CHAPTER 3: THE IMPRESSED OBJECTS

Only three objects with seal impressions have been found at Akrotiri, an exceptionally small number by any standards. Apart from their fragmentary state of preservation, **I1**–**I3** have nothing in common. All three were made for purposes other than bearing seal impressions: a discoid loomweight, a pithos rim and what was possibly a melon-shaped loomweight. Since such objects could have existed without seal impressions, they stand in marked contrast to the imported sealings, which were created with the express purpose of carrying impressions. In consequence, these impressed objects merit a separate chapter.

It is likely that the small number of stamped objects offers a true picture and is not fortuitous. Indeed, more than half of the sherds from the Akrotiri excavations have been sorted[713] and no impressed pottery has been found, apart from the fragmentary pithos rim **I2** (*Figs. 90–91, 94*).[714] In addition, all loomweights have been recorded and are under study,[715] including loomweights from layers earlier than the VDL,[716] and no stamped specimens have been recovered apart from the discoid **I1** and the possible melon-shaped **I3** (*Figs. 89, 92, 93, 95*).[717] At present, the rarity of impressed local objects suggests that the inhabitants of Akrotiri were unfamiliar with the practice of stamping,[718] a matter which will be discussed further below.

Another possible carrier of a stamped impression has been reported at Akrotiri.[719] This unusual object, an orange-coloured lump of ochre in the shape of a cylinder weighing 2200 gr, bearing the imprint of a textile in which it was probably wrapped,[720] also carries a seemingly rectangular imprint, possibly the impression of a stamp.[721] The cylinder dates to the EC period and was found inside one of the underground rock-cut chambers. Since seven stone tools related to the processing of raw masses of pigments were found in association with the cylinder, the debris could have come from a workshop. However, the rectangular imprint preserves no motif, so its identification as a stamp impression remains highly uncertain. Consequently, the possibility that the ochre cylinder could have been imported stamped to Akrotiri, however appealing, is at present dubious.

713 All the pottery from the excavations of the new shelter pillar pits (1999–2003), the West House, Building Beta (B) and Complex Delta (Δ) has been sorted. The Xeste 3 pottery is currently being sorted, but in any case this building has a relatively small quantity of pottery (Papagiannopoulou 1995). I thank I. Nikolakopoulou for the above account.

714 Karnava – Nikolakopoulou 2005.

715 Tzachili 1997, 183–93; Tzachili forthcoming.

716 Tzachili forthcoming; Vakirtzi forthcoming.

717 The loomweights that have been recorded are those discovered during excavation and removed from the site; some were however left *in situ* in the rooms where they were found.

718 Karnava 2016a.

719 I thank A. Devetzi and K. Birtacha for bringing this find into my attention and for discussing its peculiarities and possible interpretations. The piece was examined by the author and M. Anastasiadou in August 2013.

720 Devetzi 2009–10, 40, fig. 10; Birtacha *et al.* forthcoming.

721 Imprint dimensions: 6.6 × 3–4 cm.

THE CONTEXTS: ROOM D4 AND OPEN-AIR SPACES

Stamped object **I1** was found in the interior of Delta-North, while **I2** and **I3** were recovered from debris accumulated in open-air spaces.

Delta-North, D4

The fragmentary discoid loomweight **I1** was found in Room D4 during the 1970 excavation season (3/9/1970), when most of Complex Delta (Δ) came to light.[722] At the time, the room was designated the 'Xeste ante-chamber' in the daybook, since it was thought that Complex Delta (Δ) was another ashlar building. Room D4 is in fact the E part of Room D4–D5, from which access was gained to the rest of Delta-North, including its first storey, through various and complicated routes (*Fig. 81*).[723] No partition wall between the two sections of the ante-chamber seems to ever have been found, but the fact that the stone pavement of the floor of Room D5 was found in place makes the theoretical separation certain. By contrast, in Room D4 the floor had sunk to below ground level and the excavation never reached bedrock. It has been suggested with good arguments that Room D4 also had a first floor, which was found collapsed inside the very same room; consequently, during excavation movable finds were recovered at various levels, rarely in place, mixed with pumice, river debris and soil.[724]

