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TABLETS AND ROUNDELS FROM KHANIA
WITH LINEAR A INSCRIPTIONS¹

Tablets and roundels² with Linear A inscriptions, the first recorded from Western Crete, were found at Kastelli, Khania, during the Greek-Swedish excavations of 1970 and 1971, conducted by Mr. Yannis Tzedakis and Mr. Carl-Gustaf Styrenius. In 1971 the finds consisted of four fragments of tablets and one completely preserved roundel, and in 1970 of one fragmentary roundel. In accordance with the new classification of the Linear A material by Raison and Pope³, it is proposed to designate the tablets KH 1 to KH 4, and the roundels KH W 1 and 2⁴.

KH 1 (Pl. Ia) is the upper right corner of a tablet measuring 4.3 cm. in length and 3.0 cm. in height. The thickness varies from 1.05 cm. at the left to 0.8 cm. at the right. It is impossible to decide the original colour of the clay, as the tablet is burnt black all over, but it is evidently finely gritted with small grains of quartz — a feature common to all the tablet fragments. The tablet was incised on one side only and bore at least two lines, without line-dividers. The signs are rather big (height c. 1.2 cm.), possibly through being drawn with a blunt stylus. The upper line starts with the sign

¹ I am most grateful to Mr. Yannis Tzedakis and Mr. Carl-Gustaf Styrenius for permission to publish these inscriptions. Likewise I would like to thank Dr. Jean-Pierre Olivier for his kind advice on the reading of some of the inscriptions. I also wish to express my gratitude to the Carlsberg Memorial Foundation and Århus University, without whose financial aid and support my participation in the Greek-Swedish Excavation and my studies of the material therefrom would have been impossible.

² In this article the clay discs with seal impressions around the edge will be referred to as roundels, the term of Evans.

³ J. Raison and M. Pope, *Index du linéaire A*, Rome 1971

⁴ In the Khania museum the inscriptions have the following designations: KH 1–4 = GSE 71 LT 1–4, KH W 1 = GSE 70 Tc 29 and KH W 2 = GSE 71 LT 43.

L 81⁵ followed by the numeral 'one'. The next sign is an ideogram, and since it is ligatured with Lm 2 the most reasonable reading for this sign is Lc 7, even though its main component (L 42) must be taken as a palaeographic variant of the sign L 42 as known hitherto, in which the vertical line always goes up to the horizontal. A small inclined line is seen in front of the ideogram, and the meaning of this — if it is not accidental — is obscure. The second line of the inscription starts with numerals, at least three units followed by Lm 9 or a combination of fraction signs with Lm 9 as one component. For the two v-shaped strokes to the right the most reasonable guess would be L 60, but too little is preserved for certainty. All this would give the following reading for KH 1:

1.]	L 81, 1, Lc 7, 70
2.]	3, Lm 9/?, L 60

KH 2 (Pl. Ib) is the central part of a tablet, measuring 3.6 cm. in length and 2.7 cm. in height, and with a thickness of 1.0 cm. all over. The clay is of a red colour, hard baked by fire and finely gritted like KH 1. This fragment too is inscribed on one side only, and it has two lines, without a line-divider. The stylus used on this tablet was of a finer character than that employed to inscribe KH 1. The heights of the signs are not known, as none are completely preserved. Nevertheless, something can be said about the inscription. The upper line starts with numerals, and two 'tens' can be counted⁶. The next sign must be interpreted as L 6. There follows a vertical line and, on the tablet, it is clear that a horizontal line of 0.3 cm. joins this at the top left where the tablet is broken, forming the left part of a T shape (see drawing on Plate Ib), of which many different interpretations are possible; and the same can be said about the last sign where only the lower part of the vertical stroke is left. These two fragmentary signs, together with L 6, seem to form a sign-group and not ideograms and numerals. Attempts have been made to see if these fragmentary signs could fit into any known sign-group in the Linear A vocabulary, but the results have been unsatisfactory⁷. In the next line the first and the last signs seem to be the

⁵ The possibility of a palaeographic variant of the 'man' sign L 99 suggested in AAA 5, 1972, 509 cannot be completely ruled out.

⁶ Two strokes forming the right part of a N below the 20 are so faint that they certainly must be accidental.

