

CRETAN HIEROGLYPHS: A MINOAN HITTITE ARCHIVE

by SIMON DAVIS

The discovery of the Hieroglyphic Deposit in the West Wing of the Palace at Knossos is best given in Sir Arthur Evans's own words (with significant phrases or sentences italicised).

' Immediately behind the landing of the stone steps at the north end of the Long Gallery was an elongated chamber which seems to have been intended for a magazine, but which had been shortly afterwards filled in and used as a platform. This earth filling has preserved *a series of clay documents belonging to the first period of this part of the building, and presenting inscriptions in the same "hieroglyphic" or conventionalized pictographic script as that of the more advanced specimens of seal-stones observed from 1893 onwards.* The clay documents were in the form of rectangular tablets, short bars, with three or four sides, scallop-shaped labels perforated by suspension . . . and three-sided sealings with a hole running along their major axis for the string by which chests containing the clay *archives* themselves or other possessions had been originally secured. These sealings, in addition to the graffito inscription usually impressed on their larger faces, exhibited one or more impressions of contemporary signets with hieroglyphic characters. *It was particularly interesting thus to find the formal, glyptic type of the script side by side with the more careless and linearized versions of the same signs when hand-written* ' ¹.

Evans goes on to say: '*The inscriptions on these documents conclusively disproved a suggestion made with reference to the sign groups on the gems, that they had merely a "symbolized religious sense" since the very form of these clay records and the numerical entries contained in them show that they had been employed for business purposes*' ².

¹ A. J. Evans, *Scripta Minoa*, 1, (Oxford, 1909), 20.

² *Ibid.*, 21.

A selection from the documents discovered in the Knossos Hieroglyphic Deposit, deciphered by the present writer, will be discussed here, each with a transliteration and short commentary. As in the case of the Minoan seals and sealings, the inscriptions on them are in the Hittite language; this fact has already been indicated in a previous article on the Cretan Hieroglyphs. *The ending of the first person singular, preterite (past tense), of the verb in -un, so frequent on seals, is particularly significant as a Hittite ending*³; so too are other close correspondences in *morphology* between Cuneiform Hittite and Minoan Hittite, provided by evidence which is constantly accumulating.

For the spelling rules of the Pictographic (Hieroglyphic) script, particularly the writing convention of omitting *l, m, n, r, s* and *i*, at the end of a syllable, and the values of the signs, the article mentioned should be consulted⁴.

Further investigation, however, has finally shown that the signs 84, 134 have the value *za*, 36 the value *ka/ha*, and 97 the value *ke/ki* or *he/hi*⁵. It is to be noted that signs with the last value may also have the value *kwe/h^we = hue*, (cf. the 'goat', 'mountains' and 'plough' sign, figs. 6, 7, 12); so too signs with the value *ku/hu* (cf. the 'ship' sign, fig. 4).

A grid, only of those signs which occur on the documents discussed here, follows (Fig. 1).

On a clay sealing (Fig. 2; P 50 b, c.)⁶ the following graffito inscription occurs:

(b) x e-waⁿ (c) GRAIN

On another clay sealing (Fig. 3, P 52 b, c)⁷ the graffito inscription is as follows:

(b) x waⁿ -laⁿ -i (c) GRAIN

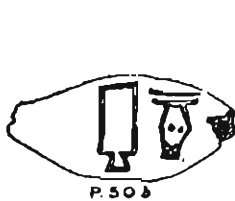


Fig. 2



Fig. 3

³ S. Davis, 'Cretan Hieroglyphs: the end of a quest?', *Greece and Rome*, XI (1964), 107.

⁴ *Ibid.*, 107-109.

⁵ S. Davis, *The Decipherment of the Minoan Linear A and Pictographic Scripts*, Witwatersrand University Press (Johannesburg 1967), Figs. 54 A, B.

⁶ A. J. Evans, *Scripta Minoa*, 1, 163.