The excavation inventory book describes the object as having been found in the 'deposit above the sunken floor' of D4. The information derived from the *Praktika* report for that year, combined with the daybook entries, describes the finds of D4 in layers. The first storey contents were represented by an intact nippled ewer 'amidst fragments of other vessels';[725] a layer of pumice intervened between the pots and the floor. Under the floor was 'an abyss of pumice, sand, jars, amphorae and other fallen matters on the sunken floor (of the basement) which we haven't seen as yet …'; there followed 'a group of well-preserved vessels, almost exclusively ewers', among which was an inscribed one (*Fig. 82*; detail of the inscribed vessel in *Fig. 83*).[726] The daybook mentions that these vessels were found resting at a depth between –1.4 m and –1.75 m 'from the top of the E wall', whereas beam holes, which would have supported the floor, were found at –1.30 m. At about the same depth, meaning that the investigation was continuing in different sections of the same space, two more vessels are mentioned, along with an animal tooth and loomweight **I1**, which was probably recorded in the daybook due to its impression. Further below, at a depth of –1.9 m, more pumice was revealed, and a layer of soil appeared by the SE corner containing numerous animal bones and a small stone tray of unknown precise function. At –2.2 m were red plaster fragments and two conical cups, but fragments of many more were recovered, along with a goat horn and a stone vessel. At –2.45 m, which seems to be the ground

722 *Thera* IV, 10–28, plan I. On the seals retrieved in various rooms of Complex Delta (Δ), see Chapter 1, pp. 25–38; on the impressed nodules retrieved from the same building complex, see Chapter 2, pp. 83–94.

723 Michailidou 2001, 304–33; Palyvou 2005, 80–83.

724 *Thera* IV, 14; Michailidou 2001, 306, 331, 333.

725 *Thera* IV, 14. The references to a 'glandular bead of carnelian' and 'another lentoid of steatite' are probably an oversight (see Chapter 1, for the discussion regarding seal **S9**).

726 *GORILA* IV no. THE Zb 2.

Fig. 81. Delta-North: Room D5–D4 and the main staircase during excavation in 1970 (Akrotiri Excavations Archives).

level floor made of beaten earth, there were fragments of a bronze pin, another stone vessel and a loomweight.

Commentary: Amidst all the rubble it is unclear whether the ewers and the loomweight **I1** belong to the equipment of the first or the ground level of Room D4. It is more likely, however, that they came from the first floor, inasmuch as they were found at a considerable height within the ground level, with more pumice beneath them. Had they belonged to the ground level, the only explanation for their location would be that they had been lifted by water. In that case, we should probably not expect to find a concentration of ewers, which on present evidence does not appear to be accidental. The large number of ewers could indicate a storage area; this interpretation is only preliminary, however, and needs confirmation through the on-going study of pottery from Complex Delta (Δ).[727]

Open-Air Space to the S of Xeste 2 (NPP 64A)

The fragment of the local pithos rim **I2** bearing multiple impressions of the same seal was discovered in 2000 in NPP 64A, which was opened in the area immediately to the S of Xeste 2.[728] The area was previously thought to have formed part of the interior of Xeste 2, and all the topographical plans of the site still show it as part of the Xeste building.[729]

727 Mathioudaki – Nikolakopoulou forthcoming.

728 Karnava – Nikolakopoulou 2005.

729 See, for instance, the latest architectural study of the site, where Xeste 2 is mentioned as a 'most probably very large [building]' (Palyvou 2005, 96).

Fig. 82. Delta-North: Room D4, the *a-re-sa-na* group pottery *in situ* (Akrotiri Excavations Archives; *Thera* IV, pl. 1a).

Fig. 83. Delta-North: Room D4, the *a-re-sa-na* group pottery *in situ*, detail (Akrotiri Excavations Archives).

