



Observations on the Sign-Grouping and Vocabulary of Linear A

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Observations on the Sign-Grouping and Vocabulary of Linear A*

GREGORY NAGY

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BIBLIOGRAPHICAL ABBREVIATIONS

- Bechtel, *GD* I, II = F. Bechtel, *Die griechischen Dialekte* I, II (Berlin 1921, 1923)
Brice, *ILA* = W. C. Brice, *Inscriptions in the Minoan Linear Script of Class A* (Oxford 1961)
Chadwick, *Decipherment* = J. Chadwick, *The Decipherment of Linear B* (New York 1960)
Chantraine, *GH* I = P. Chantraine, *Grammaire homérique* I³ (Paris 1958)
Frisk, *GEW* = Hj. Frisk, *Griechisches etymologisches Wörterbuch* (Heidelberg 1954ff)
Furumark, *MP* = A. Furumark, *The Mycenaean Pottery: Analysis and Classification* (Stockholm 1941)
GDI = *Sammlung griechischer Dialektinschriften*, ed. H. Collitz *et al.* (Göttingen 1884-1915)
“GE” = G. Nagy, “Greek-like Elements in Linear A,” *GRBS* 4 (1963) 181-211
Hoffmann, *GD* I = O. Hoffmann, *Die griechischen Dialekte* I (Göttingen 1891)
IC = M. Guarducci, *Inscriptiones Creticae* I-IV (Rome 1935-50)
IG = *Inscriptiones Graecae* (specific vol., ed., to be cited *ad loc.*)
Masson, *ICS* = O. Masson, *Les inscriptions chypriotes syllabiques* (Paris 1961)
Minoica = E. Grumach, ed., *Minoica. Festschrift zum 80. Geburtstag von Johannes Sundwall* (Berlin 1958)
Palmer, *MGT* = L. R. Palmer, *The Interpretation*

* The valued counsel of Profs. Sterling Dow, Calvert Watkins, Maurice Pope is gratefully acknowledged; also that of Prof. Fred W. Householder (*per litteras*). Profs. Dow and Watkins helped me along in the linked work “GE” too, as did Profs.

- of Mycenaean Greek Texts* (Oxford 1963)
Peruzzi, *IM* = E. Peruzzi, *Le iscrizioni minoiche* (Florence 1960)
Pugliese Carratelli, *EHT* = G. Pugliese Carratelli, *Le epigrafi di Hagia Triada in Lineare A* (Suplementos a *Minos*, Núm. 3: Salamanca 1963)
Schwyzer, *DGE* = E. Schwyzer, *Dialectorum Graecarum exempla epigraphica potiora* (Leipzig 1923)
Thumb, *GD* = A. Thumb, *Handbuch der griechischen Dialekte* (Heidelberg 1909)
Thumb-Kieckers, *GD* I² = A. Thumb and E. Kieckers, *Handbuch etc.* (Heidelberg 1932)
Thumb-Scherer, *GD* II² = A. Thumb and A. Scherer, *Handbuch etc.* (Heidelberg 1959)
VC = M. Ventris and J. Chadwick, *Documents in Mycenaean Greek* (Cambridge 1956)
Vilborg, *GMG* = E. Vilborg, *A Tentative Grammar of Mycenaean Greek* (Göteborg 1960)

OTHER ABBREVIATIONS

- AC = the dialectal group of Arcadian and Cypriote
HT = Hagia Triadha (more properly, Ayia Triadha)
IE = Indo-European
KN = Knossos
L+number = conventional designation of simple Linear A sign
Lc+number = conventional designation of ligatured Linear A sign
MY = Mykenai
N = name
PY = Pylos
 Σ = scholion/scholia
*+number = conventional designation of simple Linear B sign
Word-separating dots transcribable as “,” are not as a rule indicated in this work, but they are dis-

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cussed wherever doubt arises about reading, e.g.,
 “*io*” or “,”
 $\Lambda-\Omega = Iliad$ I-XXIV
 $a-\omega = Odyssey$ I-XXIV

INTRODUCTION

In the article “GE,” an attempt was made to isolate and define correspondences of sign-groups in Linear A and B. The following assignments of B phonetic values to A signs were possible on the basis of both (1) similar or identical A/B distribution in sign-groups and (2) similar or identical A/B shape: $2=pa$ $6=tu$ $25=nu$ $26=na$ $29=ka$ $30=da$ $31=sa$ $32=ja$ $51=di$ $52=a$ $53=ra$ $54=re$ $55=ru$ $56=pi$ $58=ra_2$ $59=su$ $60=ni$ $62=qa$ $74=ta$ $75=wa$ $76=mi$ $77=se$ $86=ta_2$ $87=o$ $91=qe$ $92=te$ $93=du$ $95=ma$ $97=u$ $98=ku$ $102=de$ $103=ki$ (elsewhere, L is to be prefixed throughout to the number denoting the Linear A sign). On the sole basis of similar or identical A/B shape, these additional assignments were offered: $22=ro$ $23=za$ $24=ke$ $27=mu$ $34=pu_2$ $39=to$ $45=k_0$ $64=pu$ $84=me$, and with less certainty, $57=ne$ $78=ti$ (also used in this work, for transcriptional convenience and not for interpretational arguments, are $21=po$ $81=je$). On the primary evidence of identical A/B distribution in sign-groups, $72a=we$ $72b=ri$ $100a=no$ $100b=i$ could be added; the B shape-approximations are close in these cases, but the a/b differentiations in L₇₂ and L₁₀₀ are minute. Although the contrast between the shapes of the proposed *ri* and *we* in A seems clear (“GE” 186), the precise shape-distinction of *i* from *no* is yet to be worked out; the point of departure surely must be the apparent juxtaposition of the two on the same tablet, in the sign-group L₁₁₄-L_{100b}-L_{100a} of HT 43.2 (“.2” indicates line 2; “HT,” the provenience). Unless specifically indicated, all other signs of the Linear A syllabary will simply be transcribed as L+number.

How far can one go in interpreting the sound-patterns that emerge from transcriptions of Linear A texts? For an answer, the evidence of Linear B should be considered. It must be observed that the difference between a syllabary such as B and, say, an alphabet, lies mainly in that any alphabet is—to a greater or lesser extent—an attempt at phonemic writing. This entails the existence of certain component parts that *by themselves* cannot be physically reproduced, as is the case with *p*, for example: in trying to pronounce it, one must add a vowel or at least an aspiration. Hence, an alphabet

entails abstraction. Even in syllabaries like that of Linear B, however, with its producible, non-basic component parts, there is also a tendency towards abstraction—only here it entails loss of the integral precision of any given syllable-sign. All that the individual component parts of a sign-group in Linear B will tell the reader is the general character of the initial consonant in each syllable, plus the general character of the following vowel. Thus for example the Linear B sign *₁₁, phonetically transcribed as [po], covers the following Greek phonemes: [p] = /p/, /b/, /pʰ/; [o] = /o/, /ō/, and often /oi/, /ōi/. Here too is abstraction, for all that *₁₁ *by itself* tells the reader is that it involves a simple labial stop plus an *o*-colored vowel or diphthong. What is more, syllable codas (or closing consonants and resonants) are omitted in Linear B, except for *w*, *n* (rarely *r-l*) before *w*, and cases of consonant-clusters which can occur at the beginning of a word; in the latter instance, an empty vowel (again, loss of precision) identical to the following one has to be introduced after the first component of the cluster. Thus the various phonemic combinations inherently attached to the Linear B grapheme *₁₁=*po* (these are listed above, and are now to be symbolized by the cover-symbol PO) must *also* include the following: PO + *l*, *r*, *m*, *n*, *s*, *j*, or any stop in clusters (including geminates) which cannot be initial. The specific rule as given here was formulated by F. W. Householder (“A Morphophonemic Question and a Spelling Rule,” *Mycenaean Studies*, ed. E. L. Bennett [Madison 1964] 73-74), who concluded: “The omission of all syllable closing consonants, including stops, is not, incidentally, by any means a unique phenomenon in syllabic scripts; this is in fact the case with both Eskimo and some of the Philippine syllabaries as they were ordinarily used, though both provided machinery for writing these consonants if anyone so desired.” This typological parallel again illustrates the loss of integral precision in any given syllable-sign, and even more important, the fact that a writing system does not necessarily bear an apparent organic relation to the language it approximates—which 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, as will be seen throughout this work, transcends phonemes, morphology, and even syntax.

From the evidence of similar or identical A/B distribution in sign-groups and similar or identical A/B shapes of specific signs, it can be seen that the scribal traditions of Linear A and B are genetically related. Analysis of the texts of the former can therefore be successful only if accompanied by constant scrutiny of the latter. A most important factor in this regard is that the Linear B symbols for wine, wheat, figs, olives, barley (transcribed VINUM, GRANUM, FICUS, OLIVAE, HORDEUM), and others later discussed, look exactly (or almost exactly) like their counterparts in Linear A ("GE" 188, 193). Hence in a Linear A tablet such as HT 102, a great deal can be known about its contents, even before any speculation about the language involved in the text, what with its commodity-symbols, its whole numbers and fractions, and the computation of the total of these numbers at the end (preceded by the sign *ku-ro*, which regularly designates totals in Linear A texts). The primary control, then, over one's observations on the sign-grouping and vocabulary of Linear A, can and must be context. As accessible background for the study of this difficult script, I cite S. Dow, "Minoan Writing," *AJA* 58 (1954) 77-129, and M. Pope, *Aegean Writing and Linear A* (Lund 1964).

I. SIGN-GROUPS INVOLVING COMMODITIES

1. *The context of ka-pa in HT 102.1; comparison with ka-pa in Linear B.* The heading on HT 102 reads *ka-pa*, followed by *sa-ra₂* and then a list of commodities, each with its respective amount. Conspicuous is the predominance of GRANUM=wheat, so that the general context suggests that this tablet deals with an inventory of grain.

1. *ka-pa sa-ra₂* GRANUM 9-
2. -76 Li-ni GRANUM+pa 33 i-
3. -L126a GRANUM + pa 33 di-we-na ma-
4. -za 3 L28 10 i-ka 5
5. *ku-ro* 1060

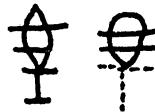
textual notes: 1-2: the number 976 is carried over from line 1 to 2.

iff: L₄₂ = GRANUM; the identical Linear B

sign is *120, the designation of which as wheat or "GRANUM" can be applied to L₄₂. See "GE" 188 (fig. 5), 193.

3: for the proposed distinction (on the basis of shape) between *ri* and *we*, see "GE" 185-186; the former and the latter, paralleled by *53 and *75 in Linear B, are classified L₇₂ and L₉₄ respectively by Pugliese Carratelli (*EHT* 82, 84). They even seem to occur on the same tablet, HT 10: thus *da-we-da* in a.5 and *ta-ri-na* in b.1-2; furthermore, Pugliese Carratelli transcribes *da-we-da* in his *EHT* facsimiles as L₃₀-L₉₄-L₃₀ throughout.

4: I read L₃ as a variant of L₂₃=za, since L₃ and L₂₃ are alike in shape except for two additional horizontal lines across the former (see ill. 1). On the same basis, *ma-L₃* in HT 6a.3 can be read *ma-za* (see again ill. 1); cf. also *ma-L₃* in HT 97a.6.



ILL. 1:1



ILL. 1:2

- 1: L₃, as in HT 6a and HT 102
2: L₂₃, as in HT 85a and HT 88

On the doubtful aspects of reading the amounts on this tablet, I follow Peruzzi, *IM* 81; most important is that the dot after *di-we-na* in line 3 is probably to be read as designating not 10 but rather a word-divider; the sure reading of +60 in the total 1060 helps ascertain the readings +3, word-divider, and 10 in lines 2, 3, and 4 respectively.

On the basis of not only the context as specified by GRANUM and GRANUM+pa (bis) but also the fact that *ka-pa* is the first word, it might be assumed that the latter sign-group is an introductory rubric which is meant to indicate in some way that the tablet HT 102 involves a check-list of commodities. Now Linear A *ka-pa* resembles Linear B *ka-po* as the latter is found in KN F 841.5-6: *ka-po e-[ra]-wa* OLIVAE 46. Here the group *ka-po e-[ra]-wa* probably equals *καρποὶ ἐλαιῆς* (see VC 395) or *καρποί·ἐλαιάς*. Furthermore, there is also a Linear B *ka-pa*, which not only is identical, at least in form, with the Linear A *ka-pa*, but also has a context very similar to that of its apparent

counterpart: thus the Linear B *ka-pa* is actually prefixed to GRANUM[---] in KN E 71 and to OLIVAE 7 in PY Un 138.5. It follows, then, that the Hesychian gloss *κάρπη·τὰ σπέρματα* (i.e., "seeds, grain, produce") matches the context both of *ka-pa* in Linear B and, at least in HT 102, of *ka-pa* in Linear A. (This was first proposed in "GE" 207.) Cf. also the "Aristarchean gloss" *καρπὸν ἔδονσιν* [Z 142] · *σῖτον ἐσθίοντιν*.

addendum: The definition *σπέρματα* (not *σπέρμα*) might suggest an -es- stem in the neuter plural: thus *κάρπη* from **kárpēa*. That the tentative **karpea* should be spelled *ka-pa* could possibly have parallels in Linear B, as for instance *wo-ka*, which on the basis of the tablet PY Sa 753 has been proved (Chadwick and Palmer, among others, assent) to be the standard Linear B word for "chariot" (see Palmer, *MGT* 324; also Chadwick, *Decipherment* 150). Now the standard Homeric word for the same is *όχεα* (E 745, etc.; from *όχος*), which is an -es- neuter plural. If, then, *wo-ka* could be read as representing **wokhea*, one would have to formulate a new optional spelling rule for Linear B (on the basis of the Homeric evidence), stated thus: in Linear B spelling, the vowel-combination *ea*, even in -es-stems, can be approximated by *a*. Cf. also the apparent consonantization of *e* before *a* and *o* (in the spelling, at least), as might be evidenced by such lexical items as *su-za* (= *sukea?*), *ka-za* (= *khalkeia?*), *po-pu-ro₂* (= *porphureo?*), etc., q.v. in Vilborg, *GMG* 51. Cf. also "GE" 204. Else, one can posit **foxā* for *wo-ka* and, similarly, **karpā* (hence feminine "κάρπη") for *ka-pa*; for **foxā*, see Palmer, *MGT* 324.

2. *The difficult context of ka-pa in HT 8b.3.* Still to be discussed are the other occurrences of the sign-group *ka-pa*. One tablet in which its above-positored meaning of *κάρπη* = "commodities" does not seem at first to hold is HT 8b:

- 1. *su-pu₂-ka* 1

- 2. 5 *L1+o* 2 *qa-L63-*
- 3. -i $1\frac{3}{8}$ *ka-pa* $\frac{1}{2}$
- 4. *pa-ja-re* $1\frac{1}{8}$ *L35+o* $\frac{1}{2}$
- 5. $\frac{1}{2}$

textual notes: The numerical equivalents of the Linear A fraction-signs have been analyzed by E. L. Bennett, "Fractional Quantities in Minoan

Bookkeeping," *AJA* 54 (1950) 204-222. The ones relevant here are as follows: $Lm9=\frac{1}{2}$ $Lm2=\frac{1}{8}$ $Lm4=\frac{3}{8}$.

E. Peruzzi (*IM* 80) reads *qa-L63-no* instead of *qa-L63-i* in lines 2-3.

The horizontal line running between the textual lines 1 and 2 was drawn by the scribe to indicate that line 1 is to be read as the continuation of side a, and does not belong to side b; see Brice, *ILA* 7; Bennett indicates this separation with the symbol ¶ (*AJA* 54 [1950] 207).

As for the context, it is advisable to start with recognizable forms. E. Peruzzi has observed ("Appunti sull' iscrizione HT 6a," *Minos* 8 [1963] 8) that *pa-ja-re* in line 4 is probably N, since in Linear B there is a N *pa-ja-ro* (as in KN As 1519.6); furthermore, *pa-ja-re* occurs in a list of Ns on HT 88 (line 4; among those listed are two persons by the N of *ku-Li-nu*). Another item in HT 8b, *qa-L63-i* in lines 2-3, recurs in another list of Ns, on HT 122a (line 4; on this tablet too, there are two persons listed, in lines 6 and 7, whose N is *ku-Li-nu*). Thus in the separate text of HT 8b.2ff, one might at first conclude that on the basis of the established contexts of *pa-ja-re* and *qa-L63-i*, the other sign-groups *L1+o*, *ka-pa*, and *L35+o* should also be interpreted as Ns. Yet, an alternate possibility becomes apparent from a re-examination of the items and their corresponding numbers. Now the text begins with a number instead of an item or even a heading, so that the correspondences may be interpreted as follows:

- A. 5 *L1+o*
- B. 2 *qa-L63-i*
- C. $1\frac{3}{8}$ *ka-pa*
- D. $\frac{1}{2}$ *pa-ja-re*
- E. $1\frac{1}{8}$ *L35+o*
- F. $\frac{1}{2}$ $\frac{1}{2}$

That the arrangement is really number+item instead of item+number seems assured by the proportions that thus emerge. It happens that numerically, 5 *L1+o* is to 2 *qa-L63-i* what $1\frac{3}{8}$ *ka-pa* is to $\frac{1}{2}$ *pa-ja-re*; thus A:B = C:D. In other words, there is a neat correspondence of 5:2 with 11:4, and these two ratios seem too close to be coincidental. For a parallel, cf. E. L. Bennett (*AJA* 54 [1950] 207-208):

The inscription HT 9a [see Pugliese Carratelli, *EHT* 7] would read (the letters A-G are arbi-

trarily substituted for the sign-groups): A $5\frac{3}{4}$, B 10, C 4, D 2, E $2\frac{1}{2}$, F $2\frac{1}{2}$, G $4\frac{1}{4}$ (which together make 31) = the written total $31\frac{3}{4}$. The sign-groups on the reverse are the same, though ill-preserved and in a different order, and the numbers with them are roughly in proportion. The reverse, HT 9b [*EHT* 7 again], would read, beginning in line 2, second sign-group: A 3[+1], G 3, B 8, E 2, D [1], F 2, C 4 = total 24. The proportion of the total of face a to face b is roughly 5:4, which is precisely that of B 10:8, E and F $2\frac{1}{2}$:2, and only roughly that of A $5\frac{3}{4}$:4, C 4:4, G $4\frac{1}{4}$:3, and D 2:1.

What is more, still other kinds of proportions can be deduced for Linear A texts on the basis of a graffito on wall plaster at HT (inscription V 8 in *ILA*) which reads thus: 1 $1\frac{1}{2}$ $2\frac{1}{4}$ $3\frac{3}{8}$. As Brice (*ILA* 8) summarizes, this is a geometrical progression wherein each number equals $1\frac{1}{2}$ times the preceding one. M. Pope, in a paper for the University of London Institute of Classical Studies (Minoan Linear B Seminar, minutes of meeting of 30/10/57, §3), has cogently shown how the formula of this geometrical progression may well have served as a scribal "ready-reckoner" with which one could for instance calculate 95% of any number: 1) take $\frac{1}{5}$ of the number; 2) multiply this by 1, $1\frac{1}{2}$, and $2\frac{1}{4}$, the first three members in the geometrical progression of graffito V 8; 3) add the three products. (Cf. the discussion by M. Pope, in the important article "The *Cretulae* and the Linear A Accounting System," *BSA* 55 [1960] 200-210.) That there is a motivation for finding 95% of some amount can be illustrated from the tablet under discussion: the sum of the numbers in HT 8a-b.1 (the relevant text ends with the scribe-drawn line under b.1) is actually $9\frac{1}{2}$ ($1\frac{1}{2} + 3\frac{1}{2} + 2 + \frac{3}{4} + \frac{1}{4} + \frac{1}{2} + 1$), whereas the heading (a.1) had read *je-di Lc15* 10. Also, in the text of HT 8b.2ff, the postulated sets of number+item are followed at the end by the notation $\frac{1}{2} \frac{1}{2}$ (the second $\frac{1}{2}$ is entered separately on line 5), which may well have a compound meaning, one of the references being perhaps to the $9\frac{1}{2}$ of the text that started on the obverse; in any case, $\frac{1}{2}$ is 5% of 10. (For other examples in Linear A of amounts equaling to 95% of a round number, cf. 95 in lines 2-3 of KN IV 1b and 570 in line 3 of HT 15; see also the discussion by Brice, *ILA* 8.) As for the arrangement of number+item in this text, it might be well to consider

the negative aspect: if one were to interpret HT 8b.2ff as being in the order of item+number, the following difficulties would arise:

1) 5 in line 2 would be without an item and thus would have to be considered a total of the other numbers.

2)—that is, a total of the other numbers *except* $\frac{1}{2} \frac{1}{2}$; and yet, there seems to be no motivation for this exception, since $\frac{1}{2} \frac{1}{2}$ would also be preceded by an item, L35+o.

3) one has to assume that 5 is a total even though it occurs first and is not prefixed by *ku-ro* or by any heading at all; it was quite the opposite case with 10 in HT 8a.1, with its prefixed heading *je-di Lc15*.

4) there is no proportion among the numbers 2, $1\frac{3}{8}$, $\frac{1}{2}$, $1\frac{1}{8}$; 5 would not be itemized but would serve as total.

5) a total of 6 vs. the expected 5 in HT 8b.2ff is not directly comparable to $9\frac{1}{2}$ vs. the expected 10 in HT 8a.1ff, since the latter involves 5% and 95% while the former does not.