⁷ *Ibidem.*

PICTOGRAPHIC GRID














































	a	e/i	u
Vowel		8b  63f  92c  98c 	
w	24d  32c 		
k, kw, h, hw	36d 	27b  54c  65f  97e  101b  114d  72d 	43b  118  Fig. 10  89  86  130 
p, b	44c  44m 		
t, d	12c  88f  46d 	13c 	
r, l	11c  40c  50a  115b 	100c  98b  Fig. 12a 	112c  105b 
n		103a  103d  Fig. 20 	7c  135 
s	60e  Fig. 20 		5f 
z	18c  84m 		

Fig. 1

Ideograms

94 c = GRAIN; 100 b = OIL; 88 h = OLIVES; 103 d = FIGS

Numerals (*Scripta Minoa*, 1, 258)

Unit =) or |; Ten = o; Hundred = /; Thousand = o

NOTE: Numbers next to signs refer to the list in *Scripta Minoa*, 1, 181 ff., unless otherwise indicated.

$e-wa^n$ = *ewan*, a neuter word for a kind of grain: the same word occurs in Cuneiform Hittite ⁸.

wa^l-la^n-i = *war(wa)lani*, the nominative singular of a word the stem of which is *warwalan-*; other cases of the word occur in Cuneiform Hittite and the meaning is 'seed' ⁹. The same word also occurs on a clay label (H 7 a) from the Palace at Mallia, on the north coast of Crete ¹⁰.

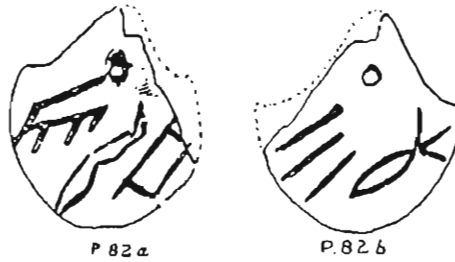


Fig. 4

On a clay label (Fig. 4; P 82 a, b) ¹¹ the graffito inscription reads as follows:

(a) $h^w e-l(a)-pa^n$ (b) GRAIN 3

$h^w e-l(a)-pa^n$ = *huelpan*, nominative singular, neuter, in *-an* instead of *-in*, of *huelpiš*, 'fresh, tender, unripe', which occurs in Cuneiform Hittite (cf. *uraš|uriš*, 'large', for the *a/i* variation) ¹².



Fig. 5

⁸ J. Friedrich, *Hethitisches Wörterbuch* (Heidelberg, 1952), 339.

⁹ *Ibid*, 247.

¹⁰ F. Chapouthier, *Les écritures minoennes au palais de Mallia*, École française d'Athènes, *Études Crétoises*, II (Paris, 1930), 20.

¹¹ A. J. Evans, *Scripta Minoa*, I, 166.

¹² J. Friedrich, *Hethitisches Wörterbuch*, 70; 1. *Ergänzungsheft* (Heidelberg, 1957), 22.

On yet another clay label (Fig. 5: P 85 a, b)¹³ the following inscription occurs :

(a) *e-la-nu-ta ti-n(i) la-he^s* (b) *lu-k(e)-ke^s* GRAIN 32
 Olive oil jars

On side (a) the inscription is to be read from left to right, as *ti-n(i)* indicates (cf. Fig. 19), and that on side (b) also, except for the lower half which is to be read from right to left, as the GRAIN ideogram followed by numerals indicates.

e-la-nu-ta: probably for *e-la-(wa)-nu-ta* (cf. *wa^v-laⁿ-i* for *war(wa)lani*. (Fig. 3), the Minoan Hittite word for 'olive', from which apparently the Mycenaean Greek Linear B words *e-la-wa* (cf. *oliva, olea*), 'olive', and *e-la-wo* (cf. *olivum, oleum*), 'oil', have been derived.

ti-n(i) = *tin*, the Minoan Hittite equivalent of the Luwian word *tain*, 'oil' (cf. Fig. 19)¹⁴.

la-he^s = *lahheš*, nominative plural, common, of *lahhuš*, 'jar'¹⁵.

lu-k(e)-kes = *lukke^s*, an as yet unattested word, but probably, from the context, a numeral written out in full.

Two more clay labels from the Hieroglyphic Deposit are interesting.



Fig. 6



Fig. 7

The first one (Fig. 6; P 78 a)¹⁶, bears the following graffito inscription :

h^we^l-wa-li

The second label (Fig. 7; P 96 a)¹⁷ has a graffito inscription reading as follows :

h^we^r-ti-wa-la^s

¹³ A. J. Evans, *Scripta Minoa*, 1, 167.

