CHAPTER 1: THE SEALS

In modern parlance a 'seal' is sometimes taken to be an item bearing the impression of a device that authenticates the document or container to which it is attached.[15] In the present study, however, this is how a 'sealing' is defined, which in our case is made of clay.[16] Here the term 'seal' is used for the actual device which made an impression, or was capable of doing so. This qualification is needed since not all 'seals' *necessarily* served a sphragistic purpose, i. e. to impress sealings. Conceivably, some were used as ornaments or jewellery, although assigning these functions to 'seals' also requires some sort of demonstrable basis. Hence the terms 'gems' or 'gemstones', sometimes applied to ancient seals,[17] are eschewed entirely in the present study.

The objects examined under the rubric The Seals amount to 16 pieces. The definition under which they were included here is that of small objects with engraved motifs in intaglio.[18] Most but not all of them fulfil the criterion of a suspension hole; **S7** does not have a perforation, **S13** probably had one, but its upper part, where this would have been, is broken away.

The seals found during more than 40 years of excavations at Akrotiri are not numerous, at least not by Akrotiri standards (*Table 1*). They do, however, represent more than one period in the life of the settlement, starting with the earlier habitation phase as reflected in the recent finds of the underground rock-cut chambers.[19] Seal **S3** was found in one of these chambers and belonged to a layer that is dated to the MC A period, which roughly corresponds to the Cretan MM I period.[20] Two seals represent Cretan Protopalatial seal production, and although **S5** was found in the latest pre-eruption levels, **S15** seems to have been discarded at the end of the MM III period. Most seals, however, namely **S1**, **S2**, **S4**, **S6**, **S9**, **S11**, **S12**, **S14** and **S16**, can be paralleled without any hesitation by Cretan Neopalatial products, and it is in chronologically appropriate horizons that they were found. Only **S4** comes from an earlier phase stratigraphically, both with regard to Akrotiri as well as the Cretan Neopalatial period, and allows us to identify it as a product of the Cretan MM III period. Finally, **S7**, **S8**, **S10** and **S13**, all found in the latest pre-eruption levels, can be seen as local products. Since no parallels for these can be found, we are entirely reliant on their context dating, and thus have no idea as to whether they were much older or roughly contemporary with their findspots.

A general observation is, therefore, that the overwhelming majority of seals found at Akrotiri can be regarded with certainty to have been imported from Crete. Imported objects are far from unusual in the MC and especially the LC periods at Akrotiri, and the same applies to local imitations. Local seal production does not, however, point to any

15 Collon 1987, 5, note.

16 The words 'nodule' and 'sealing' are used indiscriminately in the present study, because Minoan sealings were small lumps (i. e. nodules) of clay.

17 Boardman 1997, 74.

18 Krzyszkowska (2005a, 2) defines a seal as an object which produces a motif in relief when its engraved surface is pressed against a soft, malleable material.

19 Doumas 2008; Sotirakopoulou 2008.

20 *Praktika* 1993, 17; Nikolakopoulou *et al.* 2008, 313–17.

	Excavation Cat. No.	Publication	Findspot	Motif (as seen on the seal)	Shape/Material	Dimensions (in cm)
S1	L3136	V Suppl. 3 no. 389	Complex Alpha (A), Western Quarters Room 3 (NPP 74)	'talismanic' speared goat standing in right profile and undefinable linear motifs	lentoid: jasper, red-orange	Ø 1.33–1.41 Th. 0.74
S2	A9022	V Suppl. 3 no. 388	Complex Alpha (A), Western Quarters Room 3 (NPP 74)	pair of 'talismanic' (?) fish, *tête-bêche*	lentoid: soft stone, orange-brown	Ø 1.29–1.38 Th. 0.55
S3	L3139	V Suppl. 3 no. 386	NPP 26NE	cross-hatching	pendant vertical plate: steatite, black	L. 1.43–1.54 W. 0.77–1.09 H. 2.73–2.95
S4	L3134	V Suppl. 3 no. 390	NPP 67	'talismanic' (?) fish, borings, circle, centred-circles ornament, lines	amygdaloid: smoky quartz, semi-transparent	L. 2.1 W. 1.46 Th. 0.75
S5	A4212	V Suppl. 1B no. 363; Tzachili 2007a, 281–82, no. 2	West House, Room 5	centred-circles ornament, hatching + cross-hatching	discoid, two-sided: steatite, brownish yellow	Ø 1.3–1.4 Th. 0.65
S6	A3009	Televantou 1984, 16–17; Tzachili 2007a, 274 no. 1	Triangle Square	quadruped in left profile	lentoid: jasper (?), reddish-brown	Ø 1.47–1.54 Th. 0.32–0.42
S7	A3305	V Suppl. 1B no. 362; Tzachili 2007a, 281–82, no. 1	Triangle Square	unintelligible design comprising wavy and straight lines and a dot	disc (no suspension hole): tuff whitish-green	Ø 1.95 Th. 0.45
S8	L1836	unpublished	Cenotaph Square, area of PP 17	two oblique parallel lines	pendant vertical plate, concave-convex: tuff (?), whitish with a green hue	L. 1.65 W. 0.5 H. 1.6

Table 1. The seals found at Akrotiri.

	Excavation Cat. No.	Publication	Findspot	Motif (as seen on the seal)	Shape/Material	Dimensions (in cm)
S9	A0920	V Suppl. 1B no. 365	Delta-North, Room 4–5, staircase	centred-circles ornament and lines	disc-shaped lentoid: serpentine, dark green-black	Ø 1.35 Th. 0.45
S10	L1835	Papadimitriou-Grammenou 2008, 146, fig. 15	Delta-West, Room D1a	borings and lines	pendant vertical plate: volcanic stone, black	L. 2.3–2.45, W. 0.65–1.15 H. 2.7
S11	A3752	V Suppl. 1B no. 364	Delta-West, Room D9.1	'talismanic' spray motif with centred-circles	lentoid: serpentine, dark green-grey	Ø 1.65–1.75 Th. 0.65
S12	A2838	V no. 690	Delta-South, Room D16	sphinx in right profile and dolphin under its belly	lentoid: jasper, brown-red	Ø 1.4 Th. 0.55
S13	A3588	V Suppl. 1B no. 361	Square of the Benches	a line divides the face longitudinally and from either side of it emanate three short lines	stamp seal: clay, yellowish	L. 3.6 W. 2.7 H. pres. 4.5
S14	A6383	*Ergon* 1990, 113; *Praktika* 1990, 234, pl. 146a	Xeste 3, Rooms 13–14	human (male) figure (?) walking in left profile, line	two-sided (?) disc: steatite, black	Ø 1.56–1.73 Th. 0.26–0.39
S15	A8385	V Suppl. 3 no. 387	Building Iota Beta (IB), NPP 44A	'star of David'	*Petschaft*: calcareous material, whitish	Ø 1.25 H. 1.15
S16	–	Fouqué 1879, 112	unexcavated building to the E of the House of the Ladies	'talismanic' and/or 'tectonic' ornament with a centred-circle	lentoid, discoid or disc: 'serpentine'	Ø estim. 1.3

Table 1. The seals found at Akrotiri (continued).

discernible emulation of Cretan trends and techniques and stands apart from Minoan seal production; consequently, as will be shown further below, these presumed local products are difficult to categorize and appreciate.[21]

THE CONTEXTS: SIXTEEN SEALS, FOURTEEN FINDSPOTS

In the following pages the evidence regarding the circumstances in which the Akrotiri seals were retrieved is set out in an effort to discern patterns of deposition. The investigation starts arbitrarily from the N part of the settlement and proceeds to the S,[22] regardless of the chronological correlations of the items in question; these are discussed at the end. The reader will notice an uneven amount of information concerning more recent as opposed to older excavation data: changes in excavation techniques, mentality and goals, and, consequently, recording methods, are only commendable in an excavation that has been on-going for more than 40 years. The length of commentary following the description of each seal context is equally uneven. Certain contexts, such as Rooms D9.1 and D16, have been extensively discussed in the past, and hence more literature had to be assimilated. Other contexts have never been presented to the public before, so their presentation is limited to the reporting and evaluating of excavation data.

Since a number of the contexts from which seals and impressed items were retrieved are unpublished or pending publication, the suggested use(s) for the seals will require substantiation in the future, based on thorough presentation of the contexts in question. Again, and at the risk of being repetitive, it needs to be stressed that the picture provided by the latest pre-eruption phase at Akrotiri can be deceptive in that the last earthquake and the need for building repairs caused much moving of house equipment either between rooms of the same building or even towards the exterior of buildings. Thus, secondary contexts can be mistaken for primary ones, so the characterization of any context as *in situ* has to be demonstrated. In such cases, only the final publication will give definitive answers. On the other hand, seals found in layers older than the latest pre-eruption phase usually come from contexts for which we have partial knowledge, since an earlier context was rarely investigated in what could be its totality.

Seals S1, S2: Complex Alpha (A), Western Quarters, Room 3 (NPP 74)

Sector Alpha (A) was one of the first buildings uncovered at the site of Akrotiri,[23] and is situated in the northern section of the overall excavated area. To the W of Alpha the excavator Marinatos detected and partly investigated what appeared to be a separate, yet contiguous sector, the Western Quarters.[24] He immediately noticed the presence of a double wall separating and, at the same time, joining the two building units. In light of the evidence

21 Karnava 2016a.

22 The possible context of seal **S16** is considered after all other contexts are discussed; it is the only seal for which only an approximate findspot is known.

23 *Thera* I, 16–34; II, 15–30; III, 8–11; Michailidou 2001, 268–81. It was initially also known as the 'Pithoi Storeroom'.

24 *Thera* II, 30–31; III, 11–15.

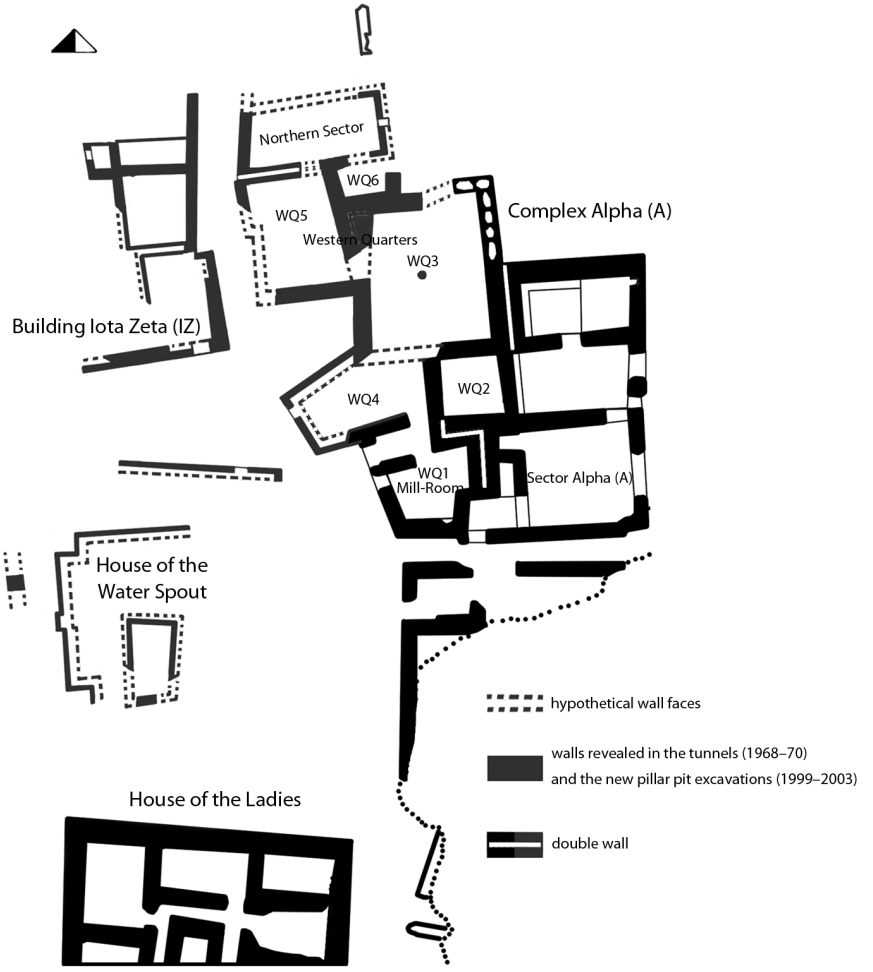

Fig. 1. The NW neighbourhood of the archaeological site, where WQ3 is situated (adapted from A. Karnava, in Doumas 2007c, 37, fig. e).

unearthed during the excavations for the new shelter, Sector Alpha (A) can be safely designated as 'Complex Alpha (A)' (much like Complex Delta [Δ], which is composed of four distinct building units),[25] since besides the 'Pithoi Storeroom' and the Western Quarters, a third building unit has been detected and partly excavated further to the N (dubbed the 'Northern Sector', *Fig. 1*).[26]

Since the initial investigations, it has become evident that the Western Quarters, as described by Marinatos, was a two-storey building unit.[27] The so-called Mill-Room (Room

25 See further below, Complex Delta (Δ), pp. 25–38.

26 Moschou – Karnava forthcoming.

27 Research has shown that extensive destructions, probably caused by a strong earthquake, resulted in masses of stones and debris falling onto the streets of the settlement, turning ground floors to basements and semi-basements (Marthari 1984; this assumption is further corroborated by the NPP trenches all over the settlement, see primarily *Praktika* 1999). A storey considered as 'ground floor' refers, therefore,

Fig. 2. Plan of NPP 74, opened in the interior of WQ3, with the exact locations of seals **S1** and **S2** found on the ground floor (Akrotiri Excavations Archives, after drawing by M. Hamawi).

1) and its antechamber, which served as the entrance to the unit, were rooms on the ground level, whereas Room 2 and Room 3 were first-floor rooms. Room 2 was also partly explored in its ground level, and the same happened with Room 3 during the opening of a PP for the old shelter in 1969. What is of interest here is Room 3, where NPP 74 was dug to the bedrock for a pillar for the new shelter (*Fig. 2*).[28] It was during the investigation of this pit in 2001 that seals **S1** and **S2** were found.

Based on combined observations from old and new excavations, on the first floor Room 3 appears to be a large room of c. 40 m², with a central column and a *polyparathyron* (pier-and-window partition) in parts (?) of its E and N walls.[29] On the ground level, it is impossible to speak of room dimensions, since not all the walls of the room were detected. A

to the building as an independent structure and not to the building embedded in the post-seismic reality of the settlement.

28 *Praktika* 1999, 156, fig. 1, where the position of NPP 74 is indicated on the plan of the site.

29 Palyvou 1999, 386–87, pl. 210d; 2005, 90, 144–45.

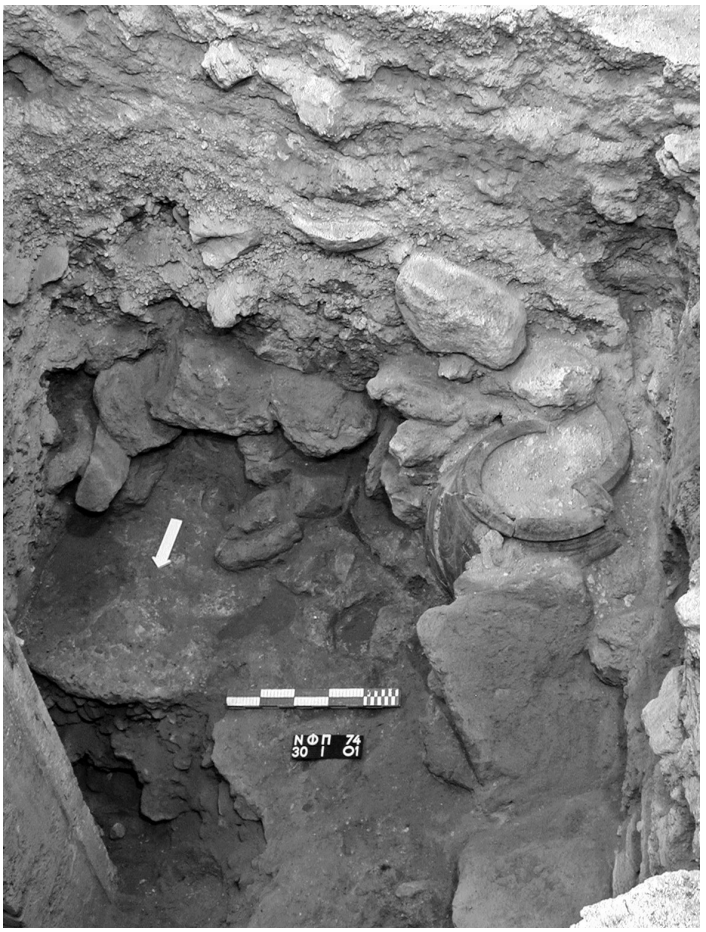

Fig. 3. Ground storey of WQ3 during excavation, with a pithos at the SW corner of the room; the arrow pointing to the N is placed on top of the area where seal **S1** was found (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

quadrangular stone was found in a spot directly corresponding to the circular column base on the upper floor;[30] the quadrangular stone could have served as a column base, if it turns out to be in the centre of the room when investigation in this particular room resumes. It is noteworthy that in the circulation pattern of the ground floor, Room 3 is situated relatively far from the unit entrance.

The excavation of the NPP revealed parts of the floors of both levels; the first-storey floor was preserved in excellent condition in the central, SW and S part of the room, but in places it had collapsed. The volcanic material had infiltrated towards the ground level through the collapsed part and filled the room, offering at the same time support to the rest of the first-storey floor. Contents of the first-floor room were found at the ground level, in a layer distinct from what were apparently the original contents of the ground level. The contents of the ground level comprised a pithos (*Fig. 3*), together with thirty-eight other

30 Moschou – Karnava forthcoming, fig. 19.

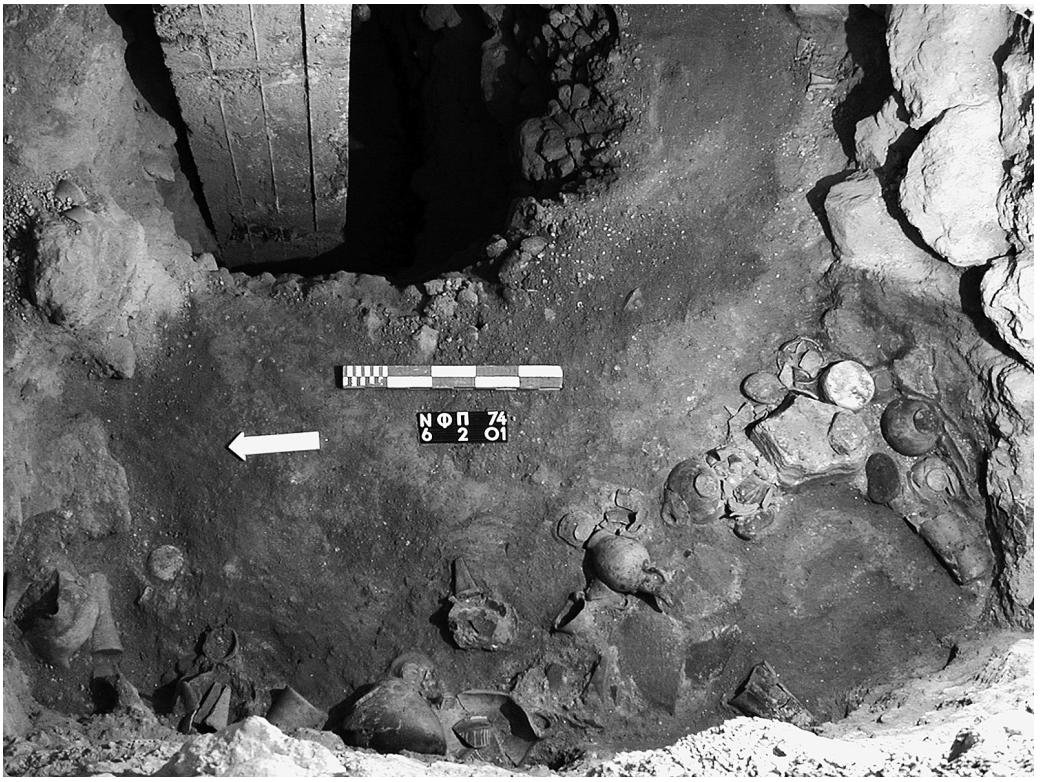

Fig. 4. Ground storey of WQ3 during excavation; the content of the room *in situ* (the pithos is already extracted from the SW corner) (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

whole clay vessels,[31] including a small lamp (*Fig. 4*). It is interesting to note that out of 32 pots that were extracted (six were left on the spot), eight were pierced on the bottom, and four of the eight were cylindrical rhyta; 14 pots were found turned upside-down on the floor. Besides the pots, the seals and the lamp, this part of the ground-level room yielded a cylindrical and a discoid object of white marble.[32] Finally, four unfired clay slabs were found in the same floor deposit, to the N of the pithos, together with a circular pithos lid of schist. These slabs had obviously fallen from a certain height because they had smashed a number of pots under them.

The red-orange jasper lentoid **S1** was found in a layer of 0.5 cm thickness, muddy and off-white in colour, which lay directly above the ground-level floor to the E of the pithos. The layer was sealed by a mix of soil and stones apparently belonging to the destruction layer of the ground level, thus ensuring that the seal was part of the ground-level's contents. The seal was not detected during the excavation, but was instead found during flotation of a soil sample. However, this sample was retrieved from a quite limited space, measuring

31 A pithoid jar was found next to the pithos, an *ethmopyxis* (strainer), an eyed jug, and 35 other vessels of small size: cups, cylindrical rhyta etc.

32 These objects are listed as 'marble' in the daybook and this identification is further corroborated by microscopic examination by A. Devetzi and V. Perdikatsis, to whom I am grateful for the information.

1.85 × 0.8 m, in close proximity to the pithos. No other finds were specifically reported from this very thin layer.

The other seal, the orange-brown soft stone lentoid **S2**, was found inside the pithos. The pithos was otherwise empty and filled with volcanic material, suggesting that when the upper floor partially collapsed it had in fact been empty. The layer covering the bottom of the pithos is described in the daybook in more or less the same terms as the layer in which seal **S1** was found, i. e. as muddy and off-white in colour.

The exact findspots of the two seals point to secondary deposition(s), since there is no reason to suggest that a seal's original place would be either the floor of a room or the bottom of a pithos (unless the seals were discarded, which does not appear to be the case here). It is possible that both seals were kept in the same location at the time of the destruction, a view supported by the comparable description of the layers in which they were found. The fact that one ended up inside the empty pithos and the other on the floor could suggest that they had fallen from somewhere higher up in the room (conceivably a shelf, a niche, or were they hanging on the wall [?]). We may safely exclude the possibility that the seals originated from the first floor, since it is highly improbable that both infiltrated the volcanic debris and landed at more or less the same depth.

Commentary: The picture given by the architectural as well as the movable finds of the ground floor Room 3 of the Western Quarters is that all are *in situ*, in the sense that we are in fact looking at the original contents of the ground-level room, although not necessarily in their original positions. It seems that this section of the building unit withstood the earthquake: roof fragments, although found crumbled into the first-floor room, preserved on their upper surface the so-called crust, a thin layer of fine yellowish pumice, characteristic of the first phase of deposition of volcanic materials.[33] This means that the roof was still in place at the time of the eruption, as was this part of the building unit underneath it. The founding of the building can be placed early in the LC I period.

The find circumstances of these seals are important in that neither the first- nor the ground-floor Room 3 present us with the masses of pottery that are almost the norm for Akrotiri rooms.[34] This, at least, excludes the possibility that the contents of each storey were transported or stacked from elsewhere. In addition, since the building unit seems to have survived the pre-eruption seismic destruction, inhabitants evidently did not bother with repairs or alterations. Regarding the original function of these rooms, we may safely preclude the storage of pottery or subsistence goods. Whether the room was a living quarter, if there ever existed a separate space reserved for sleeping at the time, a household activity area or a storage area for other perishable goods remains to be seen in future investigations. Elements that could be of importance are the noteworthy number of rhyta and the presence of the marble cylindrical objects, whatever their interpretation might be. Finally, one should keep in mind the position of the room itself within the ground level, namely its distance from the entrance of the unit.

33 Doumas 1990, 49.
34 Doumas 1983, 31.

Seal S3: Area to the N of the House of the Ladies (NPP 26NE)

In 2000–01 a NPP was opened to the N–NW of the House of the Ladies in an area previously not investigated.[35] After removing c. 4 m of volcanic depositions, a debris layer consisting of soil and stones of various sizes was uncovered. This layer of 1.4–1.6 m thickness continued down to the bedrock; it also covered the remains of two rooms built above ground (W and E), defined by three (or four [?]) walls founded directly onto the bedrock. The W room had a three-step stone staircase leading from its S (a narrow corridor between this space and the House of the Ladies) down to its interior. The debris layer covering these rooms contained pottery of the LC I–mature phase; therefore one is basically dealing with a building which went out of use in the latest pre-eruption period. The area investigated is located between the House of the Ladies and the House of the Water Spout, both standing and functional in the latest pre-eruption phase. The founding of the whole structure, however, essentially postdated the founding of the House of the Ladies, since the narrow space between them was found paved and at a level higher than the foundations of the House of the Ladies. In the NW of the excavated pit area an opening in the bedrock led to a double underground rock-cut chamber (*Fig. 5*).[36] The chamber was back-filled with EC–MC material. Thus, we may rule out the possibility that the rooms and the staircase were intended to facilitate access to the chambers, since these were already backfilled when the over-ground structure was built.

The black steatite pendant seal **S3** was found in the fill of the chamber in 2001. The E section of the chamber was divided into two spaces by a natural rock partition with E–W direction, which was left intact by those who had originally constructed or dug out the chamber. In the W section of the chamber, the only one investigated for reasons of safety, there were two crossing dry-stone walls; one of them, Wall Delta, had a N–S direction and constituted the W limit of the chamber (*Fig. 6*). The E face of Wall Delta appears uniform to a height of 0.55 m, and had dressed and well-fitted stones presenting an even face, but from its lower extremity downwards, the wall face appears irregular and even has a slightly different direction named Wall Delta/a. This irregular part was either a foundation or a different wall belonging to an earlier phase. The *locus* in which the seal was found began 0.23 m under the upper extremity of Wall Delta/a and had a thickness of 0.22 m: it was part of a layer covering this foundation/earlier wall. The seal was very near to the chamber's rock bottom at +21.50/+21 m; the *locus* also contained a considerable amount of pottery, animal bones, seashells, carbon, obsidian fragments, round stone balls, stone tools, and thus appears to have been debris from a habitation environment. The layer is dated by its pottery to the MC period, a ceramic phase corresponding to the Cretan MM I period; its diagnostic material dates it mainly to MM IA (*Fig. 7*).[37]

Commentary: The function of these underground chambers is a matter of debate. It has been suggested that they were originally burial chambers, and were subsequently back-

35 *Praktika* 1999, 156, fig. 1, where the position of NPP 26 is indicated on the plan of the site; Moschou – Karnava forthcoming. I thank I. Nikolakopoulou for clarifications regarding the stratigraphy and dating of the layers in NPP 26.

36 Sotirakopoulou 2008, 121, fig. 14.1, where NPP 26 is noted in a plan of the site showing the rock-cut chambers detected so far at Akrotiri.