For all these negative reasons, it remains the likelier alternative to interpret HT 8b.2ff as following the pattern illustrated above in ABCDEF, with the basic order being number+item. Now it has already been seen that on the numerical basis, there is a relation here that can be designated A:B = C:D. Furthermore, it has also been shown on external evidence that the sign-groups *qa-L63-i* of set B and *pa-ja-re* of set D are Ns. But since the numerical proportions show the slots of B and D to be in the pattern A:B = C:D instead of A:B:C:D, it can be seen on this internal evidence that *Li+o*, *ka-pa*, and *L35+o* need not necessarily be Ns. Since *ka-pa* elsewhere fits the context of a designation for commodities, one could try to interpret HT 8b.2ff on the assumption that these three sign-groups in A, C, and E are designations of commodities, and that only *qa-L63-i* (in B) and *pa-ja-re* (in D) are Ns. The analysis of ABCDE would then be as follows (the relevance of $\frac{1}{2} \frac{1}{2}$ in this arrangement is discussed further below):

- A. 5 measures of *Li+o* commodities
- B. 2 measures for/from *qa-L63-i*
- C. $1\frac{3}{8}$ measures of *ka-pa* commodities
- D. $\frac{1}{2}$ measure for/from *pa-ja-re*
- E. $1\frac{1}{8}$ measures of *L35+o* commodities

In accordance with this scheme, the type of com-

modities in B is understood to be the *same* as in A; otherwise, it would have been named. On the other hand, the 5 measures in A and the 2 measures in B must concern two *different* parties, since the one involved in A (the palace-representative?) is understood, while that in B, *qa-L63-i*, is specifically named; otherwise, there would have been no sense in setting off 5 and 2 instead of listing them together as 7 + the commodity + the party involved (if the latter is not already understood). Thus if the parties in A and B are different, it follows that the 2 measures in B must be a part of the 5 measures in A, rather than any additional amount; otherwise, the type of commodity would have to be repeated in B *besides* the specification of the different party. By the same reasoning, C and D also involve 1) different parties and 2) the same type of commodity (in this case *ka-pa*). And the unnamed party in C must be the same as in A; also, the $\frac{1}{2}$ measure in D must be a part of the $1\frac{3}{8}$ measure in C. Possibly, then, the parties *qa-L63-i* and *pa-ja-re* subtract, not add, so that one may supplement the interpretational expression "for/from" with "for." And this is the maximal interpretation of HT 8b.2ff from the minimal evidence of 1) that *qa-L63-i* and *pa-ja-re* = Ns and 2) that *ka-pa* designates commodities elsewhere in Linear A. The additional assumption that the order is number+item had been based primarily on the numerical proportion in A:B = C:D. But the working hypothesis seems justified by the other numerical relationships that emerge from this arrangement:

1) minus the participation of *qa-L63-i* and *pa-ja-re*, the total amount of L₁+o and *ka-pa* is $3\frac{7}{8}$ measures.

2) the L₃₅+o commodities in E amount to $1\frac{1}{8}$ measures, which when added to the above $3\frac{7}{8}$ measures equals exactly 5. It is as if this fifth, seemingly unmatched element in E were meant to complement the $3\frac{7}{8}$ measures.

3) *qa-L63-i* gets $\frac{5}{8}$ of the L₁+o; *pa-ja-re* gets $\frac{1}{2}/1\frac{3}{8} = \frac{4}{11}$ of the *ka-pa*; this is now a more refined reinterpretation of the originally-stated A:B = C:D correspondence. This proportion seems comparable to the $\frac{4}{5}$ involved in HT 9 (as discussed by E. L. Bennett, quoted above).

4) *pa-ja-re* gets exactly $\frac{1}{4}$ what *qa-L63-i* gets; is this an indication of rank? Cf. the tricolumnar ratio 16:4:1 involved in HT 123+124, as discussed

by Bennett (*AJA* 54 [1950] 208-209).

5) Since this text HT 8b.2ff seems to be based on the sequence number+item, the notation $\frac{1}{2} \frac{1}{2}$ in F is all by itself. Perhaps there is a reference in this to the fact that when the $3\frac{7}{8}$ measures are complemented by $1\frac{1}{8}$ more to make exactly 5, the latter amount is $\frac{1}{2}$ of the introductory number in the heading of HT 8a.1, *je-di Lc15* 10. But since this notation is $\frac{1}{2} \frac{1}{2}$, not $\frac{1}{2}$, there might also be some reference to the fact that the sum of the amounts in HT 8a-b.1 is $9\frac{1}{2}$, although the heading had indicated 10. Perhaps the text of HT 8b.2ff is a smaller-scale breakdown of the components in the missing $\frac{1}{2}$ of HT 8a-b.1. Thus the text of HT 8b.2ff may involve the analysis of a 5% rate of interest. Significantly, the Lc15 of the heading in HT 8a.1 can be interpreted as OLEUM+*ki* from the evidence of Linear B (for L89=OLEUM=*130, see VC 35 and Peruzzi, *IM* 86-88). Thus the sign-group *ka-pa*, for instance, could even possibly refer to OLIVAE in this text.

In conclusion, the evidence of HT 8 shows that *ka-pa* in line 3 (side b) is not necessarily a N; rather, it could plausibly be a designation for some commodity, as it is elsewhere in both Linear A and B.

3. *The combination ka-pa da-ta-ra te; uses and parallels of da-ta-ro/-ra.* The text of HT 6a apparently involves a list of commodities in various states and forms; among those listed are FICUS (line 2), *ja+ru* (line 3; vertically written, possibly *ru+ja* instead: cf. *ru-ja* in III 17 of the Bâle collection, for which see H. Mühlstein, "Ein Linear-A-Dokument," *Minos* 6 [1958] 7-8, Abb. 1-3), *ma-za* (line 3; this sign-group is fully discussed in sections I.7-10), *qe-pi-ta* (line 6), and FICUS (line 7; unless $\frac{3}{4}$ FICUS is to be read instead as *po-ni*). Significantly, the heading reads *ka-pa da-ta-ra te* (the photograph of HT 6a in *ILA* shows a faint word-separating dot between *ka-pa* and *da-ta-ra*; thus these two are not to be read together as one word), which might be interpreted *κάρπη·δαιτρά τῆ* "commodities: the portions at hand" (first proposed in "GE" 206-207). From these three lexical items *ka-pa*, *da-ta-ra*, and *te*, the first to be selected for contextual discussion is *ka-pa*. Since this sign-group is the rubric for the list of commodities in HT 102, it was seen that its apparent meaning in at least that one tablet seems to correspond with

the Hesychian entry “κάρπη.” That there is this correspondence between *ka-pa* and “κάρπη” now seems further assured contextually by the list of commodities in HT 6a. Even more, this tablet’s arrangement provides additional confirmation, as can be seen from its analysis by E. Peruzzi (“Appunti sull’ iscrizione HT 6a,” *Minos* 8 [1963] 7-14). The relevant text (lines 4-8; allowance should be made for the above-mentioned tentative reading of FICUS) reads as follows:

L4-ra ₂ -di-L6I	2
<i>ka-pa-qe</i>	5¾
<i>da-qe-ra qe-pi-ta</i>	22¾
FICUS	15½

First of all, Peruzzi interprets *qe-pi-ta* as a form of what was known in classical Greek as τέρμινθος/τερέμινθος/τερέβινθος/τρέμιθος/ etc., = *Pistacia terebinthus*: Linnæus. Secondly, the entry *ka-pa-qe* 5¾ is followed by an apparently new heading (or sub-heading) *da-qe-ra*. The photograph of HT 6a in *ILA* shows that Peruzzi’s interpretation must be correct, since there is no number after *da-qe-ra*, but rather, a word-separating dot. What is very significant in this is that *ka-pa-qe* 5¾ is thus the last item+number of the original list of commodities under *ka-pa da-ta-ra te*. This would complement my contention (“GE” 207f) that *ka-pa-qe* serves as a resumptive from the heading *ka-pa* in line 1: in other words, *ka-pa-qe* in line 4 could be interpreted as “κάρπη” + the particle *τε* (-qe in Linear B; thus apparently in Linear A too). That -qe should be used in Linear A as a connective can be a crucial argument for Greek elements in Linear A, and it is well to note this here. The scribe seems to have entered the item+number *ka-pa-qe* 5¾ in order to indicate additional, miscellaneous “κάρπη” which he did not itemize component by component in the inventory, though he did do so in the case of FICUS, *ja+ru*, *ma-za*, etc. Furthermore, the sum of the numbers preceding *ka-pa-qe* 5¾ is 51½ measures (if Lm24 in line 3 equals ½; in any case, the sum involved is 51+fraction), and the former is very close to 10% of the latter.

Second to be discussed in the group *ka-pa da-ta-ra te* is the element *te*, which has been connected with the Homeric *τῆ voici* (“GE” 202). That the use of the latter in Epic is restricted to the context of imperatives is probably due to its being an archaic expression frozen in the Homeric corpus for formulaic exigencies. In any case, the basic

meaning of *τῆ* is “here” (cf. Lithuanian *tè* “there”). A compound form *τῆδε* “here” is attested in Doric (e.g., Megara [5th cent. B.C.], q.v. in *DGE* 148) and Ionian inscriptions (e.g., Eretria [6th cent. B.C.], q.v. in *Inscriptiones Euboeae*, ed. E. Ziebarth in *IG XII fasc. 9* [1915] 285.5). The circumstance that *te* is used in the HT tablets as a transaction-sign in headings (usually placed directly before the actual list introduced by the heading, as is the case with *ka-pa da-ta-ra te*; see Brice, *ILA* 5-6) means that its context is suitable for *τῆ* (“here, on hand,” etc.). Of course, the ē in *τῆ* is Common Greek (thus never *rā), and it is probably a vestige of the IE instrumental (see Chantraine, *GH* I 249).

Third to be discussed in the group *ka-pa da-ta-ra te* is the element in the middle, which has been connected with δαιτρά (“GE” 206f; it should be noted that diphthongs in -i, that is, *ai*, *ei*, *oi*, are generally spelled -a-, -e-, -o- in Linear B; see Vilborg, *GMG* 34-35, where exceptions and variations are also discussed). Now this noun is attested in the Homeric corpus; thus in Δ 261-262:

εἴ περ γάρ τ' ἄλλοι γε κάρη κομόωντες Ἀχαιοὶ δαιτρὸν πίνωσι . . .

The word δαιτρόν means “one’s portion” and is derived from δαί-ννμι/δαί-ομαι (“divide, apportion,” etc.), as are also δαίς, -tós (“one’s portion”: Ο 95, etc.), δαίτη (“banquet”: γ 44, etc.), δαίτυς (“banquet”: X 496), δαῖσις (“division of property”: IV 25 and V 47 of the Gortynian Code [IC IV 72]), etc. Attested in Linear B are *e-pi-da-to* (PY Jn 389.7) and *e-pi-de-da-to* (PY Vn 20.1), possibly representing *epi-daitos* “distributed” and *epi-dedaitoi* “it has been distributed,” both from δαίομαι; cf. M. Lejeune, *Mémoires de philologie mycénienne* I (Paris 1958) 226. There is also a N *e-u-da-i-ta* (KN Dl 47.1), which is discussed briefly in sections III.4 and III.5: possibly to be interpreted *Ἐνδαιτράς. Furthermore, the meaning of δαιτρόν fits the context of HT 6a with respect to both the list of commodities and the constituent elements *ka-pa* and *te*, so that the already-stated interpretation of *ka-pa da-ta-ra te* as κάρπη · δαιτρὰ τῆ seems highly plausible.

A variation of *da-ta-ra* is evident in the heading of HT 116a: *da-ta-ro te*. Under this rubric are itemized six different portions of GRANUM (lines 1, 2, 3, 4, 6, 7), two of HORDEUM (lines 6, 7; for L67=HORDEUM, see “GE” 193 and fig. 5), five of OLEUM (lines 2, 3bis, 5bis; for L89=OLE-

UM, see VC 35 and Peruzzi, *IM* 86-88), and two of OLIVAE (lines 4, 5; for L49=OLIVAE, see VC 35 and “GE” 193 and fig. 5). Then on the reverse, HT 116b, the total amount is entered for the GRANUM, HORDEUM, and OLEUM. Thus here again, the context of *da-ta-ro te* would match the meaning of δαιτρὸν τῆ or δαιτρῶν τῆ. The one difficulty in proposing *da-ta-ro* as the approximation of δαιτρόν/-ῶν is that the general rule in Linear B concerning the spelling of consonant-clusters is to write -C₁V_xC₂C₃V_y- as -C₁V_x-C₂V_y-C₃V_y- (C=consonant, V=vowel). In other words, one would expect δαιτρόν/-ῶν to be approximated by **da-to-ro*, not *da-ta-ro*. But the expected charge that the equation (*da-ta-ro* means δαιτρόν or δαιτρῶν) involves an *ad hoc* spelling-rule might be avoided by citing 1) the factor of analogy and 2) significant lexical yields from this postulated rule in the corpus of Linear B. The first point can be summarized thus: on the analogy of the rubric *da-ta-ra* (the spelling of which abides by the standard rule in Linear B regarding consonant-clusters, since the empty vowel in *-ta-* matches the *a* in *-ra-*), the writing of its alleged variant, the same rubric but in a different inflectional form, becomes *da-ta-ro* instead of **da-to-ro*. Now if one assumes that *da-ta-ro* stands for δαιτρόν, it would appear that the normal form, from the scribal standpoint, was the neuter plural and that the singular was the derived form—and this is linguistically unfounded. On the other hand, the genitive plural δαιτρῶν *qua* rubric is plausibly secondary to the primary δαιτρά, the nominative/accusative plural. It would be very decisive for the present argument if one could find similar influence on the spelling of the genitive neuter plural by that of the nominative/accusative neuter plural in some word from the corpus of Linear B. Just such a word may well be *ki-da-ro*, which occurs in the specific context of describing a certain portion of wheat; the text is in KN E 842.3: *ki-da-ro* GRANUM 20[---]. The context here of *ki-da-ro* matches the meaning of χῖδρα “unripe wheat-groats” (as in Aristophanes, *Equites* 806). The singular is also attested (with acute accent), in Alkman (75 [Bergk] = 50 [Diehl] = 96 [Page]):

Athenaios 14.648B
 πολτοῦ [=“porridge”] δὲ μημονεύει Ἀλκμὰν
 οὐτως.

ἢδη παρεξεὶ πυάνιόν τε πολτὸν
 χῖδρον τε λευκὸν κηρίναν τ’ ὄπώραν.

ἐστὶ δὲ τὸ πυάνιον, ὡς φησι Σωσίβιος, πανσπερ-
 μία ἐν γλυκεὶ ἥψημένη. χῖδρον δὲ οἱ ἔφθοι πυροί.
κηρίναν δὲ ὄπώραν λέγει τὸ μέλι.—underline sup-
 plied. (τ’ ὄπώραν codd.; as for writing the rough
 breathing, see the discussion by A. Garzya, *Alc-
 mane, i frammenti* [Naples 1954] 121.) According
 to the stated general spelling rule in Linear B, the
 word χῖδρα/χῖδρα would have been approximated
 by **ki-da-ra*, and thus the attested *ki-da-ro* could
 be explained as representing χῖδρων, the spelling
 of which would be on the analogy of the nominative.
 The instance, then, of *ki-da-ro* in Linear B is
 strikingly similar to that of *da-ta-ro* in Linear A,
 even to the extent of the dental+liquid cluster in
 both words—if the contextually-motivated corre-
 spondences χῖδρων and δαιτρῶν (“some groats”
 and “some portions”) are accepted. And since the
 meaning of *da-ta-ra* seems assured by the closely
 similar context of *da-ta-ro*, their correspondence
 further increases the plausibility of interpreting
ka-pa da-ta-ra te as κάρπη·δαιτρὰ τῆ.

That δαιτρά should be found in the corpus of
 Linear A is also corroborated by the apparent oc-
 currence of another lexeme which, like δαιτρά, is
 derived from the Greek root δαι- (no digamma:
 see Frisk, *GEW* s.v. δαίομαι, and Chantraine, *GH*
 I 370). The case in point is the last entry on HT
 12, the sign-group+number *da-i* 50. Now it has
 been suggested by M. Pope (“The Cretulae and
 the Linear A Accounting System,” *BSA* 55 [1960]
 204) that the number 50 here indicates a percent-
 age—perhaps a fifty-fifty proportion between either
 two entities or two commodities. Indeed, the lat-
 ter alternative may well account for the ratio be-
 tween the first two items following the heading
qa-ti-da te, since the text of HT 12 starts off as
 follows:

1. *qa-ti-da te*
2. OLEUM+di 5 HORDEUM 5

If, then, the entry *da-i* 50 at the end of HT 12 ex-
 presses a percentage, it follows that the sign-group
da-i may well correspond to the Homeric word
 δαῖς “one’s portion” (O 95, etc.).

4. *Comparison of ka-pa da-ta-ra te with a lexical item from the Gortynian corpus.* It is to be ex-
 pected that certain aspects of the Minoan bureau-

cratic system survived the superimposition of later cultures, including that of the Dorians at the end of the Bronze Age. Some of these reflexes can be detected in material from Crete in the classical period: merely as one specific example, one can cite that the Cretan numismatic tradition reveals a marked *Weiterleben* of Minoan motifs (cf. B. V. Head, *Historia Numorum*² [Oxford 1911] 457ff and A. B. Cook, *Zeus* I [Cambridge 1914] 527ff). In general, the aspect of continuity can be seen from the epichoric legal documents and from the literary *testimonia* (cf. the analysis by R. F. Willetts, *Aristocratic Society in Ancient Crete* [London 1955] 249–256). On the linguistic level too, the epigraphical evidence, especially from the older texts of central Crete, shows pre-Doric formations with features that can be specifically connected with the AC dialect. With the decipherment of Linear B and the establishment of its numerous affinities to AC (cf. the impartial account by Vilborg, *GMG* 20-1, no. 3 a-f), the existence of an AC linguistic substratum in Crete seems confirmed; for the classical evidence, cf. the outline-list in Thumb-Kieckers, *GD* I² 149: e.g., δαρκιά=δραχμά, μέστα, etc. Now the substrata of AC lexical items on one hand and of the Minoan bureaucratic features on the other need not be considered two polarized phenomena. Indeed, one might expect to discover in the epigraphical evidence of classical Crete that certain pre-Doric words (or even phrases) pertaining to administrative matters might well be already attested in the corpus of Linear B, and perhaps also in that of Linear A. It will be claimed here that the sequence *ka-pa da-ta-ra te* of HT 6a.1, if its connection with *καρπ-* and with a deverbal from *δαι-* is accepted, is echoed by a compound noun with the same constituent elements in a Gortynian inscription: in other words, there might be attested the survival of an entire collocation—composed of *καρπ-* and of *δαι-*; furthermore, in both the Linear A and the Gortynian instances, this phrase concerns the administrative matter of allotting produce. The compound noun in question is found in one of the articles of a legal text from Gortyna (*IC* IV 77: 5th cent. B.C.). The inscription is very fragmentary except for column B, which contains at least three separate articles. By chance, the one including the apparent parallel to *ka-pa da-ta-ra* is fully preserved; the text of this article as transcribed by M. Guarducci (*IC* IV 77 B.4-10) is submitted here:

- | | |
|-----|--------------------------------|
| 4. | <i>vac. ai</i> |
| 5. | εῦροιεν οἱ καρποδαισται κα- |
| 6. | ρπὸν ἀποκεκλεμμένον ἐ μὲ |
| 7. | δεδαισμένον, τόν τε καρπὸν |
| 8. | πέρονσι ἄπατον ἔμεν, κ' ἐπεστ- |
| 9. | έσαι τὸ ἀπλόν καὶ τὰ ἐπιτίμ- |
| 10. | ια ἀι ἔγρατται <i>vac.</i> |

The following translation is based on that of F. Halbherr (*AJA* 1 [1897] 227): “If the *καρποδαισται* should find produce stolen or not allotted, and they carry away this produce, they are not to be liable. And [the guilty party is] to pay up [i.e., *ἐπ-εσ-τεῖσαι*] its full value besides the fines prescribed.”

At this point of the analysis, the accentuation of *καρποδαισται* as either -δαισται or -δαισται would only be begging the question of whether the latter component of the compound noun is a deverbal of *δαιζω* or of *δαινυμι/δαιομαι* respectively. That problem, as well as a discussion of the pre-Doric features in this word, will be taken up in section III. What is important to note here is that in either case (since *δαιζω* is a deverbal verb of *δαινυμι/δαιομαι*), the constituent elements must be *καρπ-* and *δαι-*, and that these are precisely the same as those posited for *ka-pa da-ta-ra*. Furthermore, the context of the latter in HT 6a, where it is the heading of a list dealing with the allotment of produce (*ka-pa*), is strikingly similar to that found in *IC* IV 77 B.4-10. Here one sees that the *καρποδαισται* were a board of fiscal magistrates whose function was just this: to supervise the allotment of produce (hence the *καρπὸν . . . δεδαισμένον*). As Willetts summarizes (*Aristocratic Society in Ancient Crete* 193), “. . . these officials were not concerned with a division of an inheritance but, as their name implies, with the collection of produce for the maintenance of *syssitia*; and . . . we should connect them with the passage from Dosiadas [*ap. Athenaios* 4.143A-B] concerning the tithe of the produce collected for that purpose at Lyttos. Hence, the Gortynian state, through the medium of these officials, would already have taken over the collection of the assessed amounts of produce for the *syssitia* which had previously been the concern of the *hetaireiai*.” [Cf. also *Aristocratic Society* 139-40.]

In light of the apparent parallel of *ka-pa da-ta-ra*, one can reinterpret thus: the Gortynian state adapted the archaic office of the *καρποδαισται* (presum-

ably an agency of “Minoan” origin) to the reorganized administration of the institution known as *συστήτια*. In other words, the organization and the methods of the board of *καρποδαισταῖ*, perhaps with little or no change, were converted to suit the new exigencies of a superimposed Dorian society.

5. *Other occurrences of ka-pa in Linear A.* In HT 140.5-6, the *ka-pa*[----] cannot be analyzed adequately because of the fragmentary condition of the tablet. In HT 105.1, *ka-pa*[----] is the first sign-group, but the rest of the heading is lost, thus at present making difficult any further interpretation. Another occurrence of *ka-pa* is in HT 94b.1: here again, it is used as the heading, but this time the items in the list that follows seem to designate persons, not specific commodities like GRANUM, FICUS, etc. Thus for example the first entry (line 1) reads VIR 61, and the third (line 2), VIR₃ 18. (For the interpretations L99=VIR and L126=VIR₃, see Peruzzi, *IM* 54-55; that these proposed equivalents are not wrong seems assured by the analogical strokes used in the techniques of Mycenaean pottery to represent stylized human figures. See Furumark, *MP* 283; 238, fig. 25, nos. 21-26.