¹⁴ J. Friedrich, *Hethitisches Wörterbuch*, 1, *Ergänzungsheft*, 39.

¹⁵ J. Friedrich, *Hethitisches Wörterbuch*, 125.

¹⁶ A. J. Evans, *Scripta Minoa*, 1, 166.

¹⁷ *Ibid.* 169.

$h^w e^l wa-li = hulali$, 'spindle', a word which occurs in Cuneiform Hittite¹⁸.

$h^w e^r ti-wa-la^s = hurtijalaš$, 'basin', a word which also occurs in Cuneiform Hittite¹⁹.



P. 121

Fig. 8

A clay tablet (Fig. 8; P 121)²⁰ from the Palace at Phaistos bears a grafito inscription in two sections, consisting of a word for a kind of measure and the GRAIN, OIL, OLIVES and FIGS ideograms (cf. Fig. 1).²¹ The transliteration is as follows:

pa^r-su GRAIN $20\frac{1}{4}$ OIL $20\frac{1}{4}$ OLIVES $20\frac{1}{4}$ FIGS $20\frac{1}{4}$
 GRAIN $25\frac{1}{4}$ OIL 29 OLIVES 24 FIGS 25

$pa^r-su = parsu$, a kind of measure, a word which occurs as *parisu* in Akkadian²². Evans notes the signs of this word as the 'gate' sign (the value is *pa*, cf. Fig. 1) and the 'eye' sign doubled²³, but the latter sign is a pictograph for a twisted cord as close examination of the tablet shows. As the word for 'cord' is *šuel* in Cuneiform Hittite²⁴, this picture sign, according to the Acrophonic principle, represents the syllable *su*, and it may well be the prototype of L 59 = *su*, in Linear A. At any rate 2.22.59 = *pa-r(u)-*

¹⁸ Ibidem, 73.

¹⁹ Ibidem, 77.

²⁰ A. J. Evans, *Scripta Minoa*, 1, 179, 254.

²¹ Cf. M. Ventris and J. Chadwick, *Documents in Micenaean Greek* (Cambridge, 1956), 30-31. These agricultural products are represented by similar ideograms in Linear A and Linear B.

²² Cf. A. Deimel, *Sumerisches Lexikon*, Teil III, Band II (Rome, 1937), 356. 1; J. Friedrich, *Hethitisches Wörterbuch*, 311; cf. O. R. Gurney, *The Hittites*, Penguin Books, London, 1952, 85, 86: - '... the use of the Babylonian names for units of weight is another instance of the debt owed by the Hittite civilization to its eastern neighbours'.

²³ A. J. Evans, *Scripta Minoa*, 1, 179.

²⁴ J. Friedrich, *Hethitisches Wörterbuch*, 196.

su = *parsu*, occurs as the heading of HT 20 with, below it, a personal name and the numeral fraction, just like Lm 7 on the tablet from Phaistos. The sign Lm 7²⁵ appears here to have a fractional value, that of $\frac{1}{4}$ ²⁶.

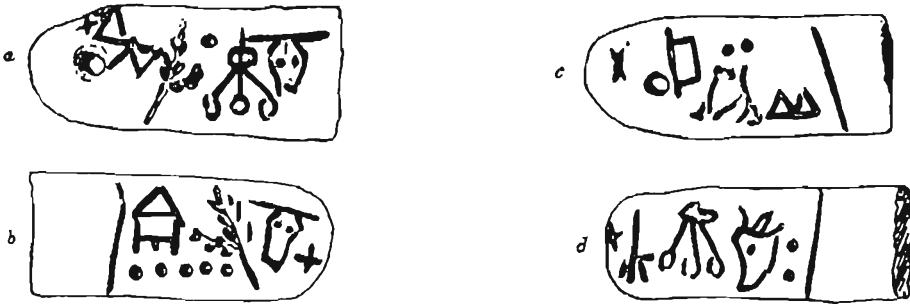


Fig. 9

A four-sided clay bar (Fig. 9; P 107)²⁷ from the Hieroglyphic Deposit bears the following graffito inscriptions:

(a) × *ha-k(i)-i-i* 10 (b) × *i-k(i)-ku^s* 50 (c) × *pa-ra-he* 20 (d) *ki-i-hi* 20

Of the four words on this clay bar *i-k(i)-ku^s* on side (b) may be identified as **ikkus*, 'horse', as it is very reminiscent of the Doric Greek ἵκκος and the Mycenaean Greek Linear B *i-go*²⁸. Weight is lent to this interpretation by the fact that the clay bars from the Knossos Hieroglyphic Deposit refer to animals and other words are used for 'sheep', 'goat', 'cattle'; the number 50 follows *ikkus*.

