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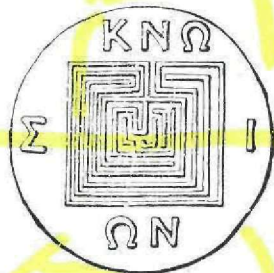
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'OSTRAKON' WITH LINEAR A SCRIPT FROM AKROTIRI (THERA). A NON-BUREAUCRATIC ACTIVITY?

1. INTRODUCTORY NOTE

Among the many vessels of each household's equipment in the settlement of Akrotiri (Doumas 1983), one had a special destiny. It once stood intact serving as a container for who knows what. One day it broke to pieces –as a result of a human error? or maybe of an earthquake?– and the pieces were thrown away. But another day, a human hand picked it up from the rubbish and wrote on it, thus turning a piece of waste (Plate I.a) into a piece of written history (Plate I.b).

After having fulfilled its purpose as a temporary note, the sherd was again thrown away, or was forgotten, or perhaps even put somewhere in storage. We do not know what exactly happened, but it was buried with the whole town under the pumice for many centuries, until it was brought to light by a human hand again –that of the excavator. Most probably it was collected with other sherds, until a critical eye –that of the archaeologist– noticed the inscription (Plate II.a). The sherd was then properly recorded, put in a drawer and forgotten once again. So ended the second part of the story of this sherd.

During the second period of the excavation of the settlement (1975 onwards), new people entered the apotheke where it was kept, and started re-arranging the various artifacts. The sherd was found and recognized again, this time by the author of this article, who put it in a special drawer. It made its first appearance in public in 1989, in the company of lead weights, through a slide projected at a conference held on its native island. It was presented as a piece of evidence for an ordinary practice, a familiar need (was it really so?)¹. In 1990 it was cited by an expert in an appropriate setting: at a conference on Aegean scripts, held in Athens². It is now been published in

¹ Michailidou 1990, p. 419.

² Olivier 1992, p. 447.

a suitable place: a volume of *Minos*. And it is not responsible for any errors made by the author's eye or mind³.

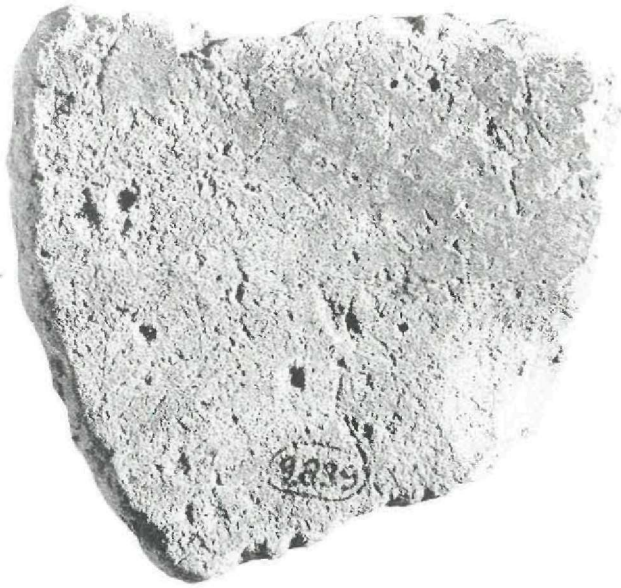
2. THE OBJECT WITH THE INSCRIPTION

Dimensions: (0.062x0.062) x 0.01m. *Clay:* semi-coarse, light-coloured (cf. Marthari 1990, p. 452 for the fabric of local Theran pottery). *Form:* its slight curvature points to a rather large pot, but not a pithos, as the latter has walls thicker than 0.01m. The edges all around are worn, and it is not unreasonable to suppose that when used for writing it was already a broken piece of pottery. *Decoration:* dark brown band on a white slip (cf. Aloupi-Maniatis 1990, pp. 461-463).

The inscription was incised on the interior, undecorated, surface and it consists of Linear A signs and numerals. The inscription may be complete, for the following reasons: a) the sherd is only slightly damaged at the left edge (Plate II.a); b) the inscription begins at the left edge and unfilled space is left at the top right edge; moreover, the placement of the numerals proves that it runs from left to right (the usual, though not the only direction for Linear A: Olivier 1988, p. 263 and 1993, p. 513, Karetsou-Godart-Olivier 1985, pp. 126-7); c) the four vertical strokes near the right edge are obviously not written in exact continuity with the sign they refer to, but in the small space available (Plate IV.b).

No information on the find spot is recorded for sherd 2839, and the possibility that it was not found in the settlement itself, but was brought from another site on the island, cannot, therefore, be excluded (though in such cases it is usually stated in the inventory how the artifact was acquired). It is more probable that it came from the settlement and was first mixed with various other sherds, especially if, as seems likely, it was not found with sherds belonging to the same pot, so that it could immediately be recorded.

