

10 Linear A Texts, Part 2

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Summary

This is the third of four articles on Minoan Linear A.

Linear A Syllabary, Numbers, Measures and Proofs

Linear A Texts, Part 1; translates texts prior to the eruption of Thera in 1628.

Linear A Texts, Part 2; translates half the texts from Haghia Triada, sorted by code number.

Linear A Texts, Part 3; translates the remaining texts from Haghia Triada, Khania and Zakros.

Most texts in Part 2 have a dialect. In order to translate, the dialect is first converted back into classic Finnish. Conversion is simple - the last vowel of two- or three-syllable words changes in a regular manner. The most common change switches A with E and O with U, leaving I alone.

Tablet HT 15 sorts stamped coins a thousand years earlier than on the mainland. Tablet HT 89, an estimate of the cost of a wedding, defines the standard unit of currency as the drachma, worth \$70. Tablet HT 95 names the equipment that a baking apprentice needs.

HT 1 Tablet: 'Sea Swimmers'

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HT 1 (HM3) (GORILA I, pp. 2-3) is a tablet from Haghia Triada with effaced graffito on the reverse that dates from LM IB (1628-1536 BC). This tablet lists a catch of fish from the sea with recognizable names.

Translation

Table 1: HT 1 tablet translation.

Line	Dialect	Classic	Finnish	English	No.
1	ME-LY U	ME-RI U	Meri uimarit	Sea swimmers	
2	TI-LO	TI-LA	tilapia	tilapia	197
3	PO-NU	PO-NO	pono	parrot fish	70
4	PI-PI LI-TE	PI-PI LI-TA	pipijeta	half beak	52
5	TU-RE-SÄ	TU-RA-SA	tursas?	squid?	109
5	A-LA KA-LE	A-LE KA-LA	alle kala	bottom fish	105

Changes to 2nd syllable vowel of late Minoan.

Late Minoan	1600 BC	A	E	I	O	U	LY
Early Minoan	2000 BC	E	A	I	A	O	RI

Image and Transcription

Figure 1: HT 1 tablet image. Source GORILA.

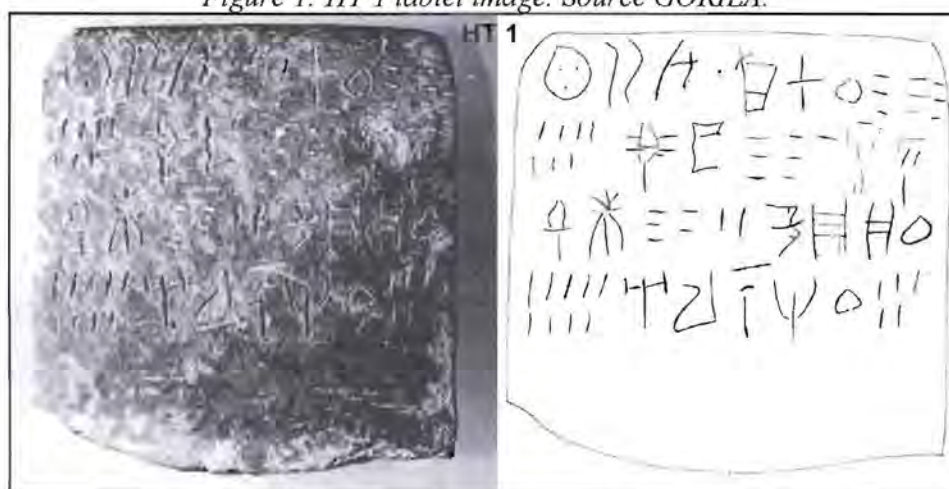


Figure 2: HT 1 tablet transcription. Source GORILA.

HT 1

1	○ 77 f	1	○ 77 f	
	ME LY U			
2	1111 0 [333 - 11 11	1-2	77 +	197
			TI LO	
3	♀ * 3 = 11 3 11 11 0	2	77 [	70
			PO NU	
4	1111 11 21 11 11 0 11	3-3	11 11 11 *	52
			PI PI LI TE	
		3-4	3 11 11	109
			TU RE SÄ	
		4	11 11 11 11	105
			A LA KA LE	

Notes on translation

.1 The replacement of RI with LY may indicate an Egyptian influence, which does not recognize a difference.

.5 The word TU-RA-SA is similar to *tursas* 'octopus', so it may mean 'squid', which are sea swimmers while octopi are not.

ME-LY < **ME-RI** = *meri* 'sea'; K1.136 'the sea (*meri*) made her sick through'

U = *ui* 'swam', *uimarit* 'swimmers'; K01.275 'Then she **swam** (*ui*) farther out from land'

TI-LO < **TI-LA** < 'tilapia', commercially grown perch-like fish with rayed fins.

PO-NU < **PO-NO** = *pono* 'parrotfish' in Swahili.

PI-PI-LI-TE < **PI-PI-LI-TA** <? *pipijeta* 'erection snout' in Spanish, slang for *agujeta* 'halfbeak'.

TU-RE-SÄ <? **TU-RA-SA** =? *tursas* 'octopus', or possibly a local word for squid; K02.067 'Octopus (*tursas*) came out of the sea'

A-LA < **A-LE** = *alle* 'under, bottom'; K10.310 'his work down to the **bottom** (*alle*) of the forge'

KA-LE < **KA-LA** = *kala* 'fish'; K19.170: 'an active fat **fish** (*kala*)'

Background on Fish

Tilapia is a perch-like fish with rayed fins. It has fine-tasting, white, flaky meat with no oily or fishy taste. Tilapia grow rapidly to 60 cm at 2-3% per day by eating algae and plants. The fastest growing species is the Nile Perch, which is very efficient at converting feed into growth. Native to Israel (Blue Tilapia) and the Nile, Tilapia have been farmed for 2500 years and is the third most important aquaculture species. Tilapia require warm water from 76-84°F and thrive in salt, brackish and fresh water.

Figure 3: Nile perch, *Oreochromis niloticus*. Mediterranean parrotfish, *Sparisoma cretense*.



Pono is the common Kenyan name for parrotfish, a large family of reef-dwelling fishes. *Sparisoma cretense* grows to half a meter in the eastern Mediterranean. It feeds on algae and small invertebrates in shallow water along rocky shores.

Pipijeta means 'erection snout' in Spanish, slang for *agujeta*, a diversified species of commercial fish called 'halfbeak' that in the Mediterranean grows to 20-30 cm. *Agujetas* have a long lower lip and belong to the needle-nose family. They are a sister family to flying fish, and some halfbeaks glide and skitter like flying fish.

Figure 4: African halfbeak, *Hyporhamphus picarti*.



HT 6 Tablet: 'Statement of Accounts of Best Farm'

HT 6 Tablet: 'Statement of Accounts of Best Farm'

HT 6 (HM 8) (GORILA I:12-13) is a clay tablet in excellent condition from Haghia Triada, written on both sides in LM IB (1600-1500 BC). One of the longest tablets, it lists major assets of two farms.

Best Farm has pasture land, land at the edge of the community, level land, firewood land, an olive yard and reserve land.

Herdsmen Farm has land at the edge of a forest and land at the edge of a community. Other items include a stone storehouse, cowshed, a complete sled, silver fistulas, good shoes, fine linen and a bin for a maiden to store linen. These physical items are measured in drachmas, each drachma worth \$70.