A four-sided clay bar (Fig. 10; P 100)²⁹ bears the following graffito inscriptions:

(a) × <i>he-wa^s</i> 6400	* <i>sa-hu-za</i> 1400	
(b) × <i>h^w i-tar</i> 20	* <i>za-ti</i> 300	* <i>ke-ke-ha</i> 50
(c) × ? - <i>nu</i> []	* <i>i-sa</i> []	* <i>za-ti</i> 40
(d) × <i>i-ni-ku</i> 2660	* <i>ke-li-ha</i> 130	

According to Evans: 'In this and other cases the initial × mark is placed on the lines separating the sections':³⁰ each section enumerates a class

²⁵ A. J. Evans, *Scripta Minoa*, 1, 193, nos. 31 h, g.

²⁶ Cf. G. P. Goold and M. Pope, *The Cretan Linear A Script*, 'Elements of the Linear A Script (1)', University of Capetown (1955, Mimeographed).

²⁷ A. J. Evans, *Scripta Minoa*, 1, 173.

²⁸ Cf. M. Ventris and J. Chadwick, *Documents in Mycenaean Greek*, 395.

²⁹ A. J. Evans, *Scripta Minoa*, 1, 170.

³⁰ Ibidem.



P.100

Fig. 10

of domestic animal, a singular noun being used to indicate each class, five of which may be identified as follows:

*he-wa*³¹ = *hawaš*, 'sheep', a word found in Hieroglyphic 'Hittite'

sa-hu-za = *sahuza*, 'pig', a loan word from Akkadian, where it occurs as *šahu*³². It is to be noted that several words of Sumer-Akkadian origin appear in Minoan Hittite with a Hittite nominative ending, e. g. the ending

³¹ J. Friedrich, *Hethitisches Wörterbuch, 2. Ergänzungsheft* (Heidelberg, 1961), 45, s. v. *ha-wa*.

³² J. Friedrich, *Hethitisches Wörterbuch*, 293, s. v. *ŠAH*; A. Deimel, *Sumerisches Lexikon, Teil III, Band II*, 417.

za here (cf. *sa-lu-za*, fig. 11; *ki-ru-za*, (fig. 17). Cuneiform Hittite, it is well known, borrowed words from neighbouring languages³³, but set upon such words the impress of its own morphology³⁴.

h^w i-ta' = *huitar*, 'cattle', a word found in Cuneiform Hittite³⁵; the same syllabic spelling of the word occurs on a clay bar (H 22 b) from the Palace at Mallia³⁶. This word is also used in Cuneiform Hittite in a general sense, viz. 'animals' (cf. Fig. 11, P 80 a; Fig. 12, P 86 b; Fig. 16, P. 89 a).

za-ti = *zati*, 'goat', a loan word from Akkadian where it occurs in the plural as *enzati*, 'goats'³⁷.

i-ni-ku = Akkadian *uniku*, 'young goat: (cf. Fig. 11; P 80 b). The reading of the second syllabic sign is not 112 = *ru*, as Evans has it, but rather 104 = *ni*³⁸.

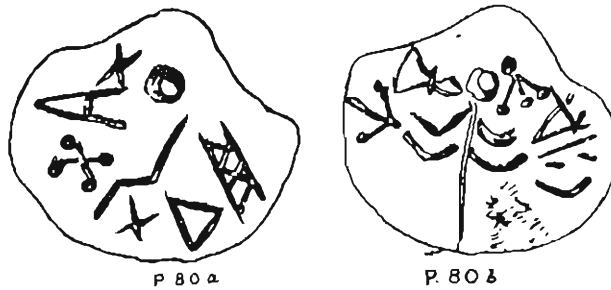


Fig. 11

A clay label (Fig. 11; P 80)³⁹ bears the following graffito inscriptions:

