
A34 [PU <sub>2</sub> ]	1 14.29%	4 57.14%	2 28.57%	7 0.35%
A35 [?]	2 66.67%	0 0.00%	1 33.33%	3 0.15%
A36 [?]	2 100.00%	0 0.00%	0 0.00%	2 0.10%
A37 [?]	0 0.00%	2 100.00%	0 0.00%	2 0.10%
A39 [TO]	0 0.00%	3 60.00%	2 40.00%	5 0.25%
A41 [?]	1 10.00%	6 60.00%	3 30.00%	10 0.50%
A42 [?]	1 100.00%	0 0.00%	0 0.00%	1 0.05%
A43 [SWI]	0 0.00%	1 100.00%	0 0.00%	1 0.05%
A44 [E?]	0 0.00%	0 0.00%	1 100.00%	1 0.05%
A45 [KO]	3 42.86%	2 28.57%	2 28.57%	7 0.35%
A48 [QI]	0 0.00%	0 0.00%	1 100.00%	1 0.05%

## 3. SIGN-FREQUENCIES FOR LINEAR A

	INITIAL	MEDIAL	FINAL	TOTAL
A51 [DI]	12	26	15	53
	22.64%	49.06%	28.30%	2.62%
A52 [A]	76	11	7	94
	80.85%	11.70%	7.45%	4.65%
A53 [RA]	8	34	24	66
	12.12%	51.52%	36.36%	3.27%
A54 [RE]	5	29	25	59
	8.47%	49.15%	42.37%	2.92%
A55 [RU]	12	20	17	49
	24.49%	40.82%	34.69%	2.43%
A56 [PI]	10	8	4	22
	45.45%	36.36%	18.18%	1.09%
A57 [SI]	18	19	16	53
	33.96%	35.85%	30.19%	2.62%
A58 [RA <sub>2</sub> ]	0	5	7	12
	0.00%	41.67%	58.33%	0.59%
A59 [SU]	12	14	11	37
	32.43%	37.84%	29.73%	1.83%
A60 [NI]	4	17	13	34
	11.76%	50.00%	38.24%	1.68%
A61 [NE]	2	11	15	28
	7.14%	39.29%	53.57%	1.39%
A62 [QA]	12	8	4	24
	50.00%	33.33%	16.67%	1.19%
A63 [?]	0	3	1	4
	0.00%	75.00%	25.00%	0.20%
A64 [PU]	4	4	3	11
	36.36%	36.36%	27.27%	0.54%
A65 [?]	0	2	2	4
	0.00%	50.00%	50.00%	0.20%
A66 [?]	2	0	1	3
	66.67%	0.00%	33.33%	0.15%
A67 [?]	0	1	0	1
	0.00%	100.00%	0.00%	0.05%
A68 [?]	0	9	2	11
	0.00%	81.82%	18.18%	0.54%

## 3. SIGN-FREQUENCIES FOR LINEAR A

	INITIAL	MEDIAL	FINAL	TOTAL
A69 [?]	1 25.00%	3 75.00%	0 0.00%	4 0.20%
A72 [RI]	6 16.67%	22 61.11%	8 22.22%	36 1.78%
A74 [TA]	19 22.89%	45 54.22%	19 22.89%	83 4.11%
A75 [WA]	6 30.00%	9 45.00%	5 25.00%	20 0.99%
A76 [MI]	9 17.31%	31 59.62%	12 23.08%	52 2.57%
A77 [SE]	2 8.00%	10 40.00%	13 52.00%	25 1.24%
A78 [TI]	12 16.67%	29 40.28%	31 43.06%	72 3.56%
A79 [?]	5 62.50%	2 25.00%	1 12.50%	8 0.40%
A80 [?]	5 71.43%	1 14.29%	1 14.29%	7 0.35%
A81 [YE]	1 25.00%	1 25.00%	2 50.00%	4 0.20%
A82 [?]	0 0.00%	0 0.00%	4 100.00%	4 0.20%
A83 [?]	2 33.33%	2 33.33%	2 33.33%	6 0.30%
A84 [ME]	2 10.53%	9 47.37%	8 42.11%	19 0.94%
A85 [?]	0 0.00%	1 12.50%	7 87.50%	8 0.40%
A86 [TA <sub>2</sub> ]	2 22.22%	2 22.22%	5 55.56%	9 0.45%
A87 [O?]	3 50.00%	1 16.67%	2 33.33%	6 0.30%
A88 [?]	0 0.00%	10 76.92%	3 23.08%	13 0.64%
A89 [?]	1 50.00%	1 50.00%	0 0.00%	2 0.10%

## 3. SIGN-FREQUENCIES FOR LINEAR A

	INITIAL	MEDIAL	FINAL	TOTAL
A90 [PE]	0	0	1	1
	0.00%	0.00%	100.00%	0.05%
A91 [QE]	14	5	5	24
	58.33%	20.83%	20.83%	1.19%
A92 [TE]	8	10	23	41
	19.51%	24.39%	56.10%	2.03%
A93 [DU]	12	20	11	43
	27.91%	46.51%	25.58	2.13%
A94 [WE]	2	12	0	14
	14.29%	85.71%	0.00%	0.69%
A95 [MA]	13	28	15	56
	23.21%	50.00%	26.79%	2.77%
A96 [YU]	1	4	6	11
	9.09%	36.36%	54.55%	0.54%
A97 [U]	20	6	4	30
	66.67%	20.00%	13.33%	1.49%
A98 [KU]	26	23	11	60
	43.33%	38.33%	18.33%	2.97%
A99 [?]	2	1	0	3
	66.67%	33.33%	0.00%	0.15%
A100 [I]	35	24	19	78
	44.87%	30.77%	24.36%	3.86%
A101 [DO]	9	8	3	20
	45.00%	40.00%	15.00%	0.99%
A102 [DE]	3	15	5	23
	13.04%	65.22%	21.74%	1.14%
A103 [KI]	17	29	5	51
	33.33%	56.86%	9.80%	2.52%
A111 [?]	0	1	2	3
	0.00%	33.33%	66.67%	0.15%
A113 [AU]	1	1	0	2
	50.00%	50.00%	0.00%	0.10%
A114 [NWA]	0	1	0	1
	0.00%	100.00%	0.00%	0.05%
A120 [?]	0	1	0	1
	0.00%	100.00%	0.00%	0.05%

**3. SIGN-FREQUENCIES FOR LINEAR A**

	<b>INITIAL</b>	<b>MEDIAL</b>	<b>FINAL</b>	<b>TOTAL</b>
<b>A122 [?]</b>	0 0.00%	0 0.00%	1 100.00%	1 0.05%
<b>A134 [?]</b>	0 0.00%	1 100.00%	0 0.00%	1 0.05%
<b>A135 [?]</b>	0 0.00%	1 33.33%	2 66.67%	3 0.15%
<b>A143 [?]</b>	0 0.00%	2 100.00%	0 0.00%	2 0.10%
<b>A151 [?]</b>	1 50.00%	1 50.00%	0 0.00%	2 0.10%
<b>A178 [?]</b>	0 0.00%	0 0.00%	1 100.00%	1 0.05%

4. SIGN-FREQUENCIES FOR LINEAR A AT HAGHIA TRIADHA <sup>4</sup>

	INITIAL	MEDIAL	FINAL	TOTAL
A01 [PA <sub>3</sub> ]	4 26.67%	5 33.33%	6 40.00%	15 1.28%
A02 [PA]	15 57.69%	5 19.23%	6 23.08%	26 2.22%
A03 [DWE]	0 0.00%	0 0.00%	1 100.00%	1 0.09%
A04 [?]	1 100.00%	0 0.00%	0 0.00%	1 0.09%
A06 [TU]	7 22.58%	12 38.71%	12 38.71%	31 2.65%
A07 [SO]	1 100.00%	0 0.00%	0 0.00%	1 0.09%
A08 [?]	1 100.00%	0 0.00%	0 0.00%	1 0.09%
A09 [?]	1 100.00%	0 0.00%	0 0.00%	1 0.09%
A14 [?]	0 0.00%	0 0.00%	2 100.00%	2 0.17%
A15 [?]	0 0.00%	1 100.00%	0 0.00%	1 0.09%
A16 [ZE]	0 0.00%	0 0.00%	1 100.00%	1 0.09%
A21 [PO]	1 50.00%	1 50.00%	0 0.00%	2 0.17%
A22 [RO]	0 0.00%	7 41.18%	10 58.82%	17 1.45%
A23 [ZA]	0 0.00%	2 33.33%	4 66.67%	6 0.51%
A24 [KE]	1 16.67%	2 33.33%	3 50.00%	6 0.51%
A25 [NU]	2 14.29%	8 57.14%	4 28.57%	14 1.20%
A26 [NA]	5 13.16%	11 28.95%	22 57.89%	38 3.25%
A27 [MU]	1 50.00%	1 50.00%	0 0.00%	2 0.17%

<sup>4</sup> The total population of Linear A signs at Haghia Triadha is 1,171

## 4. SIGN-FREQUENCIES FOR LINEAR A AT HAGHIA TRIADHA

	INITIAL	MEDIAL	FINAL	TOTAL
A28 [WI]	1	5	3	9
	11.11%	55.56%	33.33%	0.77%
A29 [KA]	23	7	12	42
	54.76%	16.67%	28.57%	3.59%
A30 [DA]	25	12	6	43
	58.14%	27.91%	13.95%	3.68%
A31 [SA]	16	9	4	29
	55.17%	31.03%	13.79%	2.48%
A32 [YA]	5	7	18	30
	16.67%	23.33%	60.00%	2.56%
A33 [?]	0	0	1	1
	0.00%	0.00%	100.00%	0.09%
A34 [PU <sub>2</sub> ]	0	3	2	5
	0.00%	60.00%	40.00%	0.43%
A35 [?]	2	0	1	3
	66.67%	0.00%	33.33%	0.26%
A36 [?]	2	0	0	2
	100.00%	0.00%	0.00%	0.17%
A37 [?]	0	1	0	1
	0.00%	100.00%	0.00%	0.09%
A39 [TO]	0	1	2	3
	0.00%	33.33%	66.67%	0.26%
A41 [?]	0	3	2	5
	0.00%	60.00%	40.00%	0.43%
A42 [?]	1	0	0	1
	100.00%	0.00%	0.00%	0.09%
A43 [SWI]	0	1	0	1
	0.00%	100.00%	0.00%	0.09%
A45 [KO]	2	1	2	5
	40.00%	20.00%	40.00%	0.43%
A48 [QI]	0	0	1	1
	0.00%	0.00%	100.00%	0.09%
A51 [DI]	8	14	10	32
	25.00%	43.75%	31.25%	2.74%
A52 [A]	26	2	2	30
	86.67%	6.67%	6.67%	2.56%



## 4. SIGN-FREQUENCIES FOR LINEAR A AT HAGHIA TRIADHA

	INITIAL	MEDIAL	FINAL	TOTAL
A53 [RA]	6	17	18	41
	14.63%	41.46%	43.90%	3.50%
A54 [RE]	4	18	18	40
	10.00%	45.00%	45.00%	3.42%
A55 [RU]	9	12	15	36
	25.00%	33.33%	41.67%	3.08%
A56 [PI]	8	4	1	13
	61.54%	30.77%	7.69%	1.11%
A57 [SI]	11	10	7	28
	39.29%	35.71%	25.00%	2.39%
A58 [RA <sub>2</sub> ]	0	4	6	10
	0.00%	40.00%	60.00%	0.85%
A59 [SU]	11	7	9	27
	40.74%	25.93%	33.33%	2.31%
A60 [NI]	1	8	12	12
	4.76%	38.10%	57.14%	1.79%
A61 [NE]	2	7	12	21
	9.52%	33.33%	57.14%	1.79%
A62 [QA]	10	5	3	18
	55.56%	27.78%	16.67%	1.54%
A63 [?]	0	3	0	3
	0.00%	100.00%	0.00%	0.26%
A64 [PU]	3	2	3	8
	37.50%	25.00%	37.50%	0.68%
A65 [?]	0	2	1	3
	0.00%	66.67%	33.33%	0.26%
A66 [?]	2	0	1	3
	66.67%	0.00%	33.33%	0.26%
A68 [?]	0	7	0	7
	0.00%	100.00%	0.00%	0.60%
A69 [?]	0	2	0	2
	0.00%	100.00%	0.00%	0.17%
A72 [RI]	5	14	5	24
	20.83%	58.33%	20.83%	2.05%
A74 [TA]	7	25	15	47
	14.89%	53.19%	31.91%	4.02%

## 4. SIGN-FREQUENCIES FOR LINEAR A AT HAGHIA TRIADHA

	INITIAL	MEDIAL	FINAL	TOTAL
A75 [WA]	4	0	2	6
	66.67%	0.00%	33.33%	0.51%
A76 [MI]	7	15	8	30
	23.33%	50.00%	26.67%	2.56%
A77 [SE]	1	8	7	16
	6.25%	50.00%	43.75%	1.37%
A78 [TI]	7	11	18	36
	19.44%	30.56%	50.00%	3.08%
A79 [?]	3	1	0	4
	75.00%	25.00%	0.00%	0.34%
A80 [?]	1	0	1	2
	50.00%	0.00%	50.00%	0.17%
A81 [YE]	1	1	0	2
	50.00%	50.00%	0.00%	0.17%
A82 [?]	0	0	3	3
	0.00%	0.00%	100.00%	0.26%
A83 [?]	2	2	2	6
	33.33%	33.33%	33.33%	0.51%
A84 [ME]	1	6	3	10
	10.00%	60.00%	30.00%	0.85%
A85 [?]	0	1	3	4
	0.00%	25.00%	75.00%	0.34%
A86 [TA <sub>2</sub> ]	0	2	5	7
	0.00%	28.57%	71.43%	0.60%
A87 [?]	3	0	2	5
	60.00%	0.00%	40.00%	0.43%
A88 [?]	0	0	2	2
	0.00%	0.00%	100.00%	0.17%
A90 [PE]	0	0	1	1
	0.00%	0.00%	100.00%	0.09%
A91 [QE]	11	4	4	19
	57.89%	21.05%	21.05%	1.62%
A92 [TE]	5	2	10	17
	29.41%	11.76%	58.82%	1.45%
A93 [DU]	9	14	9	32
	28.13%	43.75%	28.13%	2.74%

**4. SIGN-FREQUENCIES FOR LINEAR A AT HAGHIA TRIADHA**

	<b>INITIAL</b>	<b>MEDIAL</b>	<b>FINAL</b>	<b>TOTAL</b>
<b>A94 [WE]</b>	0	7	0	7
	0.00%	100.00%	0.00%	0.60%
<b>A95 [MA]</b>	9	15	10	34
	26.47%	44.12%	29.41%	2.91%
<b>A96 [YU]</b>	1	2	6	9
	11.11%	22.22%	66.67%	0.77%
<b>A97 [U]</b>	11	4	3	18
	61.11%	22.22%	16.67%	1.54%
<b>A98 [KU]</b>	20	19	5	44
	45.45%	43.18%	11.36%	3.76%
<b>A99 [?]</b>	1	1	0	2
	50.00%	50.00%	0.00%	0.17%
<b>A100 [I]</b>	14	6	11	31
	45.16%	19.35%	35.48%	2.65%
<b>A101 [DO]</b>	7	5	2	14
	50.00%	35.71%	14.29%	1.20%
<b>A102 [DE]</b>	3	9	2	14
	21.43%	64.29%	14.29%	1.20%
<b>A103 [KI]</b>	13	15	1	29
	44.83%	51.72%	3.45%	2.48%
<b>A111 [?]</b>	0	1	2	3
	0.00%	33.33%	66.67%	0.26%
<b>A114 [NWA]</b>	0	1	0	1
	0.00%	100.00%	0.00%	0.09%
<b>A120 [?]</b>	0	1	0	1
	0.00%	100.00%	0.00%	0.09%
<b>A122 [?]</b>	0	0	1	1
	0.00%	0.00%	100.00%	0.09%



## APPENDIX (V)

### The Chi Square Calculations

This Appendix presents the individual chi square computations for Test Series One to Sixteen respectively. As noted in the main text, Test Series One to Three examine the principal Linear A and B phonetic correspondences under the parameters set by  $(Ho_1)$ ,  $(Ho_2)$  and  $(Ho_3)$  respectively. Test Series Four and Five examine *e/i* and *o/u* alternations specifically for  $(Ho_1)$ . Test Series Six to Nine examine vowel distribution patterns with respect  $(Ho_1)$ ,  $(Ho_2)$  and  $(Ho_3)$ . Test Series Ten examines vowel distribution patterns under the parameters defined by  $(Ho_4)$ ,  $(Ho_5)$  and  $(Ho_6)$ . Test Series Eleven to Fourteen examine consonant distribution patterns again for  $(Ho_1)$ ,  $(Ho_2)$ , and  $(Ho_3)$ . Finally, Test Series Fifteen deals with homophone distribution patterns where these are available, and Test Series Sixteen examines the distribution patterns of several phonetically untranscribed signs.



## I. Chi Square Calculations

## - Test Series One -

\*  $\chi^2$  Test of Homogeneity : A52 / B08 [A] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A52 / B08 [A] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	82.25	88.33	[6.08]	36.9664	0.41902
Medial	10.48	6.67	3.81	14.5161	2.17633
Final	7.25	5.00	2.25	5.0625	<u>1.01250</u>
				$\chi^2$ statistic =	3.60786

Therefore  $H_o$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

$\chi^2$  Goodness-of-Fit Test : A52 / B08 [A] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	82.25	88.33	[5.58]	31.1364	0.35250
Final	7.25	5.00	1.75	3.0625	<u>0.61250</u>
				$\chi^2$ statistic =	0.96500

Therefore  $H_o$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A44 / B38 [E] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A44 / B38 [E] : n/a at d.f. = 2 or d.f. = 1

A100 : B28	[I]	Linear A	non-Greek Linear B	Total
Observed	Initial	24.5	16	40.5
	Medial	15	21	36
	Final	15	4	19
	Total	54.5	41	95.5
Expected	Initial	23.11	17.39	40.5
	Medial	20.54	15.46	36
	Final	10.84	8.16	19
	Total	54.49	41.01	95.5

$\chi^2$  Test of Homogeneity : A100 / B28 [I] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	1.3900	1.9321	0.08360
	Medial	[5.5400]	30.6916	1.49424
	Final	4.1600	17.3056	1.59646
non-Greek Linear B	Initial	[1.3900]	1.9321	0.11110
	Medial	5.5400	30.6916	1.98523
	Final	[4.1600]	17.3056	<u>2.12078</u>
			$\chi^2$ statistic =	7.39141

Therefore  $H_o$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## I. Chi Square Calculations

- Test Series One -

A100 : B28	[I]	Linear A	non-Greek Linear B	Total
Observed	Initial	24.5	16	40.5
	Medial	15	21	36
	Total	39.5	37	76.5
Expected	Initial	20.91	19.59	40.5
	Medial	18.59	17.41	36
	Total	39.5	37	76.5

 $\chi^2$  Test of Homogeneity : A100 / B28 [I] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	3.090	9.5481	0.45663
	Medial	[3.090]	9.5481	0.51361
non-Greek Linear B	Initial	[3.090]	9.5461	0.48740
	Medial	3.090	9.5481	<u>0.54843</u>

 $\chi^2$  statistic = 2.00610Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ \*  $\chi^2$  Test of Homogeneity : A87 / B61 [O] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A87 / B61 [O] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	54.55	67.86	[13.31]	177.1561	2.61061
Medial	9.09	14.29	[5.20]	27.0400	1.89223
Final	36.36	17.86	[18.50]	342.2500	<u>19.16293</u>

 $\chi^2$  statistic = 23.66577Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$  $\chi^2$  Goodness-of-Fit Test : A87 / B61 [O] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	54.55	67.86	[12.81]	164.0961	2.41816
Medial	9.09	14.29	[4.70]	22.0900	<u>1.54584</u>

 $\chi^2$  statistic = 3.96400Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : A97 / B10 [U] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A97 / B10 [U] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	64.58	29.41	35.17	1236.9289	42.05811
Medial	20.83	61.76	[40.93]	1675.2649	27.12540
Final	14.58	8.82	5.76	33.1776	<u>3.76163</u>

 $\chi^2$  statistic = 72.94514Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$



I. Chi Square Calculations

- Test Series One -

A97 : B10	[U]	Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	15.5	10	25.5
	<b>Medial</b>	5	21	26
	<b>Total</b>	20.5	31	51.5
<b>Expected</b>	<b>Initial</b>	10.55	14.95	25.5
	<b>Medial</b>	10.76	15.24	26
	<b>Total</b>	20.5	31	51.5

$\chi^2$  Test of Homogeneity : A97 / B10 [U] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	4.8500	23.5225	2.31749
	<b>Medial</b>	[4.8500]	23.5225	2.72271
	<b>non-Greek Linear B</b>	<b>Initial</b>	[4.8500]	23.5225
	<b>Medial</b>	4.8500	23.5225	<u>1.50304</u>

$\chi^2$  statistic = 7.62565

Therefore  $H_0$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A30 : B01	[DA]	Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	27.5	32	59.5
	<b>Medial</b>	21	26	47
	<b>Final</b>	8	8	16
	<b>Total</b>	56.5	66	122.5
<b>Expected</b>	<b>Initial</b>	27.44	32.06	59.5
	<b>Medial</b>	21.68	25.32	47
	<b>Final</b>	7.38	8.62	16
	<b>Total</b>	56.5	66	122.5

$\chi^2$  Test of Homogeneity: A30 / B01 [DA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	0.0600	0.0036	0.00013
	<b>Medial</b>	[0.6800]	0.4624	0.02133
	<b>Final</b>	0.6200	0.3844	0.05209
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.0600]	0.0036	0.00011
	<b>Medial</b>	0.6800	0.4624	0.01826
	<b>Final</b>	[0.6200]	0.3844	<u>0.04459</u>

$\chi^2$  statistic = 0.13651

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 2 ;  $\chi^2 = 0.211$

## I. Chi Square Calculations

- Test Series One -

A30 : B01	[DA]	Linear A	non-Greek Linear B	Total
Observed	Initial	27.5	32	59.5
	Medial	21	26	47
	Total	48.5	58	106.5
Expected	Initial	27.1	32.4	59.5
	Medial	21.4	25.6	47
	Total	48.5	58	106.5

 $\chi^2$  Test of Homogeneity: A30 / B01 [DA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.1000] = 0	0000	00000
	Medial	0.1000 = 0	0000	00000
non-Greek Linear B	Initial	0.1000 = 0	0000	00000
	Medial	[0.1000] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$ \*  $\chi^2$  Test of Homogeneity : A102 / B45 [DE] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A102 / B45 [DE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	16.22	30.00	[13.78]	189.8884	6.32961
Medial	64.86	40.00	24.86	618.0196	15.45049
Final	18.92	30.00	[11.08]	122.7664	4.09221
					$\chi^2$ statistic = 25.87231

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ 

A51 : B07	[DI]	Linear A	non-Greek Linear B	Total
Observed	Initial	10	15	25
	Medial	20	7	27
	Final	12.5	2	14.5
	Total	42.5	24	66.5
Expected	Initial	15.98	9.02	25
	Medial	17.26	9.74	27
	Final	7.27	5.23	14.5
	Total	42.51	23.99	66.5

I. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A51 / B07 [DI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[5.9800]	35.7604	2.23782
	Medial	2.7400	7.5076	0.43497
	Final	3.2300	10.4329	1.12545
non-Greek Linear B	Initial	5.9800	35.7604	3.96457
	Medial	[2.7400]	7.5076	0.77080
	Final	[3.2300]	10.4329	<u>1.99482</u>
				$\chi^2$ statistic = 10.52843

Therefore  $H_{o1}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A51 : B07	[DI]	Linear A	non-Greek Linear B	Total
Observed	Initial	10	15	25
	Medial	20	7	27
	Total	30	22	52
Expected	Initial	14.42	10.58	25
	Medial	15.58	11.42	27
	Total	30	22	52

$\chi^2$  Test of Homogeneity : A51 / B07 [DI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[3.9200]	15.3664	1.06563
	Medial	3.9200	15.3664	0.98629
non-Greek Linear B	Initial	3.9200	15.3664	1.4524
	Medial	[3.9200]	15.3664	<u>1.34557</u>
				$\chi^2$ statistic = 4.84989

Therefore  $H_{o1}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A101 / B14 [DO] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A101 / B14 [DO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	47.06	17.65	29.41	864.9481	49.00556
Medial	38.24	47.06	[8.82]	77.7924	1.65305
Final	14.71	35.29	[20.58]	423.5364	<u>12.00160</u>
				$\chi^2$ statistic =	62.66021

Therefore  $H_{o1}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

**L. Chi Square Calculations**

- Test Series One -

\*  $\chi^2$  Test of Homogeneity : A93 / B51 [DU] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A93 / B51 [DU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	28.00	40.91	[12.91]	166.6681	4.07402
Medial	45.33	50.00	[4.67]	21.8089	0.43618
Final	26.67	9.09	17.58	309.0564	<u>33.99960</u>
				$\chi^2$ statistic =	38.50980

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A93 : B51	[DU]	Linear A	non-Greek Linear B	Total
Observed	Initial	10.5	9	19.5
	Medial	17	11	28
	Total	27.5	20	47.5
Expected	Initial	11.29	8.21	19.5
	Medial	16.21	11.79	28
	Total	27.5	20	47.5

$\chi^2$  Test of Homogeneity : A93 / B51 [DU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.2900] = 0	0000	00000
	Medial	0.2900 = 0	0000	00000
non-Greek Linear B	Initial	0.2900 = 0	0000	00000
	Medial	[0.2900] = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_{01}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

A29 : B77	[KA]	Linear A	non-Greek Linear B	Total
Observed	Initial	25	29	54
	Medial	12	23	35
	Final	14.5	9	23.5
	Total	51.5	61	112.5
Expected	Initial	24.72	29.28	54
	Medial	16.02	18.98	35
	Final	10.76	12.74	23.5
	Total	51.5	61	112.5

I. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A29 / B77 [KA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	0.2800	0.0784	0.00317
	Medial	[4.0200]	16.1604	1.00876
	Final	3.7400	13.9876	1.29996
non-Greek Linear B	Initial	[0.2800]	0.0784	0.00268
	Medial	4.0200	16.1604	0.85144
	Final	[3.7400]	13.9876	<u>1.09793</u>
				$\chi^2$ statistic = 4.26394

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A29 : B77	[KA]	Linear A	non-Greek Linear B	Total
Observed	Initial	25	29	54
	Medial	12	23	35
	Total	37	52	89
Expected	Initial	22.45	31.55	54
	Medial	14.55	20.45	35
	Total	37	52	89

$\chi^2$  Test of Homogeneity : A29 / B77 [KA] :

		{fo - fe} - .5	{(fo-fe) - .5} sq	{(fo-fe) - .5} sq / fe
Linear A	Initial	2.0500	4.2025	0.18719
	Medial	[2.0500]	4.2025	0.28883
non-Greek Linear B	Initial	[2.0500]	4.2025	0.13320
	Medial	2.0500	4.2025	<u>0.20550</u>
				$\chi^2$ statistic = 0.81472

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A24 / B44 [KE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A24 / B44 [KE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	21.43	33.33	[11.90]	141.6100	4.24872
Medial	35.71	55.56	[19.85]	394.0225	7.09184
Final	42.86	11.11	31.75	1008.0625	<u>90.73470</u>
					$\chi^2$ statistic = 102.07526

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A103 / B67 [KI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A103 / B67 [KI] : n/a at d.f. = 2

## I. Chi Square Calculations

## - Test Series One -

A103 : B67	[KI]	Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	15	21	36
	<b>Medial</b>	22	19	41
	<b>Total</b>	37	40	77
<b>Expected</b>	<b>Initial</b>	17.3	18.7	36
	<b>Medial</b>	19.7	21.3	41
	<b>Total</b>	37	40	77

 $\chi^2$  Test of Homogeneity : A103 / B67 [KI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[1.800]	3.2400	0.18728
	Medial	1.800	3.2400	0.16447
non-Greek Linear B	Initial	1.800	3.2400	0.17326
	Medial	[1.800]	3.2400	<u>0.15211</u>
				$\chi^2$ statistic = 0.67712

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A45 / B70 [KO] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A45 / B70 [KO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	41.67	30.77	10.90	118.8100	3.86123
Medial	25.00	35.90	[10.90]	118.8100	3.30947
Final	33.33	33.33	.00	00000	<u>00000</u>
					$\chi^2$ statistic = 7.17070

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A45 / B70 [KO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	25.00	35.90	[10.40]	108.1600	3.01281
Final	33.33	33.33	[0.50] = 0	0000	<u>00000</u>
					$\chi^2$ statistic = 3.01281

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A98 / B81 [KU] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A98 / B81 [KU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	44.23	80.00	[35.77]	1279.4929	15.99366
Medial	40.38	13.33	27.05	731.7025	54.89141
Final	15.38	6.67	8.71	75.8641	<u>11.37393</u>
					$\chi^2$ statistic = 82.25900

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

I. Chi Square Calculations

- Test Series One -

A98 : B81	[KU]	Linear A	non-Greek Linear B	Total
Observed	Initial	23	24	47
	Medial	21	4	25
	Total	44	28	72
Expected	Initial	28.72	18.28	47
	Medial	15.28	9.72	25
	Total	44	28	72

$\chi^2$  Test of Homogeneity : A98 / B81 [KU] :

		fo - fe - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[5.220]	27.2484	0.94876
	Medial	5.220	27.2484	1.78327
	Final			
non-Greek Linear B	Initial	5.220	27.2484	1.49061
	Medial	[5.220]	27.2484	2.80333
	Final			
				$\chi^2$ statistic = 7.02597

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A95 : B80	[MA]	Linear A	non-Greek Linear B	Total
Observed	Initial	11	16	27
	Medial	21.5	24	45.5
	Final	12.5	3	15.5
	Total	45	43	88
Expected	Initial	13.8	13.2	27
	Medial	23.27	22.23	45.5
	Final	7.93	7.57	15.5
	Total	45	43	88

$\chi^2$  Test of Homogeneity : A95 / B80 [MA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[2.8000]	7.8400	0.56812
	Medial	[1.7700]	3.1329	0.13463
	Final	4.5700	20.8849	2.63366
non-Greek Linear B	Initial	2.8000	7.8400	0.59394
	Medial	1.7700	3.1329	0.14093
	Final	[4.5700]	20.8849	2.75890
				$\chi^2$ statistic = 6.83018

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

I. Chi Square Calculations

- Test Series One -

A95 : B80	[MA]	Linear A	non-Greek Linear B	Total
Observed	Initial	11	16	27
	Medial	21.5	24	45.5
	Total	32.5	40	72.5
Expected	Initial	12.1	14.9	27
	Medial	20.4	25.1	45.5
	Total	32.5	40	72.5

$\chi^2$  Test of Homogeneity : A95 / B80 [MA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.6000] = 0	0000	00000
	Medial	0.6000 = 0	0000	00000
non-Greek Linear B	Initial	0.6000 = 0	0000	00000
	Medial	[0.6000] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_{01}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A84 / B13 [ME] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A84 / B13 [ME] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.34	31.25	[20.91]	437.2281	13.99130
Medial	51.72	50.00	1.72	2.9584	0.05917
Final	37.93	18.75	19.18	367.8724	19.61986
					$\chi^2$ statistic = 33.67033

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A76 : B73	[MI]	Linear A	non-Greek Linear B	Total
Observed	Initial	8	8	16
	Medial	23	16	39
	Final	10	4	14
	Total	41	28	69
Expected	Initial	9.51	6.49	16
	Medial	23.17	15.83	39
	Final	8.32	5.68	14
	Total	41	28	69



I. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A76 / B73 [MI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[1.5100]	2.2801	0.23976
	Medial	[0.1700]	0.0289	0.00125
	Final	1.6800	2.8224	0.33923
non-Greek Linear B	Initial	1.5100	2.2801	0.35133
	Medial	0.1700	0.0289	0.00183
	Final	[1.6800]	2.8224	<u>0.49690</u>
				$\chi^2$ statistic = 1.43030

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A76 : B73	[MI]	Linear A	non-Greek Linear B	Total
Observed	Initial	8	8	16
	Medial	23	16	39
	Total	31	24	55
Expected	Initial	9.02	6.98	16
	Medial	21.98	17.02	39
	Total	31	24	55

$\chi^2$  Test of Homogeneity : A76 / B73 [MI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.5200] = 0	0000	00000
	Medial	0.5200 = 0	0000	00000
non-Greek Linear B	Initial	0.5200 = 0	0000	00000
	Medial	[0.5200] = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A? / B15 [MO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A? / B15 [MO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A27 / B23 [MU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A27 / B23 [MU] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A27 / B23 [MU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	28.57	25.00	[3.07]	9.4249	0.37699
Medial	42.86	75.00	[31.64]	1001.0896	<u>13.34786</u>
				$\chi^2$ statistic =	13.72485

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

I. Chi Square Calculations

- Test Series One -

\*  $\chi^2$  Test of Homogeneity : A26 / B06 [NA] : n/a at d.f. = 2

$\chi^2$  Goodnes-of-Fit Test : A26 / B06 [NA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.00	8.89	1.11	1.2321	0.13859
Medial	43.33	71.11	[27.78]	771.7284	10.85260
Final	46.67	20.00	26.67	711.2889	<u>35.56444</u>
				$\chi^2$ statistic =	46.55563

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A26 : B06	[NA]	Linear A	non-Greek Linear B	Total
Observed	Medial	26	32	58
	Final	28	9	37
	Total	54	41	95
Expected	Medial	32.97	25.03	58
	Final	21.03	15.97	37
	Total	54	41	95

$\chi^2$  Test of Homogeneity : A26 / B06 [NA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[6.4700]	41.8609	1.26967
	Final	6.4700	41.8609	1.99053
non-Greek Linear B	Medial	6.4700	41.8609	1.67243
	Final	[6.4700]	41.8609	<u>2.62122</u>
			$\chi^2$ statistic =	7.55385

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A61 / B24 [NE] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A61 / B24 [NE] : n/a at d.f. = 2

A61 : B24	[NE]	Linear A	non-Greek Linear B	Total
Observed	Medial	9	10	19
	Final	13.5	7	20.5
	Total	22.5	17	39.5
Expected	Medial	10.82	8.18	19
	Final	11.68	8.82	20.5
	Total	22.5	17	39.5

1. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A61 / B24 [NE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[1.3200]	1.7424	0.16104
	Final	1.3200	1.7424	0.14918
non-Greek Linear B	Medial	1.3200	1.7424	0.21301
	Final	[1.3200]	1.7424	<u>0.19755</u>
				$\chi^2$ statistic = 0.720785

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

\*  $\chi^2$  Test of Homogeneity : A60 / B30 [NI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A60 / B30 [NI] : n/a at d.f. = 2

A60 : B30	[NI]	Linear A	non-Greek Linear B	Total
Observed	Medial	12.5	19	31.5
	Final	12.5	5	17.5
	Total	25	24	49
Expected	Medial	16.07	15.43	31.5
	Final	8.93	8.57	17.5
	Total	25	24	49

$\chi^2$  Test of Homogeneity : A60 / B30 [NI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[3.0700]	9.4249	0.58649
	Final	3.0700	9.4249	1.05542
non-Greek Linear B	Medial	3.0700	9.4249	0.61082
	Final	[3.0700]	9.4249	<u>1.09975</u>
				$\chi^2$ statistic = 3.35248

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A? / B52 [NO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A? / B52 [NO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A25 / B55 [NU] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A25 / B55 [NU] : n/a at d.f. = 2

A25 : B55	[NU]	Linear A	non-Greek Linear B	Total
Observed	Medial	12	17	29
	Final	6	6	12
	Total	18	23	41
Expected	Medial	12.73	16.27	29
	Final	5.27	6.73	12
	Total	18	23	41

## 1. Chi Square Calculations

- Test Series One -

 $\chi^2$  Test of Homogeneity : A25 / B55 [NU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[0.2300] = 0	0000	00000
	Final	0.2300 = 0	0000	00000
non-Greek Linear B	Medial	0.2300 = 0	0000	00000
	Final	[0.2300] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_{01}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$ \*  $\chi^2$  Test of Homogeneity : A02 / B03 [PA] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A02 / B03 [PA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	49.25	51.28	[2.03]	4.1209	0.08036
Medial	32.84	38.46	[5.62]	31.5844	0.82123
Final	17.91	10.26	7.65	58.5225	5.70395
					$\chi^2$ statistic = 6.60554

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

A02 : B03	[PA]	Linear A	non-Greek Linear B	Total
Observed	Initial	16.5	20	36.5
	Medial	11	15	26
	Total	27.5	35	62.5
Expected	Initial	16.06	20.44	36.5
	Medial	11.44	14.56	26
	Total	27.5	35	62.5

 $\chi^2$  Test of Homogeneity : A02 / B03 [PA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.0600] = 0	0000	00000
	Medial	0.0600 = 0	0000	00000
non-Greek Linear B	Initial	0.0600 = 0	0000	00000
	Medial	[0.0600] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_{01}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$ \*  $\chi^2$  Test of Homogeneity : A90 / B72 [PE] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test: A90 / B72 [PE] : n/a at d.f. = 2 or d.f. = 1

1. Chi Square Calculations

- Test Series One -

\*  $\chi^2$  Test of Homogeneity : A56 / B39 [PI] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A56 / B39 [PI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	51.43	60.00	[8.57]	73.4449	1.22408
Medial	34.29	35.00	[0.71]	0.5041	0.01440
Final	14.29	5.00	9.29	86.3041	<u>17.26082</u>
				$\chi^2$ statistic =	18.49930

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A56 : B39	[PI]	Linear A	non-Greek Linear B	Total
Observed	Initial	9	12	21
	Medial	6	7	13
	Total	15	19	34
Expected	Initial	9.26	11.74	21
	Medial	5.74	7.26	13
	Total	15	19	34