Units of Best Farm acreage likely agree with land measures in Finland. The fundamental Finnish unit is *tynnyrinala*, defined as 1536 square *syli* (fathoms), equal to 1.27 acres. It represents the amount of land that can be sown from one barrel of seed. Herdsmen Farm mixes acreage with other items whose measurement appears to be in units.

Specifying that a stone storehouse implies typical construction from wood. Reserve land could be fallow, or planted with a nitrogen-enhancing crop like vetch.

Translation

Table 2: HT 6 tablet translation.

Line	Dialect	Classic	Finnish	English	Qty
a.1	TA-SA •	TA-SE •	Tase:	Statement of Accounts:	
a.1-2	PA-RA-LA •	PA-RA-LA •	Parala:	Best Farm:	
a.2	RE • KI	A-RE • KI	ääre kia	edge of community	15
a.2-3	SO-RA HA	SO-RE HA	sorea ha'an	beautiful pasture	24
a.3	HA-LU	HA-LO	halot	firewood	$2\frac{2}{5}$
a.3-4	VA-RO-MA	VA-RA-MA	varamaa	reserve land	10
a.4	O-LY PI-JO	O-LY PI-JA	öljy pija	olive yard	2
a.4-5	TA-SA-ME	TA-SA-MA	tasamaa	level land	$5\frac{3}{4}$
a.6	PA-ME-LA •	PA-ME-LA •	Paimenla:	Herdsmen Farm:	
a.6	ME-SO-RA	ME-SÄ-RA	metsäraja	forest edge	$22\frac{3}{4}$
a.7	KI	KI	kia	community	$15\frac{1}{2}$
b.1	JA-TO KI-VI	A-TO KI-VI	aittoa kivin	storehouse of stone	$3\frac{1}{12}$
b.2	LA-RI NE	LA-RI NE	laari neien	bin for a maiden	1
b.2-3	VA-LI KE-KO	VA-LI KE-KA	väljö kenkat	splendid shoes	3
b.4	TO PA VA	TO O-PE A-VA	tao hopea avannet	forged silver fistulas	66
b.5	PA-TI	PA-TI	palttin	fine linen	$3\frac{1}{4}$
b.5-6	NA-VA	NA-VE	nave	cowshed	35
b.6	RE-KI KA	RE-KI KA	reki kai	sled complete	$17\frac{1}{2}$

Late Minoan changes to the vowel of the 2nd or 3rd syllable.

Late Minoan	1600 BC	A	E	I	O	U
Early Minoan	2000 BC	E	A	I	A	O

HT 6 Tablet: 'Statement of Accounts of Best Farm'

Figure 6: HT 6 tablet transcription. Source GORILA.

HT 6a	HT 6b
1. ④ ① ② ③	1. ④ ① ② ③
2. ④ ① ② ③	2. ④ ① ② ③
3. ④ ① ② ③	3. ④ ① ② ③
4. ④ ① ② ③	4. ④ ① ② ③
5. ④ ① ② ③	5. ④ ① ② ③
6. ④ ① ② ③	6. ④ ① ② ③
7. ④ ① ② ③	7. ④ ① ② ③
8. ④ ① ② ③	8. ④ ① ② ③
9. ④ ① ② ③	9. ④ ① ② ③
10. ④ ① ② ③	10. ④ ① ② ③
11. ④ ① ② ③	11. ④ ① ② ③
12. ④ ① ② ③	12. ④ ① ② ③
13. ④ ① ② ③	13. ④ ① ② ③
14. ④ ① ② ③	14. ④ ① ② ③
15. ④ ① ② ③	15. ④ ① ② ③
16. ④ ① ② ③	16. ④ ① ② ③
17. ④ ① ② ③	17. ④ ① ② ③
18. ④ ① ② ③	18. ④ ① ② ③
19. ④ ① ② ③	19. ④ ① ② ③
20. ④ ① ② ③	20. ④ ① ② ③
21. ④ ① ② ③	21. ④ ① ② ③
22. ④ ① ② ③	22. ④ ① ② ③
23. ④ ① ② ③	23. ④ ① ② ③
24. ④ ① ② ③	24. ④ ① ② ③
25. ④ ① ② ③	25. ④ ① ② ③
26. ④ ① ② ③	26. ④ ① ② ③
27. ④ ① ② ③	27. ④ ① ② ③
28. ④ ① ② ③	28. ④ ① ② ③
29. ④ ① ② ③	29. ④ ① ② ③
30. ④ ① ② ③	30. ④ ① ② ③
31. ④ ① ② ③	31. ④ ① ② ③
32. ④ ① ② ③	32. ④ ① ② ③
33. ④ ① ② ③	33. ④ ① ② ③
34. ④ ① ② ③	34. ④ ① ② ③
35. ④ ① ② ③	35. ④ ① ② ③
36. ④ ① ② ③	36. ④ ① ② ③
37. ④ ① ② ③	37. ④ ① ② ③
38. ④ ① ② ③	38. ④ ① ② ③
39. ④ ① ② ③	39. ④ ① ② ③
40. ④ ① ② ③	40. ④ ① ② ③
41. ④ ① ② ③	41. ④ ① ② ③
42. ④ ① ② ③	42. ④ ① ② ③
43. ④ ① ② ③	43. ④ ① ② ③
44. ④ ① ② ③	44. ④ ① ② ③
45. ④ ① ② ③	45. ④ ① ② ③
46. ④ ① ② ③	46. ④ ① ② ③
47. ④ ① ② ③	47. ④ ① ② ③
48. ④ ① ② ③	48. ④ ① ② ③
49. ④ ① ② ③	49. ④ ① ② ③
50. ④ ① ② ③	50. ④ ① ② ③
51. ④ ① ② ③	51. ④ ① ② ③
52. ④ ① ② ③	52. ④ ① ② ③
53. ④ ① ② ③	53. ④ ① ② ③
54. ④ ① ② ③	54. ④ ① ② ③
55. ④ ① ② ③	55. ④ ① ② ③
56. ④ ① ② ③	56. ④ ① ② ③
57. ④ ① ② ③	57. ④ ① ② ③
58. ④ ① ② ③	58. ④ ① ② ③
59. ④ ① ② ③	59. ④ ① ② ③
60. ④ ① ② ③	60. ④ ① ② ③
61. ④ ① ② ③	61. ④ ① ② ③
62. ④ ① ② ③	62. ④ ① ② ③
63. ④ ① ② ③	63. ④ ① ② ③
64. ④ ① ② ③	64. ④ ① ② ③
65. ④ ① ② ③	65. ④ ① ② ③
66. ④ ① ② ③	66. ④ ① ② ③
67. ④ ① ② ③	67. ④ ① ② ③
68. ④ ① ② ③	68. ④ ① ② ③
69. ④ ① ② ③	69. ④ ① ② ③
70. ④ ① ② ③	70. ④ ① ② ③
71. ④ ① ② ③	71. ④ ① ② ③
72. ④ ① ② ③	72. ④ ① ② ③
73. ④ ① ② ③	73. ④ ① ② ③
74. ④ ① ② ③	74. ④ ① ② ③
75. ④ ① ② ③	75. ④ ① ② ③
76. ④ ① ② ③	76. ④ ① ② ③
77. ④ ① ② ③	77. ④ ① ② ③
78. ④ ① ② ③	78. ④ ① ② ③
79. ④ ① ② ③	79. ④ ① ② ③
80. ④ ① ② ③	80. ④ ① ② ③
81. ④ ① ② ③	81. ④ ① ② ③
82. ④ ① ② ③	82. ④ ① ② ③
83. ④ ① ② ③	83. ④ ① ② ③
84. ④ ① ② ③	84. ④ ① ② ③
85. ④ ① ② ③	85. ④ ① ② ③
86. ④ ① ② ③	86. ④ ① ② ③
87. ④ ① ② ③	87. ④ ① ② ③
88. ④ ① ② ③	88. ④ ① ② ③
89. ④ ① ② ③	89. ④ ① ② ③
90. ④ ① ② ③	90. ④ ① ② ③
91. ④ ① ② ③	91. ④ ① ② ③
92. ④ ① ② ③	92. ④ ① ② ③
93. ④ ① ② ③	93. ④ ① ② ③
94. ④ ① ② ③	94. ④ ① ② ③
95. ④ ① ② ③	95. ④ ① ② ③
96. ④ ① ② ③	96. ④ ① ② ③
97. ④ ① ② ③	97. ④ ① ② ③
98. ④ ① ② ③	98. ④ ① ② ③
99. ④ ① ② ③	99. ④ ① ② ③
100. ④ ① ② ③	100. ④ ① ② ③

