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NOTES ON LINEAR A

I. THE TABLET ARKHANES NO. 2

The small but important archive of six Linear A tablets from Arkhanes was published in 1974, with their customary thoroughness and insight, by Drs. A. Lembessi, J.-P. Olivier and L. Godart (*ArchEph* 113–167: subsequently in *GORILA* 3, 1976, 6–7). The most nearly complete of these documents is No 2, inscribed on one side only in six lines, and missing only a fragment from the bottom right corner which deprives us probably of part of one sign, the whole of another, and a numeral.

The suggestions below are based on autopsy undertaken with the kind permission of the Heraklion Museum on 13 and 14 October, 1970. Full publication of the Linear A inscriptions from Zakro¹ and Khania² followed shortly after that of the Arkhanes collection and, as usual, the new finds have illuminated the old. This fresh light may justify the following remarks which are intended as a constructive appendix to the excellent initial publication.

General structure of the tablet

The transcription breaks up the inscription into a heading followed by five sign-groups ('items') each with a numeral. The key sign is the third, the last of the heading, which is read as L 71 ꜱ, an ideogram normally understood as indicating a kind of grain. The tablet as a whole would therefore list the participation of five entities (items) in regard to this commodity, in the context of the first two signs of the heading.

¹ N. Platon – M. C. Brice, *Inscribed Tablets . . . from Zakro*. *Athen. Arch. Soc.* 85, 1975.

² I. A. Papapostolou – L. Godart – J.-P. Olivier, *Linear A from the Minoan levels of Khania*. Rome 1976.

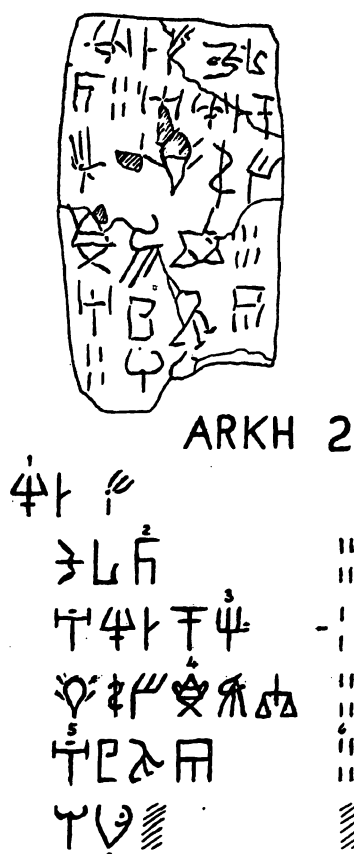


Fig. 1. ARKH 2: Sketch (based on autopsy) and transcription

The heading

L 57 with the extra small cross-stroke on the central bar 𐀀 is intelligently compared in the prime edition with Linear B *41 (*si*) 𐀁. The alternative would be to regard this as a ligature. L 57 is found elsewhere in several ligatured combinations, e.g. 𐀀𐀁, but L 22, 𐀀, which would be the only possibility for the second sign here, is not. In short, this form of L 57, seen again in Item 2 below, is best taken as a local variant.

The combination L 57–30 is found again in HT 99 b1, but in reverse order, L 30–57, followed by the ‘talent’ sign L 85, 𐀀𐀁. This may be added to the many examples of such inversions in this script, which appear to be far too common to be entirely coincidental.³

³ W. C. Brice, Some observations on the Linear A inscriptions. *Kadmos* 1, 1962, 46–7.

In justification of the reading of the third, or key, sign as L 71 𐀓 rather than as the L 92 𐀔 of the *editio princeps*, we may refer to the general tilt to the right of the upper part of the sign, and the curving shape of one branch 𐀓 . L 71 is not noticed elsewhere at Arkhanes, nor at Zakro, but there are four instances on the Khania tablets. At Hagia Triada the example which most closely resembles ours is on HT 99 al 𐀓 .

Item 1

This consists of three signs, of which the first two L 93–53 can be matched on HT 117 a 2–3, where they are followed by L 27, 𐀓𐀔𐀕 . Now L 27 is a familiar separable suffix in the ‘libation formula’ 𐀕𐀖𐀗𐀘𐀙𐀚𐀛𐀜 . If we abstract it from the Hagia Triada group, we are left with 𐀓𐀔 . Further, at the close of the Zakro tablet, Z 17 a4, 𐀓𐀔 appears as a ‘totalling formula’, in place of the more usual 𐀓𐀕 . It would seem best therefore to understand it here in some such sense, in association with the distinct third sign.

This third sign is taken in the *editio princeps* (pp. 155–6) as a variant form of L 82, 𐀓 , the ‘wine’ sign, on the strength of its incidence on the same inscription along with the normal form, both in Linear A (ARKH 3) and in Linear B (PY Un 267). However, neither in the ‘normal’ form on ARKH 3 b5, nor in the two ‘atrophied’ instances (ARKH 2 2,3 a2) are the small internal cross-strokes, seemingly characteristic of L 82, in evidence. In brief it would appear more likely that we are here dealing with L 75 𐀓 and a possible abbreviated form 𐀓 . Such an identification would make more sense in the proposed lay-out of the tablet, where there is already a key commodity sign in the main heading.

Item 2

Here we remark first that, following the first sign 𐀕 , the second and third signs are identical with the pair L 57–30 𐀕𐀔 which has already been noticed in the heading above. By itself, this implication might be dismissed as chance coincidence; but it is matched by the following instance on the Zakro tablet 6b, where the leading item is repeated at three removes, with the addition, as in our example, of a prefixed 𐀕 :

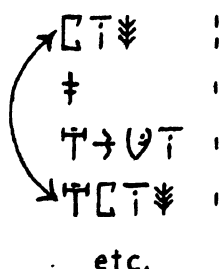


Fig. 2. Quotation from Z 6

There are similar cases of such 'echoes' in lists of items in the Hagia Triada archives, notably on HT 6, 103, 118, 122 and 123. In the present context these need not be detailed: the above instance from Zakro will doubtless be accepted as justification for recognizing the sign L 52 𐀓 as a separable prefix in the group under consideration.

