

# A PITHOS FRAGMENT WITH A LINEAR A INSCRIPTION FROM AKROTIRI, THERA\*

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## THE EXCAVATION

Since systematic excavation started in 1967<sup>1</sup>, the prehistoric settlement at Akrotiri in Thera has held a central position in studies of the Aegean Bronze Age due to the outstanding state of preservation of the archaeological material. The burial of the LCI/LMIA settlement under thick layers of volcanic material (pumice and ash) have enabled the recovery of a sealed and well-dated archaeological deposit<sup>2</sup> with important information on architecture<sup>3</sup>, pottery<sup>4</sup>, wall paintings<sup>5</sup>, economy, trade and other aspects of life in the community<sup>6</sup>. The recent excavation, which took place

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The most common abbreviations used are the following:

Ergon: Έργον της εν Αθήναις Αρχαιολογικής Εταιρείας.

PAE : Πρακτικά της εν Αθήναις Αρχαιολογικής Εταιρείας.

Thera I-VII: S. Marinatos, *Excavations at Thera I-VII*, Athens 1968-1976.

GORILA I-V: L. Godart & J.-P. Olivier, *Recueil des inscriptions en linéaire A*, I-V (Études Crétoises 21), Paris 1975-1985.

CMS: *Corpus der minoischen und mykenischen Siegel*, Berlin 1964-.

CMCG: A. Sakellariou, *Les cachets minoens de la collection Giamalakis* (Études Crétoises 10), Paris 1958.

<sup>1</sup> On the excavation campaigns, see *Thera I-VII* and *PAE* (1975 onwards).

<sup>2</sup> For a review on the debate on absolute high and low chronology, see C.F. Macdonald, *Chronologies of the Thera eruption*, *AJA* 105 (2001), 527-32.

<sup>3</sup> K. Palyvou, *Ακρωτήρι Θήρας: Η οικοδομική τέχνη*, Athens 1999, A. Michailidou, *Ακρωτήρι Θήρας: Η μελέτη των ορόφων στα κτήρια του οικισμού*, Athens 2001.

<sup>4</sup> A.G. Papagiannopoulou, *The influence of Middle Minoan pottery on the Cyclades*, Göteborg 1991, P.I. Sotirakopoulou, *Ακρωτήρι Θήρας: Η Νεολιθική και η Πρώιμη Εποχή του Χαλκού επί τη βάση της κεραμικής*, Athens 1999, M.E. Marthari, *Ακρωτήρι Θήρας: Η κεραμική του στρώματος της ηφαιστειακής καταστροφής*, University of Athens 1993, unpubl. Ph.D. Thesis.

<sup>5</sup> C.G. Doumas, *The wall-paintings of Thera*, Athens 1992, Ch.A. Televantou, *Ακρωτήρι Θήρας: Οι τοιχογραφίες της Δυτικής Οικίας*, Athens 1994, S. Sherratt (ed.), *The wall-paintings of Thera. Proceedings of the First International Symposium*, Athens 2000.

<sup>6</sup> C.G. Doumas, *Thera. Pompeii of the ancient Aegean*, London 1983.

during the years 1999-2001<sup>7</sup>, aimed at the opening of the foundation trenches for the pillars of the new shelter over the site. In total, more than 120 trenches of average dimensions 3.00m. x 3.00m. have been excavated in an area of 1.1 ha (Fig. 1). In the majority of the cases, the excavation reached the bedrock and took the form of stratigraphical trenches of great depth<sup>8</sup>, thus allowing the archaeologists to enhance existing knowledge of the previous habitation levels of the site (Neolithic, Early Bronze and Middle Bronze Age periods).

During the excavation for the foundation of the new shelter, a fragment of a pithos with a Linear A inscription and multiple seal impressions came to light (excavation catalogue no: 8534). The fragment was discovered in spring 2000 in trench 64A, which was opened in the area immediately to the south of Xeste 2<sup>9</sup>. It was found in LCI destruction debris, almost immediately under the volcanic deposits, in a layer consisting of dark brown, hard soil mixed with stones and sherds. According to the excavation data, the pithos fragment was found outside the corner of an as yet unidentified building, to which the stones might have originally belonged. Another three joining sherds of the pithos rim were found during the sorting of the pottery from the same fill, but no other fragments were retrieved from the same vessel.

The fragment (Figs. 2a, 3a) (max. height 0.135m, max. width 0.356m, thickness of wall 0.017m, thickness of rim 0.045m) is part of the rim and the upper part of the body of a pithos, estimated to have been originally 1.00m-1.20m high. The mouth (internal rim) diameter is estimated to be ca. 0.37m. The fragment belongs to a pithos of ovoid type, with square-sectioned rim and three or four vertical handles of circular/oval section on the upper part of the body (the chipped attachment point of one handle is visible on the fragment), and possibly another three or four corresponding similar handles above the base. On the external surface of the fragment traces of the decoration are preserved, namely part of a horizontal relief rope pattern and black paint as part of a trickle pattern, both on the upper part of the body; traces of black paint are also found on the rim. It is certain that horizontal rope patterns or raised bands run around the original (now missing) body of the pithos and trickle patterns were applied on the upper part of the body and the handles. According to visual examination the fabric is local (yellow/light brown clay with inclusions, slip of the same colour). The morphological features of the particular pithos type suggest an influence by contemporary Minoan prototypes, rather than the local Middle Cycladic tradition<sup>10</sup>. Gas chromatography analysis for the detection of the contents did not provide any fruitful results<sup>11</sup>.

<sup>7</sup> *Ergon* 1999 (2000), 77-80; *Ergon* 2000 (2001), 88-95; *Ergon* 2001 (2002), 72-9; *PAE* 1999 (2002), 155-202.

<sup>8</sup> The surface of the bedrock (ignibrite) was revealed at varying depths, reaching a maximum of 15m. from the present surface (including the volcanic layers).