³ I wish to thank Professor C. Doulas for entrusting me with the publication of the 'ostrakon' and Professor J. L. Melena for his encouragement. My warmest thanks I express to Professor L. Godart for his valuable help: he made the facsimile of Fig. 1, the drawing of the signs for the Normalized and the Tabular copies and he read the final version of the article. I remain solely responsible for any suggestions in it, but I wish to thank Dr V. Aravantinos for our helpful discussions in the Istituto Archeologico Germanico in Rome; and also its Director Professor B. Andreae for the hospitality there. The text was written during my staying in Oxford and I thank Dr J. Coulton and the Governing Body of the Merton College for their hospitality; also Mr B. McGregor for the facilities in the Ashmolean Library. I thank David Hardy for the improvement of my English text and the colleagues Caterina Papanthimou, Vasso Fotou, Eirene Lemos, Vicky Manti, Hellen Brock and Don Evelyn, for the unforgettable days in Oxford 1994.



a: Verso



b: Recto



a: Recto



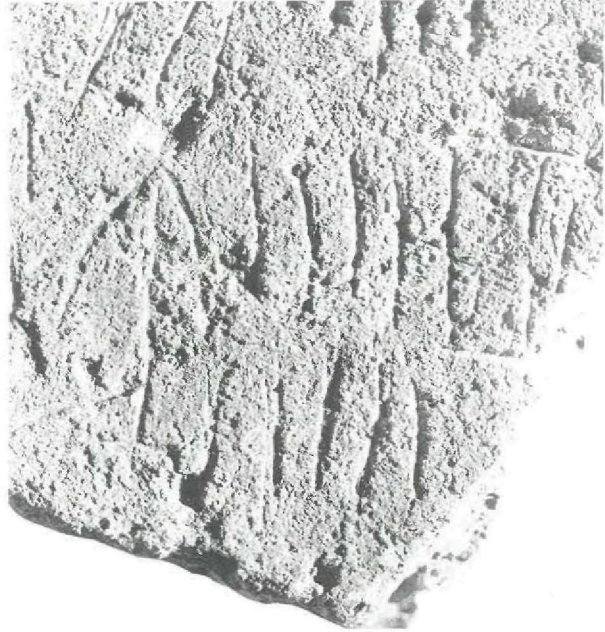
b: AB 80 and numerals



a: AB 50 and numerals



b: AB 171 and numerals



a: AB 20 and numerals



b: AB 59 and numerals

The fabric, the thickness of the fragment, the profile and the decoration, all indicate a particular local form of vessel (cf. 'prochoides', in *Thera* V, pl. 61 c), as suggested by E. Papadima, a conservator in the Akrotiri excavation team. It is almost certain that it comes from the lower part of a hole-mouthed spouted jar, a little above the bottom, as both the colour and decoration match. To make it possible to write on the interior wall, the sherd was held in the hand upside-down, with respect to its original place on the pot (Plate I.a): whoever used it, needed the broader side of the fragment to start writing (Plates I.b. and II. a).

The shape of the hole-mouthed jar has a strong MC local tradition (though it began as a copy of a Minoan shape in the local Cycladic white ware: Papagiannopoulou 1990, pp. 60-61). In LC times it is a well-known local ware. So, though the sherd has not been analysed either chemically or petrographically, it is nonetheless considered part of a local product. In any case, since pottery was also imported into the island, it wouldn't matter if a fragment of an imported vessel had been used as a writing surface.

The sherd was of a convenient size to be held quite firmly inside the palm. The signs have been rather lightly incised with the aid of a pointed tool (perhaps a bronze stylus, like the one in Godart 1988, fig. 4e, or perhaps with something handier, like a small blade). In some places (Fig. 2 and Plate IV) there have been more than one attempts to make the incision, as often happens with inscriptions made after firing; of course, some difficulties are to be expected in view of the hard writing surface, as opposed to the soft material of the clay tablets. The inscription runs from left to right, following, not the horizontal line of the traces of rilling (which is quite fortunate, and helps us to distinguish them) but the notional horizontal line created by the handling of the sherd (cf. Plates II. b, III. a and IV. a). It consists of five signs followed by numerals. Two of the signs are placed just below the other two (Plates I. b, II. a and III. b), suggesting, perhaps, that the account had a vertical sequence, or that the writer was aiming at a visually clear result. As for the fifth sign, it seems to have been written in the only space available that would leave room for the numerals to follow. There is no break in the sequence of signs and the numerals referring to them (as sometimes in Linear A tablets: cf. Brice 1991, p. 42). Counting must have been completed before the inscription was incised, as indicated both by the large number, forty (the four horizontals, standing for tens), and by the fact that each sign follows immediately after the numerals referring to the previous one. In fact, the inscription gives a clear picture of the act preceding it. An act performed by whom? An inscription written by whom?

3. THE DATE OF THE INSCRIPTION

The inscription was made after the firing of the pot and, more importantly, did not belong to the pot itself; the surface of the fragment was merely used as a writing surface. It is accordingly certainly later than the date of manufacture of the pot. Of course, if the pot were dated to MC (for sherds of this date are often found, for instance embedded in flooring material of LC houses), the inscription could be either MC or later. But the hole-mouthed jar was a frequently used vessel in the LC settlement, and, provided that the sherd did, in fact, come from the settlement, an LM I A date seems reasonable.