⁷ Only two sign-groups might, with some good-will, fit what is left of the signs on KH 2. These are L 6 — 2 — 51 — 30 on HT 123 b3, and L 6 — 55 — 25 — 77 — 84 on HT 128 a1 (Raison & Pope pp. 11–13 and ILA Plate XII).

same, L 71, the latter example being ligatured with Lm 1 and thus compounded into Lc 47. The second sign offers several possibilities of interpretation. One could, for example, point to L 101, L 23 and the numeral '100'. The third sign is a new one and must certainly be an ideogram for an animal. No numbers are seen to follow this ideogram, but on the other hand it is ligatured with a sign to the top right, which probably indicates the numbers. The value of this 'arithmogam' is not known, but in spite of the obvious differences it is very tempting to make a comparison with the Linear B *MO*-sign, the more so because the two vertical strokes in the ideogram could well form the neck of an equine animal (horse, foal or ass). On the other hand, this slight similarity to the Linear B script might mean nothing. The two vertical strokes could just indicate the female sex of some animal, and the meaning of the 'arithmogam' would remain uncertain. But the sign is a new one in the Linear A vocabulary, and I therefore propose for it the index number Lc 121. The following reading is offered for KH 2:

1.] = /// /// [20, L 6 — ? — ?
2.] /// [L 71, ?, Lc 121, Lc 47

KH 4 (Pl. IIb) is the upper left corner of a tablet measuring 4.0 cm. in length and 3.5 cm. in height. The thickness varies from 0.8 cm. at the upper left to 1.2 cm. at the lower right corner. The clay is of a light red colour and, as in the other tablets, finely gritted and burnt very hard by fire. This tablet too is inscribed on one side only. There were at least three lines but no line-dividers. The signs are very big, from 1.3 to 1.7 cm. high. The signs in the first line are easily readable as L 52, L 93 and L 54. A small dot behind L 93 seems to be made deliberately, and we can thus identify the sign-group L 52—L 93, well known from the Hagia Triada tablets. The second line begins with an ideogram and numerals. This ideogram is also a new one in the Linear A script and, like the one in KH 2, it must probably be interpreted as an animal. The sign consists of several components which could be read separately (one could, for example, take the inclined ellipse as a kind of qualifier to the following sign), but the scribe's way of separating all lines in the signs makes it most probable that the sign should be read as a unit. As to the identification of the animal, nothing definite can be said, but the two vertical strokes indicate a female sex. It seems very unlikely that this ideogram was identical with Lc 121 (KH 2), and the index number L 155 will therefore be suggested for this new

sign. The last sign in the second line is L 71, followed by what is probably the sign Lm 19⁸. The small strokes in the lower right corner of the tablet must be the top of one or probably two signs in a third line. Unfortunately too little is preserved to suggest any reading for these signs. KH 4 might now be read as follows:

- | | | |
|----|-------------|-----------------------|
| 1. | [| L 52 — L 93, L 54 |
| 2. | [| L 155, 4, L 71, Lm 19 |
| 3. |] /// /// [| ?, ? .. |

On KH 3 (Plate IIa) too little of the inscription is preserved to make it certain that the fragment is from a tablet, but our reasons for considering it as one have already been put forward in AAA⁹. If correctly so interpreted, we have here the lower right corner measuring 2.6 cm. in length and 2.1 cm. in height, with a thickness of 0.65 cm. The clay is red, finely gritted, and burnt hard by fire exactly as in the other tablets. This fragment too is inscribed on one side only, but here a line-divider is seen, and this indicates lines with a height of c. 1.2 cm. The bottom line is blank while, on the upper, the last vertical stroke could be from the numeral 'one'. For the strokes in the first 'sign' several guesses could be made, among which L 25 seems the most reasonable; but interpretations of this fragment must of course be made with the greatest possible caution.

The other section of the inscribed material consists of two roundels¹⁰. KH W 1 (Pl. III) is a roundel with a diameter of 6.7 cm., of which little more than half is preserved. Its sides are slightly concave, resulting in a thickness varying from 1.6 at the edge to 1.0 cm. in the centre. Around the remaining part of the edge are six impressions from the same seal, representing a flying bird, probably a water-fowl. The clay is light red and finely gritted, as with the tablets; it is hard baked, but no trace of fire is seen. Both sides of the roundel are covered with fingerprints, and on one side we find a single sign, 2.25 cm. high, incised with a very pointed implement. The sign is, except for the end of the 'double-axe'¹¹, completely

⁸ This combination is also seen on HT 23 a1 and b1 (HT 23b + HT 150).