ILL. 2:1



ILL. 2:2

1: Linear A sign L99, as written by scribe of HT 28 (side b, line 4). 2: Linear B sign *₄₂ (= *wo*): a scribal variant from Pylos (see VC 41). N.B.: the adjunct *ka*, written above the L99 shown here, is to be disregarded for this present comparison

For the possible syllabic value of L99, see my ill. 2; also section I.9.) One might surmise that the inventory in this part of HT 94b concerns not the allotments of *ka-pa*, but rather to whom and to how many the allotments are made. Indeed, immediately after these entries apparently involving persons are totalled up in line 3, there is a new rubric, *sa-ra*₂, after which are listed at least two entries involving CYPERUS (lines 3 and 4: the interpretation of L₇₁ as CYPERUS is based on its near-identity in shape with *₁₂₅=CYPERUS; cf.

Peruzzi, *IM* 51) and three involving FICUS (lines 3, 4, 5). The fragmentary condition of the tablet after line 4 precludes giving the exact number of times that any commodity-sign had occurred on the tablet. What is significant, however, is that these entries following *sa-ra*₂ may well be the components of what is specified by the rubric *ka-pa* in line 1. In other words, the context of “*κάρπη*” seems valid in this text also: only, in the present case, the inventory includes the recipients (or donors?) and their number *as well as* the commodities and their amounts. If so, what is the meaning of the second rubric, *sa-ra*₂? Under the present assumption that *ka-pa* refers to the CYPERUS, FICUS, etc. in lines 3ff, the additional rubric *sa-ra*₂ must refer in some way to how the amounts of *ka-pa* are measured. More contextual analysis is required.

6. *The sign-group sa-ra*₂ *in the HT tablets.* There is at least one instance where the rubric *sa-ra*₂ refers to persons exclusively: in HT 105, line 3 reads *sa-ra*₂ VIR 235. Line 1 reads *ka-pa*[vacant ca. 5 spaces]. Now on the basis of HT 94b, it has already been established that if *ka-pa* corresponds to “*κάρπη*,” then *sa-ra*₂ must in some way designate a basic unit with which the commodities can be measured. For this to be true, one must assume a vessel of standard volume. This in fact would explain the context of HT 105.3: it would thus seem to involve the allotment of 235 vessels of volume X (and containing some sort of *ka-pa*?) to 235 persons. This explanation of *sa-ra*₂ can also be applied to the integral text (see “GE” 208-209) of HT 11b.1-6:

1. . . . *sa-ra*₂
2. L₃₅ *ka* 40 *ka* 30
3. *ka* 50 *ru-L101-na*
4. *ka* 30 *sa-qe-ri*
5. *ka* 30 *ku-ro*
6. 180

Interpretation: “vessels: 40 + 30 + 50 for/from L₃₅, 30 for/from *ru-L101-na*, 30 for/from *sa-qe-ri*; total, 180.” (For the function of *ka* [proposed equivalent: AC *κάς* “and”] as plus-sign in the tally, see “GE” 209.)

There are two important points that may serve as proof of the interpretation of *sa-ra*₂ as “vessels.” First, one can connect *sa-ra*₂ with the Hesychian entry *σῆλια· τὰ μικρὰ πιθάρια. καὶ σκεῦος ἀρτοποιητικόν.* (For Linear B *ra*₂ = *rja/lja*, see the

summary by Vilborg, *GMG* 32.) While this word *σηλία* is probably non-IE and not to be connected with *σηλία* (= Attic *τηλία*; the second part of the above definition for *σηλία* is a mistaken conflation from a definition for *σηλία*), it is important to note that M. Guarducci (*IC* IV p. 213) thinks that it may be attested in the Gortynian corpus. Another possible connection with *sa-ra₂* might be found in a lexical item from the Hittite corpus, *giššarra-* ("Toilettengerät"); for documentation, cf. the references by J. Friedrich, *Hethitisches Wörterbuch: Ergänzungsheft II* (Heidelberg 1961) 22, s.v. As for the Gortynian inscription in question, *IC* IV 145, it deals with a *lex sacra* regarding sacrifices made to Ares ("Αρει[---] in line 1). Among the offerings are possibly [---φι]-άλαν (line 2), possibly *fo[īnov----*] (line 5), *καναστ[ραῖ]ον δριωτὸν* ("canistrum ligneum": line 6; cf. the gloss in the *Souda*: *καναστραῖ·κοῖλά τινα ἀγγεῖα*), and *σαλὶ[α |] κ' αὐφίτων* (lines 7-8). Guarducci mentions the possibility (*IC* IV p. 213) of *σάλια* for *σαλὶ[---]* and a form like *ἀλεύρων* for the lacuna that follows. Thus the relevant text in lines 7-8 might be interpreted *σάλια ἀλεύρων κ' αὐφίτων*. (For the dialectal variation of *αὐφίτων* = *ἀλφίτων*, cf. Bechtel, *GD* II 703f.) It might be worth comparing this combination with, e.g., that on HT 90.1-2: *sa-ra₂* GRANUM | 20 FICUS 10 etc.; also that on HT 33.1: *sa-ra₂* Lc44[---]. The significance of the latter instance is realized immediately upon the inspection of the shape of Lc44 (see ill. 3, no. 2). The latter symbol is actually the stylized representation of a pail-shaped vessel with horizontal handles (cf. the apparent Linear B counterpart, *212, an example of which is shown in ill. 3, no. 3, line 3) and with the sign for HORDEUM superimposed. The meaning, then, of Lc44 is this: "vessel of volume X, containing barley." Besides thus providing a parallel with the posited *σάλια . . . αὐφίτων*, this sign Lc44 is much more significant, since its juxtaposition with *sa-ra₂* serves as a second indication that the latter sign-group is really a designation for vessels. But one must note again the two distinct uses of *sa-ra₂*: the one *qua* vessel of volume X (as in HT 105) and the other *qua* measure of volume X. It is in this second capacity that *sa-ra₂* seems to be used most often, and this can be seen immediately whenever items listed after it are themselves followed by numbers involving fractions (as, e.g., on HT 94b). Most often,

the designation *sa-ra₂* will occur directly after the heading, and there is no need felt to repeat it even



ILL. 3:1



ILL. 3:2



ILL. 3:3

Symbols used in Linear A and B to designate utensils.
1: from HT 38.1; sign-groups superimposed on drawing of utensil can be transcribed *sa-ro te*; numeral to right of drawing is 2. 2: from HT 33.1: text to left of drawing of utensil can be read *sa-ra₂*; symbol for barley (HORDEUM) is superimposed on utensil; there follows a lacuna, so that the numeral involved is missing. 3: from KN Uc 160r, utensil-signs *213 (above) and *212 (below); line 2 reads *i-po-no* *213
14 and line 3 reads [*u-do*]-?o *212 17

when a new heading is introduced midway in the text. HT 30 can be cited as an example: after the marker *sa-ra₂* on line 1, there are entries for CYPERUS, FICUS, VINUM, etc. (lines 1-4); then on line 4, under the heading *ki-ro* ("deficit": see "GE" 204), there are new entries for CYPERUS, FICUS, VINUM, etc. (until the end of the text, line 5). The marker *sa-ra₂* is not repeated after the new heading *ki-ro*, and this even though the same standard measurement must be involved in this second list, since it itemizes the amounts missing from the first list. Thus the initial designation *sa-ra₂* applies as the standard measure for all the commodities in this text. Yet in many tablets, the sign-group *sa-ra₂* is omitted even though the text expressly deals with commodities; such was the case in HT 6a (q.v. in section I.3). Why, then, is the unit-measure for commodities an understood element in some texts while in others it is to be stated specifically? The answer may well be that there are at least two different standards of measure involved, and that *sa-ra₂* has to be written out at times in order to avoid confusion. This can be seen precisely when the texts of HT 114a and HT 121 are juxtaposed:

HT 114a: *ki-ri-ta₂ sa-|ra₂* GRANUM 10 OLEUM 7 | FICUS 1 VINUM 1 *pa+ro* | 3

HT 121: *ki-ri-ta₂* OLEUM+di+qe 10 | *sa-ra₂*
 GRANUM 5 OLEUM 4 | FICUS 2 VINUM 3
pa+ro | 3

addendum: Perhaps *ki-ri-ta₂* corresponds to Linear B *ki-ri-ta* as in KN L 785.1: thus it might mean *κριτά* “choice, selected items”; cf. H 434, etc., and see VC 397. For the possibility that *ta₂* can optionally represent /ta/ as well as regular /tja/, cf. instances in Linear B like *ko-ro-ta₂* (KN L 598, etc.) vs. the singular form *ko-ro-to* (MY Oe 106.1). See the discussion by M. Lejeune, *Mémoires de philologie mycénienne I* (Paris 1958) 270f. Yet, since it has been argued in the *addendum* of section I.1 that groups in -Cja- and -Cjo- may sometimes represent -Cea- and -Ceo- respectively, the possibility arises that *ki-ri-ta₂* stands for *κριτέα* “to be chosen”; for this to be so, however, the traditionally-given etymology of -réos from *-réfos (e.g., as suggested in A. Meillet and J. Vendryes, *Traité de grammaire comparée des langues classiques*³ [Paris 1963] 339) has to be disputed.

The small amounts involved under the heading *ki-ri-ta₂* in both these tablets would support the context of *κριτά*.

The items on these two lists are exactly the same except for the OLEUM+di+qe in the second text. Why is it not entered after the *sa-ra₂*? The clue lies in the adjunct +qe: HT 125.1 seems to be the only place in the HT tablets now available for study where the form OLEUM+di+qe occurs. Elsewhere, it is always OLEUM+di: HT 12.2, 14.2+4, 28a.2+5, 28b.3+6bis, 50b.3, 90.2, 116a.2, 129.3, possibly also 28b.2, 60.2. Now OLEUM+di is actually listed after *sa-ra₂* in HT 90.2 and HT 28a.2+b.3; for example, in the latter case the reading is *sa-ra₂* OLEUM+di 1 FICUS 2 | VINUM 3 etc. One might thus conclude that the OLEUM+di+qe in HT 121 is listed before and not after *sa-ra₂* because it is contained in or calculated by a different measure in this instance, and that this measure is indicated by the adjunct +qe. Perhaps this +qe is an abbreviation of *qe-to*, which in Linear B (e.g., PY Ta 641.2) means *πίθος*. The latter would be a perfect contrast with *σήλια*, which in the Hesychian lexicon had been glossed as *τὰ μικρὰ πιθάρια*. The adjunct +qe is also found with the symbol GRANUM, and here again, the same contrast with measurement by *sa-ra₂* is evi-

dent. One can cite HT 18: *pa-se* GRANUM+qe 20 OLEUM+ki 2 | HORDEUM 3 *sa-ra₂* GRANUM 10 FICUS | 10. Presumably, everything that comes after the +qe is measured by that standard until the marker *sa-ra₂* is reached. The same is true with the other instances of GRANUM+qe (HT 28b.1, 36.1, 99a.2, 101.1): the marker +qe (under which heading sometimes the same commodity-signs are entered as those under an accompanying occurrence of *sa-ra₂* on the same tablet) is being used for contrast. For example, in HT 28a-b, perhaps the most complicated text in the present HT corpus, the listing of commodities starts under the measurement *sa-ra₂* (side a, line 2) and continues thus to the last line (6) of that side; then on side b, the standard of measurement is switched to +qe (signal: GRANUM+qe on line 1), which holds until the end of line 2; then the standard is switched back to *sa-ra₂* (line 3), under which it continues until the end (line 6). Two commodity-signs, GRANUM and OLEUM+di, actually occur among the items of all three markers, i.e., of *sa-ra₂* (bis) and of +qe; here, then, the types of entry with +qe are visibly parallel to those with *sa-ra₂* (and the same seems true also in the case of HT 101).

Also attested in the HT tablets is *sa-ro*, which may be the genitive plural of *sa-ra₂*. (For a parallel case in Linear B where /rjo/ is written *ro*, cf. *ku-pa-ro* [KN Ga 465.2] vs. the expected *ku-pa-ro₂* [PY Un 249.1]: both approximate *κύπαρισ>κύπαρος*. See VC 398.) That there is a definite correspondence between the two is evident in that *sa-ro* is used in the same contextual slots as *sa-ra₂*. Thus for example in HT 42.2, *sa-ro* precedes OLEUM+ki 8 OLEUM+u 1[.]. Presumably it too, as *sa-ra₂*, designates the standard measure used. In HT 9a.1, the heading reads *sa-ro te* VINUM, followed by a list of Ns (donors or recipients); one might interpret thus: “at hand—some *sa-ra₂* of wine.”

Another possible proof for the connection of *sa-ro* and *sa-ra₂* comes from HT 38.1: here *sa-ro te* is written directly on top of the stylized drawing of a utensil (ill. 3, no. 1), much as *sa-ra₂* was juxtaposed with a similar drawing (ill. 3, no. 2). The whole entry, JAR *sa-ro te* 2, may be interpreted thus: “at hand—two vessels.” Here the *sa-ro* seems to be itemized not *qua* measure but *qua* vessel. Furthermore, the o-ending here (i.e., not *sa-ra₂* but *sa-ro*) seems to be semantically motivated, since

there are specifically two vessels involved, and the nominative/accusative dual ending of *o*-stems is actually *-o* in Linear B (for *-ω*; see VC 84). In conclusion, the sign-group (*sa-ro/sa-ra₂*) seems to have been not only a designation for utensils but also a *modius* of both DM and LM (dry and liquid measures).

7. *Further analysis of HT 102.* Now that the context of *ka-pa* has already been established as dealing with commodities and as probably referring specifically to *σπέρματα*, the tablet which touched off the discussion, HT 102, may well be taken up in more detail. For convenience, the text is again submitted (and again to be noted is the newly-proposed L₃=*za*):

1. *ka-pa sa-ra₂* GRANUM 9-
2. -76 L₁-*ni* GRANUM+*pa* 33 *i-*
3. -L₁₂*6a* GRANUM+*pa* 33 *di-we-na ma-*
4. -*za* 3 L₂₈ 10 *i-ka* 5
5. *ku-ro* 1060

It is clear that the predominant element involved is wheat, the greatest amount of which (976 measures) is earmarked under the general sign for wheat, L₄₂; the two smaller amounts (33 and 33 measures) are designated as a specific type (or state) of wheat by the adjunct +*pa*, and they are further set off by the introductory words L₁-*ni* and *i*-L₁₂*6a* respectively. However, what is of primary concern now on this particular list of commodities is the entry *di-we-na ma-za* 3. The sign-group *ma-za* conjures up the Greek lexeme *μᾶζα*, which can be defined as “a kneaded [i.e., connected with *μάστι*, etc.], unbaked thing” or “a porridge, consisting of barley-meal [*ἄλφιτα*]” or “barley-cake.” That *ἄλφιτα* are the essential ingredient can be seen in the appropriate gloss of Hesychios, which is even more specific: *μᾶζα· ἄλφιτα πεφυρμένα* *ῦδατι καὶ ἐλαίῳ*. All this information may well be compared with the evidence from Linear B, in KN G 820.1: [---]-*di e-ko-si a-pi ku-do-ni-ja to-sa ki-ri-ta* LUNA 1. Here *ki-ri-ta* = *κριθαῖ*, and *a-pi* = (probably) *ἄλφι* (see Palmer, *MGT* 408). Cf. also *a-pi-to-po-qo* in PY Ep 617.6: to be interpreted as *ἄλφιτοπόq^wos* “barley-cooker”; see Palmer, *MGT* 483. At this point, it is also worth comparing the *sa-ra₂* GRANUM . . . *ma-za* in the cited text of HT 102 with the possible reading *σάλι[α] ἀλεύρων* κ' *αὐφίτων* in IC IV 145[B].7-8, q.v. in section I.6.

As the *testimonia* regarding *μᾶζα* imply, it was

in a kneaded, unbaked form—and *not* as bread—that barley was normally eaten; and Hippoanax of Ephesos (6th cent. B.C.), for example, describes bread made from barley as “fodder for slaves” (*κρίθινον κόλλικα, δούλιον χόρτον*: line 6, 35 + 36 [Bergk] = 39 [Diehl] = 26 [Masson]; *ap.* Athenaios 7.304B). This statement and several other relevant facts are cited by L. A. Moritz (*Grain-mills and Flour in Classical Antiquity* [Oxford 1958] xxi), whose further remarks on this subject (*ibid.*) are equally pertinent: “One reason why barley is less suitable for bread than wheat is that its grain, like that of all cereals other than wheat and rye, is normally ‘husked’ and cannot be freed from its cover-glumes by ordinary threshing [reference here to *CQ* n.s. 5 (1955) 135ff]. The special hulling operation which such grain must undergo was in antiquity inevitably combined with a roasting of the grain in its husks: this roasting must have largely destroyed the gluten content of the grain, and have made it unsuitable for leavened bread, even if before hulling it contained a sufficient amount of suitable gluten-forming proteins. Barley, with its low protein content, is unsuitable for bread irrespective of this.”

As for the sign-group *ma-za* here in HT 102.3-4 and also in HT 6a.3 and HT 97a.6, can it be shown to match *μᾶζα*? The essential link would be the presence of the sign HORDEUM within the context of *ma-za*; but the extent of information from the present corpus of Linear A points only to the fact that in HT 102 and in HT 6, the headings are *ka-pa* and *ka-pa da-ta-ra te* respectively—which, as it has been seen from the apparent meaning of these words, may well be convincing evidence in itself. However, the corpus of Linear B seems to furnish an even more important clue—in the lexeme *ma-sa*.

8. *Confrontation of Linear A ma-za with Linear B ma-sa.* The first occurrence of *ma-sa* to be discussed, that in KN Dv 42.b, can lead to no firm conclusions because this tablet is too fragmentary: *ma-sa* occurs after [---]-*jo* and under *pe-ri-qo-ta-o* OVIS^m[---]. Secondly, there is a remote possibility that this word *ma-sa* is connected with the entry *ma-sa-de* in KN X 744, but in the latter case the tablet is even more fragmentary, with nothing left except for a *ti*-[---] and the *ma-sa-de* before it; thirdly, KN X 476bis and X 5737 contain nothing but the fragments of the word *ma-sa* itself. Fourth-

ly, one may include a new reading given by J. Chadwick and J. T. Killen for the last word of KN G 866 (*The Knossos Tablets*³ [London 1964] 105); the respective text is now to be read thus: [---]-*sa-jo / di-ka-ta-de* FICUS 10 *ma-sa*[+ number? ---]. It should be noted that *ma-sa*[---] here seems to be in the same category as FICUS; apparently there is a parallel in Linear A, since in HT 6a the entry FICUS (line 2) is in the same contextual slot as *ma-za* (line 3). Thus the collocation of Linear B *ma-sa* suggests that it deals with commodities. Only in one other place can the context of *ma-sa* presently be seen in Linear B—from a tablet that can be analyzed as a complete text since the joining of its two fragments:

KN F 1058+567I	<i>te-o-po-ri-ja / ma-sa</i>
	HORDEUM T I

textual notes: The transcriptional symbol / designates smaller-sized signs in what follows than in what precedes.

The T is a likewise conventional designation for the Linear B sign *112 (which is actually shaped like a T), meaning “dry measure” and with the specific implication of a ratio 1:10 (see VC 55); the shape of the sign seems cognate with and is identical to the Linear A fraction Lm18.

The interpretation might be as follows: “for the festival of the Θεοφορία—barley-cake consisting of $\frac{1}{10}$ dry measure of barley.” (For the meaning of *te-o-po-ri-ja*, see Palmer, *MGT* 457; also L. A. Stellai, “La religione greca nei testi micenei,” *Numen* 5 [1958] 49: here the parallel of the classical πορπή is specifically suggested.) Now if the *ma-sa* in this text really corresponds to μᾶζα, one would still have to justify the use of the syllable *sa* instead of *za*. An examination of the value of the grapheme *z*+vowel in Linear B might provide an answer: what is transcribed as “z” here is primarily a palatalized *k*, i.e., /kj/. That *z* in Linear B can also approximate the phonemic combination /gj/ is merely an extension parallel to the approximation of *gamma* (and of course *kappa* and *chi* as well) by *k*; from the graphemic ambiguity within which *khj*/*kj=gj*, there is a further extension: *kj=gj=dj=(possibly) tj*. (Actually, /khj/ probably did not exist in Mycenaean times: the aspirated/non-aspirated contrast was neutralized before *j*, as before *s*.) And this wide range of phonemes is then ap-

proximated (in definite overextension, from a graphemic standpoint) by what is transcribed as *z* in the Linear B signs *za*, *ze*, etc. (cf. the arguments of Palmer, *MGT* 36-37). To put it another way, one might ask: why is the graphemic element in Linear B which approximates the *kappa*, *gamma* and *chi* in classical Greek designated as *k*?—why not as *g*, for example? But the important point is just this—namely that the phonetic structure of /g/ is much less likely to motivate the writing of the two other velars /k/ and /kh/ under a cover-symbol with the sound /g/. (To be kept in mind during the discussion which follows is that IE *gh was already *kh by the time of Linear B; this is proved on the evidence of the dental consonants: words containing an original IE *dh, for example, are transcribed by *t* = /th/, even though Linear B has a *d*-series. Thus *te-ke* in PY Ta 711.1 stands for (ε)θηκε; but since what is being examined here involves one of the oldest of Greek phonological rules, the change *dh to th in pre-Mycenaean times is obvious.) The reason that /g/ cannot have motivated the writing of /k/ and /kh/ in Linear B is simply because there are more differences between /g/ and /kh/ than there are between /g/ and /k/: /g/ is minimally distinct from /k/, in that the first is a voiced unaspirated velar while the second is an unvoiced unaspirated velar. On the other hand, /g/ is doubly distinct from /kh/, in that the first is a voiced unaspirated velar while the second is an unvoiced aspirated velar. (It is to be added as a qualification here that the question of graphemic motivations is approached in this discussion from the synchronic, rather than the diachronic, standpoint.) Likewise, there would be an identical inadequacy if /kh/, and not /g/, were taken as basic and as motivating the approximation of /g/ and /k/ by *kh*. Only /k/ is minimally distinct from both /kh/ and /g/. Hence it is this phoneme, /k/, which is most likely to have motivated the grapheme designating “non-labial velar” (as distinct from the *q*-series) and thus it was also with *k* that this “non-labial velar” could be most accurately designated in the decipherment of Linear B. For background on the distinctions in π β φ, κ γ χ, and τ δ θ, see R. H. Robins, “Dionysius Thrax and the Western Grammatical Tradition,” *TrPhilSoc* (1957) 87ff. It also follows, then, that of the phonemic groups /kj/ and /gj/ (as already stated, /khj/ cannot even be posited for this period), which are approximated

by the "z"-series, the basic consonantal sound which motivated the graphemes transcribed as *z*+vowel was /kj/. How did "z" come to approximate /dj/? As in the case of /g/, /k/, and /kh/, the motivation is possibly again *minimal distinction*, and the link is /gj/; this and /dj/ differ in that the first is a voiced unaspirated velar and the second, a voiced unaspirated dental.