Notes on translation

- a.1 *Parala* 'Best Farm' retains the original dialect.
- a.3, b.2, b.4, b.6 VA was drawn with a round face, not the triangular face of VÄ.
- a.6 *Paimenla* 'Herdsman Farm' retains the original dialect.
- a.7 *Raja* 'edge' repeats from the previous line.
- b.4 Two initial letters borrow from the previous word, O and A.
- b.5 VA in *navetta* 'cow stall' looks like the head of a cow.

TA-SA < **TA-SE** = *tase* 'balance, balance sheet, statement of accounts'; K18.158: 'evenly matched (*tasapäihin*) combats'.

PA-RA-LA = *Parala* 'Best Farm' fr. *paras* 'best'; K05.237 'the **best** (*paras*) of the daughters of North Farm'.

RE < **Ä-RE** = *ääre* 'the edge of'; K21.287 'nor will **the edges of** (*ääret*) a table peal out'.

KI = *kia* 'settlement, community', fr. *kylä*; K30.328 'the miserable **settlement** (*kylä*) looms up'.

SO-RA < **SO-RE** = *sorea* 'pretty, beautiful'; K02.270 'the **pretty** (*sorea*) tree not cut down?'.

HA = *ha'an* 'pasture', from *hakan* 'pasture'; not in K.

HA-LU < **HA-LO** = *halot* 'firewood'; K23.273: '**sticks of firewood** (*halot*) brought into the house'. As the measure is 2/5, it refers to acreage.

HT 6 Tablet: 'Statement of Accounts of Best Farm'

VA-RO < **VA-RA** = *vara* 'reserve, spare'; K27.292 'did not **hold back** (*varannut*) in the measuring off of swords'

MA = *maa* 'land, earth, soil'; K2.305: 'the **land** (*maa*) will not lack vital strength'.

O-LY = *öljy* 'olive' from *öljypuu* 'olive tree'; not in K.

PI-JO < **PI-JA** = *pija* 'yard, farmyard'; K26.318: 'the **farmyard** (*pija*) full of posts'.

TA-SA-ME < **TA-SA-MA** = *tasamaa* = 'level land'

tasa 'flat, flat-bottomed, level'; K46.85: 'in **stub-nose's** (*tasakärsän*) cattle yard'.

maa 'land, earth, soil'; K2.309: 'Rise **land** (*maa*) from slumbering'.

PA-ME-LA = *paimenla* = 'herdsman farm'; K17.9 'He comes upon a **herdsman** (*paimen*)'

ME-SO-RA < **ME-SÄ-RA** = *metsäraja* 'forest edge';

K14.169 'the **forest** (*metsä*) smelled of mead'

K20.408 'a thrush **on the edge of** (*rajalta*) the eaves'

KI = *kia* 'settlement, community', fr. *kylä*; K30.328 'the miserable **settlement** (*kylä*) looms up'

JA-TO < **A-TO** = *aittoa* 'storehouse'; K29.480 'nor long for **the storehouse** (*aittoa*)'

KI-VI = *kivin* 'of stone'; K04.323 '**the stone** (*kivi*) went clunk into the water'

LA-RI = *laari* = 'bin'; not in K.

NE = *neien* 'for a maiden'; K11.029 to **the maiden's** (*neien*) fine home,

VA-LI = *valio* 'splendid'; K32.207 "Summer Spirit, **splendid** (*valio*) woman"

KE-KO < **KE-KA** = *kenkät* 'shoes, boots'; 18.351 'then good **shoes** (*kengät*)'

TO = *tao* 'forge'; K18.226 "**forge** (*tao*) pretty rings"

PA < **O-PA** < **O-PE** = *hopea* 'silver'; K5.74 'the **silver** (*hopea*) hilt in the sheath'

[A]-VA < **A-VA** = *avannet* 'fistulas' fr. *ava* 'open'; K14.51 'take the golden **keys** (*avaimet*)'

PA-TI = *palttin* 'fine linen'; K4.171 'put on a **linen** shirt (*palttinainen*)'

NA-VA < **NA-VE** = *nave* 'cowshed'; K17.342: 'horned cattle **from the cowshed** (*navetasta*)'

RE-KI = *reki* 'sleigh, sled'; K8.216 'His **sled** (*reki*) went on, the way grew short.'

KA = *kai* 'all, complete', fr. *kaikki*; K12.103 "than **all** (*kaikki*) the gold pieces at home"

Forests

Forests today cover 17% of Crete, but in Minoan times covered 90%. There were forests of chestnut, oak, cypress, palm, fir and cedar. As late as 1450 AD, the forests of Crete provided Venice with cedars and firs to build their fleets.

Olive Yard

Like the term 'vineyard', *ölypiha* means 'olive yard'. Demand for olive oil created a separate industry of ceramic pots to hold the oil. Initially, olive trees were wilder in form, as shown in this fresco. Under Minoans, cultivation intensified and dominated the island's economy and exports.

Figure 7: Fresco of an olive tree in a early, wilder form.



HT 7 Tablet: 'Sea man's hole nets'

HT 7 Tablet: 'Sea man's hole nets'

HT 7 (HM 10; Brice 1991: 44 fig. 1) (GORILA I: 14-15) is a tablet from Hagia Triada in good condition, written on both sides, and dated LM IB (1600-1500 BC). The scribe lists miscellaneous items from a sea man for sale or taxes: seven nets, a willow bow and string, a food bag, a lace and two evil skull bones.

Meri, Goddess of the Sea, was an epithet of **Inanna**, Goddess of Sumer and Minoan Crete. *Mary-Mari* was Rome's Goddess of the Sea, immortalized by Botticelli, who called her *Venus*.

Translation

Table 3: HT 7 tablet translation.