(a) x *sa-lu-za* x *h^wi-ta'* (b) *za-ti* 20 *i-ni-ku* 30

sa-lu-za = *saluza*, 'hide', a loan word from Akkadian, where it occurs as *šallu*⁴⁰ (cf. *sa-hu-za*, fig. 10; *ki-ru-za*, fig. 17),

h^wi-ta' = *huitar*, 'animals' (cf. Fig. 10 where the word is used for 'cattle')⁴¹.

za-ti = *zati*, 'goat' (cf. Fig. 10).

i-ni-ku = *iniku*, 'young goat' (cf. Fig. 10; P 100 d): the last sign

³³ Cf. O. R. Gurney, *The Hittites* (Penguin Books, London, 1952); 117-9.

³⁴ Cf. S. Davis, *The Decipherment of the Minoan Linear A and Pictographic Scripts*, 39.

³⁵ J. Friedrich, *Hethitisches Wörterbuch*, 72.

³⁶ F. Chapouthier, *Les Écritures minoennes au palais de Mallia*, 25.

³⁷ *The Assyrian Dictionary*, ed. A. L. Oppenheim, Oriental Institute of the University of Chicago, 4 (1958), 182.

³⁸ Cf. A. J. Evans, *Scripta Minoa*, 1, Pl. X, P 108 d.

³⁹ *Ibid.* 166.

⁴⁰ *The Assyrian Dictionary*, 16 (1962), 74, s. v. *šallu*.

⁴¹ J. Friedrich, *Hethitisches Wörterbuch*, 72, s. v. *huitar*, 'Tierwelt, Getier, Vieh: Wild'.

does not represent numerals as Evans supposed, but is a writing variation of the 'ship' sign (cf. Fig. 4; P 82 a) ⁴².

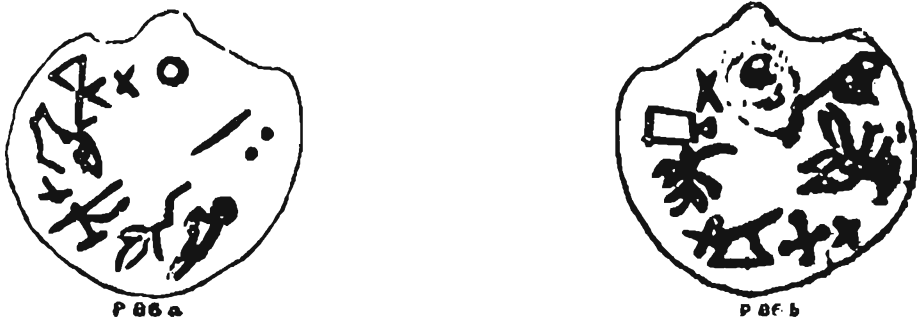


Fig. 12

Another clay label (Fig. 12; P 86) ⁴³ bears the following graffito inscriptions:

(b) × *wa'-hu'* × *da-ru* × *hu'-ta'* (a) × *ha'-ki* × *h^wi-ta-li*

wa'-hu' = *warhui*, nominative singular, neuter, of *warhuiš*, 'shaggy, unshorn', a word found in Cuneiform Hittite ⁴⁴.

da-ru is from the context a word for 'body', or 'hair', or 'skin'.

hu'-ta': this word is again used in a general sense to mean 'animals' (cf. Fig. 11).

ha'-ki = *harki*, nominative singular, neuter, of *harkiš*, 'white', in Cuneiform Hittite ⁴⁵.

h^wi-ta-li = *huttulli*, 'fleece', nominative singular, neuter, of a word found in Cuneiform Hittite ⁴⁶. For the spelling compare *huitar* = *h^wi-ta'* (Fig. 10; P 100 b); 27 = *hui|h^wi* in *huitar*, and *hue|h^we*, i.e. *hu*, in *huttulli* (cf. p. 3). The context too suggests that the Minoan word here is the equivalent of the Cuneiform Hittite one. Thus the value of the unusual, last sign, 'knife in a sheath', is *li* ⁴⁷.