$\chi^2$  Test of Homogeneity : A56 / B39 [PI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	0.2400 = 0	0000	00000
	Medial	[0.2400] = 0	0000	00000
non-Greek Linear B	Initial	[0.2400] = 0	0000	00000
	Medial	0.2400 = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A21 / B11 [PO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A21 / B11 [PO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A64 / B50 [PU] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A64 / B50 [PU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	36.84	62.50	[25.66]	658.4356	10.53497
Medial	31.58	31.25	[0.33]	0.1089	0.00348
Final	31.58	6.25	25.33	641.6089	<u>102.65742</u>
				$\chi^2$ statistic =	113.19587

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

1. Chi Square Calculations

- Test Series One -

\*  $\chi^2$  Test of Homogeneity : A62 / B16 [QA] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A62 / B16 [QA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	52.38	61.76	[9.38]	87.9844	1.42462
Medial	30.95	26.47	4.48	20.0704	0.75823
Final	16.67	11.76	4.94	24.4036	2.07514
				$\chi^2$ statistic =	4.25799

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A62 : B16	[QA]	Linear A	non-Greek Linear B	Total
Observed	Initial	11	21	32
	Medial	6.5	9	15.5
	Total	17.5	30	47.5
Expected	Initial	11.79	20.21	32
	Medial	5.71	9.79	15.5
	Total	17.5	30	47.5

$\chi^2$  Test of Homogeneity : A62 / B16 [QA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.2900] = 0	0000	00000
	Medial	0.2900 = 0	0000	00000
non-Greek Linear B	Initial	0.2900 = 0	0000	00000
	Medial	[0.2900] = 0	0000	00000
			$\chi^2$ statistic =	00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A91 / B78 [QE] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A91 / B78 [QE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A91 / B78 [QE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	58.14	57.14	[0.50] = 0	0000	00000
Medial	20.93	42.86	[21.43]	459.2449	10.71500
				$\chi^2$ statistic =	10.75100

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A48 / B21 [QI] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A48 / B21 [QI] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A12 / B32 [QO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A12 / B32 [QO] : n/a at d.f. = 2 or d.f. = 1

1. Chi Square Calculations

- Test Series One -

A53 : B60	[RA]	Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	7	13	20
	<b>Medial</b>	25.5	51	76.5
	<b>Final</b>	21	24	45
	<b>Total</b>	53.5	88	141.5
<b>Expected</b>	<b>Initial</b>	7.56	12.44	20
	<b>Medial</b>	28.92	47.58	76.5
	<b>Final</b>	17.01	27.99	45
	<b>Total</b>	53.49	88.01	141.5

$\chi^2$  Test of Homogeneity : A53 / B60 [RA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[0.5600]	0.3136	0.04148
	<b>Medial</b>	[3.4200]	11.6964	0.40444
	<b>Final</b>	3.9900	15.9201	0.93593
<b>non-Greek Linear B</b>	<b>Initial</b>	0.5600	0.3136	0.02521
	<b>Medial</b>	3.4200	11.6964	0.24583
	<b>Final</b>	[3.9900]	15.9201	<u>0.56878</u>
<b><math>\chi^2</math> statistic =</b>				<b>2.22167</b>

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A53 : B60	[RA]	Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	7	13	20
	<b>Medial</b>	25.5	51	76.5
	<b>Total</b>	32.5	64	96.5
<b>Expected</b>	<b>Initial</b>	6.74	13.26	20
	<b>Medial</b>	25.76	50.74	76.5
	<b>Total</b>	32.5	64	96.5

$\chi^2$  Test of Homogeneity : A53 / B60 [RA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	[0.2400] = 0	0000	00000
	<b>Medial</b>	0.2400 = 0	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	0.2400 = 0	0000	00000
	<b>Medial</b>	[0.2400] = 0	0000	<u>00000</u>
<b><math>\chi^2</math> statistic =</b>				<b>00000</b>

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

1. Chi Square Calculations

- Test Series One -

\*  $\chi^2$  Test of Homogeneity : A54 / B27 [RE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A54 / B27 [RE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.09	17.39	[8.30]	68.8900	3.96147
Medial	47.47	47.83	[0.36]	0.1296	0.00271
Final	43.43	34.78	8.65	74.8225	<u>2.15131</u>
				$\chi^2$ statistic =	6.11549

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A54 : B27	[RE]	Linear A	non-Greek Linear B	Total
Observed	Medial	23.5	11	34.5
	Final	21.5	8	29.5
	Total	45	19	64
Expected	Medial	24.26	10.24	34.5
	Final	20.74	8.76	29.5
	Total	45	19	64

$\chi^2$  Test of Homogeneity : A54 / B27 [RE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[0.2600] = 0	0000	00000
	Final	0.2600 = 0	0000	00000
non-Greek Linear B	Medial	0.2600 = 0	0000	00000
	Final	[0.2600] = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_{01}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A72 / B53 [RI] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A72 / B53 [RI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	18.33	9.76	8.57	73.4449	7.52509
Medial	60.00	78.05	[18.05]	325.8025	4.17428
Final	21.67	12.20	9.47	89.6809	<u>7.35089</u>
				$\chi^2$ statistic =	19.05026

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A22 / B02 [RO] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A22 / B02 [RO] : n/a at d.f. = 2



1. Chi Square Calculations

- Test Series One -

A22 : B02	[RO]	Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	7	18	25
	<b>Final</b>	10	80	90
	<b>Total</b>	17	98	115
<b>Expected</b>	<b>Medial</b>	3.7	21.3	25
	<b>Final</b>	13.3	76.7	90
	<b>Total</b>	17	98	115

$\chi^2$  Test of Homogeneity : A22 / B02 [RO] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
<b>Linear A</b>	<b>Medial</b>	2.800	7.8400	2.11892
	<b>Final</b>	[2.800]	7.8400	0.58947
<b>non-Greek Linear B</b>	<b>Medial</b>	[2.800]	7.8400	0.36808
	<b>Final</b>	2.800	7.8400	<u>0.10222</u>
				$\chi^2$ statistic = 3.17869

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

A55 : B26	[RU]	Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10.5	10	20.5
	<b>Medial</b>	16	12	28
	<b>Final</b>	16	4	20
	<b>Total</b>	42.5	26	68.5
<b>Expected</b>	<b>Initial</b>	12.72	7.78	20.5
	<b>Medial</b>	17.37	10.63	28
	<b>Final</b>	12.41	7.59	20
	<b>Total</b>	42.5	26	68.5

$\chi^2$  Test of Homogeneity : A55 / B26 [RU] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[2.2200]	4.9284	0.38745
	<b>Medial</b>	[1.3700]	1.8769	0.10805
	<b>Final</b>	3.5900	12.8881	1.03853
<b>non-Greek Linear B</b>	<b>Initial</b>	2.2200	4.9284	0.63347
	<b>Medial</b>	[2.7400]	1.8769	0.17657
	<b>Final</b>	[3.5900]	12.8881	<u>1.69804</u>
				$\chi^2$ statistic = 4.04211

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

1. Chi Square Calculations

- Test Series One -

A55 : B26	[RU]	Linear A	non-Greek Linear B	Total
Observed	Medial	10.5	10	20.5
	Final	16	12	28
	Total	26.5	22	48.5
Expected	Medial	11.2	9.3	20.5
	Final	15.3	17.7	28
	Total	26.5	22	48.5

$\chi^2$  Test of Homogeneity : A55 / B26 [RU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[0.2000] = 0	0000	00000
	Final	0.2000 = 0	0000	00000
non-Greek Linear B	Medial	0.2000 = 0	0000	00000
	Final	[0.2000] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A31 / B31 [SA] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A31 / B31 [SA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	40.00	41.30	[1.30]	1.6900	0.04092
Medial	45.00	50.00	[5.00]	25.0000	0.50000
Final	15.00	8.70	6.30	39.6900	4.56207
					$\chi^2$ statistic = 5.10299

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A31 : B31	[SA]	Linear A	non-Greek Linear B	Total
Observed	Initial	16	19	35
	Medial	18	23	41
	Total	34	42	76
Expected	Initial	15.66	19.34	35
	Medial	18.34	22.66	41
	Total	34	42	76

$\chi^2$  Test of Homogeneity : A31 / B31 [SA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.1600] = 0	0000	00000
	Medial	0.1600 = 0	0000	00000
non-Greek Linear B	Initial	0.1600 = 0	0000	00000
	Medial	[0.1600] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

1. Chi Square Calculations

- Test Series One -

\*  $\chi^2$  Test of Homogeneity : A77 / B09 [SE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A77 / B09 [SE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	7.32	36.36	[29.09]	843.3216	23.19366
Medial	43.90	27.27	16.63	276.5569	10.14143
Final	48.78	36.36	12.42	154.2564	<u>4.24247</u>
				$\chi^2$ statistic =	37.57756

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A57 : B41	[SI]	Linear A	non-Greek Linear B	Total
Observed	Initial	14.5	20	34.5
	Medial	14.5	12	26.5
	Final	11.5	4	15.5
	Total	40.5	36	76.5
Expected	Initial	18.26	16.24	34.5
	Medial	14.03	12.47	26.5
	Final	8.21	7.29	15.5
	Total	40.5	36	76.5

$\chi^2$  Test of Homogeneity : A57 / B41 [SI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[3.7600]	14.1376	0.77424
	Medial	0.4700	0.2209	0.01574
	Final	3.2900	10.8241	1.31840
non-Greek Linear B	Initial	3.7600	14.1376	0.87054
	Medial	[0.4700]	0.2209	0.01771
	Final	[3.2900]	10.8241	<u>1.48479</u>
			$\chi^2$ statistic =	4.48142

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A57 : B41	[SI]	Linear A	non-Greek Linear B	Total
Observed	Initial	14.5	20	34.5
	Medial	14.5	12	26.5
	Total	29	32	61
Expected	Initial	16.4	18.1	34.5
	Medial	12.6	13.9	26.5
	Total	29	32	61

1. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A57 / B41 [SI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[1.4000]	1.9600	0.11951
	Medial	1.4000	1.9600	0.15555
non-Greek Linear B	Initial	1.4000	1.9600	0.10829
	Medial	[1.4000]	1.9600	<u>0.14101</u>
				$\chi^2$ statistic = 0.52436

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A07 / B12 [SO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A07 / B12 [SO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A59 / B58 [SU] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test: A59 / B58 [SU] : n/a at d.f. = 2

A59 : B58	[SU]	Linear A	non-Greek Linear B	Total
Observed	Initial	11.5	16	27.5
	Medial	10.5	5	15.5
	Total	22	21	43
Expected	Initial	14.07	13.43	27.5
	Medial	7.93	7.57	15.5
	Total	22	21	43

$\chi^2$  Test of Homogeneity : A59 / B58 [SU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[2.070]	4.2849	0.30454
	Medial	2.070	4.2849	0.54034
non-Greek Linear B	Initial	2.070	4.2849	0.31905
	Medial	[2.070]	4.2849	<u>0.56604</u>
				$\chi^2$ statistic = 1.72997

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

A74 : B59	[TA]	Linear A	non-Greek Linear B	Total
Observed	Initial	13	23	36
	Medial	35	36	71
	Final	17	44	61
	Total	65	103	168
Expected	Initial	13.93	22.07	36
	Medial	27.47	43.53	71
	Final	23.6	37.4	61
	Total	65	103	168

1. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A74 / B59 [TA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[0.9300]	0.8649	0.06209
	Medial	7.5300	56.7009	2.0641
	Final	[6.600]	43.5600	1.84576
non-Greek Linear B	Initial	0.9300	0.86490	0.03919
	Medial	[7.5300]	56.7009	1.30257
	Final	6.600	43.5600	1.16471
				$\chi^2$ statistic = 6.47842

Therefore  $H_{o_1}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A74 : B59	[TA]	Linear A	non-Greek Linear B	Total
Observed	Initial	13	23	36
	Final	17	44	61
	Total	30	67	97
Expected	Initial	11	25	36
	Final	19	42	61
	Total	30	67	97

$\chi^2$  Test of Homogeneity : A74 / B59 [TA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	1.5000	2.2500	0.20455
	Final	[1.5000]	2.2500	0.11842
non-Greek Linear B	Initial	[1.5000]	2.2500	0.08800
	Final	1.5000	2.2500	0.05357
				$\chi^2$ statistic = 0.46454

Therefore  $H_{o_1}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

A92 : B04	[TE]	Linear A	non-Greek Linear B	Total
Observed	Initial	6.5	12	18.5
	Medial	6	11	17
	Final	16.5	8	24.5
	Total	29	31	60
Expected	Initial	8.94	9.56	18.5
	Medial	8.22	8.78	17
	Final	11.84	12.66	24.5
	Total	29	31	60

1. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A92 / B04 [TE] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[2.440]	5.9536	0.66595
	Medial	[2.220]	4.9284	0.59956
	Final	4.660	21.7156	1.83409
non-Greek Linear B	Initial	2.4400	5.9536	0.62276
	Medial	2.220	4.9284	0.56132
	Final	[4.660]	21.7156	<u>1.71529</u>
				$\chi^2$ statistic = 5.99897

Therefore  $H_0$ , accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A92 : B04	[TE]	Linear A	non-Greek Linear B	Total
Observed	Initial	6.5	12	18.5
	Medial	6	11	17
	Total	12.5	23	35.5
Expected	Initial	6.51	11.99	18.5
	Medial	5.99	11.01	17
	Total	12.5	23	35.5

$\chi^2$  Test of Homogeneity : A92 / B04 [TE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.4900] = 0	0000	00000
	Medial	0.4900 = 0	0000	00000
non-Greek Linear B	Initial	[0.4900] = 0	0000	00000
	Medial	0.4900 = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

A78 : B37	[TI]	Linear A	non-Greek Linear B	Total
Observed	Initial	9.5	10	19.5
	Medial	20	18	38
	Final	24.5	11	35.5
	Total	54	39	93
Expected	Initial	11.32	8.18	19.5
	Medial	22.06	15.94	38
	Final	20.61	14.89	35.5
	Total	53.99	39.01	93

1. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A78 / B37 [TI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[1.820]	3.3124	0.29261
	Medial	[2.060]	4.2436	0.19237
	Final	3.890	15.1321	0.73421
non-Greek Linear B	Initial	1.8200	3.3124	0.40494
	Medial	2.060	4.2436	0.26622
	Final	[3.890]	15.1321	<u>1.01626</u>
				$\chi^2$ statistic = 2.90661

Therefore  $H_o$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A78 : B37	[TI]	Linear A	non-Greek Linear B	Total
Observed	Initial	9.5	10	19.5
	Medial	20	18	38
	Total	29.5	28	57.5
Expected	Initial	10	9.5	19.5
	Medial	19.5	18.5	38
	Total	29.5	28	57.5

$\chi^2$  Test of Homogeneity : A78 / B37 [TI] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	0000	0000	00000
	Medial	0000	0000	00000
non-Greek Linear B	Initial	0000	0000	00000
	Medial	0000	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_o$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A39 / B05 [TO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test: A39 / B05 [TO] : n/a at d.f. = 2 or d.f. = 1

A06 : B69	[TU]	Linear A	non-Greek Linear B	Total
Observed	Initial	8	11	19
	Medial	18.5	10	28.5
	Final	15	1	16
	Total	41.5	22	63.5
Expected	Initial	12.42	6.58	19
	Medial	18.63	9.87	28.5
	Final	10.46	5.54	16
	Total	41.51	21.99	63.5

1. Chi Square Calculations

- Test Series One -

$\chi^2$  Test of Homogeneity : A06 / B69 [TU] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[4.4200]	19.5364	1.57298
	Medial	[0.1300]	0.0169	0.00091
	Final	4.5400	20.6116	1.97052
non-Greek Linear B	Initial	4.4200	19.5364	2.96906
	Medial	0.1300	0.0169	0.00171
	Final	[4.5400]	20.6116	<u>3.72051</u>
				$\chi^2$ statistic = 10.23569

Therefore  $H_{o1}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A06 : B69	[TU]	Linear A	non-Greek Linear B	Total
Observed	Initial	8	11	19
	Medial	18.5	10	26.5
	Total	26.5	21	47.5
Expected	Initial	10.6	8.4	19
	Medial	15.9	12.6	26.5
	Total	26.5	21	47.5

$\chi^2$  Test of Homogeneity : A06 / B69 [TU] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	[2.1000]	2.9929	0.41604
	Medial	2.1000	2.9929	0.27736
non-Greek Linear B	Initial	2.1000	2.9929	0.52500
	Medial	[2.1000]	2.9929	<u>0.35000</u>
				$\chi^2$ statistic = 1.56840

Therefore  $H_{o1}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

\*  $\chi^2$  Test of Homogeneity : A75 / B54 [WA] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A75 / B54 [WA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	38.46	38.71	[0.25]	0.0625	0.00161
Medial	34.62	48.39	[13.77]	189.6129	3.91843
Final	26.92	12.90	14.02	196.5604	<u>15.23724</u>
					$\chi^2$ statistic = 19.15728

Therefore  $H_{o1}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A75 / B54 [WA] :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Initial	38.46	38.71	0.25 = 0	0000	00000
Medial	34.62	48.39	[13.27]	176.0929	<u>3.63903</u>
					$\chi^2$ statistic = 3.63903

Therefore  $H_{o1}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$



## 1. Chi Square Calculations

- Test Series One -

\*  $\chi^2$  Test of Homogeneity : A94 / B75 [WE] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A94 / B75 [WE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.52	15.38	[5.86]	34.3396	2.23274
Medial	90.48	38.46	52.02	2706.0804	70.36090
Final	.00	46.15	[46.15]	2129.8225	46.15000
				$\chi^2$ statistic =	118.74364

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : A28 / B40 [WI] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A28 / B40 [WI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.52	62.96	[53.44]	2855.8336	45.35949
Medial	57.14	29.63	27.51	756.8001	25.54168
Final	33.33	7.41	25.92	671.8464	90.66753
				$\chi^2$ statistic =	161.56870

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : A? / B42 [WO] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A? / B42 [WO] : n/a at d.f. = 2 or d.f. = 1

A32 : B57	[YA]	Linear A	non-Greek Linear B	Total
Observed	Initial	16	13	29
	Medial	15.5	36	51.5
	Final	25.5	29	54.5
	Total	57	78	135
Expected	Initial	12.24	16.76	29
	Medial	21.74	29.76	51.5
	Final	23.01	31.49	54.5
	Total	56.99	78.01	135

 $\chi^2$  Test of Homogeneity : A32 / B57 [YA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	3.760	14.1376	1.15503
	Medial	[6.240]	38.9376	1.79106
	Final	2.490	6.2001	0.26945
non-Greek Linear B	Initial	[3.760]	14.1376	0.84353
	Medial	6.240	38.9376	1.30839
	Final	[2.490]	6.2001	0.19689
			$\chi^2$ statistic =	5.56435

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

1. Chi Square Calculations

- Test Series One -

A32 : B57	[YA]	Linear A	non-Greek Linear B	Total
Observed	Initial	16	13	29
	Final	25.5	29	54.5
	Total	41.5	42	83.5
Expected	Initial	14.41	14.59	29
	Final	27.09	27.41	54.5
	Total	41.5	42	83.5

$\chi^2$  Test of Homogeneity : A32 / B57 [YA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	1.0900	1.1881	0.08245
	Final	[1.0900]	1.1881	0.04386
non-Greek Linear B	Initial	[1.0900]	1.1881	0.08143
	Final	1.0900	1.1881	0.04334
			$\chi^2$ statistic =	0.25108

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

\*  $\chi^2$  Test of Homogeneity : A81 / B46 [YE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A81 / B46 [YE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	33.33	11.11	22.22	493.7284	44.44000
Medial	33.33	66.67	[33.34]	1111.5556	16.67250
Final	33.33	22.22	11.11	123.4321	5.55500
				$\chi^2$ statistic =	66.6675

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A? / B36 [YO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test: A? / B36 [YO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A96 / B65 [YU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A96 / B65 [YU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A23 / B17 [ZA] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A23 / B17 [ZA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.00	10.00	.00	0000	00000
Medial	40.00	60.00	[20.00]	400.0000	6.66667
Final	50.00	30.00	20.00	400.0000	13.33333
				$\chi^2$ statistic =	20.00000

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 1. Chi Square Calculations

- Test Series One -

 $\chi^2$  Goodness-of-Fit Test : A23 / B17 [ZA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.00	10.00	[0.50] = 0	0000	00000
Medial	40.00	60.00	[19.50]	380.2500	<u>6.33750</u>
				$\chi^2$ statistic =	6.33750

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : A16 / B74 [ZE] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test: A16 / B74 [ZE] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Test of Homogeneity : A10 / B20 [ZO] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A10 / B20 [ZO] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Test of Homogeneity : A? / B79 [ZU] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A? / B79 [ZU] : n/a at d.f. = 2 or d.f. = 1



2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B08 [A] : n/a at d.f. = 2 or d.f. = 1

**$\chi^2$  Goodness-of-Fit Test : B08 [A] :**

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	88.33	88.31	0.02	0.0400	0.00045
Medial	6.67	5.19	1.48	2.1904	0.42204
Final	5.00	6.49	[1.49]	2.2201	<u>0.34208</u>
				<b><math>\chi^2</math> statistic =</b>	<b>0.76457</b>

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

**$\chi^2$  Goodness-of-Fit Test : B08 [A] :**

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	88.33	88.31	[0.48] = 0	0000	00000
Final	5.00	6.49	[0.99] = 0	0000	<u>00000</u>
				<b><math>\chi^2</math> statistic =</b>	<b>00000</b>

Therefore  $H_{o_2}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B38 [E] : n/a at d.f. = 2 or d.f. = 1

**$\chi^2$  Goodness-of-Fit Test : B38 [E] :**

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	76.00	70.75	5.25	27.5625	0.38958
Medial	16.00	17.45	[1.45]	2.1025	0.12049
Final	8.00	11.79	[3.79]	14.3641	<u>1.21833</u>
				<b><math>\chi^2</math> statistic =</b>	<b>1.72840</b>

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

**$\chi^2$  Goodness-of-Fit Test : B38 [E] :**

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	76.00	70.75	4.75	22.5625	0.31890
Medial	16.00	17.45	[0.95] = 0	0000	<u>00000</u>
				<b><math>\chi^2</math> statistic =</b>	<b>0.31890</b>

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

B28	[I]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	16	34	50
	Medial	21	47	68
	Final	4	34	38
	Total	41	115	156
Expected	Initial	13.14	36.86	50
	Medial	17.87	50.13	68
	Final	9.99	28.01	38
	Total	41	115	156

## 2. Chi Square Calculations

- Test Series Two -

 $\chi^2$  Test of Homogeneity : B28 [I] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	2.8600	8.1796	0.62250
	Medial	3.1300	9.7969	0.54823
	Final	[5.9900]	35.8801	3.59160
Greek Linear B	Initial	[2.8600]	8.1796	0.22191
	Medial	[3.1300]	9.7969	0.19543
	Final	5.9900	35.8801	<u>1.28097</u>
				$\chi^2$ statistic = 6.46064

Therefore  $H_{o2}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

B28	[I]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	16	34	50
	Medial	21	47	68
	Total	37	81	118
Expected	Initial	15.68	34.32	50
	Medial	21.32	46.68	68
	Total	37	81	118

 $\chi^2$  Test of Homogeneity : B28 [I] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	[0.1800] = 0	0000	00000
	Medial	0.1800 = 0	0000	00000
Greek Linear B	Initial	0.1800 = 0	0000	00000
	Medial	[0.1800] = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_{o2}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$ \*  $\chi^2$  Test of Homogeneity : B61 [O] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B61 [O] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	67.86	40.76	27.10	734.4100	18.01791
Medial	14.29	15.92	[1.63]	2.6569	0.16689
Final	17.86	43.31	[25.45]	647.7025	<u>14.98964</u>
				$\chi^2$ statistic =	33.17444

Therefore  $H_{o2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

B61	[O]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	19	64	83
	Final	5	68	73
	Total	24	132	156
Expected	Initial	12.77	70.23	83
	Final	11.23	61.77	73
	Total	24	132	156

2. Chi Square Calculations

- Test Series Two -

$\chi^2$  Test of Homogeneity : B61 [O] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	5.7300	32.8329	2.57110
	Final	[5.7300]	32.8329	2.92368
Greek Linear B	Initial	[5.7300]	32.8329	0.46751
	Final	5.7300	32.8329	<u>0.53153</u>
				$\chi^2$ statistic = 6.49382

Therefore  $H_{o_2}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B10 [U] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B10 [U] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	29.41	6.08	23.33	544.2889	89.52120
Medial	61.76	46.41	15.35	235.6225	5.07698
Final	8.82	47.51	[38.69]	1496.9161	<u>31.50739</u>
				$\chi^2$ statistic =	126.10557

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B10	[U]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	21	84	105
	Final	3	86	89
	Total	24	170	194
Expected	Medial	12.99	92.01	105
	Final	11.01	77.99	89
	Total	24	170	194

$\chi^2$  Test of Homogeneity : B10 [U] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	7.5100	56.4001	4.34181
	Final	[7.5100]	56.4001	5.12262
Greek Linear B	Medial	[7.5100]	56.4001	0.61298
	Final	7.5100	56.4001	<u>0.72317</u>
				$\chi^2$ statistic = 10.80058

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 2. Chi Square Calculations

- Test Series Two -

B01	[DA]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	32	15	47
	<b>Medial</b>	26	42	68
	<b>Final</b>	8	3	11
	<b>Total</b>	66	60	126
<b>Expected</b>	<b>Initial</b>	24.62	22.38	47
	<b>Medial</b>	35.62	32.38	68
	<b>Final</b>	5.76	5.24	11
	<b>Total</b>	66	60	126

 $\chi^2$  Test of Homogeneity : B01 [DA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	<b>Initial</b>	7.3800	54.4644	2.21220
	<b>Medial</b>	[9.6200]	92.5444	2.59810
	<b>Final</b>	2.2400	5.0176	0.87111
Greek Linear B	<b>Initial</b>	[7.3800]	54.4644	2.43362
	<b>Medial</b>	9.6200	92.5444	2.85807
	<b>Final</b>	[2.2400]	5.0176	0.95756
			$\chi^2$ statistic =	11.93066

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

B01	[DA]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	32	15	47
	<b>Medial</b>	26	42	68
	<b>Total</b>	58	57	115
<b>Expected</b>	<b>Initial</b>	23.7	23.3	47
	<b>Medial</b>	34.3	33.7	68
	<b>Total</b>	58	57	115

 $\chi^2$  Test of Homogeneity : B01 [DA] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	<b>Initial</b>	7.8000	60.8400	2.56709
	<b>Medial</b>	[7.8000]	60.8400	1.77376
Greek Linear B	<b>Initial</b>	[7.8000]	60.8400	2.61116
	<b>Medial</b>	7.8000	60.8400	1.80534
			$\chi^2$ statistic =	8.75735

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$



2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B45 [DE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : B45 [DE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	30.00	31.48	[1.48]	2.1904	0.06958
Medial	40.00	37.04	2.96	8.7616	0.23654
Final	30.00	31.48	[1.48]	2.1904	<u>0.06958</u>
				$\chi^2$ statistic =	0.37570

Therefore  $H_o_2$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

$\chi^2$  Goodness-of-Fit Test : B45 [DE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	30.00	31.48	[0.98] = 0	0000	00000
Final	30.00	31.48	[0.98] = 0	0000	<u>00000</u>
				$\chi^2$ statistic =	00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B07 [DI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B07 [DI] : n/a at d.f. = 2

B07	[DI]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	15	22	37
	Medial	7	14	21
	Total	22	36	58
Expected	Initial	14.03	22.97	37
	Medial	7.97	13.03	21
	Total	22	36	58

$\chi^2$  Test of Homogeneity : B07 [DI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	0.4700 = 0	0000	00000
	Medial	[0.4700] = 0	0000	00000
Greek Linear B	Initial	[0.4700] = 0	0000	00000
	Medial	0.4700 = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B14 [DO] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : B14 [DO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	17.65	47.06	[29.41]	864.9481	18.37969
Medial	47.06	62.50	[15.44]	238.3936	3.81430
Final	35.29	10.42	24.87	618.5169	<u>59.35863</u>
				$\chi^2$ statistic =	81.55262

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B51 [DU] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : B51 [DU] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : B51 [DU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	40.91	45.45	[4.04]	16.3216	0.35911
Medial	50.00	54.55	[4.05]	16.4025	0.30069
				$\chi^2$ statistic =	0.65980

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ 

B77	[KA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	29	60	89
	Medial	23	64	87
	Final	9	20	29
	Total	61	144	205
Expected	Initial	26.48	62.52	89
	Medial	25.89	61.11	87
	Final	8.63	20.37	29
	Total	61	144	205

 $\chi^2$  Test of Homogeneity : B77 [KA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	2.5200	6.3504	0.23982
	Medial	[2.8900]	8.3521	0.32260
	Final	0.3700	0.1369	0.01586
Greek Linear B	Initial	[2.5200]	6.3504	0.10157
	Medial	2.8900	8.3521	0.13667
	Final	[0.3700]	0.1369	0.00672
			$\chi^2$ statistic =	0.82324

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$ 

B77	[KA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	29	60	89
	Final	9	20	29
	Total	38	80	118
Expected	Initial	28.66	60.34	89
	Final	9.34	19.66	29
	Total	38	80	118

2 : Chi Square Calculations

- Test Series Two -

$\chi^2$  Test of Homogeneity : B77 [KA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	[0.1600] = 0	0000	00000
	Final	0.1600 = 0	0000	00000
Greek Linear B	Initial	0.1600 = 0	0000	00000
	Final	[0.1600] = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_{o_2}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B44 [KE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B44 [KE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	33.33	21.12	12.21	149.0841	7.05891
Medial	55.56	67.08	[11.52]	132.7104	1.97839
Final	11.11	11.80	[0.69]	0.4761	<u>0.04348</u>
					$\chi^2$ statistic = 9.08078

Therefore  $H_{o_2}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B44	[KE]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	9	34	43
	Medial	15	108	123
	Total	24	142	166
Expected	Initial	6.22	36.78	43
	Medial	17.78	105.22	123
	Total	24	142	166

$\chi^2$  Test of Homogeneity : B44 [KE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	2.2800	5.1984	0.83576
	Medial	[2.2800]	5.1984	0.12823
Greek Linear B	Initial	[2.2800]	5.1984	0.06199
	Medial	2.2800	5.1984	<u>0.02167</u>
				$\chi^2$ statistic = 1.04765

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : B67 [KI] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B67 [KI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	52.50	32.76	19.74	389.6676	11.89462
Medial	47.50	60.34	[12.84]	164.8656	2.73228
Final	.00	6.90	[6.90]	47.6100	<u>6.90000</u>
					$\chi^2$ statistic = 21.52690

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 2 : Chi Square Calculations

- Test Series Two -

B67	[KI]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	21	19	40
	Medial	19	35	54
	Total	40	54	94
Expected	Initial	17.02	22.98	40
	Medial	22.98	31.02	54
	Total	40	54	94

 $\chi^2$  Test of Homogeneity : B67 [KI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	3.4800	12.1104	0.71154
	Medial	[3.4800]	12.1104	0.52699
Greek Linear B	Initial	[3.4800]	12.1104	0.52699
	Medial	3.4800	12.1104	0.39041
$\chi^2$ statistic =				2.15593

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ 

B70	[KO]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	12	37	49
	Medial	14	65	79
	Final	13	54	67
	Total	39	156	195
Expected	Initial	9.8	39.2	49
	Medial	15.8	63.2	79
	Final	13.4	53.6	67
	Total	39	156	195

 $\chi^2$  Test of Homogeneity : B70 [KO] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	2.2000	4.8400	0.49388
	Medial	[1.8000]	3.2400	0.20506
	Final	[0.4000]	0.1600	0.01194
Greek Linear B	Initial	[2.2000]	4.8400	0.12347
	Medial	1.8000	3.2400	0.05127
	Final	0.4000	0.1600	0.00239
$\chi^2$ statistic =				0.88801

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

2 : Chi Square Calculations

- Test Series Two -

B70	[KO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	14	65	79
	Final	13	54	67
	Total	27	119	146
Expected	Medial	14.61	64.39	79
	Final	12.39	54.61	67
	Total	27	119	146

$\chi^2$  Test of Homogeneity : B70 [KO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[0.1100] = 0	0000	00000
	Final	0.1100 = 0	0000	00000
Greek Linear B	Medial	0.1100 = 0	0000	00000
	Final	[0.1100] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$ , accepted  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B81 [KU] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B81 [KU] : n/a at d.f. = 2

B81	[KU]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	24	31	55
	Medial	4	18	22
	Total	28	49	77
Expected	Initial	20	35	55
	Medial	8	14	22
	Total	28	49	77

$\chi^2$  Test of Homogeneity : B81 [KU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	4.5000	20.2500	1.01250
	Medial	[4.5000]	20.2500	2.53125
Greek Linear B	Initial	[4.5000]	20.2500	0.57857
	Medial	4.5000	20.2500	1.44643
				$\chi^2$ statistic = 5.56875

Therefore  $H_0$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

2: Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B80 [MA] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B80 [MA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	37.21	30.65	6.56	43.0336	1.40403
Medial	55.81	58.06	[2.25]	5.0625	0.08719
Final	6.98	11.29	[4.31]	18.5761	<u>1.64539</u>
				$\chi^2$ statistic =	3.13661

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

B80	[MA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	16	19	35
	Medial	24	36	60
	Total	40	55	95
Expected	Initial	14.74	20.26	35
	Medial	25.26	34.74	60
	Total	40	55	95

$\chi^2$  Test of Homogeneity : B80 [MA] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	Initial	0.7600 = 0	0000	00000
	Medial	[0.7600] = 0	0000	00000
Greek Linear B	Initial	[0.7600] = 0	0000	00000
	Medial	0.7600 = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_{o_2}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B13 [ME] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : B13 [ME] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B13 [ME] :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Initial	31.25	32.00	[0.25] = 0	0000	00000
Medial	50.00	65.00	[14.50]	210.2500	<u>3.23461</u>
				$\chi^2$ statistic =	3.23461

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84148$

\*  $\chi^2$  Test of Homogeneity : B73 [MI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B73 [MI] : n/a at d.f. = 2

2. Chi Square Calculations

- Test Series Two -

B73	[MI]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	8	6	14
	Medial	16	24	40
	Total	24	30	57
Expected	Initial	6.22	7.78	14
	Medial	17.78	22.22	40
	Total	24	30	54

$\chi^2$  Test of Homogeneity : B73 [MI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	1.2800	1.6384	0.26341
	Medial	[1.2800]	1.6384	0.09215
Greek Linear B	Initial	[1.2800]	1.6384	0.21059
	Medial	1.2800	1.6384	0.07374
				$\chi^2$ statistic = 0.63989

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : B15 [MO] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B15 [MO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	14.81	9.43	5.38	28.9444	3.06940
Medial	22.22	39.62	[17.40]	302.7600	7.64160
Final	62.96	50.94	12.02	144.4804	2.83629
					$\chi^2$ statistic = 13.54729

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B15	[MO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	6	21	27
	Final	17	27	44
	Total	23	48	71
Expected	Medial	8.75	18.25	27
	Final	14.25	29.75	44
	Total	23	48	71

$\chi^2$  Test of Homogeneity : B15 [MO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[2.2500]	5.0625	0.57857
	Final	2.2500	5.0625	0.35526
Greek Linear B	Medial	2.2500	5.0625	0.27740
	Final	[2.2500]	5.0625	0.17017
				$\chi^2$ statistic = 1.38140

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B23 [MU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : B23 [MU] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B23 [MU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	25.00	66.67	[41.17]	1694.9689	25.42326
Medial	75.00	33.33	41.17	1694.9689	<u>50.85415</u>
				$\chi^2$ statistic =	76.27741

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B06 [NA] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B06 [NA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	8.89	7.89	1.00	1.0000	0.12674
Medial	71.11	48.68	22.43	503.1049	10.33494
Final	20.00	43.42	[23.42]	548.4964	<u>12.63234</u>
				$\chi^2$ statistic =	23.09402

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B06	[NA]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	32	37	69
	Final	9	33	42
	Total	41	70	111
Expected	Medial	25.49	43.51	69
	Final	15.51	26.49	42
	Total	41	70	111

$\chi^2$  Test of Homogeneity : B06 [NA] :

		[fo - fe] - .5	[(fo-fe) -.5] sq	[(fo-fe) -.5] sq / fe
non-Greek Linear B	Medial	6.0100	36.1201	1.41703
	Final	[6.0100]	36.1201	2.32883
Greek Linear B	Medial	[6.0100]	36.1201	0.83016
	Final	6.0100	36.1201	<u>1.36354</u>
			$\chi^2$ statistic =	5.93956

Therefore  $H_o_2$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B24 [NE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B24 [NE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	.00	11.54	[11.54]	133.1716	11.54000
Medial	58.82	52.56	6.26	39.1876	0.74558
Final	41.18	35.90	5.28	27.8784	<u>0.77656</u>
				$\chi^2$ statistic =	13.06214

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$



2. Chi Square Calculations

- Test Series Two -

B24	[NE]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	10	41	51
	Final	7	28	35
	Total	17	69	86
Expected	Medial	10.08	40.92	51
	Final	6.92	28.08	35
	Total	17	69	86

$\chi^2$  Test of Homogeneity : B24 [NE] :

		$[fo - fe] - .5$	$([fo - fe] - .5) \text{ sq}$	$([fo - fe] - .5) \text{ sq} / fe$
non-Greek Linear B	Medial	0.4200 = 0	0000	00000
	Final	[0.4200] = 0	0000	00000
Greek Linear B	Medial	[0.4200] = 0	0000	00000
	Final	0.4200 = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B30 [NI] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : B30 [NI] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B30 [NI] :

	fo	fe	$[fo - fe] -.5$	$([fo - fe] -.5) \text{ sq}$	$([fo - fe] -.5) \text{ sq} / fe$
Medial	79.17	91.30	[11.63]	135.2569	1.48146
Final	20.83	8.70	11.63	135.1569	15.54677
					$\chi^2$ statistic = 17.02823

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B52 [NO] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B52 [NO] : n/a at d.f. = 2

B52	[NO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	4	46	50
	Final	43	86	129
	Total	47	132	179
Expected	Medial	13.13	36.87	50
	Final	33.87	95.13	129
	Total	47	132	179