A fragment of a Linear A tablet from an MM IIa fill-deposit is reported as the earliest yet found at Knossos (*BSA Annual Report 1991-92*, p. 18) and MM III dates are assigned to some Linear A specimens found outside Crete (Vandenabeele 1985, p. 20, Palaima 1982, pp. 17-18); generally speaking, a period from MM II to LM IB –or even LM II– is accepted for the use of the Linear A script (Vandenabeele 1985, pp. 18-20) and now even till LM III A (Olivier 1993, pp. 505, 515). Since the number ten in this inscription is denoted by a horizontal stroke, a ‘late’ characteristic, in contrast with the dot used for the same purpose in the earlier tablets of MM II and MM III –and some later ones from Hagia Triada (Olivier 1989, pp. 240-241)– LM I A, the period of the last occupation level, is the most probable date for the inscription.

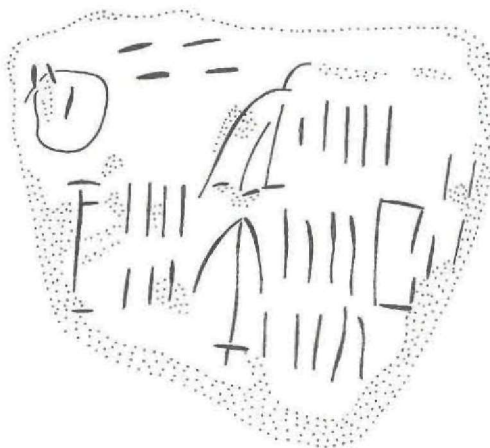
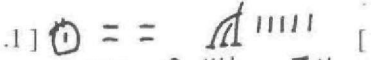
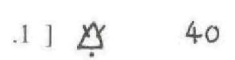


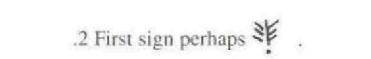
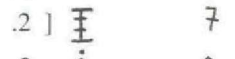







FIGURE 1. THE Zb 5 (L. Godart)

4.1. THE INSCRIPTION

All the signs are quite clear, except one at the left of the second line, the left part of which is missing (Plate III. b). Since they are isolated signs followed by numerals, they should function as ideograms (or logograms: for the choice of the term, see Bennett 1963, pp. 119 ff., *GORILA* 1, p. XXXV and 5, pp. XVIII, 139, Olivier 1986, p. 379, Chadwick 1987, pp. 22, 30, Palaima 1989, pp. 43, 52, Godart-Tzedakis 1992, p. 118, etc.). Their height varies from 0.012 m for two of them (the one at the left on the first horizontal line and the last right on the second line) to 0.018 for the rest of the complete ones. The height of the upright bars denoting the digits is 0.006-0.01 m. The text runs as follows:

<i>Normalized Copy</i>	<i>Tabular Copy</i>
THE ZB 5	
.1]  [.1]  [
.2]  [.1  [
	... [
.2]  [.2]  [
	... [
.2]  [.2]  [
	... [
	... [
.2]  [.2]  [
	... [
	... [

.2 First sign perhaps 

And can be transcribed as follows:

1. AB 80 40 - AB 50 5 (or 25?)
 2. AB 171 7 - AB 20 9 - AB 59 4
- or
1. AB 80 40 - AB 50 5 (or 25?)
 2. AB 04 7 - AB 20 9 - AB 59 4

The first sign (Plate II.b) is perhaps AB 80, as L. Godart has kindly suggested to me. (My first thought was AB 78; later the close-up photograph favoured the AB 80). As the drawing in Fig. 2 shows, there may be a trace of the second 'ear' of the 'cat's face'?

AB 80 is a very frequent sign with a very wide distribution, being found in initial, medial or final position in sign-groups (cf. *GORILA* 5, pp. 263-266). It is considered a 'monosyllabic word' only once, in HT 146.3, and an

ideogram, again once, in HT 110b.2.5 (*GORILA* 5, p. 263). On the first tablet it is followed by number thirty, while on the second it appears twice, followed by the numbers 5 J and 2 respectively.

On the sherd from Akrotiri it is followed by number forty, rendered by four horizontal strokes arranged in two vertical columns, as is the standard practice (cf., e.g., HT 116 a.2: *GORILA* 1, pp. 192-3 and HT 103.1: *GORILA* 1, pp. 170-1).

It is a sign with many variations in form and it seems that even the ancient scribe could sometimes hesitate (as I did!) between AB 78 and AB 80 (as in Duhoux 1989, Fig. 10, cf. Olivier 1975, p. 449).

AB 50 (Plate III. a) is a sign with a fairly wide distribution (HT, MI, ZA, KH, TY, ARKH, KN) used in initial, medial or final position in sign-groups (words). It is found starting a word (which may interest us more) at least six times. It has so far been found alone only once, in HT 34.7, where it may function as an ideogram, since it is followed by a numerical sign, the fraction A 705 (for the above, cf. *GORILA* 5, p. 215). In the case of the Milos tablet, we do not know if it was followed by a syllabic sign or a numeral, as this part is not preserved (*ibidem*, pp. 56-57).