As for the final two signs of this group, L 39–100 𐀓𐀔, it may be remarked that L 100 𐀔 is already familiar as a separable suffix⁴, and the pair 𐀓𐀔 are associated at Pylos (Vn O 3.10).

Groups consisting of five signs are rare in Linear A, and a division into two or three elements on the lines proposed would seem more natural.

Item 3

In this case we are confronted at first sight with an even rarer phenomenon, a group consisting of six signs. Fortunately, the precedent of usage at Zakro now makes it possible to separate the last two signs as a combination with a significance of its own.

The heading of Zakro Tablets Nos 1 and 10 read respectively as in Fig. 3.

Z 1 𐀓𐀔𐀕𐀖𐀗𐀘 · 𐀙𐀚
Z 10 𐀙𐀚 · 𐀛𐀜

Fig. 3. The sign-group L 79–85 at Zakro

Evidently the recurring pair L 79–85 𐀙𐀚 has a meaning of its own, and is so close orthographically to the fifth and sixth signs of the

⁴ See, for example, HT 115b.

Arkhanes group with which we are concerned as to establish identity (Fig. 4).

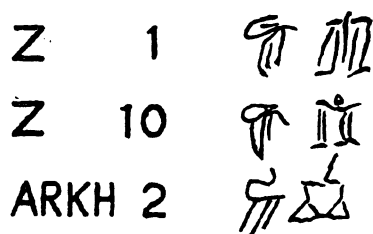


Fig. 4. The sign-group L 79-85

Both signs were evidently more regularly and methodically designed by the Arkhanes scribe than by his equivalent at Zakro.

The editio princeps does not consider the possibility of L 79 \aleph for the first of the pair, but after dismissing in turn L 82 \aleph , L 75 \aleph and L 93 \aleph , creates a new number to accommodate it, L 162.

The edition also considers it necessary to treat the second sign of the six-sign group, \aleph , as a hapax, and to assign to it a new number, L 161. Before reaching this decision, the possibilities of L 94 \aleph , Lm 23 \aleph , L 88 \aleph and L 66 \aleph are in turn rejected. Rightly or wrongly, ILA decided, after consideration of all contexts, to fuse Carratelli's signs L 94 \aleph and L 72 \aleph under the one category, L 72. This admittedly makes a mixed list, some with and some without a central loop (Fig. 5).

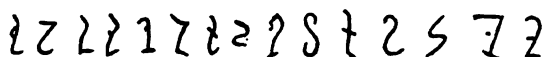


Fig. 5. Variants of L 72

It remains to add that there is at Knossos a variant of the equivalent Linear B sign *75 (*we*) \aleph with two dots \aleph . Further, Hogarth noted at Zakro a graffito which is very close to our Arkhanes example – ILA II 21 \aleph ; though, without a context, there is of course no firm evidence that the case is related.

Item 4

Here again there appears to be some precedent for subdividing this group. With regard to the first two signs, L 52-59 \aleph , the Hagia Triada tablet 11 carries a complete sublist of three items as in Fig. 6.

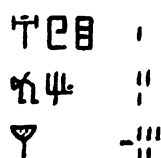


Fig. 6. Abstract from HT 11

The final sign is manifestly an ideogram or initial abbreviation. The middle pair is a familiar combination of ideograms, which can also be written in reverse order. With regard to the first groups, the final sign, L 32 Ξ , is a well-known suffix, and in this general context would be best treated as such, leaving $\Upsilon\Xi$, the first pair of our Arkhanes group.

As for the second two signs, L 64–65 $\Phi\Omega$, it may be remarked that L 64 Φ is a common element in ligatures, and that one variant of the 'cloth' ideogram at Knossos (KN 868, 859 etc.) reads Ω , which combines both elements of our pair.

Item 5

Only the first sign is complete, L 55 Υ . The traces of the second are tentatively read in the full edition as L 76 Ψ , but this does not immediately lead to any parallels elsewhere. Beyond this, there seems to be room for one more sign, and a numeral, both sadly completely lost.

Conclusions

It is a remarkable anomaly of the Linear A corpus that, while the inscriptions of the stone libation vessels are almost monotonously re-iterative, there is surprisingly little repetition on the account tablets. If, as generally supposed, the sign-groups on the latter are predominantly expressions of names, we would expect a fair degree of duplication. Yet this rarely occurs.

The evidence is accumulating, however, that the sign-groups of the account tablets should often be understood as amalgamations of elements that consist of single signs or sign-pairs. The assemblages which result evidently produce the wide range of expressions which confronts us. The 'headings' presumably control or refer to the lists below them, though sometimes it seems necessary to repeat all or part of a heading in an item of the list.

In the case of the tablet here considered, a possible subdivision and repetition of elements may be summarized graphically in the following re-arrangement of the basic transcription (Fig. 7).

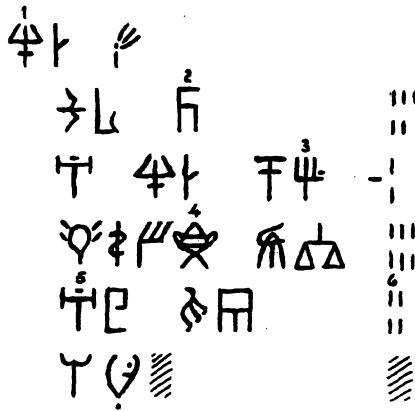


Fig. 7. ARKH 2: Subdivided transcription

II. THE INSCRIBED SEALINGS AND ROUNDELS FROM KHANIA

Between 1970 and 1975, the joint Greek-Swedish expedition to Khania in Western Crete excavated from Late Minoan strata in the Old Castle by the Port eighty-six tablets or fragments thereof inscribed in Linear A. Associated with these were 106 clay pieces with seal-impressions and incised signs or short inscriptions in the same Linear Script A.

Pieces of clay similarly inscribed in Linear A have been recovered from seven other Cretan sites, but only in quantity at Hagia Triada, where, by accident of chance, the number of specimens (109) is very close to those now known from Khania. Figure 1 lists the sites involved and the associated numbers of inscribed objects.