⁹ AAA 5, 1972, 510

¹⁰ It should be noted that two completely preserved and one fragmentary roundel — each with a single Linear A sign on one side — were found during the 1968 excavation at Khania in a pit containing MM II to LM IIIA pottery (Deltion 24. 2. 1969, 429).

¹¹ E. Sapouna-Sakellarakis, *Die Menschenzeichen in der linear A-schrift*, Kadmos 8, 1969 138.

preserved and must be identified as L 126, an ideogram for 'man' or 'woman'. To the left of this sign a vertical line is seen, but whether it has any meaning in the context is uncertain. The only possible reading is the numeral 'one' and, if it is such, it is placed in a very strange position.

KH W 2 (Pl. IV) is a completely preserved roundel, with a diameter of 3.8 cm. Around the edge are seven impressions of the same seal, representing three playing monkeys. The clay is of a dark red colour, and finely gritted except for a few bigger chalk-like bits¹². This roundel too is very well baked, but again no traces of fire can be seen. Both sides are covered with fingerprints, and on one side is an inscription of four signs, written with a very rough implement. The signs are readable as L 29 — L 26 — L 60 — L 78. All the signs are also known in the Linear B script¹³, but the last sign, L 78, makes it probable, for palaeographic reasons, that we are concerned with Linear A, as the equivalent sign in Linear B is usually written with a vertical stroke between the 'legs', which seldom occurs in Linear A. The first sign, L 29, is here not written in the usual way, with a cross in the centre, but only with a single inclined line. This variant is also known from other Linear A inscriptions, e. g. HT W 205¹⁴. The sign-group found on this roundel has not until now been recorded in the Linear A script¹⁵.

The inscriptions as a group seem to be of the usual Linear A type known from other sites in Crete. KH 4 carries an element well known in Linear A, the sign-group L 52 — L 93, which is recorded on seven of the Hagia Triada tablets¹⁶. The same fragment and KH 2 demonstrate the typical Linear A system with full utilization of the writing surface, not starting on a new line when new 'descriptions' are introduced (KH 2.1) but opening lines where necessary with ideograms and numbers (KH 4.2). The tablets show that the usual numeral system with fractional signs has been used (KH 1.1 and 2, KH 2.2 and KH 4.2).

But something new and interesting is found in the inscriptions — their extension of the Linear A vocabulary. The sign-group L 29 —

¹² These are clearly seen on the photograph on Plate IV

¹³ The conventional reading would be *ka-na-ni-ti*, which might be interpreted as 'Canaanite'; but Semitic relations are in no way supported by the archaeological evidence from Khania.

¹⁴ ILA Plate XV, Cr. IV 3

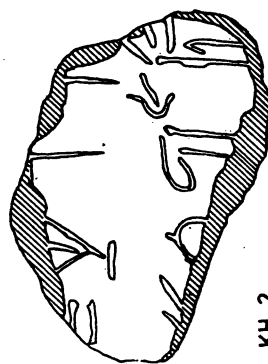
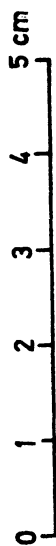
¹⁵ Raison and Pope op. cit. 49—53

¹⁶ *ibid.* 105f., and ILA Plates VII 85a, 86a, 88; VIII 92, 95b; IX 99a; XII 133



KH 1

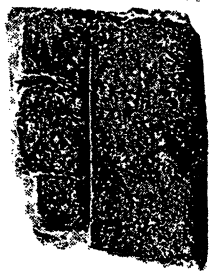
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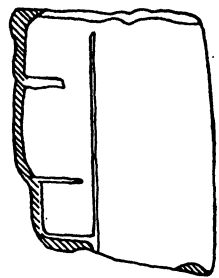
KH 2