On the sherd from Akrotiri it is followed by five vertical strokes. The first one is shorter than the rest, but its placement between the ideogram and the numerical sign argues against a possible function as a word-divider, and we prefer to read the number five. Were the two horizontal lines above the vertical strokes made to indicate two tens? They are not as deep as the rest of the deliberate marks, and their disposition is not of the standard type (though there are some instances of unusual disposition, e.g. in HT 119.1: *GORILA* 1, pp. 202-3, or in ZA 4 a. 4: *GORILA* 3, pp. 148-9). The number five, however, is also not normally written, the standard arrangement being in two rows ($\begin{array}{c} ||| \\ || \end{array}$) (cf., e.g., HT 8b.3: *GORILA* 1, pp. 16-17, or HT 13.6: *ibidem*, pp. 26-27) and there seems to have been enough room for such an arrangement; the scribe could have easily written (= ||||) (as thirty-five was written on the Papoura tablet, Pa 1.2: *GORILA* 1, p. 284) or ($\begin{array}{c} ||| \\ =|| \end{array}$) (as fifteen was written on HT 10b.2: *GORILA* 1, pp. 20-1, or twenty-seven in HT 13.4: *ibidem*, pp. 26-27). But account should be taken of the fact that he was writing on a temporary (and limited) surface.

From the point of palaeography, the sign is rather different from what is so far known: the curve of the upper end points right instead of turning backwards, which seems to be the rule. The design is rather clumsy, with no clear horizontal strokes at the bottom of the vertical ones; nevertheless, the sign intended was surely recognizable to a literate person.

As shown in the facsimile (Fig. 1), Godart's opinion is that the first sign on the second line should be restored as AB 171. In *GORILA* 5 (p. 280) it is cited

with only one appearance in a Zakros tablet (ZA 6a.1): *GORILA* 3, pp. 156-157), where it is used as an ideogram, followed by the number nineteen. In Akrotiri, it is followed by the number seven properly written with three vertical strokes arranged below four more (cf. HT 27b.1: *GORILA* 1, pp. 50-51). Godart’s identification of the sign AB 171 is supported by the horizontal stroke at the top of the vertical stem, and the fact that the ends of the digits in the lower group would be on the same line as the supposed horizontal stroke at the end of the sign itself (cf. the facsimile made by Godart [Fig. 1] on the photograph of the object).

The problem is that, as shown in the drawing based on the sherd itself and made by A. Kontonis (Fig. 2) and also in a close-up photograph of the sign by A. Voliotis (Plate III. b) there seem to be at least one (possibly two) more horizontal lines in contact with the main vertical stem of the sign, which do not appear to coincide with the traces of rilling. The drawing, of course, depends on what one decides one sees, and light in photographs sometimes plays tricks (compare for instance Figs. 1 and 2). And there is the weak point that the uppermost horizontal line does not, so far, occur in restorations of AB 04 (the sign suggested by this author), except perhaps in the variation HT Wa 1123 (*GORILA* 5, p. XXVIII). There is also a slight possibility of an –earlier?– variation of AB 22^m (*GORILA* 5, p. 178), if the trace of a second horizontal in the upper part of the sign (but on the right) was intentional. The sign A 22^m as an ideogram is followed by number one (in PH 31b.2: *GORILA* 1, pp. 318-19, KH 6.5: *GORILA* 3, pp. 26-27) or six (HT 64.4: *GORILA* 1, pp. 118-119). But again it looks like a very poor copy of this particular sign.

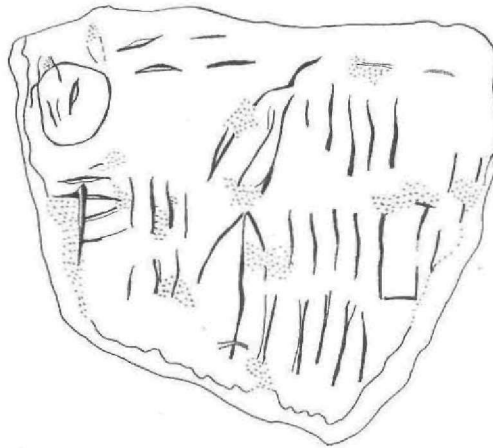


FIGURE 2. THE Zb 5 (A. Kontonis)

To return to the AB 04 hypothesis, it would be the variation in which the horizontal strokes crossing the vertical one are unbroken, which is one of the three ways it can be written (Hallager-Vlasakis 1986, p. 112). Closer parallels would be HT 98a.3 (*GORILA* 1, pp. 160-161) and PH 15a (*GORILA* 1, pp. 304-305). It is a frequent sign with a wide distribution (*GORILA* 5, pp. 149-151) occurring at the beginning, the middle or the end of a sign-group. When found alone, it is often interpreted as a special 'transaction sign' (*ibidem*, p. 149). It functions as an ideogram in HT 107.3 (*GORILA* 5, p. 149), where it is followed by the large number 86 (*GORILA* 1, p. 174-175).

AB 20 (Plate IV.a) seems so far to be a rather rare sign. In *GORILA* 5 (p. 175) it is mentioned only once, in the Chania area (KH 57.2: *GORILA* 3, p. 79), where it is an ideogram followed by the number one, with the slight possibility that more numerical signs followed in the lost part of the tablet.