Still to be explained is the writing of *z*+vowel as *s*+vowel, which is just what is posited in the case of *ma-sa*. Essential here is the apparent fact that *s* in Linear B can also stand for the phonemic combination /sj/; this can be seen from F. W. Householder's explicit demonstration (*Glotta* 39 [1960-61] 180) that the word *to-so-jo* in PY Er 312.2+8 is the same as *to-so* "so much," which the very same scribe writes in line 5 of the same tablet. This variant spelling *to-so-jo* seems to show that *to-so* should not be transcribed as *tōστον* but rather *tōστον*, the mid-point of a progression **tot-jon* to *tosjon* to Homeric *tosson* (see also Palmer, *MGT* 215, 483). By the same token, I propose that *pa-sa-ro* in PY Ta 716 should not be transcribed as *passalō* but rather as *pasjalō* (the meaning: "two rivets"; see VC 403); in this case, the progression would be **pakjalos* (see VC 403) to *pasjalos* to Homeric *passalos*. Actually, it has already been noted that if *pa-sa-ro* is really to be connected with Homeric *πάσσαλος* (Ω 268, etc.), then "this is evidence for **ki-* [i.e., *kj*] > *s* in Myc." (J. Chadwick and L. Baumbach, "The Mycenaean Greek Vocabulary," *Glotta* 41 [1963] 234). More specifically, one might now add that already by the time of Linear B, the phonemic combination /kj/ was evolving into /sj/. Furthermore, the Linear B sign *85 has been plausibly identified as representing a grapheme that can be transcribed *sja* (see Palmer, *MGT* 21-22; the place-N *a-si-ja-ti-ja* has a variant *a-*85-ta₂* in PY Ma 397, and this is almost certainly to be interpreted /a-sja-tja/; *a-sa-ti-ja*, as in PY Mn

162.4, seems to be another spelling of the same, and the apparent *sa*=/sja/ here can be compared with *to-so*/*to-so-jo*; Palmer further argues [*ibid.*] that this identification of *85 as *sja* yields plausible lexical items for *85-*te*, *85-*ro*, *85-*de-pi*, among others); thus any alternation of this sign *sja* with *za* could serve as proof that the *original* phonemic value of what is transcribed for Linear B as *z* was no longer (by the time of the text in question) the equivalent of /kj/ but rather of /sj/. (This of course does not hold for *z* = *gj*, *dj*, etc.) An example of just such an alternation between *za* and *sja* seems to be evidenced in the sign-groups *za-we-te* in PY Ma 225 (cf. also *za-we-[te]* in KN X 658) and *sja-u-te* in KN Od 666.b. Now *za-we-te* corresponds to Attic *τῆτες*, Ionic *σῆτες*, Doric *σᾶτες*, all meaning "this year" and all ultimately derived from **κjáfetēs* (cf. J. B. Hofmann, *Etymologisches Wörterbuch des Griechischen* [Munich 1950] s.v.; for this interpretation *za-we-te* = *kjāwetes*, see Palmer, *MGT* 305). The *z* in the spelling *za-we-te* stands for the original /kj/; the variant *sja-u-te*, however, is apparently the graphemic representation of what can be phonemically described as *sjawetes* (see Palmer, *MGT* 240). Thus one may conclude that although *z*+vowel in Linear B was primarily /kj+vowel/ and became extended only secondarily to /gj+vowel/, /dj+vowel/, etc., the phonetic transition from *kj* to *sj* caused graphemic confusion about the basic value of what we transcribe today as *za*, *ze*, etc. (Of course, one must continually try to avoid thinking of Linear B "z" as *zeta*.) As is often the case with overextended graphemes, spelling-aberrations at their expense are likely to occur, and this must be what happened to the *z*-series in Linear B. Furthermore, since it has already been seen that *s* in Linear B can stand for /sj/, one is now ready to describe tentatively the situation as follows:

	I graphemic element	II phonemic element	III graphemic element	IV phonemic element	V graphemic element	VI phonemic element
1.	k	=/	kh	<i>z</i>	=/	* <i>khj</i> → <i>kj</i> → <i>sj</i>
2.	k	=/	k	<i>z</i>	=/	<i>kj</i> → <i>sj</i>
3.	k	=/	g	<i>z</i>	=/	<i>gj</i>
4.				<i>z</i>	=/	<i>dj</i>
						↓
						<i>s</i>

(X =/ Y means "X approximates Y"; X /≈ Y means "Y approximates X")

The horizontal development (III.2 to V.2) of graphemic representation (i.e., *z* to *s*) because of phonetic change (IV.2) could also exert a *vertical* development: indeed, it has already been argued that the graphemic element *z* in III.3 was motivated by III.2, on the crucial analogy that the grapheme *k-* in Linear B can express both the velar phonemes /k/ and /g/. It follows that one could expect a parallel: V.3 might also be occasionally motivated by V.2, again by analogy. In other words, the proportion I.2 : I.3 = III.2 : III.3 may well exert a further extension, namely I.2 : I.3 = III.2 : III.3 = V.2 : V.3. Hence the graphemic element *s* instead of *z* is also possible for the slot V.3. This is precisely what is postulated for the Linear B lexeme *ma-sa*, the proposed equivalent of *μᾶζα*. The derivation of the latter word is from *μαγγέύς “baker,” μαγγῆναι “to be kneaded,” the latter form being paradigmatically fused with the different stem of μάστω “knead” [*mnk-yō with vocalic n]; as for the vowel-length of the first *a* in *μᾶζα*, it is probably secondary; see P. Chantraine, *La formation des noms en grec ancien* [Paris 1933] 99). This form *μαγγά reveals the phonemic element /gj/ of slot IV.3, which in turn raises the above-mentioned distinct possibility that spelling the Greek lexeme *μᾶζα* in the linear scripts can involve the graphemic approximation of /gj/ by *s* (V.3: as in *ma-sa*, Linear B) as well as by the regular *z* (III.3: as in *ma-za*, Linear A).

9. *The meaning of di-we-na.* Besides HT 102.3, the sign-group *di-we-na* occurs also in HT 93a.1-2. Here it precedes the ligatured sign-group Lc52'; it is uncertain whether the vertical components of the latter are to be read upward or downward: the topmost sign is *se*, below it is *ne* (or possibly *re*), and further below that is what seems to be *da*. It is this third component that distinguishes the sign-group Lc52' as a variant of Lc 52, since the latter does not have the *da*. (The term “variant” here is not meant to preclude the possibility that Lc52' represents a *different type* of Lc52.) Thus the entry under discussion in HT 93a.1-2 is to be read *di-we-na Lc52' 43½*. While this is the sole occurrence of Lc52' in the extant corpus of Linear A, the sign-group Lc52 helps identify its context, which clearly involves commodities. Thus in HT 116a.3, for example, Lc52 precedes the entry GRANUM 16. In HT 93a itself, Lc52 (line 1) is in the same entry-slot as Lc52' (line 2), FICUS (line 3),

i+GRANUM+pa (lines 3-4, 5), and *wo-no* (line 5). Further evidence that Lc52 marks a commodity comes from its juxtaposition with the transaction-sign *te* in the heading of HT 42, since the group Lc52 *te* would be a striking parallel with the formulae *sa-ro te VINUM* in HT 9a.1 and (*ka-u-de-ta*) *VINUM te* in HT 13.2; besides, Lc52 occurs on the nodule Cr V 1, which also implies a context involving commodities. (I owe the latter two suggestions to M. Pope.)

addendum: For *wo-no* in HT 93a.5, as discussed above, cf. also *wo-no* in HT 11a.4; the reading *wo* in these two cases is on the assumption that L99 = *42 (= *wo*); the commonly-occurring shapes of these respective Linear A and B signs are not identical, but the individuality of some of the scribal hands points to a definite graphemic correspondence: thus for example the strokes in the L99 written by the scribe of HT 28 (side b, line 4) seem to match the standard shape of the Linear B grapheme *42 (see ill. 2). It is pertinent here to quote from an important epigraphical study of M. Pope, wherein the scribe of HT 28 is specifically discussed (“The Date of Linear B,” *Κρητικὰ Χρονικά* 15-16 [1: 1961-62] 317-318):

“So far I have talked of a Hagia Triada style, and indeed the style is remarkably uniform. But handwritings differ, and I wish to discuss that of one particular scribe. We may guess that he was a meticulous man. We may guess also that he was senior in the office hierarchy—for he wrote the greater number of the clay disks, and signed them with his seal—a simple seal portraying a house-fly (numbered 31 in [D.] Levi [“Le cretule di Haghia Triada,” *Annuario della Scuola Archeologica di Atene* 8/9 (1929)] p. 94). He also wrote the tablet HT 28. The table in fig. 5 shows the distinctive nature of five of his signs. The first three we have met before. They are similar to the signs in MM IIIa Knossos that we have already seen to bear some similarities with Linear B. Are we then to assume that the man came from Knossos, that he was perhaps an agent from the capital city? Only if we suppose that the Knossos script remained static or developed on its own lines independently of the rest of Crete. But we have seen this to be unlikely. . . .

“As for our scribe there can be no doubt that his hand is not a modern one in advance of that

of his colleagues. Rather it is old-fashioned, perhaps pedantic, perhaps merely the product of a more conservative school of scribal tradition. In either case it reflects an earlier style of writing. Yet it is the only Hagia Triada hand to show unusual resemblances to Linear B. The moral is clear. Linear B cannot have been created from a late LM Ib style."

If, then, this reading *wo-no* in HT 93a.5 and in HT 11a.4 is correct, it would correspond to the Linear B lexeme *wo-no* = *foîvos* (PY Vn 01 = 20.2); cf. *foîvō* in X 39 of the Gortynian Code (*IC* IV 72). See VC 348, 412.

Furthermore, Lc52 occurs in HT 99b.1 with the adjunct *ni* (the latter to be read as the sign FICUS here?), and is itemized—though the standard-measure is switched from *sa-ra₂* to +*qe* (in a.2)—with FICUS (a.2), VINUM (a.2), GRANUM+*qe* (a.2), and *ru-ma-ta* (b.2), among others. (It is very significant here that Lc52+*ni* is in the same entry-slot, despite the standard-switch, as VINUM; besides, Lc52 is in the same heading-slot as VINUM in HT 9a.1 and 13.2, as has already been seen. These combinations are important because, as seen in the *addendum* which precedes, Lc52 in HT 93 is in like relation with L99-*no*. Thus on the basis of a contextual relationship Lc52(+*ni*): VINUM = Lc52 : L99-*no*, the reading of the last member as *wo-no* = *foîvos* seems corroborated.) In the discussion of the commodities on this list, the items FICUS, VINUM, and GRANUM+*qe* need no further comment at the moment. As for the entry *ru-ma-ta* 1 “one measure of *ru-ma-ta*,” there is a striking correspondence with a lexical item from specifically the AC dialectal group. The pertinent information is again to be found in the Hesychian lexicon: *λούματα· τὰ τῶν πτισσομένων κριθῶν ἄχυρα. Κύπριοι.* The word is related to *λοῦστος*, as cited by Eustathios (1246.38): *λοῦστον γάρ φασι παρὰ Κυπρίοις τὸ κολοβόν.* Also connected is *ἀπολουσέμεν* (v.l., Φ 455, q.v. in Eustathios, 1246.37) • *κολοβώσειν*, as noted again in Hesychios, s.v. Furthermore, the *ov* in these forms can be connected with IE *ū* (see the discussion by Hoffmann, *GD* I 121); *ov* seems to be a transcriptional device for the way in which a long upsilon was pronounced in Cypriote (among other dialects)—*u*, not *ü*: hence also *βρούχετος* . . . *βάτραχον* δὲ *Κύπριοι* (Hsch.), contrasted with Attic (etc.) *βρυχ-*. Thus *λούματα* can be connected to a by-form of

λύω “separate,” etc., with long *v* for short *v*, as seen in forms like *βού-λυ-τός* (with long *v*); cf. Latin *so-lū-tus*, Sanskrit *lū-na-*, q.v. in Frisk, *GEW* s.v. *λύω*. And, most important for this analysis, the context of *ru-ma-ta* in the commodity-list of HT 99 matches this Cypriote word *λούματα*, though perhaps the meaning is not specifically “bran from winnowed barley,” as in Cypriote, but at least some kind of separation or dissolution (the latter possibilities were suggested to me by F. W. Householder). As for the present examination of the meaning of Lc52, one can now deduce that 1) in two cases, it seems to be mixed with different commodities: Lc52+*ni* (= probably Lc52+FICUS) and Lc52 GRANUM; 2) in other cases, it is itemized with FICUS, *i*+GRANUM, GRANUM+*qe*, *ru-ma-ta*, *wo-no*, and VINUM. The second aspect indicates that Lc52 too is a commodity, while the first more specifically suggests some kind of liquid, or perhaps seed, which can be mixed with (or extracted from?) both wheat and figs. Thus in the entry *di-we-na* Lc52' 43½, it seems that *di-we-na* in some way describes the commodity Lc52'. A very attractive lexical correspondence from the repertory of classical Greek vocabulary is suggested by the adjective *δίενος*, -*ov*, glossed as *διέτης* “two years old” in the Hesychian lexicon. The reading and general meaning are secure, as seen from the additional entry *ἐπτάενον· ἐπταετῆ*. A genuine instance of an alternate *-es*-stem formation is *τετράενες* in Theokritos 7.147; the derivation *ἔνος* is given by the corresponding Σ, and this in turn is further specified in Hesychios: *ἔνος· ἐνιαυτός. καὶ ἐπέτειος καρπός.*

addendum: the etymology of ἔνος.

A. Meillet (*Mémoires de la Société de Linguistique de Paris* 23 [1929] 274-275) analyzes *ἐνιαυτός* as a compound of *ἔνος* and *ἰαύω*; hence *ἐν-ιαυ-τός* = “pause de l’année.” Then on the basis of Lithuanian *pér-nai* “last year,” Gothic *fram fairnīn jēra* (corresponding to the Kouṇí “ἀπὸ πέρνοι”), Old Church Slavonic *la-ni* (**ol-ni*) “last year,” etc., he conjectures an IE derivation **en-*. The possibility of **wen-* instead can be tested in the Homeric corpus. Lines like

π 18 ἐλθόντ’ ἐξ ἀπίης γαίης δεκάτῳ ἐνιαυτῷ seem inconclusive for trying to determine an initial *f* in *ἐνιαυτός*, since hiatus without shortening of the first component vowel is possible if the syllable of that vowel is in thesis (as is the

case with *-τῳ* in δεκάτῳ; hence it is not shortened as otherwise required). Yet this “rule,” as it is traditionally given for the Homeric corpus, is unsatisfactory: it is not really a rule, but a statement of conditions, and it fails to account for cases of hiatus involving word-final vowels in arsis, when followed by a word-initial vowel. A functional explanation that covers any type of hiatus has been offered by M. Parry in *Les formules et la métrique d’Homère* (Paris 1928); he proposes that hiatus can be and is motivated by analogy resulting from the *jeux des formules*. For example, this can be seen from the following triplet, given in *op.cit.* 28:

I. B 3	ἀλλ' ὅ γε μερμήριζε
II. Θ 169	τρὶς μὲν μερμήριξε
III. A 558	τῇ σ' δίω κατανεῦσαι

a

κατὰ φρένα	ώς Ἀχιλῆα
κατὰ φρένα	καὶ κατὰ θυμόν
ἔπητυμον	ώς Ἀχιλῆα

b

c

At the bucolic diaeresis (the beginning of *c*) of example *I*, there is hiatus between *-a* and *ώ-*. In the slots *I.b* and *II.b*, *κατὰ φρένα* is a contextually marginal filler between the formulae of *a* and *c*; *I.a* and *II.a* are contextually essential, as is *I.c*. On the other hand, *II.c* is again a contextually marginal formulaic filler. If one sees *I.c* as a contextually motivated transformation of *II.c* on the structural analogy of the type *III.c*, then the hiatus between *φρένα* and *ώς* in example *I* can be ascribed to direct formulaic analogy. Also in conditions where there is no metrical pause, hiatus can be explained on the basis of formulaic analogy. For example (*op.cit.* 31), the hiatus of *γνναῖκα ἄγεσθαι* in

Ψ 263 θῆκε γνναῖκα ἄγεσθαι ἀμύμονα ἔργα
ἰδūναν

suggests that the latter grouping is secondary to a primary arrangement as in the type

Π 223 θῆκ' ἐπὶ νηὸς ἄγεσθαι ἐν πλήσασα
χιτώνων

Returning to the problem of the hiatus of δεκάτῳ ἐνιαυτῷ in π 18, one can note that only in one other Homeric line, M 15, is a formula containing any inflected form of ἐνιαυτός found after the hephthemimeral caesura, and this too is δεκάτῳ ἐνιαυτῷ. The very fact that one cannot seem to find a direct formulaic motivation for the preserved length of *-τῳ* in the combination ordi-

nal + ἐνιαυτῷ suggests that ἐνιαυτός might indeed stand for an earlier **ϝενιαυτός*. Another instance where ἐνιαυτός presents metrical problems is in π 454:

σῦν ἵερεύσαντες | ἐνιαύσιον. | αὐτὰρ Ἀθήνη

a

b

c

The penthemimeral caesura is after *a*, and there is a bucolic diaeresis after *b*. If one assumes that there is no initial *ϝ* in the formulaic filler ἐνιαύσιον, then a traditional explanation for scanning σῦν ἵερεύσαντες as — — — — would be that the short syllable *-τες* is in thesis, and hence is lengthened. But again, citing “in thesis” is a

κατὰ φρένα	ώς Ἀχιλῆα
κατὰ φρένα	καὶ κατὰ θυμόν
ἔπητυμον	ώς Ἀχιλῆα

statement of circumstances, not of cause. One would, then, have to assume further that the *s* in *-τες* exhibits a sort of sandhi, *-τες-|-(σ)*, corresponding to optional word-medial *σσ/σ* alternation. This hypothesis would indeed be operative on cases involving *σ*-final, since phonemic distinction between *σ* and *σσ* is absent in Homer because of the disappearance in Greek of original intervocalic *σ*, so that *σσ* could be treated as either *σ* or *σσ*. Such an explanation cannot be applied generally (and is hence unsatisfactory), since for example in the case of *v*-final, one cannot cite a parallel of free variation between *v* and *vv* in word-medial position: intervocalic *v* remains in Greek. Thus the metrical irregularity of lines like

N 587 θώρηκος γύαλον, ἀπὸ δ' ἔπτατο
πικρὸς ὄιστός.

remains unexplained. In cases like this again, Parry calls for a functional solution: short syllables in long position are actually motivated, and they are to be derived from analogical formations from the repertory of formulaic diction (in the above case, διὰ [as in E 99] instead of ἀπὸ; thus the semantic of διὰ is primary, that of ἀπὸ is secondary). The fact that *-τες* in π 454 marks the caesura is no counter-argument, since generally caesurae are the boundaries of formulae, as is the case here. It is with this type of reasoning that Parry rejects the “pause-theory” (*op.cit.*

60). Now in the instance of $\pi 454$, the slot *b* is a marginal formulaic filler, with the word *ἐνιαύσιον* adding nothing to the contextual development from lines 453 to 455; rather, it simply connects *a* and *c* structurally. Therefore, *ἐνιαύσιον* here seems traditional and hence not motivated by another analogical formula. Is, then, the *a+b* combination *X + iερεύσαντες + ἐνιαύσιον* traditional in contrast to any other? The only other Homeric line containing *iερεύσαντες* and with the same *a+b+c* metrical arrangement is $\Sigma 559$:

<i>βοῦν δ' iερεύσαντες</i>	<i> μέγαν ἄμφεπον</i>	<i> ai δὲ γυναικες</i>
<i>a</i>	<i>b</i>	<i>c</i>

Though here there is no metrical problem with the length of the syllable *-τες+μ* at the penthemimeral caesura, the question remains whether the *b* of the type $\Sigma 559$ motivates that of $\pi 454$, or vice versa. The latter alternative is more likely, because *ἐνιαύσιον* is contextually a point of neutralization between *a* and *c*, whereas *μέγαν ἄμφεπον* is, as a result of its verb here, contextually essential. It would thus be the traditional and unmarked member, such as *ἐνιαύσιον*, which could be transformed into several different contextual variations such as *μέγαν ἄμφεπον*, which in turn could exert appropriate changes in *a* and *c* (such as δ' in $\Sigma 559$). Furthermore, the formula *ἄμφεπον/ἄμφεπε(ν)* is traditional before the bucolic pausing (as in $\Psi 167$ and $\Pi 124$), whereas *μέγαν* in the *μέγαν ἄμφεπον* of $\Sigma 559$ merely fills in backward to the penthemimeral caesura, all of which again shows that *μέγαν ἄμφεπον* is a secondary formation. Another important indication that *ἐνιαύσιον* is primary comes from the fact that it is an epithet, ready-made as a metrical filler between the penthemimeral caesura and the bucolic diaeresis, describing sacrificial animals like *βοῦν-ν/ς* and *(σ)ῦν-ν/ς*, much as *δονρικλυτός* and *λευκάλενος* describe heroes and heroines respectively in the same metrical slot (see M. Parry, *L'épithète traditionnelle dans Homère* [Paris 1928] 120). In the slot after the bucolic diaeresis, the ready-made epithet describing the age of sacrificial animals is again different; e.g.,

$\xi 419$ οἱ δ' ὑν εἰσῆγον μάλα πίονα πενταέτηρον

If, then, *ἐνιαύσιον* is a primary type of formula, one might reasonably expect an original **ϝενιαύσιον*, so that *ϝ* could 1) make position with the

final consonant just before the penthemimeral caesura, or 2) prevent the shortening of a preceding long final vowel in the same slot, or 3) lengthen a preceding short final vowel in the same slot (for the latter function of the *f*, see Chantraine, *GH* I 146, 4th paragraph). Otherwise, without *f*, a primary *ἐνιαύσιον* either would have to be preceded regularly by forms like genitive plural *... *ιερεύσαντων*... (which is contextually unlikely for most instances) or would have to be considered a ready-made filler for a caesura *κατὰ τὸν τρίτον τροχαῖον*, which had *secondarily* de-

veloped into a penthemimeral caesura through elision of the last mora: e.g.,

($\nu 24$) *τοῖσι δὲ βοῦν iερευσ'* | + **ἐνιαύσιον* +

In sum, the Homeric evidence shows that an original **ϝενιαύτός* is possible.