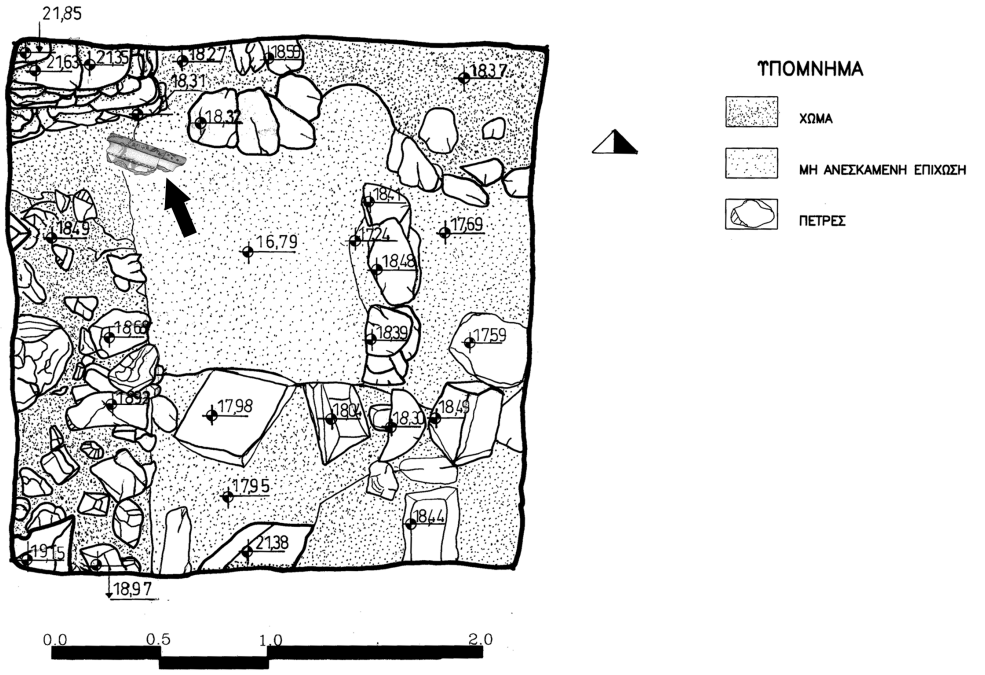


Fig. 84. Plan of NPP 64A with exact findspot of rim **I2** to scale (Akrotiri Excavations Archives, drawing by E. Damigou – K. Peleki, rim drawing and arrow added by A. Karnava).

Fig. 85. Pottery sherds from the debris in which rim **I2** was found (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

Removal of volcanic depositions, however, which took place before the beginning of the recent excavations for the construction of the new shelter, revealed the S wall of Xeste 2, which is actually to the N of NPP 64A. The pithos fragment was found outside the SE corner of yet another, previously undiscovered and still unnumbered, building. The space investigated in the confines of NPP 64A was considered an open area, at least in the latest pre-eruption phase.

The rim was found amidst LC I debris apparently resulting from a destruction, almost immediately under the volcanic depositions. The layer consisted of dark brown, hard soil, mixed with stones, which might have originally belonged to the new building to its NE (*Fig. 84*). Other finds in the same debris layer included numerous pottery sherds, animal bones, seashells, some obsidian flakes, a small stone ball, and a bronze object (*Fig. 85*).

Commentary: It is unclear where the debris excavated in this trench came from. The only information that can be extracted from the other objects discarded with the pithos rim is that the debris represents what was once a domestic context, destroyed by an event during the LC I period.

Open-Air Space to the N of a New Building, NE of Xeste 4 (NPP 62)

The impressed fragment of the clay object **I3** was found in 1999 in NPP 62. The excavation revealed what appears to have been the N wall of another newly discovered building to the NE of Xeste 4.[730] The wall, with a SW–NE orientation, appeared in the S part of the trench measuring 3.2 m in length and 0.7–0.75 m in thickness; it was revealed to a height of 3.6 m.[731] The thickness of the wall suggested that the building was preserved at its lowest level. The wall had a window measuring 1 × 0.7 m (*Fig. 86*).[732]

Object **I3** was found when debris outside to the N of this building was being removed (*Fig. 87*). Two consecutive layers of debris were detected. The sorting of the pottery provided a date for both layers in the LC I period, without further differentiation. Movable finds in these layers included large quantities of pottery sherds from all kinds of pots justifying the characterization of these layers as debris, numerous animal bones, stone tools, obsidian debitage, and metal slags. The *locus* in which **I3** was found consisted of brown, loose soil, with small stones and numerous pottery sherds, and was removed from the E half of the trench. It was the last *locus* belonging to the upper debris layer; under it lay the lower debris layer, of harder, greyish soil. The particular *locus* contained a considerable quantity of sherds, animal bones, obsidian debitage, seashells, and fragments of stone tools, which was more or less what both layers contained (*Fig. 88*).

Commentary: The origin of the debris in which the loomweight fragment was found is unclear. However, since it forms part of the extensive debris layers that covered the LC town streets and squares after what was probably a devastating seismic event, it is safe to suggest that it can be dated to a phase within the LC I period. In addition, the recovery of

730 *Praktika* 1999, 177–79, figs. 14, 15.

731 Investigation of the NPP stopped before reaching the bedrock, because of changes in the structural plan of the shelter.

732 *Praktika* 1999, pls. 115, 116.

Fig. 86. NPP 62: wall (SW–NE) with window belonging to a building to the NE of Xeste 4 (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

Fig. 87. NPP 62: debris to the N of a building situated to the NE of Xeste 4; photo taken on the day **I3** was found (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

Fig. 88. NPP 62: pottery from the *locus* in which **I3** belonged (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

metal slags in the rubble, together with the retrieval of a probable crucible fragment in the nearby NPP 61,[733] in a layer corresponding to the one in which **I3** was found, could indicate the prior existence of a metallurgical workshop nearby.