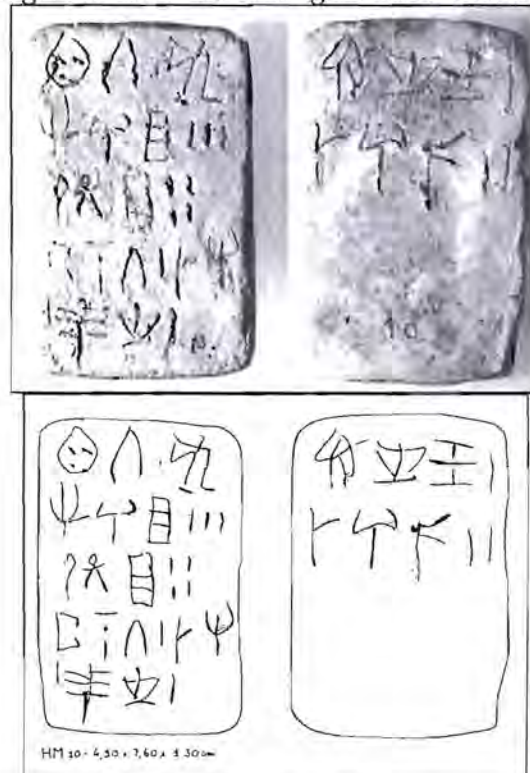
Line	Dialect	Classic	Finnish	English	Qty.
a.1	ME-RI • MI	ME-RI • MI	Meri • miehen	Sea • man's	
a.1-2	KO- LU HA	KO- LO HA	kolo haavit	hole nets	3
a.3	TO HA	TO HA	toet haavit	real nets	4
a.4	RA KA-RI	RA KA-RI	raian kaari	willow bow	1
a.4	PA- LE	PA- LA	paula	string	1
a.5	RE RU	RE RU	rei'ä ruoan	bag for food	1
b.1	E RU- JO	E RU- JU	ehon ruoju	fine string	1
b.2	PA LU PÄ	PA LU PÄ	Paha luut päien	evil skull bones	2

Vowel changes to 2nd syllable.

Late Minoan	1600 BC	A	E	I	O	U
Early Minoan	2000 BC	E	A	I	U	O

Image and Transcription

Figure 8: HT 7 tablet image. Source GORILA



HT 7 Tablet: 'Sea man's hole nets'

Figure 9: HT 7 tablet transcription. Source GORILA.

HT 7a	HT 7b
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
	5.
	4.
	5.
HT 7b	HT 7c
1.	1.
2.	2.

Notes on translation

a.1 Normally the title would be a single word *merimies* meaning 'sailor', but the scribe inserted punctuation to separate the phrase into two words, possibly the name of a boat.

a.2, a.3 *Haavit* 'nets' may have been pronounced without V.

ME-RI • = *meri* 'sea, goddess of the sea'; K18.450: 'sea (*meri*) spray struck his chest'

MI = *miehen* 'man's'; K02.115 "he was as tall as a **man's** (*miehen*) thumb"

KO-LU < **KO-LO** = *kolo* 'hole'; K32.513 "Hide your dog **in a hole** (*kolohon*)"

HA = *haavit* 'nets'; not in K.

TO = *toet* 'real'; K18.543 'Now he saw the **real** (*toet*) truth'

HA = *haavit* 'nets'; not in K.

RA = *raian* 'of willow'; K23.690 'the fork **of a willow** (*raian*) as legs'

KA-RI = *kaari* 'bow'; K06.072 'the good **bow** (*kaari*) under his arm'

PA-LE < **PA-LA** = *paula* 'string'; K23.732 'had copper **laces** (*paulat*) put in them'

RE = *rei'ä* 'bag' from *reikä* 'hole'; K.

RU = *ruoan* 'for food'; K32.399 'When the need **for food** (*ruoan*) comes'

E = *ehon* 'fine'; K14.071 "into the ear of your **fine** (*ehon*) mistress"

RU-JO < **RU-JU** = *ruoju* 'string for a narrow lace-up shoe'; not in K

PA = *paha* 'evil'; K07.362 "an **evil** (*paha*) day beset you"

LU = *luut* 'bones'; K27.134 'meat bones (*luut*), fish heads'

PÄ = *päien* 'skull, of skulls'; K46.507 'a crash of bones, a cracking **of skulls** (*päien*)'

HT13 Tablet: 'New Bags for Wine'

HT13 Tablet: 'New Bags for Wine'

HT 13 (HM 7) (GORILA I:26-27) is a tablet in good condition from Haghia Triada Villa, dated LM IB (1600-1500 BC). It inventories a range of wine bags and associated hardware like spouts, tube straws and bellows levels. The inscription lacks vowel changes, suggesting that Haghia Triada was shielded from Thera's eruption by mountains to the north, so that some continued to speak with a classic accent.

This tablet was the subject of *Deciphering Cretan Scripts* by Barry B. Powell in *Archaeological Odyssey*, the March/April 2004 issue on pages 38-43 that led me to decipher Linear A. Prior to this translation, the meanings of two words were known: a pictogram for 'wine' and two letters that spelled 'sum'.

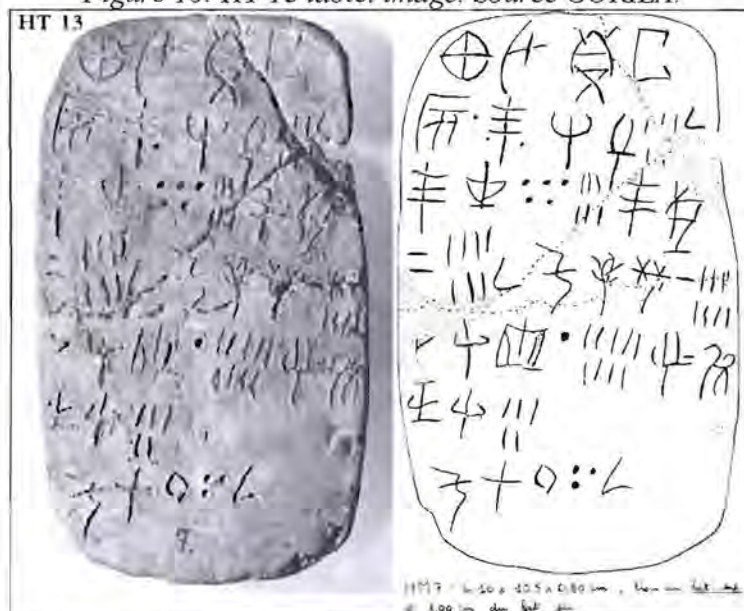
Translation

Table 4: HT 7 tablet translation.

Line	Linear A	Finnish	English	Qty.
1-2	TA U PE-RA VINI •	Taulukko uuen perat viinin:	Tabulation of new bags for wine:	
2	RE • LE-LI	re'u leili	bag skin	5
3	RE RU	re'u ruisku	bag spout	56
3-4	RE TI	re'u tiheä	bag thick	27 ½
4	TU-PO KI	tuppo olki	tube straw	18
5	PA-KE TASA	palkhia tasa	bellows level	19
5-6	KO-TO JO-KE	koto jokea	homemade river	5
7	TU-LO	tulos	comes to	130 ½

Image

Figure 10: HT 13 tablet image. Source GORILA.



HT13 Tablet: 'New Bags for Wine'

History of winemaking in Crete

Lisa Maurizio of the Classics Department at Bates College researched the early distillation of wine.