Aside from the instance of *ἐνιαύτός*, the combination *ϝεν-* seems arguable for the Greek cognates and derivatives of *énos* (as listed by J. Pokorny, *Indogermanisches etymologisches Wörterbuch* [Bern 1949ff] s.v. *en-*), even “*πρητ-ήν*.” (The latter is given in Hesychios thus: *πρητήνας· τοὺς ἐνιαυσίους ἄρνας*; also *ἐπιπρητήν· αἴγος ἥλικία*. Cf. Aristophanes of Byzantium *ap.* Eustathios 1625.35ff.) As F. Specht suggests (*Der Ursprung der indogermanischen Deklination* [Göttingen 1944] 15f), the form *πρητ-* is probably a hyperionism (or an Ionic borrowing) from Doric *πρᾶτος* etc. (= *πρῶτος* etc. in Ionic, *et al.*); as for *ἐπι-πρᾶτ-*, cf. *πάππος* vs. *ἐπί-παππος*. Now a Doric form **πρᾶτ-ήν-* can be derived from **πρᾶτ-o-ϝεν-*, since intervocalic *ϝ*, especially when contiguous with *o* and when the distinct morpheme-boundary is no longer perceived, is lost early even in the Doric dialects, particularly the Cretan varieties (see C. D. Buck, *The Greek Dialects* [Chicago 1955] 48-49). The development **πρᾶτο-εν-* to **πρᾶτ-* -*ήν-* would parallel the ancient internal contraction+lengthening pattern of the type *φιλήρετμος* (*φιλ'-ήρετμος*) from **φιλο-ερετμος*; for an original summary from the IE standpoint, see J. Wackernagel, *Das Dehnungsgesetz der griechischen Komposita* (Basel 1889). For parallels involving an original *ϝ* (as initial consonant of the second member

in such compositions), cf. *κοτυλ-ήρντος* (Ψ 34), *ζωμ-ήρνσις*, *έτν-ήρνσις* (probably motivated by *ζωμ-ήρνσις*, since *έτνος* is an *-es-* stem), *οίν-ήρνσις*, and, perhaps most important, the Doric form of the latter, *ρου-άρντις* (as seen in *γουνάρντις· οίνοχόη*, Hesychios; emended from “*γουναύτις· οίνοχόη*” by H. L. Ahrens, *De Graecae linguae dialectis* II [Göttingen 1843] 55). The second member in these instances is from *ἀρώ* (**fārūw*); composition accompanied by lengthening of the initial vowel of the second member seems operative in cases of original *fē-* as well as *fā-*: e.g., *κοπρι-ήμετος* (Hippocrates, *ἐπιδημίαι* 2.1.9); see also Wackernagel, *op.cit.* 43, s.v. *EMEΩ*, as well as p. 42, s.v. *ΑΡΤΩ*, etc. For cases in Doric of this type of contraction (involving *fē-* in the second member) but apparently without lengthening, cf. *δαμιεργός* (Schwyzer, *DGE* 240.3-4, 9 [Astypalaia], 270.10 [Nisyros]). Cf. also *στειδής* (Alkman, *Partheneion* 71), a lakonized form of *θεο(τ)ειδής*. As for the posited **πρατήν*, if the accentuation of “*πρητῆνας*” is wrong, one might even propose a nominative **πρατ-ην-ā* (*qua* noun, not adj.). Perhaps Aristophanes of Byzantium had meant **πρατήνας* in the respective treatise (*περὶ ὀνομασίας ἡλικιῶν*) to which Eustathios refers with regard to this word (1625.36). A wrong accent could easily lead to a misinterpretation of declensions: hence the forms *πρητῆνες* in 1625.36, as well as *αἰγὸς ἐπιπρητῆνος* in 1625.37; besides, there is the influence of *ἐστῆνες*, mentioned in 1625.36. Thus for the *παροιμία* given in 1625.37, I would emend *ἐπιπρητῆνος* to *ἐπιπρητῆνον* (*qua* 2nd decl. adj.), so as to read:

αἰγὸς ἐπιπρητῆνον ἐρυθροῦ πήρη ἀρίστη

Likewise, *ἐπιπρητήν· αἰγὸς ἡλικία* in Hesychios might have been motivated by a misreading of something like **αἰγας πρητήνας* in Aristophanes. Besides “*πρητήν*,” a more obviously Doric form is the following entry in Hesychios (though admittedly there is a textual crux at the beginning): *πρατήνιον· τὸ † ὑπερον. †Αττικοί. καὶ ἡλικία τις προβάτου νέον. ὡς δὲ ἔνιοι τοῦ πρώτου γεννωμένον, οἱ δὲ ἐνιαυσιαίου, ἄλλοι ἀρχομένου συνονσίας.* (Perhaps *ὑπερον* “pestle” could be emended to a participial **ὑπερόν*, meaning “previous” or the like.) This form *πρατήνιον* could be explained as a derivative of the above-positied **πρατηνός, -ον*, or of a noun like **πρατηνā*. An

entry above *πρατήνιον*, namely *πρατάνιον μαλάρόν* (the spelling points to hyperdorism; for the reading, see M. Schmidt's ed. minor of Hesychios [Jena 1867] s.v.), can be connected with still another entry, *ἀμνόν· μαλλόν. ἢ τὸ ἄρτι τεχθὲν πρόβατον* (underline supplied), q.v. in the new edition of Hesychios by K. Latte (A-D, Copenhagen 1953) s.v. *ἀμνόν*.

Another Doric form which apparently manifests a derivative of *ἔνος* is found in the *Lexikon* of Photios (ed. S. A. Naber [Leyden 1864-65] s.v.): *προτήνιον· ἡλικία τις αἰγός· ἐν Καμειρέων ἱεροπούᾳ τράγον προτήνιον θύειν νόμος.* (The Kameiros to which the name of its inhabitants, *Καμειρεῖς*, refers is most probably the Dorian city on the west coast of the island Rhodos; cf. B 656, Herodotos 1.144, etc. See W. Pape and G. E. Benseler, *Wörterbuch der griechischen Eigennamen* [Braunschweig 1875] s.vv. *Κάμειρος, Καμειρέυς*, etc.) I would agree with F. Solmsen (*Beiträge zur griechischen Wortforschung* I [Strassburg 1909] 140) that the entry *προτήνιον* need not be considered a crux; on the other hand, the positing of an Anatolian provenience can be replaced with perhaps a simpler explanation. It has been shown that one of the reference-works from which the *Lexikon* of Photios occasionally draws its material is the non-extant *Lexikon* (*περιεργοπένητες*) of Diogenianos (see K. Latte in the prolegomena to his ed. of Hesychios, pp. ix, xliv); now the latter work is also the chief source on which the corpus of Hesychios was based, and it is also the *Lexikon* of Diogenianos whence entries containing *f* are eventually transmitted as containing instead *β*, *γ*, *τ*, etc. in Hesychios: e.g., *γίσγον* (*φίσ-φον*) · *ἴσον* and *γραιβία* ἢ *γραιτία* (*γραιφία*) · *πανήγυρις. Ταραντῖνοι.* (For a summary of entries where *τ=f* in Hesychios, see H. L. Ahrens, *De Graecae linguae dialectis* II [Göttingen 1843] 56. Cf. also the occasional transmission of *f* as *τ* in the texts of authors like Pindar; e.g., *τεάν* in *Nemea* 3.15 stands for *φεάν*, as indicated even by the respective Σ: *έάν*; another important example is in Sappho, *incerti libri* 20.1 [Lobel-Page]: *θέλω τί τ' εἴπην* = probably *θέλω τι φείπην* [see Thumb-Scherer *GD* II² 13, 92].) Thus if the Photian entry *προτήνιον* was taken from the *Lexikon* of Diogenianos or some other such source, then it could stand for Doric (specifi-

cally from Kameiros/Kamiros) *προφήνιον*. Such a form would prove that initial *f* did exist in the root of *ἔνος*: i.e. **fénos*. For the proposed semantic *προ-* + **fénos*, cf. *προ-* + *fétos*, as e.g. in the adj. *προέτειος*, -ov “last year’s” (“Aristotle,” *Problemata* 924^b6). As for the *η* in **προφήνιον*, cf. *ἡνῖς* (Z 94, etc.), q.v. in Frisk, *GEW*, s.vv. *ἐνιαυτός* and *ἥνις*.

With other Greek cognates and derivatives of *ἔνος*, there presently seems to be no serious difficulty in postulating the etymology **fev-*; even the fact that there is no contraction between *a* and *e* in a form like the already-cited *ἔπταενον* in Hesychios (just as in its defining counterpart, *ἔπταιτῆ*) points to a *f*. As for the troublesome form *ὕπενες· εἰς τετάρτην* (Hesychios again) listed by Frisk, *GEW*, under *ἐνιαυτός*, it should probably appear instead under his rubric *ἔνη* “the day after tomorrow” (derivation here: the IE deictic particle **en-*, as seen also in *ἔκενος*, Umbrian *enom* “tum,” etc.). H. L. Ahrens (*De Graecae linguae dialectis* II [Göttingen 1843] 386) has compared the Hesychian entry *ἔπέναρ· εἰς τετάρτην*. *Λάκωνες* with the presently-discussed *ὕπενες· εἰς τετάρτην*; also, there is *ἔναρ· εἰς τρίτην*. *Λάκωνες*, so that the Lakonian *ἔναρ* < *ἔνας* (this latter Dorian form is attested in Theokritos 18.14) parallels Attic etc. *ἔνης* “on the day after tomorrow.” Thus on the basis of the definition *εἰς τετάρτην*, W. Schulze (*Quaestiones epicae* [Gütersloh 1892] 474-475) is inclined to emend *ὕπενες* to *ὕπένας* (i.e., *ὅπ-ένας*), a seemingly Lesbian form, since *ἐπί/ὅπι* is sometimes rendered as *ὑπί* in this dialectal tradition (e.g., *ὅπισσω* transmitted as *ὑπίσσω* in Sappho A 19.10 [Lobel-Page], for which see Thumb-Scherrer, *GD* II² 89).

As for the IE cognates of *ἔνος* proposed by Meillet, the Lithuanian /pérnai/ might provide some information with regard to a possible initial *w*. In the case of Meillet’s directly juxtaposing (*Mémoires de la Société de Linguistique de Paris* 23 [1929] 275) *πέρ-ύτι* (from **wet-* as in *fétos*) with /pér-nai/, one might ask why the diphthong in /pér-/ is long, instead of short as in /peř-/ (/pérn/ in Latvian also shows the long vocalism; carefully noted should be the differing rôles of the marks ‘ and ~ in Lith. vs. ~ and ` in Latv., q.v. in J. Kuryłowicz, *L’accentuation des langues indo-européennes* [Wrocław-Kraków 1958], especially p. 179). Perhaps, then,

there is compensatory lengthening of /peř-/, resulting from the loss of /u/ in an older form like /*pérnai/. To replace the juxtaposition given by Meillet, one might thus propose **pér-ūnai* (from **wen-*) vs. *πέρ-ύτι* (with short *v*; from **wet-*). An interesting phonological parallel might be found in the juxtaposition of Lithuanian *vēlinas* “devil” with the Vedic *Varuṇas*, as suggested by F. de Saussure in a letter to A. Meillet (now published by E. Benveniste in *Cahiers Ferdinand de Saussure* 21 [1964] 115ff). He also interprets (*ibid.*) *vēlinias*, a *jo*-stem likewise meaning “devil,” as a derivative of *vēlinas*. Again, the difference in intonation between *vēlinas* and *vēlinias* should be noted.

There remain two more sources of doubt about an initial *f* in Greek *ἔνος* and its derivatives. One is the entry *e-ni-ja-u-si-jo* VIR in PY An 39rev.7. L. R. Palmer describes the context of this tablet as follows (*MGT* 134-135): “The obverse falls into two parts, [lines] 7-11 being in a different hand. The two parts list the specialist groups in the same order, the final entry of the second being written on the reverse. Scribe B has then drawn up a list of personal names in the dative (e.g. *pa₂-ra₂-te*), one of whom is the well-known official *a-ko-so-ta*. The MAN entries are left blank. Presumably the different craftsmen were to be assigned to or by these individuals.”

O. Landau (*Mykenisch-Griechische Personennamen* [Göteborg 1958] 48) interprets *e-ni-ja-u-si-jo* as †*Eviavosíw*. The dagger indicates that such a name is not attested elsewhere; indeed, it seems unlikely that a person listed in the same category with an “official” should have a name meaning “one-year-old, yearling”—at least, as far as the Homeric usage shows. But since it has already been seen that *ἐν-ιαυ-τός* is apparently a deverbal noun from *iauw* (see also P. Chantraine, *La formation des noms en grec ancien* [Paris 1933] 304) of the type *κωκυ-τός*, etc., one may well posit two different deverbatives, **fev-ιαυ-τός* and **ἐν-ιαυ-τός*, the second of course being a combination with the preposition (more correctly, the preverb) *ἐν*. The verb of such a posited deverbal noun **ἐν-ιαυτός* is actually attested:

- ι 187 *ἐνθα δ' ἀνὴρ ἐνίανε πελώριος ὅς ρά τε μῆλα*
- ο 557 *ἐσθλὸς ἐὼν ἐνίανεν, ἀνάκτεσιν ἥπια εἰδώς.*

Furthermore, other names bearing the connotation of sleep, rest, and the like are attested even in Linear B: e.g., KN U 4478+4, *a-u-po-no—A(h)upnos*.

A more serious problem is that the word *ἐνιαυτός* is consistently written without initial *f* in the classical epigraphical evidence, even in inscriptions like the Gortynian Code. But if besides a **fενιαυτός* meaning “pause of the year” there really did exist a form **ἐνιαυτός* (whence *e-ni-ja-u-si-jo*) meaning something like “pause, rest,” then the latter could easily have ousted the former by classical times, especially if the first part of the compound **fενιαυτός* was no longer distinctly perceived. Then too, the frequent use of the word with the preposition *ἐν* could have contributed to the early loss of *f*: e.g., *ἐν τῷ ἐνιαυτῷ* in I 46 of the Gortynian Code (*IC* IV 72), and *ἐν τοῖς ἐνιαυτοῖς* (Delphoi, the regulations of the Labyadai: *GDI* 2561C.49). Such frequent combinations, then, as the above *ἐν τῷ ἐν . . . τῷ* and *ἐν τοῖς ἐν . . . τοῖς* could easily lead to regrouping by *Sprachgefühl* into *ἐν(i) αὐτῷ* and *ἐν(i) αὐτοῖς*, all of which is even supported by the semantic of “anniversary” (hence a steadily-recurring event with the strong connotation of sameness). And this third but equally important factor of folk etymology is actually documented for the word *ἐνιαυτός* in Plato’s *Kratylós* (410 D), where the derivation “*ἐν ἑαυτῷ*” is specifically proposed.

A final argument here for the root **wen-* in *ἔνος* comes from the Hesychian entry *γεννόν· ἀρχαῖον*. F. Solmsen (*Untersuchungen zur griechischen Laut- und Verslehre* [Strassburg 1901] 215-216) thinks that *γεννόν* might stand for *fεννόν*, namely *hevnóν* (perhaps to be connected with IE **sen-*, as in Latin *senex*), though he concedes that such a form would be morphologically unclear. Instead of *γ=f* here, a more likely possibility seems to be *γ=f*, since, as already shown, *γ* frequently occurs as the transcription of an original *f* in Hesychios: e.g., Boiotian *φίσφος* (e.g., Schwyzer, *DGE* 665A.4) vs. Hesych. *γίσφον· ισον*. Thus perhaps *γεννόν* is a haploglacial writing of **γενενόν*, standing for **fενενόν < *fενεσ-νόν*; cf. Aiolian *φάενον < *φάεσ-νον*; for the accentuation, cf. Attic/Ionic *φαενόν*. If the proposed emendation **γενενόν* and the proposed connection with *ἔνος* is accepted, then the latter seems to be an *-es-* stem.

The second definition of *ἔνος*, entered in Hesychios as the alternate meaning, raises an interesting point: the words *ἐπέτειος καρπός* provide the specific connotation of reckoning from a point of time such as the harvest or vintage of the particular commodity involved. This is actually the context of the already-mentioned passage in *Theokritos*, 7.147:

τετράενες δὲ πίθων ἀπελύετο κρατὸς ἄλειφαρ

In other words, the starting-point of *ἔνος* does not seem to be a definite date on the calendar, but rather the varying time when various commodities are gathered for storage. In the case of animals, the point-of-departure measured by the unit *ἔνος* is, of course, the date of birth: hence the Homeric formulae *βοῦς ἐνὶ νηῷ | ἥνις ἡκέστας ἰερευσέμεν* (Z 93-4, etc.) and *βοῦν ἥνιν εὐρυμέτωπον | ἀδμήτην* (K 292-3, etc.), where the accusatives singular and plural *ἥνιν* and *ἥνις* “yearling(s)” are to be connected etymologically with *ἔνος* (see Frisk, *GEW*, s.v. *ἐνιαυτός*). Also to be compared is the adjective *τριένον* modifying *βοός* in an inscription from Pergamon (2nd cent. A.D.), q.v. in R. Cagnat and G. Lafaye, edd., *Inscriptiones Graecae ad res Romanas pertinentes* IV (Paris 1927) 360.32. But it is in the Theophrastean corpus, specifically the *Historia Plantarum* (henceforth abbreviated *HP*), that this word *ἔνος* in its derivative forms is chiefly attested, and it is also here that the discussed semantic force (as well as the appropriate context) of *ἔνος* etc. as it is applied to plants is seen most clearly. Thus in the discussion of pot-herbs and of the distinction between summer- and winter-herbs and their respective storage-capacities, the following generalized statement is made (*HP* 7.5.5): *διαμένει δὲ οὐδὲν* [sc. οὐδὲ τὰ θερινὰ οὐδὲ τὰ χειμερινά] *πλέον τεττάρων ἔτῶν ὥστε ἔπι χρήσιμον εἶναι πρὸς τοὺς σπόρους· ἀλλὰ δίενα μὲν βελτίω, τὰ δὲ τρίενα οὐδὲν χείρω, τὸ δ’ ὑπερτεῖνον ἥδη χείρον.*

δίενα conj. J. C. Scaliger; *δι’ ἔνα* UMAld.H. *τὰ δὲ τρίενα* conj. F. Wimmer; *διὰ δὲ τρεῖς* UMAld.-H.; the amendments are justified by parallels in *HP* 8.11.5 (a discussion of this passage follows), where the readings are secure. See the Loeb C.L. edition of Theophrastos, *HP*: ed. & tr. by A. Hort (London-New York 1916) vol. II, p. 97. The underlines in the text above are mine. “No seed will keep more than four years so as still

to be of use for sowing; though it is better in the second year, in some cases it does not deteriorate in three years, but after that time deterioration begins." [Tr. by Hort, *op.cit.* II, p. 97.]

Now if one applies the actual contents of the above-quoted passage to the Linear A sign-group *di-we-na* and to the already-examined context in which it occurs, the identification *di-we-na* = δίενα is highly plausible, down to the last detail of a neuter plural adjective describing an understood noun σπέρματα. Even the approximation of δι- as *di-* can be expected, since there is an IE doublet **dwi-* and **di-*, as seen in the Latin contrast *biennum* (the usual form) vs. *diennium* (q.v. in G. Goetz, ed., *Corpus Glossariorum Latinorum* IV [Leipzig 1889] 330.52 and V [1894] 596.55); also, δῖς and δι- do not make position in Homer (hence presumably from **di-*, not **dwi-*); for these and further observations, cf. M. Lejeune, *Traité de phonétique grecque* (Paris 1955) 71, note 1, and, in more detail, F. Solmsen, *Untersuchungen zur griechischen Laut- und Verslehre* (Strassburg 1901) 211-213. As for σπέρματα, it actually occurs in Linear B, but only in the singular; e.g., PY Er 312.2: *wa-na-ka-te-ro te-me-no | to-so-jo pe-ma* GRANUM 30. Interpretation: "φανάκτερον τέμενος· τόσιον σπέρμα WHEAT: 30 dry measures." And since the context of the sign-group Lc52' has been established as dealing with a commodity in some form of preparation, one is now ready to interpret the entry *di-we-na* Lc52' 43½ in HT 93a.1-2 as a whole. The translation might be as follows: "43½ measures of seeds two years in storage: commodity X, in prepared form Y."

However, that this entry should be syntactically integral is unlikely: it can actually be claimed that *di-we-na* does not modify adjectivally the word which the sign-group Lc52' represents. (Yet the normal word-order in Linear B is adjective+noun; for documentation, see Vilborg, *GMG* 138, no. 3.) The following reasons are submitted: 1) the sign-group *di-we-na* can be best explained as modifying an understood noun such as **pe-ma-ta* = σπέρματα; 2) sharing the entry-slot of such items as FICUS, GRANUM+qe, VINUM, etc., Lc52' fits the category *not* of a general term such as σπέρματα, but rather, of a specific commodity in some specific form of preparation; and 3) in the analogous combination *di-we-na ma-za* 3 (to be considered as a whole in the discussion yet to

follow), if *ma-za* is to be connected with μᾶζα, and *di-we-na*, with δίενος, -ov, then one cannot argue that *di-we-na* is of the feminine gender, since such a form would violate the archaism (stemming from IE) in Greek of having animate vs. inanimate opposition in compound adjectives of the first-second declension, instead of masculine vs. feminine vs. neuter (thus nom. fem. *adj.* ἀθάρατος instead of ἀθαράτη). The basic principle, however, behind such apparent syntactical discord as in *di-we-na ma-za* may be quite simple. It can be summarized in an axiom, as follows: *in the linear scripts A and B, scribal formula often takes precedence over syntax*. A pertinent outline of this very principle is given by E. L. Bennett ("Names for Linear B Writing and for its Signs," *Kadmos* 2 [1963] 122): "The Linear B texts include, as does most writing, elements of both lexicography and sematography. Where it is sematographic the serial order of speech is absent. In the texts we have, since their purpose is accounting, we see that it is the sematographic writing which generally dictates the arrangement. We frequently find that the texts are put into tabular form, and that the headings are often or normally not complete statements and that the lemmata of bookkeeping entries are often without consistent syntax. And we observe that the more economical sematograms are employed wherever possible in place of the phonographically written words with which must be expressed proper names, common names for the rarer commodities, and verbs for which no sematographic sign or device is available."