On the sherd from Akrotiri, it is followed by nine upright bars arranged in two groups, four in the upper and five in the lower group. This is not the standard disposition for nine: we would expect exactly the opposite, that is five and four respectively (cf., e.g., HT 14.2: *GORILA* 1, pp. 28-29), but it seems that, in this case, there would have been no room left to write the following sign AB 59.

AB 59 (Plate IV.b) is very frequent sign with a wide distribution. It is found alone at least five times, and is also frequently found at the beginning of a sign-group (*GORILA* 5, pp. 235-238). It functions as an ideogram in HT 94a.2 and possibly in ZA 10b.6, where it may alternatively be a monosyllabic word, as Godart believes to be the case also in MA 4a (*GORILA* 5, p. 235).

In Akrotiri, it is followed by four vertical strokes, in the standard disposition (two below two) to indicate the number four: this is the same arrangement as in HT 94a.2, where again the number four refers to AB 59, functioning as an ideogram. On the tablet ZA 10b.6, AB 59 is followed by the number two. On the bar MA 4a, AB 59 seems to introduce an account of various types of the ideogram AB 180, followed by large numbers (15, 120, 53 and 30).

Close parallels are SY Za 1 (*GORILA* 5, p. 62), KO Za 1a (*GORILA* 4, p. 18), KH 90.2 (*GORILA* 5, p. 42), KN Za 10a and Zf 31 bis (*GORILA* 4, pp. 8 and 154), PR Za 1a (*GORILA* 4, p. 46) ARKH 4a (*GORILA* 3, p. 12), but the closest is AP Za 1 (*GORILA* 4, p. 2 and 5, p. XXXVII).

For all the signs suggested above, this would be their first appearance on Thera, so we cannot discuss the palaeographical aspects in the context of the tradition on the island. If we leave aside the one sign not well preserved, of the other four, AB 20 is less stylised here than in the example from Chania, though that is of LM IB date (cf. *GORILA* 5, p. 106). The Akrotiri example is perhaps an earlier, less strict form, with the horizontal stroke crossing the

stem in a lower position. The other three signs are very frequent. There is still no exact parallel to AB 80 from Akrotiri, and AB 50, with its less complex variations (compare *GORILA* 5, pp. XLI to XXXVI) is here of an even rarer type. On the other hand, AB59 is a variant of AP Za 1 (*GORILA* 5, p. XXXVII), found in a wide chronological and geographical horizon; it is possible, however, that the common preference for its rectangular type, noticed (by Karetsoy, Godart, Olivier 1985, p. 121) in the stone libation tables, is also due to the hard writing surface of the fired clay.

Taking into consideration the hard surface of the sherd, and the ephemeral nature of the act itself, one might suggest that both AB 80 and AB 59 are not so far removed from the formal conception of the signs. It seems to me that whoever wrote the inscription was aware of the standard types of writing on tablets. The inscription runs from left to right as is always the case with Linear A accounting texts (see Palaima 1988, p. 312), and the numbers forty, seven and even nine (if we take into account the possibility of a slight change in the horizontal direction while writing on such a small surface) are all within the forms used on tablets. Only five (or twenty-five) seems to fall outside the rule, but there are parallels of similar exceptions in the writing of numbers (cf., e.g., number ninety on a Pyrgos tablet: Morpurgo-Cadogan 1971, p. 108, or thirty-five on the Papoura tablet: *GORILA* 1, p. 284, or five on a Zakros tablet: *GORILA* 3, p. 160). Whoever wrote this inscription, therefore, was accustomed to writing practices.

4.2. READING THE INSCRIPTION

All the signs discussed above are found as forms in Linear B too (hence the references to AB, as in *GORILA* 5, p. XVIII).

Experimentally, the Linear B reading of them would be, respectively: *MA*, *PU*, *TE*, *ZO* and *TA*. The ascription of Linear B phonetic values to Linear A signs, is considered acceptable in the case of ten signs that have the same form in Linear A and B (Olivier 1975, pp. 441-9), or possibly thirteen (Godart 1976, p. 43 and 1984, pp. 121-8) and at the most thirty of them (Duhoux 1989, pp. 74-5). AB 04 (*TE*) and AB 59 (*TA*) belong to the certain list of ten, while AB 80 (*MA*) is included in the longer list of thirty signs, and AB 50 (*PU*) and AB 20 (*ZO*) are not included at all. Of the other restorations proposed, AB 171 is a much-discussed sign in Linear B, functioning as ideogram (cf. Melena 1974, pp. 332-334, and 1987, pp. 390-1, Aravantinos 1990, p. 160, and also 169, Piteros *et al.* 1990, pp. 145, 162-3, Godart-Tzedakis 1992, p. 282), and AB 22^m (*CAP^m*), the ideogram for goat (male), is also documented as such in Linear A (Hallager 1987, p. 62, Brice 1988, p.

160, Melena 1987a, p. 218, Palaima 1988, p. 322. See also Godart's view in Godart-Tzedakis 1992, p. 171).