Early evidence of winemaking in Crete comes from a stone foot press at Minoan villa Vathipetro, dated 1600 BC. There archaeologists unearthed the ruins of a wine making installation and storage rooms full of clay jars for storing the wine. The sophistication of the site suggests that production of wine had been underway for some time.

During the 15th century, a famous Cretan wine exported throughout Europe was *Malvasia*, made from the *liatiko* variety of grapes.

Early wine containers were made from the whole skin of a goat or another animal. Jesus used an analogy of wineskins: "No one puts new wine into old wineskins; or else the new wine bursts the wine skins, the wine is spilled, and the old skins are ruined."

Grapes were crushed in special stone constructions called *patitiria* by several people taking turns, walking or running in place on top of the grapes. While recovering from their exercise or waiting for their turn, the crushers consumed food and wine. *Tsikoudia* or *raki* is a strong local drink made from the remains in the *patitiria*, after most of the grape juice has been removed. After fermentation, it is distilled using traditional methods and machinery. The licensed owner of the still will often take time off his regular work to fulfill his function as village distiller in the autumn. Very often a still will have been in his family for generations. People who come to make *raki* often bring food to barbecue on the fire and copiously sample the brew.

A wineskin was sealed without air space; as wine was withdrawn, it collapsed, thus protecting the remaining wine from air spoilage. To keep wine from seeping through skin and stitching, the inside of the bag was coated with pitch (resin), which flavored the wine. Skins for wine and oil were tanned by means of oak bark and seasoned in smoke, a process that gives a peculiar astringency to the wine.

Madeira grows on the treacherous slopes of Madeira. After harvesting, grapes are pressed in situ and the pressed juice carried down the slopes in goatskin bags by porters called *borracheiros* (drunkards). After fermentation of two to four weeks, the wine is cooked at 130°F for 6 months, rested for 18 months to two years, then fortified to raise its alcohol content to 20%. Because of this unusual production technique and high alcohol content, Madeira wine is long-lived and unusually stable.

HT 15 Tablet: 'New Heads of Men'

HT 15 (HM 16) (GORILA I, pp 30-31) is a tablet from Haghia Triada written on one side, dated LM IB (1628-1536 BC). It inventories 1354 coins with heads of men, composed of 684 real coins, 270 male fifths, and 400 not ordered.

This tablet establishes that stamped coins in Crete predate the earliest from the mainland by a thousand years.

In line 3, the little symbol with three lines to the right means 1/10, so two of these would make 1/5. If the standard unit of currency was a drachma (\$70), then a male fifth weighed 0.87 gm worth \$14.

Translation

Table 5: HT 15 tablet translation.

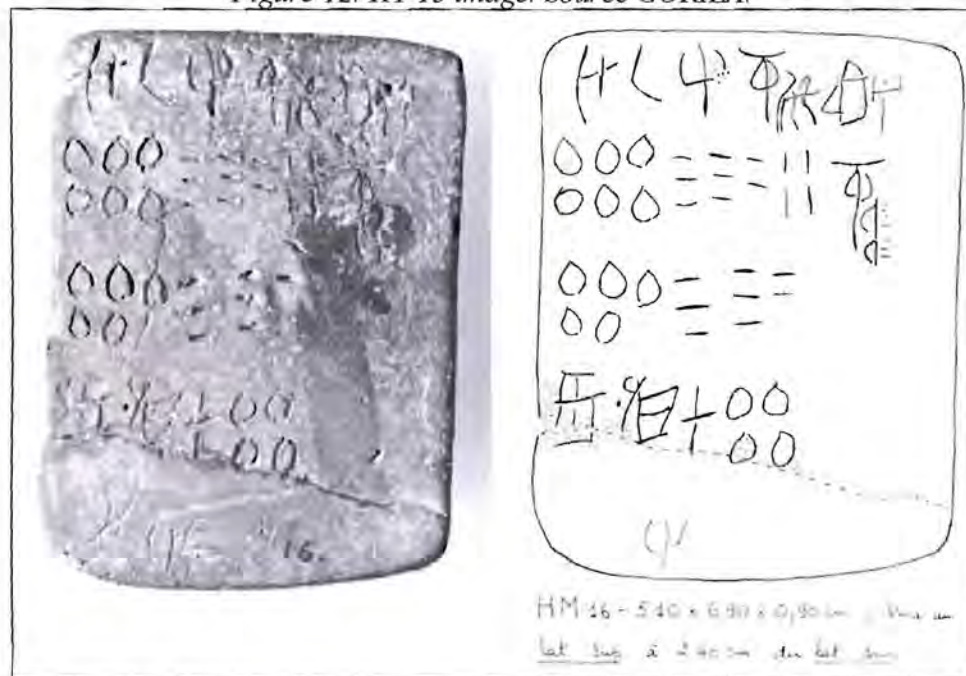
Line	Dialect	Classic	Finnish	English	Qty
.1	U NI-KE URO	U NI-KA URO	Uuet niskat urohia	New heads of men	
.2	TO TE-KE	TO TE-KA	toet tenkat	Real coins	684
.3	URO 1/10+1/10	URO 1/5	Uros viites	Male fifths	270
.4	E TI-LO	E TI-LA	Ei tilaus	Not ordered	400

Change in vowel sound of second syllable.

Late Minoan	1600 BC	A	E	I	O	U
Early Minoan	2000 BC	E	A	I	A	O

Image

Figure 12: HT 15 image. Source GORILA.



Transcription

Figure 13: HT 15 transcription. Source GORILA.

Figure 15. HT 15 transcription. Source: GORRAN.

HT 15	HT 15
1 F < 4 平	1 F < 4 平
	U NI KE URO
2 〇〇〇 = = - 1 平	2 平 1 平 1 平 4 684
	TO TE KE
3 〇〇〇 = = -	3 平 〇 1/10 570
	URO one fifth
4 田 〇 + 〇〇	4 田 〇 + 400
	E TI LO

Notes on translation

- .1 The last character is KE, not A, as shown below, because a vowel sign cannot end a word.
- .3 The fraction signs each have three dashes to the right, not two.

Figure 14: Close-up of last character on line 1, KE.



U = *uuet* 'new'; K09.385 'new (*uuet*) devices discovered'

NI-KE < **NI-KA** = *niska* ‘head, neck’; K22.244 ‘the tosses **of the** sister-in-law’s **head** (*niskan*)’

URO = *urohia* 'of men'; K22.494 'the most daring **of men** (*urohia*)'

TO = *toet* 'real'; K18.203 'when she recognized the **real** (*toet*) truth'

TE-KE < TE-KA = *tenka* 'coin'; K46.166 'a coin (*tenka*) stepping along the trail'

URO = *uros* 'man, male'; K02.068 '**a male** (*uros*) rose up from the waves'

1/5 = viites 'fifth' = 1/5 mina = 1 shekel; from *viittä* 'five'

E = *ei* 'not'; K01.229 'The eggs do **not** (*ei*) get into the ooze'

TI-LO < TI-LA = *tilaus* 'order'; not in K.

HT 36 Tablet: 'They Feast Again'

HT 36 (HM 30) (GORILA I:68-69) is a small tablet from Haghia Triada with an inscription on one side, partially erased, dated MR IB (1628-1491 BC). There are no vowel changes, so the scribe survived Thera.