Yet another clay label (Fig. 13; P 83) ⁴⁸ bears the following inscriptions:

(a) × *ku-i-ki* × *da-ru* (b) × *za-li* numerals *he-wa^s* 40

ku-i-ki in a similar position to *wa'-hu'*, in front of *da-ru*, is, like it, an adjective qualifying *da-ru* (cf. *wa'-hu'*, Fig. 12)

⁴² A. J. Evans, *Scripta Minoa*, 1, 225, no. 118; cf. no. 116.

⁴³ *Ibid.*, 167.

⁴⁴ J. Friedrich, *Hethitische Wörterbuch*, 245, s. v. *uarhui*.

⁴⁵ *Ibid.*, 57.

⁴⁶ *Ibid.*, 78.

⁴⁷ A. J. Evans, *Scripta Minoa*, 1, 167.

⁴⁸ A. J. Evans, *Scripta Minoa*, 1, 166.



P. 83 a



P 83 b

Fig. 13

da-ru = *daru*, 'body', or 'hair', or 'skin' (cf. Fig. 12).

za-ti = *zati*, 'goat' (cf. Fig. 10).

he-wa' = *hawaš*, 'sheep' (cf. Fig. 10); the last sign is not the 'gate' sign 44 (cf. Fig. 4, P 82 a; [Fig. 18, P 116 b), as Evans supposed,⁴⁹ with value *pa*, but rather the 'mallet' sign, 24, with value *wa* (cf. Fig. 6).



P. 109

Fig. 14

P. 104

Fig. 15

On a four-sided clay bar (Fig. 14; P 109)⁵⁰ the same order *i-ta-za za-ti*, as Evans noticed, occurs as on another four-sided clay bar (Fig. 15; P 104 d). As on the preceding clay documents, a singular noun is used to indicate a class of domestic animal. The transliteration is as follows:

(a) × *ha-la-za* 250 (b) *i-ta-za* 1240 (c) *za-ti* 420 (d) *hi-ra* 407 *lu* []

In an enumeration of domestic animals one would expect them to be listed in the order of their economic value, beginning with 'oxen' or 'cows', then 'sheep', next 'goats' and so on; such appears to be the case here.

ha-la-za: 'ox or 'cow' (cf. Fig. 16; P 89).

i-ta-za: a synonym for *he-wa**, 'sheep' (cf. Figs. 10, 13), as is strongly indicated by the following facts: (1) the Cuneiform Hittite word for 'sheep', viz. *ijanža*⁵¹, differs but little from *i-ta-za*, in spelling; both words may in

⁴⁹ Ibidem.

⁵⁰ Ibid., 174.

⁵¹ J. Friedrich, *Helhitisches Wörterbuch*, 81.

fact be derived from the Akkadian *etudu*, 'ram'⁵², (ii) *i-ta-za*, like *he-wa'* is associated with *za-ti*, 'goat', (cf. Fig. 13, P 83 b; Fig. 15, P 104 d).
za-ti = *zati*, 'goat' (cf. Fig. 10).



Fig. 16

A clay label (Fig. 16; P 89)⁵³ bears the following graffito inscriptions:

(a) × *h^w i-ta'* 100 (b) × *ha-la-za*

h^w i-ta' = *huitar*, 'animals' (cf. Figs. 10, 11).

ha-la-za (cf. Fig. 14); this is one of the commonest words on the clay documents from the Hieroglyphic Deposit⁵⁴. The fact that, here, only *h^w i-ta'* occurs with numerals is a strong indication that *ha-la-za*, which is without them, is a more specific term for the animals numbered.

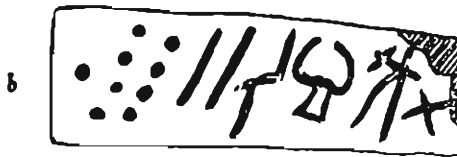


Fig. 17

On side (b) of a four-sided clay bar (Fig. 17; P 105 b)⁵⁵ the graffito inscription reads as follows:

× *ki-ru-za* 290

ki-ru-za = *kiruza*, 'lamb', a loan word from Akkadian⁵⁶ where it occurs as *kirru* (cf. *sa-hu-za*, Fig. 10; *sa-lu-za*, Fig. 11). The same word occurs on a clay bar (H 21 a) from the Palace at Mallia⁵⁷.

⁵² *The Assyrian Dictionary*, 4 (1958), 396, s. v. *etudu*.