It is useful to mention here, that AB 80 is thought by Olivier not to have the same phonetic value in the two scripts, on the grounds that the 'correction' of AB 78 to AB 80 in some tablets (see above, discussion under the sign AB 80, and cf. also Godart 1976, p. 41) indicates not a formal but a phonetic equivalence between these signs: his main argument is that in the case of the tablet KH 61.2, the circle of AB 78 is corrected to a triangle (which is the dominant form of AB 80 in this area). On the other hand, Duhoux explains the same phenomenon not as a confusion between the phonetic values but as a mistake of meaning, because in this text from Chania, AB 80 functions as an ideogram (Duhoux 1989, p. 74). Which brings us to the fact that all the signs on the Akrotiri sherd function as ideograms –either as ideograms *per se* or as phonetic abbreviations, a phenomenon common to both Linear A and B scripts (cf. Palaima 1989, p. 43 and Duhoux 1989, p. 62, note 13).

4.3. UNDERSTANDING THE INSCRIPTION

According to Palaima (1988, pp. 325-326) the greatest number of texts in Linear A deal with agricultural commodities and products, persons and, to a lesser extent, livestock and vessels, leaving aside military equipment, spices, cloth and metals (normally recorded in Linear B tablets). But he does admit that AB 54 (cloth in Linear B) occurs ideographically on some occasions in Linear A (cf. also *GORILA* 5, p. 222) and that wool may also have been recorded, if the phonetic digram, (AB 80-AB 26), or its ligatured variation, were the prototype for Linear B *145 LANA (cf. also Ventris-Chadwick 1973, p. 314, Chadwick 1987, p. 30 or Duhoux 1989, p. 97). The reason why we have dealt in the previous chapter with the phonetic values possibly applied to the signs of the sherd, was that, though different languages would lead to differences in phonetic abbreviations, there is always the possibility that a word in Linear B has survived from its predecessor Linear A script.

If AB 80 had the phonetic value *MA* in Linear A, could it stand here as the abbreviated form of *MA-RU*? The obvious objection is that the two syllabograms are attested either as a sign-group—at least once (HT 117a. 3: *GORILA* 1, pp. 196-7)—or as a ligatured form (HT 12.4: *GORILA* 1, pp. 24-25). Could this be a simpler abbreviation, used for writing on such a temporary and limited surface? It is possible, but we should note that AB 80 as an isolated sign is recorded in another tablet, on which there are only sign-groups and no ideograms (HT 146.3); it is with good reason, therefore, that it is identified there as a monosyllabic word (see *GORILA* 5, p. 263). The ques-

tion thus arises whether the ideograms on this sherd are each a full description or an abbreviation of the items recorded. Turning to the examples already discussed for Linear A texts (see above § 4.1), we may note that: AB 80 in isolation occurs among sign-groups or ideograms and is recorded in either small or large quantities (from 2 to 30, so 40 here is within the limits); AB 50 in isolation occurs amongst ideograms (HT 34.7) and is recorded in a fraction of quantity, in striking contrast with other large numbers (e.g. 245) in the same tablet; AB 59 is again –like AB 80– used in a tablet amongst sign-groups only (ZA 10b.6), or in another tablet amongst ideograms (HT 94a), followed by the numbers 2 or 4 respectively; and AB 20 in its only appearance in Chania, is recorded in small numbers (for, even if other digits followed, there would be only one row of them, and the number would in any case be smaller than in the sherd from Akrotiri). Which also raises the question whether a rare occurrence of an ideogram is a matter of chance or whether it indicates a rare commodity. AB 04, when functioning as an ideogram (*GORILA* 5, p. 149), is followed by the large quantity 86; AB 22^m –the male goat ideogram– is thought to indicate transactions involving animals in roundels (Hallager 1987, p. 66) and AB 171 in its only other occurrence is assigned the number nineteen. It seems at least possible that AB 80 and AB 59 were simply monosyllabic words which, of course, would not change whether they were used amongst ideograms (there was no reason, since this one sign was in any case used to indicate a specific object or material), or in a sign-group, to form another word. And AB 59 may have something in common with the four ideograms on the tablet HT 94a, for the number four associated with it is added to the numbers associated with these ideograms (and these are that altogether give the total amount of 110, in diversion to the commodities of figs or olives? that are separately recorded). It is difficult to decide what this common element is, and equally difficult to decide what is the meaning of AB 59 introducing (in what sense?) the ideograms AB 180 with great numbers (in MA 4a).

Finally, is there an element common to the ideograms recorded together on this sherd? If they are commodities, are they recorded as produced, acquired, sent, or stored together, and should they belong to the same category? And they seem to be in rather large quantities, especially AB 50, if we compare its quantity of five here with the fraction quantity at Hagia Triada (which perhaps makes the reading twenty-five here even less probable: see above §. 4.1).

Among the items recorded in the texts from West Crete, 'les produits industriels et artisanaux' are included, along with agricultural products individuals and animals (Godart-Tzedakis 1992, pp. 157-175). Unfortunately, none of the ideograms of the sherd is amongst them, except AB 20 which occurs under the heading 'non identifiés' (*ibidem*, p. 175). There is also a

discussion on the meaning of AB 171 in Linear B (suggesting an aromatic herb: *ibidem*, p. 280 and 282). In this case, AB 80 might have the same ideographic use as in Linear B, which, it has been suggested, was possibly an abbreviation for *ma-ra-tu-wo* (that is $\mu\acute{\alpha}\rho\alpha\theta\omicron\nu$ = fennel: Ventris-Chadwick 1973, p. 559, Sacconi 1968, p. 520).