<sup>9</sup> The area was previously thought to have formed part of the interior of Xeste 2 (see excavation plan in *PAE* 1994). The cleaning which took place before the beginning of the recent excavations revealed the south wall of Xeste 2, which is actually in the area north of trench 64A (see Fig. 1).

<sup>10</sup> I. Nikolakopoulou, *Storage, storage facilities and island economy: the evidence from LCI Akrotiri, Thera*, University of Bristol 2002, unpubl. Ph.D. Thesis, 321-3.

<sup>11</sup> Carried out in the laboratory of the School of Chemistry, University of Bristol.

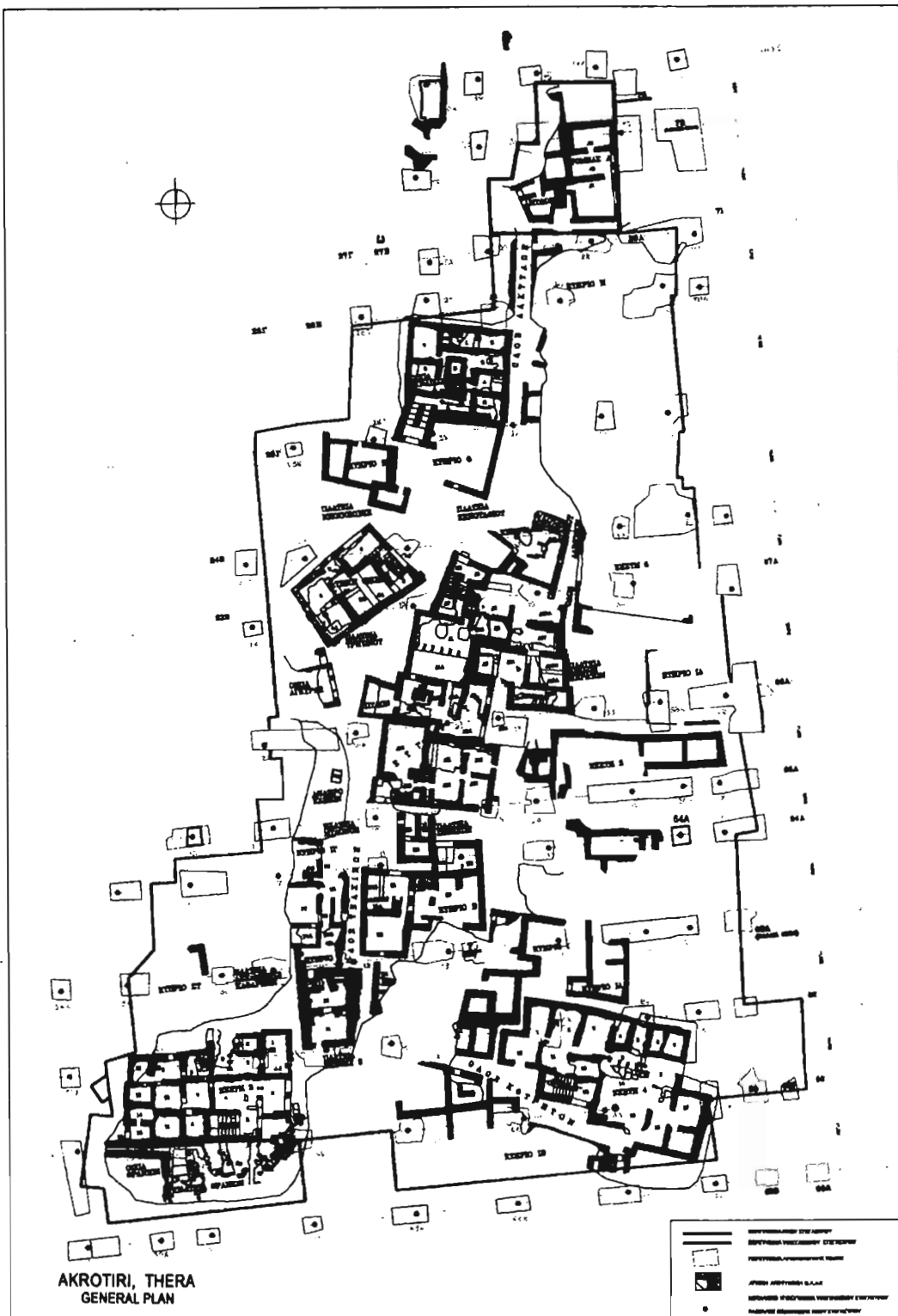


Fig. 1 – General plan of the site of Akrotiri, Thera.

## THE SEAL IMPRESSIONS

The inscribed pithos sherd presents a peculiarity, which renders it unique. Besides the incised inscription, the upper horizontal and the external vertical surfaces of the rim present us with a trait so far unknown – to the best of our knowledge – on inscribed vessels: a number of seal imprints (Figs. 2b, 3a-b). The imprints lack any systematic arrangement on these surfaces, and some of them are hardly visible to the naked eye in daylight, and they would certainly have been invisible in the dim light of an indoor space. These imprints (13 can be counted, 9 on the upper surface of the rim<sup>12</sup> and 4 on the external surface, which also hosts the inscription) are executed by the same convex and oval-face seal (0.011m. in length, 0.01m. in width).

The seal imprint bears the motif of an animal, namely a scorpion<sup>13</sup> (Fig. 3b). The animal can be seen in top view and its design is symmetrical: five bent legs stem from both sides of a central vertical line, which depicts the insect's body; pincers stem from the front part, again on both sides, whereas the back part the central vertical 'body' ends in a curled tail.