THE STAMPED OBJECTS: TWO LOOMWEIGHTS AND A PITHOS RIM

The Discoid Loomweight

The fragmentary discoid loomweight **I1** bears an almost intact and relatively well-preserved seal impression (*Fig. 89*). The fragment measures 6.7 × 5.05 cm and has a maximum thickness of 2.9 cm. The clay is of yellowish-brown colour, with a grey core and sizeable inclusions but no mica. Almost half of the original disc is preserved.

Loomweights are components of the warp-weighted loom, the main equipment used in the Aegean for weaving textiles from the Middle Neolithic period onwards.[734] Discoid loomweights were a typical Minoan loomweight shape, used from EM II to LM III. Apart from their distribution in numerous Cretan sites they have also been recovered outside Crete:[735] the list includes many Aegean islands,[736] as well as the western Anatolian coast,[737] but they are noticeably absent from sites on the Greek mainland until the LBA. Of par-

733 Erroneously reported in *Praktika* 1999, 179, as coming from NPP 62.
734 Burke 2010a, 430–35.
735 Cutler 2012, 146–47.
736 Aegina, Kea, Naxos, Melos, Thera, Kythera, Antikythera, Samothrace, Chios, Samos, Koukonissi near Lemnos, Rhodes, Kos, Karpathos, Kalymnos.
737 Troy, Iasos, Teichiussa, Çeşme-Bağlararasi, Bakla Tepe, Liman Tepe.

Fig. 89. Discoid loomweight **I1**; scale 2:3 (Akrotiri Excavations Archives/*CMS* Archive).

ticular interest here is the site of Agia Irini on Kea, where the introduction of this Minoan device *par excellence* was first noticed in MBA layers.[738] At Akrotiri this technology seemed only to occur in the VDL layers[739] but more recent evidence shows that discoid loomweights were present in older layers as well,[740] demonstrating that the technology had arrived earlier than previously thought.

None of the earlier Akrotiri samples show any evidence of stamping but one bears an incised inscription.[741] Loomweights with a single incised mark were thus far known from LC layers at Akrotiri,[742] but none was known to have been stamped or inscribed with a proper inscription until now. Whether single incised signs on the one hand, and stamps from seals on pottery and loomweights on the other, should be seen as interchangeable marking methods is unclear.[743]

Stamped discoid loomweights and varieties thereof are known from Palaikastro[744] and Malia (Quartier Mu[745] and Nu),[746] two of the better published sites in Crete; an unspecified number of stamped loomweights is reported from Monastiraki.[747] The dates of these specimens vary from the EM to the LM period.

Visual examination of **I1** indicates that the loomweight is made of the typical Theran, buff clay. Until proper petrological analysis is carried out, however, the matter is better left open.

738 Davis 1984.
739 Tzachili 1990; 1992, 140.
740 Knappett – Nikolakopoulou 2008, 5, where loomweights were found in a layer dating to phase C in the Akrotiri MBA sequence (for the MBA sequencing, see Nikolakopoulou *et al.* 2008). MC loomweights received a preliminary presentation, and a more detailed study is due (Tzachili forthcoming; Vakirtzi forthcoming).
741 Karnava forthcoming c.
742 Tzachili 1990, 385, figs. 8, 10.
743 Poursat 2001, 28.
744 *CMS* II,6 nos. 239, 245 (this also bears an incised double axe), 248.
745 *CMS* II,6 no. 202; Detournay *et al.* 1980, 204–06 no. 294; Poursat 2013, 94.
746 *CMS* II,6 no. 212.
747 Burke 2010b, 43.

The Inscribed and Stamped Pithos Rim

The three joining sherds of pithos rim **I2** were retrieved from the same fill. The fragment (13.5 cm in height, 35.6 cm in width, wall thickness 1.7 cm, rim thickness 4.5 cm) is part of the rim and the upper part of the body of a pithos, estimated as originally 1–1.2 m high. The mouth (internal rim) diameter is estimated as having been c. 37 cm (*Fig. 90*).[748]