2. Chi Square Calculations

- Test Series Two -

$\chi^2$  Test of Homogeneity : B52 [NO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[8.6300]	74.4769	5.67227
	Final	8.6300	74.4769	2.19890
Greek Linear B	Medial	8.6300	74.4769	2.01999
	Final	[8.6300]	74.4769	<u>0.78290</u>
				$\chi^2$ statistic = 10.67406

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B55 [NU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : B55 [NU] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B55 [NU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	70.83	90.48	[19.15]	366.7225	4.05308
Final	25.00	9.52	14.98	224.4004	<u>23.57147</u>
					$\chi^2$ statistic = 27.62455

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B03 [PA] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B03 [PA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	51.28	47.37	3.91	15.2881	0.32274
Medial	38.46	42.11	[3.65]	13.3225	0.31637
Final	10.26	10.53	[0.27]	0.0729	<u>0.00692</u>
					$\chi^2$ statistic = 0.64603

Therefore  $H_o_2$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

B03	[PA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	20	36	56
	Medial	15	32	47
	Total	35	68	103
Expected	Initial	19.03	36.97	56
	Medial	15.97	31.03	47
	Total	35	68	103

$\chi^2$  Test of Homogeneity : B03 [PA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	0.4700 = 0	0000	00000
	Medial	[0.4700]= 0	0000	00000
Greek Linear B	Initial	[0.4700]= 0	0000	00000
	Medial	0.4700 = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B72 [PE] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B72 [PE] : n/a at d.f. = 2

B72	[PE]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	10	46	56
	Medial	8	32	40
	Total	18	78	96
Expected	Initial	10.5	45.5	56
	Medial	7.5	32.5	40
	Total	18	78	96

$\chi^2$  Test of Homogeneity : B72 [PE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	0.00	0000	00000
	Medial	0.00	0000	00000
Greek Linear B	Initial	0.00	0000	00000
	Medial	0.00	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B39 [PI] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B39 [PI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	60.00	32.67	27.33	746.9289	22.86284
Medial	35.00	61.39	[26.39]	696.4321	11.34439
Final	5.00	5.94	[0.94]	0.8836	0.14875
					$\chi^2$ statistic = 34.35598

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B39	[PI]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	12	33	45
	Medial	7	62	69
	Total	19	95	114
Expected	Initial	7.5	37.5	45
	Medial	11.5	57.5	69
	Total	19	95	114

2. Chi Square Calculations

- Test Series Two -

$\chi^2$  Test of Homogeneity : B39 [PI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	4.0000	16.0000	2.13333
	Medial	[4.0000]	16.0000	1.39130
Greek Linear B	Initial	[4.0000]	16.0000	0.42667
	Medial	4.0000	16.0000	<u>0.27826</u>
				$\chi^2$ statistic = 4.22956

Therefore  $H_o_2$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B11 [PO] : n/a at d.f. = 2

$\chi^2$  Test Goodness-of-Fit : B11 [PO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	34.78	58.72	[23.94]	573.1236	9.76028
Medial	26.09	31.19	[5.1]	26.0100	0.83392
Final	39.13	10.09	29.04	843.3216	<u>83.57990</u>
					$\chi^2$ statistic = 94.17410

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

	B11	[PO]	non-Greek Linear B	Greek Linear B	Total
Observed		Initial	8	64	72
		Medial	6	34	40
		Total	14	98	112
Expected		Initial	9	63	72
		Medial	5	35	40
		Total	14	98	112

$\chi^2$  Test of Homogeneity : B11 [PO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	[0.5000] = 0	0000	00000
	Medial	0.5000 = 0	0000	00000
Greek Linear B	Initial	0.5000 = 0	0000	00000
	Medial	[0.5000] = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B50 [PU] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B50 [PU] : n/a at d.f. = 2

2. Chi Square Calculations

- Test Series Two -

B50	[PU]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	10	20	30
	Medial	5	11	16
	Total	15	31	46
Expected	Initial	9.78	20.22	30
	Medial	5.22	10.78	16
	Total	15	31	46

$\chi^2$  Test of Homogeneity : B50 [PU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	[0.2800] = 0	0000	00000
	Medial	0.2800 = 0	0000	00000
Greek Linear B	Initial	0.2800 = 0	0000	00000
	Medial	[0.2800] = 0	0000	00000

$\chi^2$  statistic = 00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

B16	[QA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	21	9	30
	Medial	9	13	22
	Final	4	9	13
	Total	34	31	65
Expected	Initial	15.69	14.31	30
	Medial	11.51	10.49	22
	Final	6.8	6.2	13
	Total	34	31	65

$\chi^2$  Test of Homogeneity : B16 [QA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	5.3100	28.1961	1.79707
	Medial	[2.5100]	6.3001	0.54736
	Final	[2.8000]	7.8400	1.15294
Greek Linear B	Initial	[5.3100]	28.1961	1.97038
	Medial	2.5100	6.3001	0.60058
	Final	2.8000	7.8400	1.26452

$\chi^2$  statistic = 7.33285

Therefore  $H_o_2$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

2. Chi Square Calculations

- Test Series Two -

B16	[QA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	21	9	30
	Medial	9	13	22
	Total	30	22	52
Expected	Initial	17.31	12.69	30
	Medial	12.69	9.31	22
	Total	30	22	52

$\chi^2$  Test of Homogeneity : B16 [QA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	3.1900	10.1761	0.58787
	Medial	[3.1900]	10.1761	0.80190
Greek Linear B	Initial	[3.1900]	10.1761	0.80190
	Medial	3.1900	10.1761	<u>1.09303</u>
				$\chi^2$ statistic = 3.28470

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : B78 [QE] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : B78 [QE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B78 [QE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	57.14	66.67	[9.03]	81.5409	1.22305
Medial	42.86	30.00	12.36	152.76966	<u>5.09232</u>
					$\chi^2$ statistic = 6.31537

Therefore  $H_{o_2}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B21 [QI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B21 [QI] : n/a at d.f. = 2

B21	[QI]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	10	3	13
	Medial	3	8	11
	Total	13	11	24
Expected	Initial	7.04	5.96	13
	Medial	5.96	5.04	11
	Total	13	11	24

2. Chi Square Calculations

- Test Series Two -

$\chi^2$  Test of Homogeneity : B21 [QI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	2.4600	6.0516	0.85960
	Medial	[2.4600]	6.0516	1.01537
Greek Linear B	Initial	[2.4600]	6.0516	1.01537
	Medial	2.4600	6.0516	<u>1.20071</u>

$\chi^2$  statistic = 4.09105

Therefore  $H_{o_2}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B32 [QO] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B32 [QO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	16.67	11.86	4.81	23.1361	1.95077
Medial	38.89	61.02	[22.13]	489.7369	8.02584
Final	44.44	27.12	17.32	299.9824	<u>11.06130</u>

$\chi^2$  statistic = 21.03791

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B32	[QO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	7	36	43
	Final	8	16	24
	Total	15	52	67
Expected	Medial	9.63	33.37	43
	Final	5.37	18.63	24
	Total	15	52	67

$\chi^2$  Test of Homogeneity : B32 [QO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[2.1300]	4.5369	0.47112
	Final	2.1300	4.5369	0.84486
Greek Linear B	Medial	2.1300	4.5369	0.13596
	Final	[2.1300]	4.5369	<u>0.24353</u>

$\chi^2$  statistic = 1.69547

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

B60	[RA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	13	21	34
	Medial	51	115	166
	Final	24	36	60
	Total	88	172	260
Expected	Initial	11.51	22.49	34
	Medial	56.18	109.82	166
	Final	20.31	39.69	60
	Total	88	172	260

## 2. Chi Square Calculations

- Test Series Two -

 $\chi^2$  Test of Homogeneity : B60 [RA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	1.4900	2.2201	0.19288
	Medial	[5.1800]	26.8324	0.47761
	Final	3.6900	13.6161	0.67041
Greek Linear B	Initial	[1.4900]	2.2201	0.09871
	Medial	5.1800	26.8324	0.24433
	Final	[3.6900]	13.6161	<u>0.34306</u>
				$\chi^2$ statistic = 2.02700

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$ 

B60	[RA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	13	21	34
	Medial	51	115	166
	Total	64	136	200
Expected	Initial	10.88	23.12	34
	Medial	53.12	112.88	166
	Total	64	136	200

 $\chi^2$  Test of Homogeneity : B60 [RA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	1.6200	2.6244	0.24121
	Medial	[1.6200]	2.6244	0.04940
Greek Linear B	Initial	[1.6200]	2.6244	0.11351
	Medial	1.6200	2.6244	<u>0.02136</u>
				$\chi^2$ statistic = 0.42548

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ \*  $\chi^2$  Test of Homogeneity : B27 [RE] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : B27 [RE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	17.39	10.59	6.8	46.24	4.36638
Medial	47.83	70.59	[22.76]	518.0176	7.33839
Final	34.78	18.82	15.96	254.7216	<u>13.53462</u>
					$\chi^2$ statistic = 25.23939

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : B53 [RI] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : B53 [RI] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B53 [RI] :

	fo	fe	[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo - fe) - .5] sq / fe
Initial	9.76	5.23	4.13	17.0569	3.26136
Medial	78.05	90.20	[11.65]	135.7225	<u>1.50468</u>
					$\chi^2$ statistic = 4.76604

Therefore  $H_{o_2}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$



2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B02 [RO] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B02 [RO] : n/a at d.f. = 2

B02	[RO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	18	95	113
	Final	80	106	186
	Total	98	201	299
Expected	Medial	37.04	75.96	113
	Final	60.96	125.04	186
	Total	98	201	299

$\chi^2$  Test of Homogeneity : B02 [RO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[19.5400]	381.8116	10.30809
	Final	19.5400	381.8116	6.26331
Greek Linear B	Medial	19.5400	381.8116	5.02648
	Final	[19.5400]	381.8116	3.05352
				$\chi^2$ statistic = 24.65140

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B26 [RU] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B26 [RU] : n/a at d.f. = 2

B26	[RU]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	10	8	18
	Medial	12	48	60
	Total	22	56	78
Expected	Initial	5.57	12.92	18
	Medial	18.57	43.08	60
	Total	22	56	78

$\chi^2$  Test of Homogeneity : B26 [RU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	4.4200	19.5364	3.84575
	Medial	[4.4200]	19.5364	1.15463
Greek Linear B	Initial	[4.4200]	19.5364	1.51211
	Medial	4.4200	19.5364	0.45349
				$\chi^2$ statistic = 6.96598

Therefore  $H_{02}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 2. Chi Square Calculations

- Test Series Two -

B31	[SA]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	19	9	28
	<b>Medial</b>	23	25	48
	<b>Final</b>	4	11	15
	<b>Total</b>	46	45	91
<b>Expected</b>	<b>Initial</b>	14.15	13.85	28
	<b>Medial</b>	24.26	23.74	48
	<b>Final</b>	7.58	7.42	15
	<b>Total</b>	45.99	45.01	91

 $\chi^2$  Test of Homogeneity : B31 [SA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	4.8500	23.5225	1.66237
	Medial	[1.2600]	1.5876	0.06544
	Final	[3.5800]	12.8164	1.69082
Greek Linear B	Initial	[4.8500]	23.5225	1.69838
	Medial	1.2600	1.5876	0.06687
	Final	3.5800	12.8164	<u>1.72728</u>
				$\chi^2$ statistic = 6.91116

Therefore  $H_{o_2}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.6966$ 

B31	[SA]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	23	25	48
	<b>Final</b>	4	11	15
	<b>Total</b>	27	36	64
<b>Expected</b>	<b>Medial</b>	20.57	27.43	48
	<b>Final</b>	6.43	8.57	15
	<b>Total</b>	27	36	64

 $\chi^2$  Test of Homogeneity : B31 [SA] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	Medial	1.9300	3.7249	0.18108
	Final	[1.9300]	3.7249	0.57930
Greek Linear B	Medial	[1.9300]	3.7249	0.13580
	Final	1.9300	3.7249	<u>0.43464</u>
				$\chi^2$ statistic = 1.33082

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B09 [SE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : B09 [SE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	36.36	8.11	28.25	798.0625	98.40475
Medial	27.27	72.97	[45.70]	2088.4900	28.62121
Final	36.36	18.92	17.44	304.1536	16.07577
				$\chi^2$ statistic =	143.10173

Therefore  $H_{o2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
 and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

B41	[SI]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	20	10	30
	Medial	12	50	62
	Final	4	34	38
	Total	36	94	130
Expected	Initial	8.31	21.69	30
	Medial	17.17	44.83	62
	Final	10.52	27.48	38
	Total	36	94	130

$\chi^2$  Test of Homogeneity : B41 [SI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	11.6900	136.6561	16.44478
	Medial	[5.1700]	26.7289	1.55672
	Final	[6.5200]	42.5104	4.04091
Greek Linear B	Initial	[11.6900]	136.6561	6.30042
	Medial	5.1700	26.7289	0.59623
	Final	6.5200	42.5104	1.54696
			$\chi^2$ statistic =	30.48602

Therefore  $H_{o2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B41	[SI]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	12	50	62
	Final	4	34	38
	Total	16	84	100
Expected	Medial	9.92	52.08	62
	Final	6.08	31.92	38
	Total	16	84	100

2. Chi Square Calculations

- Test Series Two -

$\chi^2$  Test of Homogeneity : B41 [SI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	1.5800	2.4964	0.25165
	Final	[1.5800]	2.4964	0.41059
Greek Linear B	Medial	[1.5800]	2.4964	0.04793
	Final	1.5800	2.4964	<u>0.07821</u>
				$\chi^2$ statistic = 0.78838

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : B12 [SO] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B12 [SO] : n/a at d.f. = 2

B12	[SO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	5	25	30
	Final	61	20	81
	Total	66	45	111
Expected	Medial	17.84	12.16	30
	Final	48.16	32.84	81
	Total	66	45	111

$\chi^2$  Test of Homogeneity : B12 [SO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[13.3400]	177.9556	9.97509
	Final	13.3400	177.9556	3.69509
Greek Linear B	Medial	13.3400	177.9556	14.63451
	Final	[13.3400]	177.9556	<u>5.41887</u>
				$\chi^2$ statistic = 33.72356

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B58 [SU] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : B58 [SU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	72.73	38.46	34.27	1174.4329	30.53648
Medial	22.73	53.85	[31.12]	968.4544	17.98430
Final	4.55	7.69	[3.14]	9.8596	<u>1.28213</u>
					$\chi^2$ statistic = 49.80291

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

2. Chi Square Calculations

- Test Series Two -

B59	[TA]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	23	19	42
	<b>Medial</b>	36	71	107
	<b>Final</b>	44	118	162
	<b>Total</b>	103	208	311
<b>Expected</b>	<b>Initial</b>	13.91	28.09	42
	<b>Medial</b>	35.44	71.56	107
	<b>Final</b>	53.65	108.35	162
	<b>Total</b>	103	208	311

$\chi^2$  Test of Homogeneity : B59 [TA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
<b>non-Greek Linear B</b>	<b>Initial</b>	9.0900	82.6281	5.94019
	<b>Medial</b>	0.5600	0.3136	0.00885
	<b>Final</b>	[9.6500]	93.1225	1.73574
<b>Greek Linear B</b>	<b>Initial</b>	[9.0900]	82.6281	2.94155
	<b>Medial</b>	[0.5600]	0.3136	0.00438
	<b>Final</b>	9.6500	93.1225	0.85946

$\chi^2$  statistic = 11.49017

Therefore  $H_{o2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B59	[TA]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	36	71	107
	<b>Final</b>	44	118	162
	<b>Total</b>	80	189	269
<b>Expected</b>	<b>Medial</b>	31.82	75.18	107
	<b>Final</b>	48.18	113.82	162
	<b>Total</b>	80	189	269

$\chi^2$  Test of Homogeneity : B59 [TA] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>non-Greek Linear B</b>	<b>Medial</b>	3.6800	13.5424	0.42559
	<b>Final</b>	[3.6800]	13.5424	0.28108
<b>Greek Linear B</b>	<b>Medial</b>	[3.6800]	13.5424	0.18013
	<b>Final</b>	3.6800	13.5424	0.11898

$\chi^2$  statistic = 1.00578

Therefore  $H_{o2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

2. Chi Square Calculations

- Test Series Two -

B04	[TE]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	12	24	36
	Medial	11	91	102
	Final	8	49	57
	Total	31	164	195
Expected	Initial	5.72	30.28	36
	Medial	16.22	85.78	102
	Final	9.06	47.94	57
	Total	31	164	195

$\chi^2$  Test of Homogeneity : B04 [TE] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	6.2800	39.4384	6.89483
	Medial	[5.2200]	27.2484	1.67993
	Final	[1.0600]	1.1236	0.12402
Greek Linear B	Initial	[6.2800]	39.4384	1.30246
	Medial	5.2200	27.2484	0.31765
	Final	1.0600	1.1236	0.02344

$\chi^2$  statistic = 10.34233

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B04	[TE]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	11	91	102
	Final	8	49	57
	Total	19	140	159
Expected	Medial	12.19	89.81	102
	Final	6.81	50.19	57
	Total	19	140	159

$\chi^2$  Test of Homogeneity : B04 [TE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[0.6900] = 0	0000	00000
	Final	0.6900 = 0	0000	00000
Greek Linear B	Medial	0.6900 = 0	0000	00000
	Final	[0.6900] = 0	0000	00000

$\chi^2$  statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

2. Chi Square Calculations

- Test Series Two -

B37	[TI]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10	12	22
	<b>Medial</b>	18	61	79
	<b>Final</b>	11	2	13
	<b>Total</b>	39	75	114
<b>Expected</b>	<b>Initial</b>	7.53	14.47	22
	<b>Medial</b>	27.03	51.97	79
	<b>Final</b>	4.45	8.55	13
	<b>Total</b>	39.01	74.99	114

$\chi^2$  Test of Homogeneity : B37 [TI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	2.4700	6.1009	0.81021
	Medial	[9.0300]	81.5409	3.01668
	Final	6.5500	42.9025	9.64101
Greek Linear B	Initial	[2.4700]	6.1009	0.42162
	Medial	9.0300	81.5409	1.56900
	Final	[6.5500]	42.9025	<u>5.01784</u>
			$\chi^2$ statistic =	20.47636

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B37	[TI]	non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10	12	22
	<b>Medial</b>	18	61	79
	<b>Total</b>	28	73	101
<b>Expected</b>	<b>Initial</b>	6.1	15.9	22
	<b>Medial</b>	21.9	57.1	79
	<b>Total</b>	28	73	101

$\chi^2$  Test of Homogeneity : B37 [TI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	3.4000	11.5600	1.89508
	Medial	[3.4000]	11.5600	0.52785
Greek Linear B	Initial	[3.4000]	11.5600	0.72704
	Medial	3.4000	11.5600	<u>0.20245</u>
			$\chi^2$ statistic =	3.35242

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

2. Chi Square Calculations

- Test Series Two -

B05	[TO]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	5	26	31
	Medial	15	64	79
	Final	66	86	152
	Total	86	176	262
Expected	Initial	10.18	20.82	31
	Medial	25.93	53.07	79
	Final	49.89	102.11	152
	Total	86	176	262

$\chi^2$  Test of Homogeneity : B05 [TO] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	[5.1800]	26.8324	2.63580
	Medial	[10.9300]	119.4649	4.60721
	Final	16.1100	259.5321	5.20209
Greek Linear B	Initial	5.1800	26.8324	1.28878
	Medial	10.9300	119.4649	2.25108
	Final	[16.1100]	259.5321	2.54169
			$\chi^2$ statistic =	18.52665

Therefore  $H_{o2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B05	[TO]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	5	26	31
	Medial	15	64	79
	Total	20	90	110
Expected	Initial	5.64	25.36	31
	Medial	14.36	64.64	79
	Total	20	90	110

$\chi^2$  Test of Homogeneity : B05 [TO] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	Initial	[1.1400]	1.2996	0.23043
	Medial	1.1400	1.2996	0.09050
Greek Linear B	Initial	1.1400	1.2996	0.05125
	Medial	[1.1400]	1.2996	0.02011
			$\chi^2$ statistic =	0.39229

Therefore  $H_{o2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : B69 [TU] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B69 [TU] : n/a at d.f. = 2



2. Chi Square Calculations

- Test Series Two -

B69	[TU]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	11	16	27
	Medial	10	17	27
	Total	21	33	54
Expected	Initial	10.5	16.5	27
	Medial	10.5	16.5	27
	Total	21	33	54

$\chi^2$  Test of Homogeneity : B69 [TU] :

		$[fo - fe] - .5$	$([fo - fe] - .5) sq$	$([fo - fe] - .5) sq / fe$
non-Greek Linear B	Initial	0000	0000	00000
	Medial	0000	0000	00000
Greek Linear B	Initial	0000	0000	00000
	Medial	0000	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

B54	[WA]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	12	13	25
	Medial	15	46	61
	Final	4	27	31
	Total	31	86	117
Expected	Initial	6.62	18.38	25
	Medial	16.16	44.84	61
	Final	8.21	22.79	31
	Total	30.99	86.01	117

$\chi^2$  Test of Homogeneity : B54 [WA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
non-Greek Linear B	Initial	5.3800	28.9444	4.37227
	Medial	[1.1600]	1.3456	0.08327
	Final	[4.2100]	17.7241	2.15884
Greek Linear B	Initial	[5.3800]	28.9444	1.57478
	Medial	1.1600	1.3456	0.03001
	Final	4.2100	17.7241	0.77771
				$\chi^2$ statistic = 8.99688

Therefore  $H_o_2$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 2. Chi Square Calculations

- Test Series Two -

B54	[WA]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	15	46	61
	Final	4	27	31
	Total	19	73	92
Expected	Medial	12.6	48.4	61
	Final	6.4	24.6	31
	Total	19	73	92

 $\chi^2$  Test of Homogeneity : B54 [WA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	1.9000	3.6100	0.28651
	Final	[1.9000]	3.6100	0.56406
Greek Linear B	Medial	[1.9000]	3.6100	0.07459
	Final	1.9000	3.6100	<u>0.14675</u>

 $\chi^2$  statistic = 1.07191Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ \*  $\chi^2$  Test of Homogeneity : B75 [WE] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B75 [WE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	15.38	15.11	0.27	0.0729	0.00483
Medial	38.46	31.65	6.81	46.3761	1.46528
Final	46.15	53.24	[7.09]	50.2681	<u>0.94418</u>

 $\chi^2$  statistic = 2.41429Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$ 

B75	[WE]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	10	44	54
	Final	12	74	86
	Total	22	118	140
Expected	Medial	8.49	45.51	54
	Final	13.51	72.49	86
	Total	22	118	140

 $\chi^2$  Test of Homogeneity : B75 [WE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	1.0100	1.0201	0.12015
	Final	[1.0100]	1.0201	0.07551
Greek Linear B	Medial	[1.0100]	1.0201	0.02241
	Final	1.0100	1.0201	<u>0.01407</u>

 $\chi^2$  statistic = 0.23214Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B40 [WI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : B40 [WI] : n/a at d.f. = 2

B40	[WI]	non-Greek Linear B	Greek Linear B	Total
Observed	Initial	17	16	33
	Medial	8	43	51
	Total	25	59	84
Expected	Initial	9.82	23.18	33
	Medial	15.18	35.82	51
	Total	25	59	84

$\chi^2$  Test of Homogeneity : B40 [WI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	6.6800	44.6224	4.54403
	Medial	[6.6800]	44.6224	2.93955
Greek Linear B	Initial	[6.6800]	44.6224	1.92504
	Medial	6.6800	44.6224	1.24574
				$\chi^2$ statistic = 10.65436

Therefore  $H_{o2}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B42 [WO] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B42 [WO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	24.24	11.96	12.28	150.7984	12.60856
Medial	21.21	38.59	[17.38]	302.0644	7.82753
Final	54.55	49.46	5.09	25.9081	0.52382
				$\chi^2$ statistic = 20.95991	

Therefore  $H_{o2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

B42	[WO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	7	71	78
	Final	18	91	109
	Total	25	162	187
Expected	Medial	10.43	67.57	78
	Final	14.57	94.43	109
	Total	25	162	187

## 2. Chi Square Calculations

- Test Series Two -

 $\chi^2$  Test of Homogeneity : B42 [WO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[2.9300]	8.5849	0.82310
	Final	2.9300	8.5849	0.58922
Greek Linear B	Medial	2.9300	8.5849	0.12705
	Final	[2.9300]	8.5849	<u>0.09091</u>
				$\chi^2$ statistic = 1.63028

Therefore  $H_{o_2}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ \*  $\chi^2$  Test of Homogeneity : B54 [YA] : n/a at d.f. = 2\*  $\chi^2$  Goodness-of-Fit Test : B54 [YA] : n/a at d.f. = 2

B54	[YA]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	36	53	89
	Final	29	115	144
	Total	65	168	233
Expected	Medial	24.83	64.17	89
	Final	40.17	103.83	144
	Total	65	168	233

 $\chi^2$  Test of Homogeneity : B54 [YA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	10.6700	113.8489	4.58513
	Final	[10.6700]	113.8489	2.83418
Greek Linear B	Medial	[10.6700]	113.8489	1.77418
	Final	10.6700	113.8489	<u>1.09649</u>
				$\chi^2$ statistic = 10.28998

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : B46 [YE] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : B46 [YE] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B46 [YE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	66.67	93.33	[26.16]	684.3456	7.33254
Final	22.22	6.67	15.05	226.5025	<u>33.95840</u>
					$\chi^2$ statistic = 41.29094

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : B36 [YO] : n/a at d.f. = 2\*  $\chi^2$  Goodness-of-Fit Test : B36 [YO] : n/a at d.f. = 2

2. Chi Square Calculations

- Test Series Two -

B36	[YO]	non-Greek Linear B	Greek Linear B	Total
Observed	Medial	7	40	47
	Final	32	216	248
	Total	39	256	295
Expected	Medial	6.21	40.79	47
	Final	32.79	215.21	248
	Total	39	256	295

$\chi^2$  Test of Homogeneity : B36 [YO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	0.2900 = 0	0000	00000
	Final	[0.2900] = 0	0000	00000
Greek Linear B	Medial	[0.2900] = 0	0000	00000
	Final	0.2900 = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : B65 [YU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : B65 [YU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : B17 [ZA] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : B17 [ZA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.00	20.00	[10.00]	100.0000	5.00000
Medial	60.00	30.00	30.00	900.0000	30.00000
Final	30.00	50.00	[20.00]	400.0000	<u>8.00000</u>
					$\chi^2$ statistic = 43.00000

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B74 [ZE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : B74 [ZE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	37.50	44.44	[6.94]	48.1636	1.08379
Medial	50.00	33.33	16.67	277.8889	8.33750
Final	12.50	22.22	[9.72]	94.4784	<u>4.25195</u>
					$\chi^2$ statistic = 13.67342

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : B74 [ZE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	37.50	44.44	[6.44]	41.4736	0.93325
Final	12.50	22.22	[9.22]	85.0084	<u>3.82576</u>
					$\chi^2$ statistic = 4.75901

Therefore  $H_o_2$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 2. Chi Square Calculations

- Test Series Two -

\*  $\chi^2$  Test of Homogeneity : B20 [ZO] : n/a at d.f. = 2 or d.f. = 1

	$\chi^2$ Goodness-of-Fit Test : B20 [ZO] :				
	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	11.76	20.00	[8.24]	67.8976	3.39488
Medial	5.88	46.67	[40.79]	1663.8241	35.65083
Final	82.35	33.33	49.02	2402.9604	<u>72.09602</u>
				$\chi^2$ statistic =	111.14173

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
 and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : B79 [ZU] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : B79 [ZU] : n/a at d.f. = 2 or d.f. = 1

3. Chi Square Calculations

- Test Series Three -

\*  $\chi^2$  Test of Homogeneity : A52 / B08 [A] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A52 / B08 [A] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	82.25	88.31	[6.06]	36.7236	0.41585
Medial	10.48	5.19	5.29	27.9841	5.39193
Final	7.25	6.49	0.76	0.5776	0.08998
				$\chi^2$ statistic =	5.89776

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

$\chi^2$  Goodness-of-Fit Test : A52 / B08 [A] :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Initial	82.25	88.31	[5.56]	30.9136	0.35006
Final	7.25	6.49	0.27 = 0	0000	00000
				$\chi^2$ statistic =	0.35006

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A44 / B38 [E] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A44 / B38 [E] : n/a at d.f. = 2 or d.f. = 1

A100 : B28	[I]	Linear A	Greek Linear B	Total
Observed	Initial	24.5	34	58.5
	Medial	15	47	62
	Final	15	34	49
	Total	54.5	115	169.5
Expected	Initial	18.8	39.69	58.5
	Medial	19.93	42.06	62
	Final	15.75	33.24	49
	Total	54.48	114.99	169.5

$\chi^2$  Test of Homogeneity : A100 / B28 [I] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	5.7000	32.4900	1.72819
	Medial	[4.9300]	24.3049	1.21951
	Final	[0.7500]	0.5625	0.03571
Greek Linear B	Initial	[5.7000]	32.4900	0.81572
	Medial	4.9300	24.3049	0.58021
	Final	0.7500	0.5625	0.01738
			$\chi^2$ statistic =	4.39672

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

3. Chi Square Calculations

- Test Series Three -

A100 : B28	[I]	Linear A	Greek Linear B	Total
Observed	Medial	15	47	62
	Final	15	34	49
	Total	30	81	111
Expected	Medial	16.76	45.24	62
	Final	13.24	35.76	49
	Total	30	81	111

$\chi^2$  Test of Homogeneity : A100 / B28 [I] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[1.2600]	1.5876	0.09472
	Final	1.2600	1.5876	0.11991
Greek Linear B	Medial	1.2600	1.5876	0.03509
	Final	[1.2600]	1.5876	0.04440
				$\chi^2$ statistic = 0.29412

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A87 / B61 [O] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A87 / B61 [O] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	54.55	40.76	13.79	190.1641	4.66546
Medial	9.09	15.92	[6.83]	46.6489	2.93021
Final	36.36	43.31	[6.95]	48.3025	1.11527
					$\chi^2$ statistic = 8.71094

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

\*  $\chi^2$  Test of Homogeneity : A97 / B10 [U] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A97 / B10 [U] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	64.58	6.08	58.50	3422.2500	562.87007
Medial	20.83	46.41	[25.58]	654.3364	14.09904
Final	14.58	47.51	[32.93]	1084.3849	22.82435
					$\chi^2$ statistic = 599.79346

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A97 : B10	[U]	Linear A	Greek Linear B	Total
Observed	Medial	5	84	89
	Final	13.5	86	99.5
	Total	18.5	170	188.5
Expected	Medial	8.73	80.27	89
	Final	9.74	89.73	99.5
	Total	18.5	170	188.5



3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A97 / B10 [U] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[3.2300]	10.4329	1.19506
	Final	3.2300	10.4329	1.06785
Greek Linear B	Medial	3.2300	10.4329	0.12997
	Final	[3.2300]	10.4329	<u>0.11627</u>
$\chi^2$ statistic =				2.50915

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

A30 : B01	[DA]	Linear A	Greek Linear B	Total
Observed	Initial	27.5	15	42.5
	Medial	21	42	63
	Final	8	3	11
Total		56.5	60	116.5
Expected	Initial	20.61	21.89	42.5
	Medial	30.55	32.45	63
	Final	5.33	5.67	11
Total		56.49	60	116.5

$\chi^2$  Test of Homogeneity : A30 / B01 [DA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	6.8900	47.4721	2.30335
	Medial	[9.5500]	91.2025	2.98535
	Final	2.6700	7.1289	1.33750
Greek Linear B	Initial	[6.8900]	47.4721	2.16867
	Medial	9.5500	91.2025	2.81055
	Final	[2.6700]	7.1289	<u>1.25730</u>
$\chi^2$ statistic =				12.86272

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A30 : B01	[DA]	Linear A	Greek Linear B	Total
Observed	Initial	27.5	15	42.5
	Medial	21	42	63
	Total	48.5	57	105.5
Expected	Initial	19.54	22.96	42.5
	Medial	28.96	34.04	63
	Total	48.5	57	105.5

$\chi^2$  Test of Homogeneity : A30 / B01 [DA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	7.4600	55.6516	2.84809
	Medial	[7.4600]	55.6516	1.92167
Greek Linear B	Initial	[7.4600]	55.6516	2.42385
	Medial	7.4600	55.6516	<u>1.63489</u>
$\chi^2$ statistic =				8.82850

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

3. Chi Square Calculations

- Test Series Three -

A102 : B45	[DE]	Linear A	Greek Linear B	Total
Observed	Initial	3	17	20
	Medial	12	20	32
	Final	3.5	17	20.5
	Total	18.5	54	72.5
Expected	Initial	5.1	14.9	20
	Medial	8.17	23.83	32
	Final	5.23	15.27	20.5
	Total	18.5	54	72.5

$\chi^2$  Test of Homogeneity : A102 / B45 [DE] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[2.1000]	4.4100	0.86471
	Medial	3.8300	14.6689	1.79546
	Final	[1.7300]	2.9929	0.57226
Greek Linear B	Initial	2.1000	4.4100	0.29597
	Medial	[3.8300]	14.6689	0.61556
	Final	1.7300	2.9929	0.19599
			$\chi^2$ statistic =	4.33995

Therefore  $H_{03}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A102 : B45	[DE]	Linear A	Greek Linear B	Total
Observed	Medial	12	20	32
	Final	3.5	17	20.5
	Total	15.5	37	52.5
Expected	Medial	9.45	22.55	32
	Final	6.05	14.45	20.5
	Total	15.5	37	52.5

$\chi^2$  Test of Homogeneity : A102 / B45 [DE] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Medial	2.0500	4.2025	0.44471
	Final	[2.0500]	4.2025	0.69463
Greek Linear B	Medial	[2.0500]	4.2025	0.18636
	Final	2.0500	4.2025	0.29083
			$\chi^2$ statistic =	1.61653

Therefore  $H_{03}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

3. Chi Square Calculations

- Test Series Three -

A51 : B07	[DI]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10	22	32
	<b>Medial</b>	20	14	34
	<b>Final</b>	12.5	0	12.5
	<b>Total</b>	42.5	36	78.5
<b>Expected</b>	<b>Initial</b>	17.32	14.68	32
	<b>Medial</b>	18.41	15.59	34
	<b>Final</b>	6.77	5.73	12.5
	<b>Total</b>	42.5	36	78.5

$\chi^2$  Test of Homogeneity : A51 / B07 [DI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[7.3200]	53.5824	3.09367
	<b>Medial</b>	1.5900	2.5281	0.13732
	<b>Final</b>	5.7300	32.8329	4.84976
<b>Greek Linear B</b>	<b>Initial</b>	7.3200	53.5824	3.65003
	<b>Medial</b>	[1.5900]	2.5281	0.16216
	<b>Final</b>	[5.7300]	32.8329	<u>5.73000</u>
			$\chi^2$ statistic =	17.62294

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A51 : B07	[DI]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10	22	32
	<b>Medial</b>	20	14	34
	<b>Total</b>	30	36	66
<b>Expected</b>	<b>Initial</b>	14.54	17.45	32
	<b>Medial</b>	15.46	18.55	34
	<b>Total</b>	30	36	66

$\chi^2$  Test of Homogeneity : A51 / B07 [DI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	[4.0400]	16.3216	1.12253
	<b>Medial</b>	4.0400	16.3216	1.05573
<b>Greek Linear B</b>	<b>Initial</b>	4.0400	16.3216	0.93533
	<b>Medial</b>	[4.0400]	16.3216	<u>0.87987</u>
			$\chi^2$ statistic =	3.99346

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A101 / B14 [DO] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A101 / B14 [DO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
<b>Initial</b>	47.06	27.08	19.98	399.2004	14.74152
<b>Medial</b>	38.24	62.50	[24.26]	588.5476	9.41676
<b>Final</b>	14.71	10.42	4.29	18.4041	<u>1.76623</u>
				$\chi^2$ statistic =	25.92451

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 3. Chi Square Calculations

- Test Series Three -

A101 : B14	[DO]	Linear A	Greek Linear B	Total
Observed	Initial	8	13	21
	Medial	6.5	30	36.5
	Total	14.5	43	57.5
Expected	Initial	5.3	15.7	21
	Medial	9.2	27.3	36.5
	Total	14.5	43	57.5

 $\chi^2$  Test of Homogeneity : A101 / B14 [DO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	2.2000	4.8400	0.91321
	Medial	[2.2000]	4.8400	0.52609
Greek Linear B	Initial	[2.2000]	4.8400	0.30828
	Medial	2.2000	4.8400	0.17729
				$\chi^2$ statistic = 1.92487

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ \*  $\chi^2$  Test of Homogeneity : A93 / B51 [DU] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A93 / B51 [DU] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A93 / B51 [DU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	28.00	45.45	[16.95]	287.3025	6.32129
Medial	45.33	54.55	[8.72]	76.0384	1.39392
					$\chi^2$ statistic = 7.71521

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ 

A29 : B77	[KA]	Linear A	Greek Linear B	Total
Observed	Initial	25	60	85
	Medial	12	64	76
	Final	14.5	20	34.5
	Total	51.5	144	195.5
Expected	Initial	22.39	62.61	85
	Medial	20.02	55.98	76
	Final	9.09	25.41	34.5
	Total	51.5	144	195.5

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A29 / B77 [KA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	2.6100	6.8121	0.30425
	Medial	[8.0200]	64.3204	3.21281
	Final	5.4100	29.2681	3.21981
Greek Linear B	Initial	[2.6100]	6.8121	0.10880
	Medial	8.0200	64.3204	1.14899
	Final	[5.4100]	29.2681	<u>1.15183</u>
				$\chi^2$ statistic = 9.14649

Therefore  $H_o_3$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A29 : B77	[KA]	Linear A	Greek Linear B	Total
Observed	Initial	25	60	85
	Medial	12	64	76
	Total	37	124	161
Expected	Initial	19.53	65.47	85
	Medial	17.47	58.53	76
	Total	37	124	161