The Scorpion motif is present among Prepalatial Cretan seals<sup>14</sup>, and also among Protopalatial examples<sup>15</sup>. It was subsequently passed on to the Neopalatial 'talismanic' tradition<sup>16</sup>, as were many of the soft stone Protopalatial decorative motifs, and it is found among the Eastern Temple Repository sealings<sup>17</sup>, as well as the Zakros House A seal impressions<sup>18</sup>. The iconographic traits of the Theran impression are reminiscent neither of the Prepalatial scorpion representations (where the body is always oval-shaped), nor of the characteristic "talismanic" ones, where the body is made of adjoining semi-circles. However, it does seem to borrow an element found on scorpions on a few soft-stone (presumably late Prepalatial and Protopalatial) seals: the abstraction in the representation of the animal's body, which is indicated by a simple straight line<sup>19</sup>. Additionally, the fact that a real scorpion has four pairs of legs, instead of the five we have here, betrays the craftsman's intention to cover all available space on the seal face, rather than depict the animal in a realistic manner.

The convex form of the seal face that produced the impression may provide evidence for its date of manufacture. On the basis of this, the seal cannot be dated earlier than the late Middle Bronze Age<sup>20</sup>. The seals found so far in Akrotiri are not

<sup>12</sup> Some more impressions can be seen here and there on the upper surface, but they are too superficial to be counted.

<sup>13</sup> The Scorpion motif on Cretan seal faces (of either unknown exact provenance or dating): *CMS I Suppl.*, 150; II 2, 292; IV 11; IX 14, 18, 19; XII 15, 30; XIII 46; *CMCG* 174, 187.

<sup>14</sup> From the tombs at Marathokephalo and Platanos: *CMS II* 1, 223, 225, 248, 250, 307.

<sup>15</sup> From the Malia workshop: *CMS II* 2, 153, 182. From the Malia area: *CMS II* 2, 240.

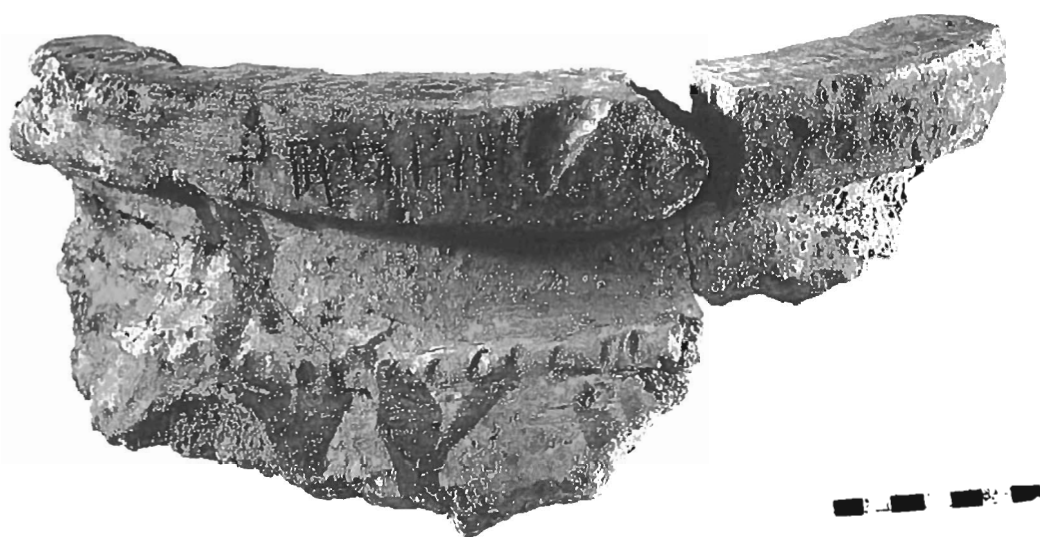
<sup>16</sup> A. Onassoglou, *Die >Talismanischen< Siegel*, *CMS Beiheft* 2, Berlin 1985, p. 82-85 (Das >Skorpion-< Motif). See also *CMS I Suppl.*, 85, 86; II 3, 308.

<sup>17</sup> Of MMIII-LMI dating: *CMS II* 8, 153.

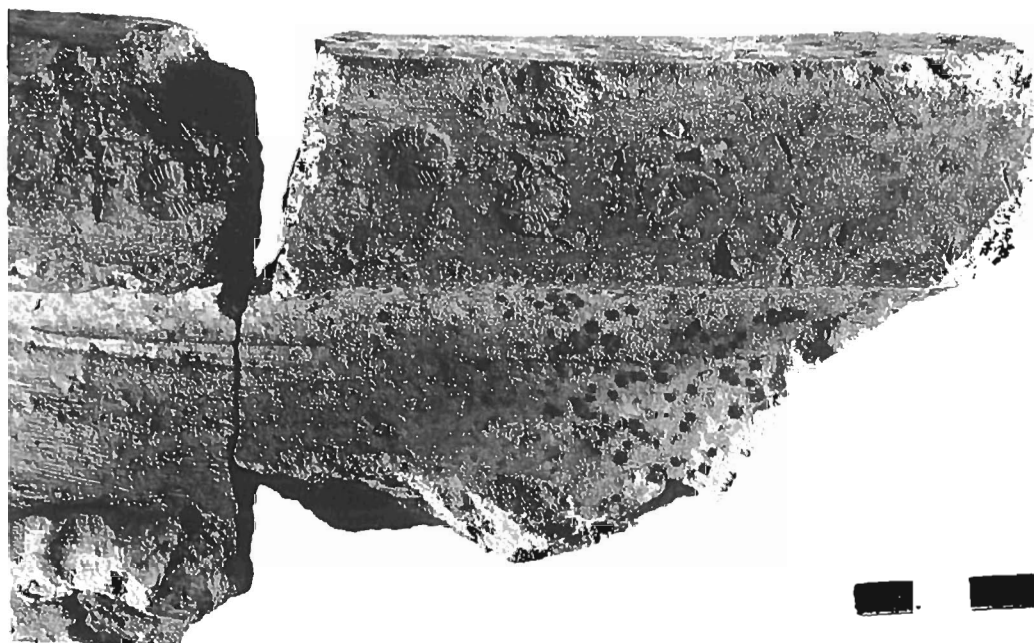
<sup>18</sup> A seal impression of a later date (LMIB) than the Akrotiri impression: *CMS II* 7, 108.