According to Nikolakopoulou the fragment belonged 'to a pithos of ovoid type, with square-sectioned rim and three or four vertical handles of circular/oval section on the upper part of the body (the chipped attachment point of one handle is visible on the fragment), and possibly another three or four corresponding similar handles above the base. On the external surface of the fragment traces of the decoration are preserved, namely part of a horizontal relief rope pattern and black paint as part of a trickle pattern, both on the upper part of the body; traces of black paint are also found on the rim. It is certain that horizontal rope patterns or raised bands ran around the original (now missing) body of the pithos and trickle patterns were applied on the upper part of the body and the handles. According to visual examination the fabric is local (yellow/light brown clay with inclusions, slip of the same colour). The morphological features of the particular pithos type suggest an influence from contemporary Minoan prototypes, rather than the local Middle Cycladic tradition. Gas chromatography analysis for the detection of the contents (carried out in the laboratory of the School of Chemistry, University of Bristol) did not provide any fruitful results.'[749]

The particularity of this piece lies in the fact that it was stamped at least 13 times by the same seal: nine impressions on the upper horizontal surface[750] and four on the external vertical surface of the rim (*Fig. 91*). The impressions were applied at various stages in the drying process, since in some places they are clear and deep, and in others superficial and faint. The rim also bears an incised Linear A inscription, executed before firing on the external vertical surface.[751] It seems that the sequence of actions — including an 'accident' which caused partial deformation of the rim — was as follows: incision of inscription, followed by stamping of the seal impressions, followed by application of the paint, followed by the 'accident', ending with the firing of the pot. This stamped and inscribed pot is a unique piece, not only as far as Thera is concerned but also extending to Crete and beyond. No other example of a clay vessel that is both stamped and incised exists anywhere in the Aegean.

The practice of stamping pithoi or other vessels has a long history in the Aegean, going back to the EH/EC periods, when a decorative purpose is presumed.[752] Stamping of pottery is also attested in Protopalatial Crete, where something other than decoration may be implied by the occasional use of Hieroglyphic seals,[753] which were closely linked to the

748 Nikolakopoulou in Karnava – Nikolakopoulou 2005, 214.

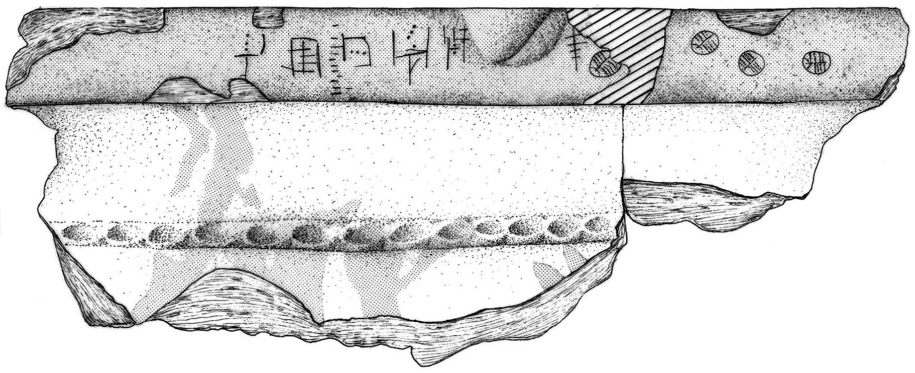
749 Nikolakopoulou in Karnava – Nikolakopoulou 2005, 214.

750 Some more impressions can be seen here and there on the upper horizontal surface, but they are too superficial to be counted.

751 THE Zb 13: Karnava – Nikolakopoulou 2005, 219–22; Boulotis 2008, 69; Karnava 2008, 378.

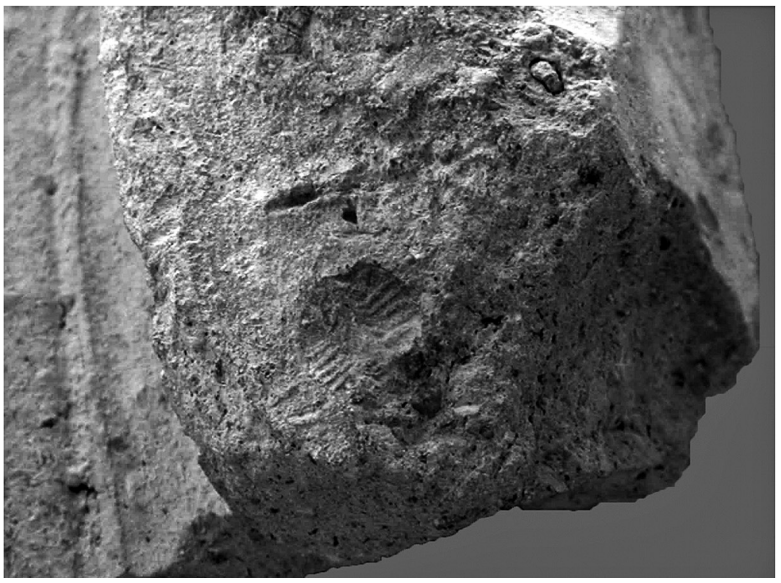
752 Karnava – Nikolakopoulou 2005, 223, with relevant bibliography.