It will be remarked that these inscribed pieces of clay are conventionally separated, according to their form and shape, into sealings (*nodules*, *cretule*) and roundels (*rondelles*, *rotelle/dischetti*). The former are roughly pyramidal in shape, with seal-imprints on one face, incised countermarks on another, and impressions of the surface to which they were applied on the base. The latter are disc-shaped, and carry seal-impressions around the edge, and incised inscriptions on one face or both; they were evidently not applied to any container, but used as loose 'invoices'. Sometimes these roundels were pierced for attachment with a thong, in which case they are often referred to as 'tabs' or 'labels'.

Site	Sealings	Roundels and labels
Hagia Triada	89	20
Khania	20	86
Knossos		7
Zakro	2	1
Palaiakastro		1
Gournia		1
Mallia		2
Phaistos		4

Fig. 1

It seems clear that these inscribed objects, whether sealings, roundels or tabs, from their nature and the circumstances of their finding, served a similar purpose, to accompany documents or consignments of goods, and to record and guarantee their contents, source, destination, or the like. For the sake of epigraphic study they may be considered together, though the system of indexing rightly takes account of their formal differences.

In the following classification, twenty-three types of inscription are distinguished on the clay sealings and roundels from Khania, under the alphabetic headings A–W. Categories A–F refer to the inscriptions on the sealings, which in the original publication are catalogued in sequence

Key to seal-imprint types

<i>a</i> Young bull wounded by arrow	<i>m</i> Bird and dolphin
<i>b</i> Bull licking its hoof	<i>n</i> Antithetic bird and shell
<i>c</i> Contorted quadruped	<i>o</i> Butterfly
<i>d</i> Dog	<i>p</i> Butterfly
<i>e</i> Dog's head	<i>q</i> Frontal bucranium
<i>f</i> Wild goat suckling young	<i>r</i> Lion face
<i>g</i> Cow suckling calf	<i>s</i> Hunting scene
<i>h</i> Goat suckling young	<i>t</i> Women by sacred tree
<i>i</i> Two lions	<i>u</i> Priestess ministering to seated goddess
<i>j</i> Griffon	<i>v</i> Flying birds
<i>k</i> Flying bird	<i>w</i> Three monkeys
<i>l</i> Two ducks	






















Class			Examples, with imprint types
Sealings ↓	A		$\overbrace{5\ 6\ 7\ 8\ 9\ 10}^o$
	B	 +	$\overbrace{13\ 14\ 15\ 16}^m\ \overbrace{\quad}^n$
	C	 k	$\overbrace{1\ 2}^a$
	D		$\overbrace{3\ 4}^a$
	E		$\overbrace{11\ 12}^o$
	F	Miscellaneous	$\overbrace{-20\ A\ 17\ 18\ 19}^c\ \overbrace{\quad}^f\ \overbrace{\quad}^t\ \overbrace{\quad}^s\ \overbrace{\quad}^i$
Roundels ↓	G		$\overbrace{56\ 57\ 62\ 109\ 58\ 59\ 60\ 61}^c\ \overbrace{\quad}^f\ \overbrace{\quad}^t\ \overbrace{\quad}^s\ \overbrace{\quad}^i$
	H		$\overbrace{40\ 41\ 42}^o\ \overbrace{43\ 44}^k$
	I		$\overbrace{36\ 37\ 38\ 39\ 111}^o\ \overbrace{45}^k$
	J		$\overbrace{63\ 102}^i$
	K		$\overbrace{1\ 2\ 3\ 34\ 35\ 101\ 104\ 105\ 110}^i$
	L		$\overbrace{46\ 47\ 48\ 49\ 50\ 51\ 52\ 64\ 99}^s\ \overbrace{53\ 54\ 55\ 65\ 113}^{d\ r\ t\ e\ k}$
	M		$\overbrace{66\ 70\ a/6}^e$
	N		$\overbrace{6\ 7}^e$
	O		$\overbrace{8\ 9\ 10\ 11\ 12\ 13\ 14\ 15\ 16\ 22}^e\ \overbrace{17\ 18}^p\ \overbrace{19\ 20}^i\ \overbrace{21}^r\ \overbrace{23\ 24}^{-}$
	P		$\overbrace{103\ 84}^i$
	Q		$\overbrace{26\ 98}^s\ \overbrace{27}^t$
	R		$\overbrace{28}^f$
	S		$\overbrace{4\ 29\ 30\ 31\ 106\ 69\ 32}^e\ \overbrace{\quad}^p$
	T		$\overbrace{68\ 67}^i$
	U	Unidentifiable	$\overbrace{97\ 125}^u$
	V		$\overbrace{100}^i$
	W		$\overbrace{5}^w$

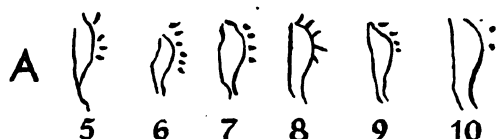
Fig. 2

from (Wa) 1001; for convenience they are here numbered from 1 onwards. Categories G–W concern the inscriptions on the roundels, (Wc) 2001 and onwards in the definitive catalogue, and here quoted in italicized form, 1 etc.¹ Figure 2 summarizes the proposed arrangement, and, in addition, relying on the information in the *Corpus of Raison* and Pope², relates each inscription to the seal-type which is impressed alongside it. This correlation may throw some light on the possible grouping of the inscriptions, such as that here proposed.

Each type of inscription will be considered separately, justified where necessary with reference to its variant forms, and compared in respect of its frequency and usage with its equivalents elsewhere.

A.