<sup>19</sup> *CMS II* 1, 307b (mentioned as "stilisierter Skorpion"); II 2, 240, 292.

<sup>20</sup> Ingo Pini, pers. comm.



a



b

Fig. 2 – a. Photograph of the pithos fragment; b. Photograph of the four seal impressions on the external vertical surface (Y. Sarakinis).

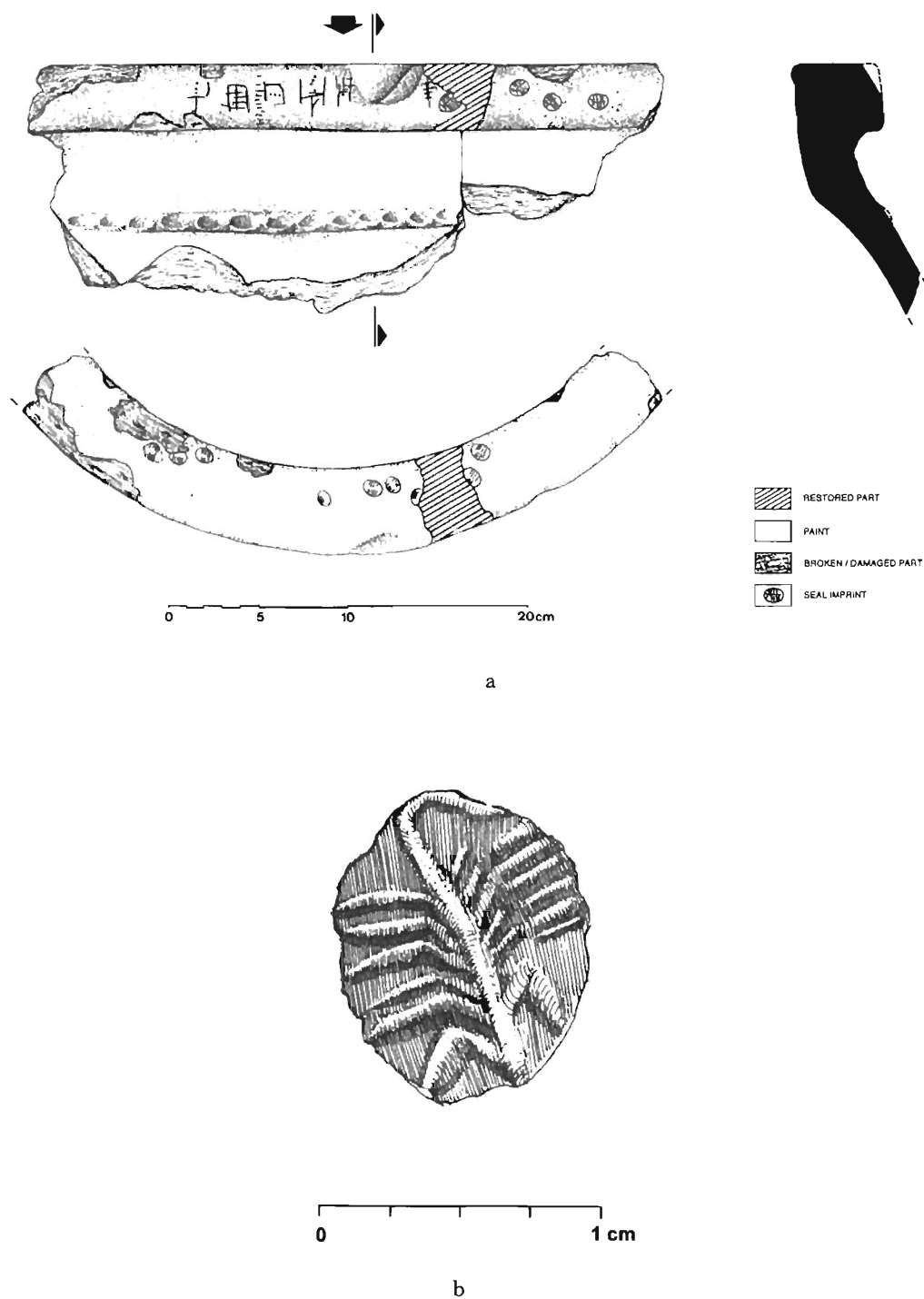


Fig. 3 – a. Drawing of the pithos fragment: face, section, upper horizontal rim surface (An. Kontonis);  
b. Drawing of the seal impression (An. Kontonis).

particularly helpful in terms of defining the style of the seal that produced the impressions<sup>21</sup>. In the older excavations six seals were retrieved, whereas five more came from the more recent excavations<sup>22</sup>. Except for CMS VS.1B, 361, which is made of local clay, and CMS VS.1B, 362, which seems to have been manufactured from local stone, the other seals seem to be Cretan imports.

#### THE INSCRIPTION

The inscription (Fig. 4) was incised on the external vertical side of the rim, which also presents a deep distortion of the clay, probably caused by someone's (the scribe's?) finger or palm pressed against its upper external edge. The clay was apparently pressed so hard that the line of the lower external edge of the rim, immediately below the distortion, also receded. The "accident" happened while the clay was still wet, but after the execution of the incision, because a sixth (at least) sign is discernible to the right of the distortion and seems to have been erased by it. The distortion itself takes up enough space to have allowed for another two signs, the remains of which can be seen inside it. The existence of more signs as part of the original inscription is troublesome, because if these were in fact erased after the inscription was executed and before the firing of the pot, then the inscription seems to have been modified almost from the beginning. We need to make note of the fact that "accidents" such as this are not at all common among the numerous locally produced Thera pithoi.