37 Nikolakopoulou *et al.* 2008, 313–17.

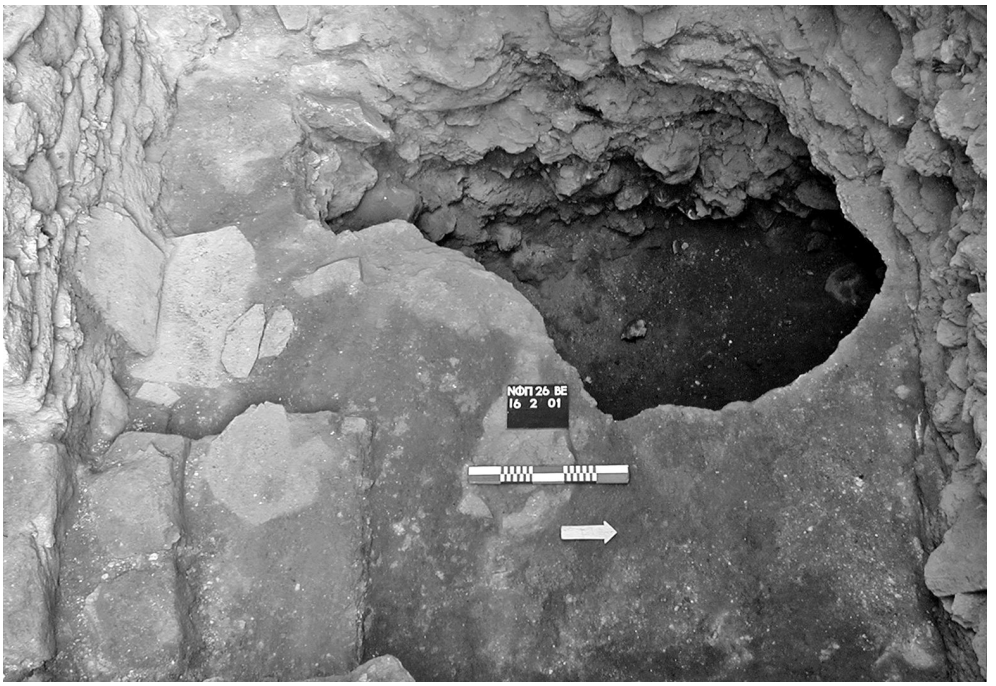

Fig. 5. NPP 26NE: opening in the bedrock leading to an underground chamber (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

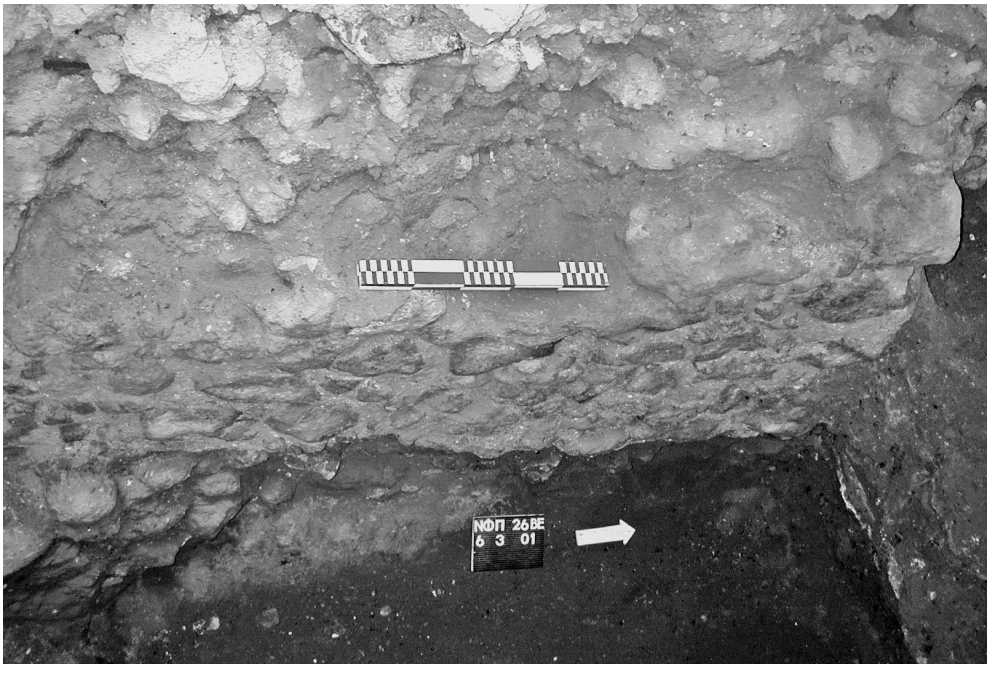

Fig. 6. NPP 26NE: Wall Delta inside the underground chamber; at its S extremity a foundation or remains of an earlier wall (Wall Delta/a) are visible (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

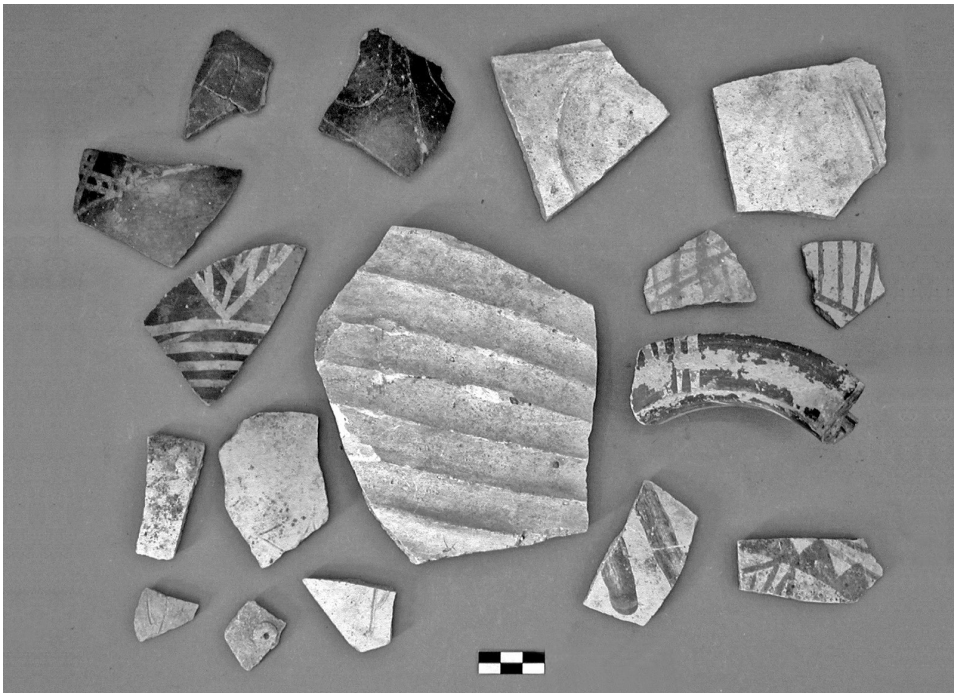

Fig. 7. NPP 26NE: diagnostic pottery from *locus* 26N024/NE, in which seal **S3** was found (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

Fig. 8. NPP 67: the floor of the MC room; the marked area is the part of the floor to be removed for the installation of the metal column for the new shelter (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

filled with habitation debris from a settlement overlying them or being very close.[38] A different interpretation views them as habitation sites all along, which were back-filled when they fell out of use.[39] The two interpretations agree in that they both regard the contents of chambers as settlement debris, a fact that is of importance as to the whereabouts of seal **S3** when first made and used. In this particular context it is evident that **S3**, along with the items found in the same layer, was a discard of a once-thriving settlement. The dating of the layer makes **S3** the earliest seal found at Akrotiri so far.

Seal S4: Area to the E of Xeste 5 (NPP 67)

NPP 67 is one of the most intriguing pits dug for the new shelter during the recent excavations, investigated in 2000–01.[40] It is impressive in that it produced a whole MC room, not damaged in any way or backfilled: it appears simply to have been put out of use after having been abandoned and sealed, and was then built over in the LC I period. This room produced some 200 whole vessels of the same period, which were found on top of the latest floor; it has not only given us some of the finest specimens of MC pottery, among which is also a jug with human figures in a libation scene,[41] but also seal **S4** which approaches the so-called talismanic tradition.

NPP 67 was opened to the E of Xeste 5 and two rooms belonging to the upper floor of a previously undiscovered LC building were initially revealed. Under one of these rooms another intact room came to light and was investigated in its entirety. The room measures 2.1 × 2.24 m, i.e. 4.7 m², and was preserved to the impressive height of 4 m, without any indication of an intermediate floor (*Fig. 8*). It contained the impressive number of pots previously mentioned; the fact that it was structurally sound and its movable contents were apparently intact at the time when it was sealed, leaves a question as to why it was sealed and built over.

The amygdaloid of smoky quartz **S4** was found in the substratum of the room's floor.[42] At first, only a part of the floor was excavated to allow the positioning of a circular metallic column for the new shelter (*Fig. 9*), and it was in this circular area that the seal was retrieved. Eventually, it was decided that the whole floor would be removed, to enable the investigation of an underground rock-cut chamber discovered below; the result is that we have a complete picture of the layer in which the seal was found. Evidently, the substratum bears no functional relation to the room and its contents, but contains relics of an even earlier situation, although within the same ceramic phase. A further underlying layer, which seemed to be an earlier floor, is important for the foundation and the dating of the construction of the room and, consequently, of the floor and its substratum. In this latter

38 Doumas 2008.

39 Sotirakopoulou 2008, esp. 131–34.

40 *Praktika* 1999, 156, fig. 1, where the position of NPP 67 is indicated on the plan of the site; 2000, pl. 120b, c; 2001, pl. 77b; *Ergon* 2000, 91, figs. 104, 105; 2001, 73, fig. 74; Knappett – Nikolakopoulou 2008; Tsoulakou forthcoming.

41 *Praktika* 2000, pl. 120b, c; Papagiannopoulou 2008, 441–44.

42 Tsoulakou forthcoming, where all the information concerning the context of the seal and the stratification of the pit comes from.

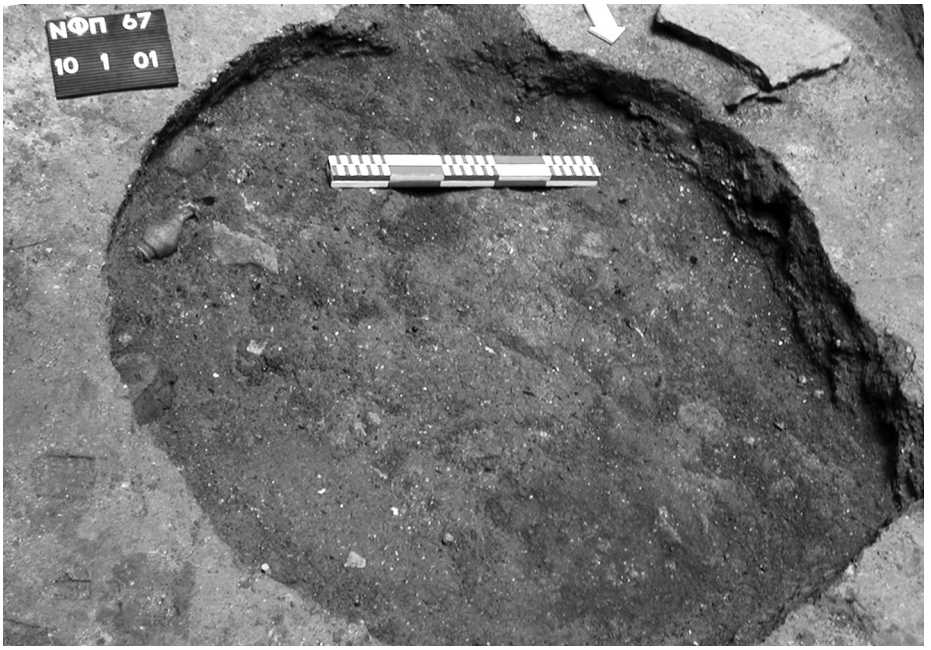

Fig. 9. NPP 67: the floor area, where seal **S4** was found, during excavation (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

floor, two cups placed upside-down point to a dedicatory rite.[43] The previously mentioned layers are all dated, by their pottery, within the same MC C period, which corresponds to MM IIIA in central Cretan terms.[44]

The substratum of the latest floor where the seal was found, a mere 0.08 m in thickness, contained in all 14 locally produced pots and four pots imported from Crete. The local examples comprise handleless conical, panelled and hemispherical cups, bowls, miniature vases, lamps, matt-painted and bichrome jugs; particular mention should be made of a pot sherd from an apparently earlier ceramic phase, MC A, where a human figure along with a probable ship's part appear. Apart from pottery, a number of other items was retrieved: a stone bead, a locally-produced tuff figurine of violin shape, loomweights, a stone ball, a copper loop, a faience fragment with painted decoration, a spindle whorl and a tuff object with suspension hole. In addition, the layer contained carbonized material, many animal bones and seashells, as well as obsidian fragments.

The exquisite hard stone amygdaloid **S4** is important because it comes not only from a stratified level, but also from a context that has been thoroughly excavated, a rarity for earlier strata. It dates from a time when imports, especially in terms of pottery vessels, are already a familiar trait at Akrotiri; the items imported are fine ware and curios, thought to have reached the island through an affiliation network.[45] The presence of this seal, which

43 A distinction should be made between pots commonly found under floors and those securely associated with architectural foundations, see MacGillivray *et al.* 1999. For a review of foundation deposits at Akrotiri, see Lanaras forthcoming.

44 Knappett – Nikolakopoulou 2008, 18, 34.

45 Knappett – Nikolakopoulou 2005, 181–83; 2008, 35–37.

fits very well within the time limit set for MC C, coincides with a marked increase in Minoan imports on the island, such as drinking, pouring and storage vessels (the first two obviously imported on their own merit). It is noteworthy that imports involve not only objects *per se*, but also the transfer of knowledge/technology, such as the wheel technique, which is first used, somewhat timidly, during this period.[46]

Commentary: The variety of finds along with the seal suggests that the use of this room in a period prior to the phase which gave us the abundant number of pots must have been very interesting as well. The presence of animal bones, seashells and obsidian, on the one hand, leads us to think of a habitation environment. On the other hand, the combination of items such as a seal made of a rare hard stone, a stone bead, a figurine, and the fragment of a faience object — all point to a rather luxurious environment. At this point and because the case of NPP 67 has no parallels anywhere in the settlement, there is no way to judge whether the MC room and/or its earlier phases are a particular or a common context during the MC period.

Seal S5: West House, Room 5

The West House is one of the few buildings at Akrotiri to have been thoroughly investigated, excavated on and off from 1970 to 1990.[47] It is another two-storey and, partly, even three-storey building, founded in what appears to be a 'mature' MC phase, as evidenced by trial trenches conducted under the floors of certain rooms.[48] The building was functional until the end, although it underwent the same hardships as the other LC I buildings during the time of the SDL, with exterior levels rising due to the discard of seismic debris and ground-level rooms becoming semi-underground rooms.[49] The West House is considered to be a 'private' house, with rooms dedicated to craft activities such as weaving in Room 3 of the first floor, storage in Rooms 3c, 4, 5, 6 of the ground floor, and food preparation in Room 3a of the ground floor. Although missing a 'kitchen' installation, the first floor also famously possesses one of the most ancient lavatories ever attested in Room 4, a structure that underscores the high level of technical and engineering expertise possessed by the inhabitants of Akrotiri.

Both storeys of Room 5 were first excavated in 1972.[50] Attention naturally concentrated on the first-storey wall paintings, which included the Miniature Fresco.[51] The first-storey floor, covered with slab stones, was found collapsed almost in its entirety inside the ground-level room; under the fallen slabs, the ground level contained pots of various sizes

46 Knappett – Nikolakopoulou 2005, 177–79.

47 Preliminary reports appeared in the respective *Ergon* and *Praktika* but also in Doumas 1983, 48–49; Michailidou 2001, 41–174; Palyvou 2005, 46–53; Doumas 2007a; 2007b.

48 *Praktika* 1984, 340–43, pl. 182.

49 Marinatos called the ground level 'the basement'; he was aware that the lower level floor was at a height lower than outdoors. This is again due to the fact that the height of open spaces rose because of debris cleared out following a destruction, which postdates the building of the West House (Marthari 1984, 119, 126, fig. 1; Palyvou 1984, 134–35, fig. 5).

50 *Thera* VI, 22–24, pls. 38–43.

51 For the Miniature Fresco, see Televantou 1994.

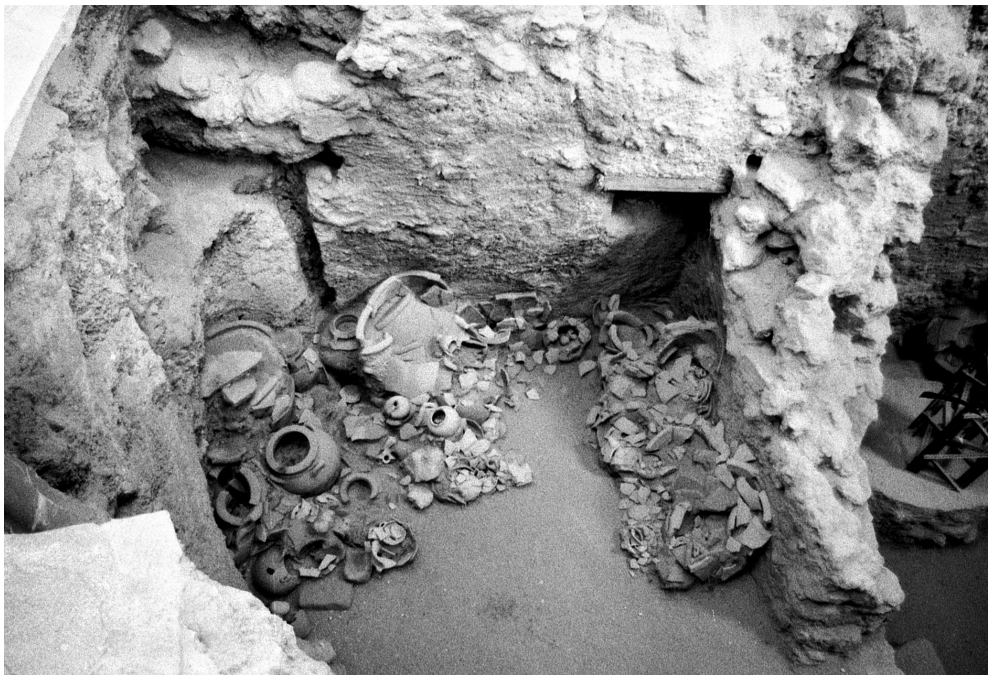

Fig. 10. West House, ground floor: Room 5 with its contents *in situ* (Akrotiri Excavations Archives; *Thera* VI, pl. 43b, where the room is shown at the end of the 1972 season; Doumas 2007b, 35, fig. 12).

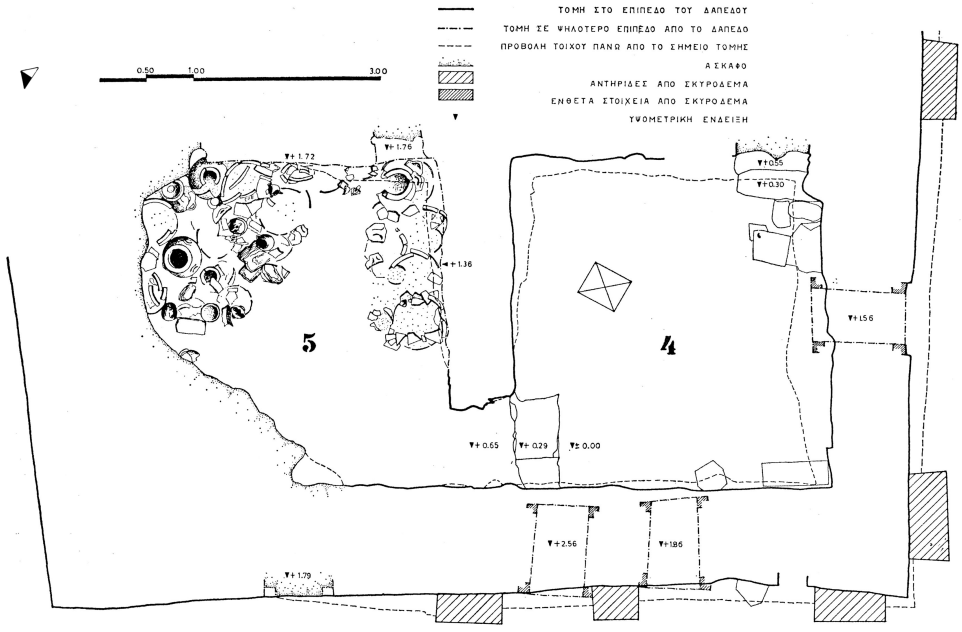

Fig. 11. West House, ground floor: Rooms 4 and 5, drawing made before the 1976 cleaning; the rooms are shown at the end of the 1972 season (Akrotiri Excavations Archives, drawing by K. Chatziaslani; *Praktika* 1976, 313, fig. 2).

('storage jars and minor ware'), lined along the N, E and S walls of the room, whereas the rest of this spacious room was empty (*Figs. 10, 11*).

The steatite discoid **S5** was retrieved during cleaning operations carried out in 1976 at the ground level of Room 5;[52] their purpose was to facilitate restoration of the room's walls and the placement of scaffolding. In that year, pumice was still left along the N wall of the room, whereas in the rest of the room the investigation had reached the floor. The seal was found when cleaning was carried out around two pithoi in about the middle of the E wall; the one in the S contained many small pots, the other rested near the door leading to the adjacent Room 3. On the same day, cleaning continued from that spot to the N part of the room, where another pithos stood. With this information to hand, it is evident that we can place the seal's original location within the NE quarter of the room. Although tempting to pose the question as to whether the seal could have come from the upper storey, this may be ruled out. Since the cleaning took place after the room's contents had been more or less entirely revealed in 1972 — as excavation photographs attest — the seal must have belonged to the original contents of the room. In all probability, the seal was found on the floor, since there is no indication in the daybook that the excavation continued below the floor level.

Commentary: The ground-level Rooms 3c, 4, 5 and 6 are thought to have served as storage spaces.[53] In the year that the room was cleaned more than 90 pots were extracted. A number of vessels, particularly pithoi, still contained carbonized (?) seeds, which means that the space was used partly for the storage of food-stuffs. The large number of pots, some of which were kept inside a pithos, indicates that household pottery was also stored there.

On the basis of typological and stylistic criteria, however, **S5** fits its context dating to LC I in no way, as it most definitely belongs to MM II–early MM III production. The fact that the seal is broken raises further problems, since it may represent a discard.[54] Nevertheless, whether or not the seal was still usable, it must be associated with the lifetime of the building, which was established in the 'mature' MC phase.

Seals S6, S7: Triangle Square

Triangle Square was first revealed under the pumice in 1970[55] and was so named in 1972 because of its triangular contour.[56] Its shape is determined by three buildings: the House of

52 There is no mention of the seal in that year's *Praktika* (1976), which is potentially the reason why in the final publication its association with the West House is reported as only probable (Tzachili 2007a, 281). Information on the cleaning of the room in general: *Praktika* 1976, 310–12, fig. 2, pls. 199, 200. The N wall was exposed and investigated in the following year: *Praktika* 1977, 387–88, pls. 202b, 203a.

53 Doumas 2007b, 40.

54 There are, however, instances of seals still kept and occasionally used for stamping purposes even when broken: *CMS* I no. 160 was a damaged hard stone amygdaloid that was used to stamp the stopper of a stirrup jar at Mycenae 14 times (Krzyszkowska 2005a, 288–89 no. 565a); *CMS* II,6 no. 110 was a damaged rectangular hard stone seal that was used to stamp 139 single-hole hanging nodules at Ayia Triada (Krzyszkowska 2005a, 170–71 no. 333); *CMS* II,8 nos. 96, 317, 366 were damaged seals used for stamping in Knossos (discussion by Pini at p. 14 of the same volume); *CMS* V Suppl. 3 no. 73 was a broken cushion used for multiple, repetitive impressions on a pithos from Livanates in Phthiotis.

55 *Thera* IV, 8, 11–12, pl. 8b.

56 *Thera* VI, 18–19.

the Anchor, Complex Delta (Δ) and the West House; it is the NE–SW orientation of the last that is mostly responsible for its particular shape. As with all the open spaces at Akrotiri, it remains unclear if the shape was due to town planning, or simply represents an area left between buildings, constructed consecutively where free space was available.[57] At the time Triangle Square and other open spaces in the vicinity were revealed, Marinatos called their fill 'the "catastrophe layer", that is, the uppermost occurrence of loose stones over which the *aspa* (the local name for volcanic ash) is absolutely pure. Under the stones earth turned brown from mud-bricks always occurs, and soon begin pottery sherds and further finds.'[58]

The first of the two seals found in Triangle Square, **S6**, appeared in two different publications as a bead. In an article concerning prehistoric jewellery it is described as a marble lentoid bead,[59] while in the recent publication of the small finds from the West House it appears as a faience bead.[60] However, there is absolutely no doubt that it is a lentoid seal, as indicated by its shape and faint traces of engraving. It was reportedly found on 14/9/1972 during sieving. On the day when it was listed in the excavation inventory, there is no mention of it in the daybook. On previous days, however, there is reference to the soil to the E of the House of the Anchor being removed and the two windows of its E façade coming to light. The day after the seal was found, part of the underground sewer in the centre of Triangle Square was revealed and roughly sketched in the daybook; it formed part of the central sewage system, running from the middle of the square towards the NE, probably to meet the part coming southbound from Telchines Road.[61] We may assume, therefore, that the soil sieved in the intervening days was extracted from the area between the House of the Anchor and the West House, i. e. the NW part of Triangle Square. On the following day, the daybook also mentions that the investigation in the square revealed two layers of debris, with a thin layer of pure soil intervening. These layers evidently represent the destructions of the LC I period, the so-called SDL, which caused the level of the open spaces to rise, as abundantly attested throughout the squares and streets of the town.[62]

The second seal **S7**, made of local tuff, was also reportedly found in the 'catastrophe layer' covering Triangle Square, to the SE of the West House.[63] The daybook for 16/9/1972 mentions that two trenches were opened in contact with the SE wall of the West House, with the purpose of installing the modern buttresses to support the West House.[64] In all probability, the seal was found during the opening of these trenches. Based on remarks in the daybooks, the excavator noted: '… the virgin rock is 1.4–1.5 m under the surface of Triangle Square. The trenches for the foundations were opened a bit wider than the thickness of the walls (about 80 cm) … The floor of the Triangle consists not of filling from the catastrophe, but of blackish earth and stones, apparently the natural soil of the

57 Palyvou 2005, 35.
58 *Thera* VI, 7.
59 Televantou 1984, 16–17.
60 Tzachili 2007a, 274 no. 1.
61 Palyvou 2005, 39–43, esp. 41 and fig. 42.
62 Marthari 1984; Palyvou 1984.
63 It was published for the first time in 1993 (*CMS* V Suppl. 1B no. 362); its final publication mentions that it was noted and recorded on the spot (Tzachili 2007a, 281), but in it the seal was apparently confused with **S5**.
64 'Pit B' by the SW corner and 'Pit C' the one in the middle of the façade (Marthari 1984, 120, fig. 1). The same pits are named 'Pit A' and 'Pit B' respectively in a different publication (Palyvou 1984, 140, fig. 5).

pre-explosion island.'[65] The daybook is somewhat more detailed noting debris of 1.85 m of thickness, divided in two layers: a) of 0.35–0.4 m thickness, loose soil, containing a lot of movable finds; b) of 1.65 m thickness, maybe natural soil. Again, the engraved object belongs to a debris layer that postdates the foundation of the West House, which functions as a *terminus post quem*.

Commentary: The retrieval circumstances of the two objects reportedly coming from the debris in Triangle Square are not entirely clear. Because we are lacking specific indications as to their exact findspots and respective contexts, we have to eschew any contextual or dating correlations. Nonetheless, if we accept that both items were retrieved in debris in an open-air space, they were either discarded or lost.