L 16, the 'saw' sign. All six examples are associated with the same type of seal-imprint, the butterfly. The equivalent sign in the Cretan



hieroglyphic list, P23, compared by Evans to the Egyptian form *w-s*, is fairly common, as is the corresponding form in Linear B, *74, conventionally interpreted as the syllable *we* or the ideogram 'pair'. On the sealings or *cretule* with Linear A from Hagia Triada, this sign occurs fourteen times (Cr I, 1, 18–23), and is one of the most common. By contrast, it is not found on any of the surviving Linear A tablets from Khania, and occurs in only one context on the tablets from Hagia Triada, HT 16. It must be significant that this particular tablet is the only one that we have from Hagia Triada on which a full sign-group can be

¹ The initial publication was made in I. A. Papapostolou–L. Godart–J.-P. Olivier, *Grammiki a sto minoiko archeio ton Khanion*, Roma (Incunabula Graeca 62) 1976. This includes all except the roundels We 2001–5 (here 1–5), which are however incorporated in the revised reprint of the above first edition which is to be found in L. Godart–J.-P. Olivier, *Recueil des inscriptions en linéaire A (GORILA)* 3, 1978. In addition, the first two roundels that were found, here Nos. 4 and 5, were published in E. Hallager, *Tablets and Roundels with Linear A inscriptions*, *Kadmos* 12, 1973, 20–27. A descriptive and analytical, but not graphic, publication was later issued in J. Raison–M. Pope, *Corpus transnuméré du linéaire A*, Louvain-la-Neuve 1980, 190–215.

² J. Raison–M. Pope (here after R-P), *Corpus transnuméré du linéaire A*, Louvain 1980; *Index transnuméré du linéaire A*, Louvain 1977.

matched with one on the *cretule*. Moreover, two of the independent signs in its list correspond with examples on the HT sealings, as demonstrated on Figure 3. The possible implication of these observations will be considered later.

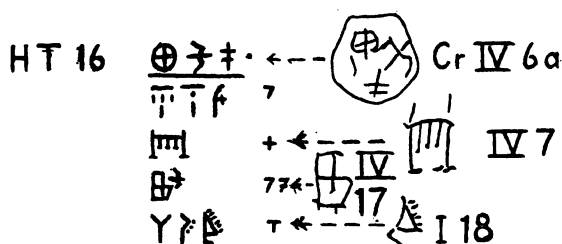
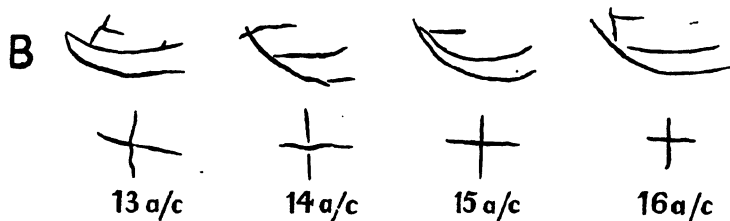


Fig. 3

B.

We have here four very similar examples of L35, the left-facing 'boat-prow', on one face; and a simple cross, L22, or possibly the fraction L19, on another. The four sealings are stamped with two types of seal.



L35 has not hitherto been noted except on the tablets from Hagia Triada, where it appears in seven contexts. In general it seems to have an obvious ideographic import at Hagia Triada, and the one apparent exception, HT 11 where it is written with L29 \oplus , is probably a case of the juxtaposition of two independent signs, for L29 occurs twice independently later on the same tablet. It is noteworthy for our present enquiry that on both HT 27 and HT 94, the 'boat-prow' L35 appears in lists in the same context, and presumably with the same significance, as 'human' signs, as Figure 4 makes clear.

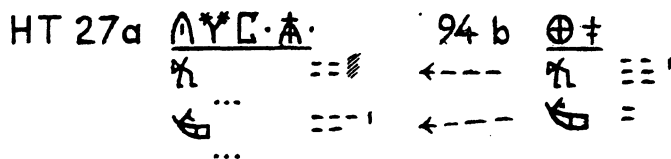
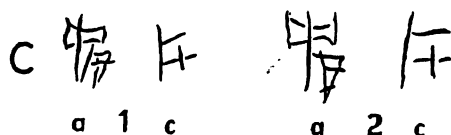


Fig. 4

The equivalent Linear B sign, *86, is also relatively rare, being recorded two or three times at Pylos (Na 37?, 41, 78) and twice at Knossos (61, 1117), where it appears to be included in sign-groups. The possible significance of the link with the 'cross' sign, L22 +, will be considered below in a discussion of the other combination of the 'prow' sign, with L87 B, under category G.

C.

This class incorporates two closely similar examples, associated with the same seal-type, of the combination L52' - 103 on one face, and a



simple rectilinear design on another. This second symbol is allotted the index number 538d in the R-P Index. It may be a ligature of L30 † with L22 or Lm19 + or a sign akin to L'2 or 3, †*. In this context, however, common sense would suggest that, like the cross in class B, it is a simple *ad hoc* invention.

As for the prime group, the smaller size of L103 alongside L52' doubtless justifies the R-P Index in treating the pair as a ligatured combination, No. 674 in its system.

Now the 'open-headed' double-axe, L52', appears fairly frequently as a graffito on pottery, at Phylakopi (II 22 i, ii), Mallia (II 17 i) and Palaikastro (II 15 iv), but only twice on tablets, once alone and once in ligature, at Hagia Triada. The ligatured form Lc 58 occurs on HT 89 in parallel circumstances with a 'human' sign (Fig. 5), and a cross-reference to HT 96a, with an eye to the contexts of L56 * and the combination L74-53 [J] will indicate that there too L52' * probably signifies a human category.

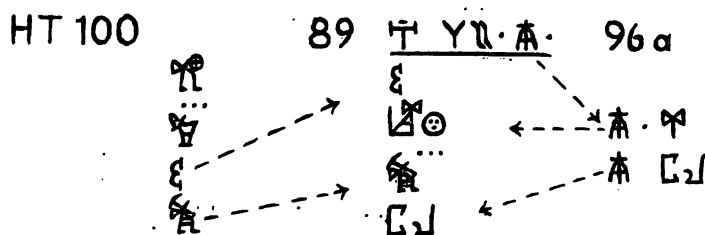







Fig. 5


Further, the other ligatured sign, L103 , falls on HT 100 in an equivalent position to a 'human' sign .

In short, there is good reason to think that, from the evidence of the Hagia Triada tablets, the ligatured pair  signifies a category of people.

D.

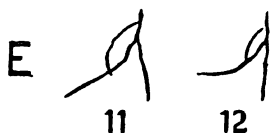
These two similar examples, with the same seal-print, are indexed by R-P as L190. The design recalls I 21  and II 13  on the *cretule* from









Hagia Triada, both identified as L58  in ILA. The Khania graffiti, however, both have a clearly incised wedge in addition to the parallel curves. This might be understood as an added fraction sign. Again, one could see here a graphic representation of a moving animal, with backward facing head and recurved tail, a characteristic glyptic stance; but for this there is no precedent.