b

Plate I



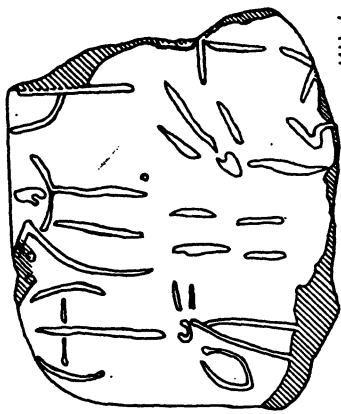
a



KH 3



b



KH 4

Plate II

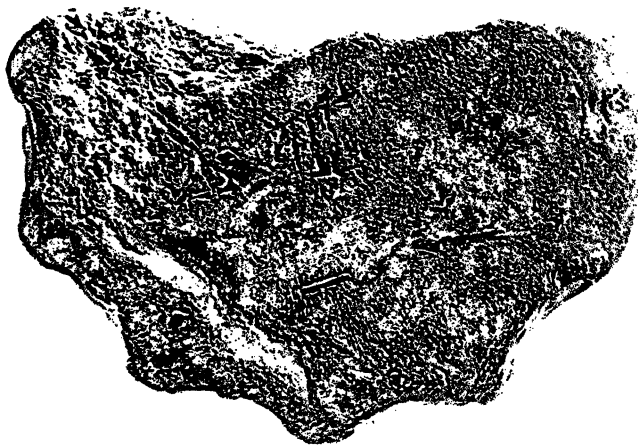
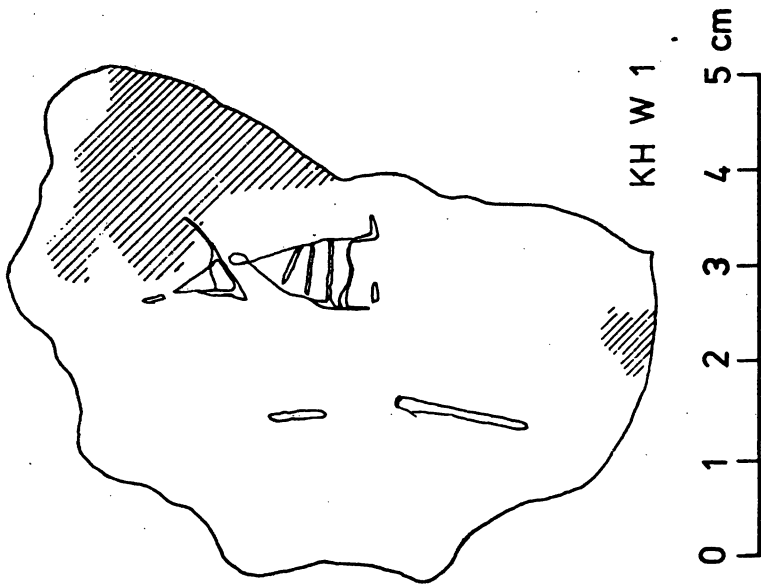
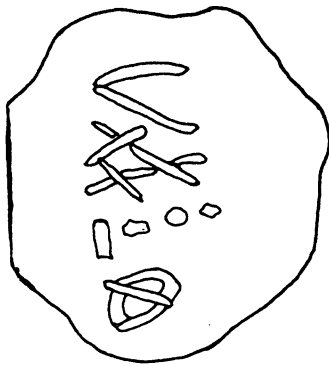