The sign-group (or one might more specifically call it "sematogram") Lc52' is an example of what is discussed in the last sentence cited. As for the statements preceding that, they in turn have a direct bearing upon the apparent syntactical discord of *di-we-na ma-za*. A good example of the same sort of phenomenon in Linear B is the sign-group *ko-wa* (=κόρφαι "girls")+number. Despite the fact that the first-declension feminine dual is expressed regularly in Linear B by the ending -o (thus, e.g., in KN Sd 4401.b:]i-qi-jo = ικφίω "two horse-chariots"; cf. the fem. dual καλυψαμένω in Hesiod, *Opera et Dies* 198), the entries for "two girls" are just as regularly written *ko-wa* 2 (e.g., in KN Ai 754) instead of the expected **ko-wo* 2 (see again Bennett, *Kadmos* 2 [1963] 118). Since *ko-wa* is thus predominantly a rubric in the scribal formulae, its function as such takes precedence over

the syntactical patterns of speech. Since, moreover, the specific syntactical discord suggested for *di-we-na* is the violation of the obligatory animate-inanimate distinction in Greek compound adjectives of the first-second declension, the occurrence of *a-na-ta* “not inlaid” (KN Sf 4420; see VC 368; also spelled *a-nq-i-ta*, in Sf 4419) in Linear B is even more directly applicable for comparison. As the orthographic variation *a-na-ta/a-na-i-ta* suggests, the word is derived from the Linear B verb *a-ja-* (in turn a borrowing, as suggested by the intervocalic *q*, from the Luwian verb *aya-* “make”; cf. J. Friedrich’s reference in *Hethitisches Wörterbuch* [Heidelberg 1952] 328, s.v., also L. R. Palmer, “Luwian and Linear A,” *TransPhilSoc* [1958] 85), which is attested in the participial form *a-ja-me-no*, *-na* “inlaid”; furthermore, since *a-na-to*, *-ta* is used in the tablets as the semantic opposite of *a-ja-me-no*, *-na*, it can justifiably be interpreted as a negative compound adjective (see VC 368). And yet, the already-cited form *a-na-ta* violates the obligatory non-gender of Greek compound adjectives in the first-second declension. The reason again lies in formula: the word *a-ja-me-no*, *-na* is a rubric in the Linear B tablets dealing with the manufacture of horse-chariots, *i-qi-ja* = *ikfiai*; furthermore, it categorizes them as “inlaid,” in its own set slot:

KN Sf 4421: *i-qi-ja / a-na-mo-to a-ja-me-na* etc.
Sf 4427: *i-qi-ja / a-na-mo-to a-ja-me-na* etc.

The adjective *a-na-mo-to* = *ἀνάρμοτοι* modifies *ikfiai*, and the above-mentioned rule for compound adjectives is kept; likewise, the *-a* ending spelled in *a-ja-me-na* stands for the *-ai* expected in the case of a simple, non-compound modifier. However, the syntactical motivation must be very weak even here, for it is outweighed by the formulaic once the rubric is changed from “inlaid” to “not inlaid”:

KN Sf 4420: *i-qi-ja / a-na-ta a-na-mo-to* etc.

Contrary to syntax, the rubric here is spelled *a-na-ta* instead of the expected *a-na-to*, presumably by the analogy of the ending in the other rubric, *a-ja-me-na*. Thus from the scribe’s point of view, the entries *a-ja-me-na* and *a-na-ta* (sic) were considered primarily as separate entities and only secondarily as components of a string of words based on speech. One can assume, further, that the Linear A sign-group *di-we-na* is also a rubric: it is an essential categorizer of the state of specific commodities such

as Lc52, and was seemingly a very important item to check, at least on the occasion of the scribes’ taking inventory of the commodities in the storage-places. (“Grain was usually stored in stone jars; sometimes, however, it was stored in bins or on the floors of rooms.”—summary of the pertinent archaeological evidence from the Bronze Age: K. F. Vickery, *Food in Early Greece* [reprinted with separate pagination from *Illinois Studies in the Social Sciences* 20 (1936)] 49.) After all, as the already-cited Theophrastean passage indicates, it was not advisable to keep *σπέρματα* for more than two years or so.

10. *The entry di-we-na ma-za 3 considered as a whole.* Now that it has been established that *di-we-na* and *ma-za* need not be connected syntactically, the following question still remains: since the references thus far cited deal only with storing *σπέρματα* for the purpose of sowing, why are these associated in the case of HT 102.3-4 with the supposed lexeme *μᾶζα*? The answer may well lie in another passage of the *Historia Plantarum* (8.11.5): *πρὸς ἔκφυσιν δὲ καὶ τὴν ὄλην σπορὰν ἀριστά δοκεῖ τὰ ἐνάενα. τὰ δὲ δίενα χείρω καὶ τὰ τρίενα, τὰ δὲ ὑπερτείνοντα σχεδὸν ἄγονα, πρὸς δὲ τὴν σύτησιν ἀρκοῦντα.*—underlines supplied. “For propagation and sowing generally seeds one year old seem to be the best; those two or three years old are inferior, while those kept a still longer time are infertile, though they are still available as food.” [Tr. by Hort, *op.cit.* II, 209; one might substitute “adequate” for “available.”]

Thus *di-we-na* in the context of *ma-za* may well refer to *σπέρματα* destined not for sowing but for food. This additional information gleaned from the last sentence of the cited text is especially significant because in this passage the discussion is not concerning pot-herbs as in *HP* 7.5.5, but rather cereals, including wheat and *barley*. Preceding this quoted Theophrastean passage is another statement perhaps relevant, to the effect that one type of barley is harvested for storage before it is dry, because then *it is more suitable for meal* (*διὰ τὸ βελτίους εἰς τὰ ἄλφιτα γίνεσθαι μὴ ἀπεξηραμμένας. HP* 8.11.3). Now it has already been seen that barley-meal (*ἄλφιτα*) is the component of *μᾶζα*. Thus *di-we-na* may well refer to *σπέρματα* of barley stored for two years (*δίενα*), the meal (*ἄλφιτα*) of which is used to make *μᾶζα*. But can it be assumed that in the times of the palace of HT, just

as when the *HP* was written, grain was stored for periods measured by years?

addendum: For an even later but similar statement regarding extended storage of barley, cf. Pliny, *NH* 18.14.74: "qui diutius volunt servare [i.e., hordeum] cum polline ac furfuribus suis condunt novis fictilibus." See the Loeb C. L. edition, ed. & tr. by H. Rackham (Cambridge, Mass.-London 1950) vol. V, p. 237: "Those who want to keep it [i.e., barley] for some time in store put it away in new earthenware jars with fine flour and its own bran."

What follows is a summary of the archaeological evidence on the affirmative: "Les grains se conservaient dans des *pithoi*; on en a trouvé un bon nombre dans les maisons de Hagia Triada et de Palaicastro, avec des céréales calcinées par l'incendie. Le palais de Cnosse en renfermait de longues rangées [the author cites fig. 26], et l'on a relevé le sceau du grainetier royal près d'un tas de blé brûlé. Peut-être faisait-on du pain de millet en Crète comme en Thessalie." [G. Glotz, *La civilisation grecque*² (Paris 1952) 187.]

The corpus of Linear B itself seems to provide proof for the postulated extended storage of grain in a fragmentary tablet from Mykenai, Ue 652 (the readings here will be those given by A. Morpurgo, *Mycenaeae Graecitatis Lexicon* [Rome 1963] s.vv. *pe-su-si-nwa*, etc.). Its context is a list of commodities: thus for example GRANUM in line 1 and OLIVAE in line 3. Most significant for the present speculations on grain-storage is line 2: *pe-su-si-nwa* GRANUM [---]; line 4 also begins with *pe-su-si-nwa*[---], and one can conjecture another commodity-symbol (+number) for the lacuna. Now the Linear B adjective *pe-su-si-nu-wa* (PY Ma 216, etc.) / *pe-su-si-nu-wa* (PY Ma 126.1, etc.; or *pe-su-si-nwa*, as here in MY Ue 652 and in KN So 4442, etc.) corresponds to the classical Greek *περνωνός*, -ή, -όν, the adjectival form of *πέρνω* "last year" (see VC 404). In PY Ma 225, it is used to contrast with *za-we-te* "this year," while in MY Oe 111, with *ne-[wa]*. Significantly, this Linear B lexeme is spelled with a *w* even though the expected ending is *-vós*, not *-vفós*. The spelling with *w* might be on the analogy of *ne-wa* (see M. Lejeune, *Mémoires de philologie mycénienne* I [Paris 1958] 78), and since both *pe-su-si-nwa* and *ne-wa* seem to function as rubrics, there is the possibility

that the proposed analogy involves orthography, not actual pronunciation, and that here is yet another instance of scribal formula taking precedence over an aspect of spoken language—in this case morphology, not syntax. As for the entry *pe-su-si-nwa* GRANUM[+number ---] in MY Ue 652.2, the sign-group *pe-su-si-nwa* seems to match the Linear A *di-we-na*—even to the extent that both seem to be neuter plurals and modifying some understood noun, such as **pe-ma-ta* = *σπέρματα*, or perhaps *ka-pa*. (Cf. the expression *περνσινά σπέρματα* in Mnesitheos [3rd cent. B.C.] *ap.* Oreibasios 2.67.1.) It also seems significant (for the proposed connections in the vocabulary of the language of Linear B with the AC dialect) that Theophrastos (*HP* 3.12.4) ascribes to "the Arcadians" a description of the *καρπός* of the *ἄρκευθος* tree which reads as follows: ὡς δὲ οἱ ἐν Ἀρκαδίᾳ λέγονται, τρεῖς ἄμα καρποὺς ὕσχει, τὸν τε περνσινὸν οὐπω πέποντα καὶ τὸν προπερνσινὸν ἥδη πέποντα καὶ ἔδωδιμον καὶ τρίτον τὸν νέον ὑποφαίνει.—underlines supplied; cf. *pe-su-si-nwa* and *ne-wa*. The informants for the quoted passage are stated to be Arcadian wood-cutters (*ἀρεοτύποι*), while the investigator was one Satyros, who also gathered actual specimens of the *καρπός* discussed (see *HP* 3.12.4). The evidence, then, from Linear B indicates that the contemporary bookkeeping system had designations for reckoning the storage of grain in units of time as long as at least one year, and thus *di-we-na* corresponds plausibly with *δίενα*. In sum, the entry *di-we-na ma-za* 3 in HT 102.3-4 may well be transliterated *δίενα· μᾶζα· 3*, and interpreted as "grain harvested two years ago: barley-cake: 3 measures."

It still remains to ask why this *μᾶζα* was made of barley stored for two years. The answer might be found by examining the other readily-recognizable commodities listed on HT 102, namely GRANUM 976, GRANUM+*pa* 33, and GRANUM+*pa* 33. For one thing, the adjunct *pa* here may be compared with the corresponding adjuncts of Linear B:

In a number of situations *ne-*, *pe-* and *pa-* may be suspected of standing for *newos* "young, new," **presgus* / *presguteros* "senior" (or *perusinwos* "last year's") and *palaios* "aged, old"; but proof is difficult. [VC 53.]

It has since been established on the basis of the juxtaposition of *ne-wa*, *-wa* (= *vέos*, etc.) and *pa-ra-jo*, *-ja* in newly-found Linear B texts that the

latter sign-group does indeed correspond with the Greek adjective *παλαιός* (see J. Chadwick and L. Baumbach, *Glotta* 41 [1963] 232, s.v. *πάλαι*). That this word should be approximated in Linear B as *pa-ra-jo* suggests orthographic deviation from morphology (for one thing, the ending *-eos*: one would have expected something like **qa-ra-wo*, for **qʷalai-wos*), probably again on the basis of a formulaic analogy with the spelling of some other rubric; even more, the *p* instead of *q* may mean that the traditional etymology of *παλαιός* is wrong. But since the interpretation of *para-jo* as *παλαιός* has been made secure on the basis of context, doubt about the meaning of the equally juxtaposed (as *ne-wo* and *pa-ra-jo*) *ne* and *pa* should be dismissed. And since it has already been seen that *ne-wo*, *-wa* and *pe-su-si-nu-wo*, *-nu-wa*, *-nwa* in Linear B can be applied to grain which has presumably been stored, it is plausible that *pa-ra-jo* (or *pa*, in adjunct form) might also be applied to grain—but perhaps only to the kind of grain which has, by negligence, by miscalculation of supply-and-demand, or for some other such reason, been kept in storage too long, so that the scribe responsible might not feel disposed to reveal (or might not know) the specific age of the grain. Thus GRANUM+*pa* in HT 102 might indicate wheat which is of perhaps inferior quality because it was stored beyond a prescribed period of time; the GRANUM without any adjunct could well refer to prime-grade, presumably fresh, wheat. Such a situation would perhaps explain the small proportion of GRANUM+*pa* (i.e., 33 and 33 measures) that was added to an amalgam which contains as large a portion as 976 measures of regular wheat. Indeed, the GRANUM+*pa* might not have even been noticeable in the end product. That *pa*= (?)*pa-ra-jo* and *di-we-na* should occur on the same tablet is then in itself complementary for the interpretation. But mention of the end product again raises directly the question now pursued: what is the use of *di-we-na ma-za* 3? Since the tablet contains such a preponderant amount of wheat, one surmises that the end product here is bread. Now the internal evidence of Linear B itself, what with mention of *a-to-po-qo* (PY An 39, etc.) = *artopoqʷoi* “bakers” (cf. *ἀπτοκόπος*, Herodotos 9.82, etc.) and of *me-re-u-ro* (PY Un 718) = *meleuron* “flour” (cf. *μάλευρον*, Alkaios 70 [Bergk] = *inc. auct.* 4 [Lobel]), is sufficient to show that bread-baking was not only a familiar process, but also an actual occupation (see

VC 130). The archaeological evidence too can be interpreted thus: “Certain pottery covers, suggesting the lid of modern roasters, may have served as ovens. [Ref. to H. B. Hawes, *Gourniā, Vasiliκi, and other Prehistoric Sites on the Isthmus of Hierapetra* (Philadelphia 1908) 30; also plate 2, nos. 34, 39, 40, 41, 43.] Bread could be placed on a slab or dish of stone or pottery ware, covered with a cover of the sort referred to, and placed over the coals.” [Vickery, *Food in Early Greece* 50.]

The postulations above have now been confirmed by the evidence from the Linear B corpus: KN Uc 160r.2 reads *i-po-no* VESSEL 14 (see ill. 3, no. 3, line 2). Now *i-po-no* is equivalent to classical Greek *ἰπνός* (as in Herodotos 5.92.η'), meaning “an earthenware dish or cover in which food was baked” (VC 329; see also Frisk, *GEW* s.v.); cf. Eng. *oven*. Further, if GRANUM 976 and GRANUM+*pa* 33 and 33 were to be used for baking bread, the question can be raised whether the *ma-za* was used for leavening. Now the IE etymology /*yūs-mā/ of the standard Greek word for “yeast” (*ζύμη*) reveals that it is cognate with a widespread IE verbal form that carries the basic connotation of “mix”: thus Sanskrit *prayāuti*, Lithuanian *jáuti* (/jáuti/); see Frisk, *GEW* s.v. *ζύμη*. Moreover, semantic specialization in some IE languages actually brings about a striking correspondence with the meaning of Greek *μάστω*: thus Latvian *jāut* = “stir dough, knead”; *javs* = “dough.” This parallel suggests that the basic meaning of *ζύμη* may well be “a kneaded mass”; certainly the more primitive ways of making yeast in the ancient world would support this argument. For example, Pliny reports (*NH* 18.27.103): “quo libeat vero tempore ex aqua hordeoque bilibres offae ferventi foco vel fictili patina torrentur cinere et carbone usque dum rubeant; postea operiuntur in vasis donec acescant; hinc fermentum diluitur.” “. . . [yet] it is possible at any time one chooses to make leaven from water and barley, making two-pound cakes and baking them in ashes and charcoal on a hot hearth or an earthenware dish till they turn brown, and afterwards keeping them shut up in vessels till they go sour; then soaked in water they produce leaven.”

In parallel passages written in Greek describing the same sorts of yeast-making processes, the “cakes” involved are actually called *μᾶζαι* (e.g., in *Geoponika* 2.33.3, but with the later spelling *μάζαι*). One can conclude, then, that *μᾶζα* “kneaded thing” can plausibly refer to *ζύμη*. And if *di-we-na ma-za*

3 can be interpreted as δίενα· μᾶζα· 3, then the three measures of barley-cake made from grain stored for two years may well have been used as leaven for baking bread from the amounts of wheat reckoned in HT 102.

II. *Some sign-groups designating commodities in the Cr-series.* There is also another instance, however tentative, in the extant corpus of Linear A where the context can be shown to deal with grain stored for a long time: it is on the sealing Cr V 5. (For the function of these sealings as attached subject-markers of records, see M. Pope, "The *Cretulæ* and the Linear A Accounting System," *BSA* 55 [1960] 200-210.) The text reads as follows:

- a. HORDEUM+pa *ku-pa*
- b. *ti-ta-na*

Perhaps *ti-ta-na* might approximate the non-IE lexical item in Greek, (ἡ) τίτανος "gypsum"; *ku-pa*, on the other hand, might be somehow connected with γύψος "gypsum." Seemingly significant about the latter word is that it is apparently a borrowing from a Semitic language (cf. Arabic *jib*s "gypsum," and the verb *jabbasa* "plaster"; see W. Muss-Arnolt in *TAPA* 23 [1892] 70). The spelling *ku-pa* might approximate what could be transliterated *gubs* / *gups* (whence γύψος); for a possibly similar treatment of final-consonant+s in Linear B, cf. *wa-na-ka* (KN Vc 73) = *ϝάναξ*. Thus *ti-ta-na* on side b might actually be a translation of *ku-pa* on side a. However, it still remains to ask why gypsum should be mentioned together with HORDEUM+pa in Cr V 5. The adjunct +pa indicates, as it has been seen, that the commodity with which it occurs—in this case, barley—has been stored for a long time. Possibly, then, the gypsum might have been used as a preservative of barley. And this indeed was one of the many agricultural uses of gypsum in ancient times, as can be seen from *testimonia* such as *Geponika* 2.30.1-2: περὶ διαμονῆς κριθῶν, ὥστε ταύτας ὑγεῖς ἐν τοῖς ὄρεοις φυλάττεσθαι ἐπὶ πλεῦστον χρόνον. Δαμηγέροντος.

τηρήσει τὰς κριθὰς ἀβλαβεῖς δάφνης καρποφόρου φύλλα ξηρά, καὶ πᾶσα τέφρα, μάλιστα δὲ ἡ ἀπὸ τῶν ξύλων τῆς δάφνης, ἐντιθεμένη. ὅμοίως δὲ τὰς κριθὰς καὶ ἡ ἀείζωσ βοτάνη ξηραινομένη, καὶ μετὰ καλαμίνθης σὺν γύψῳ ἀναμιγνυμένη ταῖς κριθαῖς.—underline supplied here.

Besides the pair *ti-ta-na* / *ku-pa*, another instance

in the Cr-series of apparent alternate-rubrics is the sign-group *su-FICUS-ka* on the roundels Cr IV 2a and Cr IV 3a (see "GE" 198f and fig. 6). Here the *su-ka* can be interpreted as *σῦκα*, glossing the symbol FICUS in the middle (*ibid.*, 198f).

II. SEEMINGLY RECOGNIZABLE SYNTAGMATA

I. *Possible verbal forms.* The contextual correspondences of the following sign-groups are worth noting:

- HT 96a.2-3: *ne-mi-ta* GRANUM 5 *ru-sa* 14
 HT 128a.3: [ne]-*mi-ta* GRANUM+pa ½ GRANUM+*ku* 6
 b.2: *ru-sa* GRANUM+pa 4 GRANUM+
 ••••••••••••
 ku 6

Within the extant corpus, there is no further occurrence of either *ne-mi-ta* or *ru-sa*. It should be observed that *ne-mi-ta* and *ru-sa* are in the context of wheat (GRANUM) not only when they are used together (as in the first cited text) but also when they are apart (as in the second). Thus it is possible that the semantic force of both *ne-mi-ta* and *ru-sa* is inherently connected, from the scribal standpoint, with the wheat-symbol. Perhaps, then, *ne-mi-ta* and *ru-sa* indicate the specific transaction involved in the specific amounts. Suggested equivalents:

ne-mi-ta: νέμεσθαι "to be distributed"; the verb νέμω is specifically applied to commodities even in Homeric Greek: e.g., I 217 (*κρέα*), η 179 (*μέθυ*), etc. For the assumed orthographical representation of *nemesthai* by *ne-mi-ta*, it is to be noted that in Linear B the spelling C + i sometimes represents C + e; see D. A. Hester, "The i/e Alternation in Mycenaean Greek," *Minos* 6 (1958) 27, 32f. (It should not be taken for granted, however, that such variations as spelling *e/i* for /ɛ/ necessarily involve phonemic convergence of *e* and *i*; rather, it is likely that this phenomenon is due to occasional lapses into orthographical underdifferentiation of separate vowel-phonemes, or in blunter terms, into misspellings.)

ru-sa: λύσαι "to release"; cf. μισθὼν λύειν "pay wages," as in Xenophon, *Agesilaus* 2.31; cf. λύσις qua "redemption of mortgage or pledge," as in *Inscriptiones Amorgi*, ed. J. Delamarre in *IG XII* fasc. 7 (1908) 55.14. Cf. the Latin cognate *reluere*

"redeem" (*reluat* in Statius Caecilius *ap.* Festus, s.v.: glossed by *resolvere, repignerare*; p. 352 in the edition of W. M. Lindsay [Leipzig 1913]).