The scribe instructs a friend to prepare for a feast with an emotional 'They feast again'. Bring $44\frac{1}{2}$ measures of male mead and set $7\frac{1}{2}$ tables that each seat 6, totaling 45 seats. The half measure of mead must be a private joke – one person will consume less than the rest.

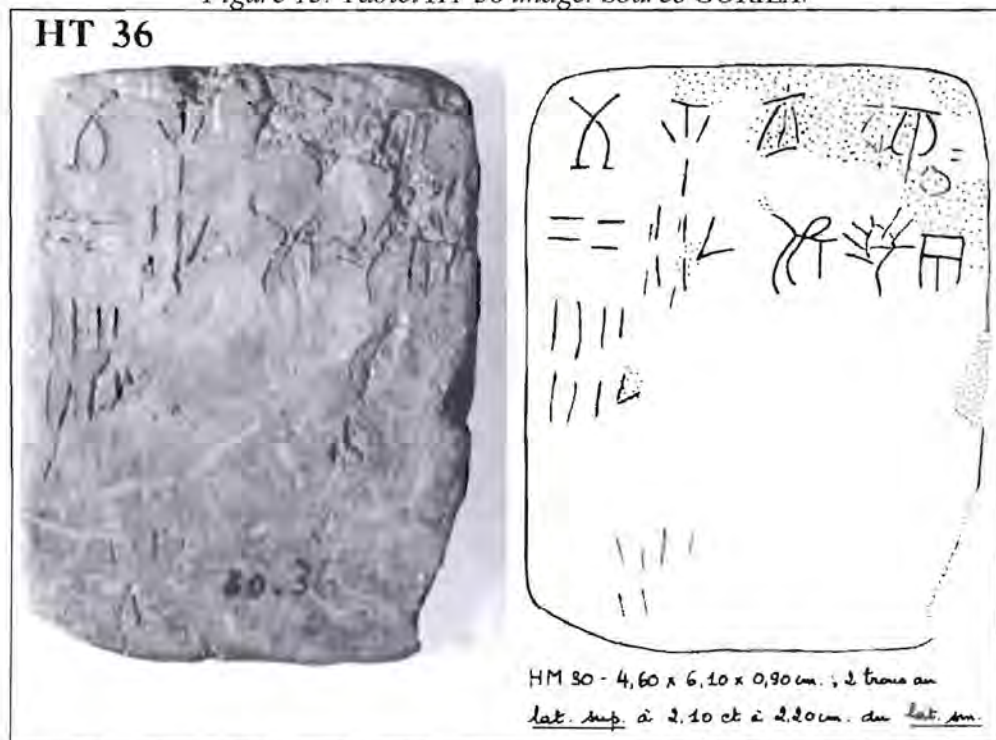
Translation

Table 6: HT 36 tablet translation.

Line	Linear A	Finnish	English	Qty.
.1	HE PI TA	He piot taas	They feast again	
.1-.2	SA U-RO ME	sa'a uros me'en	Get male mead	$44\frac{1}{2}$
.2	TO-LE PO-JA	Töille pöyät	Set tables	$7\frac{1}{2}$
.3	[??]	[??]	[that each seat]	6

Image

Figure 15: Tablet HT 36 image. Source GORILA.



HT 36 Tablet: 'They Feast Again'

Transcription

Figure 16: Tablet HT 36 transcription. Source GORILA.

HT 36					
1	X	Π	ΔΔ	Φ	[=]
2	=	=		∠	7A ☉ Π
3					
4	[vestigia]				
5	[]				

HT 36					
1-2	X	Π	ΔΔ	Φ	[20] 44 ∠
	HE	PI	TA-SA	URO ME	1/2
3	7A	Ψ	☞	Π	7 ∠
	TO	LE	PO	JA	1/2
4-5	[vestigia]				[6]

Notes on Translation

- .2 The carat sign is $\frac{1}{2}$, but in this context means one person will drink less than the rest.
 .2 Beside character TO lies another character LE.



- .3 (6 places per table) x (7.5 tables) = 45 seatings, agreeing with the number of mead servings.

HE = *he* 'they'; K29.391 '**They** (*he*) are not weeping for the sailing vessel'

PI = *piot* 'feast'; K27.088 'the wedding drunk out, the **feast** (*piot*) over'

TA = *taas* 'again'; K38.229 '**again** (*taas*) the horse pricks up its ears'

SA = *sa'a* 'bring'; K14.309 '**Bring** (*sa'a*) iron hailstones'

U-RO = *uros* 'male, fellow'; K02.068 'a **male** (*uros*) rose up from the waves'

ME = *me'en* 'mead'; K27.182 'the dark **mead** (*me'en*) to his own good luck'

TO-LE = *töille* 'set'; K25.410 '**set** (*töille*) upon the task of verse-making.

PO-JA = *pöyät* 'tables'; K07.149 'Then she washed the long **tables** (*pöyät*)'

HT 58 Tablet: 'Sea-sheet Man'

HT 58 (HM 37) (GORILA I:112-113) is a partial tablet from Haghia Triada, inscribed on one side, dated LM IB (1628-1522 BC). The scribe inventories new sails, used sails, masts and nets from Sea-sheet Man.

Translation

Table 7: HT 58 tablet translation.

L.	Dialect	Classic	Finnish	English	Qty
.1	ME-RI LA-TO • MI	ME-RI LA-TA • MI	Meri laatta mies	Sea-sheet Man	
.2	SI LO	SI LO	Sippit loi	Sails created	19
.2	SI VI	SI VI	Sippit vian	Sails blemished	[]
.3	SI MU	SI MU	Sippit muut	Sails other	3
.3	PU	PU	Puuhut	Masts	41
.4	[] U-TI-[ME]	[] U-TI-[ME]	Uutimet	Mosquito nets	[]

Changes to vowel sound of second syllable in late Minoan.

Late Minoan	1600 BC	A	E	I	O	U
Early Minoan	2000 BC	E	A	I	A	O

Image

Figure 17: HT 58 tablet image. Source GORILA.



HT 58 Tablet: 'Sea-sheet Man'

Transcription

Figure 18: HT 58 tablet transcription. Source GORILA.

HT 33	HT 58
1 O A 2 77 . 9 [	1 O A 5 77 . 9 [
2 7 - IIII 2 [	2 7 19
3 A I 7 = = [	3 SI LO
4 A V [	4 SI VI
	5 SI MU
	6 PU
	7 U TI
1 O A 2 77 pas impossible	
2 77 après 2 = [?	
4 A [moins vraisemblable, traces de 2 ou 3	
	traces à droite

Notes on Translation

.2 Kalevala uses *purje* for 'sail' and *siipi* for 'wing'.

.2, .3, .4 The name of the pictograph SI is sippi 'sail'

ME-RI = *meri* 'sea'; K09.380 'the sea (*meri*) grew dry, the heavens grew dry'

LA-TO < **LA-TA** = *laatta* 'sheet'; not in K.