The total length of the inscription, including the erased signs, is 0,138m. There is sufficient empty space before the beginning of the inscription to prove beyond doubt that we see its beginning; on the other end, a seal impression is placed immediately after the last sign on the external vertical surface of the rim, so as to show to us its ending. The height of the signs is 0,012-0,025m. and their width varies from 0,011-0,015m.

The inscription was executed before firing, but also before the rim was painted: paint can be seen inside the deeper edges of the incisions, as well as their sides. Also, the seal impressions were executed before the application of the paint. The "accident", on the other hand, happened after the paint was applied, because at the deepest part of the distortion the yellowish clay is visible. The most probable order of actions was the following:

§ incision : seal impressions : paint : accident : firing.

The (dextroverse) inscription, which consists of six visible signs and a numerical entry, is transnumerated as follows:

'21' '588' 120 77-08-41-[[•-•-04]]

<sup>21</sup> The seal could be defined as akin to the so-called 'Jasper Lion Master', an early LM/LH seal group: J.H. Betts, *The Jasper Lion Master*, CMS Beiheft 1, Berlin 1981, 1-15.

<sup>22</sup> All six seals from the older excavations presumably come from the volcanic destruction layer: CMS V2, 690; VS.1B, 361-365. Also five more seals came from the recent excavations: PAE 1999 (2002), 165, pl. 98,d-e; CMS VS. 3, 386-390. Among the new finds, seals 386, 387 and 390 can be dated to a date earlier than the final destruction (EC III-MK, EC, and MC III respectively).

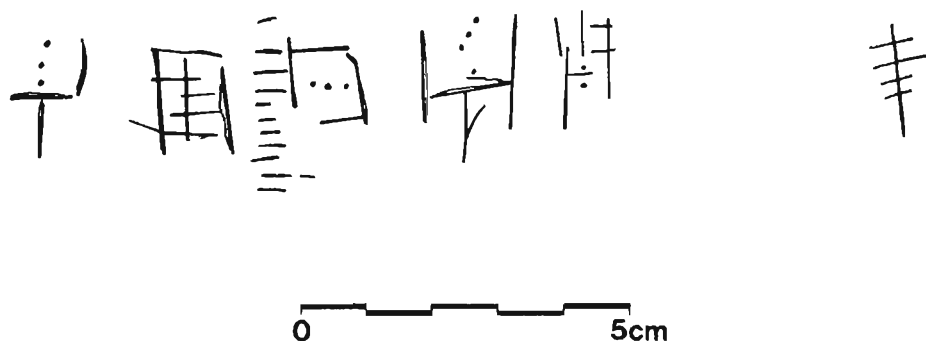


Fig. 4 – The Linear A inscription (An. Kontonis).

The first sign is identified (doubtful reading) with sign AB 21. It appears to be a sinistroverse example of AB 21, as elsewhere once attested on a Phaistos roundel<sup>23</sup>. In a dextroverse inscription, like the one we seem to have here, signs are usually written from left-to-right, whereas the sign in question would be sinistroverse. Admittedly, it is not often that Linear A signs are inversed on their horizontal axis<sup>24</sup>, but this can happen<sup>25</sup>. The suggested replacement of the vertical stroke by a row of dots is exceptional and unique as far as this particular sign is concerned, but it is a phenomenon encountered in other signs<sup>26</sup>, even in this particular inscription (see below).

The second sign is the ligature A 588 which is encountered also on a pithos body from Knossos<sup>27</sup>: AB 131<sup>28</sup> is ligatured with AB 04<sup>29</sup>. A numerical entry follows: “120”, which stands for 120 units of an unknown absolute value. The reading of the numerical entry is doubtful, because the strokes are almost superficial and difficult to discern.

<sup>23</sup> *GORILA II*: PH Wc 44, doubtful reading. Also in A. Michailidou, *Indications of literacy in Bronze Age Thera*, *Minos* 35-36 (2000-1), 7-30: a sign incised after firing on a pot sherd from Akrotiri (catalogue no. 3030) is reminiscent of a sinistroverse version of AB 21, as already noticed by Michailidou (fn. 32). J.-P. Olivier prefers to identify this sign as ‘AB 02+•’, which could remind us of A 639 (pers. comm.).

<sup>24</sup> A sinistroverse sign in a sinistroverse inscription, as seems to be the case sometimes with Linear A inscriptions, is perhaps easier to comprehend: see *GORILA IV*, PL Zf 1, where a sinistroverse AB 10 is attested.

<sup>25</sup> J. Driessen, *A fragmentary Linear A inscription from Petsophas, Palaikastro (PK Za 20)*, *Kadmos* 33 (1994), 149-52.

<sup>26</sup> It is the case with sign AB 06, for instance, mostly when carved on stone (libation tables).

<sup>27</sup> KN Zb 34. The ligature is not followed by any numerical entries.

<sup>28</sup> The only reason why the TELA+TE ligature is not chosen is that the sign in question has three bold external strokes (the two vertical and the upper horizontal), that make up for the basic structure of VIN, and not TELA. The fact that the TELA+TE ligature is not attested in the Linear A script corpus as such is not in itself a sufficient counter-argument (see E.D. Oren, J.-P. Olivier, Y. Goren, Ph.P. Betancourt, G.H. Myer & J. Yellin, *A Minoan graffito from Tel Haror (Negev, Israel)*, *Cretan Studies* 5 (1996), 91-118, esp. 101-5), nor is the query why would the TELA logogram be attested on a pithos rim (we know almost nothing about the purpose of pithoi inscriptions).