$\chi^2$  Test of Homogeneity : A29 / B77 [KA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	4.9700	24.7009	1.26477
	Medial	[4.9700]	24.7009	1.41390
Greek Linear B	Initial	[4.9700]	24.7009	0.37729
	Medial	4.9700	24.7009	<u>0.42202</u>
				$\chi^2$ Statistic = 3.47798

Therefore  $H_o_3$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A24 / B44 [KE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A24 / B44 [KE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	21.43	21.12	[0.31]	0.0961	0.00455
Medial	35.71	67.08	[31.37]	984.0769	14.67020
Final	42.86	11.80	31.06	964.7236	<u>81.75623</u>
					$\chi^2$ statistic = 96.43098

Therefore  $H_o_3$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A103 / B67 [KI] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A103 / B67 [KI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	37.50	32.76	4.74	22.4676	0.68582
Medial	55.00	60.34	[5.34]	28.5156	0.47258
Final	7.50	6.90	[0.60]	0.3600	<u>0.05217</u>
					$\chi^2$ statistic = 1.21057

Therefore  $H_o_3$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

## 3. Chi Square Calculations

- Test Series Three -

A103 : B67	[KI]	Linear A	Greek Linear B	Total
Observed	Initial	15	19	34
	Medial	22	35	57
	Total	37	54	91
Expected	Initial	13.82	20.18	34
	Medial	23.18	33.82	57
	Total	37	54	91

 $\chi^2$  Test of Homogeneity : A103 / B67 [KI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	0.6800 = 0	0000	00000
	Medial	[0.6800] = 0	0000	00000
Greek Linear B	Initial	[0.6800] = 0	0000	00000
	Medial	0.6800 = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$ \*  $\chi^2$  Test of Homogeneity : A45 / B70 [KO] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A45 / B70 [KO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	41.67	23.72	17.95	322.2025	13.58358
Medial	25.00	41.67	[16.67]	277.8889	6.66880
Final	33.33	34.62	[1.29]	1.6641	0.04807
					$\chi^2$ statistic = 20.30045

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$  $\chi^2$  Goodness-of-Fit Test : A45 / B70 [KO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	25.00	41.67	[16.17]	261.4689	6.27475
Final	33.33	34.62	[0.79] = 0	0000	00000
					$\chi^2$ statistic = 6.27475

Therefore  $H_0$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Test of Homogeneity : A98 / B81 [KU] : n/a at d.f. = 2\*  $\chi^2$  Goodness-of-Fit Test : A98 / B81 [KU] : n/a at d.f. = 2

A98 : B81	[KU]	Linear A	Greek Linear B	Total
Observed	Initial	23	31	54
	Medial	21	18	39
	Total	44	49	93
Expected	Initial	25.55	28.45	54
	Medial	18.45	20.55	39
	Total	44	49	93

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A98 / B81 [KU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[2.0500]	4.2484	0.16448
	Medial	2.0500	4.2484	0.22778
Greek Linear B	Initial	2.0500	4.2484	0.14772
	Medial	[2.0500]	4.2484	<u>0.20450</u>
			$\chi^2$ statistic =	0.74448

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

A95 : B80	[MA]	Linear A	Greek Linear B	Total
Observed	Initial	11	19	30
	Medial	21.5	36	57.5
	Final	12.5	7	19.5
	Total	45	62	107
Expected	Initial	12.62	17.38	30
	Medial	24.18	33.32	57.5
	Final	8.2	11.3	19.5
	Total	45	62	107

$\chi^2$  Test of Homogeneity : A95 / B80 [MA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[1.6200]	2.6244	0.20796
	Medial	[2.6800]	7.1824	0.29704
	Final	4.3000	18.4900	2.25488
Greek Linear B	Initial	1.6200	2.6244	0.15100
	Medial	2.6800	7.1824	0.15558
	Final	[4.3000]	18.4900	<u>1.63628</u>
			$\chi^2$ statistic =	4.70274

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A95 : B80	[MA]	Linear A	Greek Linear B	Total
Observed	Initial	11	19	30
	Medial	21.5	36	57.5
	Total	32.5	55	87.5
Expected	Initial	11.14	18.86	30
	Medial	21.36	36.14	57.5
	Total	32.5	55	87.5

$\chi^2$  Test of Homogeneity : A95 / B80 [MA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	0.3600 = 0	0000	00000
	Medial	[0.3600]= 0	0000	00000
Greek Linear B	Initial	[0.3600]= 0	0000	00000
	Medial	0.3600 = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

## 3. Chi Square Calculations

## - Test Series Three -

\*  $\chi^2$  Test of Homogeneity : A84 / B13 [ME] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A84 / B13 [ME] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A84 / B13 [ME] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	10.34	32.00	[21.16]	447.7456	13.99205
Medial	51.72	65.00	[12.78]	163.3284	<u>2.51274</u>
				$\chi^2$ statistic =	16.50479

Therefore  $H_o$ , rejected at  $\alpha = .005$ ; d.f. = 1;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A76 / B73 [MI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A76 / B73 [MI] : n/a at d.f. = 2

A76 : B73	[MI]	Linear A	Greek Linear B	Total
Observed	Initial	8	6	14
	Medial	23	24	47
	Total	31	30	61
Expected	Initial	7.11	6.89	14
	Medial	23.89	23.11	47
	Total	31	30	61

$\chi^2$  Test of Homogeneity : A76 / B73 [MI] :

		[fo - fe] - .5	[(fo-fe) -.5] sq	[(fo-fe) -.5] sq / fe
Linear A	Initial	0.3900 = 0	0000	00000
	Medial	[0.3900] = 0	0000	00000
Greek Linear B	Initial	[0.3900] = 0	0000	00000
	Medial	0.3900 = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_o$ , accepted at  $\alpha = .900$ ; d.f. = 1;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A? / B15 [MO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A? / B15 [MO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A27 / B23 [MU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A27 / B23 [MU] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A27 / B23 [MU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	28.57	66.67	[37.60]	1413.7600	21.20533
Medial	42.86	33.33	9.03	81.5409	<u>2.44647</u>
				$\chi^2$ statistic =	23.6518

Therefore  $H_o$ , rejected at  $\alpha = .005$ ; d.f. = 1;  $\chi^2 = 7.87944$



3. Chi Square Calculations

- Test Series Three -

A26 : B06	[NA]	Linear A	Greek Linear B	Total
Observed	Initial	6	6	12
	Medial	26	37	63
	Final	28	33	61
	Total	60	76	136
Expected	Initial	5.29	6.71	12
	Medial	27.79	35.21	63
	Final	26.91	34.09	61
	Total	59.99	76.01	136

$\chi^2$  Test of Homogeneity : A26 / B06 [NA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	0.7100	0.5041	0.09529
	Medial	[1.7900]	3.2041	0.11530
	Final	1.0900	1.1881	0.04415
Greek Linear B	Initial	[0.7900]	0.5041	0.07513
	Medial	1.7900	3.2041	0.09100
	Final	[1.0900]	1.1881	0.03485
			$\chi^2$ statistic =	0.45572

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A26 : B06	[NA]	Linear A	Greek Linear B	Total
Observed	Initial	6	6	12
	Final	28	33	61
	Total	34	39	73
Expected	Initial	5.59	6.41	12
	Final	28.41	32.59	61
	Total	34	39	73

$\chi^2$  Test of Homogeneity : A26 / B06 [NA] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	[0.0900] = 0	0000	00000
	Final	0.0900 = 0	0000	00000
Greek Linear B	Initial	0.0900 = 0	0000	00000
	Final	[0.0900] = 0	0000	00000
			$\chi^2$ statistic =	00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A61 / B24 [NE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A61 / B24 [NE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	8.16	11.54	[3.38]	11.4244	0.98998
Medial	36.73	52.56	[15.83]	250.5889	4.76767
Final	55.10	35.90	19.20	368.6400	10.26852
				$\chi^2$ statistic =	16.02617

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

3. Chi Square Calculations

- Test Series Three -

A61 : B24	[NE]	Linear A	Greek Linear B	Total
Observed	Medial	9	41	50
	Final	13.5	28	41.5
	Total	22.5	69	91.5
Expected	Medial	12.3	37.7	50
	Final	10.2	31.3	41.5
	Total	22.5	69	91.5

$\chi^2$  Test of Homogeneity : A61 / B24 [NE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[2.8000]	7.8400	0.63740
	Final	2.8000	7.8400	0.76863
Greek Linear B	Medial	2.8000	7.8400	0.20796
	Final	[2.8000]	7.8400	<u>0.25048</u>
				$\chi^2$ statistic = 1.86447

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

\*  $\chi^2$  Test of Homogeneity : A60 / B30 [NI] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A60 / B30 [NI] : n/a at d.f. = 2

A60 : B30	[NI]	Linear A	Greek Linear B	Total
Observed	Medial	12.5	42	54.5
	Final	12.5	4	16.5
	Total	25	46	71
Expected	Medial	19.19	35.31	54.5
	Final	5.81	10.69	16.5
	Total	25	46	71

$\chi^2$  Test of Homogeneity : A60 / B30 [NI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[6.1900]	38.3161	1.99667
	Final	6.1900	38.3161	6.59485
Greek Linear B	Medial	6.1900	38.3161	1.08513
	Final	[6.1900]	38.3161	<u>3.58429</u>
				$\chi^2$ statistic = 13.26094

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A? / B52 [NO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A? / B52 [NO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A25 / B55 [NU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A25 / B55 [NU] : n/a at d.f. = 2

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Goodness-of-Fit Test : A25 / B55 [NU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	60.00	90.48	[29.98]	898.8004	9.93369
Final	30.00	9.52	19.98	399.2004	41.93281
				$\chi^2$ statistic =	51.86650

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A02 / B03 [PA] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A02 / B03 [PA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	49.25	47.37	1.88	3.5344	0.07461
Medial	32.84	42.11	[9.27]	85.9329	2.04068
Final	17.91	10.53	7.38	54.4644	5.17231
				$\chi^2$ statistic =	7.28760

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A02 : B03	[PA]	Linear A	Greek Linear B	Total
Observed	Initial	16.5	36	52.5
	Medial	11	32	43
	Total	27.5	68	95.5
Expected	Initial	15.12	37.38	52.5
	Medial	12.38	30.62	43
	Total	27.5	68	95.5

$\chi^2$  Test of Homogeneity : A02 / B03 [PA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	0.8800 = 0	0000	00000
	Medial	[0.8800] = 0	0000	00000
Greek Linear B	Initial	[0.8800] = 0	0000	00000
	Medial	0.8800 = 0	0000	00000
			$\chi^2$ statistic =	00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A90 / B72 [PE] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A90 / B72 [PE] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A56 / B39 [PI] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A56 / B39 [PI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	51.43	32.67	18.76	351.9376	10.77250
Medial	34.29	61.39	[27.10]	734.4100	11.96302
Final	14.29	5.94	[8.35]	69.7225	11.73779
				$\chi^2$ statistic =	34.47331

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 3. Chi Square Calculations

## - Test Series Three -

A56 : B39	[PI]	Linear A	Greek Linear B	Total
Observed	Initial	9	33	42
	Medial	6	62	68
	Total	15	95	110
Expected	Initial	5.73	36.27	42
	Medial	9.27	58.73	68
	Total	15	95	110

 $\chi^2$  Test of Homogeneity : A56 / B39 [PI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	2.7700	7.6729	1.33908
	Medial	[2.7700]	7.6729	0.82771
Greek Linear B	Initial	[2.7700]	7.6729	0.21155
	Medial	2.7700	7.6729	<u>0.13065</u>
				$\chi^2$ statistic = 2.50899

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A21 / B11 [PO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A21 / B11 [PO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A64 / B50 [PU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A64 / B50 [PU] : n/a at d.f. = 2

 $\chi^2$  Goodness-of-Fit Test : A64 / B50 [PU] :

	fo	fe	[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo - fe) - .5] sq / fe
Initial	36.84	62.50	[25.16]	633.0256	10.12841
Medial	31.58	34.38	[2.30]	5.2900	<u>0.15387</u>
					$\chi^2$ statistic = 10.28228

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A62 : B16	[QA]	Linear A	Greek Linear B	Total
Observed	Initial	11	9	20
	Medial	6.5	13	19.5
	Final	3.5	9	12.5
	Total	21	31	52
Expected	Initial	8.08	11.92	20
	Medial	7.88	11.62	19.5
	Final	5.05	7.45	12.5
	Total	21.01	30.99	52

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A62 / B16 [QA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	2.9200	8.5264	1.05525
	Medial	[1.3800]	1.9044	0.24168
	Final	[1.5500]	2.4025	0.47574
Greek Linear B	Initial	[2.9200]	8.5264	0.71530
	Medial	1.3800	1.9044	0.16389
	Final	1.5500	2.4025	<u>0.32248</u>
				$\chi^2$ statistic = 2.94734

Therefore  $H_{o3}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A62 : B16	[QA]	Linear A	Greek Linear B	Total
Observed	Initial	11	9	20
	Medial	4.5	13	17.5
	Total	15.5	22	37.5
Expected	Initial	8.27	11.73	20
	Medial	7.23	10.27	17.5
	Total	15.5	22	37.5

$\chi^2$  Test of Homogeneity : A62 / B16 [QA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	2.2300	4.9729	0.60132
	Medial	[2.2300]	4.9729	0.68781
Greek Linear B	Initial	[2.2300]	4.9729	0.42395
	Medial	2.2300	4.9729	<u>0.48422</u>
				$\chi^2$ statistic = 2.19730

Therefore  $H_{o3}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A91 / B78 [QE] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A91 / B78 [QE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	58.14	66.67	[8.53]	72.7609	1.09136
Medial	20.93	30.00	[9.07]	82.2649	2.74216
Final	20.93	13.33	[7.60]	57.7600	<u>4.33308</u>
					$\chi^2$ statistic = 8.16660

Therefore  $H_{o3}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A91 / B78 [QE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	58.14	66.67	[8.03]	64.4809	0.96716
Medial	20.93	30.00	[8.57]	73.4449	<u>2.44816</u>
					$\chi^2$ statistic = 3.41532

Therefore  $H_{o3}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A48 / B21 [QI] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A48 / B21 [QI] : n/a at d.f. = 2 or d.f. = 1

## 3. Chi Square Calculations

- Test Series Three -

\*  $\chi^2$  Test of Homogeneity : A12 / B32 [QO] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A12 / B32 [QO] : n/a at d.f. = 2 or d.f. = 1

A53 : B60	[RA]	Linear A	Greek Linear B	Total
Observed	Initial	7	21	28
	Medial	25.5	115	140.5
	Final	21.5	36	57
	Total	53.5	172	225.5
Expected	Initial	6.64	21.36	28
	Medial	33.33	107.17	140.5
	Final	13.52	43.48	57
	Total	53.49	172.01	225.5

 $\chi^2$  Test of Homogeneity : A53 / B60 [RA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	0.3600	0.1296	0.01952
	Medial	[7.8300]	61.3089	1.83945
	Final	7.4800	55.9504	4.13834
Greek Linear B	Initial	[0.3600]	0.1296	0.00607
	Medial	7.8300	61.3089	0.57207
	Final	[7.4800]	55.9504	<u>1.28681</u>
			$\chi^2$ statistic =	7.86226

Therefore  $H_0$ , accepted at  $\alpha = .005$ ; d.f. = 2;  $\chi^2 = 10.5966$ 

A53 : B60	[RA]	Linear A	Greek Linear B	Total
Observed	Initial	7	21	28
	Medial	25.5	115	140.5
	Total	32.5	136	168.5
Expected	Initial	5.4	22.6	28
	Medial	27.1	113.4	140.5
	Total	32.5	136	168.5

 $\chi^2$  Test of Homogeneity : A53 / B60 [RA] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	1.1000	1.2100	0.22407
	Medial	[1.1000]	1.2100	0.04465
Greek Linear B	Initial	[1.1000]	1.2100	0.05354
	Medial	1.1000	1.2100	<u>0.01067</u>
			$\chi^2$ statistic =	0.33293

Therefore  $H_0$ , accepted at  $\alpha = .05$ ; d.f. = 1;  $\chi^2 = 3.84146$

3. Chi Square Calculations

- Test Series Three -

A54 : B27	[RE]	Linear A	Greek Linear B	Total
Observed	Initial	4.5	18	22.5
	Medial	23.5	120	143.5
	Final	21.5	32	53.5
	Total	49.5	170	219.5
Expected	Initial	5.07	17.43	22.5
	Medial	32.36	111.14	143.5
	Final	12.06	41.44	53.5
	Total	49.49	170.01	219.5

$\chi^2$  Test of Homogeneity : A54 / B27 [RE] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	[0.5700]	0.3249	0.06408
	Medial	[8.8600]	78.4996	2.42582
	Final	9.4400	89.1136	7.38919
Greek Linear B	Initial	0.5700	0.3249	0.01864
	Medial	8.8600	78.4996	0.70631
	Final	[9.4400]	89.1136	<u>2.15042</u>
				$\chi^2$ statistic = 12.75446

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A54 : B27	[RE]	Linear A	Greek Linear B	Total
Observed	Medial	23.5	120	143.5
	Final	21.5	32	53.5
	Total	45	152	197
Expected	Medial	32.78	110.72	143.5
	Final	12.22	41.28	53.5
	Total	45	152	197

$\chi^2$  Test of Homogeneity : A54 / B27 [RE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[8.7800]	77.0884	2.35169
	Final	8.7800	77.0884	6.30838
Greek Linear B	Medial	8.7800	77.0884	0.69625
	Final	[8.7800]	77.0884	<u>1.86745</u>
				$\chi^2$ statistic = 11.22377

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A72 / B53 [RI] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A72 / B53 [RI] : n/a at d.f. = 2

**3. Chi Square Calculations**

- Test Series Three -

$\chi^2$  Goodness-of-Fit Test : A72 / B53 [RI] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
<b>Initial</b>	18.33	5.23	12.60	158.7600	30.35564
<b>Medial</b>	60.00	90.20	[29.70]	882.0900	9.77927
				$\chi^2$ statistic =	40.13521

Therefore  $H_{03}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A22 / B02 [RO] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A22 / B02 [RO] : n/a at d.f. = 2

A22 : B02	[RO]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	7	95	102
	<b>Final</b>	10	106	116
	<b>Total</b>	17	201	218
<b>Expected</b>	<b>Medial</b>	7.95	94.05	102
	<b>Final</b>	9.05	106.95	116
	<b>Total</b>	17	201	218

$\chi^2$  Test of Homogeneity : A22 / B02 [RO] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Medial</b>	[0.4500] = 0	0000	00000
	<b>Final</b>	0.4500 = 0	0000	00000
<b>Greek Linear B</b>	<b>Medial</b>	0.4500 = 0	0000	00000
	<b>Final</b>	[0.4500] = 0	0000	00000
			$\chi^2$ statistic =	00000

Therefore  $H_{03}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

A55 : B26	[RU]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10.5	8	18.5
	<b>Medial</b>	16	48	64
	<b>Final</b>	16	2	18
	<b>Total</b>	42.5	58	100.5
<b>Expected</b>	<b>Initial</b>	7.82	10.68	18.5
	<b>Medial</b>	27.06	36.94	64
	<b>Final</b>	7.61	10.39	18
	<b>Total</b>	42.49	58.01	100.5



3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A55 / B26 [RU] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	2.6800	7.1824	0.91847
	Medial	[11.0600]	122.3236	4.52046
	Final	8.3900	70.3921	9.24995
Greek Linear B	Initial	[2.6800]	7.1824	0.67251
	Medial	11.0600	122.3236	3.31141
	Final	[8.3900]	70.3921	6.77499
				$\chi^2$ statistic = 25.44779

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A55 : B26	[RU]	Linear A	Greek Linear B	Total
Observed	Initial	10.5	8	18.5
	Medial	16	48	64
	Total	26.5	56	82.5
Expected	Initial	5.94	12.56	18.5
	Medial	20.56	43.44	64
	Total	26.5	56	82.5

$\chi^2$  Test of Homogeneity : A55 / B26 [RU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	4.0600	16.4836	2.77502
	Medial	[4.0600]	16.4836	0.80173
Greek Linear B	Initial	[4.0600]	16.4836	1.31239
	Medial	4.0600	16.4836	0.37946
				$\chi^2$ statistic = 5.26860

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A31 : B31	[SA]	Linear A	Greek Linear B	Total
Observed	Initial	16	9	25
	Medial	18	25	43
	Final	6	11	17
	Total	40	45	85
Expected	Initial	11.76	13.24	25
	Medial	20.24	22.76	43
	Final	8	9	17
	Total	40	45	85

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A31 / B31 [SA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	4.2400	17.9776	1.52871
	Medial	[2.2400]	5.0176	0.24791
	Final	[2.0000]	4.0000	0.50000
Greek Linear B	Initial	[4.2400]	17.9776	1.35782
	Medial	2.2400	5.0176	0.22046
	Final	2.0000	4.0000	0.44444
				$\chi^2$ statistic = 4.29934

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A31 : B31	[SA]	Linear A	Greek Linear B	Total
Observed	Medial	18	25	43
	Final	6	11	17
	Total	24	36	60
Expected	Medial	17.2	25.8	43
	Final	6.8	10.2	17
	Total	24	36	60

$\chi^2$  Test of Homogeneity : A31 / B31 [SA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	0.3000 = 0	0000	00000
	Final	[0.3000] = 0	0000	00000
Greek Linear B	Medial	[0.3000] = 0	0000	00000
	Final	0.3000 = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

\*  $\chi^2$  Test of Homogeneity : A77 / B09 [SE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A77 / B09 [SE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	7.32	8.11	[0.79]	0.6241	0.07695
Medial	43.90	72.97	[29.07]	845.0649	11.58099
Final	48.78	18.92	29.86	891.6196	47.12577
				$\chi^2$ statistic =	58.78371

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A77 : B09	[SE]	Linear A	Greek Linear B	Total
Observed	Medial	9	27	36
	Final	10	7	17
	Total	19	34	53
Expected	Medial	12.91	23.09	36
	Final	6.09	10.91	17
	Total	19	34	53

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A77 / B09 [SE] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[3.4100]	11.6281	0.90070
	Final	3.4100	11.6281	1.90938
Greek Linear B	Medial	3.4100	11.6281	0.50360
	Final	[3.4100]	11.6281	<u>1.06582</u>
				$\chi^2$ statistic = 4.37950

Therefore  $H_{03}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A57 : B41	[SI]	Linear A	Greek Linear B	Total
Observed	Initial	14.5	10	24.5
	Medial	14.5	50	64.5
	Final	11.5	34	45.5
	Total	40.5	94	134.5
Expected	Initial	7.38	17.12	24.5
	Medial	19.42	45.08	64.5
	Final	13.7	31.8	45.5
	Total	40.5	94	134.5

$\chi^2$  Test of Homogeneity : A57 / B41 [SI] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	7.1200	50.6944	6.86916
	Medial	[4.9200]	24.2064	1.24647
	Final	[2.2000]	4.8400	0.35328
Greek Linear B	Initial	[7.1200]	50.6944	2.96112
	Medial	4.4920	24.2064	0.53697
	Final	2.2000	4.8400	<u>0.15220</u>
				$\chi^2$ statistic = 12.11920

Therefore  $H_{03}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A57 : B41	[SI]	Linear A	Greek Linear B	Total
Observed	Medial	14.5	50	64.5
	Final	11.5	34	45.5
	Total	26	84	110
Expected	Medial	15.25	49.25	64.5
	Final	10.75	34.75	45.5
	Total	26	84	110

$\chi^2$  Test of Homogeneity : A57 / B41 [SI] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[0.2500] = 0	0000	00000
	Final	0.2500 = 0	0000	00000
Greek Linear B	Medial	0.2500 = 0	0000	00000
	Final	[0.2500] = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_{03}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

3. Chi Square Calculations

- Test Series Three -

\*  $\chi^2$  Test of Homogeneity : A07 / B12 [SO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A07 / B12 [SO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A59 / B58 [SU] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A59 / B58 [SU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	35.94	38.46	[2.52]	6.3504	0.16512
Medial	32.81	53.85	[21.04]	442.6816	8.22064
Final	31.25	7.69	23.56	555.0736	<u>72.18122</u>
				$\chi^2$ statistic =	80.56698

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A59 : B58	[SU]	Linear A	Greek Linear B	Total
Observed	Initial	11.5	5	16.5
	Medial	10.5	7	17.5
	Total	22	12	34
Expected	Initial	10.68	5.82	16.5
	Medial	11.32	6.18	17.5
	Total	22	12	34

$\chi^2$  Test of Homogeneity : A59 / B58 [SU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	0.3200 = 0	0000	00000
	Medial	[0.3200] = 0	0000	00000
Greek Linear B	Initial	[0.3200] = 0	0000	00000
	Medial	0.3200 = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

A74 : B59	[TA]	Linear A	Greek Linear B	Total
Observed	Initial	13	19	32
	Medial	35	71	106
	Final	17	118	135
	Total	65	208	273
Expected	Initial	7.62	24.38	32
	Medial	25.24	80.76	106
	Final	32.14	102.86	135
	Total	65	208	273

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A74 / B59 [TA] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
Linear A	Initial	5.3800	28.9444	3.79848
	Medial	9.7600	95.2576	3.77407
	Final	[15.1400]	229.2196	7.13191
Greek Linear B	Initial	[5.3800]	28.9444	1.18722
	Medial	[9.7600]	95.2576	1.17951
	Final	15.1400	229.2196	2.22846
				$\chi^2$ statistic = 19.29965

Therefore  $H_{03}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A74 : B59	[TA]	Linear A	Greek Linear B	Total
Observed	Initial	13	19	32
	Medial	35	71	106
	Total	48	90	138
Expected	Initial	11.13	20.87	32
	Medial	36.87	69.13	106
	Total	48	90	138

$\chi^2$  Test of Homogeneity : A74 / B59 [TA] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	1.3700	1.8769	0.16863
	Medial	[1.3700]	1.8769	0.05091
Greek Linear B	Initial	[1.3700]	1.8769	0.08993
	Medial	1.3700	1.8769	0.02715
				$\chi^2$ statistic = 0.33662

Therefore  $H_{03}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

\*  $\chi^2$  Test of Homogeneity : A92 / B04 [TE] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A92 / B04 [TE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	22.41	14.63	7.78	60.5284	4.13728
Medial	20.69	55.49	[34.80]	1211.0400	21.82447
Final	56.90	29.88	27.02	730.0804	24.43375
				$\chi^2$ statistic =	50.39550

Therefore  $H_{03}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A92 : B04	[TE]	Linear A	Greek Linear B	Total
Observed	Medial	6	91	97
	Final	16.5	49	65.5
	Total	22.5	140	162.5
Expected	Medial	13.43	83.57	97
	Final	9.07	56.43	65.5
	Total	22.5	140	162.5

3. Chi Square Calculations

- Test Series Three -

$\chi^2$  Test of Homogeneity : A92 / B04 [TE] :

		<b>[fo - fe] - .5</b>	<b>([fo-fe] - .5) sq</b>	<b>([fo-fe] - .5) sq / fe</b>
<b>Linear A</b>	<b>Medial</b>	[6.9300]	48.0249	3.57594
	<b>Final</b>	6.9300	48.0249	5.29492
<b>Greek Linear B</b>	<b>Medial</b>	6.9300	48.0249	0.57467
	<b>Final</b>	[6.9300]	48.0249	<u>0.85105</u>
				$\chi^2$ statistic = 10.29658

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

A78 : B37	[TI]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	9.5	12	21.5
	<b>Medial</b>	20	61	81
	<b>Final</b>	24.5	2	26.5
	<b>Total</b>	54	75	129
<b>Expected</b>	<b>Initial</b>	9	12.5	21.5
	<b>Medial</b>	33.91	47.09	81
	<b>Final</b>	11.09	15.41	26.5
	<b>Total</b>	54	75	129

$\chi^2$  Test of Homogeneity : A78 / B37 [TI] :

		<b>fo - fe</b>	<b>(fo - fe) sq</b>	<b>(fo - fe) sq / fe</b>
<b>Linear A</b>	<b>Initial</b>	0.5000	0.2500	0.02778
	<b>Medial</b>	[13.9100]	193.4881	5.70593
	<b>Final</b>	13.4100	179.8281	16.21534
<b>Greek Linear B</b>	<b>Initial</b>	[0.5000]	0.2500	0.02000
	<b>Medial</b>	13.9100	193.4881	4.10890
	<b>Final</b>	[13.4100]	179.8281	<u>11.66957</u>
				$\chi^2$ statistic = 37.74752

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A78 : B37	[TI]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	9.5	12	21.5
	<b>Medial</b>	20	61	81
	<b>Total</b>	29.5	73	102.5
<b>Expected</b>	<b>Initial</b>	6.19	15.31	21.5
	<b>Medial</b>	23.31	57.69	81
	<b>Total</b>	29.5	73	102.5

$\chi^2$  Test of Homogeneity : A78 / B37 [TI] :

		<b>[fo - fe] - .5</b>	<b>([fo-fe] - .5) sq</b>	<b>([fo-fe] - .5) sq / fe</b>
<b>Linear A</b>	<b>Initial</b>	2.8100	7.8961	1.27562
	<b>Medial</b>	[2.8100]	7.8961	0.33874
<b>Greek Linear B</b>	<b>Initial</b>	[2.8100]	7.8961	0.51575
	<b>Medial</b>	2.8100	7.8961	<u>0.13687</u>
				$\chi^2$ statistic = 2.26698

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

3. Chi Square Calculations

- Test Series Three -

\*  $\chi^2$  Test of Homogeneity : A39 / B05 [TO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A39 / B05 [TO] : n/a at d.f. = 2 or d.f. = 1

A06 : B69	[TU]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	8	16	24
	<b>Medial</b>	18.5	17	35.5
	<b>Final</b>	15	1	16
	<b>Total</b>	41.5	34	75.5
<b>Expected</b>	<b>Initial</b>	13.19	10.81	24
	<b>Medial</b>	19.51	15.99	35.5
	<b>Final</b>	8.79	7.21	16
	<b>Total</b>	41.49	34.01	75.5

$\chi^2$  Test of Homogeneity : A06 / B69 [TU] :

		fo - fe	(fo - fe) sq	(fo - fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[5.1900]	26.9361	2.04216
	<b>Medial</b>	[1.0100]	1.0201	0.05229
	<b>Final</b>	6.2100	38.5641	4.38727
<b>Greek Linear B</b>	<b>Initial</b>	5.1900	26.9361	2.49178
	<b>Medial</b>	1.0100	1.0201	0.06380
	<b>Final</b>	[6.2100]	38.5641	5.34870
				$\chi^2$ statistic = 14.38600

Therefore  $H_{0j}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A06 : B69	[TU]	Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	8	16	24
	<b>Medial</b>	18.5	17	35.5
	<b>Total</b>	26.5	33	59.5
<b>Expected</b>	<b>Initial</b>	10.69	13.31	24
	<b>Medial</b>	15.81	19.69	35.5
	<b>Total</b>	26.5	33	59.5

$\chi^2$  Test of Homogeneity : A06 / B69 [TU] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	[2.1900]	4.7961	0.44865
	<b>Medial</b>	2.1900	4.7961	0.30336
<b>Greek Linear B</b>	<b>Initial</b>	2.1900	4.7961	0.36034
	<b>Medial</b>	[2.1900]	4.7961	0.24358
				$\chi^2$ statistic = 1.35593

Therefore  $H_{0j}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

## 3. Chi Square Calculations

## - Test Series Three -

\*  $\chi^2$  Test of Homogeneity : A75 / B54 [WA] : n/a at d.f. = 2 or d.f. = 1

 $\chi^2$  Goodness-of-Fit Test : A75 / B54 [WA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	38.46	15.12	23.34	544.7556	36.02881
Medial	34.62	53.49	[18.87]	356.0769	6.65689
Final	26.92	31.40	[4.48]	20.0704	<u>0.63918</u>
				$\chi^2$ statistic =	43.32488

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A75 / B54 [WA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	34.62	53.49	[18.37]	337.4569	6.30878
Final	26.92	31.40	[3.98]	15.8404	<u>0.50447</u>
				$\chi^2$ statistic =	6.81355

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A94 / B75 [WE] : n/a at d.f. = 2 or d.f. = 1

 $\chi^2$  Goodness-of-Fit Test : A94 / B75 [WE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.52	15.11	[5.59]	31.2461	2.06804
Medial	90.48	31.65	58.83	3460.9689	109.35131
Final	.00	53.24	[53.24]	2834.4976	<u>53.24000</u>
				$\chi^2$ statistic =	164.65935

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A28 / B40 [WI] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A28 / B40 [WI] : n/a at d.f. = 2

 $\chi^2$  Goodness-of-Fit Test : A28 / B40 [WI] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	9.52	26.23	[16.21]	262.7641	10.01769
Medial	57.14	70.49	[12.85]	165.1225	<u>2.34249</u>
				$\chi^2$ statistic =	12.36018

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A? / B42 [WO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A? / B42 [WO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A32 / B57 [YA] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A32 / B57 [YA] : n/a at d.f. = 2



3. Chi Square Calculations

- Test Series Three -

A32 : B57	[YA]	Linear A	Greek Linear B	Total
Observed	Medial	15.5	53	68.5
	Final	25.5	115	140.5
	Total	41	168	209
Expected	Medial	13.44	55.06	68.5
	Final	27.56	112.94	140.5
	Total	41	168	209

$\chi^2$  Test of Homogeneity : A32 / B57 [YA] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	1.5600	2.4336	0.18107
	Final	[1.5600]	2.4336	0.08830
Greek Linear B	Medial	[1.5600]	2.4336	0.04420
	Final	1.5600	2.4336	<u>0.02155</u>
				$\chi^2$ statistic = 0.33512

Therefore  $H_{03}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.8416$

\*  $\chi^2$  Test of Homogeneity : A81 / B46 [YE] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A81 / B46 [YE] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A? / B36 [YO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A? / B36 [YO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A96 / B65 [YU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A96 / B65 [YU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A23 / B17 [ZA] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A23 / B17 [ZA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.00	20.00	[10.00]	100.0000	5.00000
Medial	40.00	30.00	10.00	100.0000	3.33333
Final	50.00	50.00	.00	00000	<u>00000</u>
					$\chi^2$ statistic = 8.33333

Therefore  $H_{03}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A23 / B17 [ZA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	40.00	30.00	9.50	90.2500	3.00833
Final	50.00	50.00	.00	0000	<u>00000</u>
					$\chi^2$ statistic = 3.00833

Therefore  $H_{03}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A16 / B74 [ZE] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A16 / B74 [ZE] : n/a at d.f. = 2 or d.f. = 1

**3. Chi Square Calculations****- Test Series Three -**

\*  $\chi^2$  Test of Homogeneity : A10 / B20 [ZO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A10 / B20 [ZO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Test of Homogeneity : A? / B79 [ZU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A? / B79 [ZU] : n/a at d.f. = 2 or d.f. = 1

4 : Chi Square Calculations

- Test Series Four -

$\chi^2$  Goodness-of-Fit Test : A100 [I] / B38 [E] + B28 [I] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	44.95	53.03	[8.08]	65.2864	1.23112
Medial	27.52	37.88	[10.36]	107.3296	2.83341
Final	27.52	9.09	18.43	339.6649	<u>37.36688</u>
				$\chi^2$ statistic =	41.43141

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A100 [I] / B38 [E] + B28 [I] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	44.95	53.03	[7.58]	57.4564	1.08347
Medial	27.52	37.88	[9.86]	97.2196	<u>2.56651</u>
				$\chi^2$ statistic =	3.64998

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

$\chi^2$  Goodness-of-Fit Test : A87 [O] + A97 [U] / B61 [O] + B10 [U] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	62.71	46.77	15.94	254.0836	5.43262
Medial	18.64	40.32	[21.68]	470.0224	11.65730
Final	18.64	12.90	5.74	32.9476	<u>2.55408</u>
				$\chi^2$ statistic =	19.64400

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A87 [O] + A97 [U] / B61 [O] + B10 [U] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	62.71	46.77	[15.44]	238.3936	5.09715
Final	18.64	12.90	5.24	27.4576	<u>2.12850</u>
				$\chi^2$ statistic =	7.22565

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

$\chi^2$  Goodness-of-Fit Test : A51 [DI] / B45 [DE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	23.53	30.00	[6.47]	41.8609	1.39536
Medial	47.06	40.00	7.06	49.8436	1.24609
Final	29.41	30.00	[0.59]	0.3481	<u>0.01160</u>
				$\chi^2$ statistic =	2.65305

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

$\chi^2$  Goodness-of-Fit Test : A51 [DI] / B45 [DE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	47.06	40.00	6.56	43.0336	1.07584
Final	29.41	30.00	[0.09] = 0	0000	<u>00000</u>
				$\chi^2$ statistic =	1.07584

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

$\chi^2$  Goodness-of-Fit Test : A102 [DE] / B07 [DI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	16.22	62.50	[46.28]	2141.8384	34.26941
Medial	64.86	29.17	35.69	1273.7761	43.66733
Final	18.92	8.33	[10.59]	112.1481	<u>13.46316</u>
				$\chi^2$ statistic =	91.39990

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 4 : Chi Square Calculations

## - Test Series Four -

 $\chi^2$  Goodness-of-Fit Test : A93 [DU] / B14 [DO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
<b>Initial</b>	28.00	17.65	10.35	107.1225	6.06926
<b>Medial</b>	45.33	47.06	[1.73]	2.9929	0.06359
<b>Final</b>	26.67	35.29	[8.62]	74.3044	<u>2.10554</u>
				$\chi^2$ statistic =	8.23839

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A93 [DU] / B14 [DO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
<b>Medial</b>	45.33	47.06	[1.23]	1.5129	0.03215
<b>Final</b>	26.67	35.29	[8.12]	65.9344	<u>1.86836</u>
				$\chi^2$ statistic =	1.90051

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A101 [DO] / B51 [DU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
<b>Initial</b>	47.06	40.91	6.15	37.8225	0.92453
<b>Medial</b>	38.24	50.00	[11.76]	138.2976	2.76595
<b>Final</b>	14.71	9.09	5.62	31.5844	<u>3.47463</u>
				$\chi^2$ statistic =	7.16511