If the comparison of *ne-mi-ta* and *ru-sa* with *nemesthai* and *lusai* is valid, it is worth noting that the latter two verbs in the context of GRANUM would *per se* imply that the wheat involved had been stored and was subsequently readied for distribution. Cf. the discussion of grain-storage in sections I.9 and I.10 above. Another possible verbal form (in a contextual slot similar to that of *ne-mi-ta* and of *ru-sa*) is found in HT 40.2: *ki-da-ta* GRANUM 134. Suggested equivalent: *σκέδασθαι* "to be dispersed" (for sowing?). The term "equivalent" has been used throughout this discussion in order to qualify: no identifications are here suggested—merely connections, preferably on the morphological level. Yet it is precisely in this respect that there is difficulty here throughout. There seem to be no linguistic motivations (though there may be scribal ones) for a contrast between active and passive, as in *λῦσαι* and *σκέδασθαι*. With the proviso in the *addendum* of section I.6 kept in mind, one might again propose verbals like **νεμετέα*, *λυτέα*, *σκεδαστέα*. In the case of *λυτέα*, it would be a question of the approximation of *-teā* by *-tja-*, which in turn might share one spelling device with *-oja-*, namely *-sa-*; cf. the discussion in section I.8. However, this would mean a free spelling-variation of *-ta/-sa* for *-téa*. Perhaps instead *ru-sa*: *λυτέα* vs. *ne-mi-ta*: *νέμεσθαι*.

Linear A texts of a non-economic nature often preclude contextual analysis. By exception, however, the huge disyllabic inscription (V 15 in *ILA*: the two signs each measure ca. one foot vertically) reading *a-pi* might yield a meaning derivable from archaeological investigation: it is chiseled onto the jamb of the entrance to a *tholos*-tomb on the Kephala. The latter site, it has been suggested, might well have been the burial-place of a Mycenaean prince ruling at Knossos; see the article by R. W. Hutchinson, "A Tholos Tomb on the Kephala," *BSA* 51 (1956) 74-79. "Whatever may have been the interpretation . . . of this inscription it seems evident that the signs are not to be reckoned merely as masons' marks, and that they were intended to be read by people entering the tomb [p. 77]." Hutchinson further suggests that the marking *a-pi* was by a Minoan official, "who examined and sealed the tomb after the blocking wall had been broken by . . . robbers and when the remaining wall

finished with a sloping surface [p. 77]." Since the tomb was sealed off, *a-pi* might indicate that to enter is forbidden. On the basis of context, then, one might propose **ἀπει* "go away!" (instead of *ἀπιθι*, normal imperative of *ἀπειμι*). Cf. *ἔξει* "go out!" (instead of *ἔξιθι*) in Aristophanes, *Nubes* 633. The imperative ending *-θι* (IE*-*dhi*) is optional in archaic Greek: e.g., *δίδω* "give!" (γ 58) vs. *δίδωθι* (γ 380); for a list of such variations, see Meillet-Vendryes 333. Cf. also Latin *abi* (from *ab+ei*).

2. *Miscellanea: possible case-formations*

a) *da-me* in HT 86a.4, 106.3, 120.1-2; cf. the frequently recurring Linear B word *da-mo* = *δᾶμος* "village, *pagus*." Since *da-me* seems to occur in the same contextual slot with *pa-i-to* = Phaistos (presumably) in HT 120, it could well be a place-N; see "GE" 205-206. Perhaps the ending in *da-me* reveals an archaic locative of the second declension, of the type *πανδημεῖ*: thus *da-me* might correspond to **δάμει* "at the *pagus*"; cf. the apparent locative in Linear B *di-da-ka-re* (KN Ak 781, etc.), q.v. in VC 162-163.

b) *ri-mi-ne* in HT 119.2; perhaps to be connected with *λιμένι* (locative). Cf. Hesychios: *λιμήν· ἀγορά· καὶ ἐνδιατριβή· Πάφου*—underline supplied. See also Galen, *Thrasyboulos* 32; etc. Cf. also *ἐσθέμεν ἐς τὸν λιμένα* (= *τὰν ἀγοράν*), *Inscriptiones Thessaliae*, ed. O. Kern in *IG IX pars 2* (1908) 517.42 (Larissa). If the above connections with *δᾶμος* and with *λιμήν* are both plausible, then perhaps *da-me* / *ri-mi-ne* point to semantically contrasting rubrics. Cf. the possible parallel in Linear B: *e-ra-po ri-me-ne* in PY An 657.12, interpreted by H. Mühlstein as *'Ελάφων λιμένει* (*Die Oka-Tafeln von Pylos: ein mykenischer Schiffs-katalog?* [Basel 1956] 25); cf. also C. Gallavotti, *Documenti e struttura del greco nell' età micenea* (Rome 1956) 170, 191; L. R. Palmer disagrees (*MGT* 155), arguing that *e-ra-po ri-me-ne* are simply two Ns of "officers." However, A. Morpurgo (*Mycenaeae Graecitatis Lexicon* [Rome 1963] s.v.) seems correct in citing the Cretan place-name *'Ελάφω λίμνα[ν]* in *IC I* 16.5.61. For the relationship *λίμνη : λιμήν*, cf. *ποίμνη : ποιμήν*, etc., q.v. in E. Schwyzer, *Griechische Grammatik* I (Munich 1939) 524.

III. THE SIGNIFICANCE OF THE SIGN-GROUP *a-ri-ni-ta*

1. *The text involved.* HT 25 is quite fragmentary, what with only its lower one-third intact (*supra*

mutila, desunt ca. 6/7 versus), but its context seems clear: it is a list of Ns with the numeral 1 affixed after each item. (Qualification: these Ns might include some ethnics formed from place-Ns; thus the *pa* in a.5 is possibly connected with *pa-i-to*. Cf. "GE" 197; in the cited work, the items *di*, *ki*, and *pa* had been tentatively associated with *di-na-u*, *ki-re-ta-na*, and *pa-i-to*. Peruzzi, however, reads *di-na-u* [IM 119] instead of Brice's *di* 1 *ki* on line 2, side a, q.v. in *ILA*.) A commentary on the text itself is given by Peruzzi in *IM* 119; here it is noted that the final tally at the end of side b is preceded by two separate tallies: one of men and one of women. Thus HT 25b.2 is to be read as follows: VIR 28 MULIER 24 *ku-ro* 52. (For the interpretations L99=VIR and L99f=MULIER, see Peruzzi, *IM* 54-55; cf. also section I.5 of this work.) Hence it can be deduced that the numeral 1 following each listed N throughout the tablet was for the purpose of a head-count, rather than for an indication of a standard amount given or received. Very important in this head-count of persons is the entry on side a, line 3: *a-ri-ni-ta* 1. (For the distinction between *ri* and *we*, see again "GE" 185-186, and the textual notes for HT 102 in section I.1 here.) The crucial hint for the possible derivation of the N *a-ri-ni-ta* might be found in the following statement by J. Chadwick (*Decipherment* 127): "We might have expected the classical Greek word *grapheus* to be in use [that is, in Linear B, to designate "scribe"], for *graphō* 'write' meant originally 'scratch,' a suitable designation of the process of writing on clay. But the Cypriots of classical times preferred another word, *alinō*, meaning originally 'paint'; and if, as in so many things, the conservative Cypriots had retained an old word for 'write' we might expect this root in Mycenaean."

2. *The verb alinō.* As it happens, the most important attestation of *alinō* comes from the AC dialectal group itself: it occurs on the important Cypriote inscription known as the Bronze Tablet of Idalion (Masson, *ICS* 217). The wording is as follows (line 26): *ta-ta-la-to-ne ta-te ta-ve-pi-ja ta-te i-na-la-li-si-me-na* = *τὰ(ν) δάλτον τά(ν)δε, τὰ φέπιja τάδε ἴναλαλι(ν)σμένα(ν)*. Meaning: "this tablet, inscribed with these words" (the construction shows agreement of *δάλτον* with *ἴναλαλι(ν)σμένα(ν)*: see M. Lejeune, *Bulletin de la Société de Linguistique* 33 [1932] 68). Also attested, from Epidauros, is *ἀλινσιν τοῦ ἐργαστηρίου καὶ κονία-*

σιν (*ἀλινσις* = "stuccoing, ἀλευψις"), q.v. in *Inscriptiones Argolidis*, ed. M. Fraenkel in *IG IV* (1902) 1484.39. These readings can then be further corroborated with the Hesychian entries *ἀλίνειν* (*cod. -νεῖν*) • *ἀλείφειν*, and *ἀλίναι* • *ἐπαλεῖψαι*. Both of these, as Chadwick observes, contain the basic connotation of "smear" or "paint," from which the specifically Cypriote application of "inscribe" is derived. (For semantic parallels, cf. **peik-* as in *ποικίλος*, besides, e.g., Russian *pisat'* "write," Old Persian *ni-pištā* "copied," etc.) But even with *ἀλείφειν* "smear" as with *ἀλίνειν* "smear," the semantic force of "write" is *eventually* developed in Cypriote; thus in Hesychios: *ἀλειπτήριον γραφεῖον. Κύπριοι*. Also: *διφθεράλοιφος* (*sic accent.*) • *γραμματοδιδάσκαλος παρὰ Κυπρίοις*. Furthermore, this Hesychian entry *διφθεραλοιφός* "Pergamentbeschreiber" (so Bechtel, *GD* I p. 447) is actually attested epigraphically in the Cypriote corpus: thus *to-ti-pe-te-ṛa-lo-i-po-ne* = *τῶ διφθεραλοιφῶν* (Masson, *ICS* 143; from the city of Marion. Cf. the recent comments about this inscription by J. V. Karageorghis in *AJA* 60 [1956] 355), and this particular word must have been in use *at least* since the fourth century B.C. For an interesting discussion of the implications that this Cypriote evidence casts on the procedures involved in Mycenaean and "Minoan" writing, see H. T. Bossert, "Sie schrieben auf Holz," *Minoica* 77, 79. (In Linear B, however, the basic meaning of *ἀλείφω* and its derivatives is still apparently "smear": e.g., *a-ro-pa* in PY Fr 1225.2, to be understood as *ἀλοιφᾶ* "oleum, unguentum".)

The verb *ἀλίνειν*, furthermore, is clearly IE; cf. its Latin cognate *linō* "smear." From the IE standpoint, the *n* in both *linō* and *ἀλίνω* is the *n*-suffix of the present tense; thus the Latin perfect tense of *linō*, for example, is *lēvi*, without any *-n-* (see the discussion by Frisk, *GEW* s.v. *ἀλίνειν*). The occurrence in Greek of the form *ἀλίναι* (instead of **ἀλίσαι*), on the other hand, shows that *ἀλίνω* is of a present-tense formation different from that of *linō*: instead it follows the pattern of *κλίνω*. The latter type of Greek present shows a combination of the primary *v*-suffix with a very productive secondary suffix—that of *-ye-/yo-*. Thus the original suffix *-n-* becomes considered as part of the root in forms like **κλίνσαι* → *κλῆγαι*. Contrasted with this aorist infinitive is that of a simple *v*-suffix verb (see the discussion in A. Meillet and J. Vendryes, *Traité de grammaire comparée des langues classiques*³ [Paris 1963] 187). Thus the form *ἀλίναι*

(presumably from *ἀλίνσαι) of the verb ἀλίνω clearly puts it into the same category with those of the type κλίνω (see again Frisk, *GEW* s.v. ἀλίνειν). In other words, from the Greek standpoint, *κλίν-γω and *ἀλιν-γω are -ye-/yo- suffix presents, not -n- suffix presents; thus a deverbal noun of κλίνω such as κλιν-τήρ (σ 190) is formed from the present stem, with the n included as if it were not originally a suffix but rather part of the root. Likewise, the suffix -σις is added to the no longer suffixal n (again from the Greek standpoint) in the case of ἀλινσις mentioned above.

3. *The pair -γω/ -ίζω.* What is significant in the above discussion for the item *a-ri-ni-ta* in HT 25a.3 is that the secondary present suffix in -ίζω alternates with the -ye/-yo- suffix of certain verbs, sometimes as early as in Homeric Greek: e.g., ἐναίρω (from *ἐναρ-γω) : ἐναρ-ίζω (ἐναιρέμεν Ω 244 vs. ἐναρίζοι Α 191); though in the following case the i is part of the root, cf. also δαίομαι : δαΐζω (δαίεται α 48 vs. δαΐζων ξ 434). There are several other examples from later sources, such as ράινω : ρανίζω, μελαίνω : μελανίζω, (ἀ)σκαίρω : (ἀ)σκαρίζω, μαρμαίρω : μαρμαρίζω, σκάλλω : σκαλίζω, etc., wherein the respective stems ράν-, μελαν-, (ἀ)σκαρ-, μαρμαρ-, and σκαλ- have alternating suffixes in -γω and -ίζω. As for mention of the “secondary present suffix in -ίζω,” it is to be noted that the primary present suffix in -ίζω was a denominative from nouns in -ιδ-; e.g., ἐρίζειν from ἐρις, ἐριδος. Thence the suffix spreads to i-stem nouns, thence to nouns of any stem (e.g., ἐτειχίσταντο from τεῖχος, in H 449) and even to verbs (e.g., ἀλεγίζω in A 160, etc. vs. ἀλέγω in Λ 389, etc.); see P. Chantraine, *La formation des noms en grec ancien* (Paris 1933) 335-358, and *id.*, *GH* I 339-340. And on the basis of the above-listed sets in -γω and -ίζω, one might, then, posit a by-form *ἀλιν-ίζω on the basis of *ἀλιν-γω.

4. *The suffix -ίζω in AC, etc.* On the basis of the pertinent glossarial and epigraphical evidence, however scant, of classical Cypriote, such eminent authorities as A. Thumb (*GD* 295: “das Kyprische scheint Verba auf -ζω bevorzugt zu haben”) and A. Meillet and J. Vendryes (*Grammaire comparée* 189: “le suffixe -ζω a pris en cypriote une grande extension”) can state flatly that suffixes in -ζω were productive in that dialect. As for the large number (proportionally) of verbs in -ίζω specifically, the following instances are directly attested in Cypriote:

- 1) ἀορίζειν· ριγοῦν. *Κύπριοι* (Hsch.). ἀθρίζειν cod.: emended to ἀορίζειν (Hoffmann, *GD* I 107).
- 2) αὐελκίζει· σφακελίζει. *Κύπριοι* (Hsch.). αὐεκίζει cod.: emended to αὐελκίζει (Hoffmann, *GD* I 109).
- 3) βορβορίζει· γογγύζει, μολύνει. *Κύπριοι* (Hsch.).
- 4) δαματρίζειν· τὸ συνάγειν τὸν Δημητριακὸν καρπόν. *Κύπριοι* (Hsch.).

5) *e-xe o-ru-xe* (Masson, *ICS* 217 [again, the Idalion Bronze], lines 12 [bis], 24, 25) = ἔξορ-φίξη, corresponding to the Attic verb ἔξορίζω “expel”; see Hoffmann, *GD* I 181. This sign-group *e-xe o-ru-xe* has also been connected with the verb ἔξορίσσω, but then there would be the difficulty of having to assume a semantic specialization for the latter word; see Masson, *ICS* p. 241. Not only is ἔξορίζω more suitable for the context, but also the resulting spelling rule that one has to formulate helps clarify some other problematical forms found in Cypriote syllabic inscriptions. Most pertinent here is the alternation of *to-ka-ra-u-o-me-no-ne* (*ICS* 217.9) with *to-ka-ra-u-zo-me-no-ne* (*ICS* 217.18). These have regularly been transcribed so as to suggest an unclear free variation between τὸ(ν) χρανόμενον and τὸ(ν) *χρανζόμενον (both meaning “the adjacent”—masc. acc. sg.). But the formation *χρανζόμενον cannot easily be justified morphologically: it presupposes free variation between regular thematic verbs in -ω and verbs with the suffix -ζω; and yet, the suffix -ζω would then have to be described as deverbal and secondary, which it is not.

Actually, the term “suffix” for -ζω is usually not even accurate, since what really is involved is mostly the verbal suffix in -ye/-yo- when preceded by the consonants δ, γ, γʷ, or the regular thematic suffix in -e/-o- following -σδ-. Where the term *suffix* is really applicable to -ζω is in the secondary formations in -άζω, -ίζω, etc. In Hoffmann’s list of Cypriote verbs in -ζω, all are actually in -άζω and -ίζω, except for the posited form *χρανζόμενον and the entry καλήζω. An alternate reading for *ka-ra-u-zo-me-no-ne* will be proposed further on in this work; as for the form καλήζω, it is attested only in the Byzantine *Etymologika*. For example, the *Etymologikon Magnum* (ed. T. Gaisford [Oxford 1848] 485.45) mentions it thus: καλήζω . . . παρὰ μὲν Ἰωστὶ

καλέω, παρὰ δὲ Αἰολεῦσι καλήω, παρὰ δὲ Κυπρίοις καλήζω. τοῦτο δὲ ἡγούνται κατὰ συγκοπὴν γεγονέναι κλήζω· οὐκ ἔστι δέ· εὐρίσκομεν γὰρ αὐτὸ σὺν τῷ ι· ἀλλ’ ἀπὸ τοῦ κλέος κλεῖζω καὶ κλητήζω καὶ κλήζω, ὡς χρέος χρεῖζω χρητήζω καὶ χρητήζω. It must be pointed out immediately that the passage in Herodianos (ed. A. Lentz [Leipzig 1867] I 444.9ff) mentioning καλήζω is simply a conjectural reconstruction by Lentz of what Herodianos might have written, on the basis of the information given by the *Etymologika*. That the latter do use Herodianos at least as a partial source here is proved by the last sentence under the entry καλήζω in the *Etymologikon Gudianum* (ed. F. W. Sturtz [Leipzig 1818] 294.37ff): οὗτος Ἡρωδιανὸς περὶ παθῶν. This much granted, I propose that the portion ascribable to Herodianos in the *Etymologika* for this entry might not include the actual mention of καλήζω in the middle of the text. I would also emend καλήζω to καλίζω (hence the statement εὐρίσκομεν etc. might possibly be interpreted as referring to the preceding καλίζω instead of to the following κλήζω). Thereupon one might have to assume that there was already a mistake (in the spelling of καλίζω) in the text of compiler A by the time it was transmitted to compiler B, who then interpolated a passage from the alphabetically-arranged studies of Herodianos on verbal suffixes and their accentuation (the positing of such a situation seems safer than to accuse Herodianos himself of lapsing here into itacism, though this does occasionally happen: see K. Latte's prolegomena to his ed. of Hesychios [Copenhagen 1953] viii); the sense of the text as B had found it thus became plausible because of his addition, though he was left with the unlikely form καλήζω. Nor are the textual factors of itacism (spelling mistakes abound in the *Etymologika*: cf. the writing ἄδικαίω for ἄδικέω in the *Ei. Gud.* under this same entry καλήζω) and the analogy of the η in κλήζω (as well as in the adjacent καλήω) the only basis for this proposed emendation. As already inferred, a suffix in -ήζω seems unmotivated (hence for such a suffix to exist in a form like καλήζω, one is forced to assume the unlikely development that καλήζω is a repatterning of the *denominative* κλητήζω on the analogy of καλέω; see Thumb-Scherer, *GD* II² 169). On the other hand, the situation with -άζω and -ίζω is quite the opposite: especially to be noted is

Homeric Greek, where the verbs in -έω very often have an alternate suffix in -ίζω; e.g., προκαλίζετο in E 807; cf. also the pair ὁπλέω : ὁπλίζω (ώπλεον ζ 73 vs. ὁπλίζοντο Θ55, etc.). In E. Risch's list of 96 Homeric verbs in -ίζω (*Wortbildung der homerischen Sprache* [Berlin-Leipzig 1937] 361-363) 12 definitely have alternate forms of the type -έω within the Homeric corpus itself; see also Chantraine, *GH* I 339-340. Furthermore, the Arcadian word συμβόλικτρον (Schwyzer, *DGE* 664.26; Orkomenos, 4th cent. B.C.) must have been formed from a velar inflection as in an aorist *συμβολίξαι, which in turn definitely points to a present *συμβολίζω, in contrast to the attested form συμβολέω as in Aischylos, *Septem* 352, etc.; see the discussion by Bechtel, *GD* I 363. (In his list of attested Arcadian verbs with the -ζω ending [*ibid.*], all actually end in -άζω or -ίζω.) Thus with a slight modification on the statements of Thumb and Meillet-Vendryes on -ζω, one can state that *in the AC dialectal group, suffixes in -άζω and -ίζω were very productive.*

It follows that in a form like *ka-ra-u-zo-me-no-ne*, one would expect either -ίζω or -άζω. Now χραίνω, as with most verbs in -ώ, may or may not be a -ye-/yo- suffix verb. What makes the former alternative slightly more probable is that the word is probably related to χραίνω (see Chantraine, *GH* I 374) and that the ν is, as Chantraine calls it, an *élargissement* (*ibid.*), much like the ν in χραίνω. Thus there would be a perfect parallelism if χραίνω really has a -ye-/yo- suffix: *χρα-v-ιώ vs. *χρα-v-ιώ. Following the sets in -ιώ vs. -ίζω, one could then posit a form *χρανίζω. Now it has already been seen that the attractive identification (with respect to the actual context) of *e-xe o-ru-xe = ἔξορφίξη* or *ἔξορνίξη* had forced the following spelling rule: *the phonemic sequence /-wi-/ can be transcribed in classical Cypriote as <-u->* (see Hoffmann, *GD* I 181; besides, the grapheme <wi>/vi> in classical Cypriote is extremely rare and cannot even be attested in some of the local scripts, as in the Paphian, e.g.; see Masson, *ICS* p. 54). According to this rule, then, *ka-ra-u-zo-me-no-ne* can be transcribed *χρανίζόμενον or *χρανίζόμενον. Morphologically, the latter is a far more probable form than *χραν-ζόμενον (this is also the view held in Thumb-Scherer, *GD* II² 169, though here *χραν-ίζω is taken as a denominative), and thus the above spelling rule seems all the more valid because it helps clear up a

contextual problem in one instance (*e-xe o-ru-xe*) and a morphological one in another (*ka-ra-u-zo-me-no-ne*). It should be added here that W. Cowgill ("The Supposed Cypriote Optatives *duwánoi* and *dókoi*," *Language* 40 [1964] 358, note 23) also proposes an original *orwixē* for *o-ru-xe*; only he takes the *u* for *wi* to be a possible phonological development (so also Thumb-Scherer, *GD* II² 160). The alternate proposal of a spelling rule as already given would, however, give equally adequate support to his statement that *f* is regularly spelled out on the Idalion Bronze.