E.

The two cases of L88, which bear the same butterfly impression, recall the eleven examples on the *cretule* of Hagia Triada (Cr I 7, 10–12), where it is the second most common single sign, after the 'saw' sign L16.



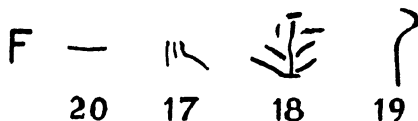
By contrast with its prominence on the *cretule* from Hagia Triada, L88 is a rare sign on the account tablets from that site, on which it is found about twelve times, including at least four solitary entries.

The six cases on the tablets from Khania comprise three apparent ligatures,   , two paired groups,  , and one group, perhaps an expansion of the last quoted, where L88 follows a 'human' sign which falls, very exceptionally, within a group .

The evidence, in short, though not strong, is that this sign can convey an ideographic meaning, and may define a human category. Its variant forms on the roundels will be discussed below where it is recorded fourteen times in ligatured form in section L.

F.

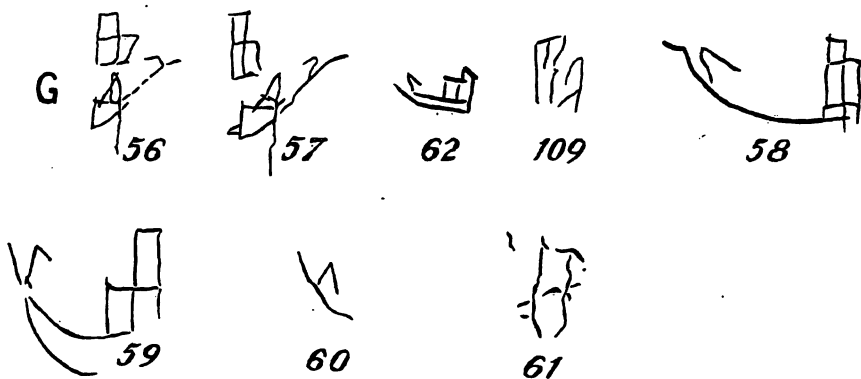
Four miscellaneous shapes are recorded. Only three of these fragments carry signs that can be tentatively identified, L78 A on No. 17, L92





* on No. 18, and L72 2 on No. 19. Significantly, all three can be matched on the *cretule* from Hagia Triada, where L78 is found three times (Cr I 6, 13), L92 five times (Cr I 17), and L72 possibly once (Cr II 5). All this confirms the correspondence already remarked between the counter-marks on the sealings of Khania and those of Hagia Triada.

G.

This ligatured combination sheds important light on the question of the nature and territorial extent of the entire system of writing, for it



confirms an association of two signs, L35  and L87 , that hitherto has been observed once only, on Tablet No. 8 (here Fig. 6) of the Hagia Triada corpus. It was there selected for special notice by Sundwall³, because of its resemblance to the central design on the celebrated gold ring from Mochlos (Fig. 7), which sadly has long been lost.⁴ Sundwall drew attention to the evidently ritual nature of the association between the boat and the stepped altar, both on the Mochlos ring and on the panel

³ J. Sundwall, *Minoische Kulturverzeichnisse aus Hagia Triada*, Acta Acad. Aboensis. Humaniora 14.4, 1942. T vii.

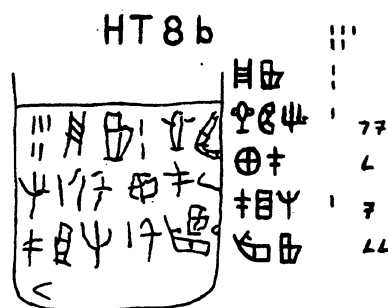


Fig. 6

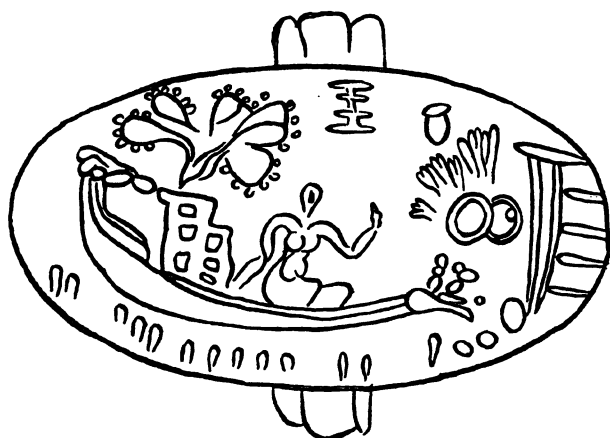


Fig. 7

that portrays the offering to the 'mummy' on the Hagia Triada Sarcophagus (Fig. 8). The Egyptian nature of this last scene has frequently been remarked, and Dr Sourvinou-Inwood has demonstrated several Egyptian features in the design on the Mochlos ring.⁵

In preparing the 1960 edition of the Hagia Triada tablets (ILA), the writer after much thought did not classify the combination of L35 and L87 on HT 8b as a ligature, for the two signs are not closely linked, nor is one smaller than the other, and L87 appeared to be entered on a high register, as in the case of the last two signs on HT 6a2, in order to complete the sign-group on one line. However, if these examples from

⁴ The Mochlos ring is illustrated in H. Th. Bossert, *The Art of Ancient Crete*, London 1937, 236, No. 399b.

⁵ Cristiane Sourvinou-Inwood, On the lost 'boat' ring from Mochlos, *Kadmos* 12, 1973, 149-158.

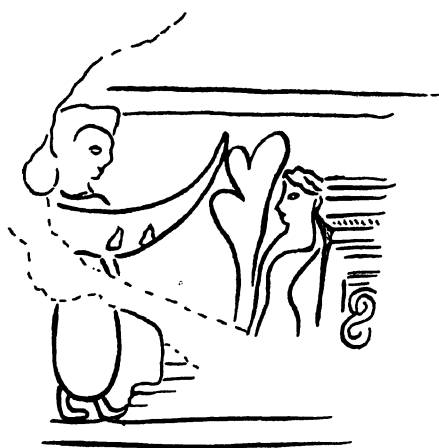








Fig. 8

Khania had then been known, the pair would doubtless have been recorded as a full ligature.