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A101 [DO] / B51 [DU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
<b>Initial</b>	47.06	40.91	5.65	31.9225	0.78031
<b>Medial</b>	38.24	50.00	[11.26]	126.7876	<u>2.53575</u>
				$\chi^2$ statistic =	3.31606

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A103 [KI] / B44 [KE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
<b>Initial</b>	37.50	33.33	4.17	17.3889	0.52172
<b>Medial</b>	55.00	55.56	[0.56]	0.3136	0.00564
<b>Final</b>	7.50	11.11	[3.61]	13.0321	<u>1.17301</u>
				$\chi^2$ statistic =	1.70037

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

 $\chi^2$  Goodness-of-Fit Test : A103 [KI] / B44 [KE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
<b>Initial</b>	37.50	33.33	3.67	13.4689	0.40411
<b>Medial</b>	55.00	55.56	[0.06] = 0	0000	<u>00000</u>
				$\chi^2$ statistic =	0.40411

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A24 [KE] / B67 [KI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
<b>Initial</b>	21.43	52.50	[31.07]	965.3449	18.38752
<b>Medial</b>	35.71	47.50	[11.79]	139.0041	2.92640
<b>Final</b>	42.86	.00	n/a	n/a	<u>n/a</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_{01}$  n/a at d.f. = 2

4 : Chi Square Calculations

- Test Series Four -

$\chi^2$  Goodness-of-Fit Test : A24 [KE] / B67 [KI] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	21.43	52.50	[30.57]	934.5249	17.80047
Medial	35.71	47.50	[11.29]	127.4641	<u>2.68345</u>
				$\chi^2$ statistic =	20.48392

Therefore  $H_{o1}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

$\chi^2$  Goodness-of-Fit Test : A98 [KU] / B70 [KO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	44.23	30.77	13.46	181.1716	5.88793
Medial	40.38	35.90	4.48	20.0704	0.55906
Final	15.38	33.33	[17.95]	322.2025	<u>9.66704</u>
				$\chi^2$ statistic =	16.11403

Therefore  $H_{o1}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A98 [KU] / B70 [KO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	44.23	30.77	12.96	167.9616	5.45862
Medial	40.38	35.90	3.98	15.8404	<u>0.44124</u>
				$\chi^2$ statistic =	5.89986

Therefore  $H_{o1}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

$\chi^2$  Goodness-of-Fit Test : A45 [KO] / B81 [KU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	41.67	80.00	[38.33]	1469.1889	18.36486
Medial	25.00	13.33	[11.67]	136.1889	10.21672
Final	33.33	6.67	26.66	710.7556	<u>106.5601</u>
				$\chi^2$ statistic =	135.14168

Therefore  $H_{o1}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

$\chi^2$  Goodness-of-Fit Test : A76 [MI] / B13 [ME] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	19.51	31.25	[11.74]	137.8276	4.41048
Medial	56.10	50.00	6.10	37.2100	0.74420
Final	24.39	18.75	5.64	31.8096	<u>1.69651</u>
				$\chi^2$ statistic =	6.85119

Therefore  $H_{o1}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A76 [MI] / B13 [ME] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	56.10	50.00	5.60	31.3600	0.62720
Final	24.39	18.75	5.14	26.4196	<u>1.40904</u>
				$\chi^2$ statistic =	2.03624

Therefore  $H_{o1}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

$\chi^2$  Goodness-of-Fit Test : A84 [ME] / B73 [MI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.34	28.57	[18.23]	332.3329	11.63223
Medial	51.72	47.14	4.58	20.9764	0.44498
Final	37.93	14.29	23.64	558.8496	<u>39.10774</u>
				$\chi^2$ statistic =	51.18495

Therefore  $H_{o1}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 4 : Chi Square Calculations

## - Test Series Four -

 $\chi^2$  Goodness-of-Fit Test : A27 [MU] / B15 [MO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	28.57	14.81	13.76	189.3376	12.78444
Medial	42.86	22.22	20.64	426.0096	19.17235
Final	28.57	62.96	[34.39]	1182.6721	<u>18.78450</u>
				$\chi^2$ statistic =	50.74129

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Goodness-of-Fit Test : A ? [MO] / B23 [MU] : n/a at d.f. = 2 or d.f. = 1

 $\chi^2$  Goodness-of-Fit Test : A60 [NI] / B24 [NE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.09	.00	n/a	n/a	n/a
Medial	45.45	58.82	[13.37]	178.7569	3.03905
Final	45.45	41.18	4.27	18.2329	<u>0.44276</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_o$  n/a at d.f. = 2

 $\chi^2$  Goodness-of-Fit Test : A60 [NI] / B24 [NE] :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Medial	45.45	58.82	[12.87]	165.6369	2.81599
Final	45.45	41.18	3.77	14.2129	<u>0.34514</u>
				$\chi^2$ statistic =	3.16113

Therefore  $H_o$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A61 [NE] / B30 [NI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	8.16	.00	n/a	n/a	n/a
Medial	36.73	79.17	[42.44]	1801.1536	22.75046
Final	55.10	20.83	34.27	1174.4329	<u>56.38180</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_o$  n/a at d.f. = 2

 $\chi^2$  Goodness-of-Fit Test : A61 [NE] / B30 [NI] :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Medial	36.73	79.17	[41.94]	1758.9636	22.21755
Final	55.10	20.83	33.77	1140.4129	<u>54.74858</u>
				$\chi^2$ statistic =	76.96613

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A25 [NU] / B52 [NO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	10.00	7.84	2.16	4.6656	0.59510
Medial	60.00	7.84	52.16	2720.6656	347.02367
Final	30.00	84.31	[54.31]	2949.5761	<u>34.98489</u>
				$\chi^2$ statistic =	382.60366

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Goodness-of-Fit Test : A ? [NO] / B55 [NU] : n/a at d.f. = 2 or d.f. = 1

## 4 : Chi Square Calculations

- Test Series Four -

 $\chi^2$  Goodness-of-Fit Test : A56 [PI] / B72 [PE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	51.43	55.56	[4.13]	17.0569	0.30699
Medial	34.29	44.44	[10.15]	103.0225	2.31824
Final	14.29	.00	n/a	n/a	<u>n/a</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_{0i}$  n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A56 [PI] / B72 [PE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	51.43	55.56	[3.63]	13.1769	0.23716
Medial	34.29	44.44	[9.65]	93.1225	<u>2.09547</u>
				$\chi^2$ statistic =	2.33263

Therefore  $H_{0i}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ \*  $\chi^2$  Goodness-of-Fit Test : A90 [PE] / B39 [PI] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A64 [PU] / B11 [PO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	36.84	34.78	2.06	4.2436	0.12201
Medial	31.58	26.09	5.49	30.1401	1.15524
Final	31.58	29.13	[2.45]	6.0025	<u>0.20606</u>
				$\chi^2$ statistic =	1.48331

Therefore  $H_{0i}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$  $\chi^2$  Goodness-of-Fit Test : A64 [PU] / B11 [PO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	36.84	34.78	1.56	2.4336	0.06997
Final	31.58	29.13	[1.95]	3.8025	<u>0.13054</u>
				$\chi^2$ statistic =	0.20051

Therefore  $H_{0i}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$ \*  $\chi^2$  Goodness-of-Fit Test : A21 [PO] / B50 [PU] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A91 [QE] / B21 [QI] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A48 [QI] / B78 [QE] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A12 [QO] / B ? [QU] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A ? [QU] / B32 [QO] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A72 [RI] / B27 [RE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	18.33	17.39	0.94	0.8836	0.05081
Medial	60.00	47.83	12.17	148.1089	3.09657
Final	21.67	34.78	[13.11]	171.8721	<u>4.94169</u>
				$\chi^2$ statistic =	8.08907

Therefore  $H_{0i}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 4 : Chi Square Calculations

## - Test Series Four -

 $\chi^2$  Goodness-of-Fit Test : A72 [RI] / B27 [RE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	18.33	17.39	0.49 = 0	0000	00000
Medial	60.00	47.83	11.67	136.1889	<u>2.84735</u>
				$\chi^2$ statistic =	2.84735

Therefore  $H_{0i}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A54 [RE] / B53 [RI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.09	9.76	[0.67]	0.4489	0.04599
Medial	47.47	78.05	[30.58]	935.1364	11.98125
Final	43.43	12.20	31.23	975.3129	<u>79.94368</u>
				$\chi^2$ statistic =	91.97092

Therefore  $H_{0i}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A55 [RU] / B02 [RO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	24.71	1.01	n/a	n/a	n/a
Medial	37.65	18.18	19.47	379.0809	20.85153
Final	37.65	80.81	[43.16]	1862.7856	<u>23.05142</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_{0i}$  n/a at d.f. = 2

 $\chi^2$  Goodness-of-Fit Test : A55 [RU] / B02 [RO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	37.65	18.18	18.97	359.8609	19.79433
Final	37.65	80.81	[42.66]	1819.8756	<u>22.52043</u>
				$\chi^2$ statistic =	42.31476

Therefore  $H_{0i}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A22 [RO] / B26 [RU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	5.56	38.46	[32.90]	1082.4100	28.14379
Medial	38.89	46.15	[7.26]	52.7076	1.14209
Final	55.56	15.38	40.18	1614.4324	<u>104.96960</u>
				$\chi^2$ statistic =	134.25548

Therefore  $H_{0i}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A57 [SI] / B09 [SE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	35.80	36.36	[0.56]	0.3136	0.00862
Medial	35.80	27.27	8.53	72.7609	2.66817
Final	28.39	36.36	[7.97]	63.5209	<u>1.74699</u>
				$\chi^2$ statistic =	4.42378

Therefore  $H_{0i}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

 $\chi^2$  Goodness-of-Fit Test : A57 [SI] / B09 [SE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	35.80	36.36	[0.06] = 0	0000	00000
Final	28.39	36.36	[7.47]	55.8009	<u>1.53468</u>
				$\chi^2$ statistic =	1.53468

Therefore  $H_{0i}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$



4 : Chi Square Calculations

- Test Series Four -

$\chi^2$  Goodness-of-Fit Test : A77 [SE] / B41 [SI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	7.32	55.56	[48.24]	2372.0976	41.88441
Medial	43.90	33.33	10.57	111.7249	3.35208
Final	48.78	11.11	37.67	1419.0289	<u>127.72537</u>
				$\chi^2$ statistic =	172.96186

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

$\chi^2$  Goodness-of-Fit Test : A59 [SU] / B12 [SO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	35.94	.00	n/a	n/a	n/a
Medial	32.81	7.58	25.23	636.5529	83.97795
Final	31.25	92.42	[61.47]	3778.5609	<u>40.88467</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_0$  n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A59 [SU] / B12 [SO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	32.81	7.58	24.73	611.5729	80.68244
Final	31.25	92.42	[60.97]	3717.3409	<u>40.22226</u>
				$\chi^2$ statistic =	120.90470

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Goodness-of-Fit Test : A07 [SO] / B58 [SU] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A78 [TI] / B04 [TE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	17.59	38.71	[21.12]	446.0544	11.52298
Medial	37.04	35.48	1.56	2.4336	0.06859
Final	45.37	25.81	[19.56]	382.5936	<u>14.82346</u>
				$\chi^2$ statistic =	26.41503

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

$\chi^2$  Goodness-of-Fit Test : A92 [TE] / B37 [TI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	22.41	25.64	[3.23]	10.4329	0.40690
Medial	20.69	46.15	[25.46]	648.2116	14.04575
Final	56.90	28.21	[28.69]	823.1161	<u>29.17817</u>
				$\chi^2$ statistic =	43.63082

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

$\chi^2$  Goodness-of-Fit Test : A06 [TU] / B05 [TO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	19.28	5.81	13.47	181.4409	31.22907
Medial	44.58	17.44	27.14	736.5796	42.23507
Final	36.14	76.74	[40.06]	1648.3600	<u>21.47980</u>
				$\chi^2$ statistic =	94.94394

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$   
and at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 4 : Chi Square Calculations

## - Test Series Four -

 $\chi^2$  Goodness-of-Fit Test : A39 [TO] / B69 [TU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	.00	50.00	[50.00]	2500.0000	50.00000
Medial	50.00	45.45	4.55	20.7025	0.455501
Final	50.00	4.55	n/a	n/a	<u>n/a</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_0$ , n/a at d.f. = 2

 $\chi^2$  Goodness-of-Fit Test : A39 [TO] / B69 [TU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	.00	50.00	[49.50]	2450.2500	59.00500
Medial	50.00	45.45	4.05	16.4025	<u>0.36089</u>
				$\chi^2$ statistic =	59.36589

Therefore  $H_0$ , rejected at  $\alpha = .005$ ; d.f. = 1;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A28 [WI] / B75 [WE] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.52	15.38	[5.86]	34.3396	2.23274
Medial	57.14	38.46	18.68	348.9424	9.07286
Final	33.33	46.15	[12.82]	164.3524	<u>3.56127</u>
				$\chi^2$ statistic =	14.86687

Therefore  $H_0$ , rejected at  $\alpha = .005$ ; d.f. = 2;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A28 [WI] / B75 [WE] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	9.52	15.38	[5.36]	28.7296	1.86798
Final	33.33	46.15	[12.32]	151.7824	<u>3.28889</u>
				$\chi^2$ statistic =	5.15687

Therefore  $H_0$ , accepted at  $\alpha = .005$ ; d.f. = 1;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A94 [WE] / B40 [WI] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.52	62.96	[53.44]	2855.8336	45.35949
Medial	90.48	29.63	60.85	3702.7225	93.43231
Final	.00	7.41	[7.41]	54.9081	<u>7.41000</u>
				$\chi^2$ statistic =	146.20180

Therefore  $H_0$ , rejected at  $\alpha = .005$ ; d.f. = 2;  $\chi^2 = 10.5966$

and at  $\alpha = .005$ ; d.f. = 1;  $\chi^2 = 7.87944$

\*  $\chi^2$  Goodness-of-Fit Test : A ? [WU] / B42 [WO] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A ? [WO] / B ? [WU] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A16 [YE] / B ? [YI] : n/a at d.f. = 2 or d.f. = 1

\*  $\chi^2$  Goodness-of-Fit Test : A ? [YI] / B46 [YE] : n/a at d.f. = 2 or d.f. = 1

## 4 : Chi Square Calculations

- Test Series Four -

 $\chi^2$  Goodness-of-Fit Test : A96 [YU] / B36 [YO] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
<b>Initial</b>	10.00	.00	n/a	n/a	n/a
<b>Medial</b>	30.00	17.95	12.05	145.2025	8.08928
<b>Final</b>	60.00	82.05	[22.05]	486.2025	<u>5.92569</u>
				$\chi^2$ statistic =	n/a

Therefore  $H_o$ , n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A96 [YU] / B36 [YO] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
<b>Medial</b>	30.00	17.95	11.55	133.4025	7.43189
<b>Final</b>	60.00	82.05	[21.55]	464.4025	<u>5.65999</u>
				$\chi^2$ statistic =	13.09188

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$ \*  $\chi^2$  Goodness-of-Fit Test : A ? [YO] / B65 [YU] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A16 [ZE] / B ? [ZI] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A ? [ZI] / B74 [ZE] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A ? [ZU] / B20 [ZO] : n/a at d.f. = 2 or d.f. = 1\*  $\chi^2$  Goodness-of-Fit Test : A ? [ZO] / B79 [ZU] : n/a at d.f. = 2 or d.f. = 1



## 5. Chi Square Calculations

- Test Series Five -

A102[DE]+A51[DI] / B45[de]+B07[di]		Linear A	non-Greek Linear B	Total
Observed	Initial	13	18	31
	Medial	32	11	43
	Final	16	5	21
	Total	61	34	95
Expected	Initial	19.91	11.09	31
	Medial	27.61	15.39	43
	Final	13.48	7.52	21
	Total	61	34	95

 $\chi^2$  Test of Homogeneity : A102[DE]+A51[DI] / B45[de]+B07[di] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[6.9100]	47.7481	2.39820
	Medial	4.3900	19.2721	0.69801
	Final	2.5200	6.3504	0.47110
non-Greek Linear B	Initial	6.9100	47.7481	4.30551
	Medial	[4.3900]	19.2741	1.25225
	Final	[2.5200]	6.3504	0.84447
				$\chi^2$ statistic = 9.96954

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

A102[DE]+A51[DI] / B45[de]+B07[di]		Linear A	non-Greek Linear B	Total
Observed	Medial	32	11	43
	Final	16	5	21
	Total	48	16	64
Expected	Medial	32.25	10.75	43
	Final	15.75	5.25	21
	Total	48	16	64

 $\chi^2$  Test of Homogeneity : A102[DE]+A51[DI] / B45[de]+B07[di] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	0.2500 = 0	0000	0.00000
	Final	[0.2500] = 0	0000	0.00000
non-Greek Linear B	Medial	[0.2500] = 0	0000	0.00000
	Final	0.2500 = 0	0000	0.00000
				$\chi^2$ statistic = 0.00000

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

## 5. Chi Square Calculations

- Test Series Five -

A101[DO]+A93[DU] / B14[do]+B51[du]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	18.5	12	30.5
	<b>Medial</b>	23.5	19	42.5
	<b>Final</b>	12.5	8	20.5
	<b>Total</b>	54.5	39	93.5
<b>Expected</b>	<b>Initial</b>	17.78	12.72	30.5
	<b>Medial</b>	24.77	17.73	42.5
	<b>Final</b>	11.95	8.55	20.5
	<b>Total</b>	54.5	39	93.5

$\chi^2$  Test of Homogeneity : A101[DO]+A93[DU] / B14[do]+B51[du] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	0.7200	0.5184	0.02916
	<b>Medial</b>	[1.2700]	1.6129	0.06511
	<b>Final</b>	0.5500	0.3025	0.02531
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.7200]	0.5184	0.04075
	<b>Medial</b>	1.2700	1.6129	0.09097
	<b>Final</b>	[0.5500]	0.3025	0.03538
				$\chi^2$ statistic = 0.28668

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A101[DO]+A93[DU] / B14[do]+B51[du]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	18.5	12	30.5
	<b>Medial</b>	12.5	8	20.5
	<b>Total</b>	31	20	51
<b>Expected</b>	<b>Initial</b>	18.54	11.96	30.5
	<b>Medial</b>	12.46	8.04	20.5
	<b>Total</b>	31	20	51

$\chi^2$  Test of Homogeneity : A101[DO]+A93[DU] / B14[do]+B51[du] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Initial</b>	0.4600 = 0	0000	00000
	<b>Medial</b>	[0.4600] = 0	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.4600] = 0	0000	00000
	<b>Medial</b>	0.4600 = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

5. Chi Square Calculations

- Test Series Five -

\*  $\chi^2$  Test of Homogeneity :  $A24[KE]+A103[KI] / B44[ke]+B67[ki]$  : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test :  $A24[KE]+A103[KI] / B44[ke]+B67[ki]$  :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	35.12	44.78	[9.66]	93.3156	2.08387
Medial	52.13	50.75	1.38	1.9044	0.03752
Final	12.77	4.48	8.29	68.7241	15.34020
				$\chi^2$ statistic =	17.46159

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$A24[KE]+A103[KI] / B44[ke]+B67[ki]$		Linear A	non-Greek Linear B	Total
Observed	Initial	16.5	30	46.5
	Medial	24.5	34	58.5
	Total	41	64	105
Expected	Initial	18.16	28.34	46.5
	Medial	22.84	35.66	58.5
	Total	41	64	105

$\chi^2$  Test of Homogeneity :  $A24[KE]+A103[KI] / B44[ke]+B67[ki]$  :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[1.1600]	1.3456	0.07410
	Medial	1.1600	1.3456	0.05891
non-Greek Linear B	Initial	1.1600	1.3456	0.04781
	Medial	[1.1600]	1.3456	0.03773
			$\chi^2$ statistic =	0.21855

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

$A45[KO]+A98[KU] / B70[ko]+B81[ku]$		Linear A	non-Greek Linear B	Total
Observed	Initial	25.5	36	61.5
	Medial	22.5	18	40.5
	Final	10	15	25
	Total	58	69	127
Expected	Initial	28.09	33.41	61.5
	Medial	18.5	22	40.5
	Final	11.41	13.59	25
	Total	58	69	127

## 5. Chi Square Calculations

- Test Series Five -

 $\chi^2$  Test of Homogeneity : A45[KO]+A98[KU] / B70[ko]+B81[ku] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[2.5900]	6.7081	0.23881
	Medial	4.0000	16.0000	0.86486
	Final	[1.4100]	1.9881	0.17424
non-Greek Linear B	Initial	2.5900	6.7081	0.20078
	Medial	[4.0000]	16.0000	0.72727
	Final	1.4100	1.9881	0.14629
				$\chi^2$ statistic = 2.35225

Therefore  $H_o$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$ 

A45[KO]+A98[KU] / B70[ko]+B81[ku]		Linear A	non-Greek Linear B	Total
Observed	Initial	25.5	36	61.5
	Final	10	15	25
	Total	35.5	51	86.5
Expected	Initial	25.24	36.26	61.5
	Final	10.26	14.74	25
	Total	35.5	51	86.5

 $\chi^2$  Test of Homogeneity : A45[KO]+A98[KU] / B70[ko]+B81[ku] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.2400] = 0	0000	00000
	Final	0.2400 = 0	0000	00000
non-Greek Linear B	Initial	0.2400 = 0	0000	00000
	Final	[0.2400] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_o$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$ 

A84[ME]+A76[MI] / B13[me]+B73[mi]		Linear A	non-Greek Linear B	Total
Observed	Initial	9.5	13	22.5
	Medial	30.5	24	54.5
	Final	15.5	7	22.5
Expected	Initial	12.55	9.95	22.5
	Medial	30.4	24.1	54.5
	Final	12.55	9.95	22.5
Total		55.5	44	99.5



5. Chi Square Calculations

- Test Series Five -

$\chi^2$  Test of Homogeneity : A84[ME]+A76[MI] / B13[me]+B73[mi] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[3.0500]	9.3025	0.74123
	Medial	0.1000	0.0100	0.00033
	Final	2.9500	8.7025	0.69343
non-Greek Linear B	Initial	3.0500	9.3025	0.93492
	Medial	[0.1000]	0.0100	0.00041
	Final	[2.9500]	8.7025	<u>0.87462</u>
				$\chi^2$ statistic = 3.24494

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A84[ME]+A76[MI] / B13[me]+B73[mi]		Linear A	non-Greek Linear B	Total
Observed	Medial	30.5	24	54.5
	Final	15.5	7	22.5
	Total	46	31	77
Expected	Medial	32.56	21.94	54.5
	Final	13.44	9.06	22.5
	Total	46	31	77

$\chi^2$  Test of Homogeneity : A84[ME]+A76[MI] / B13[me]+B73[mi] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Medial	[1.5600]	2.4336	0.07474
	Final	1.5600	2.4336	0.18107
non-Greek Linear B	Medial	1.5600	2.4336	0.11092
	Final	[1.5600]	2.4336	<u>0.26861</u>
				$\chi^2$ statistic = 0.63534

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A?[MO]+A27[MU] / B15[mo]+B23[mu] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A?[MO]+A27[MU] / B15[mo]+B23[mu] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	28.57	17.14	11.43	130.6449	7.62222
Medial	42.86	34.29	8.57	73.4449	2.14187
Final	28.57	48.57	[20.00]	400.0000	<u>8.23554</u>
					$\chi^2$ statistic = 17.99963

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : A?[MO]+A27[MU] / B15[mo]+B23[mu] :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Initial	28.57	17.14	10.93	119.4649	6.96995
Medial	42.86	34.29	8.50	72.2500	<u>2.10703</u>
					$\chi^2$ statistic = 9.07698

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : A61[NE]+A60[NI] / B24[ne]+B61[ni] : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : A61[NE]+A60[NI] / B24[ne]+B61[ni] : n/a at d.f. = 2

5. Chi Square Calculations

- Test Series Five -

A61[NE]+A60[NI] / B24[ne]+B61[ni]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	21.5	29	50.5
	<b>Final</b>	26	12	38
	<b>Total</b>	47.5	41	88.5
<b>Expected</b>	<b>Medial</b>	27.1	23.4	50.5
	<b>Final</b>	20.4	17.6	38
	<b>Total</b>	47.5	41	88.5

$\chi^2$  Test of Homogeneity : A61[NE]+A60[NI] / B24[ne]+B61[ni] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Medial</b>	[5.1000]	26.0100	0.95978
	<b>Final</b>	5.1000	26.0100	1.27500
<b>non-Greek Linear B</b>	<b>Medial</b>	5.1000	26.0100	1.11154
	<b>Final</b>	[5.1000]	26.0100	<u>1.47784</u>
				$\chi^2$ statistic = 4.82416

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.82416$

\*  $\chi^2$  Test of Homogeneity : A?[NO]+A25[NU] / B52[no]+B55[nu] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A?[NO]+A25[NU] / B52[no]+B55[nu] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
<b>Initial</b>	10.00	6.67	3.33	11.0889	1.66250
<b>Medial</b>	60.00	28.00	32.00	1024.0000	36.59143
<b>Final</b>	30.00	65.33	[35.33]	1248.2089	<u>19.10621</u>
					$\chi^2$ statistic = 57.36014

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A?[NO]+A25[NU] / B52[no]+B55[nu]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	12	21	33
	<b>Final</b>	6	49	55
	<b>Total</b>	18	70	88
<b>Expected</b>	<b>Medial</b>	6.75	26.25	33
	<b>Final</b>	11.25	43.75	55
	<b>Total</b>	18	70	88

$\chi^2$  Test of Homogeneity : A?[NO]+A25[NU] / B52[no]+B55[nu] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Medial</b>	4.7500	22.5625	3.34259
	<b>Final</b>	[4.7500]	22.5625	2.00555
<b>non-Greek Linear B</b>	<b>Medial</b>	[4.7500]	22.5625	0.85952
	<b>Final</b>	4.7500	22.5625	<u>0.51571</u>
				$\chi^2$ statistic = 6.72337

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.82416$

5. Chi Square Calculations

- Test Series Five -

\*  $\chi^2$  Test of Homogeneity : A90[PE]+A56[PI] / B72[pe]+B39[pi] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A90[PE]+A56[PI] / B72[pe]+B39[pi] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	48.65	57.89	[9.24]	85.3776	1.47482
Medial	32.43	39.47	[7.04]	49.5616	1.25568
Final	18.92	2.63	16.29	265.3641	100.89889
				$\chi^2$ statistic =	103.62939

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A90[PE]+A56[PI] / B72[pe]+B39[pi]		Linear A	non-Greek Linear B	Total
Observed	Initial	9	22	31
	Medial	6	15	21
	Total	15	37	52
Expected	Initial	8.95	22.06	31
	Medial	6.06	14.94	21
	Total	15	37	52

$\chi^2$  Test of Homogeneity : A90[PE]+A56[PI] / B72[pe]+B39[pi] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.4400] = 0	0000	0.00000
	Medial	0.4400 = 0	0000	0.00000
non-Greek Linear B	Initial	0.4400 = 0	0000	0.00000
	Medial	[0.4400] = 0	0000	0.00000
			$\chi^2$ statistic =	0.00000

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

\*  $\chi^2$  Test of Homogeneity : A21[PO]+A64[PU] / B11[po]+B50[pu] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A21[PO]+A64[PU] / B11[po]+B50[pu] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	39.13	46.15	[7.02]	49.2804	1.06783
Medial	34.78	28.20	6.58	43.2964	1.53533
Final	26.09	25.64	0.45	0.2025	0.00789
				$\chi^2$ statistic =	2.61105

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

$\chi^2$  Goodness-of-Fit Test : A21[PO]+A64[PU] / B11[po]+B50[pu] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	39.13	46.15	[6.52]	42.5104	0.92113
Final	26.09	25.64	[0.05] = 0	0.0000	0.00000
				$\chi^2$ statistic =	0.92113

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

5. Chi Square Calculations

- Test Series Five -

A54[RE]+A72[RI] / B27[re]+B53[ri]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10	8	18
	<b>Medial</b>	41.5	43	84.5
	<b>Final</b>	28	13	41
	<b>Total</b>	79.5	64	143.5
<b>Expected</b>	<b>Initial</b>	9.98	8.02	18
	<b>Medial</b>	46.81	37.69	84.5
	<b>Final</b>	22.71	18.29	41
	<b>Total</b>	79.5	64	143.5

$\chi^2$  Test of Homogeneity : A54[RE]+A72[RI] / B27[re]+B53[ri] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	0.0200	0.0004	0.00004
	<b>Medial</b>	[5.3100]	28.1961	0.60235
	<b>Final</b>	5.2900	27.9841	1.23224
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.0200]	0.0004	0.00005
	<b>Medial</b>	5.3100	28.1961	0.74811
	<b>Final</b>	[5.2900]	27.9841	1.53674
				$\chi^2$ statistic = 4.11252

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

A54[RE]+A72[RI] / B27[re]+B53[ri]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	10	8	18
	<b>Medial</b>	41.5	43	84.5
	<b>Total</b>	51.5	51	102.5
<b>Expected</b>	<b>Initial</b>	9.04	8.96	18
	<b>Medial</b>	42.46	42.02	84.5
	<b>Total</b>	51.5	51	102.5

$\chi^2$  Test of Homogeneity : A54[RE]+A72[RI] / B27[re]+B53[ri] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Initial</b>	0.4600	0000	00000
	<b>Medial</b>	[0.4600]	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.4600]	0000	00000
	<b>Medial</b>	0.4600	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

5. Chi Square Calculations

- Test Series Five -

A22[RO]+A55[RU] / B02[ro]+B26[ru]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	11.5	11	22.5
	<b>Medial</b>	23	30	53
	<b>Final</b>	26	84	110
	<b>Total</b>	60.5	125	185.5
<b>Expected</b>	<b>Initial</b>	7.33	15.17	22.5
	<b>Medial</b>	17.29	35.71	53
	<b>Final</b>	35.88	74.12	110
	<b>Total</b>	60.5	125	185.5

$\chi^2$  Test of Homogeneity : A22[RO]+A55[RU] / B02[ro]+B26[ru] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	4.1700	17.3889	2.37229
	<b>Medial</b>	5.7100	32.6041	1.88572
	<b>Final</b>	[9.8800]	97.6144	2.72058
<b>non-Greek Linear B</b>	<b>Initial</b>	[4.1700]	17.3889	1.14627
	<b>Medial</b>	[5.7100]	32.6041	0.91302
	<b>Final</b>	9.8800	97.6144	1.31698

$\chi^2$  statistic = 10.35486

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A22[RO]+A55[RU] / B02[ro]+B26[ru]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	11.5	11	22.5
	<b>Medial</b>	23	30	53
	<b>Total</b>	34.5	41	75.5
<b>Expected</b>	<b>Initial</b>	10.28	12.22	22.5
	<b>Medial</b>	24.22	28.78	53
	<b>Total</b>	34.5	41	75.5

$\chi^2$  Test of Homogeneity : A22[RO]+A55[RU] / B02[ro]+B26[ru] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	0.7200 = 0	0000	00000
	<b>Medial</b>	[0.7200] = 0	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.7200] = 0	0000	00000
	<b>Medial</b>	0.7200 = 0	0000	00000

$\chi^2$  statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

## 5. Chi Square Calculations

- Test Series Five -

A77[SE]+A57[SI] / B09[se]+B41[si]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	16	24	40
	<b>Medial</b>	23.5	15	38.5
	<b>Final</b>	21.5	8	29.5
	<b>Total</b>	61	47	108
<b>Expected</b>	<b>Initial</b>	22.6	17.4	40
	<b>Medial</b>	21.74	16.75	38.5
	<b>Final</b>	16.66	12.84	29.5
	<b>Total</b>	61	47	108

 $\chi^2$  Test of Homogeneity : A77[SE]+A57[SI] / B09[se]+B41[si] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[6.6000]	43.5600	1.92743
	<b>Medial</b>	1.7600	3.0976	0.14248
	<b>Final</b>	4.8400	23.4256	1.39592
<b>non-Greek Linear B</b>	<b>Initial</b>	6.6000	43.5600	2.50345
	<b>Medial</b>	[1.7600]	3.0976	0.18482
	<b>Final</b>	[4.8400]	23.4256	1.82442
				$\chi^2$ statistic = 7.97852

 Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

A77[SE]+A57[SI] / B09[se]+B41[si]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	23.5	15	38.5
	<b>Final</b>	21.5	8	29.5
	<b>Total</b>	45	23	68
<b>Expected</b>	<b>Medial</b>	25.48	13.02	38.5
	<b>Final</b>	19.52	9.98	29.5
	<b>Total</b>	45	23	68

 $\chi^2$  Test of Homogeneity : A77[SE]+A57[SI] / B09[se]+B41[si] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Medial</b>	[1.4800]	2.1904	0.08596
	<b>Final</b>	1.4800	2.1904	0.11221
<b>non-Greek Linear B</b>	<b>Medial</b>	1.4800	2.1904	0.16823
	<b>Final</b>	[1.4800]	2.1904	0.21948
				$\chi^2$ statistic = 0.58588

 Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

5. Chi Square Calculations

- Test Series Five -

A07[SO]+A59[SU] / B12[so]+B58[su]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	12.5	16	28.5
	<b>Medial</b>	10.5	10	20.5
	<b>Final</b>	10	62	72
	<b>Total</b>	33	88	121
<b>Expected</b>	<b>Initial</b>	7.77	20.73	28.5
	<b>Medial</b>	5.59	14.91	20.5
	<b>Final</b>	19.64	52.36	72
	<b>Total</b>	33	88	121

$\chi^2$  Test of Homogeneity : A07[SO]+A59[SU] / B12[so]+B58[su] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	4.7300	22.3729	2.87939
	<b>Medial</b>	4.9100	24.1081	4.31272
	<b>Final</b>	[9.6400]	92.9296	4.73165
<b>non-Greek Linear B</b>	<b>Initial</b>	[4.7300]	22.3729	1.07925
	<b>Medial</b>	[4.9100]	24.1081	1.61691
	<b>Final</b>	9.6400	92.9296	1.77482
			$\chi^2$ statistic =	16.39474

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A07[SO]+A59[SU] / B12[so]+B58[su]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	12.5	16	28.5
	<b>Medial</b>	10.5	10	20.5
	<b>Total</b>	23	26	49
<b>Expected</b>	<b>Initial</b>	13.38	15.12	28.5
	<b>Medial</b>	9.62	10.88	20.5
	<b>Total</b>	23	26	49

$\chi^2$  Test of Homogeneity : A07[SO]+A59[SU] / B12[so]+B58[su] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	[0.3800] = 0	0000	00000
	<b>Medial</b>	0.3800 = 0	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.3800] = 0	0000	00000
	<b>Medial</b>	0.3800 = 0	0000	00000
			$\chi^2$ statistic =	00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

## 5. Chi Square Calculations

- Test Series Five -

A92[TE]+A78[TI] / B04[te]+B37[ti]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	16	22	38
	<b>Medial</b>	26	29	55
	<b>Final</b>	41	19	60
	<b>Total</b>	83	70	153
<b>Expected</b>	<b>Initial</b>	20.61	17.39	38
	<b>Medial</b>	29.84	25.16	55
	<b>Final</b>	32.55	27.45	60
	<b>Total</b>	83	70	153

$\chi^2$  Test of Homogeneity : A92[TE]+A78[TI] / B04[te]+B37[ti] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[4.6100]	21.2521	1.03115
	<b>Medial</b>	[3.8400]	14.7456	0.49415
	<b>Final</b>	8.4500	71.4025	2.19362
<b>non-Greek Linear B</b>	<b>Initial</b>	4.6100	21.2521	1.22209
	<b>Medial</b>	3.8400	14.7456	0.58607
	<b>Final</b>	[8.4500]	71.4025	2.60118
				$\chi^2$ statistic = 8.12826

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A92[TE]+A78[TI] / B04[te]+B37[ti]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	16	22	38
	<b>Medial</b>	26	29	55
	<b>Total</b>	42	51	93
<b>Expected</b>	<b>Initial</b>	17.16	20.84	38
	<b>Medial</b>	24.84	30.16	55
	<b>Total</b>	42	51	93

$\chi^2$  Test of Homogeneity : A92[TE]+A78[TI] / B04[te]+B37[ti] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Initial</b>	[0.6600] = 0	0000	00000
	<b>Medial</b>	0.6600 = 0	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	0.6600 = 0	0000	00000
	<b>Medial</b>	[0.6600] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_{01}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$



5. Chi Square Calculations

- Test Series Five -

A39[TO]+A06[TU] / B05[to]+B69[tu]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	8	16	24
	<b>Medial</b>	20.5	25	45.5
	<b>Final</b>	17	67	84
	<b>Total</b>	45.5	108	153.5
<b>Expected</b>	<b>Initial</b>	7.11	16.89	24
	<b>Medial</b>	13.49	32.01	45.5
	<b>Final</b>	24.9	59.1	84
	<b>Total</b>	45.5	108	153.5

$\chi^2$  Test of Homogeneity : A39[TO]+A06[TU] / B05[to]+B69[tu] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	0.8900	0.7921	0.11141
	<b>Medial</b>	7.0100	49.1401	3.64271
	<b>Final</b>	[7.9000]	62.4100	2.50601
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.8900]	0.7921	0.04689
	<b>Medial</b>	[7.0100]	49.1401	1.53515
	<b>Final</b>	7.9000	62.4100	1.05601
				$\chi^2$ statistic = 8.8986

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

A39[TO]+A06[TU] / B05[to]+B69[tu]		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	8	16	24
	<b>Final</b>	17	67	84
	<b>Total</b>	25	83	108
<b>Expected</b>	<b>Initial</b>	5.56	18.44	24
	<b>Final</b>	19.44	64.56	84
	<b>Total</b>	25	83	108

$\chi^2$  Test of Homogeneity : A39[TO]+A06[TU] / B05[to]+B69[tu] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Initial</b>	1.9400	3.7636	0.67691
	<b>Final</b>	[1.9400]	3.7636	0.19360
<b>non-Greek Linear B</b>	<b>Initial</b>	[1.9400]	3.7636	0.20410
	<b>Final</b>	1.9400	3.7636	0.05830
				$\chi^2$ statistic = 1.13291