⁵³ A. J. Evans, *Scripta Minoa*, 1, 168.

⁵⁴ *Ibidem*, 168 (P 89b); 172 (P 103d); 174 (P 109a); 117 (P 118b, c, d).

⁵⁵ *Ibidem*, 173.

⁵⁶ A. Deimel, *Sumerisches Lexikon*, Teil III, Band II, 220. s. v. *kirru*.

⁵⁷ F. Chapouthier, *Les Écritures minoennes au Palais de Mallia*, 24.

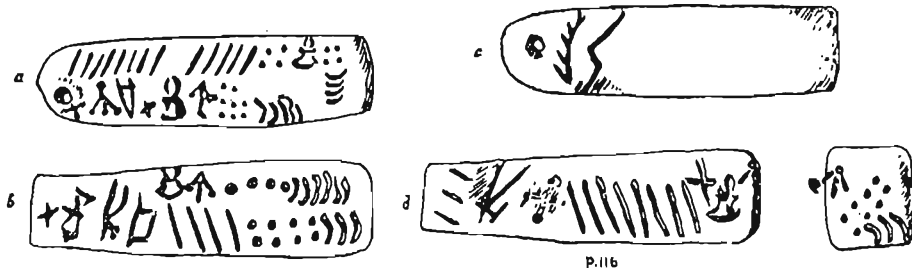


Fig. 18

On a four-sided clay bar (Fig. 18; P 116)⁵⁸ the graffito inscriptions are to be read in the order of sides (c), (b), (a), (d-e), since side (c) is the only side without numerals; thus the word on it is a general heading but the words on the other sides denote kinds of domestic animals.

(c)	<i>li-za'</i>				
(b)	× <i>ka-ke-pa'</i>	483		<i>za-ti</i>	46
(a)	× <i>i-sa</i>	800	540	× <i>za-ti</i>	86 <i>za</i> 44
(d)	?- <i>ki-ru</i>		800	× <i>za-</i>	
(e)	<i>ti</i>		83		

li-za' = **lieššar* (cf. *ti-za'* for *tieššar*, *ha-za'* for *hateššar* on seals)⁵⁹, a noun derived from the verb *liššai-*, 'collect, gather, assemble'⁶⁰.

ka-ke-pa' = *kakkapaš*, a word found in Cuneiform Hittite. Friedrich originally assumed that this word might mean some kind of 'sheep' or 'goat', but later on he held it might mean a kind of 'bird'⁶¹. The context here, a list of domestic animals, strongly supports his first assumption.

za-ti 'goat' (cf. Fig. 10).

An inscription, in what the present writer assumes to be the Pictographic (Hieroglyphic) script, or a linearized version of it approximating to the Linear A script, occurs on a stirrup vase from Orchomenos in Boeotia, on the Greek mainland (Figs. 19, 20)⁶². Evans's description of the inscription and a comparison made with the inscription on a clay label from Knossos (Fig. 5; P 85 a, b) should make clear two facts: (i) the script used is not Linear B, and (ii) the language employed is Hittite.

⁵⁸ A. J. Evans, *Scripta Minoa*, 1, 177.

⁵⁹ S. Davis, *The Decipherment of the Minoan Linear A and Pictographic Scripts*, 119, 124.

⁶⁰ J. Friedrich, *Helhitisches Wörterbuch*, 130, s. v. *liš(š)ai-*.

⁶¹ *Ibidem*, 94, 342.

⁶² A. J. Evans, *Scripta Minoa*, 1, 57, Figs. 31, 32.



Fig. 19

Evans states: 'The signs are painted in red on the body of the vase, and they show very distinct divergences from the script of Class B in use in the later Palace at Knossos. The third sign of the vase is altogether absent from it, though it shows some analogy with a character belonging to Class A. In some respects, indeed, as will be seen from the comparative Table (Fig. 20) the closest resemblance is presented by certain graffito forms of the earlier hieroglyphic script of Crete. It also appears that the numeral signs $\cdot\cdot|\cdot$ which follow the inscription, answer to those of the hieroglyphic system and to the earlier documents of the Linear Class A. According to these they would signify 31 — a sum which in the later inscriptions of the Linear Class A and throughout Class B is indicated by \equiv '⁶³. Evans, with remarkable insight, goes on to say: 'The supposition that the stirrup vase itself is a late importation from Minoan Crete is, indeed, contrary to all probability'⁶⁴. As the present writer has shown elsewhere, a parallel problem is created by the provenance on the Greek mainland of the so-called Mycenaean seals with Minoan Hittite inscriptions on them. These seals were not importations but used consciously, with a knowledge of their meaning, by Hittite-speaking

⁶³ *Ibid.*, 58.