753 All five instances dating to the Protopalatial period and all found on vessel handles, probably amphoras: *CMS* II,6 nos. 189 (Malia, Quartier Mu), 229–231 (Myrtos-Pyrgos); V Suppl. 1B no. 329 (Petras, Siteia).



I2

Fig. 90. Stamped and inscribed pithos rim **I2**; scale 1:3 (Akrotiri Excavations Archives, drawing by A. Kontonis; Karnava – Nikolakopoulou 2005, 218, fig. 3a).



I2

Fig. 91. Rim **I2**, with detail of a seal impression on the vertical rim surface (Akrotiri Excavations Archives, photo by C. Papanikolopoulos – D. Sakatzis).

Protopalatial administrative system.[754] In Protopalatial Malia a single pithos is attested with a seal impression on its rim, whereas various jars are impressed on their handles.[755] For such a limited practice, it is probably pointless to seek patterns or confirmation of the

754 Karnava 2000, 246.

755 Detournay *et al.* 1980, 200–04; among these, an impression by a Cretan Hieroglyphic seal, see above n. 753. The stamped pithos is of unspecified provenance (Poursat – Knappett 2005, 205 no. 120; *CMS* II,6 no. 204). Some fresh thoughts on jar impressions are now to be found in Weingarten 2015.

unfounded, and subconsciously held assumption that marking denotes some sort of ownership.[756] Again, in the case of Malia an indeterminate administrative function could have been at play when Cretan Hieroglyphic seals were used.[757]

Since the preliminary publication of **I2** in 2005, only one stamped pithos has been reported from Crete from the site of Papadiokampos in Siteia.[758] The pithos, which is dated by the excavators to MM II–III based on the typology of the seal impressions and the pithos rim section, was found in House B.1, destroyed in LM IB. Two different seal impressions, both most likely made by prisms, were stamped a total of 10 times on the pithos rim and the handle joints; the impressions could also have been from different sides of the same prism. This instance is the only significant parallel so far, since it involves a pithos still in use in LM IB.

The Fragmentary Possible Melon-Shaped Loomweight

The fragmentary object **I3** measures 6.65 × 5.65 cm and has a height of 4.7 cm, but its original dimensions cannot be estimated (*Fig. 92*). It is a compact, gritty mass of brownish-yellow clay with a grey-black core, the preserved side of which has a curved, roughly polished surface, where the seal impression is found; the opposite side is broken off and sizeable inclusions can be seen inside the clay mass. Because the piece was retrieved from debris exposed to natural elements, one cannot be sure whether black patches on its surface are evidence of burning or if they are simply biological residues. The seal impression is quite worn, but it is doubtful how visible it would have originally been on clay as impure as this. We may note that the impression shows the seal was pierced and the imprint of a reed can be seen protruding from both sides of what was probably a suspension hole.

As far as the fabric of this object and, consequently, its provenance are concerned, the question as to whether it is locally made or imported cannot be answered at present. According to the expert opinion of J. Hilditch the object cannot be classified under local products with absolute certainty; on the other hand, the same uncertainty applies to the question whether or not it could be Cretan. A possible answer could be that we are looking at a fabric from a locality or a time period with which researchers are not familiar.[759]

Another question is what exactly this object was. One possibility is that it was a jar stopper; a second possibility is that it could have been a spherical loomweight, a so-called melon.[760] Both categories of objects are known — from findspots other than Akrotiri — to have carried seal impressions, so the fact that it is impressed is not really helpful.

The first possibility, that of the fragment belonging to a jar stopper, is problematic because we have no comparable parallels, even unstamped ones, from the site. Jar stoppers at Akrotiri are usually of stone, even pumice, or various other readily available items, such

756 See relevant and stimulating discussion in Relaki 2012; Krzyszkowska 2016.

757 Poursat 2001, 28.

758 Sofianou – Brogan 2010, 134, fig. 5.

759 Pers. comm., after examining the object in September 2009, for which I am grateful. In her own words: 'There are examples of local Theran sherds tempered with large flat phyllites and schists — the dilemma is whether this is Cretan (generally non-mica clay with large phyllite and schist inclusions) or local volcanic with "Cretan-type" temper.'