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

## 5. Chi Square Calculations

- Test Series Five -

\*  $\chi^2$  Test of Homogeneity :  $A94[WE]+A28[WI] / B75[we]+B40[wi]$  : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test :  $A94[WE]+A28[WI] / B75[we]+B40[wi]$  :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.52	39.62	[30.10]	906.0100	22.86749
Medial	73.81	33.96	39.85	1588.0225	46.76156
Final	16.67	26.42	[9.75]	95.0625	<u>3.59813</u>
				$\chi^2$ statistic =	73.22718

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$  $\chi^2$  Goodness-of-Fit Test :  $A94[WE]+A28[WI] / B75[we]+B40[wi]$  :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Initial	9.52	39.62	[29.60]	876.1600	22.11408
Final	16.67	26.42	[9.25]	85.5625	<u>3.23855</u>
				$\chi^2$ statistic =	25.35263

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

6. Chi Square Calculations

- Test Series Six -

[A] Series		Linear A	non-Greek Linear B	Total
Observed	Initial	155	203	358
	Medial	207	300	507
	Final	155	148	303
	Total	517	651	1,168
Expected	Initial	158.46	199.54	358
	Medial	224.42	282.58	507
	Final	134.12	168.88	303
	Total	517	651	1,168

$\chi^2$  Test of Homogeneity : [A] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[3.4600]	11.9716	0.07555
	Medial	[17.4200]	303.4564	1.35218
	Final	20.8800	435.9744	3.25063
non-Greek Linear B	Initial	3.4600	11.9716	0.06000
	Medial	17.4200	303.4564	1.07388
	Final	[20.8800]	435.9744	<u>2.58156</u>
				$\chi^2$ statistic = 8.39380

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[A] Series		Linear A	non-Greek Linear B	Total
Observed	Initial	155	203	358
	Medial	207	300	507
	Total	362	503	865
Expected	Initial	149.82	208.18	358
	Medial	212.18	294.82	507
	Total	362	503	865

$\chi^2$  Test of Homogeneity : [A] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	4.6800	21.9024	0.14619
	Medial	[4.6800]	21.9024	0.10323
non-Greek Linear B	Initial	[4.6800]	21.9024	0.10521
	Medial	4.6800	21.9024	<u>0.07429</u>
				$\chi^2$ statistic = 0.42892

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

6. Chi Square Calculations

- Test Series Six -

[E] Series		Linear A	non-Greek Linear B	Total
Observed	Initial	35	59	94
	Medial	84.5	97	181.5
	Final	81	53	134
	Total	200.5	209	409.5
Expected	Initial	46.02	47.98	94
	Medial	88.87	92.63	181.5
	Final	65.61	68.39	134
	Total	200.5	209	409.5

$\chi^2$  Test of Homogeneity : [E] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[11.0200]	121.4404	2.63886
	Medial	[4.3700]	19.0969	0.21489
	Final	15.3900	236.8521	3.61000
non-Greek Linear B	Initial	11.0200	121.4404	2.53106
	Medial	4.3700	19.0969	0.20616
	Final	[15.3900]	236.8521	3.46326
				$\chi^2$ statistic = 12.66423

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[E] Series		Linear A	non-Greek Linear B	Total
Observed	Initial	35	59	94
	Medial	84.5	97	181.5
	Total	119.5	156	275.5
Expected	Initial	40.77	53.23	94
	Medial	78.73	102.77	181.5
	Total	119.5	156	275.5

$\chi^2$  Test of Homogeneity : [E] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[5.2700]	27.7729	0.68121
	Medial	5.2700	27.7729	0.35276
non-Greek Linear B	Initial	5.2700	27.7729	0.52175
	Medial	[5.2700]	27.7729	0.27024
				$\chi^2$ statistic = 1.82596

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

6. Chi Square Calculations

- Test Series Six -

[I] Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	75	117	192
	<b>Medial</b>	157	162	319
	<b>Final</b>	102.5	38	140.5
	<b>Total</b>	334.5	317	651.5
<b>Expected</b>	<b>Initial</b>	98.58	93.42	192
	<b>Medial</b>	163.78	155.22	319
	<b>Final</b>	72.14	68.36	140.5
	<b>Total</b>	334.5	317	651.5

$\chi^2$  Test of Homogeneity : [I] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[23.5800]	556.0164	5.64026
	<b>Medial</b>	[6.7800]	45.9684	0.28067
	<b>Final</b>	30.3600	921.7296	12.77696
<b>non-Greek Linear B</b>	<b>Initial</b>	23.5800	556.0164	5.95179
	<b>Medial</b>	6.7800	45.9684	0.29615
	<b>Final</b>	[30.3600]	921.7296	<u>13.48346</u>
			$\chi^2$ statistic =	38.42929

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[I] Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	75	117	192
	<b>Medial</b>	157	162	319
	<b>Total</b>	232	279	511
<b>Expected</b>	<b>Initial</b>	87.17	104.83	192
	<b>Medial</b>	144.83	174.17	319
	<b>Total</b>	232	279	511

$\chi^2$  Test of Homogeneity : [I] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	[11.6700]	136.1889	1.56234
	<b>Medial</b>	11.6700	136.1889	0.94034
<b>non-Greek Linear B</b>	<b>Initial</b>	11.6700	136.1889	1.29914
	<b>Medial</b>	[11.6700]	136.1889	<u>0.78193</u>
			$\chi^2$ statistic =	4.58375

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 6. Chi Square Calculations

- Test Series Six -

[O] Series		Linear A	non-Greek Linear B	Total
Observed	Initial	13.5	50	63.5
	Medial	18.5	102	120.5
	Final	18.5	372	390.5
	Total	50.5	524	574.5
Expected	Initial	5.58	57.92	63.5
	Medial	10.59	109.91	120.5
	Final	34.33	356.17	390.5
	Total	50.5	524	574.5

 $\chi^2$  Test of Homogeneity : [O] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	7.9200	62.7264	11.24129
	Medial	7.9100	62.5681	5.90822
	Final	[15.8300]	250.5889	7.29941
non-Greek Linear B	Initial	[7.9200]	62.7264	1.08298
	Medial	[7.9100]	62.5681	0.56927
	Final	15.8300	250.5889	<u>0.70357</u>
			$\chi^2$ statistic =	26.80474

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

[O] Series		Linear A	non-Greek Linear B	Total
Observed	Initial	13.5	50	63.5
	Medial	18.5	102	120.5
	Total	32	152	184
Expected	Initial	11.04	52.46	63.5
	Medial	20.96	99.54	120.5
	Total	32	152	184

 $\chi^2$  Test of Homogeneity : [O] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	1.9600	3.8416	0.34797
	Medial	[1.9600]	3.8416	0.18328
non-Greek Linear B	Initial	[1.9600]	3.8416	0.07323
	Medial	1.9600	3.8416	<u>0.03859</u>
			$\chi^2$ statistic =	0.64307

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

6. Chi Square Calculations

- Test Series Six -

[U] Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	71	83	154
	<b>Medial</b>	107.5	91	198.5
	<b>Final</b>	78.5	20	98.5
	<b>Total</b>	257	194	451
<b>Expected</b>	<b>Initial</b>	87.76	66.24	154
	<b>Medial</b>	113.11	85.39	198.5
	<b>Final</b>	56.13	42.37	98.54
	<b>Total</b>	257	194	451

$\chi^2$  Test of Homogeneity : [U] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[16.7600]	280.8976	3.20075
	<b>Medial</b>	[5.6100]	31.4721	0.27824
	<b>Final</b>	22.3700	500.4169	8.91532
<b>non-Greek Linear B</b>	<b>Initial</b>	16.7600	280.8976	4.24060
	<b>Medial</b>	5.6100	31.4721	0.36857
	<b>Final</b>	[22.3700]	500.4169	11.81064
			$\chi^2$ statistic =	28.81412

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[U] Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	71	83	154
	<b>Medial</b>	107.5	91	198.5
	<b>Total</b>	178.5	174	352.5
<b>Expected</b>	<b>Initial</b>	77.98	76.02	154
	<b>Medial</b>	100.52	97.98	198.5
	<b>Total</b>	178.5	174	352.5

$\chi^2$  Test of Homogeneity : [U] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	[7.4800]	55.9504	0.71750
	<b>Medial</b>	7.4800	55.9504	0.55661
	<b>Final</b>	7.4800	55.9504	0.73600
<b>non-Greek Linear B</b>	<b>Initial</b>	7.4800	55.9504	0.73600
	<b>Medial</b>	[7.4800]	55.9504	0.57104
			$\chi^2$ statistic =	2.58115

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$





7. Chi Square Calculations

- Test Series Seven -

[A] Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	203	210	413
	<b>Medial</b>	300	549	849
	<b>Final</b>	148	407	555
	<b>Total</b>	651	1,166	1,817
<b>Expected</b>	<b>Initial</b>	147.97	265.03	413
	<b>Medial</b>	304.18	544.82	849
	<b>Final</b>	198.85	356.15	555
	<b>Total</b>	651	1,166	1,817

$\chi^2$  Test of Homogeneity : [A] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>non-Greek Linear B</b>	<b>Initial</b>	55.0300	3028.3009	20.46564
	<b>Medial</b>	[4.1800]	17.4724	0.05744
	<b>Final</b>	[50.8500]	2585.7225	13.00338
<b>Greek Linear B</b>	<b>Initial</b>	[55.0300]	3028.3009	11.42626
	<b>Medial</b>	4.1800	17.4724	0.03207
	<b>Final</b>	50.8500	2585.7225	<u>7.26021</u>
			$\chi^2$ statistic =	52.24500

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[A] Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	300	549	849
	<b>Final</b>	148	407	555
	<b>Total</b>	448	956	1,404
<b>Expected</b>	<b>Medial</b>	270.91	578.09	849
	<b>Final</b>	177.09	377.91	555
	<b>Total</b>	448	956	1,404

$\chi^2$  Test of Homogeneity : [A] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>non-Greek Linear B</b>	<b>Medial</b>	28.5900	817.3881	3.01719
	<b>Final</b>	[28.5900]	817.3881	4.61566
<b>Greek Linear B</b>	<b>Medial</b>	[28.5900]	817.3881	1.41395
	<b>Final</b>	28.5900	817.3881	<u>2.16292</u>
			$\chi^2$ statistic =	11.20972

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

7. Chi Square Calculations

- Test Series Seven -

[E] Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	59	228	287
	<b>Medial</b>	97	625	722
	<b>Final</b>	53	260	313
	<b>Total</b>	209	1,113	1,322
<b>Expected</b>	<b>Initial</b>	45.37	241.63	287
	<b>Medial</b>	114.14	607.86	722
	<b>Final</b>	49.48	263.52	313
	<b>Total</b>	209	1,113	1,322

$\chi^2$  Test of Homogeneity : [E] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>non-Greek Linear B</b>	<b>Initial</b>	13.6300	185.7769	4.09471
	<b>Medial</b>	[17.1400]	293.7796	2.57385
	<b>Final</b>	3.5200	12.3904	0.25041
<b>Greek Linear B</b>	<b>Initial</b>	[13.6300]	185.7769	0.76885
	<b>Medial</b>	17.1400	293.7796	0.48330
	<b>Final</b>	[3.5200]	12.3904	0.04702
			$\chi^2$ statistic =	8.21814

Therefore  $H_{02}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[E] Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	97	625	722
	<b>Final</b>	53	260	313
	<b>Total</b>	150	885	1,035
<b>Expected</b>	<b>Medial</b>	104.64	617.36	722
	<b>Final</b>	45.36	267.64	313
	<b>Total</b>	150	885	1,035

$\chi^2$  Test of Homogeneity : [E] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>non-Greek Linear B</b>	<b>Medial</b>	[7.1400]	50.9796	0.48719
	<b>Final</b>	7.1400	50.9796	1.12389
<b>Greek Linear B</b>	<b>Medial</b>	7.1400	50.9796	0.08258
	<b>Final</b>	[7.1400]	50.9796	0.19048
			$\chi^2$ statistic =	1.88414

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

7. Chi Square Calculations

- Test Series Seven -

[I] Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	117	129	246
	Medial	162	524	686
	Final	38	95	133
	Total	317	748	1,065
Expected	Initial	73.22	172.78	246
	Medial	204.19	481.81	686
	Final	39.59	93.41	133
	Total	317	748	1,065

$\chi^2$  Test of Homogeneity : [I] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	43.7800	1916.6884	26.17712
	Medial	[42.1900]	1779.9961	8.71735
	Final	[1.5900]	2.5281	0.06386
Greek Linear B	Initial	[43.7800]	1916.6884	11.09323
	Medial	42.1900	1779.9961	3.69439
	Final	1.5900	2.5281	<u>0.02706</u>
			$\chi^2$ statistic =	49.77301

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[I] Series		non-Greek Linear B	Greek Linear B	Total
Observed	Medial	162	524	686
	Final	38	95	133
	Total	200	619	819
Expected	Medial	167.52	518.48	686
	Final	32.48	100.52	133
	Total	200	619	819

$\chi^2$  Test of Homogeneity : [I] Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	Medial	[5.0200]	25.2004	0.15043
	Final	5.0200	25.2004	0.77587
Greek Linear B	Medial	5.0200	25.2004	0.04860
	Final	[5.0200]	25.2004	<u>0.25070</u>
			$\chi^2$ statistic =	1.22560

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

## 7. Chi Square Calculations

- Test Series Seven -

[O] Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	50	185	235
	<b>Medial</b>	102	559	661
	<b>Final</b>	372	791	1,163
	<b>Total</b>	524	1,535	2,059
<b>Expected</b>	<b>Initial</b>	59.81	175.19	235
	<b>Medial</b>	168.22	492.78	661
	<b>Final</b>	295.97	867.03	1,163
	<b>Total</b>	524	1,535	2,059

 $\chi^2$  Test of Homogeneity : [O] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	<b>Initial</b>	[9.8100	96.2361	1.60903
	<b>Medial</b>	[66.2200]	4385.0884	26.06758
	<b>Final</b>	76.0300	5780.5609	19.53090
Greek Linear B	<b>Initial</b>	9.8100	96.2361	0.54932
	<b>Medial</b>	66.2200	4385.0884	8.89867
	<b>Final</b>	[76.0300]	5780.5609	<u>6.66708</u>
			$\chi^2$ statistic =	63.32258

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

[O] Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	50	185	235
	<b>Final</b>	372	791	1,163
	<b>Total</b>	422	976	1,398
<b>Expected</b>	<b>Initial</b>	70.94	164.06	235
	<b>Final</b>	351.06	811.94	1,163
	<b>Total</b>	422	976	1,398

 $\chi^2$  Test of Homogeneity : [O] Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	<b>Initial</b>	[20.4400]	417.7936	5.88939
	<b>Final</b>	20.4400	417.7936	1.19009
Greek Linear B	<b>Initial</b>	20.4400	417.7936	2.54659
	<b>Final</b>	[20.4400]	417.7936	<u>0.51456</u>
			$\chi^2$ statistic =	10.14063

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

7. Chi Square Calculations

- Test Series Seven -

[U] Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	83	91	174
	Medial	91	214	305
	Final	20	95	115
	Total	194	400	594
Expected	Initial	56.83	117.17	174
	Medial	99.61	205.39	305
	Final	37.56	77.44	115
	Total	194	400	594

$\chi^2$  Test of Homogeneity : [U] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	26.1700	684.8689	12.05119
	Medial	[8.6100]	74.1321	0.74422
	Final	[17.5600]	308.3536	8.20963
Greek Linear B	Initial	[26.1700]	684.8689	5.84509
	Medial	8.6100	74.1321	0.36093
	Final	17.5600	308.3536	3.98184
			$\chi^2$ statistic =	31.19290

Therefore  $H_{o_2}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[U] Series		non-Greek Linear B	Greek Linear B	Total
Observed	Medial	91	214	305
	Final	20	95	115
	Total	111	309	420
Expected	Medial	80.61	224.39	305
	Final	30.39	84.61	115
	Total	111	309	420

$\chi^2$  Test of Homogeneity : [U] Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	9.8900	97.8121	1.21340
	Final	[9.8900]	97.8121	3.21856
Greek Linear B	Medial	[9.8900]	97.8121	0.43590
	Final	9.8900	97.8121	1.15603
			$\chi^2$ statistic =	6.02389

Therefore  $H_{o_2}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$



8. Chi Square Calculations

- Test Series Eight -

[A] Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	155	210	365
	<b>Medial</b>	207	549	756
	<b>Final</b>	155	407	562
	<b>Total</b>	517	1,166	1,683
<b>Expected</b>	<b>Initial</b>	112.12	252.88	365
	<b>Medial</b>	232.24	523.76	756
	<b>Final</b>	174.64	389.36	562
	<b>Total</b>	517	1,166	1,683

$\chi^2$  Test of Homogeneity : [A] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	42.8800	1838.6944	16.39934
	<b>Medial</b>	[25.2400]	637.0576	2.74310
	<b>Final</b>	[17.6400]	311.1696	1.80242
<b>Greek Linear B</b>	<b>Initial</b>	[42.8800]	1838.6944	7.27102
	<b>Medial</b>	25.2400	637.0576	1.21632
	<b>Final</b>	17.6400	311.1696	0.79918
				$\chi^2$ statistic = 30.23138

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[A] Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	207	549	756
	<b>Final</b>	155	407	562
	<b>Total</b>	362	956	1,318
<b>Expected</b>	<b>Medial</b>	207.64	548.36	756
	<b>Final</b>	154.36	407.64	562
	<b>Total</b>	362	956	1,318

$\chi^2$  Test of Homogeneity : [A] Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Medial</b>	[0.1400]	0.0196	0.00009
	<b>Final</b>	0.1400	0.0196	0.00013
<b>Greek Linear B</b>	<b>Medial</b>	0.1400	0.0196	0.00004
	<b>Final</b>	[0.1400]	0.0196	0.00005
				$\chi^2$ statistic = 0.00031

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

## 8. Chi Square Calculations

- Test Series Eight -

[E] Series		Linear A	Greek Linear B	Total
Observed	Initial	35	228	263
	Medial	84.5	625	709
	Final	81	260	341
	Total	200.5	1,113	1,313.5
Expected	Initial	40.15	222.85	263
	Medial	108.3	601.2	709
	Final	52.05	288.95	341
	Total	200.5	1,113	1,313.5

 $\chi^2$  Test of Homogeneity : [E] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[5.1500]	26.5225	0.66059
	Medial	[23.8000]	566.4400	5.23029
	Final	28.9500	838.1025	16.10187
Greek Linear B	Initial	5.1500	26.5225	0.11902
	Medial	23.8000	566.4400	0.94218
	Final	[28.9500]	838.1025	<u>2.90051</u>
			$\chi^2$ statistic =	25.95446

Therefore  $H_{03}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

[E] Series		Linear A	Greek Linear B	Total
Observed	Initial	35	228	263
	Medial	84.5	625	709.5
	Total	119.5	853	972.5
Expected	Initial	32.32	230.68	263
	Medial	87.18	622.32	709.5
	Total	119.5	853	972.5

 $\chi^2$  Test of Homogeneity : [E] Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	2.1800	4.7524	0.14704
	Medial	[2.1800]	4.7524	0.05451
Greek Linear B	Initial	[2.1800]	4.7524	0.02060
	Medial	2.1800	4.7524	<u>0.00764</u>
			$\chi^2$ statistic =	0.22979

Therefore  $H_{03}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$



8. Chi Square Calculations

- Test Series Eight -

[I] Series		Linear A	Greek Linear B	Total
Observed	Initial	75	129	204
	Medial	157	524	681
	Final	102.5	95	197.5
	Total	334.5	748	1,082
Expected	Initial	63.04	140.96	204
	Medial	210.43	470.57	681
	Final	61.03	136.47	197.5
	Total	334.5	748	1,082

$\chi^2$  Test of Homogeneity : [II] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	11.9600	143.0416	2.26906
	Medial	[53.4300]	2854.7649	13.56634
	Final	41.4700	1719.7609	28.17894
Greek Linear B	Initial	[11.9600]	143.0416	1.01477
	Medial	53.4300	2854.7649	6.06661
	Final	[41.4700]	1719.7609	12.60175
			$\chi^2$ statistic =	63.69747

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[I] Series		Linear A	Greek Linear B	Total
Observed	Initial	75	129	204
	Medial	157	524	681
	Total	232	653	885
Expected	Initial	53.48	150.52	204
	Medial	178.52	502.48	681
	Total	232	653	885

$\chi^2$  Test of Homogeneity : [I] Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	21.0200	441.8404	8.26179
	Medial	[21.0200]	441.8404	2.47502
Greek Linear B	Initial	[21.0200]	441.8404	2.93543
	Medial	21.0200	441.8404	0.87932
			$\chi^2$ statistic =	14.55156

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 8. Chi Square Calculations

- Test Series Eight -

[O] Series		Linear A	Greek Linear B	Total
Observed	Initial	13.5	185	198.5
	Medial	18.5	559	577.5
	Final	18.5	791	809.5
	Total	50.5	1,535	1,585.5
Expected	Initial	6.32	192.18	198.5
	Medial	18.39	559.11	577.5
	Final	25.78	783.72	809.5
	Total	50.5	1,535	1,585.5

 $\chi^2$  Test of Homogeneity : [O] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	7.1800	51.5524	8.15703
	Medial	0.1100	0.0121	0.00066
	Final	[7.2800]	52.5076	2.05580
Greek Linear B	Initial	[7.1800]	51.5524	0.26825
	Medial	[0.1100]	0.0121	0.00002
	Final	7.2800	52.9984	<u>0.06762</u>
			$\chi^2$ statistic =	10.54938

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

[O] Series		Linear A	Greek Linear B	Total
Observed	Medial	18.5	559	577.5
	Final	18.5	791	809.5
	Total	37	1,350	1,387
Expected	Medial	15.41	562.09	577.5
	Final	21.59	787.91	809.5
	Total	37	1,350	1,387

 $\chi^2$  Test of Homogeneity : [O] Series :

		{fo - fe} - .5	{(fo-fe) - .5} sq	{(fo-fe) - .5} sq / fe
Linear A	Medial	2.5900	6.7081	0.43531
	Final	[2.5900]	6.7081	0.31070
Greek Linear B	Medial	[2.5900]	6.7081	0.01193
	Final	2.5900	6.7081	<u>0.00851</u>
			$\chi^2$ statistic =	0.76645

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

8. Chi Square Calculations

- Test Series Eight -

[U] Series		Linear A	Greek Linear B	Total
Observed	Initial	71	91	162
	Medial	107.5	214	321.5
	Final	78.5	95	173.5
	Total	257	400	657
Expected	Initial	63.37	98.63	162
	Medial	125.76	195.74	321.5
	Final	67.87	105.63	173.5
	Total	257	400	657

$\chi^2$  Test of Homogeneity : [U] Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	7.6300	58.2169	0.91868
	Medial	[18.2600]	333.4276	2.65130
	Final	10.6300	112.9969	1.66490
Greek Linear B	Initial	[7.6300]	58.2169	0.59026
	Medial	18.2600	333.4276	1.70342
	Final	[10.6300]	112.9969	1.06974
				$\chi^2$ statistic = 8.59830

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

[U] Series		Linear A	Greek Linear B	Total
Observed	Initial	71	91	162
	Final	78.5	95	173.5
	Total	149.5	186	335.5
Expected	Initial	72.19	89.81	162
	Final	77.31	96.19	173.5
	Total	149.5	186	335.5

$\chi^2$  Test of Homogeneity : [U] Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	[0.6900]	0.4761	0.00660
	Final	0.6900	0.4761	0.00616
Greek Linear B	Initial	0.6900	0.4761	0.00530
	Final	[0.6900]	0.4761	0.00495
				$\chi^2$ statistic = 0.02301

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$



## 9. Chi Square Calculations

- Test Series Nine -

Vowel Totals		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>A-</b>	517	651	1,168
	<b>E-</b>	200.5	209	409.5
	<b>I-</b>	334.5	317	651.5
	<b>O-</b>	50.5	524	574.5
	<b>U-</b>	257	194	451
	<b>Total</b>	1,359.5	1,895	3,254.5

Expected		Linear A	non-Greek Linear B	Total
	<b>A-</b>	487.91	680.09	1,168
	<b>E-</b>	171.06	238.44	409.5
	<b>I-</b>	272.15	379.35	651.5
	<b>O-</b>	239.98	334.52	574.5
	<b>U-</b>	188.4	262.6	451
	<b>Total</b>	1,359.5	1,895	3,254.5

 $\chi^2$  Test of Homogeneity : Vowel Totals :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>A-</b>	29.09	846.2281	1.73439
	<b>E-</b>	29.44	866.7136	5.06672
	<b>I-</b>	62.35	3887.5225	14.28448
	<b>O-</b>	[189.48]	35902.6704	149.60693
	<b>U-</b>	68.60	4705.9600	24.97856
<b>non-Greek Linear B</b>	<b>A-</b>	[29.09]	846.2281	1.24429
	<b>E-</b>	[29.44]	866.7136	3.63493
	<b>I-</b>	[62.35]	3887.5225	10.24785
	<b>O-</b>	189.48	35902.6704	107.32593
	<b>U-</b>	[68.60]	4705.9600	17.92064
			$\chi^2$ statistic =	336.04472

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 4 ;  $\chi^2 = 14.8602$

9. Chi Square Calculations

- Test Series Nine -

Vowel Totals		Linear A	non-Greek Linear B	Total
Observed	A-	517	651	1,168
	E-	200.5	209	409.5
	I-	334.5	317	651.5
	U-	257	194	451
	<b>Total</b>	1,309	1,371	2,680

Expected		Linear A	non-Greek Linear B	Total
	A-	570.49	597.51	1,168
	E-	200.01	209.49	409.5
	I-	318.21	333.29	651.5
	U-	220.28	230.72	451
	<b>Total</b>	1,309	1,371	2,680

$\chi^2$  Test of Homogeneity : Vowel Totals [excluding  $\phi$ ]:

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	A-	[53.49]	2861.1801	5.01530
	E-	0.49	0.2401	0.00120
	I-	16.29	265.3641	0.83393
	U-	36.72	1348.3584	6.12111
<b>non-Greek Linear B</b>	A-	53.49	2861.1801	4.78851
	E-	[0.49]	0.2401	0.00115
	I-	[16.29]	265.3641	0.79620
	U-	[36.72]	1348.3584	5.84413
			$\chi^2$ statistic =	23.40153

Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 3 ;  $\chi^2 = 12.8381$

9. Chi Square Calculations

- Test Series Nine -

Vowel Totals		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>A-</b>	651	1,166	1,817
	<b>E-</b>	209	1,113	1,322
	<b>I-</b>	317	748	1,065
	<b>O-</b>	524	1,535	2,059
	<b>U-</b>	194	400	594
	<b>Total</b>	1,895	4,962	6,857

Expected				
	<b>A-</b>	502.15	1,314.85	1,817
	<b>E-</b>	365.35	956.65	1,322
	<b>I-</b>	294.32	770.68	1,065
	<b>O-</b>	569.02	1,489.98	2,059
	<b>U-</b>	164.16	429.84	594
	<b>Total</b>	1,895	4,962	6,857

$\chi^2$  Test of Homogeneity : Vowel Totals :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>non-Greek Linear B</b>	<b>A-</b>	148.85	22156.3225	44.12292
	<b>E-</b>	[156.35]	24445.3225	66.90933
	<b>I-</b>	22.68	514.3824	1.74770
	<b>O-</b>	[45.02]	2026.8004	3.56191
	<b>U-</b>	29.84	890.4256	5.42413
<b>Greek Linear B</b>	<b>A-</b>	[148.85]	22156.3225	16.85084
	<b>E-</b>	156.35	24445.3225	25.55305
	<b>I-</b>	[22.68]	514.3824	0.66744
	<b>O-</b>	45.02	2026.8004	1.36029
	<b>U-</b>	[29.84]	890.4256	2.07153

$\chi^2$  statistic = 168.26914

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 4 ;  $\chi^2 = 14.8602$

## 9. Chi Square Calculations

- Test Series Nine -

Vowel Totals		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	A-	651	1,166	1,817
	E-	209	1,113	1,322
	I-	317	748	1,065
	U-	194	400	594
	<b>Total</b>	1,371	3,427	4,798

<b>Expected</b>	A-	519.2	1,297.8	1,817
	E-	377.75	944.25	1,322
	I-	304.32	760.68	1,065
	U-	169.73	424.27	594
	<b>Total</b>	1,371	3,427	4,798

 $\chi^2$  Test of Homogeneity : Vowel Totals [excluding o]:

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>non-Greek Linear B</b>	A-	131.80	17371.2400	33.45770
	E-	[168.75]	28476.5625	75.38468
	I-	12.68	160.7824	0.52833
	U-	24.27	589.0329	3.47041
<b>Greek Linear B</b>	A-	[131.80]	17371.2400	13.38514
	E-	168.75	28476.5625	30.15786
	I-	[12.68]	160.7824	0.21137
	U-	[24.27]	589.0329	<u>1.38834</u>

 $\chi^2$  statistic = 157.98383Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 3 ;  $\chi^2 = 12.8381$



## 9. Chi Square Calculations

- Test Series Nine -

Vowel Totals		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>A-</b>	517	1,166	1,683
	<b>E-</b>	200.5	1,113	1,313.5
	<b>I-</b>	334.5	748	1,082.5
	<b>O-</b>	50.5	1,535	1,585.5
	<b>U-</b>	257	400	657
	<b>Total</b>	1,359.5	4,962	6,321.5

<b>Expected</b>	<b>A-</b>			
	<b>E-</b>	361.95	1,321.05	1,683
	<b>I-</b>	282.48	1,031.02	1,313.5
	<b>O-</b>	232.8	849.7	1,082.5
	<b>U-</b>	340.98	1,244.52	1,585.5
	<b>Total</b>	141.29	515.71	657
	<b>Total</b>	1,359.5	4,962	6,321.5

 $\chi^2$  Test of Homogeneity : Vowel Totals :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>A-</b>	155.05	24040.5025	66.41940
	<b>E-</b>	[81.98]	24445.3225	86.53824
	<b>I-</b>	101.70	1034.8900	4.44540
	<b>O-</b>	[290.48]	84378.6304	247.45918
	<b>U-</b>	115.71	13388.8041	94.76116
<b>Greek Linear B</b>	<b>A-</b>	[155.05]	24040.5025	18.19803
	<b>E-</b>	81.98	24445.3225	23.70984
	<b>I-</b>	[101.70]	1034.8900	1.21795
	<b>O-</b>	290.48	84378.6304	67.80014
	<b>U-</b>	[115.71]	13388.8041	<u>25.96189</u>
			$\chi^2$ statistic =	636.51123

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 4 ;  $\chi^2 = 14.8602$

## 9. Chi Square Calculations

- Test Series Nine -

Vowel Totals		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>A-</b>	517	1,166	1,683
	<b>E-</b>	200.5	1,113	1,313.5
	<b>I-</b>	334.5	748	1,082.5
	<b>U-</b>	257	400	657
	<b>Total</b>	1,309	3,427	4,736

Expected		Linear A	Greek Linear B	Total
	<b>A-</b>	465.17	1,217.83	1,683
	<b>E-</b>	363.04	950.46	1,313.5
	<b>I-</b>	299.2	783.3	1,082.5
	<b>U-</b>	181.59	475.41	657
	<b>Total</b>	1,309	3,427	4,736

 $\chi^2$  Test of Homogeneity : Vowel Totals [excluding o]:

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>A-</b>	51.83	2686.3489	5.77498
	<b>E-</b>	[162.54]	26419.2516	72.77229
	<b>I-</b>	35.30	1246.0900	4.16474
	<b>U-</b>	75.41	5686.6681	31.31598
<b>Greek Linear B</b>	<b>A-</b>	51.83	2686.3489	2.20585
	<b>E-</b>	[162.54]	26419.2516	27.79628
	<b>I-</b>	35.30	1246.0900	1.59082
	<b>U-</b>	75.41	5686.6681	<u>11.96161</u>
			$\chi^2$ statistic =	157.58255

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 3 ;  $\chi^2 = 12.8381$

10. Chi Square Calculations

- Test Series Ten -

Linear A		[E]	[I]	Total
<b>Observed</b>	<b>Initial</b>	35	75	110
	<b>Medial</b>	84.5	157	241.5
	<b>Final</b>	81	102.5	183.5
	<b>Total</b>	200.5	334.5	535
<b>Expected</b>	<b>Initial</b>	41.22	68.78	110
	<b>Medial</b>	90.51	150.99	241.5
	<b>Final</b>	68.77	114.73	183.5
	<b>Total</b>	200.5	334.5	535

$\chi^2$  Test of Homogeneity : Linear A : [E] / [I] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
[E]	<b>Initial</b>	[6.2200]	38.6884	0.93858
	<b>Medial</b>	[6.0100]	36.1201	0.39907
	<b>Final</b>	12.2300	149.5729	2.17497
[I]	<b>Initial</b>	6.2200	38.6884	0.56249
	<b>Medial</b>	6.0100	36.1201	0.23922
	<b>Final</b>	[12.2300]	149.5729	<u>1.30369</u>
				$\chi^2$ statistic = 5.61802

Therefore  $H_{0_1}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

Linear A		[E]	[I]	Total
<b>Observed</b>	<b>Initial</b>	35	75	110
	<b>Medial</b>	84.5	157	241.5
	<b>Total</b>	119.5	232	351.5
<b>Expected</b>	<b>Initial</b>	37.4	72.6	110
	<b>Medial</b>	82.1	159.4	241.5
	<b>Total</b>	119.5	232	351.5

$\chi^2$  Test of Homogeneity : Linear A : [E] / [I] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
[E]	<b>Initial</b>	[1.9000]	3.6100	0.09652
	<b>Medial</b>	1.9000	3.6100	0.04397
[I]	<b>Initial</b>	1.9000	3.6100	0.04972
	<b>Medial</b>	[1.9000]	3.6100	<u>0.02265</u>
				$\chi^2$ statistic = 0.21286

Therefore  $H_{0_1}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

10. Chi Square Calculations

- Test Series Ten -

Linear A		[O]	[U]	Total
Observed	Initial	13.5	71	84.5
	Medial	18.5	107.5	126
	Final	18.5	78.5	97
	Total	50.5	257	307.5
Expected	Initial	13.88	70.62	84.5
	Medial	20.69	105.31	126
	Final	15.93	81.07	97
	Total	50.5	257	307.5

$\chi^2$  Test of Homogeneity : Linear A : [O] / [U] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
[O]	Initial	[0.3800]	0.1444	0.01040
	Medial	[2.1900]	4.7961	0.23181
	Final	2.5700	6.6049	0.41462
[U]	Initial	0.3800	0.1444	0.00204
	Medial	2.1900	4.7961	0.04554
	Final	[2.5700]	6.6049	0.08147
				$\chi^2$ statistic = 0.78588

Therefore  $H_{0_4}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

Linear A		[O]	[U]	Total
Observed	Initial	13.5	71	84.5
	Medial	18.5	107.5	126
	Total	32	178.5	210.5
Expected	Initial	40.77	71.65	84.5
	Medial	78.73	106.85	126
	Total	119.5	178.5	210.5

$\chi^2$  Test of Homogeneity : Linear A : [O] / [U] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
[O]	Initial	0.1500 = 0	0000	00000
	Medial	[0.1500] = 0	0000	00000
[U]	Initial	[0.1500] = 0	0000	00000
	Medial	0.1500 = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_{0_4}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

10. Chi Square Calculations

- Test Series Ten -

non-Greek Linear B		[E]	[I]	Total
Observed	Initial	59	117	176
	Medial	97	162	259
	Final	53	38	91
	Total	209	317	526
Expected	Initial	69.93	106.07	176
	Medial	102.91	156.09	259
	Final	36.16	54.84	91
	Total	209	317	526

$\chi^2$  Test of Homogeneity : non-Greek Linear B : [E] / [I] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
[E]	Initial	[10.9300]	119.4649	1.70835
	Medial	[5.9100]	34.9281	0.33940
	Final	16.8400	283.5856	7.84252
[I]	Initial	10.9300	119.4649	1.12628
	Medial	5.9100	34.9281	0.22377
	Final	[16.8400]	283.5856	<u>5.17115</u>

$\chi^2$  statistic = 16.41147

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

non-Greek Linear B		[E]	[I]	Total
Observed	Initial	59	117	176
	Medial	97	162	259
	Total	156	279	435
Expected	Initial	63.12	112.88	176
	Medial	92.88	166.12	259
	Total	156	279	435

$\chi^2$  Test of Homogeneity : non-Greek Linear B : [E] / [I] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
[E]	Initial	[3.6200]	13.1044	0.20761
	Medial	3.6200	13.1044	0.14109
[I]	Initial	3.6200	13.1044	0.11609
	Medial	[3.6200]	13.1044	<u>0.07889</u>

$\chi^2$  statistic = 0.54368

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

## 10. Chi Square Calculations

- Test Series Ten -

non-Greek Linear B		[O]	[U]	Total
Observed	Initial	50	83	133
	Medial	102	91	193
	Final	372	20	392
	Total	524	194	718
Expected	Initial	97.06	35.94	133
	Medial	140.85	52.15	193
	Final	286.08	105.92	392
	Total	524	194	718

 $\chi^2$  Test of Homogeneity : non-Greek Linear B : [O] / [U] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
[O]	Initial	[47.0600]	2214.6436	22.81726
	Medial	[38.8500]	1509.3225	10.71581
	Final	85.9200	7382.2464	25.80483
[U]	Initial	47.0600	2214.6436	61.62058
	Medial	38.8500	1509.3225	28.94195
	Final	[85.9200]	7382.2464	<u>69.69644</u>
			$\chi^2$ statistic =	219.59687

Therefore  $H_{0s}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

non-Greek Linear B		[O]	[U]	Total
Observed	Initial	50	83	133
	Medial	102	91	193
	Total	152	174	326
Expected	Initial	62.01	70.99	133
	Medial	89.99	103.01	193
	Total	152	174	326