MI = *mies* 'man, person, fellow'

SI = *siipit* 'sails, wings'; K07.047 'one wing (*siipi*) grazed the water'

LO = *loi* 'formed, created'; K01.272 'there she formed (*loi*) places to seine for salmon'

VI = *vian* 'blemished'; 15.435 'for me to put on a blemish (*vian*)'

MU = *muut* 'other'; K39.185 "Other (*muut*) vessels, even bad vessels"

PU = *puuhu* 'mast'; K43.015 hoisted the sails on the mast (*puuhun*)'

U-TI-[ME] = *uutime* 'mosquito net'; K45.152 'under a gauzy mosquito net (*uutimen*)'

HT 89 Tablet: 'I think one sees intelligence'

HT 89 is a tablet in near perfect condition with writing on one side from the palace of Haghia Triada. Dated LM IB (1628-1536 BC), it has no dialect, so represents a survivor from Thera. A wedding planner estimates wedding costs including wine but exclusive of a reception dinner or clothes. She begins by noting to herself, "I think one sees intelligence. Handsome families both."

If the total cost of 96 units had a value of \$4,000-\$6,000, then a unit would have a value of \$43-\$63. The nearest measure would be a drachma, worth \$70. This establishes **drachma** as the currency.

Translation

Table 8: HT 89 tablet translation.

L.	Linear A	Finnish	English	Qty
.1	A NÄ LY •	Aion nähkö äly •	I think one sees intelligence •	
	PU PE KA •	Puhas pe'et kanen •	Handsome families both •	
.1	HA	Haat	Wedding	23
.2	JU-LA I-ME	Juhla immen	Celebration of a virgin	22
.2	VÄ-KO-VI	Väkiövien	People at the doors	24
.3	MI	Miehet	Men	13
.3	RA-LA	Rallata	Sing freely	5
.4	TU-LO	Tulos	Comes to	87
.5	PÄ	Päätyt	Finish up	2 3/4
.5	VINI	Viini	Wine	6

Image of Tablet

Figure 19: HT 89 tablet image. Source GORILA.



Reconstruction of fourth letter

Inspection of letter 4 reveals two letters PU and PE plus third letter KA taken from Old European.

Figure 20: Close-up of letter 4 shows two merged letters plus a sign from Old European.



Transcription of Tablet

Figure 21. HT 89 tablet transcription. Source: GORDON.

Notes on Translation

.3 MI sounds like 'mead', though Finns say ME.

VINI = *viini* 'wine', though the pronunciation is unknown.

HT 95 Tablet: 'Baking Supplies'

HT 95 (HM 1320) (GORILA I:154-155) is a tablet in excellent condition from Haghia Triada with an inscription on both sides, dated MR IB (1628-1491 BC). It lists six baking supplies on one side and ten sets of the same supplies in a storehouse on the reverse. Perhaps the bakery employed ten bakers or was a baking school with ten students. The *naalo*, a pincushion worn only by women, implies that bakers were women. Vowel swapping is different from other inscriptions and confusion exists between L and R.

Translation

Table 9: HT 95 tablet translation.

Line	Dialect	Classic	Finnish	English	Qty.
a.1	PA- TO VA-RA	PA- TA VA-RA	Paistaa varat	Baking Supplies	
a.1-2	U PA-VE	U PA-VE	uuen palve	new server	10
a.2	VI SÄ RE	VI SÄ RE	viea säen re'u	carry glitter bag	10
a.3	NA- LU	NA- RO	naaro	pincushion	20
a.3-4	TU-KI- NU	TU-KI- NO	turkkinoen	soot cloak	10
a.4	PI-PE LU	PI-PE LU	piipe luon	pipe of bone	10
a.4-5	ME- LY U	ME- LA U	mela uuen	paddle new	7
b.1	A- TO	A- TA	Aitan	Storehouse	
b.2	U PA-VE	U PA-VE	uuen palve	new server	10
b.2-3	VI SÄ RE	VI SÄ RE	viea säen re'u	carry glitter bag	10
b.1	NA- LU	NA- RO	naaro	pincushion	10
b.3-4	TU-KI- NU	TU-KI- NO	turkkinoen	soot cloak	10
b.4	PI-PE LU	PI-PE LU	piipe luon	pipe of bone	10
b.4-5	ME- LY U	ME- LA U	mela uuen	paddle new	10

Vowel changes to 2nd syllable. Note that A and E do not interchange.

Late Minoan	1600 BC	A	E	I	O	U	Y
Early Minoan	2000 BC	A	E	I	A	O	A

uuen palve 'new server' = a flour scoop.

viea säen re'u 'carry glitter bag' = a cloth bag filled with icing for embellishing baked goods.

piipu luo 'bone pipe' = a piping nozzle for a decorating bag, in sets of different diameters.

naalo 'female waist pendant' = pincushion for wood slivers to test when baking had finished.

turkkinoen 'soot cloak' = a short smock to protect clothes from picking up soot.

mela uuen 'paddle new' = a wood paddle with a long handle to load and unload items in a front-loading oven.

Figure 22: Traditional wood-burning, front-loading pizza oven.
Cretan bread, piped in traditional style 'ploumato'. Decorating bag and piping nozzle.

HT 95 Tablet: 'Baking Supplies'



Culinary historians credit Greeks for developing bread baking into an art. Proper front-loaded bread ovens originated in ancient Greece. The Greeks created a wide variety of doughs, loaf shapes and styles of serving bread with other foods. Baking developed as a trade and profession as bread increasingly was prepared outside of the family home by specially trained workers to be sold to the public. Greek bakers pioneered sweetbreads, fritters, puddings, cheesecakes, pastries, and wedding cakes. Often prepared in symbolic shapes, these products were originally served during special occasions and ceremonies. By 300 AD, the Greeks had developed over seventy different kinds of bread. Source: GTP Productions

Image

Figure 23: HT 95 tablet image. Source GORILA.



Figure 24: HT 95 tablet drawing. Source GORILA.



Transcription

Figure 25: HT 95 tablet transcription. Source GORILA.

HT 95a		HT 95b	
1	𐎧 𐎧𐎠 𐎠𐎠	1	𐎧 𐎧𐎠 𐎠𐎠
2	𐎧 𐎧𐎠 𐎠𐎠	2	𐎧 𐎧𐎠 𐎠𐎠
3	𐎧 𐎧𐎠 𐎠𐎠	3	𐎧 𐎧𐎠 𐎠𐎠
4	𐎧 𐎧𐎠 𐎠𐎠	4	𐎧 𐎧𐎠 𐎠𐎠
5	𐎧 𐎧𐎠 𐎠𐎠	5	𐎧 𐎧𐎠 𐎠𐎠
3-5 𐎧𐎠 []		3-5 𐎧𐎠 []	
4-5 𐎧𐎠 []		4-5 𐎧𐎠 []	
HT 95a		HT 95b	
1	𐎧 𐎧𐎠 𐎠𐎠	1	𐎧 𐎧𐎠
PA TO VA RA		A TA	
1-2	𐎧 𐎧𐎠	2	𐎧 𐎧𐎠
URU PA VE		URU PA VE	
2	𐎧 𐎧𐎠	2-3	𐎧 𐎧𐎠
VI SÄ RE		VI SÄ RE	
3	𐎧 𐎧𐎠	3	𐎧 𐎧𐎠
NA LU		NA LU	
3-4	𐎧 𐎧𐎠	3-4	𐎧 𐎧𐎠
TU KI NU		TU KI NU	
4	𐎧 𐎧𐎠	4	𐎧 𐎧𐎠
PI PE LU		PI PE LU	
4-5	𐎧 𐎧𐎠	4-5	𐎧 𐎧𐎠
ME LY U		ME LY U	

Notes on translation

PA-TO < PA-TA = *paistaa* 'bake'; K33.234 'baked (*paistoit*) a rock bun'

VA-RA = *varat* 'supplies, measures'; K12.243 'Those **measures** (*varat*) are not effective.'