R-P distinguish between the patterns on Nos. 58–62 which they index as type 536, and those on Nos. 56, 57 and 109, which they take together as type 672 (= 536 + ?). In their sign 672 the 'prow' faces right rather than left as in 536 (and on the four examples of category B of the Khania sealings, above), and has a wedge-shaped appendage which suggests an oar and which isolates the 'altar' above the deck. However, L35 takes on several different shapes on the Hagia Triada tablets, and the example on HT 27  is reminiscent of the R-P type 672.

We remark that the 'altar' is stepped to the right on Nos. 56, 57 and 58, to the left on Nos. 59 and 62. It would seem best for the present to consider the different types as scribal variants of the same ligature. The 'hook' on the prow seems to indicate the backward-looking animal-head of the depiction on the Mochlos ring, and confirms the intimate connection of the glyptic and the epigraphic design.

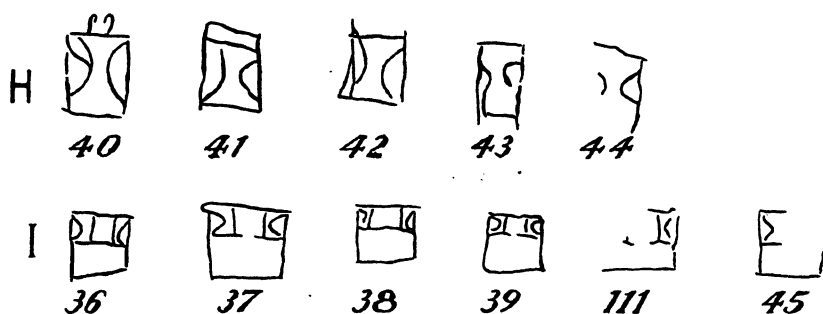
As for the symbolic meaning of this combination of signs, we may refer to what has been said above, in the discussion of class B of the sealings, about the relationship between L35  and L99  on the Hagia Triada tablets. The link of L35  with L29  on HT 11 could likewise be pursued as a further indication that L35 signifies some category of personnel.

By contrast, the 'cross' sign L22 +, which is associated with the 'prow' sign  in class B (above), is not used ideographically on the tablets; but it is recorded twice on the Hagia Triada *cretule* (I 1).


As to L 87 B, it behaves very much like L 88 A in that it tends to stand alone or in ligatured or other association with one other sign. It occurs twice alone on the roundels from Hagia Triada, and as shown in Fig. 3 has connections with the accompanying tablets.


H, I.

These categories, represented by five and six examples respectively, may conveniently be considered together, as is done by R-P who classify



them as variants of Sign-Type 184. Both classes bear the same two types of seal-impression.

There is nothing similar in the Cretan Hieroglyphic nor in the Linear B signary, but type H is reminiscent of the Linear A sign L 43 , which is virtually a *hapax*, since it occurs only twice in the same group JQA on two tablets, HT 17 and 19, which are duplicates except for the last sign-group.

Another possible comparison is with the 'gridiron' sign L 8 , which is used only twice, in HT 97 and 119, in each case next to and clearly with the same significance as a 'human' sign (Fig. 9).

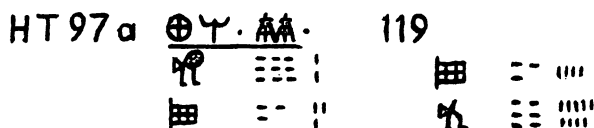


Fig. 9

As for the pictographic significance of the Khania sign, we can gain no insight from the context of L 43 on the Hagia Triada tablets, where it falls within a simple sign-group; but the shape suggests a box or similar container, seen from the side or from above. The curving lines might be seen as thongs or ropes used for carrying the boxes or for raising the lids.

J.

These two occurrences, both associated with the same seal-imprint, recall another rare sign in Linear A, classed as L48' in ILA. At Hagia Triada it is found once only, on HT 38 (Fig. 10), where it appears to be an ideogram within a mixed list which includes a vessel and an animal's

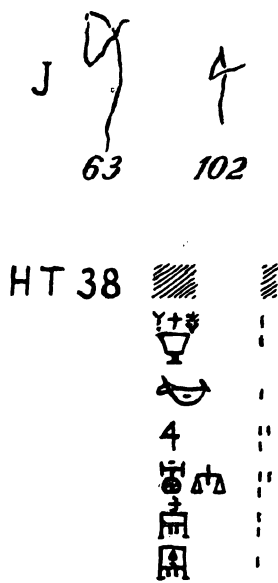


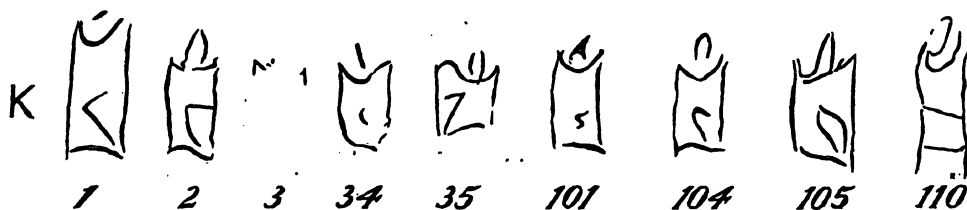
Fig. 10

head, L113. It recalls the unidentified 'animal' ideograms in Linear B, *21 ¶, *22 ¶, *23 ¶. The same sign may also be recognized on the Zakro tablet, Z 7, where the clearest occurrence appears to be ligatured with L57 ¶.

K.

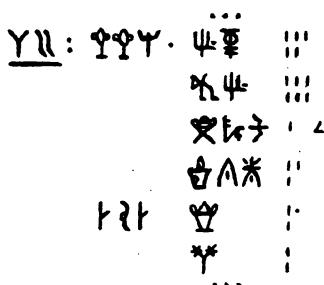
This class includes nine examples of L80, of which eight are associated with the same seal-type.