Seal S8: Cenotaph Square (Area of PP 17)

The object listed in the seal catalogue as **S8** was found in the area known as Cenotaph Square or area of PP 17.[66] The area was first investigated in 1969, when the 'Sacrificial Fire' (*pyra*) was detected.[67] PP 17 was opened in 1970, to the NE of the area of the 'Sacrificial Fire', and was described as a shallow trench of 1.5 m depth, which revealed a vaulted cutting in the rock.[68] Investigation continued in 1984,[69] when it was established that the area to the N of Complex Delta (Δ) was a large open-air space, its E part being an elevated terrace formed by debris and held in place by retaining walls to the E and N. One of the purposes of the E retaining wall was to leave a free N–S passage, the street that is now dubbed Daimonon, between the terrace and Xeste 5. On top of the terrace, a structure resembling an EC cist grave was evidently visible in the LC I period. In the next year's season, the vaulted cutting first detected in PP 17 turned out to be part of a series of underground rock-cut chambers; during the latest pre-eruption phase it seems that the chambers were turned into storage spaces for pottery.[70] Also, the grave-like structure exhibited on its surface fragments of EC marble collared jars (*kratiriskoi*).[71] Further investigation within this structure revealed a hoard of EC figurines, along with obsidian artefacts and a number of other EC objects.[72] In 1994, the vicinity of the 'Sacrificial Fire' was further explored.[73] The *pyra* appears to have been included in a rectangular space, which was in use during the EC period, as was the whole area, subsequently to be covered by a MC pavement, and finally to be covered by SDL debris, which formed the Cenotaph terrace.[74]

Seal **S8** was found in 1993 during the investigation of the same area.[75] In that year, a section of the E retaining wall was removed, in order to verify the date of its construction. The

65 *Thera* VI, 20, pl. 32a.
66 Thus named in *Praktika* 1994, 158; Palyvou 2005, 35–38, figs. 34, 37.
67 *Ergon* 1969, 153–55, figs. 192, 193; *Thera* III, 19–24, figs. 2–10, pls. 20–22.
68 *Thera* IV, 8–9.
69 *Praktika* 1984, 346–47, pls. 183b, 184, fold-out pl. 8.
70 *Ergon* 1985, 64–65; *Praktika* 1985, 171–75, fig. 3, pls. 82–86, inserted pl. 9.
71 Listed among a number of stone finds in Devetzi 2008.
72 *Ergon* 1992, 78–80; *Praktika* 1992, 181–85, figs. 3, 4, pls. 78, 79; Moundrea-Agrafioti 2008.
73 *Praktika* 1994, 164–65, pls. 98b, 99.
74 Sotirakopoulou 1999, 17–18.
75 *Praktika* 1993, 176–77, pls. 103, 104a.

Fig. 12. Cenotaph Square: trial trench under Daimonon Street between Xeste 5 and the square's terrace (Akrotiri Excavations Archives; *Praktika* 1993, pl. 104a).

wall was found to contain pottery ranging from the EC II period to the early LC I period. Also, a trial trench was opened under Daimonon Street (*Fig. 12*), which revealed part of the LC underground sewage system.[76] Further below the sewer level, it was established that the bedrock in that particular area was at a deeper level than previously thought, revealed at a height of +23.7 m in PP 17, to the NW of the trial trench, since the trial trench went as far as +21.9 m without having reached bedrock. The trial trench was reported to contain sherds from thick-walled vessels, a fragment of a clay figurine, small fragments of white plaster, some of which were red-painted, or with red or blue bands, a small number of obsidian fragments, bones, shells, insect remains, etc. **S8** was first identified as a faience object. It was found to the E of the retaining wall; the daybook mentions it as a find from the area to the E of Wall 8. The soil was brown, loose, and contained numerous small stones.

Commentary: The area where this object was found is in itself rather unusual and indeed unique, not only as far as Akrotiri is concerned but also in its wider Aegean setting. However, it is unclear if and how **S8** was associated with any of the phases during which the square was in use. It was most certainly found in what appears to have been filling debris for the square, but it is impossible to suggest which chronological phase the filling rep-

76 Palyvou 2005, 42, fig. 42.

resents. One could, however, venture to suggest that an early LC I date — indicated by dating evidence for the retaining wall, as well as the concommitant installation of the sewage system in that area[77] — should probably be set as a *terminus ante quem* for the seal. Nevertheless, the absence of typological parallels for the object itself hinders any definitive judgement.

Seals S9, S10, S11, S12: Complex Delta (Δ)

Complex Delta (Δ) is one of the few buildings at Akrotiri (along with Xeste 3, the West House and the House of the Ladies) to have been thoroughly revealed, albeit not thoroughly excavated. It is considered a 'private' building (as opposed to the Xestai, which qualify as 'public' buildings). However, as its name implies, we are not dealing with a single entity: Delta is a conglomerate of four different 'building units', which are divided and at the same time joined by contiguous double walls.[78] Whether these building units also represent distinct architectural phases remains to be established by further study. That the four units functioned independently from the point of view of their architectural design is shown by the fact that each has a separate entrance.[79] As noted, however, it remains uncertain whether each of the units was truly independent and had autonomy regarding food preparation activities and storage,[80] thus reducing their physical proximity and contiguous walls to mere accident. Moreover, it should be stressed that the definitive identification of each unit as a separate 'household' also remains to be established.

The convenient designations given by Palyvou ('Delta-North', '-South', '-East' and '-West')[81] are used here and imply this division based on architectural evidence. Should future study determine that they are to be treated also as autonomous 'households', then the evidence can be reviewed from that perspective.

77 The underground sewage system detected in different parts of the town appears to date mostly to an early LC I phase, with some parts constructed earlier during a MC-mature phase; however, the sewers in Daimonon Street, of interest here, and the part revealed to the N of the neighbouring Xeste 5 both date to the early LC I phase (Sofianou – Georma forthcoming).

78 Doumas (1974, 199, fig. 1) views Complex Delta (Δ) as a unified entity and he considers the in this study so-called building units as successive architectural phases. He suggests that Delta 'is the result of at least five successive additions to an original core' (Doumas 1983, 48). *Pace* Michailidou 2001, 321–33, where four different units are listed, and Palyvou 2005, 71–83, 92–95, where the building units are designated as 'Delta-South', '-West', '-North' and '-East'. It now seems that Delta is not the only building complex in the settlement: Sector Alpha (A) is also revealed as a complex (see above, pp. 8–9; Moschou – Karnava forthcoming).

79 Palyvou 2005, 71.

80 Nikolakopoulou 2002, 210–14.

81 Michailidou (2001, 321) prefers Unit 1 = Delta-West, Unit 2 = Delta-South, Unit 3 = Delta-East, Unit 4 = Delta-North. Michailidou's numbering could be proven more useful in case the number of units in a complex exceeds the four that match the points of the compass; yet both Complex Delta (Δ) and Complex Alpha (A) do not exceed this number, since Alpha has revealed three units: Sector Alpha (A) = Alpha-South; Western Quarters = Alpha-West; and the newly discovered and baptised Northern Quarters = Alpha-North (Moschou – Karnava forthcoming). Palyvou's designations, however, allow us to immediately localize the specific part of the complex and where its entrance lies.

SEAL S9: DELTA-NORTH, 'CORRIDOR' OPPOSITE THE ENTRANCE

The building unit situated at the N end of Complex Delta (Δ) presents us with a complicated picture, due to the fact that it has not been fully investigated. It was one of the first architectural assemblages discovered in the site in 1967,[82] and one of the first to be excavated in 1970,[83] when most of Delta was revealed.[84]

According to the inventory book (MPTh), the serpentine lentoid **S9** was found 'during the investigation of the corridor to the S of the N entrance'. The daybook, on the other hand, mentions the retrieval of a perforated stone lentoid during the removal of the destruction layer ('pile of stones') from the West Staircase, i. e. the main staircase leading to the first storey of Delta-North, on 25/8/1970. Since the excavator named both the staircase and Room D6 'corridors' in that year's excavation report,[85] it seems that the find tags continued to designate the W space as a corridor, even after the discovery of the staircase, and this is what was copied in the inventory book. If we take the daybook entry as factual, the seal was part of the first-storey contents which crumbled onto the staircase, but not before the staircase was covered with pumice (*Figs. 13, 14*). The daybook entries for the immediately preceding days record the stratigraphy of the staircase. The uppermost layer was soil and stones of 0.3 m thickness ('destruction layer'), containing pottery sherds, floor fragments, a wall painting fragment with a red saffron flower on white background; underneath, a layer of river sediments of another 0.25–0.3 m thickness; and further below, the pumice of 0.9–1.2 m thickness, directly above the stone steps. Fragments belonging to the same wall painting were recovered outside the building, immediately to the W of its W wall, along with pottery sherds and a broken rhyton.

The report in that year's *Praktika* creates a confusion, in that it mentions 'a glandular bead of carnelian about 1 cm long, another lentoid of steatite without any engravings and a corner of painted brick' coming from Room D4.[86] However, Room D4 was never called a corridor in the daybook, and the above finds are not mentioned anywhere in the daybook entries concerning Room D4. In view of the discrepancy between the daybook-inventory and the published account in *Praktika*, it appears more likely that the former should be followed.

Commentary: The examination of the architectural evidence, the movable finds and the floor fragments suggested that there was a room above the ground storey of Room D4,[87] and it was presumably from there that the objects found in this space came. It is not entirely clear what the exact retrieval circumstances and context of **S9** are: it should be noted, however, that it is the only seal found at Akrotiri for which the possibility exists that it came from a first floor context.

82 The N corner of the building unit was initially discovered during the excavation of 'Bronos 1a' (*Thera* I, 34–38, figs. 18, 49–54, colour pl. B5).

83 *Thera* IV, 10–18.

84 *Thera* IV, 10–28, plan I. The building was invariably called 'Sector Delta' and 'Xeste Delta'.

85 *Thera* IV, 13: '… two corridors appeared opposite the door. The one more to the right (west) was filled with pumice up to the highest preserved spot … This soon proved to be a staircase. The left (E) corridor (D6 on the plan) was filled not with pumice but with river sweepings.'

86 *Thera* IV, 14.

87 Michailidou 2001, 331; Palyvou 2005, 82.

Figs. 13–14. Delta-North: the main staircase (Akrotiri Excavations Archives; *Thera* IV, pl. 14a–b).

SEAL S10: DELTA-WEST, ROOM D1A

During the investigation of the greater part of Complex Delta (Δ) in 1970, Rooms D1 and D1a came to light; they were rooms of equal size at both ground and first-storey levels.[88] The first-storey room is 'the largest compartment of the upper floor, the largest known from Akrotiri. Two large rooms, Delta 1a and 1, communicate with the longest pier-and-door partition [*polythyron*] known at Akrotiri; … it has six doors and is 7.3 m long.'[89] The *polythyron* evidently divided a large room into two sections, the N named D1 and the S named D1a. At the ground level a wall achieved the same division of sections and it is probable, although not verified by excavation, that ground-level Room D1 was further divided into another two sections by another wall.[90] Both levels of Room D1a have been thoroughly explored, starting with the first storey in 1970.[91]

88 *Ergon* 1970, 145, fig. 163; *Thera* IV, 18–20, pls. 23b–27.
89 Palyvou 2005, 79.
90 Palyvou 2005, 76, fig. 99.
91 *Thera* IV, 19–20, pl. 26b, which shows the level reached by the investigation in 1970.

The ground level of Room D1a was investigated for the first time in 1974.[92] Although it was never actually described in the preliminary reports, the plan drafted in 1976,[93] along with information recorded briefly in the daybooks of 1975, shows a rectangular room with two piers in central positions supporting the first-storey floor. The piers were surrounded by numerous pots, which were also aligned around the walls of the room. At least six pithoi were counted at first, whereas smaller vessels had been removed during the 1974 excavation; an *asaminthos* ('bathtub') was found in the NW corner[94] next to a fixed structure interpreted as a hearth. Excavation resumed in 1993,[95] when it was discovered that the room also contained c. 150 vessels of various types and sizes, apart from the ones extracted in 1974. The hearth had traces of burning on its surface and an ovoid funnel-mouthed pithos, a skyphos and an amphoroid vase resting on it. In light of the evidence, this particular space is thought to have functioned chiefly as a storage place for foodstuffs, e. g. flour, mainly in the E section of the room; other functions seemingly fulfilled in the same space were cooking due to the presence of the hearth, as well as crop processing, as suggested by a stone quern found next to the *asaminthos*.[96] Nonetheless, since basic rules of sanitation would require the physical separation of cooking and storage installation, it has been noted that the hearth may have been used only occasionally, and then in connection with the main function of that space, namely food storage.[97] To the functions suggested for this room, the weighing of unspecified products can be added through the retrieval of a pair of bronze balance pans and seven lead weights.[98]

The object made of porous black volcanic stone **S10** was recorded in the daybook as having been found in a floor 'cavity' to the E of the E pier (shown in *Fig. 15*). The floor itself in the E section of the room is described as overall poorly preserved, unlike the floor in the W section, which was pebbled and preserved. The exact findspot of **S10** inside the cavity was measured at the time and can thus be placed with precision on the room plan. In the same cleaning, 'various sherds' were collected, some seashells, five small pieces of charcoal, another stone object of ovoid shape with hollow sides, small bones and the fragment of an obsidian blade. The E section of D1a was photographed after its cleaning (*Fig. 16*).

Commentary: In the daybook the floor cavity is interpreted as 'a token of some sort of the floor's destruction, occurring due to pressure exerted in that spot by heavy or voluminous objects'. Such an observation raises doubts as to whether the seal was part of the room's contents, or was embedded in the floor, thus belonging to an earlier context.

92 *Ergon* 1975, 146–48; *Praktika* 1975, 217–18, pls. 190b, 197–204, 206–208a, 209a: following the excavator's untimely death and the commotion that followed, the daybook for the investigation of lower level Room D1a is reported in *Praktika* as lost.

93 Delta-West: plan of ground level Room D1a, end of the 1974 excavation season (*Praktika* 1976, 314, fig. 3, drawing by K. Trakosopoulou).

94 Kriga 2003b, 466, fig. 8.

95 *Praktika* 1993, 180–81, pl. 107a; a more detailed presentation of the room and its contents is found in Papadimitriou-Grammenou 2008, 138–47.

96 Papadimitriou-Grammenou 2008, 138–47.

97 Birtacha 2008, 349–50, where the same is suggested for a similar installation in space Alpha 1. Birtacha also observes that no similar structures were traced in the only three buildings fully excavated so far, namely the West House, the House of the Ladies and Xeste 3.

98 Papadimitriou-Grammenou 2008, 143, fig. 14; Michailidou 2008b, 51, figs. II.1b, II.11–13; 80–86, figs. II.51–56, table II.3.

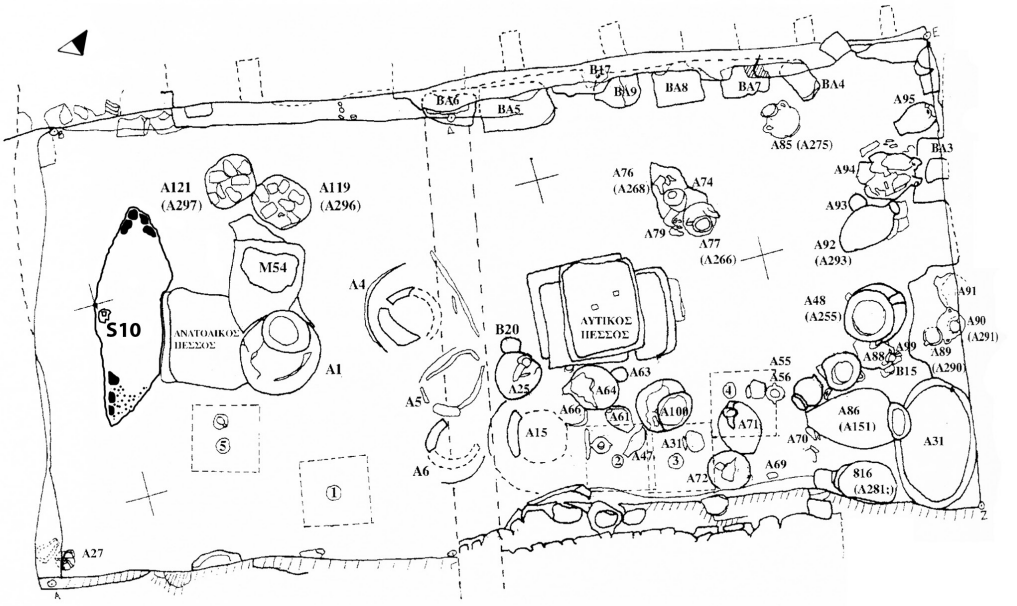

Fig. 15. Delta-West: plan of ground level of D1a, end of the 1993 excavation season. The encircled area to the E of the pier indicates the floor 'cavity' from where **S10** was retrieved. (Akrotiri Excavations Archives, after drawing by V. Isaakidou – M. Fotia – S. Epelly; Papadimitriou-Grammenou 2008, 140, fig. 1).

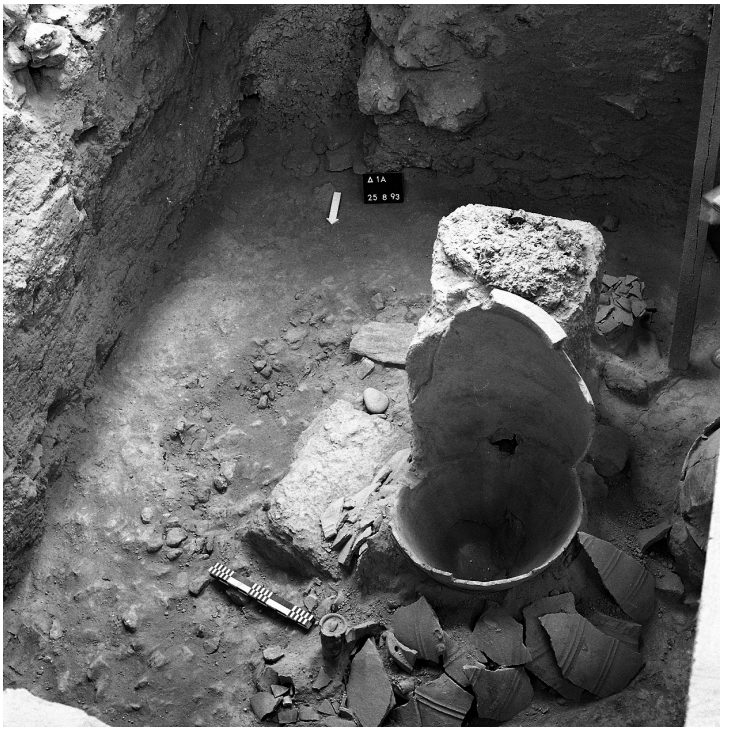

Fig. 16. Delta-West: D1a, E section (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – A. Kambouris).

The daybook mentions that on the day **S10** was found (25/7/1993) the initial goal of investigation had been the removal of debris, mainly dust and soil accumulated over the years since the last time the room had been investigated.[99] However, since we do not know whether the original excavation had reached the floor, we cannot be certain if the layers on or under the floor were removed. In this respect, it is worth noting that in 1993 the E section of the ground level of D1a was found completely empty of whole pots. The daybook suggests that these had already been extracted in 1974;[100] the 150 pots counted from the 1993 excavation actually came from the central (between the two piers) and the W section of the room, which had not been thoroughly investigated in 1974. Thus, it is reasonable to assume that the 1974 excavation at the E section had actually reached the floor level.

The daybook entries, therefore, do not show a definite association of **S10** with the contents of the room, and, consequently, with its suggested function(s). It is also possible that the object belonged to an earlier context.

SEAL S11: DELTA-WEST, ROOM D9.1

Room D9 was first detected in 1970, during the excavation season that revealed most of Complex Delta (Δ).[101] To its S and, as it turned out, inside the room subsequently named D9.1, PP 21 was excavated in the same year, producing 'squared stones, paving-stones, plaster (especially numerous at a depth of 3–3.50 m) and plenty of vessels'.[102] Room D9 was further investigated and was called 'a magnificent store-room' from the outset,[103] since 'over 300 vases' were recovered there.[104] All that was investigated in 1971 were first-storey contexts, and the presence of 'a basement or a cellar' was identified in Room D9.1. Subsequent investigation revealed that the ground level of D9.1 had been turned into an underground room, because the surface level of the exterior space to its E had risen due to backfilling of the adjacent Room D20, which was a ground-level room.[105] Access to the ground level of Room D9.1 was granted through Room D9, which in turn was accessed through Room D1a, making entry a very intricate process.

Room D9.1, excavated in 1973, was found to be 'also full of pottery, but of a finer quality than that stored in Room D17' (*Fig. 17*);[106] 'the first victim of the disaster', namely an entire pig's skeleton, was counted among the finds.[107] The excavator went on to remark that 'the vases were closely stacked one above the other, mostly along the Eastern and Southern walls … by the South wall were dozens of one-handled bowls (kyathoi) … some were manufactured locally …, while others were imported fine products of Minoan origin'; also,

99 The daybook mentions 1974 as the last year during which the room had been investigated; yet another entry in the daybook shows that some cleaning (described as 'dusting', i. e. something extremely superficial) had also taken place in 1985.

100 Whole pots and a number of other objects are shown as coming from D1a in *Praktika* 1975, pls. 201–204, 206–208a, 209a.

101 *Thera* IV, 26, pls. 42b–44a.

102 *Thera* IV, 9–10, plan 1.

103 *Thera* V, 16–17.

104 *Thera* V, 25–26, pls. 43, 44; *Thera* VI, 13, pl. 13b; *Thera* VII, 15.

105 For the description of the extremely complicated situation of Delta-West: Palyvou 1999, 320; 2005, 75–80.

106 *Thera* VII, 15–16, pls. 18b–20.

107 *Thera* VII, pl. 20a: the pig's skeleton *in situ*.

Fig. 17. Delta-West: D9.1, ground level with pottery *in situ* (Akrotiri Excavations Archives; *Thera* VII, pl. 18b).

that 'the first and possibly the earliest Syrian amphora so far discovered on Greek territory' was found.[108] A later study of the pottery noted that Rooms D9.1 in Delta–West, Room D17 in Delta–North, and Room D16 in Delta–South yielded the greatest percentage of imported pottery in the settlement, together with a number of other unique objects.[109] Among the imported specimens in Room D9.1, five rounded cups are thought to have been LH I imports.[110]

Among other finds, 'the room also yielded some stone objects, and a steatite seal … was found during the sifting of the earth removed.'[111] The serpentine lentoid **S11** bore 'one of the ordinary apotropaic themes'.[112] The daybook entry (15/9/1973) leaves no doubt that the seal was found on the floor, although it does not state from which part of the room it came. Before the seal was recorded in the daybook, the pig's skeleton is mentioned as having been cleaned and its consolidation process begun by the conservator S. Papageorgiou. This does not, however, mean that the seal was found in the vicinity of the pig's skeleton: while the conservator was working on the skeleton, workers could have been occupied in other parts of the room.

108 *Thera* VII, 30, pl. 49b.
109 Marthari 1980, 201.
110 Lolos 1990, 54.
111 *Thera* VII, 15.
112 *Thera* VII, 32, pl. 57b.

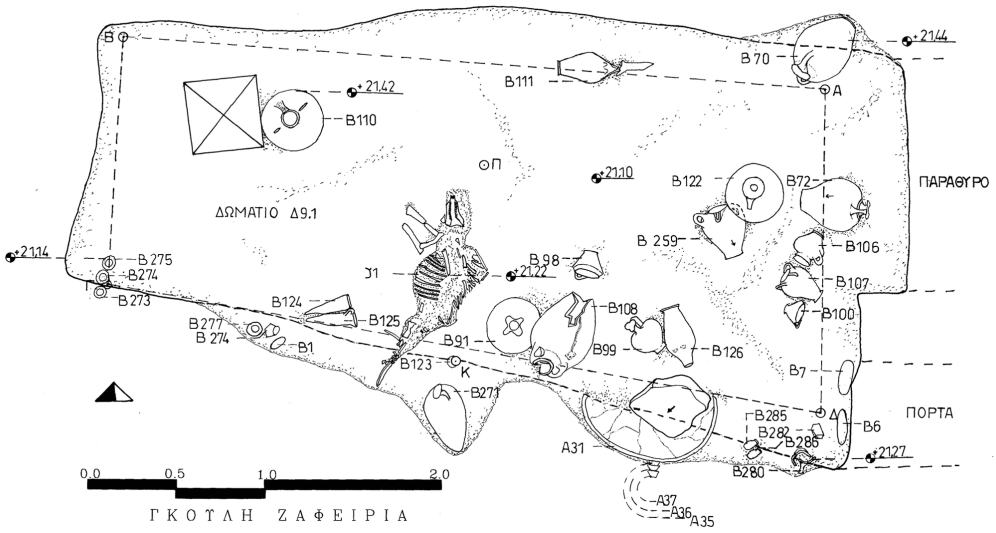

Fig. 18. Delta-West: plan of NPP 21, showing the state in which D9.1 had been left in 1973 (Akrotiri Excavations Archives, drawing by Z. Gouli).

During the excavations for the pillars of the new shelter, NPP 21 was excavated inside Room D9.1 (*Fig. 18*).[113] Some 29 clay vessels, among which part of an *asaminthos* ('bathtub'),[114] along with the pig's skeleton, had been left by Marinatos on the floor of the room. The recent excavations did not contribute greatly towards the clarification of the room's stratigraphy and have shown that the situation was not as simple as was initially presented by its excavator. For instance, during its removal, the pig's skeleton was reported to be missing its upper jaw, a fact noticed already in 1973, which could indicate that the animal had already been slaughtered and that its findspot was, with all probability, its storage space.

Commentary: Room D9.1 has been interpreted by researchers studying Akrotiri as a storeroom reserved for items such as pottery.[115] Questions have also been raised as to whether it had always been a storeroom, or was only turned into one in the wake of the pre-eruption earthquake; since it evidently survived this event undamaged, the room may have been regarded as safe.[116] An original pre-eruption function of Room D9.1 as a specialist storeroom for pottery is supported by the fact that vessels were found stacked in distinct groups along the walls;[117] this is in marked contrast to the variety of objects found piled up in rooms such as D2.

113 *Praktika* 1999, 156, fig. 1, where the position of NPP 21 is indicated on the plan of the site.
114 Kriga 2003b, 470 no. 26.
115 Marthari 1980; Lolos 1990.
116 Nikolakopoulou 2003, 569.
117 Nikolakopoulou 2002, 213; Polychronakou-Sgouritsa 2008, 152, nn. 12–13.

The contents of spaces D9 and D9.1 have also received attention because they contained a large number of rhyta,[118] while the sizeable number of cups implies use by numerous individuals. The great variety of objects, most of them 'precious', has led to the notion of a cult repository, with the pots being subsequently used either in the spacious Room D1–D1a, or 'in processions throughout the town'. Alternatively Koehl advocated that the contents should at least be regarded as 'symbolic or high status'. There is a problem with this interpretation, which Koehl himself duly notes:[119] if objects such as rhyta have a restricted distribution in Cretan sites, Akrotiri presents a striking difference in that they have been found almost everywhere. Recent excavations have continued to confirm this observation, producing a steady flow of relevant finds, at least as far as the LC I period is concerned. It is interesting to note that rhyta, as known from Minoan contexts, do not constitute part of the local Cycladic ceramic repertoire, since they do not appear in Akrotiri before LC I.[120] Furthermore, buildings which are thought of as 'public', 'stately' or, at least, as hosting communal activities, such as Xeste 3, present us with an extremely low number of rhyta compared to any other 'normal' building in the site. We should, therefore, avoid making unwarranted assumptions regarding inherent meaning or function when evaluating vase shapes transferred from one culture to another.[121] If we must insist on designating these vessels as 'symbolic' or 'high status', then we ought not do so outside their original context, i. e. the Neopalatial period in Crete.