Plate III



KH W 2

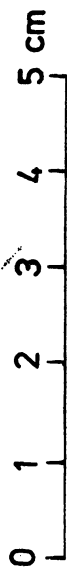
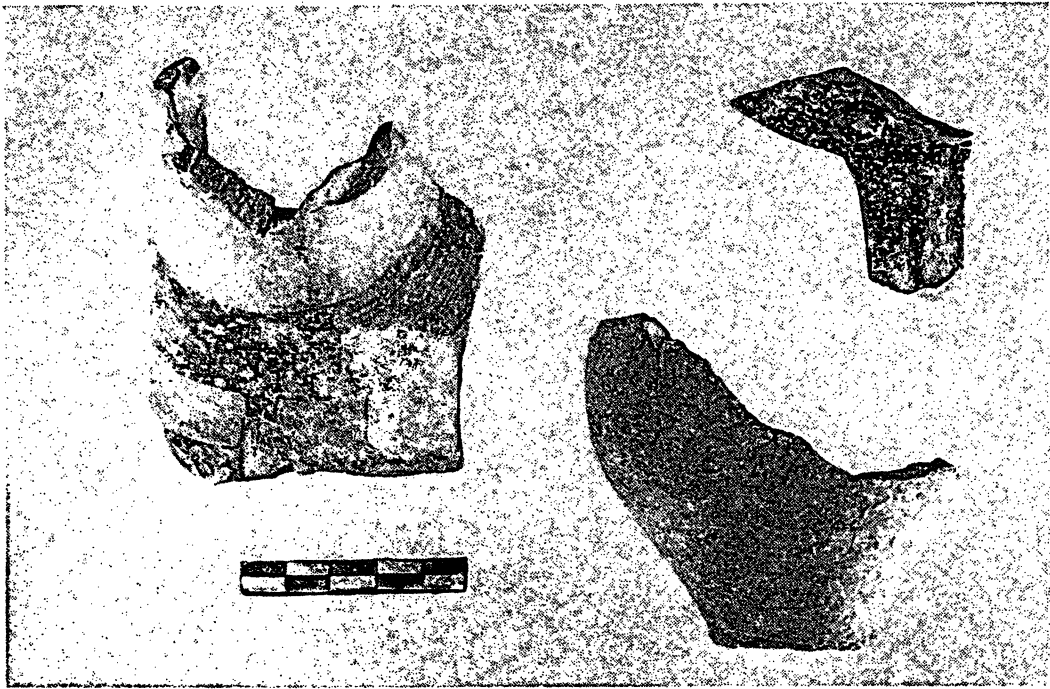
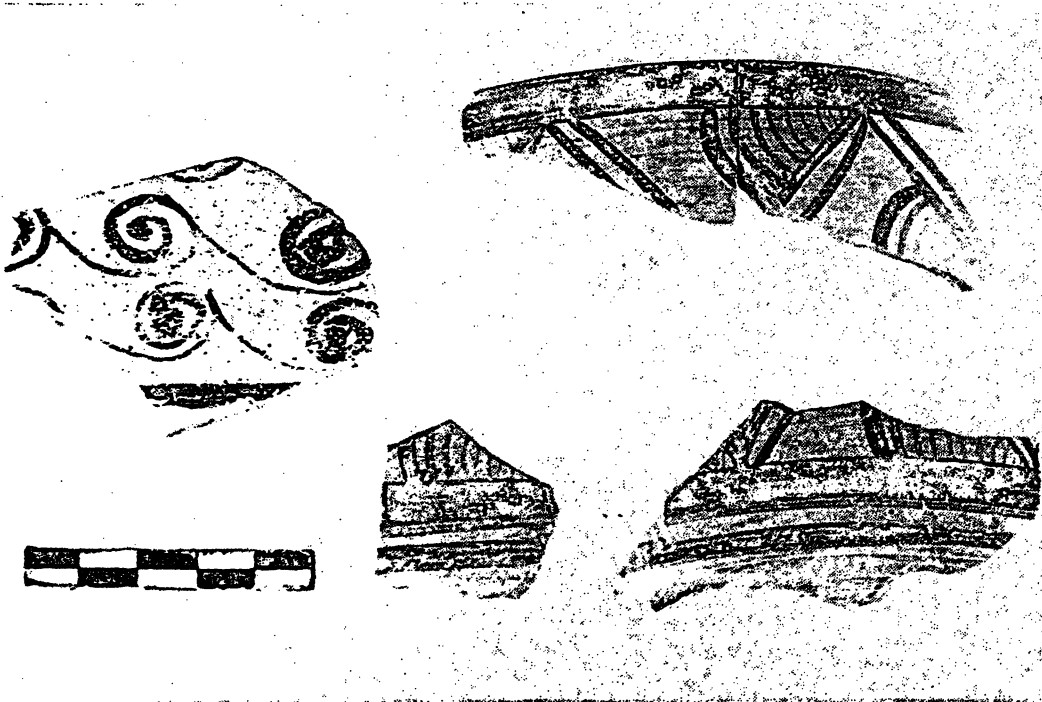