The Akrotiri sherd helps to suggest the idea that more Linear A signs functioned as ideograms, but leaves us with the problem of their interpretation. If we try to compare their function as ideograms in both scripts, and if the items indicated could be included amongst manufactured goods, an attractive hypothesis would be to take AB 80 as a shorthand abbreviation for *MA-RU*, sometimes used for wool in Linear B, though up to now this is thought to be an error (cf. Ventris-Chadwick 1973, p. 559, under MA). The others may then be regarded as acrophonic abbreviations of *te-pa*, *pu-ka-ta-ri-ja* and *zo-ta* (all these are types of cloth mentioned in Linear B, the last one possibly inherited with its name from Linear A, cf. Melena 1975, p. 109 and Ventris-Chadwick 1973, p. 486), with the even more attractive coincidence that seven units of wool are needed to make the heavy *te-pa* (Ventris-Chadwick 1973, p. 316). It is interesting to note that *TELA + ZO* is also rare in Linear B, as *ZO*, its acrophonic abbreviation (Melena 1975, p. 109), is in Linear A. Since it was usual for the texts to include these signs in the form of a ligature with the sign for cloth, it would perhaps not be so strange to write on the sherd only the specific signs indicating each type of cloth, if the writer was fully aware that he was in any case recording wool and woollen cloths. On this hypothesis, AB 80, AB 04, AB 50 and AB 20 all function in the same way. This leaves AB 59 with a possible connection with the ox-hides AB 180 of MA. 4 (see above), and a possible interpretation of *TA* = supervisors of work (see in Chadwick 1988, p. 71). The words used to describe special types of cloth are often borrowed from their place of origin (Ventris-Chadwick 1973, p. 486). So far, however, in Linear A only *KU* and *ZO* are found in ligature with cloth, and there is also the objection provided by the identification of *PU* (= *pu-ka-ta-ri-ja*) with a Greek word (Ventris-Chadwick 1973, p. 575). The above must therefore be considered strictly as thoughts made under the influence of the archaeological data indicating that weaving was a flourishing activity in the settlement of Akrotiri (cf. Tzachili 1990 and Michailidou 1990).

5. AKROTIRI AND LINEAR A

Potter's marks are found in Akrotiri, some of them revealing a relationship to signs used in the scripts (they will be published by the author of this article),

but these belong to a different sphere of human activity. With regard to real inscriptions (that is, those including more than one sign: cf. Olivier 1988, p. 266 and Godart 1980, p. 580; but for a different view, see Palaima 1989, p. 36 note 13), four examples from Akrotiri on clay vessels are cited in the *GORILA* corpus (vol. 4, pp. 101-105). The inscription on the present sherd should therefore be recorded as THE Zb 5. The first three were incised before the firing of the vessels, and therefore actually belong to them. Only THE Zb 4 was made after firing and it is possible that the flat surface of the lid of the pot was really a suitable surface on which to write the two (?) signs; the second sign, however, obviously follows the circle of the rim, so it may again be the case that the inscription was made for the vessel, perhaps to define it in some way. It is also interesting that THE Zb 4 was rather poorly scratched on an earlier (?) writing surface, since the clay fragment seems to be Middle Cycladic. Either, therefore, we have here a case of writing on a piece of waste from a much earlier period, or the inscription may belong to MC times (this would not be surprising, since MM dates have been assigned to inscriptions from Kea and Kythera (see Vandenabeele 1985, who dates the inscription THE Zb 4 to LMI A).

This brings us to the question: what has been the role of Cyclades in the adoption and dissemination of the linear scripts? (cf., e.g., Palaima's article on Linear A in the Cyclades, under the indicative title: «The Trade and Travel of a Script», 1982, pp. 15-22). For Thera, the practice of writing on the spot was already indicated by the example of THE Zb 2, on a local vessel inscribed before firing (cf. Duhoux 1989, p. 60). THE Zb 5 is now a further indication in this direction and last season fragments of tablets were found in one of the houses at Akrotiri, confirming this fact beyond any doubt. But what does this mean? Do the tablets found on Melos, Kea and now Thera offer proof of the local use of Linear A for bureaucratic purposes? I think that they do, in the sense that literacy goes along with the development of complex societies and its 'raison de naître' is decidedly economic (as Palaima emphasizes, 1988, p. 332). The fact that it is found in places with Minoan contacts does not necessarily imply Minoan control; as rightly noted (Palaima, *ibidem*, p. 333, note 91) the islanders could have used record-keeping for their own local purposes. Need we, then, raise the Minoan flag in every place that Linear A is found? If so, we would have to move as far afield as Samothrace (cf. Matsas, 1991). As Renfrew has pointed out (1977, p. 119), it is not easy to decide between: a) Cycladic independence with Minoan literacy, b) Minoan conquest and local autonomy, and c) Minoan conquest and direct rule, but finds like the above do show one thing: the extent of literacy.