At the present state of affairs, the characterization of Room D9.1 as a storeroom is the most plausible, although the retrieval of stone objects, the fragment of an *asaminthos*, as well as two lead weights,[122] and even an animal that could have been slaughtered, indicate that not only pottery was stored there. If this interpretation is correct, then we have a room reserved for storage located at the rear of the building, some distance from the entrance. This may also have a bearing on the presence of the seal in the room, namely that it could be among the items stored therein.

SEAL S12: DELTA-SOUTH, ROOM D16

Ground level Room D16 belongs to the building unit Delta-South. The room came to light during the 1971 excavation season, the second season of intensive research in Complex Delta (Δ).[123] It was termed from the very beginning 'another precious store-room containing all kinds of objects'.[124] It was reported to be 'unusually large', measuring 4.9 × 7.1 m, i. e. 34.8 m², one of the largest rooms in Akrotiri,[125] and preserved a stone column base in the centre. The construction of the ground-floor Room D16 or at least part of it, is ascribed to

118 Koehl 2006, 295.
119 Koehl 1990, 354–56.
120 Knappett – Nikolakopoulou 2008, 35.
121 Papagiannopoulou 1995, 213, fig. 5, where in Xeste 3 the rhyta total is six, with zoomorphic rhyta being completely absent, whereas the West House produced 38 rhyta in all.
122 Michailidou 2008b, 86, figs. II.51, II.57, table II.3. The author, however, suspects that these two weights could be part of the set of weights discovered in Room D1a.
123 *Thera* V, 16–17, 20–26, pls. 14c–20, 28–50a.
124 *Thera* V, 16, 20–22.
125 Palyvou 1999, 229.

the latest LC I phase, and is thought to have followed the SDL.[126] No architectural remains indicating the existence of a floor above were recovered in the pure volcanic ash that filled the room.[127] This kind of filling suggests that the roof of this room was still in place when volcanic ash and pumice began falling on the houses.

The floor, at first count, was found covered with more than 300 pottery vessels and many more items, some of them of unique materials and craftsmanship.[128] The final total of pots in Room D16 was '450 vases, including jars, ewers, jugs, cups, a large variety … grouped in various categories: good pots, bad pots, imported pots, ewers together, and so on'.[129] The brown-reddish jasper lentoid **S12** was the first seal from Akrotiri to appear in preliminary excavation reports.[130] It was retrieved during the 1971 excavation season 'in the sifting of the floor's earth'.[131] The daybook entry states that it was found in the sieving of the soil from the E wall.

In an effort to describe and interpret Room D16, Marinatos reported that 'fragments of vases lay accumulated everywhere, but especially along the walls', that 'the bottoms of theses vases were regularly placed on the floor and almost always contained seeds, flour or other organic matters (greasy, blackish earth)', that 'some of them … could have been standing on shelves along the walls.'[132] He also suggested that the pots 'were already broken when transported from somewhere else'; furthermore, 'most of the fragments were missing'. However, his report was drafted soon after the completion of the room's excavation and did not see the full restoration of all the pottery. The concentration of pithoi around the central column was further seen as an indication of the hazards caused by the earthquake.[133]

By contrast, the daybook entries make clear that objects were found on the floor of Room D16 in what appear to be clusters (*Fig. 19*). A cluster in the SW corner comprised, *inter alia*, triton shells, rhyta, a pair of unique ostrich egg vessels,[134] and a hoard of stone vessels. It was probably this cluster that fostered the characterization of this room as a cult-related context, particularly by scholars familiar with Minoan material remains in Crete. However, the rest of the room contains objects — some well known from other contexts, others less familiar — that relate to various activities, such as crop processing and the storage of organic materials. The NW corner presented another cluster of nine medium-sized clay vessels and a marble quern. Four of the vessels are described in the daybook as 'spouted', two were imported strainers, one was a nippled jug; at least three contained organic residues, while at the same time containing other vessels, such as cups, a bronze object, a lead disc weight,[135] and another nippled jug. The NW cluster ended with a pithoid vessel containing 18 complete askoi, along with a cup, a small pithamphora and a set of

126 Doumas 1978, 780; Palyvou 1984, 136.
127 *Thera* IV, 53; V, 16; Palyvou 1984; Palyvou 1999, 236; Michailidou 2001, 316–18.
128 *Ergon* 1971, 186–93; *Thera* V, 21–22, 30–36, pls. 31b, 60a–b, 61a, 62a–b, 66–79, 81–87a.
129 Doumas, in response to Koehl 1990, 362.
130 Seal **S9** had been found in the previous year, but was reported as having no 'engravings' and did not appear in print (*Thera* IV, 14); in fact there are only faint traces of its engraved motif.
131 *Ergon* 1971, 204, fig. 206; *Thera* V, 21, 36.
132 *Thera* V, 20–21.
133 Polychronakou-Sgouritsa 2000, 79; Nikolakopoulou 2003, 568–69.
134 Bichta 2003, 542–43.
135 Michailidou 2008b, 50, 96.

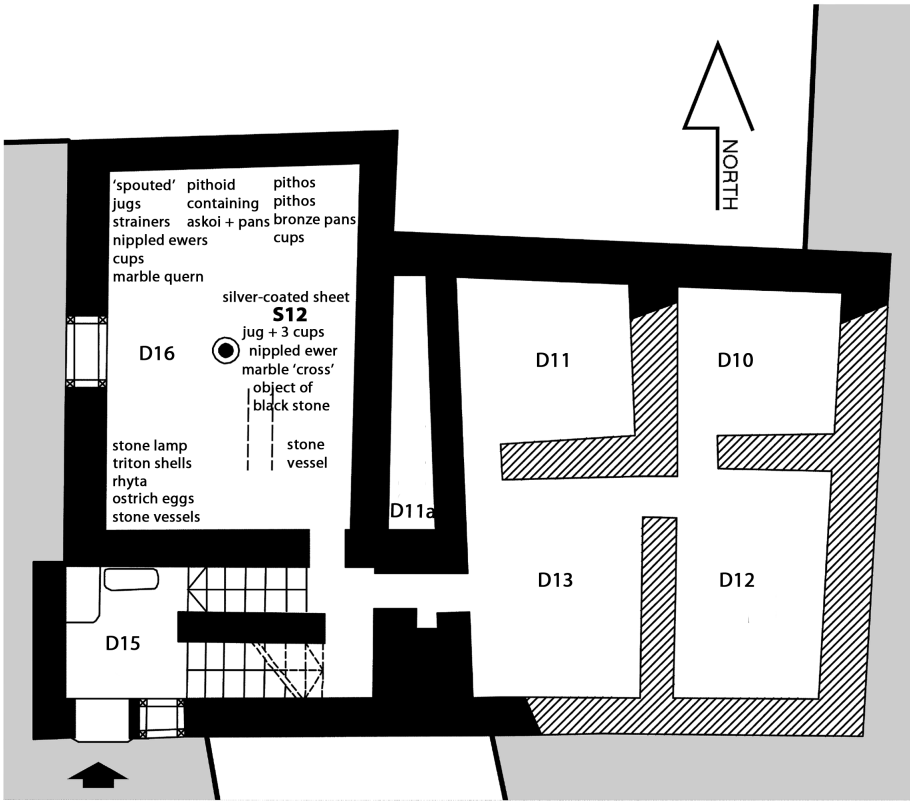

Fig. 19. Delta-South: D16, with (approximate) findspots of clusters of objects based on information from the excavation daybook (adapted from Palyvou 2005, 72, fig. 90; image courtesy of INSTAP Academic Press, Philadelphia, PA, USA).

balance pans of the smallest size recovered so far at Akrotiri,[136] found around the middle of the N wall. A third cluster was found in the NE corner and comprised two pithoi, one of which contained organic residues, while behind it was a lead ring and a perforated, unfired clay cylinder.[137] The second pithos contained a cup and an amphora; two more vessels and an incense burner were in the vicinity (*Fig. 20*). A second pair of bronze pans, a balance set of the largest size so far recovered at Akrotiri, is reported to have come from inside one of the pithoi.[138] A fourth cluster is described in the middle of the E wall, from which the soil in which seal **S12** was found came. This cluster contained an object of black stone, a marble 'cross',[139] two unspecified vessels and a nippled ewer; apart from seal **S12**, a silver-coated sheet was retrieved in sieving.

Seal **S12** was found two days before the excavation of Room D16 was reported as completed; thus it was definitely among the finds resting on the floor of the room. Even if the

136 Michailidou 2006, 258, fig. 24; Michailidou 2008b, 49–50, figs. II.1b, II.2, II.9.
137 Not mentioned in Tzachili 2002–03 or Tzachili 2008.
138 *Thera* V, 33–34, pl. 79; Michailidou 2006, 258, fig. 24; Michailidou 2008b, 49–50, figs. II.1a, II.5–8.
139 *Thera* V, pl. 31a: D16, middle of E wall.

clusters just described had been brought from elsewhere, they were doubtlessly among the first to be placed there; having been found, however, under layers of more vessels, it is more probable that they were among the room's original contents.

Commentary: The wealth of movable finds in Room D16 has prompted a variety of interpretations as to its character and function. The 18 small *askoi* of Minoan manufacture, accompanied, *inter alia*, by a balance set, first led Marinatos to regard the items as 'merchandise'.[140] For Doumas the architectural similarities of Room D16 with Room A1 in Sector Alpha (A), both having a column base and a sizeable window overlooking the street, as well as similarities in their contents, further strengthened the case for Room D16 as a locality for commercial trading activities.[141]

However, the additional activity of the 'squatters' hinted at by Marinatos, that of moving items to rooms unscathed by the earthquake, with Room D16 probably among them, did not seem to involve damaged items. In such cases, the inhabitants seem only to have salvaged undamaged objects;[142] regarding pottery in particular, there is simply no sense in collecting and transferring vessels all in pieces. In addition, the number of pots recovered is not so impressive by Akrotiri standards, especially given the fact that Room D16 is one of the largest rooms on the site, of a little less than 35 m², as mentioned earlier. A comparable number of pottery vessels, some 380, was recovered in the considerably smaller Room D18a, which measured only 8 m².[143] And some 200 were found during the excavation of NPP 80, where only a section of a room measuring a little more than 5 m² was investigated; the room unearthed qualifies as a pottery storeroom, since it contained nothing other than stacked pottery.[144] Therefore, the case of Room D16 does not readily lend itself to a potential interpretation as an archaeological context affected by the 'squatters' activities.

The picture of a sea of broken vessels presented by the excavator appears through the daybook entries to be true mainly for the upper layers of debris inside the room (*Fig. 20*). The fact that these were all broken could be explained by a fall from higher up in the room, e. g. if kept on shelves. Alternatively, they might have sustained the full weight of the roof covered with volcanic ash, i. e. depending on the violence of the collapse. The daybook descriptions concerning the actual floor deposits, however, speak of pottery that was at times intact, at times broken to the degree of missing a spout.

Another line of interpretation has been offered by researchers familiar with Minoan material, who have tentatively identified D16 as a room connected with cult practices. Warren suggested that the room — or at least its SW corner — may have been a shrine or a shrine-store, due to 'the rich collection of stone vessels'.[145] Poursat saw it more as a 'shrine storeroom or repository', since it contained 'the most precious objects, made either

140 *Ergon* 1971, 189, fig. 226.

141 Doumas 1983, 51; in response to Koehl 1990, 362.

142 Nikolakopoulou 2003, 562–65, where the concentrations of intact objects in various open areas of the settlement are listed; also, 568–70, where a lengthy catalogue of rooms filled with intact objects is presented. Nonetheless, the instance of Room D16 is mentioned with reservations, as a probable instance of items transported already damaged into the room (570).

143 Polychronakou-Sgouritsa 2000, 83.

144 Moschou – Karnava forthcoming.

145 Warren 1979, 105.

Fig. 20. Delta-South: D16, NE corner (Akrotiri Excavations Archives).

by local or by Minoan workshops and in that case imported'.[146] The co-existence of triton shells along with the ostrich-egg rhyta in the same room has also led Sakellarakis to speak of their use 'in cult practices'.[147] The high number of rhyta, along with a great variety of objects, most of them 'precious', prompted Koehl to identify the room with a cult repository.[148] He suggests (along the same lines as for Room D9.1) that cult objects could have been distributed to participants from the large window, for rituals involving libations with perfumed oil to be performed in open spaces. A basic problem with these interpretations is that they are formed from a Neopalatial perspective. Whatever is 'cultic' or 'ritual' in Crete is not necessarily the same in Thera; these items do not necessarily retain their original, meaningful, ideology-laden Cretan significance in an entirely different environment.[149] Furthermore, these interpretations can only be applied to a portion of the room's contents.

With this last observation in mind, the impressive variety of objects retrieved from D16 finds its most complete explanation in the characterization of the room as a storeroom for items to be traded. This explanation can account for the co-existence of the numerous heterogeneous items of such high quality and social value, some of which were also imported; it can also account for some of these being unique and unparalleled, and thus so far elud-

146 Poursat 1990a, 125.

147 Sakellarakis 1990, 289–95.

148 Koehl 2006, 295. Koehl considered the possibility of a context *in situ*; however, he suggests that the original storage place of items considered valuable, such as the rhyta, would have been elsewhere, perhaps even upstairs, so some sort of transfer should probably not be excluded (Koehl 1990, 357).

149 See relevant discussion for Room D9.1, pp. 30–33.

ing interpretation, such as the marble 'cross'. In addition, it can account for the presence of two different balance sets and the unbaked clay cylinder, the former for items to be traded by weight, the latter used as a possible accounting device. Finally, the interpretation as a 'shop' can even accommodate the presence of organic residues in some of the vessels, meaning that not only were the objects in the room meant to be traded, but perhaps also their contents.

Seal **S12**, which is of interest here, cannot be directly connected either to the suggested 'cultic repository' at the SW corner of the room, or to the suggested 'merchandise', which is highlighted by the presence of two pairs of balance pans in the N and NE part of the room. The immediate context of **S12**, constituted by an as yet obscure object of black stone, a marble 'cross', three clay vessels and a silver-coated sheet, is not particularly enlightening either. The presence of the seal in this particular room can be seen as either an object to be traded itself, a suggestion supported by its pristine condition, or as an administrative tool, i. e. assuming that something was being controlled and/or stamped on the spot with this seal.

Seals S13, S14: Xeste 3 and its Surrounding Area

The imposing building standing near today's entrance to the archaeological site, at its southernmost extremity, is one of the few buildings at Akrotiri to have been thoroughly excavated. We know that it is not unique, inasmuch as three more buildings of similar architecture have been identified to date, though these have not yet been investigated. However, its special status in the life of the town is demonstrated not only by its outstanding architecture — a three-storey building constructed chiefly of ashlar masonry[150] — but also through its contents: wall paintings in practically every room and movable finds that differ from those found elsewhere in the settlement.[151] The particularity of Xeste 3 was noticed early on, when it was described as 'a building of public use …, (where) signs of private habitation were scarce'.[152] Although its excavation has been completed, the final publication, still pending, should shed more light on its exceptional character.

Two seals are associated with Xeste 3, one of which was found in its interior and one in the Square of the Benches.

seal s13: square of the benches

Xeste 3 was originally detected in 1969, during the excavation of PP 4, which at the time was meant to host a Dexion pillar for the protection of the nearby Building Gamma (Γ);[153] from the outset the excavator characterized it as an 'interesting building'. A brief investigation followed in 1971,[154] which revealed much of its external perimeter. In 1972 two PP (47,

150 The upper storey appears to have a height of more than 3 m, as suggested by the recent reconstruction of wall paintings that decorated it (Doumas 2009–10, 13–21, figs. 13–16).

151 Doumas 1983, 49, 106–08; 1987, 155; Papagiannopoulou 1995; Michailidou 2001, 334–60; Palyvou 2005, 54–62; Vlachopoulos 2008.

152 *Thera* VII, 23.

153 *Thera* III, 26, pl. 3.2.

154 *Thera* V, 26–27, fig. 4, pls. 50b–53. The building was initially called 'Ashlar-Masonry Building (Ξεστή) E'.

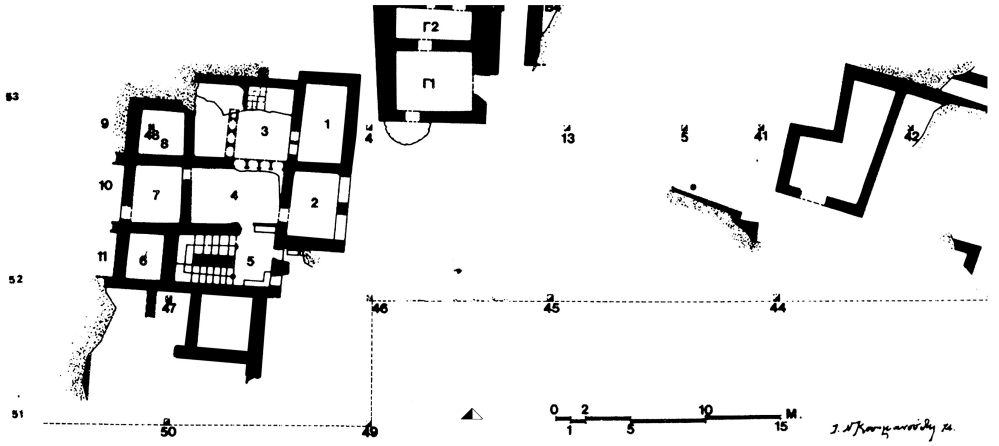

Fig. 21. Xeste 3, as revealed after the 1973 excavation season (Akrotiri Excavations Archives; *Thera* VII, plan B).

48) were opened for the shelter covering the newly-discovered building;[155] after a number of trials in what proved to be 'Corridor 5', these were opened in what we now know as the S exterior side of the building and inside Room 8 respectively.[156]

The building became the focus of investigation in 1973, when most of its plan was revealed, and innumerable fragments of wall paintings were retrieved (*Fig. 21*).[157] The clay seal **S13** was found while the area to the S of the building was being investigated. The daybook entry records it as coming from 'the S area of the destruction layer, to the S of corridor 5'. From the above phrasing, it is not entirely clear whether the daybook's description means that the seal was found inside 'Corridor'-entrance 5 or to the S of it, and to the S of the Xeste in general. It seems more likely that it was found outside, because on days prior to the retrieval of the seal the only work carried out inside 'Corridor 5' was the detailed recording and on-the-spot conservation of wall painting fragments.[158]

The area to the S of Xeste 3 has been investigated on a number of occasions since then, revealing another building to its SW, the House of the Benches,[159] and a square to its S, the Square of the Benches. It was in this open space that Marinatos first discovered what he described as a 'troglodytic' installation. A high number of stone tools (hammers, grinders, anvils, etc.) were found scattered in a limited area,[160] and rough walls were built here and there, using stones from the destruction layer of the adjacent buildings (the plan in *Fig. 21* actually presents these walls as part of Xeste 3, a misunderstanding corrected in later drawings).[161]

155 *Thera* VI, 16–67, pls. 23, 24b–c.

156 The PPs appear on the next year's plan: *Thera* VII, plan B. The wall paintings found in them come from the main staircase and Room 3, the 'lustral basin' (Vlachopoulos 2008, 465 fig. 41.51).

157 *Thera* VII, 22–38, figs. 3, 4, colour pls. A–L, pls. 2, 30b, 32–42, 47c–d, 52c, 53, 54b, 55a–b, 56d, 58–66.

158 *Thera* VII, 25, pl. 39a, the 'Hunter'.

159 *Praktika* 1990, 234, pl. 145b.

160 *Thera* VII, pl. 33a.

161 *Thera* VII, 22, pls. 32b, 33a. The area was reinvestigated in 1990, without any further insights as to the purpose of the stone tools (*Praktika* 1990, 234–35, pl. 147a).

Fig. 22. Square of the Benches: plan of the stone piles covering the square. PP 47 (marked by an X inside a rectangle) is exactly to the S of the wall dividing the staircase ('Corridor 5') from Room 6 of Xeste 3 (Akrotiri Excavations Archives, drawing by V. Isaakidou; *Praktika* 1993, 171, fig. 3).

Drawing and removal of the fallen stones in the SW corner of Xeste 3 took place in 1992,[162] and a second drawing was drafted in 1993, showing the stone piles in the Square of the Benches in much the same condition as they were left in 1973 (*Fig. 22*). The round object visible in the middle of the plan is a stone circular basin recorded in the 1973 daybook as having been found in a distance of 4.2 m from the S wall of the Xeste, some days before the seal was found. The clay seal **S13** was, therefore, found during the investigation that brought the stone piles covering the square to light. The investigation in 1993 showed that the stone tools lay on top of the Xeste debris, which accumulated after an earthquake; since the debris at that specific spot of the settlement had not been cleared by the inhabitants, we can assume that the earthquake responsible for the destruction was probably the latest, the one which preceded the final eruption.

Commentary: In light of this information, the clay seal **S13** was either being worn or used in the Square of the Benches until the very last moments of the settlement's existence, or else it belonged to the contents of Xeste 3 until most of the upper levels crumbled due to the pre-eruption earthquake. Since the daybook notes that the seal was found in 'the S area of the destruction layer', i. e. at considerable distance from the Xeste, the first suggestion appears more plausible. The exact circumstances of the object's retrieval cannot be recreated, since the daybook entries are not helpful in this respect.

162 *Praktika* 1992, 180–81, fig. 3, pls. 76, 77.

SEAL S14: XESTE 3, DOOR BETWEEN ROOMS 13 AND 14

On the basis of architectural, iconographical and other archaeological evidence, the ground storey and the first floor of Xeste 3 seem to have had distinct E and W sections, with the former exhibiting elaborate characteristics and the latter having a plain construction.[163] The E part is viewed as 'public' and 'ceremonial', whereas the W as a 'service area'.[164] Such a distinction has not been suggested for any other building in Akrotiri and, therefore, we have no means of comparing it with any other evidence.

Since the building is one of the few fully excavated at Akrotiri, we can be sure that only a single seal was among the contents at the time of the final destruction. The black steatite disc **S14** was found in the W part of the building, in association with the ground-level floor and the door between the adjacent Rooms 13 and 14 (*Fig. 23*). Room 13 had all been investigated through to the floor of the ground level in the final year of the excavations led by Marinatos (1974). It had yielded a small number of pottery vessels — six nippled ewers, one bridge-spouted jug, one 'teapot', one amphora, two pithoi, and two other vessels — without any indication as to from which level these originated.[165] Room 14 was first revealed in 1973 on the level of its first floor, and was falsely thought to be communicating with Room 11 through a door; also, what was initially thought to be a door to another room to its S, turned out to be a first-floor window.[166] This particular room was further investigated in 1987,[167] again on the level of its first floor, where a door leading to Room 13 was discovered and consolidated.[168] The debris contained architectural members, such as worked stones, stucco fragments and bases for *polythyra* (pier-and-door partitions);[169] also, fragments of three or four pithoi and a LM jug, seashells, an obsidian arrow-head and a flint blade. Moreover, it produced fragments of a wall painting with rosette patterns in relief.

The steatite seal **S14** was retrieved in 1990, when the investigation of Room 14 continued.[170] The seal was found in the sieving of the soil covering the door in the N wall of the room, which led to the adjacent to the N Room 13. On this occasion the investigation was limited to the ground-level room, which had the same plan as the room of the first floor, much like all Xeste 3 rooms did. Room 14 ground level also had an opening measuring 1.8 × 1.8 m[171] leading to Room 15 to its S. At some point in its history, this opening had been blocked, leaving Room 14 as the end-point in the building's ground level.[172] Again, movable finds were poor and included soil and rough stones, animal bones, shells, obsidian flakes, carbonized material and pottery sherds, i.e. debris material. Apart from pottery sherds and plaster fragments, the only other finds mentioned in the daybook, in close association

163 Palyvou 2005, 59, 61.
164 Doumas 1987; 1992; Vlachopoulos 2008, 451.
165 *Praktika* 1975, 222–23, pls. 194–196a. The types and numbers of pottery vessels are found in Papagiannopoulou 1995, 214, fig. 7.
166 *Praktika* 1975, 223.
167 *Praktika* 1987, 244–45.
168 Discrepancies can be observed between the general plan of the site (p. xvii) and Palyvou's more recent architectural study of the settlement buildings (2005) that is followed in the present study. The architectural study of Xeste 3 is on-going, so more information will hopefully derive from it in the future.
169 Michailidou 2001, 360, fig. 269.
170 *Ergon* 1990, 113; *Praktika* 1990, 233–34.
171 *Praktika* 1990, 233.
172 *Praktika* 1993, 166.

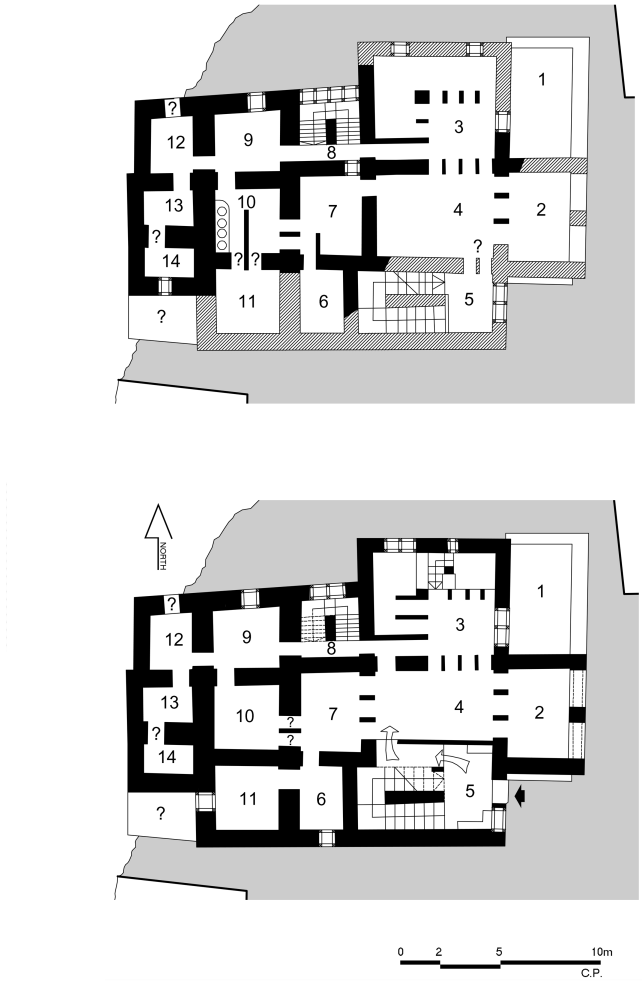

Fig. 23. Xeste 3: plan, ground floor and upper floor (Palyvou 2005, 55, fig. 62; image courtesy of INSTAP Academic Press, Philadelphia, PA, USA).

with the seal, were a number of obsidian fragments. Fragments of relief wall paintings were again retrieved. No floor was found at the ground level of Room 14, with the excavation reaching –0.2 m from the threshold of the door between Rooms 13 and 14.

Commentary: The fragments of a relief wall painting, found amidst the debris material of the first and the ground levels of Room 14, are important for our understanding of the room contents. The yellow-blue rosettes inside blue lozenges in relief are unique among the Xeste 3 wall paintings,[173] and are thought to belong to the second-storey decoration of

173 Although not unique within the settlement: fragments of a relief rosette pattern were discovered embedded in the floor of a room of the House of the Ladies (Televantou 1994, 361).

a room tentatively placed above Room 9, where the majority of fragments were found.[174] The fragments were found in various rooms of the W section of the Xeste, namely Rooms 6–14,[175] and as far as Room 15.[176] This dispersal shows both the extent of the second-floor destruction and disturbance of contexts inside the W rooms of the Xeste. In light of this information, it is far from certain whether the seal was part of the original contents of the room or belonged to the contents of one of the upper-level rooms.