<sup>29</sup> In R. Palmer, *Wine in the Mycenaean palace economy* (Aegaeum 10), Liège-Austin 1994, 33, it is suggested that in Linear B « ...four pairs of strokes face opposite ways and form a chevron pattern... » in only one case, PY Wr 1359; she does not consider it to be a ligatured logogram. In Linear A, however, A 588, the ligature of 131+04, already exists (see n. 27).



In the fourth place there is a rectangle with three dots in a horizontal arrangement inside it, and is tentatively transcribed as AB 77<sup>30</sup>. Admittedly, this sign has an almost perfect rectangular form, whereas AB 77 is always attested elsewhere as a circle. The problem is that there are no signs in rectangular form with dots in them<sup>31</sup>, so we are forced to look among the signs with a rounded contour, because the sign shows a tendency for roundedness (upper right side). This way, between AB 77 and AB 78, the former is chosen, because one variant form of this sign attests to a single stroke inside the sign<sup>32</sup>. The representation of this stroke with a row of dots already seems to be the case with the first sign of this inscription, and it is the sole explanation for another row of three dots above the following sign, the “double axe”, AB 08<sup>33</sup>.

The sixth sign of the inscription is also not easily recognisable. It can be recognised tentatively as AB 41, the one most resembling the Akrotiri sign, in that it presents three antennas in its upper half; AB 41 in its turn is also (although rarely) attested with the two external antennas extending to the lower half, as is the case with our sign. A small dot in the middle of the lower half points to some sort of continuation of the medial stroke in the lower half of the sign<sup>34</sup>. Although it is a bit far reaching, there seems to exist no other correlate for this particular sign.

The seventh visible sign of the inscription, although half-erased, consists of a vertical stem and four horizontal strokes: sign AB 04 is attested again, this time independently.

The sign-group formed by signs 77-08-41-[[•-•-04]] is a new sign-group.

It seems possible that the inscription was completed either by different scribes or at different moments in time. This suspicion arises from the fact that not all the lines that compose the signs, and especially the numerical entry strokes, are of equal thickness and depth; additionally, the numerical entry seems to have been added after the rest of the inscription was incised, because it is forced to fit in a place meant for intermediate between signs. It is also possible to extend this observation to the first sign of the inscription (AB 21), which stands somewhat apart from the rest of the signs: it is outside the imaginary straight (albeit not horizontal!) line formed by all the other signs.

<sup>30</sup> J.-P. Olivier suggests the identification of the fourth sign with the numerical entry ‘100’, whereas the 3 dots in the interior are, in his opinion, meaningless; he extends the same observation to the dots above AB 08 (pers. comm.). In case one chooses to regard the fourth sign as a numerical entry, then the superficial horizontal strokes to its left is quantity added at a second stage of the incision, which would amount to a wine quantity of ‘220’.

<sup>31</sup> The other interpretation which one could opt for is sign AB 54, the TELA logogram, which is often depicted as a mere rectangle. The obstacles are that AB 54 is always a logogram (our sign is the initial in a word, therefore it has a phonetic value), and that there would be no explanation for the presence of the three dots inside the rectangle.

<sup>32</sup> *GORILA II*: HT Wc 3005, MA Wc <5>. We would venture to suggest that in this case there is a strong resemblance with the first sign of the graffito THE Zg 5, which is transcribed as AB 80 (doubtful reading) in A. Michailidou, “Ostrakon” with Linear A script from Akrotiri (Thera). A non-bureaucratic activity?, *Minos* 27-28 (1992-1993), 7-24.

<sup>33</sup> This is the only sign attested on other Theraan inscriptions: THE Zb 2, THE Zb 3, THE Zb 4.

<sup>34</sup> See a similar interpretation for PE Zc 4, in M. Tsipopoulou & E. Hallager, *Inscriptions with Hieroglyphs and Linear A from Petras, Siteia, SMEA* 37 (1996), 7-46.

The same can be (and has been) suggested for a number of other pithos inscriptions, where the least one can observe is the use of a different stylus (HT Zb 158a and HT Zb 158b: two inscriptions on the same pithos; PE Zb 3: a sign seems to have been added in the end of a word, and also a logogram along with a second sign<sup>35</sup>). In our case, and taking into account the “accident” as well, a second intervention appears more than possible.

## DISCUSSION

This new Linear A inscription can be added to the restricted list of Linear A documents from Thera and the site of Akrotiri. So far, one pottery inscription has been recovered in Potamos, a site partially excavated by a German expedition in 1899<sup>36</sup>, situated to the East of Akrotiri; from the site of Akrotiri come four more pottery inscriptions (of which one on a Cretan pithos<sup>37</sup>), a sixth inscription incised on a sherd after firing<sup>38</sup>, and a number of locally produced tablets<sup>39</sup>. All this is the evidence that points to the use of Linear A in Akrotiri in a way reminiscent of what is known from the last phases of the Cretan Neopalatial period.

The originally Cretan practice of incising inscriptions on pots in general (and on pithoi in particular) is one of the activities carried out either by proper Linear A scribes, or, at the most, by literate persons within the framework of certain administrative practices involving the use of the script. The use of the external vertical side of the rim of a pithos for the incision of an inscription is attested in three other instances<sup>40</sup>. Admittedly, the most preferred spot on pithoi for Linear A inscriptions is the shoulder or some unspecified body part (the upper half)<sup>41</sup>, although the neck immediately below the rim is also an option<sup>42</sup>. The least favoured spot is the upper rim surface<sup>43</sup>. The advantage offered by the external rim surface is that the inscription is visible, even if a lid is covering the mouth. It seems that the primary interest

<sup>35</sup> Tsipopoulou & Hallager, n. 34, 36.