Though the equivalent sign *53 ¶ is quite common in Linear B, where it is conventionally understood as the vowel *o*, or as an ideogram



signifying 'deficit' or with some other undefined meaning, it is relatively rare in Linear A. At Hagia Triada there are two somewhat eccentric and dubious examples among the *cretule*, Cr I 24 06, and two clearer instances on the tablets. Of these last, the context on the broken piece HT 144 is obscure, but the relevant group on HT 93 falls in a list where it corresponds in its position to the familiar ideographic combination of L 99–100 𐀓𐀔 (Fig. 11).

HT 93 a



ligature of L 88 \aleph + L 76 ψ , comprises Numbers 54, 55, 64, and 99. Their 669 (including Nos. 46–51 and 53) is taken as a ligature of L 88 \aleph + L 189 ϱ ; and their 670, represented by one example only, No. 52, is defined as L 88 \aleph + L 190 ϱ . Nos. 65 and 113 are catalogued as ligatures of L 88 with doubtful signs. However, in this context it seems more satisfactory to regard signs 189 ϱ and 190 ϱ as scribal variants of L 76 ψ . The ligature common to all, L 88 \aleph + L 76 ψ , has not hitherto been noticed in the Linear A corpus, nor have these two signs appeared in the same group until the discovery of the Khania tablet fragment KH 74 (Fig. 12). Un-



Fig. 12

fortunately this piece is too incomplete to reveal anything significant about the context of the sign-pair.

As mentioned above under item E, L 88 \aleph seems to be capable of ideographic usage, and is ligatured elsewhere in the Khania tablet archive with L 30 μ (KH 18) and L 56 \aleph (KH 42). We remark also the ligature with a possible L 100 ψ on the Hagia Triada sealing Cr III 4 ψ .

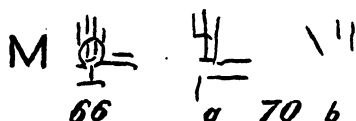
L 76 ψ however has apparently no ideographic usage, and acts as a qualifier. It is already known in this capacity in a ligature with the ideogram L 89 ρ on the Hagia Triada tablets, forming Lc 17 ψ .

L 88 \aleph is evidently akin to the Cretan hieroglyph P 21 \aleph , the 'adze' in Evans's list; though we may recall that the Egyptian hoe was similarly shaped and hafted. The cross-hatching near the junction of 'handle' and 'blade' which is a recurrent feature of the sign on the Khania sealings (notably on Nos. 46–48 and 50–53) may indicate lashings added to strengthen the attachment of the two parts of the implement.

As for the pictorial prototype of L 76, several of the more elaborate instances of the sign here on the Khania sealings, notably on Nos. 48, 50 and 52, recall animal heads in profile, such as P 62 ψ . The dot in the standard Linear A form of L 76 ψ would in this case appear as an eye.

M.

By contrast with the many cases of rare signs already noticed on these sealings and roundels, L 100, the 'hånd' sign (= B *52) on these two pieces is one of the commonest in both types of linear script.



Three examples were remarked on the Hagia Triada *cretule* (Cr I 14 Ψ Ψ Ψ). Like several other Linear A signs, L100 seems to function both as an ordinary syllabic sign and as an ideogram. In this second case its significance, at least at Hagia Triada and Zakro, appears to be as a 'transaction sign' (ILA pp. 4-5) which defines the nature of another sign (Ψ Ψ Ψ for example on HT 93), or of an entire list, in which case it stands in a prominent position in the 'title'. In this position it is occasionally drawn in an elaborate style with extra loops on the 'palm', and it is this version, which by Assyriological analogy may be called the 'gunu' variant, that is drawn on No. 66, as Figure 13 shows. The extra

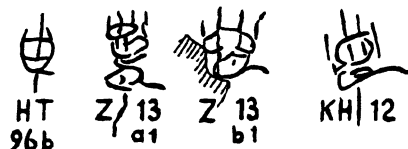


Fig. 13

feature on the Khania sealing, which doubtless persuaded R-P to allot it the separate classification of 611c, is a short 'foot'.

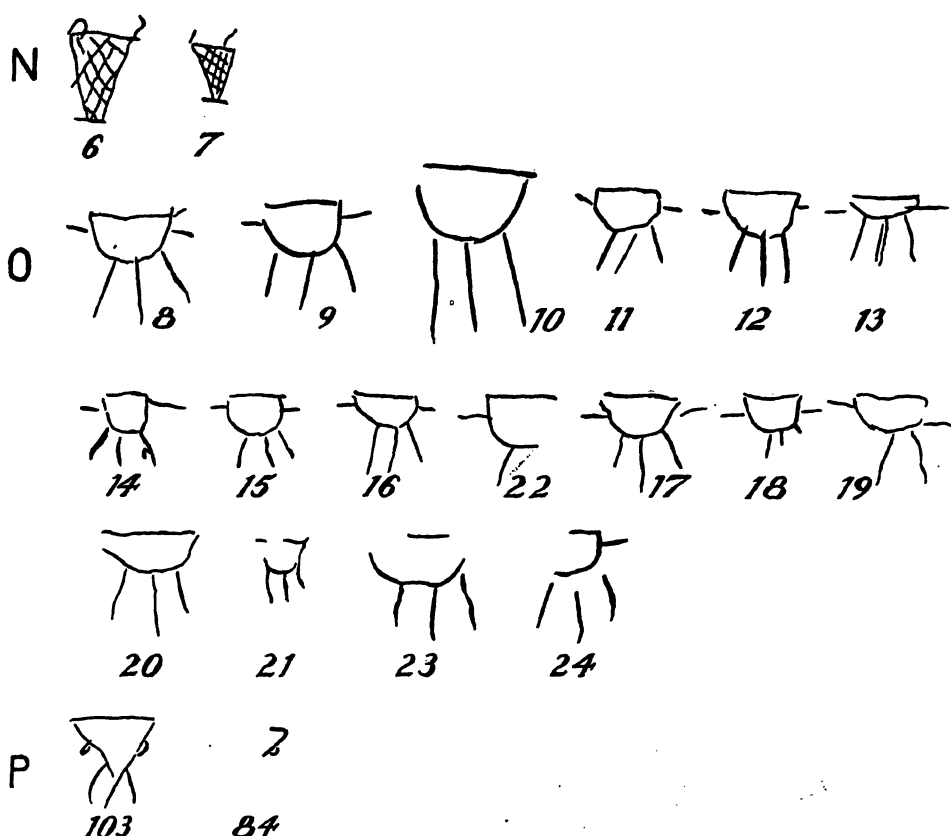
N, O, P.