The preliminary study of the pottery of Xeste 3 produced a total of only three pots from Room 14: a cut-away jug, a bridge-spouted jug and a pithos.[177] Xeste 3 appears to be one of the 'poorest' buildings in the settlement in terms of pottery, but this particular room has yielded one of lowest counts in the building. Whatever the purpose of this space in the very back of the building, its movable finds provide few clues.

Seal S15: Building Iota Beta (IB) (NPP 44A)

NPP 44A was opened in 1999–2000 in the S sector of the archaeological site and outside the S limit of the old shelter, in an area never previously investigated.[178] The buildings nearest to the NPP are Building Iota Delta (IΔ) to its N[179] and Building Iota Beta (IB) to its NE.[180] The N side of NPP 44A is located c. 12 m from the N façade of Building Iota Beta (IB) and some 20 m from that of Building Iota Delta (IΔ). In view of the close proximity with these two buildings, it seems likely that the room discovered in the excavation of NPP 44A in fact belongs to one of the two.

The excavation of the NPP revealed a ground level room of a LC I building, which was founded on the bedrock (*Fig. 24*). Two crossing walls established the S and W limit of the room, which occupied the E half of the NPP and showed evidence of further interior spaces to the E. In addition, a vertical clay drain pipe was found embedded in the W wall. In similar instances throughout the settlement,[181] the pipes ended in the central sewage system,

174 Vlachopoulos 2008, 454, figs. 46a–b, 51.

175 Michailidou 2001, 360.

176 *Praktika* 1993, 166–69, fig. 2; this drawing shows the interior of Room 14 before the 1987 and 1990 excavation seasons (compare the exact same drawing, showing Xeste 3 in 1978, in Palyvou 1999, 353, fig. 191).

177 Papagiannopoulou 1995, 214, fig. 7.

178 *Praktika* 1999, 156, fig. 1, where the position of NPP 44A is indicated on the plan of the site; further, *Praktika* 1999, 164, figs. 4–5, pls. 97b, 98.

179 The building is still unnamed in *Thera* VII, plan B, and *Praktika* 1975, 227–29, fig. 3, pl. 205a. Together with the building to its E they were jointly named Building Iota Beta (IB) in *Praktika* 1994, 157, fig. 1, but separate names were assigned to them in *Praktika* 1995, 132, fig. 2. In *Praktika* 1999, 175, NPP 44 (like PP 44) was opened inside the building. Palyvou 1999, 35 and 2005, 28 assigns no particular name to it. However, a drawing of its N façade appears under the erroneous denomination 'House IB' in Palyvou 2005, 99, fig. 140.

180 See above, n. 179. A photograph of the building is published in *Praktika* 1975, 227–29, fig. 3, pl. 205b. The building appeared in *Praktika* 1985, inserted pl. Theta, as 'South House' and this is also followed in Palyvou 2005, 98–100.

181 The clay pipes in the N wall of Gamma 7 (Building Gamma) were discovered during the excavation of PP 2: *Thera* III, 26, 51–52, fig. 29, plan IV. The same system was seen in the W wall of Delta 7 (building unit Delta-North): *Thera* IV, 12, 15, pls. 10b, 11b, 18a; additional information from NPP 15, opened in 2000: *Praktika* 1999, 156, fig. 1, where the position of NPP 15 is indicated on the plan of the site. Both instances concern exterior walls overlooking Triangle Square and a narrow alley (Gamma 8) respectively.

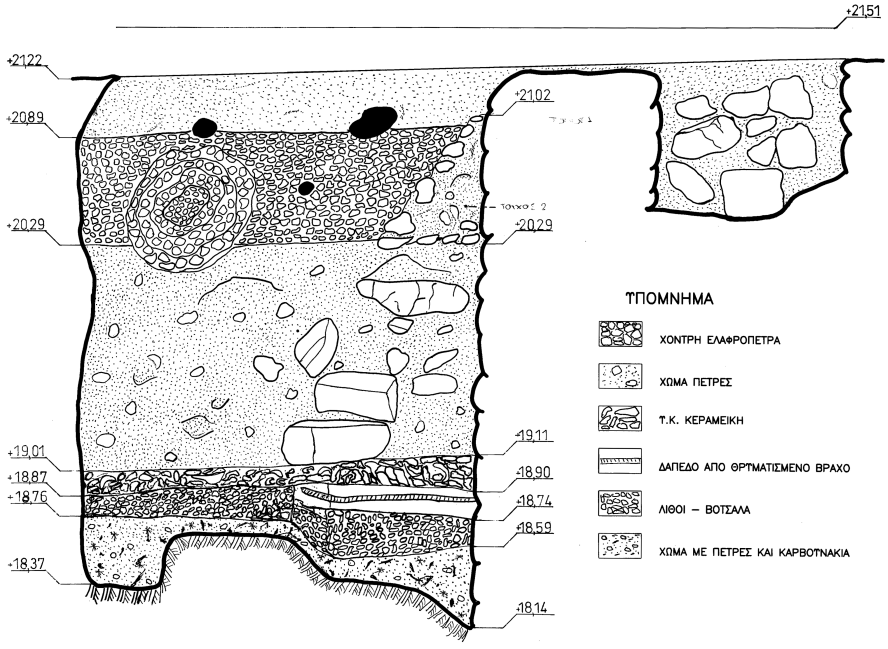

Fig. 24. Section of NPP 44A, situated to the S of Building Iota Beta (IB) and Iota Delta (IΔ) (Akrotiri Excavations Archives, drawing by E. Damigou).

Fig. 25. NPP 44A: interior of the ground level room on 17/2/2000, the day when *Petschaft* **S15** was found. The arrow and scale rest on the surface of the bedrock, which was revealed in the E section of the room (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

which crossed under the streets of the settlement.[182] A recent study showed that the central sewage system was constructed sometime in the early LC I phase but prior to the SDL[183] and fixed structures, such as pipes embedded in walls, closely followed its construction. The investigation in NPP 44, which was opened to the S of Xeste 4 and between Building Iota Beta (IB) and Iota Delta (IΔ), revealed part of this underground sewage system; a branch headed S–SE, apparently following the road between the two buildings. Thus, the W half of NPP 44A seems to have been an open space, namely a street, along which a branch of the central sewer, coming from the area of NPP 44, ran. We suggest that the room revealed in NPP 44A belongs, in all probability, to the Building Iota Beta (IB), and is situated near the W limit of this house. The embedded pipe gives also a *terminus ante quem* for the construction of, at least, this part of the building, and that is the SDL.

The interior of the room was interesting, in that it contained a homogeneous layer of max. thickness 0.36 m of LC I pottery,[184] which rested broken on the floor, along with a number of other items: a bronze dagger,[185] a carnelian object, an ivory pommel[186] and wooden wedges. The daybook registers the presence of stones, plaster fragments and traces of numerous pits, which once held wooden beams, in the destruction layer; these seem to indicate the existence of at least one upper floor. The room had a floor of crushed rock, partly preserved in the W half of the space; on the E half, the bedrock was revealed after the removal of brown, humid soil, containing small stones (*Fig. 25*). It was in this layer, interpreted as the floor's substratum, that seal **S15** was found; therefore it has no bearing on the room's contents or presumed function. The layer contained pottery sherds, animal bones, seashells, plaster fragments with red-coloured surface and a rounded sherd of clay with a suspension hole (*Figs. 26, 27*).

Commentary: When seal **S15** was included in the *CMS*, a 'MC III' context dating was suggested,[187] presumably based on a tripartite system of dating MC phases. A closer look at the pottery of the respective *locus* indicates that the sherds should be identified with a deposit of the MC D phase, i. e. the latest MC phase. This is mainly detected in secondary deposits throughout the town, such as the one under discussion here,[188] and corresponds to the later part of the Cretan MM III period.[189] The date of the layer, which includes earlier remains used to level the rocky terrain, could even represent a rough date for the construction of this part of the building in general. The seal and associated finds are discards from earlier — and wholly unknown — circumstances. The monochrome painted decoration on stucco fragments retrieved together with the seal suggests that the

182 For the public sewage system in general: Palyvou 2005, 41–42.

183 Sofianou – Georma forthcoming.

184 The conservation of pottery revealed more than 80 cups (conical and Cycladic), along a considerable number of other vessels: jugs, a fruit-stand (with organic residues), a miniature fruit-stand, an amphora (in use, with imprints of a legume inside), a three-handled pithamphora, a brazier, rhyta, a big open vessel, nippled ewers.

185 *Praktika* 1999, pl. 98b.

186 *Praktika* 1999, pl. 98c.

187 *CMS* V Suppl. 3 no. 387: 'MK III Keramik'.

188 Nikolakopoulou *et al.* 2008, 319.

189 Knappett – Nikolakopoulou 2008, 3.

Figs. 26, 27. NPP 44A: pottery from Layer VI where *Petschaft* **S15** was found (Akrotiri Excavations Archives, photos by C. Papanikolopoulos – D. Sakatzis).

earlier remains cannot be pushed further back than the end of the MC period.[190] The date provided by the clay drain pipe further suggests that the seal must have found its way into the floor's substratum sometime during the early LC I period, although its context represents the earlier MC D ceramic phase.

190 See Televantou 1994, 357–61, where earlier wall paintings found either in debris or embedded in later wall paintings from various locations in the settlement are seen as a result of an extensive destruction, which could be the SDL; renovations and rebuilding activities that followed included the installation of clay pipes within walls, such as the one attested in the West House.

Seal S16: 'Première maison d'Acrotiri'

A little known fact about Akrotiri is that the ancient site was investigated for the first time in 1867. A French geologist, F. Fouqué, ventured to Thera at the time, in order to observe a volcanic eruption close up. He took this opportunity to briefly investigate the stratigraphy formed by older explosions and detected stone walls, which he thought must postdate an ancient, but as yet undated eruption. Some three years later, in 1870, two of the first members of the French School at Athens, the geologist H. Gorceix and the geographer H. Mamet, followed his steps and investigated a limited number of trial trenches on Thera. Two of the trenches were in what we know today to be the ancient settlement of Akrotiri, one more lay to the N of the modern village of Akrotiri in the locality 'Balos'; they also investigated a trench in the neighbouring island of Therasia. All their trenches produced ancient, pre-eruption habitation evidence; some finds from those brief investigations were transported to the School's facilities in Athens, where they are still housed today.[191] The excavators reported their activities in short, preliminary accounts,[192] but never in any detail. All testimonies of their investigations were thought lost from the archives of the School, and interest in the old excavations slowly waned.[193] A century later, Marinatos picked up from where the first excavators had left off.[194]

The most extensive account of Gorceix and Mamet's investigation appeared in a book on the volcanic history of Thera by Fouqué.[195] At one point he describes an object found in the Gorceix-Mamet excavations, which is most clearly a seal: 'un disque en serpentine de 13 millimètres de diamètre. Ce disque, percé d'un trou circulaire sur sa tranche porte sur l'une de ses faces plusieurs entailles régulièrement disposées; autour du trou, la matière ne presente aucune usure, ce qui aurait eu lieu s'il eût été enfilé avec d'autres de manière à former un collier; c'était un pendant d'oreille ou une amulette à porter au cou.'[196] Two drawings of this seal, which was not illustrated in Fouqué's book and is not listed anywhere among the objects housed at the French School at Athens, have recently resurfaced and allow us to include a more accurate account of this find here. A brief note indicated that part of the original Gorceix–Mamet report to the overseeing committee in Paris, probably written during or immediately after the excavation, is housed at the *Institut de France* in Paris.[197] In addition, some photographs, as well as colour aquarelle drawings executed by the then director of the French School, É. Burnouf, were found in his personal archive, which was donated by his heirs to the Law Library of the University of Lorraine at Nancy.[198] Both these archives contain a drawing of the seal.

191 Renaudin 1922; Maffre 1972.

192 Mamet – Gorceix 1870; Gorceix – Mamet 1870.

193 Tzachili 2005; 2006.

194 *Thera* I, 6.

195 The account in Fouqué 1879, 94–131, pls. XXXIX–XLIV.

196 Fouqué 1879, 112.

197 Amandry 1975, 334, n. 2: 'archives de l'Institut, cote 14G'. I owe the information and copies of the archive's contents to the generosity of F. Rougemont, P. Darcque and A. Boucher, to whom I am extremely grateful.

198 *Calames*, Nancy. BU Droit, Manuscrits d'Émile Burnouf no. 45. After accessing Burnoufs documents online, I subsequently visited the Nancy library in September 2010, owing to the kind intervention of the late P. Carlier, and personally examined Burnouf's archive (Karnava 2014a; 2014b).

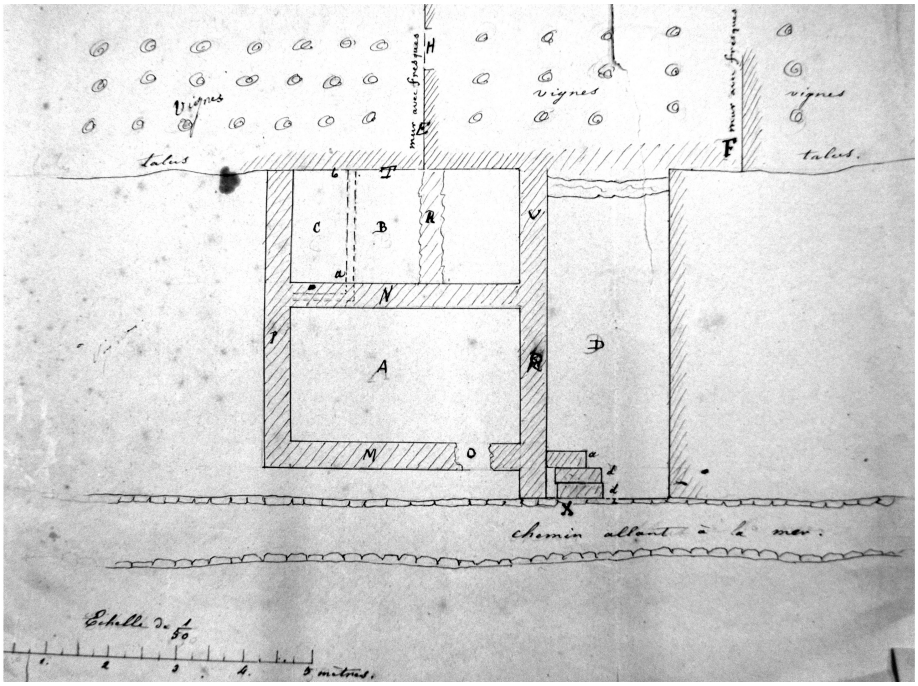

Fig. 28. 'Première maison d'Acrotiri' (sketch by H. Gorceix [?], *Mémoire de MM. Gorceix et Mamet © bpk-RMN-Grand Palais/Anaïs Boucher/Paris, Académie des Inscriptions et Belles Lettres*; a version of this plan appears in Fouqué 1879, 109).

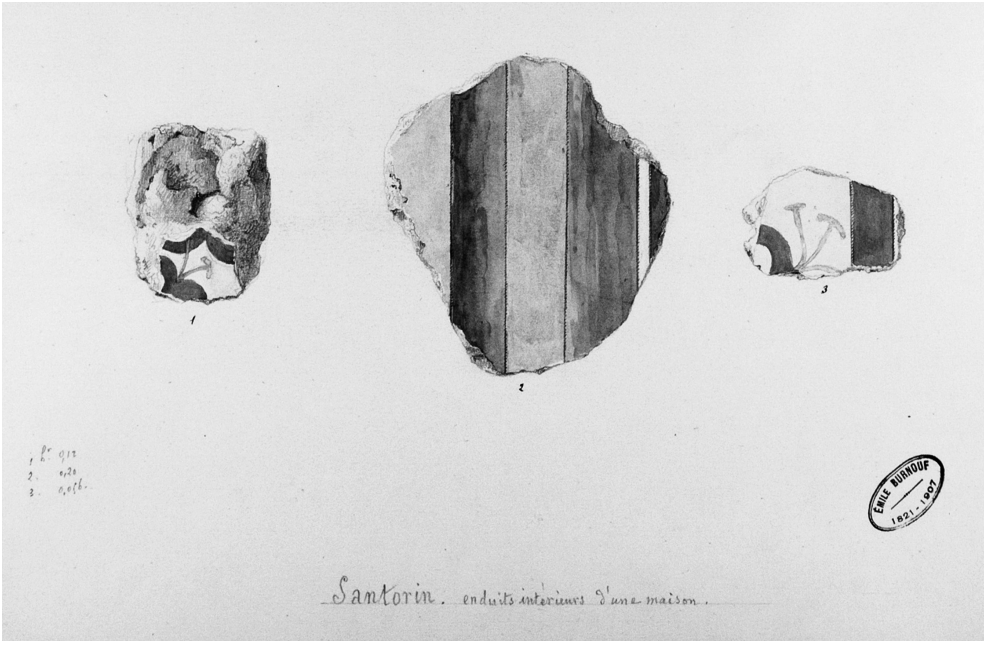

Fig. 29. Wall painting fragments from the 'première maison d'Acrotiri' where seal **S16** was reportedly found (*Manuscrits de l'université de Nancy/UL, Manuscrits d'Emile Burnouf, Burnouf 45, Direction de la Documentation de l'Université de Lorraine/BU droit*; Furtwängler – Löschcke 1886, 19 nos. 73, 74, pl. XII 73–74).

The seal is reported as found in the so-called First House of Akrotiri, i. e. in the building detected in the first trench the French opened at Akrotiri. The exact locations of the old trenches have not been identified in today's settlement, but some approximation is possible. Fouqué describes this first house quite carefully, so some important details about it are known (*Fig. 28*). The most important element he discusses is the fact that the building contained two different spaces with wall paintings, one of which was a corridor (E) and the other a large room (F) (indicated in the plan below). The fragments reportedly found depicted alternating bands of yellow, black, blue and white colours, as well as lilies with red leaves and yellow stamens near a red band, all coming from the same composition (*Fig. 29*). Comparison of these fragments with the wall paintings discovered and recorded at Akrotiri to date yields no matches;[199] thus the building investigated by the French mission has not yet been securely detected.

There is in fact a location in the settlement where wall paintings with lilies have been reported, but not excavated. In the area to the S of Sector Alpha (A), briefly investigated in 1968 and not further explored due to the danger of pumice collapse, Marinatos identified two rooms with wall paintings: the 'Porter's Lodge' and the 'Kitchen'.[200] Both belong to the building later named 'Building Eta (H)', which was not excavated. The 'Porter's Lodge' produced wall paintings coming from the upper storey of the building, with themes involving blue birds and blue monkeys, as well as the 'African', a male head in a tropical setting.[201] The 'Kitchen', on the other hand, is supposed to have produced wall paintings with papyri and lilies, but no fragments were collected; the wall paintings were given first-aid and their trench was back-filled. Building Eta (H) could, therefore, be the building that the French excavators traced, a suspicion to be confirmed or discredited by future excavations in the area.

Commentary: The excavators describe the now lost seal **S16** as a disc made of 'serpentine' engraved on one side. Knowing that Gorceix was a geologist, we can assume that his identification of the material is accurate. The style, shape and characteristics of the seal suggest a Neopalatial date and a Cretan origin for the piece. Since the seal was found in a LC building, the context date does not contradict the stylistic date for it.

THE SHAPES: FROM PENDANT SEALS TO LENTOIDS

The small number of seals retrieved at Akrotiri presents us with an interesting, yet limited array of shapes. The reason for this restricted variety is probably the fact that most come from LC I layers and are Cretan imports, thus extreme variations in shapes and sizes are not to be expected. Cretan Neopalatial seals show a certain standardization in shape — at least in comparison to Prepalatial and Protopalatial output — with lentoids, amygdaloids and cushions predominating.[202] At Akrotiri only lentoids and amygdaloids are attested so far.

199 I thank F. Georma for sharing her assessment of the situation with me.
200 *Thera* II, 27–30, pls. 27, 28.2, 30.1; V, 15–16, pls. 13, 14a–b.
201 Doumas 1992, 184–87, 'Area of Sector A', 'Area of the House of the Ladies', pls. 147, 148; Vlachopoulos 2007.
202 Krzyszkowska 2005a, 124.

Among the Akrotiri seals a considerable proportion, namely six out of 16, are lentoids: **S1**, **S2**, **S6**, **S9**, **S11**, **S12**, and potentially also **S16**;[203] by contrast only a single amygdaloid, **S4**, is found. Other shapes attested are the irregular discoid **S5**; the *Petschaft* **S15**; the disc without a suspension hole **S7**; the disc with a suspension hole **S14**; the three pendant vertical plates **S3**, **S8**, **S10**; and the stamp seal **S13**.[204] The shapes other than lentoids may be explained in part, because they come from contexts older than the LC I layers and consequently represent earlier phases in Minoan glyptic. However, the LC I layers have not only yielded 'mainstream' Cretan seal shapes but also some unusual shapes.[205] Explanation for the presence of these shapes in LC I layers should perhaps be sought elsewhere.

The majority of seals found at Akrotiri conform to shapes known from Cretan glyptic production. Hence there is no good reason to dispute their Cretan origin, at least not in terms of their shape or decoration. The few local products, established as such by the materials from which they are made, also deviate from Cretan norms with respect to shape.

A Pendant Vertical Plate

The straight-sided soft stone pendant seal **S3** (*Fig. 30*)[206] is an essentially Prepalatial seal shape.[207] The body of pendant seals is furnished with a suspension hole on its upper part, which is not set off from the rest of the seal.[208]

Examples which are directly comparable in shape and decoration to **S3** come from various locations in Crete and were mostly recovered from communal tholos tombs in Moni Odigitria, Siva and Plati in Lasithi,[209] although one was also found at Kolonna in Aegina;[210] none of these parallels has a context dating narrower than 'Prepalatial'. The Akrotiri specimen is the only example of such a seal from a closely-dated context: MC A, which, based on suggested correlations between Akrotiri and Cretan chronologies, corresponds to MM IA.[211] On stylistic grounds the comparanda may be dated between EM II and MM IA;[212] this suggests that the Akrotiri seal could even be an earlier product found in a later context.

It is noteworthy that a pendant with the exact same shape and dimensions similar to those of the Akrotiri example has been found in the Lebena Tholos II,[213] where numerous

203 The exact shape of this seal is unknown, since it is lost; the possibilities vary between lentoid, discoid and disc.

204 The terminology follows Yule 1981, 24–117; Sbonias 1995, 38–72.

205 The discoid **S5**, the disc **S14** and the pendant vertical plate **S10** also come from such contexts.

206 In the *CMS* terminology: *Anhänger Vertikalscheibe*, with the English translation being 'pendant vertical plate'.

207 Yule 1981: this seal would fall between the category of 'pyramids' (Class 23: p. 69) and 'rectangular plates' made of soft stone (Class 26b: p. 73). In a later study it is suggested that hard stone *Pyramidoide* are attested during EM II (Sbonias 1995, 40 no. 1d), and soft stone *rechteckige Plättchen* remain a separate type (Sbonias 1995, 61 no. 56).

208 *CMS* III, p. 25; a number of variant shapes occur under the generic term 'pendants', of which *Vertikalscheibe* is one.

209 Moni Odigitria (bone and hippopotamus ivory respectively): *CMS* V Suppl. 1A nos. 231, 247; Siva (bone): *CMS* X no. 6; Plati (steatite): *CMS* V Suppl. 1A nos. 62, 63.

210 *CMS* V Suppl. 3 no. 1 (steatite), a stray find.

211 Nikolakopoulou *et al.* 2008, 313–17.

212 Information from *CMS Seal Database*; this information is not included in the printed *CMS* volumes.

213 'Flat rectangular plaque perforated at top', H. 3.32 cm, W. 1.8 cm, Th. 0.57 cm (Alexiou – Warren 2004, 128, fig. 35, pl. 113D, no. 523; a broad chronological estimate of EM II–MM I is given).

Fig. 30. Pendant vertical plate **S3**, *Petschaft* **S15**, discoid **S5**, amygdaloid **S4**; scale: 3:2 (Akrotiri Excavations Archives/*CMS* Archive).

seals with cross-hatching decoration have also been recovered. The Lebena pendant has no engraved decoration, but it is termed by the excavators an 'amulet' because it has a suspension hole.

There is no reason to assign a Cretan origin to this particular shape; as indicated above, its origin lies within third millennium BC glyptic. For this period no main production 'hub' has been identified in the Aegean world, unlike the second millennium BC, when Minoan Crete played an important role in the production and diffusion of seals in the Aegean.[214]

A Discoid

The soft stone seal **S5** is best seen as a discoid, even though it displays some features atypical for this shape class, which comprises seals with round convex seal faces (*Fig. 30*). By contrast the periphery of the Akrotiri seal is nearly oval and one of its faces is flat. However, it fits well with other discoids in terms of material and decoration.[215]

214 Krzyszkowska 2005a, 36–37.

215 Yule 1981, 50–51. The author states that all the then-known examples were considered, although a few were later than MM IIIB.

The Akrotiri specimen with dimensions 1.4 × 0.65 cm appears somewhat smaller than the average discoid, which is 1.5 × 0.7 cm, yet presents us with both the centred-circles ornament and the hatching and cross-hatching, which are decorative themes also encountered on other soft stone discoids.[216] Ornamental designs in general are most popular for this seal shape, but animal motifs, either full-body representations or heads, are also attested.[217] Discoids are chiefly produced in the MM II and MM III periods, but some are thought to have been made earlier on account of their decorative motifs.[218] At the other end of their life-span, some are still produced at the transition from MM III to LM I. This is true of the amethyst discoid bearing a bearded male head, which famously derives from Grave Circle B at Mycenae and is seen as a LM I product.[219]

A *Petschaft*

Seal **S15** is a *Petschaft* with a convex seal face made of a medium hard stone (*Fig. 30*). The term *Petschaft*, which translates from German as signet, refers to Cretan seals 'with a circular base as well as a distinctly articulated midsection and a suspension hole at the top'.[220]

Petschafte date to MM II. Some three-quarters of the 82 surviving examples of *Petschafte* have a flat seal face, yet a minority, to which the Akrotiri example belongs, have convex faces. Convex seal faces appear to be the rule among seals in general from the Neopalatial period onwards, but as demonstrated by material from Protopalatial Phaistos, which includes a significant number of impressions from convex faces, they are not a decisive chronological criterion.

Petschafte have, at times, elaborate handles with grooves and ribs of varying depths and profiles. The Akrotiri example has a rather simple suspension handle, but a minimum of elaboration is still discernible, although with difficulty due to the surface erosion caused by adverse taphonomic conditions at Akrotiri. In fact, its handle shape is so simple, that this *Petschaft* exceptionally does not have a distinctly articulated midsection; this simplicity has no parallels among the surviving *Petschafte* from Crete.[221]

An Amygdaloid

The amygdaloid **S4** is remarkable because of its material and size (*Fig. 30*). It is made of hard stone, like the overwhelming majority of Cretan amygdaloids, but its specific material, namely smoky quartz, is quite rare among Cretan products.[222] It measures 2.1 cm, which makes it a rather large example of its kind.[223] These elements, together with its precisely executed motif, make it somewhat exceptional.

216 *CMS* II,2 no. 51; III nos. 116, 137; V Suppl. 3 no. 146; VII no. 25.

217 Some full-body animal representations: *CMS* VI nos. 153, 154; VIII no. 47; and some animal heads on discoids: *CMS* II,2 nos. 36, 48, 213; VIII no. 115.

218 *CMS* II,1 no. 302; V Suppl. 1A no. 217; VI no. 13; X no. 40.

219 *CMS* I no. 5; Krzyszkowska (2005a, 137) dates it to MM III–LM I.

220 Yule 1981, 85–88.

221 It is probably for this reason that **S15** is called a 'Griffösensiegel Horizontalscheibe' ('pierce-grip seal horizontal plate') in the *CMS Seal Database*, and is not listed under *Petschafte*.