What, then, does THE Zb 5 add to the subject? I think that it shows that writing was practised locally, and possibly on all sorts of materials that were ready to hand. It points to the possible role of trade, even in this direction

(because, though trade is not considered a direct motive for the development of a script, it implies economic activities that would require it: cf. Palaima 1988, p. 335). This piece of written history should therefore be examined within the framework of the society of the island. Furthermore, THE Zb 5 reinforces the view (by Palaima 1982, p. 18), that the mainland Greeks could have acquired their knowledge of writing through the Cycladic islands, though they may have not needed and therefore may have not adopted the script before LH II (Palaima 1988, p. 339).

6. THE 'OSTRAKON' AND ITS MEANING

Since it is not a fragment of a vessel bearing an inscription but an economic text written on a sherd, it should be called an 'Ostrakon', and it provides a new piece of evidence for writing practice within the local community in the settlement of Akrotiri.

So far, it is not a common find in the Aegean, the closest parallel known to me – mentioned also by Olivier (1992, p. 447) – being Enkomi Inv. 4025: this is again a real 'ostrakon' (as noted by Palaima 1989, p. 43) and the Cypro-Minoan inscription on it has a layout similar to that on the tablets (as observed by Dikaios 1967, p. 85). Apart from a difference in dating, we may think again about the links between CMI and Aegean scripts in the 'important respect of operating principles' (Palaima 1989, p. 43) especially so with Linear A (as Palaima 1989, p. 53); the guide line on the Enkomi sherd do not necessarily point to Linear B tablets (cf., e.g., the same phenomenon on the Linear A Milos tablet), and the Linear A script in the islands was found as far north as Samothrace and used as early as the MM II period. Such ostraka with accounting texts indicate not only a broader application of the script (as already attested by the fuller range of material for both the Linear A (Olivier 1989, p. 243) and CM systems (Palaima 1989, p. 49), but possibly also a wider distribution of the script among various social groups. Economic texts on sherds are certainly a stronger argument for the popularity of the script than religious texts, which might be thought to have been written by a literate elite for an illiterate public. As Marinatos once said, 'it is characteristic of the high level of civilization, that the Linear script A was in common use, even in remote districts and in private life' (Marinatos 1967, p. 204). Of course, if we choose to insist on the probability of professional scribes active on the island of Thera, then the 'ostrakon' might be explained as a 'draft' note, made on the spot by an official, but why should he use such a humble, small piece of material? Why not use a tablet for this act of accounting on spot, as did the writer of the tablet PH 11? (For an interesting view about how the writer of this tablet seems to have contributed to the invention of numerical signs, see Godart-Tzedakis 1992, pp. 118-119).

Even for Minoan Crete evidence exists that account-keeping was not limited to a single house or building (Hallager-Vlasakis 1986, p. 118), and the fact that the first tablet(s) on Thera was also found in a house, may perhaps indicate the existence of private archives. I see no reason for excluding the inhabitants of Akrotiri from the use of the script for all kinds of everyday need (Michailidou 1990, p. 419), when we have historical parallels like the Deir-el-Medina settlement, where at least some of the necropolis workmen were writing on limestone and pottery fragments, while living in the ranked society of the Egyptian Empire (Quirk-Spencer 1992, pp. 143-4). It is true that only one sherd from Akrotiri has produced an accounting text but have we searched enough? did they use other-perishable-materials? (see for instance Palaima 1989, p. 34 and cf. Aravantinos forthcoming and Aravantinos 1990, pl. XXIV). Of course, anyone, of whatever origin, could have written on a potsherd (cf., e.g., examples like the recorded CM signs incised after firing on a handle of a Canaanite pot-sherd, found in Tiryns: Olivier 1988, p. 255 and 266; or the Carian inscription on a fragment of a 6th-4th century Corinthian amphora in Egypt, in which it is also interesting to note once more how the direction of the letters ignore rilling lines: Masson 1967, p. 215). But, as already stated, the practice of writing Linear A on the spot is already attested. Furthermore, to the two instances of inscribing on clay after firing (THE Zb 4 and THE Zb 5), must be added a third: a rounded pot-sherd from the Akrotiri settlement (as an archaeological object it has a long prehistory of course: cf., e.g., the Neolithic sherds from Nea Makri in Attica, published by Pantelidou 1991), which also bears an incised sign (to be published by the author). If we also take to account Marinatos's suggestions about the possibility of slate writing tablets (*THERA* II, p. 47, *THERA* V, p. 22; see also Doumas 1970, pl. Ib), then, the variety of evidence in Akrotiri really argues for a wider use of the script in this settlement. In such a possible framework of a literate society, the 'ostrakon' with the accounting text should rather be included in the category of informal inscriptions, rather like the numerical notations on sherds from the Athenian Agora, centuries later (Lang 1976, pp. 1 and 21-23). It may be evidence for a simple act by an inhabitant of Akrotiri, very like the act of making a note on a temporary surface, known from the town of Aiiane in north-west Macedonia: there, a Greek inscription recording quantities of wool (!) was incised on a fragment of a 5th century ceramic tile (Karamitrou 1990, p. 82, fig.3).

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