Plate IV

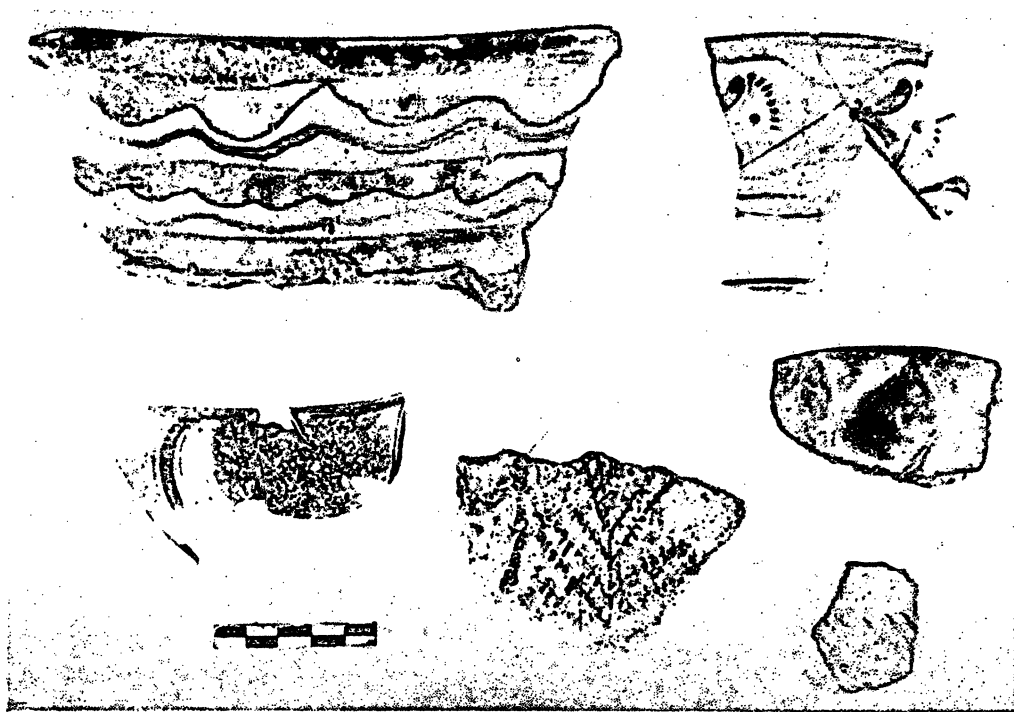


a

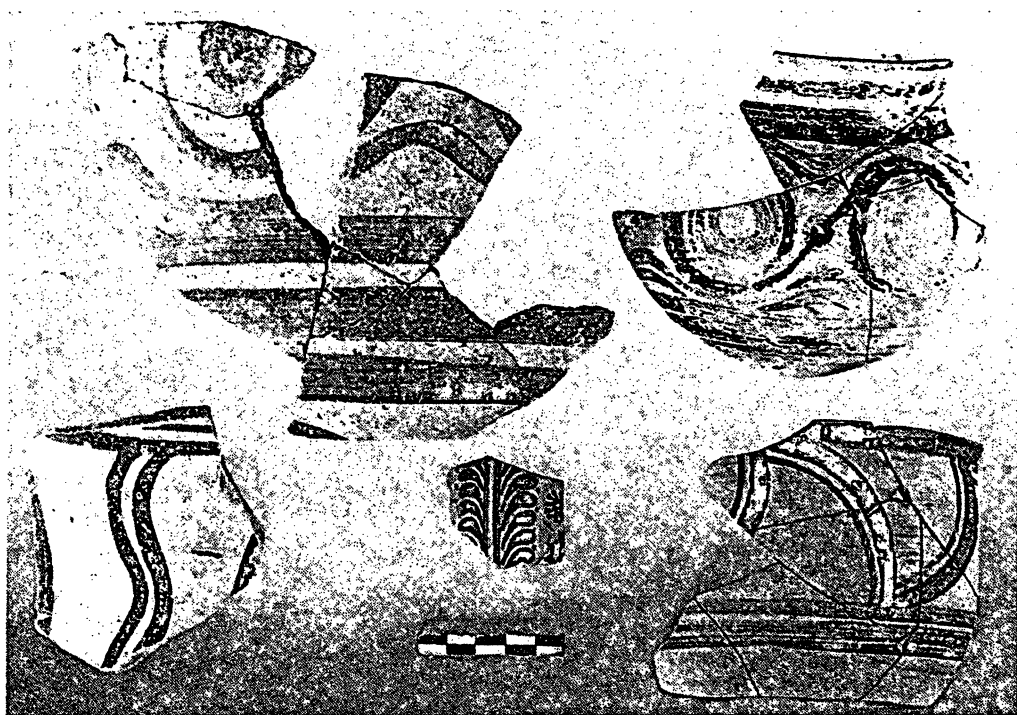


b

Plate V



a



b

Plate VI

L 26 — L 60 — L 78 on KH W 2 is found for the first time and, more important, there are two animal ideograms. To my knowledge, ideograms identified as animals in the Linear A script have, up till now, only been found on HT? 170 with representations of he-goat, ram, ewe and pig, and possibly on HT 30.4.5, 114.3 and 121.3, with an ox/bull¹⁷. The ideograms on the Khania tablets, however, seem not to be comparable with those on the HT tablets, and should probably be interpreted as totally different animals. As mentioned above, no guesses as to the identity of these animals will be made here, since no similar signs are found in comparable material.