222 Krzyszkowska 2005a, 82.

223 Krzyszkowska 2005a, 126.

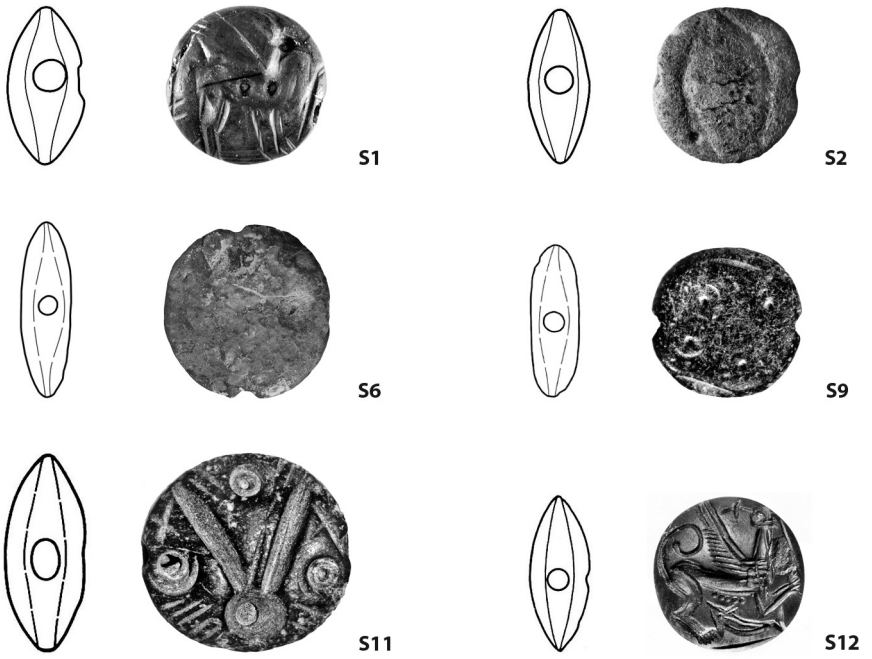

Fig. 31. Akrotiri lentoids, faces and sections; scale: 3:2 (Akrotiri Excavations Archives/*CMS* Archive).

The production of hard stone amygdaloids accompanies the transition to MM III and the glyptic of the Neopalatial period. Amygdaloids are among the most popular shapes in the LBA counting more than 1000 surviving specimens among Aegean seals in general. Based on its context dating to MC C, **S4** can be dated to the beginning of the MM III period, which is the period when the first amygdaloids were produced. Amygdaloids were also popular with the 'talismanic' decorative style in the Neopalatial period, a tendency to which this seal conforms.

The Lentoids

All six lentoids come from datable LC I, early and late, contexts. The high proportion of lentoids conforms to the fact that lentoids became the dominant shape in the Neopalatial period.[224] Lentoids were apparently first produced around the MM II–III transition, but they are considered typical of the LBA seal output.[225] As is common with lentoids, all Akrotiri lentoids carry engraved motifs on a single face (*Fig. 31*). Lentoids could be worn on the wrist, as the well-known Cup Bearer Fresco from the Knossos palace demonstrates,[226] hence there was no need for the second face to be decorated.[227] Three of the Akrotiri lent-

224 Yule 1981, 63–64, following Younger 1973, 19–21 (*non vidi*).

225 Yule 1981, 63–64: Class 19, Lentoids.

226 Evans 1899–1900, 15: 'an agate lentoid — the bands of the stone being clearly indicated — on his left wrist'; Evans 1928a, pl. XII.

227 The fact that more than one side bore incised motifs on Protopalatial seals does not mean that they were not meant to be worn.

oids have engraved faces so worn that the motifs on **S2** and **S9** are hardly discernible, if at all, as is the case of **S6**. It is hard to be certain if the excessive wear is due to poor quality materials — perhaps aided by potentially adverse taphonomic conditions[228] — or if it should be attributed to intense use. The overall bad state of preservation of **S9** could support the former; the good state of preservation of the undecorated face of **S6**, the latter.

The average diameter and thickness of the Akrotiri lentoids is 1.5 cm and 0.48 cm respectively. Most have a diameter of 1.4 cm that is close to the average for soft and hard stone lentoids,[229] but **S11** possesses a diameter of 1.75 cm. Two of the lentoids, **S1** and **S12**, are made of red jasper, another two, **S9** and **S11**, are of green serpentine, and two more are inderterminate soft stones: **S2** has an orange-brown colour, **S6** is reddish brown. The jasper lentoids differ somewhat in their red hue (**S1**: red-orange; **S12**: brown-red); it is noteworthy that the two soft stone lentoids that defy precise recognition of their material are also variants of red.[230] The serpentine examples, although seemingly made of similar material, are very different in terms of size and shape: **S9** is the smallest of the lentoids (Ø 1.35 cm), **S11** is the largest (Ø 1.75 cm).

The small lentoid **S9** is the sole example that has plano-convex faces, whereas the other lentoids all have convex surfaces (of varying degrees of convexity).[231] In this respect, **S9** fits better under a hybrid shape of seal that wavers between discoids, essentially a Protopalatial seal shape, and lentoids, a Neopalatial seal shape, and has therefore been dubbed here a 'disc-shaped lentoid'.[232] Examples belonging to this subclass seem to have a smaller diameter than lentoids, as does **S9**. Thus, on account of its discoid character, one cannot exclude a somewhat earlier date for **S9**, namely around the beginning of lentoid production. The fact that the seal is badly abraded, hence the motif is barely preserved, and the suspension hole is considerably enlarged, probably as a result of wear caused by the suspension string, could support an early dating for this piece.

A Disc

The soft stone disc[233] **S14** belongs to a shape class that starts as early as EM II and is found throughout the Minoan period; it reportedly has 'the longest continuous lifespan of any of the Minoan shapes',[234] which means that this simple shape was often produced and copied.

This particular piece differs from other discs in that its contour resembles that of a so-called figure-of-eight shield, created deliberately and not through wear (*Fig. 32*). In Minoan

228 It should be kept in mind that taphonomic conditions at Akrotiri are not uniform throughout the settlement, but, most importantly, they can by no means be compared to those on any other archaeological site in the Aegean.

229 Yule 1981, 63–64; Krzyszkowska 2005a, 126.

230 For an overview of the importance and special meaning of the red colour in the Aegean Bronze Age societies, see Blakolmer 2013. For the potentially sacral meaning of red in the context of Akrotiri, see Boulotis 2005, 73.

231 This reflects a general trend in Neopalatial glyptic (Krzyszkowska 2005a, 124).

232 The term is suggested by Pini (pers. comm.). Yule (1981, 52–53: Class 11c, Lenticular Discoids) termed this type of seals lenticular discoids, but the Akrotiri example is nearer to lentoids than discoids.

233 Pini would also class it under 'disc-shaped lentoids' like **S9** (pers. comm.). Its profile, however, is decidedly different than the profile of **S9** and is by no means reminiscent of lentoids.

234 Yule 1981, 48.

Fig. 32. Disc **S14** faces and sections; scale: 3:2 (Akrotiri Excavations Archives/*CMS* Archive).

and Mycenaean archaeology the figure-of-eight shield is a familiar image in wall paintings and seal iconography, and is widely considered as being imbued with ritual symbolism,[235] although its exact interpretation is debated.[236] The shape of a figure-of-eight shield as an iconographical *topos* (pattern) is not unknown in Akrotiri either,[237] and also makes its appearance among the Xeste 3 vase decoration, from where this seal was retrieved.[238] This resemblance could, however, be fortuitous, since there are no precise parallels for the shape of this disc: the curvilinear contour is not sufficiently pronounced to place it beyond doubt with figure-of-eight-shaped seals, which are few in number and have different forms and chronologies.[239]

It is the lack of parallels that also prevents us from assigning a more narrow production date to this piece. The fact, however, that both sides of the disc appear to have motifs or, at least, traces of them, is a feature that might point to a date within the Protopalatial period, when bifacial seals (i. e. engraved on both faces) were reasonably common. But this observation does not alone guarantee an early date for this piece, since bifacial seals are also attested, albeit more rarely, in the Neopalatial period.

Besides its rare shape, this seal has another rare feature: on the rim of one of its suspension holes, two small circular, almost superficial holes are visible, with diameters ranging from 0.06 to 0.1 cm. This could be evidence for some kind of technical feature, since the regularity of the holes makes it possible that they were executed with a seal engraver's tool.

A Seal with a Round Face

The exact shape of **S16** is unknown since the seal, which was found during the brief investigations of the French at Thera and Therasia in the 19th century,[240] has since gone missing. Two different sketches depict a seal circular in plan that bears a 'talismanic' and/

235 Danielidou 1998.

236 Warren 2000.

237 Boulotis 2005, 49–50, fig. 31; Papagiannopoulou 2008, 433–36, figs. 40.1–40.4; Marthari 2009, 424, figs. 22, 23; Nikolakopoulou 2010, 220; 2011, 260–61, figs 8–9; Marthari forthcoming.

238 Two LM IA three-handled jugs with figure-of-eight shields as their main decorative motif were retrieved from Room 11 of Xeste 3 (Warren 2000, 462, pl. 6). The vases appear to be miniaturistic (Papagiannopoulou 1995, 211, 213, fig. 2; Vlachopoulos 2015, 60).

239 *CMS* II,4 no. 189; V Suppl. 1A no. 219; VII no. 132; XI no. 75.

240 See above, pp. 47–49; Fouqué 1879, 112.

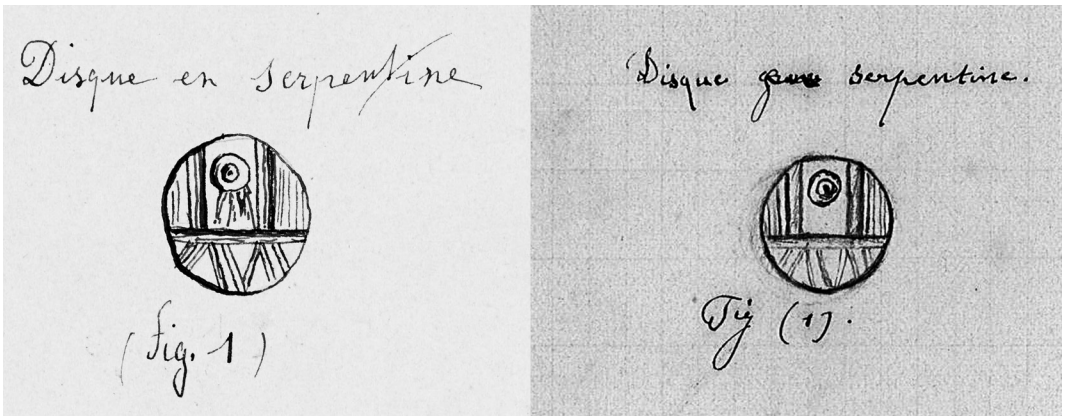

Fig. 33. Seal **S16**: sketches by H. Gorceix (?) (left) and É. Burnouf (right); scale: c. 3:2 (*Mémoire de MM. Gorceix et Mamet © bpk-RMN-Grand Palais/Mathieu Rabeau/Paris, Académie des Inscriptions et Belles Lettres*; *Manuscrits de l'université de Nancy/UL, Emile Burnouf 45*).

or 'tectonic' motif (*Fig. 33*). On the basis of the shape of the seal face and the decoration, it can be conjured that the seal was a lentoid, a discoid or, less probably, a disc. The use of these shapes extends over a long period of time, so they cannot be used as indicators for dating the piece.

A Disc without a Suspension Hole

S7 is an object made of what appears in all probability to be local, volcanic tuff.[241] The piece is designated here as a disc without a suspension hole but this designation is followed by a question mark (*Fig. 34*). The reason for this is that, apart from not having a suspension hole, the piece has one bevelled face, which is engraved, and an undecorated, extremely flat face. It could, therefore, be an object that was fitted onto something and not a seal. Having no parallel, however, either for similar seals or for fittings of any kind at Thera, and because small objects with engraved motifs in intaglio are extremely rare in Akrotiri, it was thought opportune to include it in the present account. The shape of this object finds a parallel among discs of various shapes and materials, such as soft stone, bone and ivory and particularly on one with a bevelled side.[242] In short, this object exhibits a number of traits echoing discs, including its colour, which is whitish with a green hue, but the absence of a suspension hole remains problematic. On account of the absence of convincing parallels, no dating can be suggested for this piece.

Two More Pendant Vertical Plates

The pendant vertical plate with concave-convex sides **S8** does not have an exact parallel among early Cretan seals, inasmuch as it is so thin that it resembles a two-dimensional object rather than the three-dimensional pendants (*Fig. 34*). It is apparently very worn, so

241 *CMS* describes it as 'soft stone?' The local volcanic tuff is indeed very soft.
242 Yule 1981, 49–50; *CMS* V no. 27.

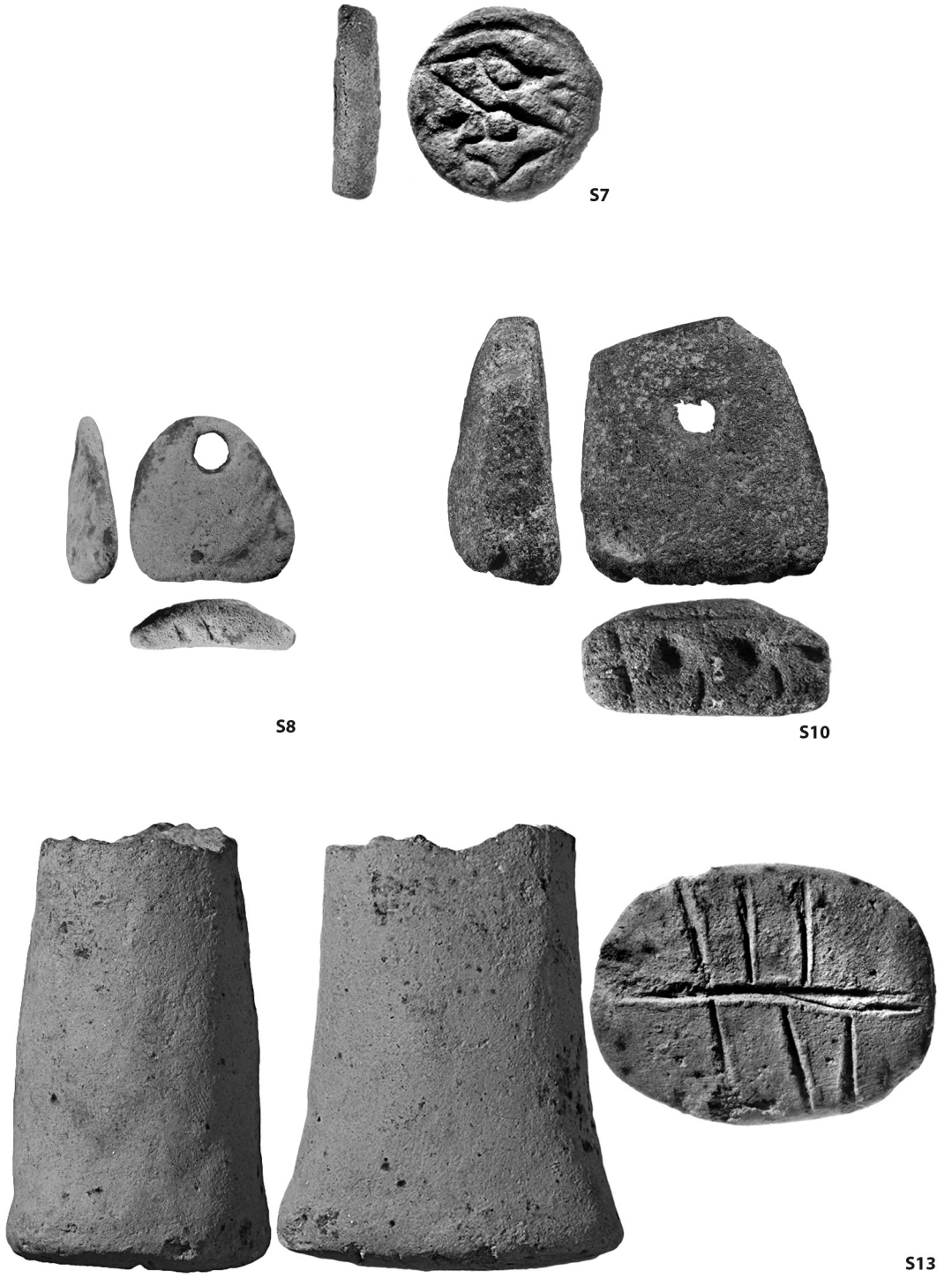

Fig. 34. The locally-produced seals from Akrotiri **S7**, **S8**, **S10** and **S13**; scale: 3:2 (Akrotiri Excavations Archives/*CMS* Archive).

the exact original shape may not be preserved. Prepalatial concave-convex plates made of bone present us with the nearest shape parallels to this example but the peculiar shape and the material of the piece suggest Theran manufacture.[243] Due to its singularity, no suggestion can be made regarding the manufacture date of this piece.

Another pendant vertical plate with plano-convex sides, **S10**, is so named in the absence of a more suitable term in Cretan glyptic (*Fig. 34*). This object has no parallels among Cretan seals, and is beyond doubt also a Theran product. Notwithstanding the absence of parallels for its shape, **S10** qualifies as a seal, since it has a suspension hole and an engraved motif on its lower surface. A parallel for its shape can be found in large-sized Minoan stone anchors, also thought to have served as votive objects.[244] On the other hand, the 'anchors', i. e. large pierced stones, found at Akrotiri are somewhat irregular in shape;[245] assuming that **S10** imitated anchors, these are not the ones it imitated. Such ship anchors were found just a few meters away from where **S10** was found: one inside the House of the Anchor[246] and two more in Complex Delta (Δ). The absence of good parallels for this piece makes dating suggestions impossible.

A Stamp Seal

The clay stamp seal **S13** is another rare bird (*Fig. 34*). Clay seals are rare in the Aegean after the third millennium BC.[247] If one assumes that **S13** was meant as a seal, two categories of Cretan seals might have served as prototypes. The first are the so-called bell-shaped conoids, a shape that appears in the Cretan late Prepalatial/early Protopalatial period (MM IA–IB).[248] Stamp cylinders with concave sides constitute a second possibility; this is a shape that flourished in the late Prepalatial period, with most surviving examples made of ivory.[249]

Besides its unusual shape by second millennium BC standards, the oval seal face of this piece is also exceptional. The few clay seals with oval faces known from the Aegean date to the Neolithic and EBA periods. The only exception is a clay conoid with an oval-shaped face from a LM I house in Gournia. However, the figurative motif on this seal is no match for the simple design comprising irregular intersecting lines attested on **S13**.[250] Since this seal shape is attested in Crete until the early Protopalatial period, and the only Cretan specimen of later date appears to subscribe to the complex iconography of the Neopalatial period unlike our Akrotiri specimen, no date can be suggested here for this piece on the basis of typology.

243 Yule 1981, 38–39.
244 Davaras 1980; Detournay *et al.* 1980, 235–38.
245 *Thera* VII, 12, pl. 10.
246 *Thera* VI, 19, pl. 29.
247 *CMS* lists 144 examples, but most of them derive from Neolithic and EBA levels.
248 Yule 1981, 41–42.
249 Yule 1981, 90.
250 *CMS* II,1 no. 464.

THE MATERIALS: CLAY AND STONE

Most seals found in Akrotiri so far were in all likelihood imported. We may deduce this with a degree of confidence on the basis of their technical and stylistic traits, which are clearly Cretan, and their materials, which are known not to have been locally available. Only a few pieces are made of local materials and must have therefore been of local origin and manufacture: **S13**, which is made of Theran clay; **S10**, cut from a hard porous volcanic stone; and **S7**, **S8**, both probably made of soft, volcanic tuff.[251] The difficulty in finding parallels for these seals among Cretan seal output accords with the observation that they represent local, Theran production.

Clay

All seals found at Akrotiri are made of stone, except for **S13**, which is made of local clay. Clay seals, as already noted previously,[252] are a rarity in the Cretan and Helladic seal production by the second millennium BC. The conoidal shape is the most frequently attested among clay seals of the third millennium BC and the Akrotiri specimen, although it is missing its upper part, does not seem to diverge significantly from this norm. Clay was easy to manipulate in terms of producing a particular seal shape, but, generally speaking, only simple geometric patterns were executed on the faces of Aegean clay seals.[253]

The use of clay for the manufacture of seals represents an earlier trend, most probably Helladic, but also Balkanic and Anatolian, as opposed to a Cretan one,[254] since clay was frequently used for the manufacture of seals in these areas during the Neolithic and EBA periods. The earliest examples of clay seals date to the mid-seventh millennium BC, with the Neolithic *pintaderas* being the most prominent specimens of such seals. It was, however, the third millennium that saw a more standardized and abundant production of seals in clay.[255]

Stone

The overall numbers show a preponderance of soft stones among the Akrotiri seals, with nine specimens made of steatite/serpentine, tuff, and two further unspecified soft stones. One specimen is made of a calcareous stone, which may be classified as medium-hard, and five specimens are made of hard stones, such as jasper, smoky quartz and a porous volcanic rock.

However, if we divide the seals chronologically, the picture becomes more nuanced. The earliest seal, **S3**, is made of soft stone, namely steatite. Among the other three MC seals we find **S5** made of steatite, **S15** of a calcareous stone (probably marble), which is a medium-hard stone, and **S4** made of smoky quartz, which is a hard stone. By contrast, among the 11

251 Einfalt 1978, 524.

252 See above, p. 58.

253 Pini 1984, 73. A clay stamp-cylinder from Agios Onoufrios depicts, however, a human figure (*CMS* II,1 no. 105b). See above, p. 58, for more parallels, and below, p. 72, for the motif of this particular seal.

254 Younger 1991, 45–46.

255 Krzyszkowska 2005a, 24–25; Aruz 2008, 11–12 (on Neolithic seals in the Aegean), 18–19, 32 (on EBA II seals in the Aegean), 34–36 (on EBA seals in the Cyclades).

seals retrieved from the LC layers **S1** and **S12** are made of jasper, **S10** of a porous volcanic material and the remaining eight of soft materials: **S9**, **S11**, **S16**, serpentine; **S14**, steatite; **S2**, **S6**, unspecified soft stones; **S7**, volcanic tuff; **S8**, volcanic tuff/marble. Since locally-procured volcanic materials enter the equation at Akrotiri, we cannot assume that hard stones necessarily yielded more intricate seals. Indeed, the local pendant vertical plate **S10** is an unrefined and coarse object, and the hardness of the material may well have prevented a more sophisticated result.

As far as soft stones, which fall under grades 1–4 in the Mohs scale, are concerned, three seals are identified as steatite (**S3**: black; **S5**: brownish-yellow; **S14**: black), and three more qualify as serpentine (**S9**: dark green-black; **S11**: dark green-grey; **S16**: unknown colour). Yule claimed that the distinction between steatite and serpentine is impossible based on visual examination;[256] but more recently Krzyszkowska described steatite as having a slightly 'soapy' feel (Mohs 2–3) and serpentine as being 'of greenish hue, sometimes with variegated effects (i. e. like a serpent or lizard)' (Mohs 2–4).[257] These characteristics are to be found in the seals mentioned above.

The single calcareous seal attested, the whitish *Petschaft* **S15**, if of marble, should have a hardness of Mohs 4–6. As far as hard stone seals are concerned, **S1** and **S12** are made of jasper, and **S4** is made of smoky quartz, both exhibiting a hardness of Mohs 6.5–7. Smoky quartz is additionally interesting, because it was a rare material. Yule originally counted only three examples of smoky quartz among early Cretan seals,[258] and certain other varieties of coloured quartz, e. g. rose quartz, are also rare.[259] These rare quartzes were occasionally used in the Protopalatial period,[260] while others bear 'talismanic' motifs dating to the MM III–LM I period.[261] Since 'talismanic' decoration, in a sense, continues Protopalatial hard stone seal production,[262] it is no wonder that quartz should be attested in both instances.

Notes on the Seals of Local Manufacture

Four seals can be seen as representative of local manufacture. **S13** is termed as local because it is made of yellowish clay, characteristic of the Theran pottery production. **S10** is another instance of a seal that is listed under local products with certainty, because it is made of a porous black volcanic stone, frequently seen among building materials in the ancient settlement. **S7** is made of another frequently attested building material, a whitish-green tuff, also a volcanic material. **S8** is a dubious instance of the local volcanic tuff.

S13 and **S7** were apparently not produced with difficulty, since clay, on one hand, and the extremely soft tuff, on the other, do not require special tools or highly skilled craftsmen

256 Yule 1981, 198.

257 Krzyszkowska 2005a, 357.

258 Yule 1981, 197 listed: *CMS* II,2 no. 56; III no. 21 (Yule: CM 159); X no. 246. *CMS* III no. 21, however, is opaque and beige to reddish-white in colour, whereas smoky quartz is translucent with a greyish cast.

259 Note that the term 'quartz' is here used exclusively for these rare, coloured varieties. In reality the more familiar rock crystal and amethyst are forms of macro-crystalline quartz; while jaspers, chalcedonies, carnelians and agates are varieties of micro-crystalline quartz: Krzyszkowska 2005a, 82.

260 *CMS* III no. 238; X no. 280.

261 *CMS* II,3 no. 1; III no. 143; V no. 238; IX no. 97; XII nos. 147, 171.

262 Onassoglou 1985, 187–89.

for their manufacture. The ease with which these raw materials could be handled did not prompt the execution of intricate motifs, since these two seals exhibit rather simple incised motifs.

THE ICONOGRAPHY: MINOAN *VS.* CYCLADIC

Seal iconography is a fundamental aspect in the study of Aegean glyptic. Although the seals found at Akrotiri do not appear as a homogeneous set of evidence, the motifs attested on them merit attention. The circumstances under which local seals were produced remain unknown and the same applies to the mechanisms through which imported ones came to Akrotiri. Consequently, we cannot be certain if they represent the aesthetic perceptions of their proprietors with any accuracy. It is, however, essential to assess the potential significance of their iconography not only in local terms, but also within the broader Minoan context.

Motifs on Imported Seals

CROSS-HATCHING

The soft stone EBA pendant vertical plate **S3** carries cross-hatching (*Fig. 35*). The decoration, which is a Prepalatial favourite,[263] fits well with the date attributed to the seal shape. Cross-hatching is attested on numerous Cretan seals of soft stone, bone and ivory, which date mostly to EM II and are encountered from the Mesara to eastern Crete.[264] Two steatite examples originate in Lebena Tholos II,[265] one comes from the settlement at Myrtos;[266] these are among the earliest sites on Crete to have yielded seals, the very first to have been made and used on the island.[267]

Using material from Moni Odigitria as a frame of reference, Sbonias has given a broad picture of Prepalatial seal use and distribution in Crete. He suggests that seal production shows signs of specialization and discernible regional traditions, which co-exist with more general trends. In addition, he considers that seal production cannot be seen as limited to the domestic level, but the catchment area is probably 'the region at the kinship group level'.[268] In this respect — and moving beyond the narrow Cretan environment — it is noteworthy that seals which fit these traditions are found at localities outside Crete, namely Thera as well as Aegina. As already noted, a pendant of a shape comparable to the Akrotiri specimen was retrieved in Kolonna, Aegina,[269] but also a pyramidoid with cross-hatching was recovered as a stray find from the site of the later Aphaia temple in Aegina.[270]

263 Yule 1981, 147.
264 Sbonias 2010, 221.
265 Two examples in steatite: *CMS* II,1 no. 195 (Alexiou – Warren 2004, 136, no. 533: 'all periods'); *CMS* II,1 no. 199 (Alexiou – Warren 2004, 136, no. 537: context dated to EM I–II).
266 *CMS* V no. 17 (steatite).
267 Krzyszkowska 2005a, 60–61.
268 Sbonias 2010, 222.
269 *CMS* V Suppl. 3 no. 1 (steatite or schist).
270 *CMS* V Suppl. 1A no. 1 (steatite or schist).