<sup>36</sup> F. Hiller von Gärtringen (ed.), *Thera: Untersuchungen, Vermessungen und Ausgrabungen in den Jahren 1895-1902*, Berlin 1904, 37-47. The fragment is reproduced for the first time in A.J. Evans, *The palace of Minos at Knossos I. The Neolithic and Early and Middle Minoan Ages*, London 1921, 561, 637-8, n. 2.

<sup>37</sup> *PAE* 1992, 178; *PAE* 1993, 185; *Ergon* 1993, 90, fig. 89. The inscription consists of 4 syllabograms incised on the shoulder of the pithos, cf. Chr. Boulotis, *Les nouveaux documents en linéaire A d'Akrotiri (Théra): remarques préliminaires*, *BCH* 122 (1998), 407-11, esp. 407.

<sup>38</sup> Michailidou, n. 32. In the ‘graffito’. i.e. sherds incised after firing, category fall two sherds with signs resembling Linear A signs: inv.no. 1940 and 3030; they cannot be termed ‘inscriptions’ in the strict sense (the minimum of two consequent signs), but their (unspecified) affiliation with the Linear A signary is undeniable (Michailidou 2000-2001, above n. 23).

<sup>39</sup> Boulotis, n. 37.

<sup>40</sup> *GORILA* IV: KN Zb 20; KN Zb 35; PH Zb 5.

<sup>41</sup> *GORILA* IV: HT Zb 158; HT Zb 159; HT Zb 160; KN Zb 4; KN Zb 34; KN Zb 40; LA Zb 1; PH Zb 4; ZA Zb 3; ZA Zb 34. The same is valid for the Cretan pithos inscription from Akrotiri (Boulotis, above n. 37), and PSI 1 in Ch. R. Floyd, *Fragments from two pithoi with Linear A inscriptions from Pseira, Kadmos* 34 (1995), 39-48.

<sup>42</sup> *GORILA* IV: SK Zb 1, TY Zb 4. Also Floyd, n. 41: PSI 2.

<sup>43</sup> *GORILA* IV: THE Zb 1. Also Tsipopoulou & Hallager, n. 34: PE Zb 3.

of the scribe was the immediate visibility of the inscription when the pot was standing, and was therefore, in some way, in use. On the other hand, these spots are the most convenient for a person standing to write on a pithos (neither the base nor the lower half of any such vessel is ever inscribed).

The fact that no parallel is attested for the presence of seal imprints on pots with inscriptions leaves us in the dark as to their purpose, if any. Parallels are known for the use of stamp and cylinder seals on pithoi (bodies, necks, rims), and hearth rims, but they are interpreted as having a decorative purpose. Also, they are usually of a much earlier date, but they represent nonetheless a practice widespread in Crete (Myrtos-Pyrgos<sup>44</sup>, Malia<sup>45</sup>, Palaikastro<sup>46</sup>), the Cyclades<sup>47</sup>, as well as the Mainland<sup>48</sup>. As far as LBA is concerned, the only known parallels come from Cyprus, where they are interpreted either as having a decorative purpose<sup>49</sup>, or as markers of sociopolitical complexity<sup>50</sup>. Palaima's affirmation, however, that «sphragistic and written administrative techniques in Minoan palatial society and economy exist in a healthy symbiosis from the start»<sup>51</sup>, seems to be hinted at here. It is difficult to consider these seal impressions, as random as they are deemed, as completely irrelevant on a pithos with a Linear A inscription. No other pithos or pithos rim sherd among the numerous finds from the site is ever known to have borne seal impressions: the coincidence seems too suggestive to simply discard. Admittedly, no impressions of the seal from which these particular impressions were produced have been found on any object from Akrotiri (nor the seal itself), and the only sealings to be found in the site are of Cretan origin<sup>52</sup>. Thus we have no other evidence of actual seal use in the site of Akrotiri, apart from this stamped pithos rim. We do have evidence, however, of the presence of (Linear A) literate persons, as evidenced by the locally made Linear A tablets, the locally produced

<sup>44</sup> CMS II 6, 223-231 (EM III-MMIA until MMIII-LMI).

<sup>45</sup> CMS II 6, from Malia (MMII, in the handle of an amphora).

<sup>46</sup> CMS II 6 246 (LMI), 249 (MMII-LMI).

<sup>47</sup> EC II: from Skarkos, M. Marthari, Από τον Σκάρκο στην Πολιόχνη: παρατηρήσεις για την κοινωνική οικονομική ανάπτυξη των οικισμών της Πρώιμης Εποχής Χαλκού στις Κυκλάδες και τα νησιά του Βορειοανατολικού Αιγαίου, in C.G. Doulas & V. La Rosa (eds.), *Poliochni e l'antica Età del Bronzo nell'Egeo settentrionale, Convegno Internazionale, Atene, 22-25 Aprile 1996*, Athens 1997, 362-82.

<sup>48</sup> EH II: see D.J. Pullen, A lead seal from Tsoungiza, ancient Nemea, and Early Bronze Age Aegean sealing systems, *AJA* 98 (1994), 35-52, with plentiful bibliography.

<sup>49</sup> J.L. Benson, Aegean and Near Eastern seal impressions from Cyprus, in S.S. Weinberg (ed.), *The Aegean and the Near East, Studies presented to Hetty Goldman on the occasion of her seventy-fifth birthday*, New York 1956, 59-79, pls. VII-VIII, where the author considers stamped decoration on a pithos rim as an attempt to imitate relief decoration on metallic vessels. More recently: D. Pilides, *Pithoi of the Late Bronze Age in Cyprus. Types from the major sites of the period*, Nicosia 2000, esp. 107-9.

<sup>50</sup> J. Webb & D. Frankel, Making an impression: storage and surplus finance in Late Bronze Age Cyprus, *JMA* 7: 1 (1994), 5-26.