For the sake of interpreting the entry *a-ri-ni-ta* 1 in HT 25a.3, the following interrelated morphological points have by now been argued:

- 1) The suffix *-ízω* is very old.
- 2) It can alternate with the suffix *-γω* of some verbs, as in Homeric Greek and possibly earlier too.
- 3) It is productive in the AC dialect.
- 4) If the proposed set *χραύ-γω* : *χραυ-ízω* is accepted, then the alternation mentioned in (2) is actually attested in Cypriote also.

It is on these grounds that one might posit a form **ἀλινίζω* coexisting with *ἀλινω* and suppose that it may well have been extant already in Mycenaean times. As of now, however, there is no actual verb in *-άζω* or *-ίζω* which can be specifically identified in Linear B; as it happens, the very occurrence of verbs in the corpus is very limited. (Forms in *-ίζω* might, however, be represented in Linear B *qua* Ns: e.g., the N *ra-wi-zo* in KN Dv 1245, classified as "anthr. masc." in A. Morpurgo's *Lexicon*, s.v., might stand for *lāwizōn* / *Lāwizōn* "raider," a present participle; cf. Homeric *λητζομαι* "plunder, raid," as in ψ 357, and also the fem. nom. plur. *ra-wi-ja-ja* MULIER 26 etc in PY Aa 807 [and gen. plur. *ra-wi-ja-ja-o* in PY Ad 686], apparently standing for *lāwiaiai* "captive women, won on a raid" and corresponding to the Ionic *λητάδες*, as in T 193, etc. See VC p. 407.) As for L. R. Palmer's explanation of *ki-ti-je-si* (PY Na 520) as *ktiensi* "they bring into cultivation," it would mean that the classical Greek verb *κτίζω* had (at the time of Linear B) an athematic conjugation; see VC 397. Even so, the existence of *-ίζω* verbs, e.g. in Mycenaean Greek, should hardly be precluded on this scant basis, since the secondary present tense of *κτίζω*, as Meillet-Vendryes point out (p. 252 Rem.), is unique: it is built, unlike other verbs in *-ίζω*, on the *aorist* tense as seen in *εὐ-κτίμενος* (B 501, etc.). The latter Homeric archaism is con-

firmed in the Linear B corpus by the participial form of the verb *ki-ti-je-si*, namely *ki-ti-me-na* (PY Ea 71, etc.) = *κτι-μένα*. Another form in Linear B that might reveal an ending in *-ίζω* is the N *e-u-da-i-ta* (KN Dl 47.1), if one interprets this as **Εὐ-δαιστάς*.

It is an accepted fact that deveritative and denominative verbs such as those in *-ίζω* develop a complete conjugation only gradually, on the analogy of primary verbs (see P. Chantraine, *Morphologie historique du grec*² [Paris 1947] 172); thus it is that in secondary *-ίζω*, where the γ_k , δ_k , etc. (which are original to primary verbs in *-ζω*) are of course no longer distinguished, various dialects generalize either a velar (as in Doric) or a dental (as in Ionic) conjugation. By the time of classical Cypriote and Arcadian, the velar conjugation of verbs in *-ίζω* had been generalized for this dialectal group, and the already-cited instance of *e-xe o-ru-xe* can serve as an illustration. (Exception in AC: when κ , γ , χ precede *-ίζω*, the dental conjugation prevails.) This morphophonemic rule, exception and all, also applies to a number of verbs in the Homeric corpus: *ἀβροτάζω*, ($\epsilon\acute{\epsilon}$)*αλαπάζω*, *πτολεμίζω*, *πελεμίζω*, ($\epsilon\acute{\epsilon}$)*εναρίζω*, *δαΐζω*, *κτερεῖζω*, *δνοπαλίζω*, *ἔγγυαλίζω*, *στυφελίζω*, *ἔλελίζω*, *μερμηρίζω*, etc. (see Chantraine, *GH* I 340-341; I have included the verbs in *-άζω*, but attention here is focused on those in *-ίζω*). In *L'élément achéen dans la langue épique* (Te Assen 1957), C. J. Ruijgh has pointed out that these are AC—or, as he prefers, "Achaean"—formations, which had been preserved through metric-formulaic exigencies. But it is important to bear in mind the above-mentioned factor that the spreading of the velar conjugation was a gradual phenomenon, with analogy being the most crucial element. Thus the velar inflection of *-ίζω* in AC eventually spread to nominal derivatives, and by the time of classical Arcadian, for example, the already-mentioned *συμβόλικτρον* is attested.

5. *The deveritative noun in -tā- from -ίζω*. The same factor of analogy, just cited, seems to have affected the deveratives from *-ίζω* with the ending *-tā-* in a different way. For instance, the form *κεραϊστής* in the Homeric *Hymn to Hermes* 336 exhibits a *dental* inflection, whereas the verb *κεραΐζω* (E 557, etc.) would be expected to have a *velar* conjugation, following the AC pattern. Now *κεραϊστής* cannot be dismissed as an Ionism, primarily because of the decisive form *πτολεμιστής* (as in

X 132): the latter is clearly primary to the secondary (and seemingly Ionic) *πολεμιστής* (as in E 602). The form *πτολεμιστής* is probably AC, unless one were to claim that all Homeric inflections and derivatives of this verb *πτολεμίζω* with the *πτ-* initial are AC *except* *πτολεμιστής*—and that seems most unlikely. Upon further examination, it becomes clear that in the Homeric corpus, the deverbal nouns in *-tā-* from verbs in *-ίζω* always have the dental inflection: thus *-ιστής*. Hence *ἀκοντιστής* (II 328, etc.) from *ἀκοντίζω* (Ξ 402, etc.), *δαριστής* (τ 179) from *δαρίζω* (Ζ 516, etc.) *οἰωνιστής* (B 858, etc.) from *οἰωνίζομαι* (attested post-Hom.), *ὑβριστής* (Ν 633, etc.) from *ὑβρίζω* (σ 381, etc.); see E. Fraenkel, *Geschichte der griechischen Nomina agentis auf -τήρ, -τωρ, -της (-τ-)* I (Strassburg 1910) 21. Further corroboration comes from the group in *-άζω*: thus the verb *εἱλαπινάζω* (β 57) has the deverbal *εἱλαπιναστής* (Ρ 577). And from the above-cited instances of *κεραϊστής* from *κεραΐζω* and especially *πτολεμιστής* from *πτολεμίζω*, the deverbal formation *-ιστής* from *-ίζω* (and *-αστής* from *-άζω*), despite the dental inflection here, is morphologically applicable to AC, or more accurately, to the “Achaean” ancestor of AC. An immediate example from Arcadian is *ἄλιαστάς* “member of the *ἄλια* = assembly,” in a Tegean inscription dated around 4th c. B.C. (*ἄλιασταί*, q.v. in *Inscriptiones Arcadiae*, ed. F. Hiller von Gaertringen in *IG* V pars 2 [1913] 6.24); this can be contrasted with the velar formation in the corresponding Dorian word *ἄλιακτήρ*, glossed in Hesychios as *τόπος*, *ἐν φ ἀθροίζονται οἱ Σικελοί* (see the interpretation by E. Fraenkel, *Nomina agentis* 161; the verbal form is attested in the Attic *ἡλιάζομαι*, as in Aristophanes, *Equites* 798). Additional confirmation may come not only from the epigraphical evidence of Arcadia, nor even that of Cyprus, but also from the pre-Doric (specifically, AC) elements in the Cretan inscriptions. As a particular case in point, one can cite the already-discussed word *καρποδαισται* in the Gortynian inscription *IC* IV 77. That the context of this word seems to match that of the entry *ka-pa da-ta-ra* (in the Linear A tablet HT 6) is enough to suggest in itself that *καρποδαισται* is probably pre-Doric. Its morphological composition indicates that it too might not be Doric, since *καρπο-δαισται* seems to reveal a dental, not velar, inflection. (The latter can be seen in the regular Doric forms such as *μηλο-δατκταν* in Bakkylides 9.6 [Snell], and *ξενο-*

δατκτα in Pindar, *Fr.* 140a.56 [Snell].) Nor can it be assumed that *καρποδαισται* is not derived from *δαῖζω*, since the actual text of the inscription apparently combines the deverbal noun with its respective verb: *IC* IV 77B.4-7: *αἱ | εὔροιεν οἱ καρποδαισται καρπὸν ἀποκεκλεμμένον ἐ μὲ | δεδαισμένον*, etc.

E. Fraenkel (*Nomina agentis* 193, 194 & note 1) tries to disprove the derivation of *καρποδαισται* from *δαῖζω* by arguing that *δεδαισμένον* is from the verb *δαίομαι*, not *δαῖζω*. But then he is at a loss to explain the *σ* in *δεδαισμένον*, and calls it “anorganisch.” The first reason for his opinion is that the related word *δαισις* “distribution” (IV 25 and V 47 of the Gortynian Code [*IC* IV 72]) can be demonstrably derived from *δαί-ομαι*, not *δαῖζω*: if it had been the latter case, the combination **δαι + velar or dental + σις* would have been approximated by **δαιζις* (or the like) in the epichoric orthography (cf. Fraenkel, *Nomina agentis* 194, note 1). But it must be kept in mind that *δαῖζω* is probably the deverbal of *δαίομαι* (see E. Schwyzer, *Griechische Grammatik* I [Munich 1939] 736). Thus while it is accepted that *δαι-σις* is derived from *δαί-ομαι* (see Frisk, *GEW* s.v. *δαίομαι*), it does not follow that the same should be true for *καρποδαισται*. Fraenkel’s second reason is that in the expression *σῶμα δαισθεῖς* in Euripides, *Herakleidai* 914 (lyr.) the word *δαισθεῖς* is disyllabic by metrical exigency (thus not *δαιϋσθεῖς*), and therefore must be a form of *δαίομαι*, not *δαῖζω*: the *σ* in *δαισθεῖς* is then supposed to prove that *δεδαισμένον* is also a form of *δαίομαι*. And yet, since *σ* in *δαισθεῖς* is admittedly “anorganisch,” it must be attributed to analogy. The point of departure might be a form like *ράισθεῖς* “crushed,” since *ράιω* probably has a *σ* in its root: *ράισ-* (see Chantraine, *GH* I 370), thus *ράισ-τήρ* “hammer” (Σ 477, etc.); cf. Sanskrit *r̥isyati*, *r̥esati* “become injured, disabled,” *r̥ist̥a-s* “disabled,” and Lithuanian *r̥aišas* “lame.” Furthermore, the semantic background of a group like *σῶμα ράισθεῖς* could well motivate *σῶμα δαισθεῖς* (cf. also *παλαισθεῖς* “beaten” in Euripides, *Elektra* 686). But that in itself does not mean that *σ* would necessarily spread to a form like *δεδαισμένον* “distributed.” Therefore, for the time being, it is possible to assume that the latter form *δεδαισμένον* is from *δαῖζω*, not *δαίομαι*. Henceforth in this work, the accentuation

*καρποδαισταί (as from δαῖσω) could be used instead of *καρποδαισται (as from δαίομαι).

It should also be noted that it is generally the oldest extant inscriptions of Gortyna that regularly bear such non-Doric dialectal marks as the σ in the proposed form *καρποδαισταί (see Thumb-Kieckers, *GD*² 148-149, the article “Vordorisches”). And this dental element in old Gortynian inscriptions seems to have been spread throughout the inflectional range of the finite verbs in -ίζω and -άζω: thus for example even the aorist of δικάζω is found to be ἐδίκαζε (see F. Blass, *Die kretischen Inschriften*, *GDI* III.2.3, no. 4976, etc.). It should be kept in mind that the grapheme ζ in old Gortynian inscriptions is the spelling for dental+σ/ξ→σσ: thus G. ὅζοι = ὅσσοι, G. ἀνδάζασθαι = ἀνδάσσασθαι, G. μέζατος = μέσσατος, etc. (see Thumb-Kieckers, *GD*² 159; the mark = here merely designates “is a spelling for what is known as”). Likewise, ἐδίκαζε = ἐδίκαστος: it is not an imperfect, but a sigmatic aorist.

Also seemingly significant is that most of these pre-Doric words like the posited *καρποδαισταί and ἐδίκαζε deal with administrative contexts. It is as if they were cultural loan-words from an earlier bureaucratic society, the official language of which had been a different dialect, presumably AC. Other such Gortynian lexemes concerning administrative functions and with pre-Doric features are, for example, the deverbal of δικάζω, namely δικαστάς (*Die kretischen Inschriften* 4992.4.2-3, 4998.5.9, 4999.2.5-6, etc.) and the deverbal of ἐνεχυράζω (the verb is attested in Attic, e.g. in Demosthenes 24.197), namely ἐνεχυραστάς “security-taker” (*ibid.*, 4985.8); cf. the definition given in Hesychios for δῆμαρχοι· . . . ἄρχοντες δὲ ἡσαν καὶ ἡνεχύραζον οὗτοι τοὺς ὁφείλοντας.—underline supplied. As just one example of such pre-Doric administrative words, as those under discussion, in other Dorian cities, one might cite ὄριστάς “boundary-marker” on the *Tabulae Heracleenses* (Schwyzer, *DGE* 62.2: ὄρισται; etc.); here again is a dental inflection in a deverbal from -ίζω.

In conclusion, it might be assumed that in the “Achaean” dialect with traces in Crete (akin to AC and attested now by Linear B as well as perhaps by some elements of Linear A), even the finite verbal forms in -άζω and -ίζω had not yet generalized the velar inflection, but rather, the latter probably still varied freely with the dental inflec-

tion. The Homeric corpus shows a later stage, wherein the velar inflection is generalized for finite verbs in -άζω and -ίζω, and the dental, for their respective deverbal nouns in -αστής and -ιστής. Also, if the interpretation of ε-α-δαι-ι-τα (KN Dl 47.1) as *Ενδαιστάς is accepted, then the latter development might be even earlier than the former.

Why, then, is the dental formation generalized for the deverbatives in -τā- from -ίζω in AC (as well as in Ionic, etc.)? Chantraine’s already-cited axiom (*GH* I 339-340) about the dialectal generalization of dental or velar inflections in various grammatical slots for verbs in -ίζω again holds: analogy is the dominant factor. Perhaps the point of departure for this dental formation in -ιστής was a lexeme like ἀσπιστής (Δ 90, etc.), where the -ιδ- is part of the root. From there an extension to ἀκοντιστής, πτολεμιστής, οἰωνιστής, κεραϊστής, etc. is plausible. With other deverbatives in -τα-, these nouns in -ιστής form a semantic group, which is aptly described by E. Risch: “Die zweite Gruppe [i.e., nouns in -της derived from secondary verbs in general] umfasst vor allem militärische, sportliche und einige politische Bezeichnungen” (*Wortbildung der homerischen Sprache* [Berlin-Leipzig 1937] 30). This connotation further stimulates the morphological productivity of -ιστής. Such semantic reinforcement also occurred in other dialects: thus through the cultural vehicle of Attic, where -ιστής became extremely widespread, it is now actually an international suffix as in Eng. -ist, Fr. -iste, etc. As for the general class of nouns in -της derived from denominative or deverbal verbs, it is inaccurate to say that -της in these instances is, as a rule, a later replacement for an earlier -τήρ. In his masterly work *Noms d’agent et noms d’action en indo-européen* (Paris 1948), E. Benveniste describes the semantic function of -της as *catégoriseur*: the basic meaning of a noun in -της is that it neutrally designates being part of a group (p. 56). The suffix -τήρ, on the other hand, has the specific connotation of *agent d’une fonction* (p. 44). Now the semantic proximity of these two distinct suffixes does indeed promote their interchange in deverbatives—even as early as in Homer: cf. ὄρχηστήρ (Σ 494, etc.) vs. ὄρχηστής (Π 617, etc.). Yet it is not a question of the replacement in successive stages of a form -τήρ by an *equivalent* -της (the accent of the latter by analogy of the former), but rather the synchronic extension of -της at the expense of -τήρ, motivated by semantic similarity and

resulting diachronically in eventual semantic identity of the two suffixes, as in Attic. What is more, the suffix *-της* coexists with *-τήρ* as early as in Linear B; cf., e.g., *ra-pte* (PY An 172, etc.) : *ῥαπτήρ* and *i-ja-te* (PY Eq 146.9) : *ἰατήρ*, with *e-re-ta* (PY An 1.1, etc.) : *ἐρέται* and *su-qo-ta* (PY Ea 822) : *συβώται*. Furthermore, the already-discussed word *καρποδαισται* in the Gortynian inscription IC IV

77 might provide additional evidence: the dental formation in this proposed derivative of the verb *δαιζω*, as well as the apparent parallel of *ka-pa-da-ta-ra* in Linear A, suggests a pre-Dorian origin, probably from an AC substratum. (There is even the possible interpretation, already mentioned, of *e-u-da-i-ta* [KN Dl 47.1] as **Εὐδαιστάς*.) Thus the posited ending here of *-ιστάς from *-ίζω*, in addition to the very meaning of the word ("distributors of commodities"), further suggests such AC lexemes as **ἀκοντιστάς*, **πτολεμιστάς*, **οἰωνιστάς*, etc. Also, on the semantic level, the Homeric words in *-ιστής* (whence the posited forms with *) are themselves in contexts describing 1) occupations and 2) membership in a group.

6. *The proposed meaning of a-ri-ni-ta.* In sum, the plausibility of a deverbal verb **ἀλινίζω*, functioning as a by-form of *ἀλίνω*, leads to the equally plausible deverbal noun **ἀλινιστής*, or more specifically **ἀλινιστάς* in AC. In full accordance with the spelling rules of Linear B, the sign-group (in Linear A!) which reads *a-ri-ni-ta* can stand for this very reconstruction **ἀλινιστάς*.

More cogent, however, is the interpretation of *a-ri-ni-ta* as **ἀλιν-τάς* (cf. the attested *ἀλιν-σις*, discussed in section III.2). Since it has just been seen that *-τάς* and *-τήρ* coexisted in Linear B, and since *ἀλίνω* is in the same verbal class as *κλίνω* (again, section III.2), one should compare formations like *κλιν-τήρ* (σ 190, etc.). Furthermore, the interpretation **ἀλιν-τάς* can also be considered in accordance with the spelling rules of Linear B, since special full spellings are often used at junctures between stem and suffix in this script: e.g., the instrumental of *φοίνιξ*, spelled *po-ni-ki-pi* in PY Ta 714.2, 3, = *phoinik-phi*; if this consonant-cluster *kph* were not at a morpheme-juncture, the syllable-coda (in this case, *k*) would be omitted, because there is no word-initial **kph-* in Greek, for one. Secondly, for *a-ri-ni-ta* to be **ἀλιν-τάς*, /ν/ here would be written *ni* and not *na*, since it belongs to the preceding, not the following, syllable (as F. W.

Householder points out; see again for this discussion the rules for consonant-clusters as cited in the Introduction). Cf. also the above-mentioned (section III.2) Cypriote spelling *ta-la-to-ne* = *δάλτον*: the /λ/ here is likewise written *la*, not *lo*, because it belongs to the first syllable; from the scribal standpoint, at least, there is a morpheme-boundary between *δαλ-* and *-τον*.

What such a significant identification as **ἀλιν-τάς* would mean is that in the text of the tablet HT 25, which apparently comprises a head-count of persons, the entry *a-ri-ni-ta* 1 in line 3 of side *a* can be interpreted as "one scribe."

As a possible typological parallel, one might cite the later Arcadian word for "scribe," *γραφής* (= *γραφεύς* in Attic, etc.): its connotation is seen from the epigraphical evidence to be that of a title as well as an occupation. Thus for example in the ca. 3rd cent. b.c. Tegean inscription no. 32 of O. Hoffmann's collection (GD I, p. 27, = no. 116 in *Inscriptiones Arcadiae*, ed. F. Hiller von Gaertringen in IG V pars 2 [1913]), which is a list of officials who have made a dedication (line 1: *στρα-[τ]αγοὶ ἀνέθεντο*), lines 2-5 contain Ns + patronymics; in lines 6 and 7, an additional title is appended before the N: *ἱππαρχος· Γόργυρος· Γοργίππω* in line 6 and *γραφής· Εὐάρετος· Σακλέος* in line 7. Here *γραφής* is in the same semantic slot with *ἱππαρχος*, and perhaps the former actually infers membership in a *class* of scribes. On p. 71 of IG V pars 2, the title *γραφής* is actually listed under the index-rubric *Magistratus et curatores*.

As for the *a-ri-ni-ta* in HT 25a.3, this sign-group, what with the apparent titular force of the word for "scribe," could also be interpreted as a N, *Alintas*, and the previous explanation would still hold. In instances like PY An 39 and An 129, however, it can be seen that in Linear B too, Ns and occupations can occur on the same list (see VC 181), so that *a-ri-ni-ta* in HT 25a.3 need not necessarily be a name.

CONCLUSION

The approximate extent to which it is possible to interpret Linear A texts on the basis of Linear B has already been sketched in the Introduction. The limitations are obvious, most important of which is that presently one can transliterate only about 50 syllabic signs of Linear A. Even so, the contextual yields often seem significant, and relevant observations have been offered here for the fol-

lowing signs and sign-groups: *ka-pa -qe te da-ta-ro da-ta-ra da-i sa-ro sa-ra₂ ka ki-ri-ta₂ +qe ma-za di-we-na wo-no ru-ma-ta +pa ti-ta-na ku-pa su-ka ne-mi-ta ru-sa ki-da-ta a-pi da-me ri-mi-ne a-ri-ni-ta*. As for the basic language involved in Linear A, none is hereby proposed: rather, an analysis has been made of some of the elements in this script which seem ready for contextual interpretation on the basis of Linear B. And since the latter script contains Greek, it might be expected that the elements perhaps most readily available for analysis in Linear A should be likewise Greek, if at all present. Moreover, the existence in the Linear A scribal repertory of Greek words (or at least words attested in the extant corpus of Greek vo-

cabulary) would have important historical implications.

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ADDITIONUM: Prof. Linos Politis of the University of Thessaloniki has kindly informed me that the reading and definition of *προτήνιον*, as discussed in section I.9, is the same in the newly-found Codex Zavordensis as in the long-available Codex Galeanus (both containing the *Lexikon* of Photios). See *Gnomon* 32 (1960) 95f for background.

To avoid confusion, it might be noted here that the tablet-designations in this work are those found in *ILA*, unless otherwise noted; but sides "a" and "b" of HT 9 and HT 94, for example, are given as b and a in *EHT*.