 $\chi^2$  Test of Homogeneity : non-Greek Linear B : [O] / [U] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
[O]	Initial	[11.5100]	132.4801	2.13643
	Medial	11.5100	132.4801	1.47216
[U]	Initial	11.5100	132.4801	1.86618
	Medial	[11.5100]	132.4801	<u>1.28609</u>
			$\chi^2$ statistic =	6.76086

Therefore  $H_{0s}$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 10. Chi Square Calculations

- Test Series Ten -

Greek Linear B		[E]	[I]	Total
Observed	Initial	228	129	357
	Medial	625	524	1,149
	Final	260	95	355
	Total	1,113	748	1,861
Expected	Initial	213.51	143.49	357
	Medial	687.18	461.82	1,149
	Final	212.31	142.69	355
	Total	1,113	748	1,861

 $\chi^2$  Test of Homogeneity : Greek Linear B : [E] / [I] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
[E]	Initial	14.4900	209.9601	0.98337
	Medial	[62.1800]	3866.3524	5.62640
	Final	47.6900	2274.3361	10.71234
[I]	Initial	[14.4900]	209.9601	1.46324
	Medial	62.1800	3866.3524	8.37199
	Final	[47.6900]	2274.3361	<u>15.93900</u>
$\chi^2$ statistic =				43.09634

Therefore  $H_{0c}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

Greek Linear B		[E]	[I]	Total
Observed	Initial	228	129	357
	Medial	625	524	1,149
	Total	853	653	1,506
Expected	Initial	202.21	154.79	357
	Medial	650.79	498.21	1,149
	Total	853	653	1,506

 $\chi^2$  Test of Homogeneity : Greek Linear B : [E] / [I] :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
[E]	Initial	25.2900	639.5841	3.16297
	Medial	[25.2900]	639.5841	0.98278
[I]	Initial	[25.2900]	639.5841	4.13195
	Medial	25.2900	639.5841	<u>1.28376</u>
$\chi^2$ statistic =				9.56146

Therefore  $H_{0c}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 10. Chi Square Calculations

- Test Series Ten -

Greek Linear B		[O]	[U]	Total
Observed	Initial	185	91	276
	Medial	559	214	773
	Final	791	95	886
	Total	1,535	400	1,935
Expected	Initial	218.95	57.05	276
	Medial	613.21	159.79	773
	Final	702.85	183.15	886
	Total	1,535	400	1,935

 $\chi^2$  Test of Homogeneity : Greek Linear B : [O] / [U] :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
[O]	Initial	[33.9500]	1152.6025	5.26423
	Medial	[54.2100]	2938.7241	4.79236
	Final	88.3700	7770.4225	11.05559
[U]	Initial	33.9500	1152.6025	20.20337
	Medial	54.2100	2938.7241	18.39116
	Final	[88.3700]	7770.4225	<u>42.42655</u>
				$\chi^2$ statistic = 102.13326

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

Greek Linear B		[O]	[U]	Total
Observed	Initial	185	91	276
	Medial	559	214	773
	Total	744	305	1,049
Expected	Initial	195.75	80.25	276
	Medial	548.25	224.75	773
	Total	744	305	1,049

 $\chi^2$  Test of Homogeneity : Greek Linear B : [O] / [U] :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
[O]	Initial	[10.2500]	105.0625	0.53672
	Medial	10.2500	105.0625	0.19163
[U]	Initial	10.2500	105.0625	1.30919
	Medial	[10.2500]	105.0625	<u>0.46746</u>
				$\chi^2$ statistic = 2.50500

Therefore  $H_o$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$



## 11. Chi Square Calculations

- Test Series Eleven -

D- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	59	63	122
	<b>Medial</b>	76.5	56	132.5
	<b>Final</b>	39	22	61
	<b>Total</b>	174.5	141	315.5
<b>Expected</b>	<b>Initial</b>	67.48	54.22	122
	<b>Medial</b>	73.28	59.22	132.5
	<b>Final</b>	33.74	27.26	61
	<b>Total</b>	174.5	141	315.5

 $\chi^2$  Test of Homogeneity : D- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[8.4800]	71.9104	1.06565
	<b>Medial</b>	3.2200	10.3684	0.14149
	<b>Final</b>	5.2600	27.6676	0.82002
<b>non-Greek Linear B</b>	<b>Initial</b>	8.4800	71.9104	1.31897
	<b>Medial</b>	[3.2200]	10.3684	0.17508
	<b>Final</b>	[5.2600]	27.6676	<u>1.014952</u>
				$\chi^2$ statistic = 4.53616

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$ 

D- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	76.5	56	132.5
	<b>Final</b>	39	22	61
	<b>Total</b>	115.5	78	193.5
<b>Expected</b>	<b>Medial</b>	79.09	53.41	132.5
	<b>Final</b>	36.41	24.59	61
	<b>Total</b>	115.5	78	193.5

 $\chi^2$  Test of Homogeneity : D- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Medial</b>	[2.0900]	4.3681	0.05523
	<b>Final</b>	2.0900	4.3681	0.11997
<b>non-Greek Linear B</b>	<b>Medial</b>	2.0900	4.3681	0.08178
	<b>Final</b>	[2.0900]	4.3681	<u>0.17764</u>
				$\chi^2$ statistic = 0.43462

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

11. Chi Square Calculations

- Test Series Eleven -

T- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	38	61	99
	Medial	83.5	92	175.5
	Final	80	132	212
	Total	201.5	285	486.5
Expected	Initial	41	58	99
	Medial	72.69	102.81	175.5
	Final	87.81	124.19	212
	Total	201.5	285	486.5

$\chi^2$  Test of Homogeneity : T- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[3.0000]	9.0000	0.21951
	Medial	10.8100	116.8561	1.60760
	Final	[7.8100]	60.9961	0.69464
non-Greek Linear B	Initial	3.0000	9.0000	0.15517
	Medial	[10.8100]	116.8561	1.13662
	Final	7.8100	60.9961	0.49115
			$\chi^2$ statistic =	4.30469

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

T- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	38	61	99
	Medial	80	132	212
	Total	118	193	311
Expected	Initial	37.56	61.44	99
	Medial	80.44	131.56	212
	Total	118	193	311

$\chi^2$  Test of Homogeneity : T- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[0.0600] = 0	0000	00000
	Medial	0.0600 = 0	0000	00000
non-Greek Linear B	Initial	0.0600 = 0	0000	00000
	Medial	[0.0600] = 0	0000	00000
			$\chi^2$ statistic =	00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

11. Chi Square Calculations

- Test Series Eleven -

R- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	28.5	32	60.5
	<b>Medial</b>	94.5	126	220.5
	<b>Final</b>	81.5	127	208.5
	<b>Total</b>	204.5	285	489.5
<b>Expected</b>	<b>Initial</b>	25.28	35.22	60.5
	<b>Medial</b>	92.12	128.38	220.5
	<b>Final</b>	87.11	121.39	208.5
	<b>Total</b>	204.51	284.99	489.5

$\chi^2$  Test of Homogeneity : R- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	3.2200	10.3684	0.41014
	Medial	2.3800	5.6644	0.06149
	Final	[5.6100]	31.4721	0.36129
non-Greek Linear B	Initial	[3.2200]	10.3684	0.29439
	Medial	[2.3800]	5.6644	0.04412
	Final	5.6100	31.4721	<u>0.25926</u>
$\chi^2$ statistic =				1.43069

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

R- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	94.5	126	220.5
	<b>Final</b>	81.5	127	208.5
	<b>Total</b>	176	253	429
<b>Expected</b>	<b>Medial</b>	90.46	130.04	220.5
	<b>Final</b>	85.54	122.96	208.5
	<b>Total</b>	176	253	429

$\chi^2$  Test of Homogeneity : R- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	3.5400	12.5316	0.13853
	Final	[3.5400]	12.5316	0.14650
non-Greek Linear B	Medial	[3.5400]	12.5316	0.09637
	Final	3.5400	12.5316	<u>0.10192</u>
$\chi^2$ statistic =				0.48332

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

11. Chi Square Calculations

- Test Series Eleven -

M- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	21.5	35	56.5
	Medial	53.5	60	113.5
	Final	28.5	27	55.5
	Total	103.5	122	225.5
Expected	Initial	25.93	30.57	56.5
	Medial	52.09	61.41	113.5
	Final	25.47	30.03	55.5
	Total	103.49	122.01	225.5

$\chi^2$  Test of Homogeneity : M- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[4.4300]	19.6249	0.75684
	Medial	1.4100	1.9881	0.03817
	Final	3.0300	9.1809	0.36046
non-Greek Linear B	Initial	4.4300	19.6249	0.64197
	Medial	[1.4100]	1.9881	0.03237
	Final	[3.0300]	9.1809	0.30572
				$\chi^2$ statistic = 2.13553

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

M- Series		Linear A	non-Greek Linear B	Total
Observed	Medial	53.5	60	113.5
	Final	28.5	27	55.5
	Total	82	87	169
Expected	Medial	55.07	58.43	113.5
	Final	26.93	28.57	55.5
	Total	82	87	169

$\chi^2$  Test of Homogeneity : M- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Medial	[1.0700]	1.1449	0.02079
	Final	1.0700	1.1449	0.04251
non-Greek Linear B	Medial	1.0700	1.1449	0.09594
	Final	[1.0700]	1.1449	0.04007
				$\chi^2$ statistic = 0.19931

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

11. Chi Square Calculations

- Test Series Eleven -

N- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	12.5	9	21.5
	<b>Medial</b>	60.5	87	147.5
	<b>Final</b>	60.5	71	131
	<b>Total</b>	133	167	300
<b>Expected</b>	<b>Initial</b>	9.53	11.97	21.5
	<b>Medial</b>	65.39	82.11	147.5
	<b>Final</b>	58.08	72.92	131
	<b>Total</b>	133	167	300

$\chi^2$  Test of Homogeneity : N- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	2.9700	8.8209	0.92559
	<b>Medial</b>	[4.8900]	23.9121	0.36568
	<b>Final</b>	1.9200	3.6864	0.06347
<b>non-Greek Linear B</b>	<b>Initial</b>	[2.9700]	8.8209	0.73692
	<b>Medial</b>	4.8900	23.9121	0.29122
	<b>Final</b>	[1.9200]	3.6864	0.05055

$\chi^2$  statistic = 2.43343

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

N- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	60.5	87	147.5
	<b>Final</b>	60	71	131
	<b>Total</b>	120.5	158	278.5
<b>Expected</b>	<b>Medial</b>	63.82	83.68	147.5
	<b>Final</b>	56.68	74.32	131
	<b>Total</b>	120.5	158	278.5

$\chi^2$  Test of Homogeneity : N- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Medial</b>	[2.8200]	7.9524	0.12461
	<b>Final</b>	2.8200	7.9524	0.14030
<b>non-Greek Linear B</b>	<b>Medial</b>	2.8200	7.9524	0.09503
	<b>Final</b>	[2.8200]	7.9524	0.10700

$\chi^2$  statistic = 0.46694

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

11. Chi Square Calculations

- Test Series Eleven -

P- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	34.5	69	103.5
	Medial	32	57	89
	Final	22	18	40
	Total	88.5	144	232.5
Expected	Initial	39.4	64.1	103.5
	Medial	33.88	55.12	89
	Final	15.23	24.77	40
	Total	88.51	143.99	232.5

$\chi^2$  Test of Homogeneity : P- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[4.9000]	24.0100	0.60939
	Medial	[1.8800]	3.5344	0.10432
	Final	6.7700	45.8329	3.00938
non-Greek Linear B	Initial	4.9000	24.0100	0.37457
	Medial	1.8800	3.5344	0.06412
	Final	[6.7700]	45.8329	1.85034
				$\chi^2$ statistic = 6.01212

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

P- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	34.5	69	103.5
	Medial	32	57	89
	Total	66.5	126	192.5
Expected	Initial	35.75	67.75	103.5
	Medial	30.75	58.25	89
	Total	66.5	126	192.5

$\chi^2$  Test of Homogeneity : P- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	[0.7500] = 0	0000	00000
	Medial	0.7500 = 0	0000	00000
non-Greek Linear B	Initial	0.7500 = 0	0000	00000
	Medial	[0.7500] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_o$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

11. Chi Square Calculations

- Test Series Eleven -

K- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	67	95	162
	Medial	59	75	134
	Final	30.5	27	57
	Total	156.5	197	353.5
Expected	Initial	71.72	90.28	162
	Medial	59.32	74.68	134
	Final	25.46	32.04	57.5
	Total	156.5	197	353.5

$\chi^2$  Test of Homogeneity : K- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[4.7200]	22.2784	0.31063
	Medial	[0.3200]	0.1024	0.00173
	Final	5.0400	25.4016	0.99771
non-Greek Linear B	Initial	4.7200	22.2784	0.24677
	Medial	0.3200	0.1024	0.00137
	Final	[5.0400]	25.4016	<u>0.79281</u>
			$\chi^2$ statistic =	2.35102

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

K- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	67	95	162
	Medial	59	75	134
	Total	126	170	296
Expected	Initial	68.96	93.04	162
	Medial	57.04	76.96	134
	Total	126	170	296

$\chi^2$  Test of Homogeneity : K- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	[1.4600]	2.1316	0.03091
	Medial	1.4600	2.1316	0.03737
non-Greek Linear B	Initial	1.4600	2.1316	0.02291
	Medial	[1.4600]	2.1316	<u>0.07697</u>
			$\chi^2$ statistic =	0.16816

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

11. Chi Square Calculations

- Test Series Eleven -

Q- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	23.5	38	61.5
	<b>Medial</b>	11	22	33
	<b>Final</b>	9	12	21
	<b>Total</b>	43.5	72	115.5
<b>Expected</b>	<b>Initial</b>	23.16	38.34	61.5
	<b>Medial</b>	12.43	20.57	33
	<b>Final</b>	7.91	13.09	21
	<b>Total</b>	43.5	72	115.5

$\chi^2$  Test of Homogeneity : Q- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	0.3400	0.1156	0.00499
	<b>Medial</b>	[1.4300]	2.0449	0.16451
	<b>Final</b>	1.0900	1.1881	0.15020
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.3400]	0.1156	0.00302
	<b>Medial</b>	1.4300	2.0449	0.09941
	<b>Final</b>	[1.0900]	1.1881	0.09076
				$\chi^2$ statistic = 0.51289

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

Q- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	23.5	38	61.5
	<b>Final</b>	9	12	21
	<b>Total</b>	32.5	50	82.5
<b>Expected</b>	<b>Initial</b>	24.23	37.27	61.5
	<b>Final</b>	8.27	12.73	21
	<b>Total</b>	32.5	50	82.5

$\chi^2$  Test of Homogeneity : Q- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	[0.2300] = 0	0000	00000
	<b>Final</b>	0.2300 = 0	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	0.2300 = 0	0000	00000
	<b>Final</b>	[0.2300] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$



11. Chi Square Calculations

- Test Series Eleven -

S- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	44.5	59	103.5
	Medial	52	48	100
	Final	37.5	74	111.5
	Total	134	181	315
Expected	Initial	44.03	59.47	103.5
	Medial	42.54	57.46	100
	Final	47.43	64.07	111.5
	Total	134	181	315

$\chi^2$  Test of Homogeneity : S- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	0.4700	0.2209	0.00502
	Medial	9.4600	89.4916	2.10370
	Final	[9.9300]	98.6049	2.07896
non-Greek Linear B	Initial	[0.4700]	0.2209	0.00371
	Medial	[9.4600]	89.4916	1.55746
	Final	9.9300	98.6049	<u>1.53902</u>
			$\chi^2$ statistic =	7.28787

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

S- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	44.5	59	103.5
	Final	37.5	74	111.5
	Total	82	133	215
Expected	Initial	39.47	64.03	103.5
	Final	42.53	68.97	111.5
	Total	82	133	215

$\chi^2$  Test of Homogeneity : S- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
Linear A	Initial	4.5300	20.5209	0.51991
	Final	[4.5300]	20.5209	0.48250
non-Greek Linear B	Initial	[4.5300]	20.5209	0.32049
	Final	4.5300	20.5209	<u>0.29753</u>
			$\chi^2$ statistic =	1.62043

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

11. Chi Square Calculations

- Test Series Eleven -

\*  $\chi^2$  Test of Homogeneity : Z- Series : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : Z- Series :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.09	17.14	[8.05]	64.8025	3.77417
Medial	36.36	31.43	4.93	24.3049	0.77330
Final	54.54	51.43	3.11	9.6721	<u>0.18806</u>
				$\chi^2$ statistic =	4.73553

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

$\chi^2$  Goodness-of-Fit Test : Z- Series :

	fo	fe	[fo - fe] -.5	([fo-fe] -.5) sq	([fo - fe] -.5) sq / fe
Medial	36.36	31.43	4.43	19.6249	0.62440
Final	54.54	51.43	2.61	6.8121	<u>0.13245</u>
				$\chi^2$ statistic =	0.75685

Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

Y- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	18	14	32
	Medial	19.5	49	68.5
	Final	32.5	63	95.5
	Total	70	126	196
Expected	Initial	11.43	20.57	32
	Medial	24.46	44.04	68.5
	Final	34.11	61.39	95.5
	Total	70	126	196

$\chi^2$  Test of Homogeneity : Y- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	6.5700	43.1649	3.77646
	Medial	[4.9600]	24.6016	1.00579
	Final	[1.6100]	2.5921	0.07599
non-Greek Linear B	Initial	[6.5700]	43.1649	2.09844
	Medial	4.9600	24.6016	0.55862
	Final	1.6100	2.5921	<u>0.04222</u>
			$\chi^2$ statistic =	7.55752

Therefore  $H_{01}$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

11. Chi Square Calculations

- Test Series Eleven -

Y- Series		Linear A	non-Greek Linear B	Total
Observed	Medial	19.5	49	68.5
	Final	32.5	63	95.5
	Total	52	112	164
Expected	Medial	21.72	46.78	68.5
	Final	30.28	65.22	95.5
	Total	52	112	164

$\chi^2$  Test of Homogeneity : Y- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Medial	[1.7200]	2.9584	0.13621
	Final	1.7200	2.9584	0.09770
non-Greek Linear B	Medial	1.7200	2.9584	0.06324
	Final	[1.7200]	2.9584	<u>0.04536</u>

$\chi^2$  statistic = 0.34251

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

W- Series		Linear A	non-Greek Linear B	Total
Observed	Initial	7	41	48
	Medial	20	40	60
	Final	7	36	43
	Total	34	117	151
Expected	Initial	10.81	37.19	48
	Medial	13.51	46.49	50
	Final	9.68	33.32	43
	Total	34	117	151

$\chi^2$  Test of Homogeneity : W- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[3.8100]	14.5161	1.34284
	Medial	6.4900	42.1201	3.11770
	Final	[2.6800]	7.1824	0.74198
non-Greek Linear B	Initial	3.8100	14.5161	0.39032
	Medial	[6.4900]	42.1201	0.90600
	Final	[2.6800]	7.1824	<u>0.21556</u>

$\chi^2$  statistic = 6.71440

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 11. Chi Square Calculations

- Test Series Eleven -

W- Series		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	7	41	48
	<b>Final</b>	7	36	43
	<b>Total</b>	14	77	91
<b>Expected</b>	<b>Initial</b>	7.38	40.62	48
	<b>Final</b>	6.62	36.38	43
	<b>Total</b>	14	77	91

 $\chi^2$  Test of Homogeneity : W- Series :

		$[fo - fe] - .5$	$([fo - fe] - .5) \text{ sq}$	$([fo - fe] - .5) \text{ sq} / fe$
<b>Linear A</b>	<b>Initial</b>	0.1200 = 0	0000	00000
	<b>Final</b>	[0.1200] = 0	0000	00000
<b>non-Greek Linear B</b>	<b>Initial</b>	[0.1200] = 0	0000	00000
	<b>Final</b>	0.1200 = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

12. Chi Square Calculations

- Test Series Twelve -

D- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	63	72	135
	<b>Medial</b>	56	112	168
	<b>Final</b>	22	25	47
	<b>Total</b>	141	209	350
<b>Expected</b>	<b>Initial</b>	54.39	80.61	135
	<b>Medial</b>	67.68	100.32	168
	<b>Final</b>	18.93	28.07	47
	<b>Total</b>	141	209	350

$\chi^2$  Test of Homogeneity : D- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	<b>Initial</b>	8.6100	74.1321	1.36297
	<b>Medial</b>	[11.6800]	136.4224	2.01570
	<b>Final</b>	3.0700	9.4249	0.49788
Greek Linear B	<b>Initial</b>	[8.6100]	74.1321	0.91964
	<b>Medial</b>	11.6800	136.4224	1.35987
	<b>Final</b>	[3.0700]	9.4249	0.33576
				$\chi^2$ statistic = 6.49182

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

D- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	56	112	168
	<b>Final</b>	22	25	47
	<b>Total</b>	78	137	215
<b>Expected</b>	<b>Medial</b>	60.95	107.05	168
	<b>Final</b>	17.05	29.95	47
	<b>Total</b>	78	137	215

$\chi^2$  Test of Homogeneity : D- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	<b>Medial</b>	[4.4500]	19.8025	0.32490
	<b>Final</b>	4.4500	19.8025	1.16144
Greek Linear B	<b>Medial</b>	4.4500	19.8025	0.18498
	<b>Final</b>	[4.4500]	19.8025	0.66118
				$\chi^2$ statistic = 2.33250

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

## 12. Chi Square Calculations

- Test Series Twelve -

T- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	61	97	158
	<b>Medial</b>	92	304	396
	<b>Final</b>	132	259	391
	<b>Total</b>	285	660	945
<b>Expected</b>	<b>Initial</b>	47.65	110.35	158
	<b>Medial</b>	119.43	276.57	396
	<b>Final</b>	117.92	273.08	391
	<b>Total</b>	285	660	945

 $\chi^2$  Test of Homogeneity : T- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>non-Greek Linear B</b>	<b>Initial</b>	13.3500	178.2225	3.74024
	<b>Medial</b>	[27.4300]	752.4049	6.29997
	<b>Final</b>	14.0800	198.2464	1.68119
<b>Greek Linear B</b>	<b>Initial</b>	[13.3500]	178.2225	1.61507
	<b>Medial</b>	27.4300	752.4049	2.72049
	<b>Final</b>	[14.0800]	198.2464	<u>0.72596</u>
				$\chi^2$ statistic = 16.78292

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

T- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	61	97	158
	<b>Final</b>	132	259	391
	<b>Total</b>	193	356	549
<b>Expected</b>	<b>Initial</b>	55.54	102.46	158
	<b>Final</b>	137.46	253.54	391
	<b>Total</b>	193	356	549

 $\chi^2$  Test of Homogeneity : T- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>non-Greek Linear B</b>	<b>Initial</b>	4.9600	24.6016	0.44295
	<b>Final</b>	[4.9600]	24.6016	0.17897
<b>Greek Linear B</b>	<b>Initial</b>	[4.9600]	24.6016	0.24011
	<b>Final</b>	4.9600	24.6016	<u>0.09703</u>
				$\chi^2$ statistic = 0.95906

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

## 12. Chi Square Calculations

- Test Series Twelve -

R- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	32	59	91
	<b>Medial</b>	126	535	661
	<b>Final</b>	127	201	328
	<b>Total</b>	285	795	1,080
<b>Expected</b>	<b>Initial</b>	24.01	66.99	91
	<b>Medial</b>	174.43	486.57	661
	<b>Final</b>	86.56	241.44	328
	<b>Total</b>	285	795	1,080

 $\chi^2$  Test of Homogeneity : R- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	<b>Initial</b>	7.9900	63.8401	2.65890
	<b>Medial</b>	[48.4300]	2345.4649	13.44645
	<b>Final</b>	40.4400	1635.3936	18.89318
Greek Linear B	<b>Initial</b>	[7.9900]	63.8401	0.95298
	<b>Medial</b>	48.4300	2345.4649	4.82041
	<b>Final</b>	[40.4400]	1635.3936	<u>6.77350</u>
				$\chi^2$ statistic = 47.54542

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$ 

R- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	32	59	91
	<b>Final</b>	127	201	328
	<b>Total</b>	159	260	419
<b>Expected</b>	<b>Initial</b>	34.53	56.47	91
	<b>Final</b>	124.47	203.53	328
	<b>Total</b>	159	260	419

 $\chi^2$  Test of Homogeneity : R- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	<b>Initial</b>	[2.0300]	4.1209	0.11934
	<b>Final</b>	2.0300	4.1209	0.03311
Greek Linear B	<b>Initial</b>	2.0300	4.1209	0.07298
	<b>Final</b>	[2.0300]	4.1209	<u>0.02025</u>
				$\chi^2$ statistic = 0.24568

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

## 12. Chi Square Calculations

- Test Series Twelve -

M- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	35	68	103
	<b>Medial</b>	60	149	209
	<b>Final</b>	27	38	65
	<b>Total</b>	122	255	377
<b>Expected</b>	<b>Initial</b>	33.33	69.67	103
	<b>Medial</b>	67.63	141.37	209
	<b>Final</b>	21.03	43.97	65
	<b>Total</b>	121.99	255.01	377

 $\chi^2$  Test of Homogeneity : M- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	<b>Initial</b>	1.6700	2.7889	0.08368
	<b>Medial</b>	[7.6300]	58.2169	0.86081
	<b>Final</b>	5.9700	35.6409	1.69476
Greek Linear B	<b>Initial</b>	[1.6700]	2.7889	0.04003
	<b>Medial</b>	7.6300	58.2169	0.41181
	<b>Final</b>	[5.9700]	35.6409	<u>0.81057</u>
			$\chi^2$ statistic =	3.90166

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$ 

M- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	35	68	103
	<b>Medial</b>	60	149	209
	<b>Total</b>	95	217	312
<b>Expected</b>	<b>Initial</b>	31.36	71.64	103
	<b>Medial</b>	63.64	145.36	209
	<b>Total</b>	95	217	312

 $\chi^2$  Test of Homogeneity : M- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	<b>Initial</b>	3.1400	9.8596	0.31440
	<b>Medial</b>	[3.1400]	9.8596	0.15428
Greek Linear B	<b>Initial</b>	[3.1400]	9.8596	0.13763
	<b>Medial</b>	3.1400	9.8596	<u>0.06783</u>
			$\chi^2$ statistic =	0.67414

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$



12. Chi Square Calculations

- Test Series Twelve -

N- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	9	18	27
	Medial	87	187	274
	Final	71	154	225
	Total	167	359	526
Expected	Initial	8.57	18.43	27
	Medial	86.99	187.01	274
	Final	71.44	153.56	225
	Total	167	359	526

$\chi^2$  Test of Homogeneity : N- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	0.4300	0.1849	0.02158
	Medial	0.0100	0.0001	0.00000
	Final	[0.4400]	0.1936	0.00271
Greek Linear B	Initial	[0.4300]	0.1849	0.01003
	Medial	[0.0100]	0.0001	0.00000
	Final	0.4400	0.1936	0.00126
				$\chi^2$ statistic = 0.03558

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 2 ;  $\chi^2 = 0.211$

N- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Medial	87	187	274
	Final	71	154	225
	Total	158	341	499
Expected	Medial	86.76	187.24	274
	Final	71.24	153.76	225
	Total	158	341	499

$\chi^2$  Test of Homogeneity : N- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	Medial	[0.2600] = 0	0000	00000
	Final	0.2600 = 0	0000	00000
Greek Linear B	Medial	0.2600 = 0	0000	00000
	Final	[0.2600] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

12. Chi Square Calculations

- Test Series Twelve -

P- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	69	199	268
	Medial	57	171	228
	Final	18	27	45
	Total	144	397	541
Expected	Initial	71.33	196.67	268
	Medial	60.69	167.31	228
	Final	11.98	33.02	45
	Total	144	397	541

$\chi^2$  Test of Homogeneity : P- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	[2.3300]	5.4289	0.07611
	Medial	[3.6900]	13.6161	0.22435
	Final	6.0200	36.2404	3.02507
Greek Linear B	Initial	2.3300	5.4289	0.02760
	Medial	3.6900	13.6161	0.08138
	Final	[6.0200]	36.2404	<u>1.09753</u>
				$\chi^2$ statistic = 4.53204

Therefore  $H_{o2}$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

P- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	69	199	268
	Medial	57	171	228
	Total	126	370	496
Expected	Initial	68.08	199.92	268
	Medial	57.92	170.08	228
	Total	126	370	496

$\chi^2$  Test of Homogeneity : P- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	Initial	0.4200 = 0	0000	00000
	Medial	[0.4200] = 0	0000	00000
Greek Linear B	Initial	[0.4200] = 0	0000	00000
	Medial	0.4200 = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_{o2}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

12. Chi Square Calculations

- Test Series Twelve -

K- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	95	181	276
	Medial	75	290	365
	Final	27	99	126
	Total	197	570	767
Expected	Initial	70.89	205.11	276
	Medial	93.75	271.25	365
	Final	32.36	93.64	126
	Total	197	570	767

$\chi^2$  Test of Homogeneity : K- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	24.1100	581.2921	8.19992
	Medial	[18.7500]	351.5625	3.75000
	Final	[5.3600]	28.7296	0.88781
Greek Linear B	Initial	[24.1100]	581.2921	2.83405
	Medial	18.7500	351.5625	1.29608
	Final	5.3600	28.7296	<u>0.30681</u>
			$\chi^2$ statistic =	17.27467

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

K- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Medial	75	290	365
	Final	27	99	126
	Total	102	389	491
Expected	Medial	75.82	289.18	365
	Final	26.18	99.82	126
	Total	102	389	491

$\chi^2$  Test of Homogeneity : K- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
non-Greek Linear B	Medial	[0.3200] = 0	0000	00000
	Final	0.3200 = 0	0000	00000
Greek Linear B	Medial	0.3200 = 0	0000	00000
	Final	[0.3200] = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_o_2$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

12. Chi Square Calculations

- Test Series Twelve -

Q- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	38	39	77
	Medial	22	66	88
	Final	12	27	39
	Total	72	132	204
Expected	Initial	27.18	49.82	77
	Medial	31.06	56.94	88
	Final	13.76	25.24	39
	Total	72	132	204

$\chi^2$  Test of Homogeneity : Q- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	10.8200	117.0724	4.30730
	Medial	[9.0600]	82.0836	2.64274
	Final	[1.7600]	3.0976	0.22512
Greek Linear B	Initial	[10.8200]	117.0724	2.34991
	Medial	9.0600	82.0836	1.14416
	Final	1.7600	3.0976	0.12273
			$\chi^2$ statistic =	10.79196

Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

Q- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Medial	22	66	88
	Final	12	27	39
	Total	34	93	127
Expected	Medial	23.56	64.44	88
	Final	10.44	28.56	39
	Total	34	93	127

$\chi^2$  Test of Homogeneity : Q- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	[1.0600]	1.1236	0.04769
	Final	1.0600	1.1236	0.10762
Greek Linear B	Medial	1.0600	1.1236	0.01744
	Final	[1.0600]	1.1236	0.03934
			$\chi^2$ statistic =	0.21209

Therefore  $H_{02}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

12. Chi Square Calculations

- Test Series Twelve -

S- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	59	27	86
	<b>Medial</b>	48	134	182
	<b>Final</b>	74	73	147
	<b>Total</b>	181	234	415
<b>Expected</b>	<b>Initial</b>	37.51	48.49	86
	<b>Medial</b>	79.38	102.62	182
	<b>Final</b>	64.11	82.89	147
	<b>Total</b>	181	234	415

$\chi^2$  Test of Homogeneity : S- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	21.4900	461.8201	12.31192
	Medial	[31.3800]	984.7044	12.40494
	Final	9.8900	97.8121	1.52569
Greek Linear B	Initial	[21.4900]	461.8201	9.52403
	Medial	31.3800	984.7044	9.59564
	Final	[9.8900]	97.8121	<u>1.18002</u>
				$\chi^2$ statistic = 46.54224

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

S- Series		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	59	27	86
	<b>Final</b>	74	73	147
	<b>Total</b>	133	100	233
<b>Expected</b>	<b>Initial</b>	49.09	36.91	86
	<b>Final</b>	83.91	63.09	147
	<b>Total</b>	133	100	233

$\chi^2$  Test of Homogeneity : S- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	9.4100	88.5481	1.80379
	Final	[9.4100]	88.5481	1.05527
Greek Linear B	Initial	[9.4100]	88.5481	2.39903
	Final	9.4100	88.5481	<u>1.40352</u>
				$\chi^2$ statistic = 6.66161

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

12. Chi Square Calculations

- Test Series Twelve -

Z- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	6	9	15
	Medial	11	13	24
	Final	18	12	30
	Total	35	34	69
Expected	Initial	7.61	7.39	15
	Medial	12.17	11.83	24
	Final	15.22	14.78	30
	Total	35	34	69

$\chi^2$  Test of Homogeneity : Z- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	[1.6100]	2.5921	0.34062
	Medial	[1.1700]	1.3689	0.11248
	Final	2.7800	7.7284	0.50778
Greek Linear B	Initial	1.6100	2.5921	0.35076
	Medial	1.1700	1.3689	0.11571
	Final	[2.7800]	7.7284	<u>0.52290</u>
				$\chi^2$ statistic = 1.95025

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

Z- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	6	9	15
	Medial	11	13	24
	Total	17	22	39
Expected	Initial	6.54	8.46	15
	Medial	10.46	13.54	24
	Total	17	22	39

$\chi^2$  Test of Homogeneity : Z- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Initial	[0.0400] = 0	0000	00000
	Medial	0.0400 = 0	0000	00000
Greek Linear B	Initial	0.0400 = 0	0000	00000
	Medial	[0.0400] = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

12. Chi Square Calculations

- Test Series Twelve -

\*  $\chi^2$  Test of Homogeneity : Y- Series : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test: Y- Series : n/a at d.f. = 2

Y- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Medial	49	121	170
	Final	63	333	396
	Total	112	454	566
Expected	Medial	33.64	136.36	170
	Final	78.36	317.64	396
	Total	112	454	566

$\chi^2$  Test of Homogeneity : Y- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Medial	14.8600	220.8196	6.56420
	Final	[14.8600]	220.8196	2.81801
Greek Linear B	Medial	[14.8600]	220.8196	1.61939
	Final	14.8600	220.8196	<u>0.69519</u>
				$\chi^2$ statistic = 11.69679

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

W- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Initial	41	72	113
	Medial	40	204	244
	Final	36	194	230
	Total	117	470	587
Expected	Initial	22.52	90.48	113
	Medial	48.63	195.37	244
	Final	45.84	184.16	230
	Total	116.99	470.01	587

$\chi^2$  Test of Homogeneity : W- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
non-Greek Linear B	Initial	18.4800	341.5104	15.16476
	Medial	[8.6300]	74.4769	1.53150
	Final	[9.8400]	96.8256	2.11225
Greek Linear B	Initial	[18.4800]	341.5104	3.77443
	Medial	8.6300	74.4769	0.38121
	Final	9.8400	96.8256	<u>0.52577</u>
				$\chi^2$ statistic = 23.48992

Therefore  $H_o_2$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 12. Chi Square Calculations

- Test Series Twelve -

W- Series		non-Greek Linear B	Greek Linear B	Total
Observed	Medial	40	204	244
	Final	36	194	230
	Total	76	398	474
Expected	Medial	39.12	204.88	244
	Final	36.88	193.12	230
	Total	76	398	474

 $\chi^2$  Test of Homogeneity : W- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
non-Greek Linear B	Medial	0.3800 = 0	0000	00000
	Final	[0.3800] = 0	0000	00000
Greek Linear B	Medial	[0.3800] = 0	0000	00000
	Final	0.3800 = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_{o_2}$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$



13. Chi Square Calculations

- Test Series Thirteen -

D- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	59	72	131
	<b>Medial</b>	76.5	112	188.5
	<b>Final</b>	39	25	64
	<b>Total</b>	174.5	209	383.5
<b>Expected</b>	<b>Initial</b>	59.61	71.39	131
	<b>Medial</b>	85.77	102.73	188.5
	<b>Final</b>	29.12	34.88	64
	<b>Total</b>	174.5	209	383.5

$\chi^2$  Test of Homogeneity : D- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	[0.6100]	0.3721	0.00624
	<b>Medial</b>	[9.2700]	85.9329	1.00190
	<b>Final</b>	9.8800	97.6144	3.35214
<b>Greek Linear B</b>	<b>Initial</b>	0.6100	0.3721	0.00521
	<b>Medial</b>	9.2700	85.9329	0.83649
	<b>Final</b>	[9.8800]	97.6144	<u>2.79858</u>
				$\chi^2$ statistic = 8.00056

Therefore  $H_0$  accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

D- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	59	72	131
	<b>Medial</b>	76.5	112	188.5
	<b>Total</b>	135.5	184	319.5
<b>Expected</b>	<b>Initial</b>	55.56	75.44	131
	<b>Medial</b>	79.94	108.56	188.5
	<b>Total</b>	135.5	184	319.5

$\chi^2$  Test of Homogeneity : D- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Initial</b>	2.9400	8.6436	0.15557
	<b>Medial</b>	[2.9400]	8.6436	0.10813
<b>Greek Linear B</b>	<b>Initial</b>	[2.9400]	8.6436	0.11458
	<b>Medial</b>	2.9400	8.6436	<u>0.07962</u>
				$\chi^2$ statistic = 0.45790

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

13. Chi Square Calculations

- Test Series Thirteen -

T- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	38	97	135
	<b>Medial</b>	83.5	304	387.5
	<b>Final</b>	80	259	339
	<b>Total</b>	201.5	660	861.5
<b>Expected</b>	<b>Initial</b>	31.58	103.42	135
	<b>Medial</b>	90.63	296.87	387.5
	<b>Final</b>	79.29	259.71	339
	<b>Total</b>	201.5	660	861.5

$\chi^2$  Test of Homogeneity : T- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	6.4200	41.2164	1.30514
	<b>Medial</b>	[7.1300]	50.8369	0.56093
	<b>Final</b>	0.7100	0.5041	0.00636
<b>Greek Linear B</b>	<b>Initial</b>	[6.4200]	41.2164	0.39853
	<b>Medial</b>	7.1300	50.8369	0.17124
	<b>Final</b>	[0.7100]	0.5041	0.00194
				$\chi^2$ statistic = 2.44414