U = *uuen* 'new'; K13.092 'the new (*uuen*) crossbow on his shoulders'

PA-VE = *palve* 'serve' from *palvoa*; K35.162 'not **serve** (*palvomasta*) a villain'

VI = *vieä* 'to carry'; K31.227 'threw the diapers for the stream **to carry away** (*vieä*)'

SÄ = *säen* 'spark, glitter'; K26.458 'sparkled **like sparks** (*säihkäeli*)'

RE = *re'u* 'bag'; K40.49 'bore a **hole** (*reikä*) with an auger'

NA-LU < NA-LO = *naalo* = 'female waist pendant stuffed like a pincushion'; K23.94 'the sister-in-law like **nails** (*nauloina*) in the farmyard'

TU-KI-NU < TU-KI-NO = *turkkinoen* 'soot cloak'

TU-KI = *turkki* 'cloak'; K43.199 'Bring me a fiery **cloak** (*turkki*)'

NO = *noen* 'sooty'; K28.231 'A young man, **sooty-looking** (*noen*) from his fire'

PI-PE = *piipe* 'pipe'; K14.70 '**pipe** (*piiperoita*) on your sweet pipe (*simapilli*)'

LU = *luun* 'of bone'; K12.419 'an eater of flesh, a biter **of bone** (*luun*)'

ME-LY < ME-LA = *mela* 'paddle'; K10.486 'provided with a copper **paddle** (*melan*)'

U = *uuen* 'new'; K13.092 'the new (*uuen*) crossbow on his shoulders'

A-TO < A-TA = *aitan* 'storehouse'; K4.75 'on the steps of the **storehouse** (*aitan*)'

HT 114 Tablet 'Account of capable sister-in-law'

HT 114 Tablet 'Account of capable sister-in-law'

HT 114 (PIG 83735) (GORILA 1.186-187) is a tablet from Haghia Triada in perfect condition from Scribe 4 without a dialect, written on both sides and dated LM 1B (1628-1536 BC). It is a butcher's progress report toward preserving ten fleshed animals for his sister-in-law who married a short man. Of the ten animals, seven are pigs, the other three perhaps goats or sheep. Her instructions were to smoke nine. So far, one pig has been boiled and another smoked (sooty).

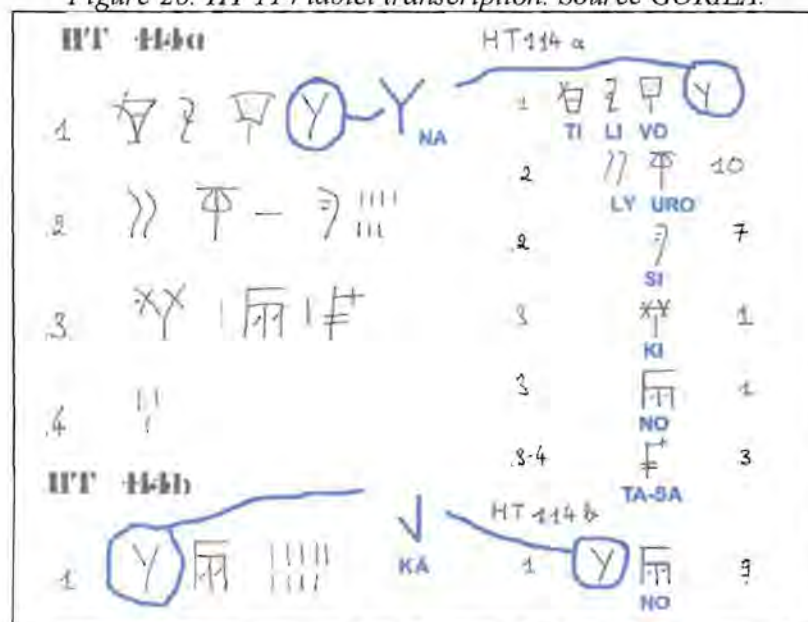
Translation

Table 10: HT 114 tablet translation.

Side	Linear A	Finnish	English	Qty
a.1-2	TI-LI VO NA LY URO	Tili voim naon lyhyen uro	Account of capable sister- in-law with a short man	10
.2	SI	Siat	Pigs	7
.3	KI	kiehui	boiled	1
.3	NO		sooty (smoked)	1
.3-4	TA-SA	Tasa	Balance	3
b.1	KÄNO	Käy noen	Make sooty	9

Transcription of Tablet

Figure 26: HT 114 tablet transcription. Source GORILA.



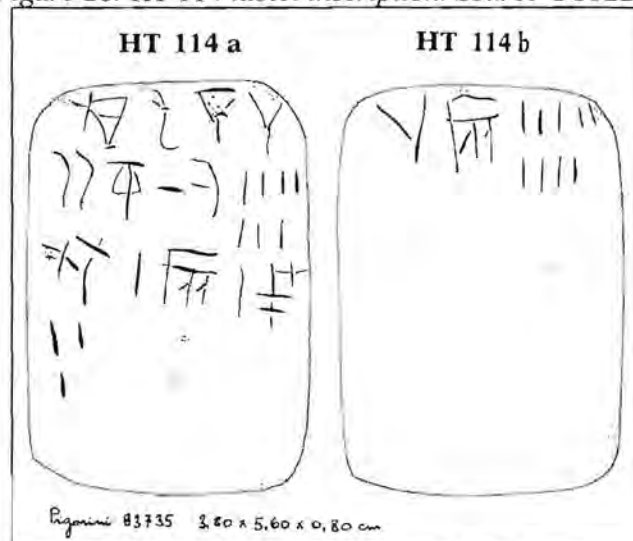
HT 114 Tablet 'Account of capable sister-in-law'

Image of Tablet

Figure 27: HT 114 tablet image. Source GORILA.



Figure 28: HT 114 tablet inscription. Source GORILA.



Notes on Translation

TI-LI = *tili* 'account'; not in K.

VO = *voi* 'capable' from *voida*; K15.637 "I could do (*voisi*) nothing"

NA = *naon* 'of sister in law'; K23.146 "your sister-in-law's (*naon*) calf is wailing"

LY = *lyhyen* 'for-with a short'; K32.227 'for a short (*lyhyen*) woman to milk'

URO = *uro* 'man'; K26.329 "A man (*uro*) is not likely to pay attention to them"

SI = *siat* 'pigs'; K46.605 "pigs (*siat*) would have shifted it"

KI = *kiehui* 'boiled'; K09.447 'The pot **boiled** (*kiehui*) noisily'

NO = *noen* 'sooty'; K28.231 'A young man, **sooty-looking** (*noen*) from his fire'

TA-SA = *tasa* 'balance, even; level'; K47.074 'on a level with (*tasalla*) the constellations'

KÄ = *käy* 'make'; K49.419 "Make (*käy*) your journey safe and sound"

NO = *noen* 'sooty'; K28.231 'A young man, **sooty-looking** (*noen*) from his fire'

You are invited to contact Stuart Harris about these or any other inscriptions at

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