The simple, linear motif and its repetition, however, does not necessarily guarantee direct influence from Crete; nor is there any reason to see the motif as an argument in favour of a Cretan origin for this piece. The motif is also attested on stone seals outside the Aegean, namely in western Anatolia;[271] all examples concentrate roughly in the second half of the third millennium BC.

CENTRED-CIRCLES ORNAMENT AND HATCHING

The soft stone discoid **S5** bears both centred-circles ornament and hatching, which are not only the most common decorative themes among MM II–III soft stone discoids, but also among early Cretan seals in general (*Fig. 35*).[272] Yule notes that, based on datable examples of seals with centred-circles, the production of this motif, which he calls 'tubular drill' ornament, falls within MM IB–III,[273] meaning that it is essentially a Protopalatial creation. An exact parallel for the centred-circles motif on the Akrotiri discoid constitutes an early example that dates to EM II–MM IB and comes from Platanos, Tholos Γ.[274] MM III seals from Profitis Ilias, Knossos, provide a lower chronological *terminus* for centred-circles.[275]

A more recent study of Protopalatial soft stone seals has suggested that Protopalatial seals with centred-circles ornament and hatching can be attributed to the so-called Central Crete Ornamental Style Group.[276] The group consists mainly of three-sided prisms, *Petschafte* and discoids; sealings stamped with seals of this style group are well represented in the material from the palace at Phaistos. The production centres for seals of this group are thought to have been located in central Crete, with the main period of production from MM II–III to perhaps as late as MM III–early LM IA.

The motifs on both sides of the Akrotiri seal combined with its shape allow us to assign a MM II date to this piece.

'STAR OF DAVID' MOTIF

The *Petschaft* **S15** bears a simple star motif, of a variety known today as a 'star of David', thus reflecting the popularity of this motif in a culture other than the Minoan (*Fig. 35*). Variations of this simple star created by the combination of two triangles are well represented at Phaistos, chiefly in the sealing deposit that came to light in Room 25 of the early palace,[277] but also on at least one surviving seal.[278] The motif is, basically, a Protopalatial phenomenon,[279] and this observation accords well with the shape of the Akrotiri seal.

271 E. g. a stone conoid with random cross-hatching from Bademağacı (Duru 2008, 172, fig. 344.2a; 173, fig. 345r; Duru – Umurtak 2008, pl. 50g); a bell-shaped conoid from Liman Tepe (Şahoğlu 2008, 489; Şahoğlu – Sotirakopoulou 2011, 291, 379, no. 210; *CMS* V Suppl. 3 no. 457).

272 See above: The Shapes, pp. 51–52; Yule 1981, 143–46.

273 Yule 1981, 50.

274 *CMS* II,1 no. 334, a soft stone *Petschaft*.

275 Yule 1981, 144; *CMS* II,2 nos. 55a–b, 64.

276 Anastasiadou 2010, 67–71; 2011, 148–59; 2016, 167–69.

277 *CMS* II,5 nos. 141–148, 150, 151.

278 *CMS* II,2 no. 23, from the Phaistos palace.

279 Yule 1981, 150.

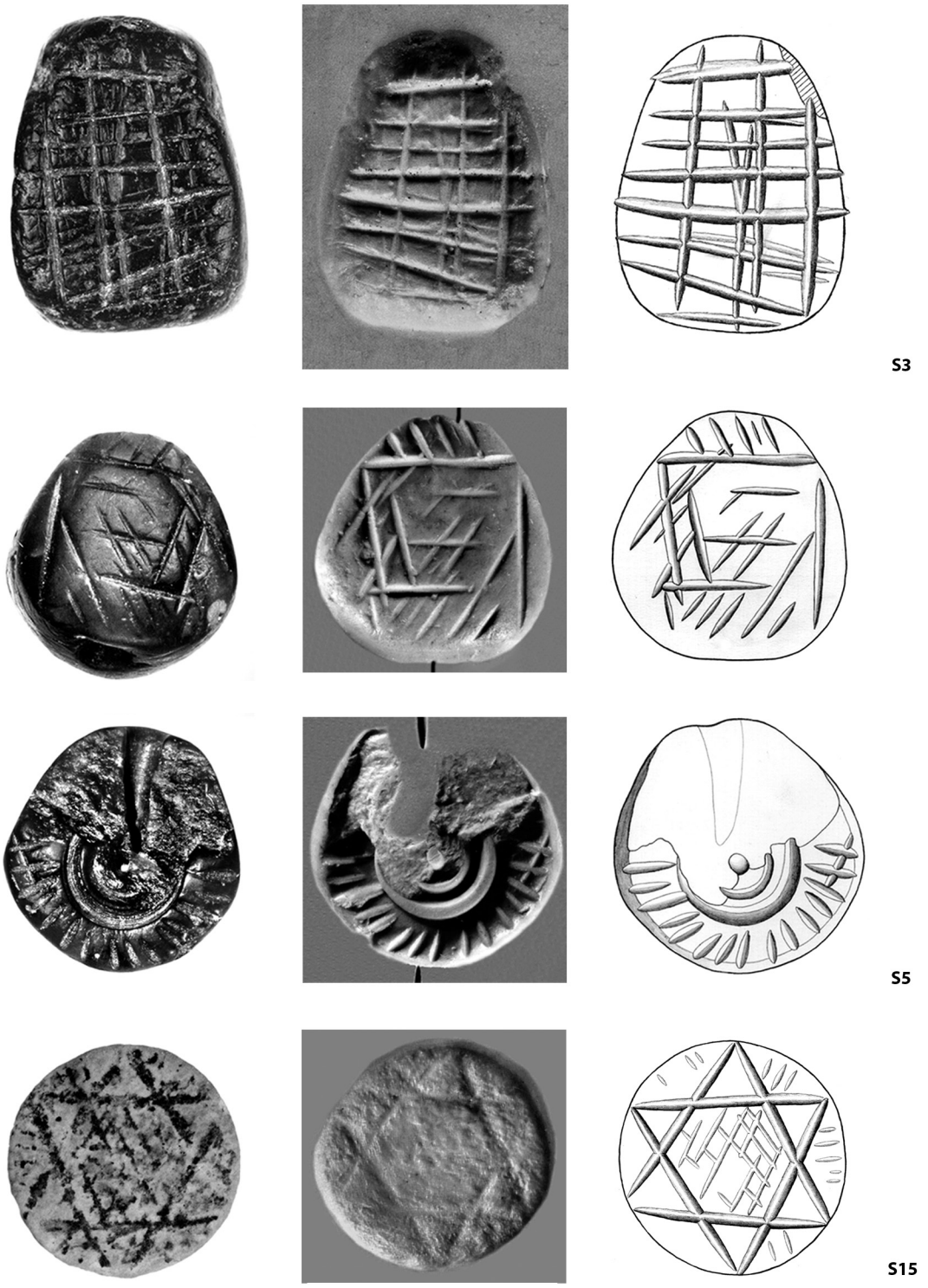

Fig. 35. Cross-hatching on pendant vertical plate **S3**, centred-circles and hatching on discoid **S5**, 'star of David' on *Petschaft* **S15** (Akrotiri Excavations Archives/*CMS* Archive).

Although the principal engraved motif is the star, cross-hatching was used as background filling, another characteristic of the Phaistos seal impressions. The regular cross-hatching, clearly discernible on the photograph of the seal face, is attested only through the preservation of biological residues along what used to be the shallow cross-hatching incisions. While the main star motif is reproduced in the silicone cast, the finer and more superficial cuts for the cross-hatching are not. This may be explained by the worn condition of the seal; volcanic ash seems not to have been friendly to calcareous materials.

In addition to the motif, the Akrotiri *Petschaft* and the Phaistos impressions also accord well in size. At Phaistos a few smaller seal faces have diameters of 0.8–1 cm, while larger ones measure up to 2.4–2.7 cm; the majority have diameters of 1.2–1.5 cm. Thus, with a diameter of 1.25 cm, **S15** fits closely with the comparanda from Phaistos.

FISH ON A NEAR-'TALISMANIC' SEAL

The hard stone amygdaloid **S4**, a seal of fine craftsmanship and striking translucence is close to the 'talismanic' style from the standpoint of motif and technical execution (*Fig. 36*). The fish is rendered by a single cut, a fact which is reminiscent of the 'talismanic' style group.[280] While the inclusion of a fish in this design points toward the 'talismanic' group, the remaining motifs accord with Protopalatial seal production in soft and hard stone alike: the centred-circles ornament (also discussed previously), the thin crossing strokes, the line of small solid borings.[281] The context date of the seal — MC C, which corresponds to MM IIIA in central Cretan terms — agrees with these observations regarding the motif. In other words, the seal features a number of favourite Protopalatial motifs, but points forward to the 'talismanic' style which evolves fully in later periods (MM III–LM I).[282]

'TALISMANIC' GOAT, FISH, SPRAY

Out of the six Akrotiri lentoids, **S1**, **S2** and **S11** clearly belong to the 'talismanic' style (*Fig. 36*). The jasper lentoid **S1** bears the motif of a goat, with a spear penetrating its back, flanked by vertical lines and short strokes which are perhaps indicative of vegetal fillers that are common in the 'talismanic' style.[283] The lentoid **S2**, made of a material which looks like jasper but is actually a soft stone, carries two *tête-bêche* (head-to-tail) fish, a motif common in the 'talismanic' style.[284] Although this style occurs principally on seals of hard stone engraved with fast rotary tools, examples in soft stone are not unknown. Unfortunately **S2** is too worn to allow any observations regarding technique. The soft stone lentoid **S11** bears a spray motif, a schematic depiction of vegetal shoots, which are popular in the 'talismanic' style.[285] It is the largest of the Akrotiri lentoids and the motif is cut deeply into the seal face.

280 Yule 1981, 135.

281 The thin crossing strokes appear frequently on Hieroglyphic seals, for instance *CMS* VI no. 40. For solid borings: *CMS* II,2 no. 107, from Malia; *CMS* II,5 no. 288, from the Phaistos palace.

282 The term 'proto-talismanic' seems appropriate for this motif (Krzyszkowska, pers. comm.).

283 Onassoglou 1985, 128–34.

284 Onassoglou 1985, 154–63.

285 Onassoglou 1985, 35–44.

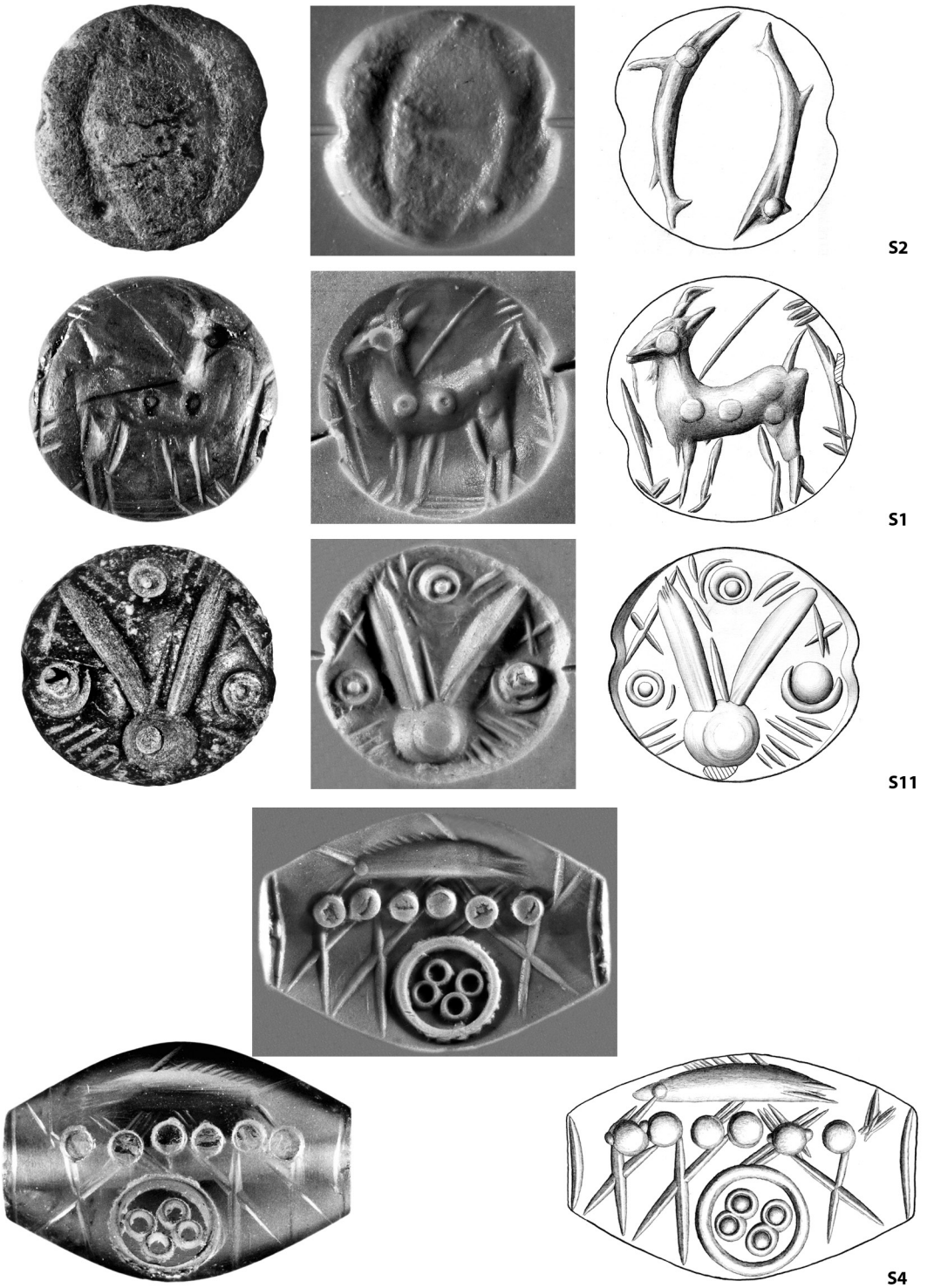

Fig. 36. 'Talismanic' style and affiliates: lentoid **S2**, fish *tête-bêche*; lentoid **S1**, agrimi; lentoid **S11**, spray motif; amygdaloid **S4**, fish (Akrotiri Excavations Archives/*CMS* Archive).

'talismanic' or 'tectonic' ornament with a centred-circle

The seal reportedly found during the very first trial excavations by the French mission at Akrotiri in 1870 is nowhere to be located nowadays. The little information we had on it until recently was limited to its material ('serpentin') and its diameter ('13 millimètres').[286] But certain archival documents regarding those first excavations have now emerged in France, and fortunately two sketches of the seal's face were among them (*Fig. 33*). [287]

For the most part, the two drawings seem to agree, in that both present a round-faced seal with linear engravings and a centred-circle. However, they disagree as to whether a bundle of fine lines runs from the drilled circle towards the centre of the seal face. The drawing that presents this additional detail was in the Paris archive and was drawn by the excavators, Gorceix and Mamet, whereas the drawing lacking this detail was found in Nancy and drawn by Burnouf, the then director of the French School at Athens. It can be suggested that this additional feature is more likely to have existed, rather than a draughtsperson adding something that was not there; on the contrary, it is more plausible to imagine that the second draughtsperson missed out on a detail of the seal.

The sketches present us with an interesting example. The seal face had a deeply cut horizontal *Bandlinie*[288] and two vertical *Bandlinien* above it in an inverted *Π*-shaped combination. In the interior of the *Π* appears a centred-circle. On either side of the vertical *Bandlinien* there is fine parallel hatching; below the horizontal *Bandlinie* four sets of oblique parallel hatching are combined in a zigzag pattern. As mentioned above, some sort of hatching could have extended from the centred-circle with the central boring towards the horizontal *Bandlinie*.

The motif wavers between the 'tectonic' and the 'talismanic' styles, as is the case with at least one other seal from Siteia in Crete.[289] The main Π-shaped feature definitely belongs to the 'tectonic' tradition,[290] in which linear ornament dominates and few circular elements occur (and no centred-circles). The overall design, however, is reminiscent of the spray motif in the 'talismanic' style,[291] where the seal face is often divided into two sections by one or two horizontal *Bandlinien*. In such cases an oblique *Bandlinie* and one or two centred-circles are usual, while sets of oblique parallel hatching are attested in the zone below it/them.[292] This arrangement is nowadays termed pseudo-spray in the *CMS* and is mostly assigned a stylistic dating in the LM I period (with very few samples earlier and later than LM I). The fact that some sort of nexus exists between the 'tectonic' and the 'talismanic' spray motifs has been duly noted and discussed;[293] given the time frame for the two styles, this should probably be seen as a (direct or indirect) ancestor/heir relationship. Based on the above evidence, the lost seal from Akrotiri could very well have been a LM I product.

286 Fouqué 1879, 112.

287 Karnava 2014a; 2014b. See above pp. 55–56.

288 *Bandlinie*: The term refers to a broad groove which separates the seal face into distinct sections.

289 *CMS* IV no. 164 (Siteia).

290 For instance: *CMS* I no. 432; VI no. 174 (Knossos); IX no. 38.

291 Onassoglou 1985, 35–44, pls. XIV–XVII.

292 For instance: *CMS* II,3 no. 37 (Mavro Spelio Cemetery, Knossos); III no. 520; IV no. 86 (Siteia). Some with more centred-circles: *CMS* II,3 nos. 84 (sanctuary of Demeter, Knossos), 383; II,4 no. 192 (Archalochori); XI no. 163.

293 Onassoglou 1985, 35.

Fig. 37. The effaced disc-shaped lentoid **S9** with remains of centred-circles with central borings and lines (Akrotiri Excavations Archives/*CMS* Archive).

Fig. 38. An effaced standing quadruped in right profile on lentoid **S6** (Akrotiri Excavations Archives/*CMS* Archive).

AN EFFACED CENTRED-CIRCLES ORNAMENT AND LINES

The lentoid **S9** is quite worn and the motif is not preserved complete (*Fig. 37*). Four circles with central borings and two flanking lines attest to another version of the centred-circles ornament. Examples that can be compared in terms of decoration and seal shape do not come from archaeologically datable contexts, but a tentative stylistic dating seems to place them within the MM period.[294]

FOUR-LEGGED ANIMAL

The seal face of lentoid **S6** is extremely abraded, whereas the reverse face is in fair condition. The seal is engraved with a standing quadruped in left (seal face) profile (*Fig. 38*). The poor state of preservation of the motif does not allow for further comments.

THE GRIFFIN/SPHINX AND THE DOLPHIN

The hard stone lentoid **S12** carries what is probably the most sophisticated of the seal motifs found at Akrotiri: a griffin or a sphinx with a dolphin beneath its belly (*Fig. 39*). A straight

294 MM I–II: *CMS* IV no. 82. MM II–III: V Suppl. 3 no. 146; VI no. 160; VII no. 27.

Fig. 39. Griffin/sphinx and dolphin on lentoid **S12** (Akrotiri Excavations Archives/*CMS* Archive).

cut serves as a groundline, while in front of the creature, placed somewhat randomly, is another straight line. A curving line emanating from the head of the creature and running toward its wing may well be the customary 'plume' found on the heads of sphinxes, although here it is unaccountably crossed by a short-stroke.

The main motif was originally identified as a female sphinx,[295] but has since also been described as a possible griffin.[296] The creature is clearly endowed with a lion's body, as conventionally found in Minoan iconography: it has a slim body, prominent claws, upturned tail, and wings. Ordinarily one would expect a sphinx to have a human head, but here the head resembles that of a bird, raising the possibility that we are dealing with a griffin. The dots beneath its belly suggest that the creature is female, and indeed Younger has termed it a griffiness.[297] Whereas griffins are well attested in seal iconography, as well as in other artistic media during the Neopalatial period in both Crete and Thera,[298] sphinxes are not especially common. If **S12** does depict a sphinx, it would constitute one of the few early attestations.[299]

The retrieval of whole pots and numerous sherds depicting griffins in MC strata at Akrotiri[300] has prompted a discussion on the transfer of this motif from Syria, where it is thought to have originated. One of the suggestions put forward is that the new finds point to direct contacts between the inhabitants of the Cyclades and Syria.[301] However, Cretan

295 *Thera* V, 36, pl. 85a, b; *CMS* V no. 690.

296 In the electronic version of the *CMS* the creature is described as a griffin or a sphinx (*CMS Seal Database*, *CMS* V no. 690).

297 Younger 1988, 217.

298 For Crete: Dessenne 1957; Tzavella-Evjen 1970; Shank 2013. For Thera: Nikolakopoulou *et al.* 2008, 319; Papagiannopoulou 2008, 436–41.

299 The earliest sphinx can be found on a green jasper *Petschaft* from Archanes (*CMS* VI no. 128); therefore it should be attributed to the Protopalatial period. The only other example that can be attributed to the Minoan period is to be found among the Zakros sealings (*CMS* II,7 no. 88; but the identification is not certain). Further examples are attributed on stylistic grounds to the Mycenaean periods in Crete or the Greek mainland: e. g. *CMS* II,3 no. 118 (Agia Triada); V Suppl. 3 no. 352 (Mochlos); V Suppl. 3 no. 359 (Tripitos, Siteia); II,8 no. 194 (Knossos). The strong oriental affiliation of the motif is evident in its appearance on a number of cylinder seals retrieved from Mycenaean contexts in the Aegean (e. g. *CMS* I Suppl. no. 54 from Perati, Attica).

300 See Nikolakopoulou *et al.* forthcoming.

301 Papagiannopoulou 2008, 438.

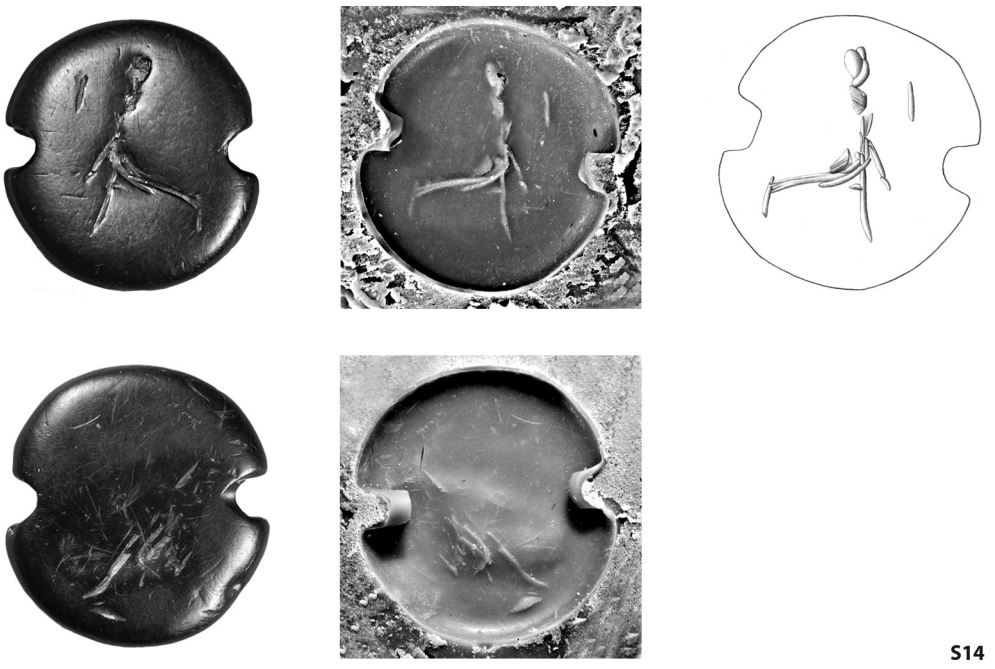

Fig. 40. A male figure on the soft stone disc **S14** (Akrotiri Excavations Archives/*CMS* Archive).

evidence predating that from Thera shows that the motif was adopted in the MM II period: details attested among the Phaistos seal impressions, such as the creature's scaly chest, point to its Mesopotamian ancestry.[302]

The small dolphin is a popular motif in Minoan iconography, and one which is thought to have been transferred to Theran art in the latest, strongly minoanizing, phase of the settlement.[303] Thus, this seal could conceivably enter into the discussion of iconographic transfers from Crete.[304]

On stylistic grounds the seal can be dated to the LM I period, and has been attributed to the so-called Jasper Lion Master, an early LM/LH seal group.[305]

THE HUMAN FIGURE

The two-sided (?) soft stone disc **S14**, the only seal found in Xeste 3, bears on one face an interesting and unusual motif. This can be tentatively identified as a human figure in left (seal face) profile in a walking or running pose (*Fig. 40*). Other than the figure, the seal face contains only a short vertical stroke in front of the figure. The second face of the seal shows traces of intentional engraving but these are superficial and no motif can be safely recognized.

302 D'Albiac 1995, 64.
303 Immerwahr 1990; *pace* Vanschoonwinkel 1990.
304 Immerwahr 1990, 245.
305 Betts 1981.

The seal probably depicts a man moving at speed, something that is indicated by the legs set wide-apart. The lines forming the 'body' are not very clear; perhaps the figure wore some sort of loincloth, suggested by the oblique stroke descending from the waist and turning back towards the knee. An unusual feature is that the figure is composed of very simple, sketchy strokes, which is hard to parallel among other renderings of human figures on seals.[306]

Male figures depicted on Minoan seals often seem rather static, with both their feet firmly placed on the ground, engaged in a variety of tasks, such as carrying something, fighting, taming/holding animals in the 'Master of Animals' pose, etc. Figures shown with bent knees could theoretically be seen as runners and are usually identified as bull-leapers or people interacting with an animal, e.g. a bull;[307] in these instances, the back legs of the men are sharply bent. A gold signet ring of Neopalatial date found in the sanctuary of Syme Viannou in Crete clearly depicts a male figure in running pose.[308]

Rarely are figures shown walking at a fast pace and their postures do not match precisely the figure on **S14**.[309] Very few motifs can be compared to the pose of this presumed human figure on the Akrotiri seal; in three instances the pose indicates people in movement: male figures in procession; a man pulling two other men or women behind him on a leash (?); a man pulling two women behind him again on a leash (?).[310] The difficulty in the present instance from Akrotiri is that the figure appears entirely alone, without other living beings or landscape, and is thus completely devoid of context.

One possible explanation for the peculiarities in this motif is that might be unfinished, a phenomenon occasionally attested in Minoan and Mycenaean glyptic.[311] This cannot be ruled out altogether, since details normally found in the rendering of human figures are simply absent. An element in favour of such an explanation would be the fact that the other side of the seal also probably carries an unfinished motif.

Motifs on Seals of Local Manufacture

The seals that appear to be of Theran manufacture are grouped here. Their motifs are too simple for extensive comparisons (*Fig. 41*).

unintelligible design comprising wavy and straight lines and a dot

The disc without a suspension hole **S7**, if a seal at all, bears an unintelligible motif. If a specific object or scene was intended, which is possible, it is certainly not clear. The engraved motif is composed of linear elements in combination with loops, seemingly extending towards random directions; the only recognizable patterns are a semi-circular line and a solid boring of a small size.[312]

306 Ingo Pini would rather identify it as 'vague remains' (pers. comm.).
307 Of LB I–II dating: *CMS* I no. 112 (Mycenae); V no. 638 (Koukounara, Elis, although in a LH III context).
308 Lebessi *et al.* 2004.
309 *CMS* V no. 173 (Agora, Athens); V Suppl. 3 no. 288 (Portes, Achaia).
310 Of LM I date: *CMS* II nos. 13–15 (Zakros); V no. 173 (of LB I–II date found in a LH IIIA1–2 grave in Athens); V Suppl. 1A no. 133 (Chania).
311 Sakellarakis 1972, 237–42.
312 Some similarity can be detected in the motif on a clay conoid dating to the EH II period from Lerna (*CMS* V no. 41).