These vessel symbols may conveniently be considered together. No ideograms of this kind have hitherto been noted on sealings or roundels, and the present examples must therefore be compared with those on the tablets.

Type O, the bowl on a pedestal tripod, catalogued as 182 by R-P, is found on seventeen sealings. It compares closely with the *hapax* in Linear A, the vessel, with L 81 superscribed, on HT 31,1 Ψ, though the handles are here drawn differently.

The two examples of style N (R-P 181), Nos. 6 and 7, are notable for the cross-hatching of the body, and for the curved line which projects from the rim opposite the handle, and may represent the wick of an oil-lamp.

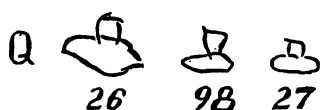
Type P (R-P 183), apparently standing on a crossed tripod, is represented by only two examples No. 103 and 84. It cannot be matched in



Linear A, but is close in form to an ideogram that falls three times on the Pylos tablet Kn 02 𐀗.

Q.

This sign (R-P type 185) is new to the repertory of Cretan signs, and its significance must for now be left as an open question. It is confirmed by three examples, of which two are associated with the same seal-imprint.



R.


Found on only one sealing, and classed by R-P as Type 186, this sign is similar to the central one on the roundel III 16a from Phaistos (Fig. 14). It resembles L 45 𐀓, an ordinary syllabic sign, whose Linear B equivalent *70 can also be used ideographically.

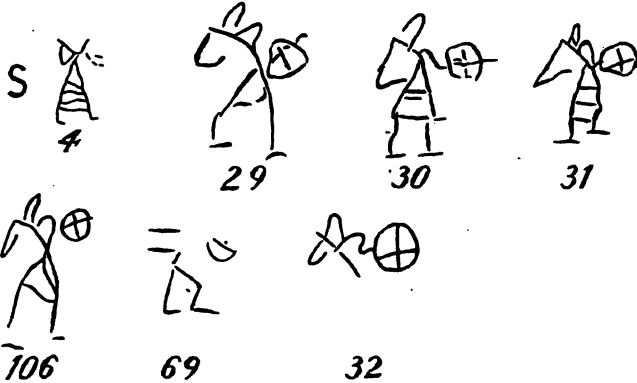
R 
28







Fig. 14



S.

The seven examples of a 'human' sign may be taken together here for the sake of simplicity. Five of them are evidently ligatures with L 29 ,




like the Lc 55 of the Hagia Triada tablets , but the human figure here is not the type L 99 , but L 122  with the hatched 'skirt'. R-P class it as their type 555.

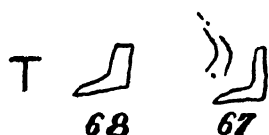
No. 4 lacks the ligatured sign L 29 , and is classed by R-P as type 126, but it is damaged where the attached sign might be expected.

The ligature Lc 55 is found four times on the Hagia Triada tablets  (though not on the *cretule*), and once in a somewhat different arrangement on a tablet from Zakro . It evidently functions as an ideogram in every occurrence, and, as hinted several times above, it may be taken as a clue to the significance of several of the other signs on the Khania nodules and roundels.

T.

Nos. 67 and 68 must be grouped together since both bear the same basic design and the same seal-impression. Except for a faint extra pattern in 67, both are inscribed with the same simple design of a foot or boot. This is new to the Cretan sign-lists. It resembles the common Sumerian pictograph  *gub* = 'present', as on the celebrated tablet from Kish⁶; but this is doubtless a case of pure co-incidence.

⁶ S. Langdon, *Excavations at Kish I* (1923-4), Oxford 1924, 99-101, Pl. 31.



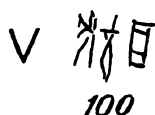
U.

The piece No. 97 is so fragmentary that it defies identification, and the seal-imprint, being unique in this series, affords no help.



V.

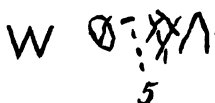
The first sign is undoubtedly L 99, despite the reservations of R-P, and parallels almost exactly the example on HT 105 A.



The second may just possibly be seen as an extreme variant of the 'cross' sign L 22, which sometimes carries a loop on its lower branch, as on HT 19 7. R-P classify this last as an acceptable form of L 22, though they do not see the present sign as such, and allot it a new category, 188. The final sign is the familiar L 32 B which frequently falls as a suffix in Linear A.

W.

As remarked in an initial publication in *Kadmos* 12, 1973, 24, Pl. iv, this group, consisting of L 29-26-60-78, includes a form of the last



sign which is more characteristic of Linear A than of Linear B. The sign-group is unique.

Conclusion (Fig. 15)

The most numerous and obvious points of comparison for these clay counterfoils and sealings from Khania are with the tablets from the same site, and with the inscribed *cretule* from Hagia Triada.

There is markedly less connection between the sealings and roundels and the local tablets at Khania than there is at Hagia Triada. But it must be significant that types L and M, not known on the Hagia Triada *cretule*, can be paralleled on the Khania tablets.

We may tentatively identify two main kinds of meaning or significance in these objects. The first may directly, or through inference from contexts on tablets, be regarded as connected with social groups, presumably the source or destination of the consignments. The second may be interpreted as containers.

Some five signs appear to be new to the Cretan repertory. In fact, it is usually the case that when a fresh set of Linear A documents is brought to light a few signs or clear variants are added to the signary, whereas this rarely happens in the case of the more stable and standardized Linear B.

In the case of these Khania inscriptions we remark in general that while they show some local features, they also confirm the wide circulation of certain very specific writing conventions that were presumably used and understood for a long time over the main extent of the island.