<sup>51</sup> T.G. Palaima, Seal-users and script-users/nodes and tablets at LMIB Hagia Triada, in P. Ferioli, E. Fiandra, G.G. Fissore & M. Frangipane (eds.), *Archives before writing. Proceedings of the international colloquium, Oriolo Romano, October 23-25, 1991*, Rome 1994, 307-37.

<sup>52</sup> A number of flat-based nodules of Cretan origin found in Room 18b of the Building Complex Delta in Akrotiri. See C. Doulas, Seal impressions from Akrotiri, Thera: a preliminary report, *CMS Beiheft* 6, Berlin 2000, 57-65. For information on the context, N. Polychronakou-Sgouritsa, Αποθήκευση και φύλαξη των αγαθών στον ΥΚΙ οικισμό του Ακρωτηρίου Θήρας, *Αρχαιολογική Εφημερίς* 139 (2000), 65-94.

inscribed pots and the graffito. We cannot, therefore, at present confirm that we are dealing with an administrative system in Akrotiri that also involved the use of seals, as in LMI administrative practice known in Crete<sup>53</sup>.

Special mention should be made of the fact that the pithos inscription is about wine. The ligatured wine logogram offers the evidence that wine was produced locally and came under Theran administrative control. The case for wine production at prehistoric Akrotiri is uncontested, both from macrofossil and contextual evidence. Apart from grape seeds that have been identified<sup>54</sup>, a locally made clay wine press, similar to the Cretan examples, has been found during the recent excavations<sup>55</sup>; additionally, the grape appears as a decorative motif on local pottery<sup>56</sup>. Also, beeswax identified by organic lipid analysis of local pithos sherds<sup>57</sup> could be considered as indirect evidence: it could have been applied in a liquid form to cover the internal surface of specially designed pithoi for wine storage, so as to prevent alcohol evaporation. The fact that a wine variety such as the one represented by A 588 is found in a Knossos pot and the Theran fragment, and at the same time that wine is measured in the same metrical system in both Crete and Thera, constitutes evidence for common practices at least in wine storage and management (we cannot know if the 'WINE+TE' variety refers to a wine quality or to a certain stage in the production-storage sequence). A link such as the one between Akrotiri and Knossos, with both sharing the same ligatured logogram, has also been suggested for Kea and Zakros<sup>58</sup>. Both these Cycladic sites thus show clear evidence of exchange of technological knowledge with Crete, such as the knowledge required for the production of wine.

As far as the quantity of wine mentioned, it is apparently not related to the potential capacity of this particular pithos: this observation is confirmed by KN Zb 27, which is a large closed vessel and bears the numerical entry '117'<sup>59</sup>, as well as an inscription on a pithos from Zakros (ZA Zb 3), which is of considerably larger size than the Knossos example and bears a numerical entry of only '32'. It seems clear that something other than the storage capacity of the vessel is being referred to in these entries<sup>60</sup>. Numerical entries on pottery inscriptions are not at

<sup>53</sup> For further discussion, see A. Karnava, Written and stamped records in the Late Bronze Age Cyclades: the sea journeys of an administration, in N.J. Brodie, J. Doole, G. Gavalas & C. Renfrew (eds.) *Οπίζων: A Colloquium on the Prehistory of the Cyclades*, Cambridge, Department of Archaeology, 25-28 March 2004, forthcoming.

<sup>54</sup> A. Sarpaki, A palaeobotanical study of the West House, Akrotiri, Thera, *BSA* 87 (1992), 219-30.

<sup>55</sup> *PAE* 1999 (2002), 171, pl. 104b, 106a+b, 107a.

<sup>56</sup> Marthari, n. 4, 297-300.

<sup>57</sup> Carried out in collaboration with Prof. Richard Evershed, School of Chemistry, University of Bristol (to appear in a forthcoming publication).

<sup>58</sup> T.G. Palaima, Linear A in the Cyclades: the trade and travel of a script, *TUAS* 7 (1982), 17. Also Palmer, n. 29, 22.

<sup>59</sup> Originally published in *GORILA IV* as a doubtful '17', but subsequently corrected to '117': J.-P. Olivier, Rapport sur les textes en écriture hiéroglyphique crétoise, en linéaire A et en linéaire B, in J.-P. Olivier (ed.), *Mykenaiika. Actes du IXe Colloque international sur les textes mycéniens et égéens organisé par le Centre de l'Antiquité Grecque et Romaine de la Fondation Hellénique des Recherches Scientifiques et l'École Française d'Athènes, Athènes, 2-6 octobre 1990 (BCH-Supplementum 25)*, Paris 1992, 443-56.

<sup>60</sup> For this reasoning, see Palmer, n. 29, 37.

all frequent. The Zakros inscription (ZA Zb 3) and the Knossian example (KN Zb 27) mentioned earlier both register wine; a third vessel, another pithos (KN Zb 35) is the only other known example of a numerical registration in a pottery inscription. This last pithos registers two different agricultural products: a quantity of '100' for A 302<sup>61</sup>, and a quantity of '2' for AB 30 (figs): the two different products registered are perhaps indicative of the fact that the registration, although permanent, concerns something wider than the pot, a total of some sort.

#### CONCLUSION

The new Theran Linear A inscription provides us with some interesting new insights into the use of this Cretan script outside the area of its invention. It might testify to a broadly similar way of handling commodities, especially wine, in Crete and Thera. The wine ligature, attested in both Knossos and Akrotiri, no matter whether it refers to a wine quality or a stage in the production-storage sequence, attests to a practice common to both places. The seal impressions, on the other hand, nonsensical on a pithos rim, do hint at the holding of a seal by the person inscribing the vessel. Even though the meaning of these practices is not entirely clear, within the latest activities at Akrotiri they offer more new evidence towards clarifying the picture.

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<sup>61</sup> Suggested to be the 'olive oil' logogram in Palaima, n. 51.