760 Burke 2010a, 433. It was registered as such in the excavation inventory book.

I3

Fig. 92. Clay object **I3**, probably a spherical loomweight; scale 2:3 (Akrotiri Excavations Archives/*CMS* Archive).

as other vessels etc.[761] In one instance the mouth of an amphora was corked with a pebble and further sealed with apparently unfired clay.[762] Some lids appear to have been made of properly fired clay together with the pot and especially for it, as suggested by the matching dimensions and decoration;[763] some were also made of stone, to be used specifically as lids.[764]

Stamped jar stoppers are, however, known from Crete. Most date to the Protopalatial period, when direct sealings were the prevalent sealing type in Crete, and belong to a tradition going back as early as the EB II period.[765] The Protopalatial specimens seem, however, to function more as sealing supplements to jar lids of materials other than clay, i. e. clay was affixed around a jar opening with its lid on, and then stamped. There are a very few instances in the Neopalatial period when the stamped clay lump virtually replaces the lid of a jar, as a specimen with multiple impressions of the same lentoid from Chania shows.[766] Stamped stoppers of this kind are more commonly found in Mycenaean contexts.[767] The lack of satisfactory parallels, since the ones in question show repeated impressions of the same seal, considerably weakens the suggestion that **I3** could have been a jar stopper.

By contrast, the second suggestion, that of the spherical loomweight, appears more plausible. Until recently, among hundreds of loomweights retrieved at Akrotiri, not one was of the spherical type. Spherical loomweights are considered in any case to have been

761 *Thera* IV, 40, pl. 98a: a flat pumice chunk found as a lid on a vessel from Room D2; *Thera* IV, 40, pl. 98b: flat stone discs, suggested to have been used as vase lids; *Thera* VI, 32, pls. 9, 71, 72: stone pebbles, circular schist slabs, small vessels, a broken jar handle, all used as lids; Moundrea-Agrafioti 2007, 102–12 nos. 9, 27, 28, 56: stone pebbles; Devetzi 2007, 153–54 nos. 51–55: flat stone slabs, used either as lids or as bases for large pots.

762 Moundrea-Agrafioti 2007, 104 no. 9, figs. 13, 15.

763 *Thera* VI, pls. 74c, 78a.

764 Devetzi 2007, 116 nos. 10, 11: stone lids.

765 *CMS* II,8 pp. 369–72, with reference to numerous Protopalatial examples. The terminology in German for these primarily Protopalatial specimens is *Gefäßrandplomben*. A typical EH example is shown on the backs of the sealings from Geraki in Lakonia (*CMS* V Suppl. 3 pp. 43–47).

766 *CMS* V Suppl. 1A no. 138.

767 *CMS* II,6 pp. 372–74, for two LM III stamped jar stoppers (*Stopperversiegelung*); II,6 nos. 173, 174, 210 (Malia); II,8 no. 716 (Knossos); V Suppl. 1A nos. 147–149 (Chania); Krzyszkowska 2005a, 287–89.

exclusively Cretan, in that they were never found outside Crete and, more specifically, never outside central and eastern Crete.[768] The recent excavations at Akrotiri for the foundation of the new pillar pits have yielded a number of spherical loomweights,[769] a fact which ought to alter the perception we have of this type of loomweight.

Great quantities of spherical loomweights are found primarily in connection with Neopalatial contexts in Crete, but they do already appear in the Protopalatial period, as Malia abundantly testifies.[770] Since very few Protopalatial settlements are known and investigated in Crete, it is possible that the large number of Neopalatial spherical loomweights can be explained by archaeological chance. Malia has yielded a large number of spherical loomweights, including stamped examples in Quartier Mu[771] and buildings to the NE border of the palace.[772] They all share a common characteristic, in that they are stamped by flat, round seals made of soft stone, such as the one that was used to stamp **I3**.

Apart from stamping, incised signs can also be observed on spherical loomweights, both Protopalatial and Neopalatial in date. Malia again provides nine incised spherical loomweights of Protopalatial date.[773] Incised single marks are also present on Neopalatial specimens,[774] and there is one instance where the single sign is in fact impressed multiple times into the clay.[775]

Other varieties of loomweights found on Crete were also stamped and in most cases the seals used had a flat round seal face. Examples include quadrangular loomweights from Chamaizi,[776] Kato Zakros,[777] the Quartier Mu in Malia[778] and Palaikastro;[779] pyramidal loomweights from Kato Zakros,[780] the Quartier Theta in Malia[781] and Palaikastro;[782] and cylindrical loomweights from Malia Quartier Mu.[783] On some examples the seals seem to have been impressed with some force, leaving an impression some millimetres below the surface of the loomweight, as is the case for **I3**.