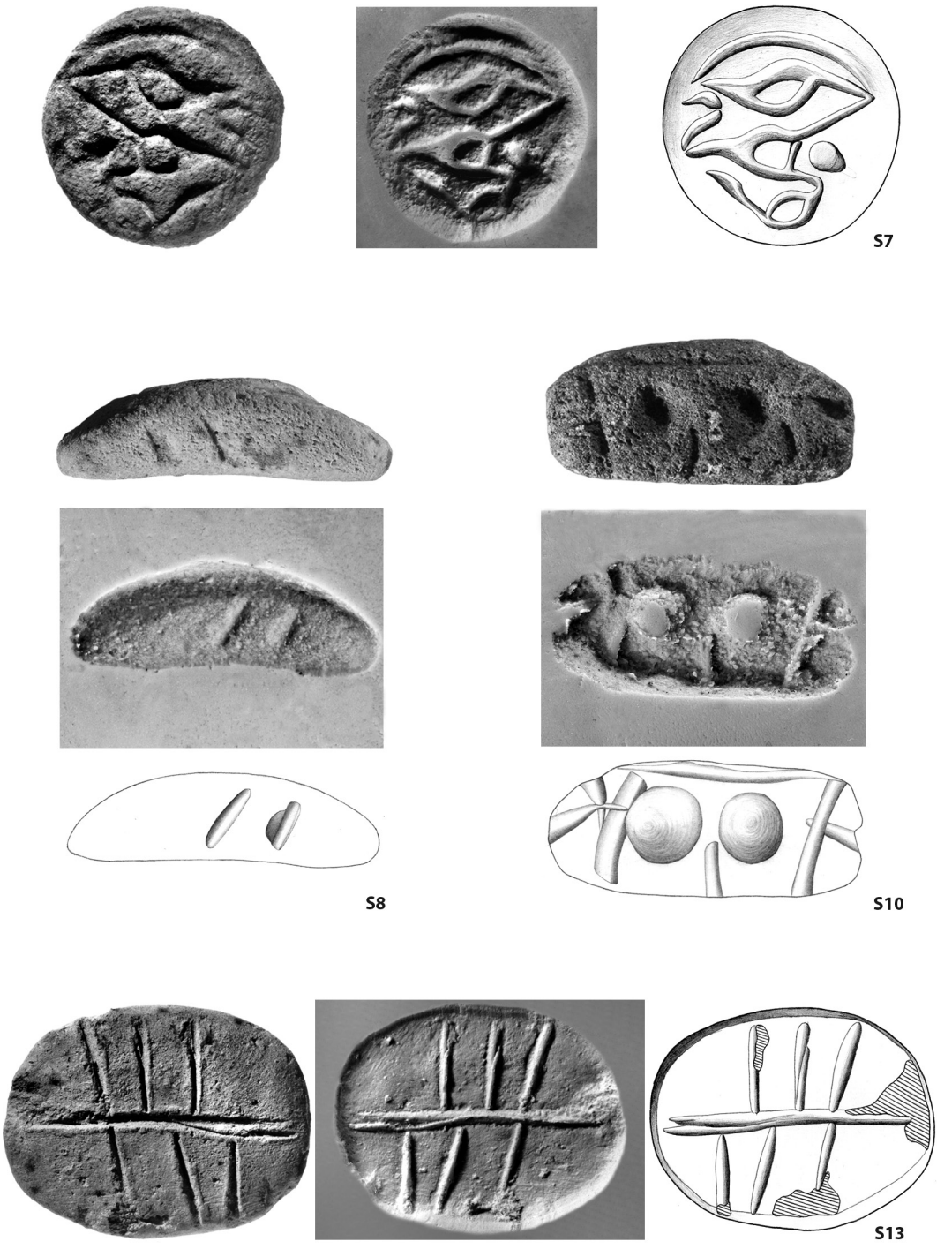

Fig. 41. Local production: disc **S7**, unidentifiable; pendant vertical plate **S8**, oblique parallel lines; pendant vertical plate **S10**, lines and borings; stamp **S13**, cross-hatching (Akrotiri Excavations Archives/*CMS* Archive).

BORINGS AND LINES

The pendant vertical plate **S8** presents two simple, oblique parallel lines. The seal is too worn to tell if anything else was engraved.

The pendant vertical plate **S10** bears borings and lines. Three lines could be seen as forming a loose Π-shape on the perimeter of the seal face, in which two large solid borings were engraved. A short line starts from the edge of the seal face and extends to the space between the two borings. It is not clear whether an oblique line that appears near one of the short sides of the face is accidental or not. Discernible in this motif is the effort of the engraver to square the curved perimeter of the engraved surface. This effort is obvious in that the only side of the seal face without an incised line is actually its only straight side.

SIMPLE DESIGN COMPRISING IRREGULAR INTERSECTING LINES

The clay stamp **S13** is decorated with a motif created through the combination of simple lines. The oval-shaped seal face bears a central line along the long axis and three incised lines arise from either side; all lines, including the central, are straight and of equal width

This motif is in fact so simple, that it could have been repeated at any time, without necessarily signifying influence or any kind of artistic impact. Similar motifs are attested in the Aegean on a number of seals dating from EM II until the MM IA period,[313] i. e. seals essentially belonging to the second half of the third millennium BC. However, the third millennium BC is a time when Aegean seal production was not centred solely in Crete; common glyptic elements were to be found in Crete, the Aegean islands, the Greek mainland, and also Anatolia.[314]

DISCUSSION: SEALS AS A FOREIGN BODY AT AKROTIRI

The Number of Seals

More than 40 years of excavations at the site of Akrotiri in Thera have produced a relatively small number of objects which can be identified as seals: just 16. Akrotiri is a prolific site in terms of archaeological finds, yet seals are far from frequent. As an archaeological site Akrotiri is exceptional because of its extraordinary taphonomic conditions; unfortunately, it is practically impossible to establish whether it was literally exceptional for its time. But there is nothing 'normal' about Akrotiri when compared to the evidence from standard excavations in the Aegean, and especially from Minoan Crete, datable to the second mil-

313 Some seals with this exact motif and stylistic dating: a steatite pendant seal (*CMS* III no. 60, Crete); a bone 'telephone receiver' (*CMS* III no. 6, Dictaean Cave, EM III–MM IA); a steatite cylindrical 'hammer-head' (*CMS* IV no. 65, Kaloi Limenes, EM III–MM IA); a steatite conoid pendant seal (V Suppl. 1A no. 234, Moni Odigitria, EM [?]); a steatite concave stamp-cylinder (V Suppl. 1A no. 270b, Moni Odigitria, EM III–MM IA). Also note the EB II sepiolith cylindrical 'hammer-head' (V Suppl. 3 no. 374, Kadmeia, Thebes, context EH II).

314 A foot-shaped seal with a simple lattice motif from Küllüoba in Anatolia is such an instance (Efe 2007, 58, fig. 15a). The specific seal shape, which is attested in inland Western Anatolia, is thought to have spread as far as Syro-Cilicia. Numerous specimens from the Aegean are listed in Pini 1972.

lennium BC. There may be various reasons for the small number of seals, which we will consider in the following paragraphs.

One might suppose that further examples existed in the excavated interiors of houses, in the debris of open-air spaces and in substrata of floors. We cannot entirely rule out the possibility that small objects such as seals escaped attention during excavation or even sieving; if this did occur, it must have been the exception. Sieving the soil and/or volcanic depositions, which were extracted from indoor and outdoor spaces alike, was practised from the outset in the excavation of Akrotiri. The excavation catalogues list innumerable tiny objects, which are registered as having been retrieved in sieving. With this in mind, we can accept the small number of seals as representative, reflecting with relative accuracy the true archaeological situation.

The volume of pottery, as measured in wooden crates, which was collected during the recent extensive excavations between 1999–2003, when more than 110 trenches were excavated all over the site, is about the same as extracted during the preceding 20 years or so. In other words, in just five years a considerable amount of archaeological material was retrieved, roughly comparable in quantity to the finds made prior to 1999. The new trenches yielded seals **S1**, **S2**, **S3**, **S4** and **S15**, indicating that the seals retrieved in older excavations were as meticulously collected as in the more recent ones, and vice versa. The difference in the quality of deposits excavated in the older as opposed to the recent excavations is notable, since the former concentrated in interiors of LC I buildings, whereas the recent tried to avoid them by penetrating into layers earlier than the VDL. For the first time, seals can be safely attributed to earlier layers, which despite their great volume, appear to have produced fewer seals when compared to those found in the LC I buildings.

It is also pertinent to stress that very few buildings from the settlement at Akrotiri have been fully excavated, namely the House of the Ladies, the West House and Xeste 3. The House of the Ladies has produced no seals, whereas the West House and Xeste 3 yielded one seal each, **S5** and **S14** respectively. Keeping in mind that **S1**, **S2** and **S9** were found in the interior of partially excavated buildings (Western Quarters; Delta-North), **S4**, **S10** and **S15** under floors as discards from earlier phases (NPP 67; Delta-West; Building Iota Beta (IB)/NPP 44A), **S3** in a rock-cut underground chamber, of which very few were excavated (NPP 26NE), similar finds may be expected in future.

The Findspots of Seals

Although contextualization of objects retrieved in excavations is a prime archaeological concern, we should not take for granted that the findspots of seals will necessarily shed light on their use or function. The only instance that is immediately telling — but still raising further queries — is when seals are found in graves. In the case of grave goods one, almost automatically, thinks of private property that the owner or his/her descendents could afford to remove from circulation.[315]

315 But even in the instance of seals as burial goods not all is straightforward: the occurrence of heirloom seals in LM III tombs could point to family rather than strictly personal possesion of seals (see further below, n. 333); also, evidence points to unused seals deposited in graves, therefore intended for funeral consumption, a practice which again undermines the notion of seals as personal items (Anastasiadou 2015, 266).

But when seals are found in habitation sites their role is less clear. The most common assumptions, even when not explicity stated, are that they were personal property and served as items of personal adornment.[316] The burials belonging to the inhabitants of Akrotiri throughout its long life have not been detected and they probably await discovery somewhere underneath the thick pumice surrounding the site. Some EC burials in clay vessels,[317] excavated recently within the site, have not produced any seals as accompanying grave goods.

The situation in Crete differs, especially regarding the LM IA phase of the Neopalatial period, which corresponds to the latest phase in the life of Akrotiri. Few of the c. 1800 surviving Neopalatial seals come from securely-dated contexts; and graves of this period are exceptionally rare.[318] This makes it hard to judge whether any were made explicitly as grave goods, as has been suggested for certain seals of LB III date.[319] However, potential mortuary associations do not preclude the use of seals prior to their deposition in graves.[320] Whether this applied to Akrotiri remains an open question.

Seals **S3**, **S4**, **S6**, **S7**, **S8**, **S10**, **S13** and **S15** have been termed here as 'ancient discards',[321] since they were retrieved from levelling layers, debris in open-air spaces and from under the floors of rooms functioning during the LC I period. However, the contexts and the dates of certain of these discards present some interest. The black steatite pendant vertical plate **S3** is a relic of a habitation phase dating back to the MC A ceramic phase of Akrotiri, which corresponds to MM IA in Cretan terms. The smoky quartz amygdaloid **S4** is part of an assemblage of apparently precious objects dating to the MC C, which corresponds to MM IIIA in central Cretan terms. The *Petschaft* **S15** was made of some sort of calcareous material and was part of a room's floor substratum, which is dated in the MC D phase and corresponds to the later phase of the Cretan MM III period.

When examining the distribution of seals in the settlement apparently found *in situ*, we encounter seals **S1**, **S2**, **S5**, **S9**, **S11**, **S12** and **S14**, that came from the interior of buildings (Western Quarters/Complex Alpha [A]; West House; Delta-North, Delta-East, Delta-South/Complex Delta [Δ]; Xeste 3). Only in one instance were seals **S1** and **S2** found practically together (Western Quarters/Complex Alpha [A]). Although we do not know how long these seals had been kept in those rooms, with the exception of **S5** from the West House, which is decidedly old for its context, all the other seals seem to fit well within the time frame offered by the contexts of these rooms, namely the LC I period. We can add that with the exception of **S10** from Delta-North and **S14** from Xeste 3, for which a provenance from upper level rooms cannot be excluded, all other seals were found in ground-floor level rooms.

Regarding the character and function of the ground-level rooms where seals were found, ground-level Room 3 in the Western Quarters of Complex Alpha (A) could offer insights into the function of seals **S1** and **S2** found in there, since its contents appear to be *in situ*.

316 A relevant discussion in Krzyszkowska 2011.

317 *Praktika* 1999, 167, pls. 101b, 102a–b (NPP 58A); *Ergon* 2000, 92, fig. 103; *Praktika* 2000, 170, pl. 120a (NPP 6); Maniki forthcoming.

318 Krzyszkowska 2005a, 120.

319 Krzyszkowska 2005a, 270–71.

320 See, for instance, *CMS* II,2 no. 57.

321 Not necessarily deliberate discards; other factors could account for the presence of seals in debris or levelling layers, such as accidents, losses etc.

The room, however, is only partially excavated, its size is not even known, and we are therefore lacking a full record of what it contained. Chances are that it was a household activity area or a storage area for perishable goods, whereas pottery storage can be excluded on account of the low number of pots recovered in it; until the whole room comes to light, it is premature to suggest anything. For now, we may observe with certainty that the room was, in a sense, located at the rear of the building: to reach it from the entrance meant passing through at least one other room.

Ground-level Room 5 from the West House produced a single seal, **S5**. The fact that the seal has a shape and decoration that conform to periods much earlier than the room's use, or the building itself, for that matter, does not automatically make it a discard: later use of earlier seals cannot be ruled out, and there is really no way of telling whether the seal was already broken when retrieved. Assuming that the seal still had some use inside Room 5, we ought to be looking at another direction, namely the use and meaning of heirlooms. However, both interpretations — as a discard or functional object — appear equally arbitrary. We note that Room 5 on its ground level was a storeroom, again situated at a considerable distance from the entrance of the West House.

Ground-level Room D9.1 in Delta-East has given us seal **S11**. It probably functioned as a storeroom, chiefly for pottery, a fact which does not preclude the additional storage of other items, such as stone objects, two lead weights, and even a possibly slaughtered animal. The room is found practically in the back of the building unit and at a considerable distance from the entrance, and one would have to pass through most of the ground-floor rooms in order to reach it.

Seal **S12** was retrieved in Room D16, the largest room in building unit Delta-South. This context is interesting in that D16 deviates from the previously laid out rooms. Room D16 appears to be the most 'extroverted' room in its unit, with a large window overlooking the street and relatively easy access for incomers passing under the staircase in front of the entrance; it contained an impressive variety of precious objects. If some sort of transactions, perhaps of a mercantile nature, took place there, it is not certain that the seal had any immediate relation to them. Assuming that it did, however, does not automatically exclude the storage of goods in that room. But whereas the objects in D16 may have been stored for trading, Room 3 of the Western Quarters, Room 5 of the West House and Room D9.1 of Delta-East were locations where objects were simply stored.

The last context worth discussing is that of seal **S14**, found in Xeste 3. The seal seems to have been kept in the rear section of the building, although it is not entirely secure which room or floor it originated in. Regardless of whether the rear section of the building can qualify as a 'service' area, we can immediately see that access from the streets and the open-air, public spaces of the settlement was not easy.

Common to the ground-level rooms containing seals is that, in all probability, they functioned as storage spaces, situated, with the exception of D16, at the back of buildings when the entrance lay at the front. Storage, however, is simply a preliminary interpretation, which says absolutely nothing about the ultimate and true use of the stored objects. The instance of D16 is telling in this respect, since the objects found there were, in a sense, stored for purposes that evidently go beyond functions and demands of simple household level. The probable storing of seals along with a series of other objects cannot, therefore, reveal on its own where and if seals had some meaning, purpose and/or practical use at Akrotiri.

The Materials, Shapes and Motifs of Seals

All the seals found at Akrotiri are made of stone, both soft and hard, except for one clay example. The unique locally-produced conoidal clay stamp **S13** follows a long tradition from the Neolithic onwards and extending from Mesopotamia to Europe. Some standardization in the shape of clay conoids appears in the third millennium BC and among the latest attested are examples from the Cretan Prepalatial period at the turn from the third to the second millennium. The presence of such a clay seal in the VDL level at Akrotiri, whether or not contemporaneous with its context, testifies to the survival of earlier traditions at a time when these had long become obsolete in Cretan and Aegean seal production.

A 'traditionalist' perspective can be further discerned among the shapes of the few locally-made seals. Apart from the obscure disc without any suspension hole **S7**, the remaining local examples **S8**, **S10** and **S13** share one characteristic: all were meant to be suspended by holes on their upper part. In other words, their shapes resemble what we would call pendants, to be worn around the neck. As **S3**, a hard stone pendant and the earliest seal retrieved at Akrotiri, demonstrates, the fashion for seals of this type was current during the third millennium BC and continued to evolve into the early second millennium, with Protopalatial *Petschafte* among the latest representatives of stamp seals.

But from the first half of the second millennium BC onwards, seal shapes in the Aegean changed significantly; axial shapes furnished with suspension holes on their short, undecorated sides became popular, such as discs, discoids, three- and four-sided prisms. Engraved decoration on multiple sides of the same seal makes their suspension as part of a necklace or a bracelet questionable, since not all of their decorated faces would be visible, assuming of course that this was of some importance. However, while not stressed often enough, the Cretan Protopalatial period saw the creation of artefacts that yielded more to superior aesthetic demands than to practical;[322] the argument of poor visibility-equals-impracticality does not apply here. For the Neopalatial period, when single engraved faces became the norm, we have some iconographic evidence that seals were worn on the wrist coming from the well-known Cup Bearer Fresco from Knossos and the bull-leaping wall painting from Tell el-Dab'a. The appearance of signet rings also marks an innovation in seal shapes during the Protopalatial period,[323] which survives into the LBA, perhaps because of the prestige displayed by gold rings of Minoan origin. Yet local seal production at Akrotiri, as attested through these very few examples, appears to be largely ignorant of prevailing Minoan trends, despite the fact that imports occurred side-by-side with local examples. Therefore, ignorance of Minoan advances in seal manufacture can only be seen as wilful on the part of the Akrotiri producers.

To return to materials, although Akrotiri attests to numerous metallic objects, many are heavy and cumbersome; so it is hardly surprising they were left behind when the inhabitants ran for their lives. By contrast, metal seals or signet rings could easily have been taken away by those on the run. The discovery of a metal ring, though not a signet ring, at the set-

322 The idea is beautifully summarized in Knappett 2008.

323 The seal impressions from Phaistos long ago demonstrated the existence of signet rings as early as the Protopalatial period. Actual finds of metal signet rings include a specimen from Archanes (Panagiotopoulos 2002, 89–92, no. E20) and a recent find from Petras (Krzyszkowska 2017, 153–54, fig. 8).

tlement of Raos in Thera,[324] a site contemporaneous to the LC phase at Akrotiri, alerts us to the possibility that signet rings might have reached Akrotiri. However the Raos ring, while obviously an object of personal adornment, is far removed from signet rings, which could serve in a hierarchical, strictly organized administrative system. There is no way of telling at this point whether or not the absence of metal signet rings from Akrotiri reflects reality, but further evidence to be laid out below probably suggests that we should not expect such finds in the future, at least not from the VDL layers.

Among the seals previously listed as genuine Cretan Neopalatial products, retrieved from contexts of the LC period (**S1**, **S2**, **S6**, **S9**, **S11**, **S12**, **S14**, **S16**), only **S1** and **S12** are recognized as jasper and **S6** is possibly also of jasper. The remaining seals, constituting the majority, are all made of soft stones, either of unspecified kind or of serpentine and steatite. Cretan evidence shows that some added social value should be taken into consideration when examining hard stone Minoan seals; they involved specialist technology and often the materials themselves were imported.[325] In the case of local production, however, it is hard to suggest added social value to seal **S10**, made of the extremely hard, volcanic stone, a material freely and abundantly available all over the island; its simple motif indicates low investment of expertise and craftsmanship. Two more local products, **S7** and **S8**, were in all probability made from soft versions of volcanic tuff and testify to extremely basic and crude decorative motifs. This reinforces the picture of almost non-existent engraving skills at local level; the local clay seal **S13** does not appear to require any high-level expertise in its manufacture either. The case of jasper seal **S12** is interesting, since it may have been kept in Room D16 in order to be traded. There is no way of telling whether the final recipient would have been someone from Akrotiri or Thera itself, since the variety and quantities of objects kept in that particular room for trading may have been destined for 'clientele' within or outside Akrotiri. In this last scenario, Akrotiri, through room D16, would have functioned as an 'international' trading hub and **S12** may have been an object in transit rather than a locally active seal.

The fact remains that the overwhelming majority of Neopalatial seals from Akrotiri are made of soft stones. This observation is interesting when combined with evidence from the shapes of Neopalatial seals. All Neopalatial seals from Akrotiri are lentoids (**S1**, **S2**, **S6**, **S9**, **S11**, **S12**), with the exception of **S14**, a disc, and the possible exception of **S16**, which could have been a lentoid, a discoid or a disc. Lentoids represent the most common Neopalatial seal shape; their continued popularity in the Mycenaean period has resulted in some 4000 examples surviving from the second millennium Aegean. Far less frequent than lentoids are amygdaloids, with about 1000 examples and cushions with fewer than 300. As previously stressed, the single amygdaloid **S4** retrieved at Akrotiri represents social circumstances in phases predating the LC/LM periods: only partially investigated, they are poorly understood. Although it is problematic to attribute prestige value to a particular seal shape, the numbers speak for high popularity of lentoids in Minoan-Mycenaean times. The evidence from Akrotiri shows that virtually all seals that reached Thera during the Neopalatial period conformed to contemporary Cretan norms in terms of shape. Whether

324 The recovery of the metal ring was announced in a lecture by the excavator, M. Marthari: 'Raos: a new late MB and early LB site with frescoes on the southern part of the caldera, Thera' (November 9, 2009; Danish Institute, Athens); for a preliminary presentation of the site, see Marthari 2004.

325 Betts 1989, 9–17; Müller 2000; Krzyszkowska 2005a, 81–85.

the high frequency of a seal shape points to its characterization as average or mainstream, notions that are meant to be understood here as negative and positive qualitative judgements respectively, is a matter that has not been addressed in current literature and therefore remains open.[326]

The colour of certain lentoids also merits comment. Several, such as jaspers **S1** and **S12**, probable jasper **S6** and soft stone **S2** display shades of red, while others, such as the serpentine **S9** and **S11** are green. Apart from the possibility that reddish shades may have held a special significance, the occurrence of red jasper examples is also noteworthy for another reason: it has been suggested that green and red jaspers were among the most commonly used colour varieties of jasper in Aegean seal manufacture as opposed to black, yellow and white jaspers.[327] There is no way of telling how these seals reached Akrotiri, i. e. whether they had been commissioned with specific requirements or not, or whether people acquired what was available. In this respect, the coincidence (?) of this small majority of red-coloured lentoids cannot be attributed with certainty to the procurer's or the acquirer's disposition.

The last observation likewise applies to the motifs and techniques represented among the Akrotiri seals. Seals **S1**, **S4**, **S2** and **S11** can be attributed or are related to the 'talismanic' style, seal **S16** wavers between the 'talismanic' and the 'tectonic' style, and a Protopalatial hatching motif with certain similarities to the 'tectonic' style is also attested on face b of seal **S5**. The 'tectonic' style is represented by fewer than 150 surviving examples, and ancient impressions are relatively infrequent, though one occurs among the Akrotiri sealings. The remaining seals — and the discussion here is mostly about Neopalatial seals in LC levels — present us with relatively simple motifs: **S6** probably bears a quadruped, while face (a) of seal **S5** and **S9** bear simple geometric motifs. The most intricate motif is in fact the representation of a sphinx/griffin with a dolphin on **S12**, a seal for which it is debateable whether it was even destined for local use and consumption in the first place. Also noteworthy is what appears to be a rare representation of the human figure on seal **S14**, albeit executed in an extremely simple, even sketchy, manner.

The sense we obtain from the motifs attested at Akrotiri is that of seals belonging to extremely diverse categories of Minoan decorative motifs. The 'talismanic' category of seals stands out among these, its origins, role and meaning having been extensively discussed in the literature. While the term was coined by Evans and the seals decorated with 'talismanic' motifs came to be invested in modern scholarship with some potentially secretive, ritual and symbolic meaning, it has been established that the motifs are in fact the result of specific techniques employed for the speedy manufacturing of seals.[328] The repetition, the seemingly meaningless combinations of motifs previously-known as Hieroglyphic script signs but now used as decorative,[329] and the lack of labour-intensive modelling point to a

326 An interesting parallel discussion runs in recent literature on the standardized production and consumption of plain conical cups, again a Neopalatial phenomenon (Hilditch 2014; Knappett – Hilditch 2015a). Pottery experts frequently discuss standardization of pottery production, a notion they often combine with craft specialization and cost-effective processes (Kotsonas 2014, 12–13; see also the seminal discussion in Costin 1991, 33–39).

327 Dionisio *et al.* 2014, 21.

328 After Onassoglou's pioneering study (1985).

329 Onassoglou 1985.

category of serially-produced seals that are represented by more than 1000 extant examples. Once again, a potential distinction between average and mainstream would help us better understand the process of this relative standardization of production in Neopalatial glyptic. The popularity and diffusion of 'talismanic' seals is certainly well attested: not only are they common on Neopalatial sites, but are also found widely across the Aegean and in much later contexts.[330]

Still, beyond the fact that 'talismanic' seals are a numerous category of Cretan Neopalatial seals, little is known about their production sites within Crete and their social meaning, if there was a particular one. What we know is what 'talismanic' seals were not: on present evidence, they appear to have been minimally used for stamping,[331] they therefore did not belong to the administratively active seals. This near exclusion of 'talismanic' seals from the stamping/administrative circles in Crete places them automatically in a different environment and social meaning than seals that participated in administrative procedures. I have discussed this matter elsewhere,[332] but it is worth repeating that the fact that there exists a single semantic group, that of seals, does not mean that all members of this group were of equal standing or importance. That 'talismanic' seals were mostly found in graves in the role of grave goods, does not automatically make them personal possessions or valuables either: it only makes them what they are presented as, namely grave offerings that accompanied the deceased.[333]

The combined evidence pertaining to the materials, shapes and motifs attested among the Akrotiri seals paints a complex and not readily understandable picture, one to be further elaborated in the concluding remarks of this monograph.

330 Krzyszkowska 2005b; 2011, 442–46.

331 Seal impressions of 'talismanic' seals are so few, that they can be listed easily: *CMS* II,6 nos. 59, 129–134 (Agia Triada); II,6 nos. 157–158 (Gournia); II,7 no. 106 (Zakros); II,8 nos. 144–147 (Knossos); V Suppl. 1A no. 127, 181–182 (Chania). See previously Karnava 2011, 91, where it was calculated that some 25 'talismanic' seals out of c. 500 Neopalatial seals that are known to have stamped sealings are attested to have been administratively active, with the numbers deduced from Onassoglou 1985, 203–93, 304–05; more recently however, see Krzyszkowska 2005a, 133–37; 2011, 443, fig. 3.

332 Karnava 2011.

333 See, however, Krzyszkowska 2011, 442–43, fig. 3, where a more nuanced picture emerges: 'talismanic' seals were overwhelmingly found in graves only if we take into account combined evidence dating from MM III to LM III; as far as the Neopalatial period is concerned, more 'talismanic' seals seem to have been found in settlements rather than graves. In this equation we need to take also into account the well-known problem of the dearth of Neopalatial burial sites.