It should be noted that none of the tablet fragments fit together. On the contrary, they seem to be written in different hands, and the drawing of L 71 on KH 2 and KH 4 demonstrates at least two different hands. Unfortunately the material is too scanty to allow us to be absolutely sure that the inscriptions represent six different hands, and in particular there are unfortunately no elements common to the tablet fragments and the roundels.

That Linear A tablets and roundels should be found on the same site is not surprising. This was also the case at Hagia Triada, Kato Zakro, Knossos, Phaistos and Mallia, where they were found — at least in the four first mentioned places — in very close association¹⁸. Whether the tablets and roundels from Khania had also been placed together it is impossible to say, as they were not discovered in their original contexts. The roundels might indeed have belonged to a period different from that of the tablets.

This leads us to the question of the archaeological context and the dating of the inscriptions¹⁹. They were unfortunately all found in levels with mixed pottery, and we have therefore only indirect evidence of the period to which the fragments KH 1, 2 and 4 belong. KH W 1 was found in 1970 in a surface layer, where the oldest pottery was one sherd from the MM period. The other roundel, KH W 2, was retrieved from a rubbish deposit containing pottery from the EM to the LM III B period (Pl. Va). KH 3 was likewise found in a rubbish deposit, and this deposit — not yet fully

¹⁷ See drawings in Raison and Pope 297, nos. 96 and 97, 290 no. 139, 297 no. 93 and 294 no. 38.

¹⁸ ILA pp. 10ff.

¹⁹ For the dates of the pottery and permission to publish the relevant information in this article I am much indebted to Mr. Yannis Tzedakis and Mrs. Birgitta Pålsson.

excavated — contained pottery from the LM III A and B period, (Pl. Vb). In such circumstances it is impossible to attribute accurate dates to these three inscriptions, and there is no evidence — except perhaps in the case of KH 3 — that they were originally associated with the three remaining fragments.

KH 1, 2 and 4 were found in two different pits, the one underlying the other, and the lower one had apparently been dug into and disturbed by the upper one. KH 4 was found in the lower pit, where the bulk of the pottery was of LM III A and perhaps early LM III B date, but it also contained a few pieces of earlier pottery covering the periods from EM to LM II (Pl. VIa). KH 1 and 2 were found in the upper pit, which also contained a few pieces of pottery from the earlier periods, though the greater part was equally divided between the LM IIIA and LM IIIB periods (Pl. VIb). Of course such associations do not permit direct dating of the tablets, but we have nevertheless fairly good indirect evidence for the date of these three fragments. It will be remembered that all of them bore clear traces of fire on their surfaces, which means that they must have been baked by a conflagration at the site. Thus a search for a building destroyed by fire, and for fire-marked pottery found in association with the tablet fragments, could prove to be useful.

Going through the inventoried pottery from both pits — where many bits of charcoal were noticed — it was found that about 25% showed clear traces of fire on their surface²⁰. These sherds were mostly plain ware of all shapes (stirrup jars, bowls, cups, kylices, craters etc.) and they have all been dated within the LM III period. No sherds with traces of fire earlier than this were found in the pits; so the evidence of the pottery considered alone points to a LM III dating of the inscriptions. This deduction is confirmed by the discovery of a building clearly destroyed by severe fire. Some metres south of the pits with the tablets was found a clay floor covered with a charcoal layer up to 5 cm. thick and mixed with fallen wall and roof constructions. This room can be dated, on the evidence of the pottery found below the floor, to the period transitional between LM III A and B. The upper part of this destruction layer had been levelled by the later LM IIIB inhabitants, and the hypothesis that the tablet fragments and the pottery with traces of fire found in the pits came originally from this LM III A/B

²⁰ Here pottery is considered to show traces of fire when it has been burned black in places and a change in the colour of the clay can be seen.

destruction level seems not at all improbable. In further support of this solution, it may be noted that no earlier destruction levels have up till now been discovered on the site.

If further excavations prove this low dating of tablets with Linear A inscriptions to be well founded, there would follow interesting implications for the history of Crete in the Late Minoan period. The discovery of further tablets in a clearly datable context would settle the point.

But, even without absolute dates, the existence of clay tablets and roundels written in the Linear A script at Kastelli, Khania, emphasizes the importance of the site. Up till now this combination has only been found at Minoan palaces and important villas, and to judge from the other finds made at Khania there is no reason to believe that this site will prove to be an exception.