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

T- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	83.5	304	387.5
	<b>Final</b>	80	259	339
	<b>Total</b>	163.5	563	726.5
<b>Expected</b>	<b>Medial</b>	87.21	300.29	387.5
	<b>Final</b>	76.29	262.71	339
	<b>Total</b>	163.5	563	726.5

$\chi^2$  Test of Homogeneity : T- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Medial</b>	[3.2100]	10.3041	0.11815
	<b>Final</b>	3.2100	10.3041	0.12506
<b>Greek Linear B</b>	<b>Medial</b>	3.2100	10.3041	0.03431
	<b>Final</b>	[3.2100]	10.3041	0.03922
				$\chi^2$ statistic = 0.31674

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

13. Chi Square Calculations

- Test Series Thirteen -

R- Series		Linear A	Greek Linear B	Total
Observed	Initial	28.5	59	87.5
	Medial	94.5	535	629.5
	Final	81.5	201	282.5
	Total	204.5	795	999.5
Expected	Initial	17.9	69.6	87.5
	Medial	128.8	500.7	629.5
	Final	57.8	224.7	282.5
	Total	204.5	795	999.5

$\chi^2$  Test of Homogeneity : R- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	10.6000	112.3600	6.27709
	Medial	[34.3000]	1176.4900	9.13424
	Final	23.7000	561.6900	9.71782
Greek Linear B	Initial	[10.6000]	112.3600	1.61437
	Medial	34.3000	1176.4900	2.34969
	Final	[23.7000]	561.6900	2.49973
				$\chi^2$ statistic = 31.59294

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

R- Series		Linear A	Greek Linear B	Total
Observed	Initial	28.5	59	87.5
	Final	81.5	201	282.5
	Total	110	260	370
Expected	Initial	26.01	61.49	87.5
	Final	83.99	198.51	282.5
	Total	110	260	370

$\chi^2$  Test of Homogeneity : R- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	1.9900	3.9601	0.15225
	Final	[1.9900]	3.9601	0.04715
Greek Linear B	Initial	[1.9900]	3.9601	0.06440
	Final	1.9900	3.9601	0.01995
				$\chi^2$ statistic = 0.28375

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

13. Chi Square Calculations

- Test Series Thirteen -

M- Series		Linear A	Greek Linear B	Total
Observed	Initial	21.5	68	89.5
	Medial	53.5	149	202.5
	Final	28.5	38	66.5
	Total	103.5	255	358.5
Expected	Initial	25.84	63.66	89.5
	Medial	58.46	144.04	202.5
	Final	19.2	47.3	66.5
	Total	103.5	255	358.5

$\chi^2$  Test of Homogeneity : M- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[4.3400]	18.8356	0.72893
	Medial	[4.9600]	24.6016	0.42083
	Final	9.3000	86.4900	4.50469
Greek Linear B	Initial	4.3400	18.8356	0.29588
	Medial	4.9600	24.6016	0.17080
	Final	[9.3000]	86.4900	1.82854
				$\chi^2$ statistic = 7.94967

Therefore  $H_0$ , accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

M- Series		Linear A	Greek Linear B	Total
Observed	Initial	21.5	68	89.5
	Medial	53.5	149	202.5
	Total	75	217	292
Expected	Initial	22.99	66.51	89.5
	Medial	52.01	150.49	202.5
	Total	75	217	292

$\chi^2$  Test of Homogeneity : M- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	[0.9900] = 0	0000	00000
	Medial	0.9900 = 0	0000	00000
Greek Linear B	Initial	0.9900 = 0	0000	00000
	Medial	[0.9900] = 0	0000	00000
				$\chi^2$ statistic = 00000

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

13. Chi Square Calculations

- Test Series Thirteen -

N- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	12.5	18	30.5
	<b>Medial</b>	60.5	187	247.5
	<b>Final</b>	60.5	154	214
	<b>Total</b>	133	359	492
<b>Expected</b>	<b>Initial</b>	8.24	22.26	30.5
	<b>Medial</b>	66.91	180.59	247.5
	<b>Final</b>	57.85	156.15	214
	<b>Total</b>	133	359	492

$\chi^2$  Test of Homogeneity : N- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	4.2600	18.1476	2.20238
	<b>Medial</b>	[6.4100]	41.0881	0.61408
	<b>Final</b>	2.1500	4.6225	0.07990
<b>Greek Linear B</b>	<b>Initial</b>	[4.2600]	18.1476	0.81526
	<b>Medial</b>	6.4100	41.0881	0.22752
	<b>Final</b>	[2.1500]	4.6225	0.02960
				$\chi^2$ statistic = 3.96874

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

N- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Medial</b>	60.5	187	247.5
	<b>Final</b>	60	154	214
	<b>Total</b>	120.5	341	461.5
<b>Expected</b>	<b>Medial</b>	64.62	182.88	247.5
	<b>Final</b>	55.88	158.12	214
	<b>Total</b>	120.5	341	461.5

$\chi^2$  Test of Homogeneity : N- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
<b>Linear A</b>	<b>Medial</b>	[3.6200]	13.1044	0.20279
	<b>Final</b>	3.6200	13.1044	0.23451
<b>Greek Linear B</b>	<b>Medial</b>	3.6200	13.1044	0.07166
	<b>Final</b>	[3.6200]	13.1044	0.08288
				$\chi^2$ statistic = 0.59184

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

13. Chi Square Calculations

- Test Series Thirteen -

P- Series		Linear A	Greek Linear B	Total
Observed	Initial	34.5	199	233.5
	Medial	32	171	203
	Final	22	27	49
	Total	88.5	397	485.5
Expected	Initial	42.56	190.94	233.5
	Medial	37.01	165.99	203
	Final	8.93	40.07	49
	Total	88.5	397	485.5

$\chi^2$  Test of Homogeneity : P- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	[8.0600]	64.9636	1.52640
	Medial	[5.0100]	25.1001	0.67820
	Final	13.0700	170.8249	19.12933
Greek Linear B	Initial	8.0600	64.9636	0.34023
	Medial	5.0100	25.1001	0.15121
	Final	[13.0700]	170.8249	<u>4.26316</u>
			$\chi^2$ statistic =	26.08853

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

P- Series		Linear A	Greek Linear B	Total
Observed	Initial	34.5	199	233.5
	Medial	32	171	203
	Total	66.5	370	436.5
Expected	Initial	35.57	197.93	233.5
	Medial	30.93	172.07	203
	Total	66.5	370	436.5

$\chi^2$  Test of Homogeneity : P- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	[0.5700] = 0	0000	00000
	Medial	0.5700 = 0	0000	00000
Greek Linear B	Initial	0.5700 = 0	0000	00000
	Medial	[0.5700] = 0	0000	<u>00000</u>
			$\chi^2$ statistic =	00000

Therefore  $H_0$  accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$

13. Chi Square Calculations

- Test Series Thirteen -

K- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	67	181	248
	<b>Medial</b>	59	290	349
	<b>Final</b>	30.5	99	129.5
	<b>Total</b>	156.5	570	726.5
<b>Expected</b>	<b>Initial</b>	53.42	194.58	248
	<b>Medial</b>	75.18	273.82	349
	<b>Final</b>	27.9	101.6	129.5
	<b>Total</b>	156.5	570	726.5

$\chi^2$  Test of Homogeneity : K- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>Initial</b>	13.5800	184.4164	3.45220
	<b>Medial</b>	[16.1800]	261.7924	3.48221
	<b>Final</b>	2.6000	6.7600	0.24229
<b>Greek Linear B</b>	<b>Initial</b>	[13.5800]	184.4164	0.94777
	<b>Medial</b>	16.1800	261.7924	0.95607
	<b>Final</b>	[2.6000]	6.7600	0.06654
				$\chi^2$ statistic = 9.14708

Therefore  $H_0$ , accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

K- Series		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>Initial</b>	67	181	248
	<b>Final</b>	30.5	99	129.5
	<b>Total</b>	97.5	280	377.5
<b>Expected</b>	<b>Initial</b>	64.05	183.95	248
	<b>Final</b>	33.45	96.05	129.5
	<b>Total</b>	97.5	280	377.5

$\chi^2$  Test of Homogeneity : K- Series :

		[fo - fe] - .5	[(fo-fe) - .5] sq	[(fo-fe) - .5] sq / fe
<b>Linear A</b>	<b>Initial</b>	2.4500	6.0025	0.09372
	<b>Final</b>	[2.4500]	6.0025	0.17945
<b>Greek Linear B</b>	<b>Initial</b>	[2.4500]	6.0025	0.03263
	<b>Final</b>	2.4500	6.0025	0.06249
				$\chi^2$ statistic = 0.36829

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

13. Chi Square Calculations

- Test Series Thirteen -

Q- Series		Linear A	Greek Linear B	Total
Observed	Initial	23.5	39	62.5
	Medial	11	66	77
	Final	9	27	36
	Total	43.5	132	175.5
Expected	Initial	15.49	47.01	62.5
	Medial	19.08	57.92	77
	Final	8.92	27.08	36
	Total	43.5	132	175.5

$\chi^2$  Test of Homogeneity : Q- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	8.0100	64.1601	4.14203
	Medial	[8.0800]	65.2864	3.42172
	Final	0.0800	0.0064	0.00072
Greek Linear B	Initial	[8.0100]	64.1601	1.36482
	Medial	8.0800	65.2864	1.12718
	Final	[0.0800]	0.0064	0.00024

$\chi^2$  statistic = 10.05671

Therefore  $H_0$ , accepted at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

Q- Series		Linear A	Greek Linear B	Total
Observed	Medial	11	66	77
	Final	9	27	36
	Total	20	93	113
Expected	Medial	13.63	63.37	77
	Final	6.37	29.63	36
	Total	20	93	113

$\chi^2$  Test of Homogeneity : Q- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Medial	[2.1300]	4.5369	0.33286
	Final	2.1300	4.5369	0.71223
Greek Linear B	Medial	2.1300	4.5369	0.07159
	Final	[2.1300]	4.5369	0.15312

$\chi^2$  statistic = 1.26980

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$



13. Chi Square Calculations

- Test Series Thirteen -

S- Series		Linear A	Greek Linear B	Total
Observed	Initial	44.5	27	71.5
	Medial	52	134	186
	Final	37.5	73	110.5
	Total	134	234	368
Expected	Initial	26.04	45.46	71.5
	Medial	67.73	118.27	186
	Final	40.24	70.26	110.5
	Total	134	234	386

$\chi^2$  Test of Homogeneity : S- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	18.4600	340.7716	13.08647
	Medial	[15.7300]	247.4329	3.65322
	Final	[2.7400]	7.5076	0.18657
Greek Linear B	Initial	[18.4600]	340.7716	7.49608
	Medial	15.7300	247.4329	2.09210
	Final	2.7400	7.5076	0.10685
				$\chi^2$ statistic = 26.62129

Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

S- Series		Linear A	Greek Linear B	Total
Observed	Medial	52	134	186
	Final	37.5	73	110.5
	Total	89.5	207	296
Expected	Medial	56.15	129.85	186
	Final	33.35	77.15	110.5
	Total	89.5	207	296

$\chi^2$  Test of Homogeneity : S- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Medial	[3.6500]	13.3225	0.23727
	Final	3.6500	13.3225	0.39948
Greek Linear B	Medial	3.6500	13.3225	0.10260
	Final	[3.6500]	13.3225	0.17268
				$\chi^2$ statistic = 0.91203

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

13. Chi Square Calculations

- Test Series Thirteen -

\*  $\chi^2$  Test of Homogeneity : Z- Series : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : Z- Series :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	9.09	26.47	[17.38]	302.0644	11.41157
Medial	36.36	38.29	[1.88]	3.5344	0.09243
Final	54.54	35.29	19.25	370.5625	<u>10.50050</u>
				$\chi^2$ statistic =	22.00450

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

$\chi^2$  Goodness-of-Fit Test : Z- Series :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	36.36	38.29	[1.38]	1.9044	0.04980
Final	54.54	35.29	18.75	351.5625	<u>9.96210</u>
				$\chi^2$ statistic =	10.01190

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

\*  $\chi^2$  Test of Homogeneity : Y- Series : n/a at d.f. = 2

\*  $\chi^2$  Goodness-of-Fit Test : Y- Series : n/a at d.f. = 2

Y- Series		Linear A	Greek Linear B	Total
Observed	Medial	19.5	121	140.5
	Final	32.5	333	365.5
	Total	52	454	506
Expected	Medial	14.44	126.06	140.5
	Final	37.56	327.94	365.5
	Total	52	454	506

$\chi^2$  Test of Homogeneity : Y- Series :

		[fo - fe] - .5	[(fo-fe) -.5] sq	[(fo-fe) -.5] sq / fe
Linear A	Medial	4.5600	20.7936	1.44000
	Final	[4.5600]	20.7936	0.55361
Greek Linear B	Medial	[4.5600]	20.7936	0.16495
	Final	4.5600	20.7936	<u>0.06341</u>
			$\chi^2$ statistic =	2.22197

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

W- Series		Linear A	Greek Linear B	Total
Observed	Initial	7	72	79
	Medial	20	204	224
	Final	7	194	201
	Total	34	470	504
Expected	Initial	5.33	73.67	79
	Medial	15.11	208.89	224
	Final	13.56	187.44	201
	Total	34	470	504

13. Chi Square Calculations

- Test Series Thirteen -

$\chi^2$  Test of Homogeneity : W- Series :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	Initial	1.6700	2.7889	0.52325
	Medial	4.8900	23.9121	1.58253
	Final	[6.5600]	43.0336	3.17357
Greek Linear B	Initial	[1.6700]	2.7889	0.03786
	Medial	[4.8900]	23.9121	0.11447
	Final	6.5600	43.0336	<u>0.22959</u>
				$\chi^2$ statistic = 5.66127

Therefore  $H_0$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

W- Series		Linear A	Greek Linear B	Total
Observed	Initial	7	72	79
	Medial	20	204	224
	Total	27	276	303
Expected	Initial	7.04	71.96	79
	Medial	19.96	204.04	224
	Total	27	276	303

$\chi^2$  Test of Homogeneity : W- Series :

		[fo - fe] - .5	([fo-fe] - .5) sq	([fo-fe] - .5) sq / fe
Linear A	Initial	0.4600 = 0	0000	00000
	Medial	[0.4600] = 0	0000	00000
Greek Linear B	Initial	[0.4600] = 0	0000	00000
	Medial	0.4600 = 0	0000	<u>00000</u>
				$\chi^2$ statistic = 00000

Therefore  $H_0$ , accepted at  $\alpha = .900$  ; d.f. = 1 ;  $\chi^2 = 0.0158$



## 14. Chi Square Calculations

- Test Series Fourteen -

Consonant Totals		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>D-</b>	174.5	141	315.5
	<b>T-</b>	201.5	285	486.5
	<b>R-</b>	204.5	285	489.5
	<b>M-</b>	103.5	122	225.5
	<b>N-</b>	133	167	300
	<b>P-</b>	88.5	144	232.5
	<b>K-</b>	156.5	197	353.5
	<b>Q-</b>	43.5	72	115.5
	<b>S-</b>	134	181	315
	<b>Z-</b>	11	35	46
	<b>Y-</b>	70	126	196
	<b>W-</b>	34	117	151
	<b>Total</b>	1,354.5	1,872	3,226.5

<b>Expected</b>	<b>D-</b>	132.45	183.05	315.5
	<b>T-</b>	204.24	282.26	486.5
	<b>R-</b>	205.49	284.01	489.5
	<b>M-</b>	94.67	130.83	225.5
	<b>N-</b>	125.94	174.06	300
	<b>P-</b>	97.6	134.9	232.5
	<b>K-</b>	148.4	205.1	353.5
	<b>Q-</b>	48.49	67.01	115.5
	<b>S-</b>	132.24	182.76	315
	<b>Z-</b>	19.31	26.69	46
	<b>Y-</b>	82.28	113.72	196
	<b>W-</b>	63.39	87.61	151
	<b>Total</b>	1,354.5	1,872	3,226.5

## 14. Chi Square Calculations

- Test Series Fourteen -

 $\chi^2$  Test of Homogeneity : Consonant Totals :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>Linear A</b>	<b>D-</b>	42.05	1768.2025	13.34996
	<b>T-</b>	[2.74]	7.5076	0.03676
	<b>R-</b>	[0.99]	0.9801	0.00477
	<b>M-</b>	8.83	77.9689	0.82359
	<b>N-</b>	7.06	49.8436	0.39577
	<b>P-</b>	[9.10]	82.8100	0.84846
	<b>K-</b>	8.10	65.6100	0.44212
	<b>Q-</b>	[4.99]	24.9001	0.51351
	<b>S-</b>	1.76	3.0976	0.02342
	<b>Z-</b>	[8.31]	69.0561	3.57618
	<b>Y-</b>	[12.28]	150.7984	1.83275
	<b>W-</b>	[29.39]	863.7721	13.62631
<b>non-Greek Linear B</b>	<b>D-</b>	[42.05]	1768.2025	9.65966
	<b>T-</b>	2.74	7.5076	0.02661
	<b>R-</b>	0.99	0.9801	0.00345
	<b>M-</b>	[8.83]	77.9689	0.59596
	<b>N-</b>	[7.06]	49.8436	0.28634
	<b>P-</b>	9.10	82.8100	0.61386
	<b>K-</b>	[8.10]	65.6100	0.31989
	<b>Q-</b>	4.99	24.9001	0.37159
	<b>S-</b>	[1.76]	3.0976	0.01696
	<b>Z-</b>	8.31	69.0561	2.58749
	<b>Y-</b>	12.28	150.7984	1.32606
	<b>W-</b>	29.39	863.7721	<u>9.85926</u>

 $\chi^2$  statistic = 61.14073Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 11 ;  $\chi^2 = 26.7569$

## 14. Chi Square Calculations

- Test Series Fourteen -

Consonant Totals		Linear A	non-Greek Linear B	Total
<b>Observed</b>	<b>T-</b>	201.5	285	486.5
	<b>R-</b>	204.5	285	489.5
	<b>M-</b>	103.5	122	225.5
	<b>N-</b>	133	167	300
	<b>P-</b>	88.5	144	232.5
	<b>K-</b>	156.5	197	353.5
	<b>Q-</b>	43.5	72	115.5
	<b>S-</b>	134	181	315
	<b>Z-</b>	11	35	46
	<b>Y-</b>	70	126	196
	<b>Total</b>	1,146	1,614	2,760

<b>Expected</b>	<b>T-</b>	202	284.5	486.5
	<b>R-</b>	203.25	286.25	489.5
	<b>M-</b>	93.63	131.87	225.5
	<b>N-</b>	124.57	175.43	300
	<b>P-</b>	96.54	135.96	232.5
	<b>K-</b>	146.78	206.72	353.5
	<b>Q-</b>	47.96	67.54	115.5
	<b>S-</b>	130.79	184.21	315
	<b>Z-</b>	19.1	26.9	46
	<b>Y-</b>	81.38	114.62	196
	<b>Total</b>	1,146	1,614	2,760

## 14. Chi Square Calculations

- Test Series Fourteen -

 $\chi^2$  Test of Homogeneity : Consonant Totals (excluding D-, W-) :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	T-	[0.50]	0.2500	0.00124
	R-	1.25	1.5625	0.00769
	M-	9.87	97.4169	1.04044
	N-	8.43	71.0649	0.57048
	P-	[8.04]	64.6416	0.66958
	K-	9.72	94.4784	0.64367
	Q-	[4.46]	19.8916	0.41475
	S-	3.21	10.3041	0.07878
	Z-	[8.10]	65.6100	3.43508
	Y-	[11.38]	129.5044	1.59135
non-Greek Linear B	T-	0.50	0.2500	0.00088
	R-	[1.25]	1.5625	0.00546
	M-	[9.87]	97.4169	0.73873
	N-	[8.43]	71.0649	0.40509
	P-	8.04	64.6416	0.47545
	K-	[9.72]	94.4784	0.45704
	Q-	4.46	19.8916	0.29452
	S-	[3.31]	10.3041	0.05594
	Z-	8.10	65.6100	2.43903
	Y-	11.38	129.5044	<u>1.12986</u>
			$\chi^2$ statistic =	14.45506

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 9 ;  $\chi^2 = 16.9190$



## 14. Chi Square Calculations

- Test Series Fourteen -

Consonant Totals		non-Greek Linear B	Greek Linear B	Total
<b>Observed</b>	<b>D-</b>	141	233	374
	<b>T-</b>	285	660	945
	<b>R-</b>	285	795	1,080
	<b>M-</b>	122	255	377
	<b>N-</b>	167	359	526
	<b>P-</b>	144	441	585
	<b>K-</b>	197	570	767
	<b>Q-</b>	72	178	250
	<b>S-</b>	181	234	415
	<b>Z-</b>	35	34	69
	<b>Y-</b>	126	456	582
	<b>W-</b>	117	470	587
	<b>Total</b>	1,872	4,685	6,557

<b>Expected</b>	<b>D-</b>	106.78	267.22	374
	<b>T-</b>	269.79	675.25	945
	<b>R-</b>	308.34	771.66	1,080
	<b>M-</b>	107.63	269.37	377
	<b>N-</b>	150.17	375.83	526
	<b>P-</b>	167.02	417.98	585
	<b>K-</b>	218.98	548.02	767
	<b>Q-</b>	71.37	178.63	250
	<b>S-</b>	118.48	296.52	415
	<b>Z-</b>	19.7	49.3	69
	<b>Y-</b>	166.16	415.84	582
	<b>W-</b>	167.59	419.41	587
	<b>Total</b>	1,872	4,685	6,557

## 14. Chi Square Calculations

- Test Series Fourteen -

 $\chi^2$  Test of Homogeneity : Consonant Totals :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
<b>non-Greek Linear B</b>	<b>D-</b>	34.22	1171.01	10.96657
	<b>T-</b>	15.21	231.34	0.85748
	<b>R-</b>	[23.34]	544.76	1.76675
	<b>M-</b>	14.37	206.50	1.91861
	<b>N-</b>	16.83	283.25	1.88620
	<b>P-</b>	[23.02]	529.92	3.17279
	<b>K-</b>	[21.98]	483.12	2.20623
	<b>Q-</b>	[0.63]	0.40	0.00560
	<b>S-</b>	62.52	3908.75	32.99080
	<b>Z-</b>	15.30	234.09	11.88274
	<b>Y-</b>	[40.16]	1612.83	9.70649
	<b>W-</b>	[50.59]	2559.35	15.27150
<b>Greek Linear B</b>	<b>D-</b>	[34.22]	1171.01	4.38219
	<b>T-</b>	[15.21]	231.34	0.34262
	<b>R-</b>	23.34	544.76	0.70596
	<b>M-</b>	[14.37]	206.50	0.76660
	<b>N-</b>	[16.83]	283.25	0.75367
	<b>P-</b>	23.02	529.92	1.26781
	<b>K-</b>	21.98	483.12	0.88157
	<b>Q-</b>	[0.63]	0.40	0.00224
	<b>S-</b>	[62.52]	3908.75	13.18208
	<b>Z-</b>	[15.30]	234.09	4.74828
	<b>Y-</b>	40.16	1612.83	3.87849
	<b>W-</b>	50.59	2559.35	<u>6.10226</u>

 $\chi^2$  statistic = 129.64553Therefore  $H_0$  rejected at  $\alpha = .005$  ; d.f. = 11 ;  $\chi^2 = 26.7569$

## 14. Chi Square Calculations

- Test Series Fourteen -

Consonant Totals		Linear A	Greek Linear B	Total
<b>Observed</b>	<b>D-</b>	174.5	233	407.5
	<b>T-</b>	201.5	660	861.5
	<b>R-</b>	204.5	795	999.5
	<b>M-</b>	103.5	255	358.5
	<b>N-</b>	133	359	492
	<b>P-</b>	88.5	441	529.5
	<b>K-</b>	156.5	570	726.5
	<b>Q-</b>	43.5	178	221.5
	<b>S-</b>	134	234	368
	<b>Z-</b>	11	34	45
	<b>Y-</b>	70	456	526
	<b>W-</b>	34	470	504
	<b>Total</b>	1,354.5	4,685	6,039.5

<b>Expected</b>	<b>D-</b>	132.45	267.22	407.5
	<b>T-</b>	204.24	675.25	861.5
	<b>R-</b>	205.49	771.66	999.5
	<b>M-</b>	94.67	269.37	358.5
	<b>N-</b>	125.94	375.83	492
	<b>P-</b>	97.6	417.98	529.5
	<b>K-</b>	148.4	548.02	726.5
	<b>Q-</b>	48.49	178.63	221.5
	<b>S-</b>	132.24	296.52	368
	<b>Z-</b>	19.31	49.3	45
	<b>Y-</b>	82.28	415.84	526
	<b>W-</b>	63.39	419.41	504
	<b>Total</b>	1,354.5	4,685	6,039.5

## 14. Chi Square Calculations

## - Test Series Fourteen -

 $\chi^2$  Test of Homogeneity : Consonant Totals :

		fo - fe	(fo-fe) sq	(fo-fe) sq / fe
Linear A	D-	83.11	6907.27	75.58015
	T-	8.29	68.72	0.35568
	R-	[19.66]	386.52	1.72430
	M-	23.10	533.61	6.63694
	N-	22.66	513.48	4.65362
	P-	[30.25]	915.06	7.70577
	K-	[6.43]	41.34	0.25373
	Q-	[6.18]	38.19	0.76872
	S-	51.47	2649.16	32.09936
	Z-	0.91	0.83	0.08226
	Y-	[47.97]	2301.12	19.50598
	W-	[79.03]	6245.74	55.25737
	Greek Linear B	D-	[83.11]	6907.27
T-		[8.29]	68.72	0.10283
R-		19.66	386.52	0.49852
M-		[23.10]	533.61	1.91877
N-		[22.66]	513.48	1.34539
P-		30.25	915.06	2.22778
K-		6.43	41.34	0.07335
Q-		6.18	38.19	0.22227
S-		[51.47]	2649.16	9.27999
Z-		[0.91]	0.83	0.02378
Y-		47.97	2301.12	5.63959
W-		79.03	6245.74	<u>15.97499</u>
			$\chi^2$ statistic =	263.78198

Therefore  $H_0$ , rejected at  $\alpha = .005$  ; d.f. = 11 ;  $\chi^2 = 26.7569$

## 15. Chi Square Calculations

- Test Series Fifteen -

 $\chi^2$  Goodness-of-Fit Test : A01 [PA3] / B56 [PA3] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	21.05	47.37	[26.32]	692.2429	14.62407
Medial	39.47	42.11	[2.64]	6.9696	0.16551
Final	39.47	10.53	28.94	837.5236	<u>79.53690</u>

 $\chi^2$  statistic = 94.32648Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$  $\chi^2$  Goodness-of-Fit Test : A01 [PA3] / B56 [PA3] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	21.05	47.37	[25.82]	666.6724	14.07373
Medial	39.47	42.11	[2.14]	4.5796	<u>0.10875</u>

 $\chi^2$  statistic = 14.18248Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : A34 [PU2] / B29 [PU2] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A34 [PU2] / B29 [PU2] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	58.33	88.89	[30.06]	903.6036	10.16541
Final	33.33	11.11	21.72	471.7585	<u>42.46250</u>

 $\chi^2$  statistic = 52.62791Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : A58 [RA2] / B76 [RA2] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A58 [RA2] / B76 [RA2] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	40.91	40.00	0.41 = 0	0000	00000
Final	59.09	60.00	[0.41] = 0	0000	<u>00000</u>

 $\chi^2$  statistic = 00000Therefore  $H_{01}$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$  $\chi^2$  Goodness-of-Fit Test : A86 [TA2] / B66 [TA2] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A86 [TA2] / B66 [TA2] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	25.00	50.00	[24.50]	600.2500	12.00500
Final	62.50	50.00	[12.00]	144.0000	<u>2.88000</u>

 $\chi^2$  statistic = 14.88500Therefore  $H_{01}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : B56 [PA3] / B56 [PA3] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B56 [PA3] / B56 [PA3] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	42.11	50.00	[7.39]	54.6121	1.09224
Final	10.53	50.00	[38.97]	1518.6609	<u>30.37322</u>

 $\chi^2$  statistic = 31.46546Therefore  $H_{02}$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : B29 [PU2] / B29 [PU2] : n/a at d.f. = 2 or d.f. = 1

## 15. Chi Square Calculations

- Test Series Fifteen -

 $\chi^2$  Goodness-of-Fit Test : B76 [RA2] / B76 [RA2] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : B76 [RA2] / B76 [RA2] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	40.00	61.11	[20.61]	424.7721	6.95095
Final	60.00	38.39	21.11	445.6321	<u>11.60803</u>
				$\chi^2$ statistic =	18.55897

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : B66 [TA2] / B66 [TA2] : n/a at d.f. = 2 or d.f. = 1 $\chi^2$  Goodness-of-Fit Test : A01 [PA3] / B56 [PA3] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A01 [PA3] / B56 [PA3] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	39.47	50.00	[10.03]	100.6009	2.01202
Final	39.47	50.00	[10.03]	100.6009	<u>2.01202</u>
				$\chi^2$ statistic =	4.02404

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : A34 [PU2] / B29 [PU2] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A34 [PU2] / B29 [PU2] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	16.67	77.78	[60.61]	3673.5721	47.23029
Medial	58.33	22.22	35.61	1268.0721	<u>57.06895</u>
				$\chi^2$ statistic =	104.29924

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : A58 [RA2] / B76 [RA2] : n/a at d.f. = 2

$\chi^2$  Goodness-of-Fit Test : A58 [RA2] / B76 [RA2] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	40.91	61.11	[19.70]	388.0900	6.35068
Final	59.09	38.39	20.20	408.0400	<u>10.62881</u>
				$\chi^2$ statistic =	16.97949

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : A86 [TA2] / B66 [TA2] : n/a at d.f. = 2 or d.f. = 1

$\chi^2$  Goodness-of-Fit Test : A01 [PA3] / A02 [PA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	21.05	49.25	[28.20]	795.2400	16.14701
Medial	39.47	32.84	6.63	43.9569	1.33852
Final	39.47	17.91	21.56	464.8336	<u>25.95386</u>
				$\chi^2$ statistic =	43.43939

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 15. Chi Square Calculations

## - Test Series Fifteen -

 $\chi^2$  Goodness-of-Fit Test : A01 [PA3] / A02 [PA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	21.05	49.25	[27.70]	767.2900	15.57949
Medial	39.47	32.84	6.13	37.5769	<u>1.14424</u>
				$\chi^2$ statistic =	16.72373

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A34 [PU2] / A64 [PU] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	16.67	36.84	[20.17]	406.8289	11.04313
Medial	58.33	31.58	26.75	715.5625	22.65872
Final	33.33	31.58	1.25	1.5625	<u>0.04948</u>
				$\chi^2$ statistic =	33.75133

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A34 [PU2] / A64 [PU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	16.67	36.84	[19.67]	386.9089	10.56241
Final	33.33	31.58	0.75 = 0	0000	<u>00000</u>
				$\chi^2$ statistic =	10.56241

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A58 [RA2] / A53 [RA] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A58 [RA2] / A53 [RA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	40.91	47.66	[6.25]	39.0625	0.81910
Final	59.09	39.25	19.34	374.0356	<u>9.52957</u>
				$\chi^2$ statistic =	10.34918

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A86 [TA2] / A74 [TA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	12.50	20.00	[7.50]	56.2500	2.81250
Medial	25.00	53.85	[28.35]	803.7225	14.92521
Final	62.50	26.15	35.85	1285.2225	<u>49.14809</u>
				$\chi^2$ statistic =	66.88580

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A86 [TA2] / A74 [TA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	12.50	20.00	[7.00]	49.0000	2.45000
Medial	25.00	53.85	[27.85]	775.6225	<u>14.40339</u>
				$\chi^2$ statistic =	16.85339

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

## 15. Chi Square Calculations

## - Test Series Fifteen -

 $\chi^2$  Goodness-of-Fit Test : B56 [PA3] / B03 [PA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	47.37	51.28	[3.91]	15.2881	0.29813
Medial	42.11	38.46	[3.65]	13.3225	0.34640
Final	10.53	10.26	0.27	0.0729	<u>0.00710</u>
				$\chi^2$ statistic =	0.65163

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

 $\chi^2$  Goodness-of-Fit Test : B56 [PA3] / B03 [PA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	47.37	51.28	[3.41]	11.6281	0.22676
Final	10.53	10.26	[0.23] = 0	0000	<u>00000</u>
				$\chi^2$ statistic =	0.22676

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : B29 [PU2] / B50 [PU] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B29 [PU2] / B50 [PU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	88.89	31.25	57.14	3264.9796	104.47935
Final	11.11	6.25	4.36	19.0096	<u>3.04154</u>
				$\chi^2$ statistic =	107.52089

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : B76 [RA2] / B60 [RA] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B76 [RA2] / B60 [RA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	40.00	57.95	[17.45]	304.5025	5.25457
Final	60.00	27.27	32.23	1038.7729	<u>38.09215</u>
				$\chi^2$ statistic =	43.34672

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : B66 [TA2] / B59 [TA] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B66 [TA2] / B59 [TA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	50.00	34.95	14.55	211.7025	6.05730
Final	50.00	42.72	6.78	45.9684	<u>1.07604</u>
				$\chi^2$ statistic =	7.13334

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : B56 [PA3] / B03 [PA] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B56 [PA3] / B03 [PA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	50.00	42.11	7.39	54.6121	1.09224
Final	50.00	10.53	38.97	1518.6609	<u>30.37323</u>
				$\chi^2$ statistic =	31.46546

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$



## 15. Chi Square Calculations

- Test Series Fifteen -

 $\chi^2$  Goodness-of-Fit Test : B29 [PU2] / B50 [PU] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B29 [PU2] / B50 [PU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	77.78	62.50	14.78	218.4484	3.49517
Medial	22.22	34.38	[11.66]	135.9556	<u>3.95450</u>
				$\chi^2$ statistic =	7.44967

Therefore  $H_o$  accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : B76 [RA2] / B60 [RA] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : B76 [RA2] / B60 [RA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	61.11	66.86	[5.25]	27.5625	0.41224
Final	38.39	20.93	16.96	287.6416	<u>13.74303</u>
				$\chi^2$ statistic =	14.15527

Therefore  $H_o$  rejected at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$  $\chi^2$  Goodness-of-Fit Test : B66 [TA2] / B59 [TA] : n/a at d.f. = 2 or d.f. = 1



## 16. Chi Square Calculations

## - Test Series Sixteen -

 $\chi^2$  Goodness-of-Fit Test : A20 / A32 [YA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	25.00	28.07	[3.07]	9.4249	0.33576
Medial	25.00	27.19	[2.19]	4.7961	0.17639
Final	50.00	44.74	5.26	27.6676	<u>0.61841</u>
				$\chi^2$ statistic =	1.13056

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 2 ;  $\chi^2 = 5.99147$

 $\chi^2$  Goodness-of-Fit Test : A20 / A32 [YA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	25.00	28.07	[2.57]	6.6049	0.23530
Medial	25.00	27.19	[1.69]	2.8561	<u>0.10504</u>
				$\chi^2$ statistic =	0.34034

Therefore  $H_o$ , accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A41 / A26 [NA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	6.67	10.00	[3.33]	11.0889	1.66250
Medial	60.00	43.33	16.67	277.8889	4.63148
Final	33.33	46.67	[13.34]	177.9556	<u>5.33920</u>
				$\chi^2$ statistic =	11.63318

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A41 / A26 [NA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	6.67	10.00	[2.83]	8.0089	1.20073
Medial	60.00	43.33	16.17	261.4689	<u>4.35782</u>
				$\chi^2$ statistic =	5.55855

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A79 / A30 [DA] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	66.67	48.67	18.00	324.0000	6.65708
Medial	25.00	37.17	[12.17]	148.1089	3.98463
Final	16.67	14.16	2.51	6.3001	<u>0.44492</u>
				$\chi^2$ statistic =	11.08663

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

 $\chi^2$  Goodness-of-Fit Test : A79 / A30 [DA] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	25.00	37.17	[11.67]	136.1889	3.66395
Final	16.67	14.16	2.01	4.0401	<u>0.28532</u>
				$\chi^2$ statistic =	3.94927

Therefore  $H_o$ , accepted at  $\alpha = .005$  ; d.f. = 1 ;  $\chi^2 = 7.87944$

 $\chi^2$  Goodness-of-Fit Test : A80 / A52 [A] :

	fo	fe	fo - fe	(fo-fe) sq	(fo - fe) sq / fe
Initial	66.67	82.25	[15.58]	242.7364	2.95120
Medial	11.11	10.48	0.63	0.3969	0.03787
Final	22.22	7.25	14.97	224.1009	<u>30.91049</u>
				$\chi^2$ statistic =	33.89956

Therefore  $H_o$ , rejected at  $\alpha = .005$  ; d.f. = 2 ;  $\chi^2 = 10.5966$

## 16. Chi Square Calculations

## - Test Series Sixteen -

 $\chi^2$  Goodness-of-Fit Test : A80 / A52 [A] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Initial	66.67	82.25	[15.08]	227.4064	2.76482
Medial	11.11	10.48	0.13 = 0	0000	<u>00000</u>
				$\chi^2$ statistic =	2.76482

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A88 / A25 [NU] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A88 / A25 [NU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	66.67	60.00	6.17	38.0689	0.63448
Final	33.33	30.00	2.83	8.0089	<u>0.26696</u>
				$\chi^2$ statistic =	0.90144

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$

 $\chi^2$  Goodness-of-Fit Test : A65 / A68 + A96 [YU] : n/a at d.f. = 2 $\chi^2$  Goodness-of-Fit Test : A65 / A68 + A96 [YU] :

	fo	fe	[fo - fe] -.5	[(fo-fe) -.5] sq	[(fo - fe) -.5] sq / fe
Medial	57.14	57.89	[0.25] = 0	0000	00000
Final	42.86	36.84	5.52	30.4704	<u>0.71093</u>
				$\chi^2$ statistic =	0.71093

Therefore  $H_0$  accepted at  $\alpha = .05$  ; d.f. = 1 ;  $\chi^2 = 3.84146$