⁶⁴ *Ibidem.*

folk in Greece before the Greeks invaded that country, probably in the thirteenth century B. C. ⁶⁵.

One of the agricultural products listed on the clay label from Knossos (Fig. 5; P 85 a) is *ti-n(i)* = *tin*, the equivalent of *tain*, the Luwian word for

	ORCHOMENOS	CRETAN LINEAR CLASS.B	CRETAN LINEAR CLASS.A	CRETAN HIEROGLYPHS
1				
2				
3				
4		[IN COMPOUND SIGN 		
5				

Fig. 20

'oil'; the same Minoan word occurs on the Orchomenos vase, for the first two signs on it also make up *ti-n(i)*, while the next two make up *sa-ku* = *sa-k^w* ⁶⁶, the nominative plural, common, of *šaggaš*, 'vessel', ⁶⁶ found in Cuneiform Hittite ⁶⁷ (cf. Fig. 5, P 85 a, for *lahheš*, 'jars'). What appears to confirm this interpretation is the well-established fact that stirrup-jars were used as oil containers. Wace in fact says of the *thirty* large stirrup jars discovered in the House of the Oil Merchant at Mycenae: 'To judge by the condition of many of these stirrup jars, now in the Nauplia Museum, they had originally contained oil, for their clay is heavily impregnated with oil' ⁶⁸.

⁶⁵ S. Davis, *The Decipherment of the Minoan Linear A and Pictographic Scripts*, 183-189, 211-218.

⁶⁶ Cf. S. Davis, op. cit., 93, 165, for the value of the 'triangle' sign as *ku*, and 102 (Aq) for *ku* = *k^we* (i. e. *kue*).

⁶⁷ J. Friedrich, *Hethitisches Wörterbuch*, 176.

⁶⁸ A. J. B. Wace, Introduction to E. L. Bennet, 'The Mycenae Tablets, I', *Proceedings of the American Philosophical Society*, 97 (1953), 423.

The numerals at the end of the inscription are very reminiscent of those on the clay label (Fig. 5 ; P 85 b). Evans, as noticed above, had already drawn attention to the fact that the numerals on the Orchomenos vase ' answer to those of the Hieroglyphic system and to the earlier documents of the Linear Class A '.

Other inscriptions, belonging to the Linear A script, have been found on the Greek mainland, viz. (i) two signs, **L 92.52** ' on the left door jamb, facing the dromos and slightly below the lintel ' of a tholos tomb near Kyparissia ⁶⁹, and (ii) one sign **L 93** on the handle of a cauldron from Shaft Grave IV at Mycenae ⁷⁰.

The decipherment of several of the clay documents from the Hieroglyphic Deposit at Knossos is very significant for at last we are beginning to see what the system of administration in the Palace economy of the Minoan Hittites, for such the Minoans may now rightly be called, was like. This system existed towards the end of the M. M. II period ⁷¹, long before the Palace at Knossos had been taken over by the Mycenaean Greeks who established there a new regime and wrote their language, an early form of Greek, a language different from Hittite though like it an Indo-European one, on the Linear B tablets deciphered by Michael Ventris in 1952.

⁶⁹ *Nestor*, Institute for Research in the Humanities, University of Wisconsin, ed. E. L. Bennett, 116. Cf. **L 52.56**, found on the jamb of the entrance of the tholos at Kephala, near Knossos: Brice, op. cit., Pl. XXXI, V 15.

⁷⁰ E. Grumach, ' Linear A auf dem Festland ', *Kadmos*, 1 (1962), 85.

⁷¹ A. J. Evans, *The Palace of Minos at Knossos*, 1 (Macmillan, 1921), 272; cf. F. Chapouthier, *Les Écritures minoennes au palais de Mallia*, 5-7.