768 Burke 2010b, 51–55; Cutler 2012, 153–54.

769 A number of spherical loomweights, some of which are intact, are recorded in the excavation inventory book and have been examined by the author. They all derive from the excavations for the foundation of the NPPs, see Tzachili forthcoming.

770 Yet there could have been a selective distribution of spherical loomweights in the Protopalatial period: out of 428 loomweights from Petras in Siteia recorded between 1985 and 1996, none is of the spherical type (Burke 2006, 283).

771 *CMS* II,6 nos. 203, 207; Detournay *et al.* 1980, 204–06 nos. 292 and 296.

772 *CMS* II,6 no. 213 (apparently the same seal face as II,6 no. 203, see previous note); II,6 nos. 217, 218.

773 Poursat in Poursat *et al.* 1978, 100–04; Poursat 1996, 176. Incisions are also observed on loomweights of other shapes (Poursat 2001, 28–29; 2013, 93).

774 Evely 1984, 247, pl. 231.5, where five spherical loomweights 'of various shapes and sizes' out of 'over 150' from the Unexplored Mansion bore an incised cross.

775 Burke 2003, 197, fig. 8.1.11, where on the heaviest of the 11 spherical loomweights from the Knossos South House three cross-shaped marks are present, executed through impression rather than incision.

776 Of MM IA date: *CMS* II,6 no. 153.

777 *CMS* II,6 nos. 165, 167.

778 *CMS* II,6 no. 190; Detournay *et al.* 1980, 204–06 no. 295; Poursat 2013, 94.

779 *CMS* II,6 nos. 236–238, 240, 241, 243, 244, 247.

780 *CMS* II,6 no. 166.

781 *CMS* II,6 no. 175 (impression of a flat, round seal face, stylistically very close to the 'Malia Workshop' group of seals).

782 *CMS* II,6 no. 242.

783 *CMS* II,6 no. 192; Detournay *et al.* 1980, 204–06 no. 293; Poursat 2013, 94.

I1

Fig. 93. Impression on discoid loomweight **I1** (Akrotiri Excavations Archives/*CMS* Archive).

The evidence outlined above leads to the conslusion that **I3** is best classed as a loomweight. The on-going study of loomweights from Akrotiri should be able to corroborate or reject this suggestion in the future.

THE ICONOGRAPHY: THREE UNIQUE MOTIFS

As expected, the impressions on the three objects under discussion were made by seals otherwise unattested at Akrotiri and in the Aegean in general; nevertheless their motifs do find parallels among Cretan material.

Quatrefoil

The fragmentary discoid loomweight **I1** bears a seal impression that measures 2.7 × 2.53 cm, and is preserved almost intact (*Fig. 93*). The size of the impression, and consequently of the seal that produced it, is exceptionally large and unusual by Aegean standards. The shape of the flat seal face itself, which is roughly quadratic, is otherwise unattested. Most Aegean quadratic seal faces have either straight or slightly outwards curved sides; this particular seal had its sides slightly curved inwards.

The motif is that of a simple quatrefoil with four stylized lancet leaves in between. The motif is not perfectly symmetrical. The surface of the flower 'petals' was smooth and relatively even, and the petals have grooved borders. The grooved borders appear as a trait of numerous quatrefoil motifs executed on Minoan soft stone seals, namely made of steatite,[784] but also of some made of bone.[785]

The motif is mostly attested on EM III–MM IA seals found in central and eastern Crete, but is also present among MM II soft stone seals, some of which are made of chlorite.[786] It also appears many times among the seal impressions from the Phaistos sealings depos-

784 Some examples: *CMS* III no. 208b; VI no. 29c; IX no. 26c.

785 For instance: *CMS* IV no. 120; V Suppl. 1A no. 251.

786 Anastasiadou 2011, 260, pl. 79; for instance, *CMS* II,1 no. 92a; VI nos. 53a, 84b; VII no. 29c; XII nos. 42a, 104b.

it.[787] The closest parallels for the motif occur where a quatrefoil inside a slightly incurving quadratic border is circumscribed by a circular seal face.[788] As far as the size of the original seal is concerned, however, no exact matches can be found. Its dimensions are too large for the usual EM III–MM II seals, which reach a maximum of 1.5 cm, with seals over 2 cm being an exception. Comparable sizes can be found among earlier seals (EH II), all made of steatite.[789]

The lengthy timeframe (EH II–MM II) during which seals with similar features were made and their distribution both on the mainland and in Crete makes it impossible to pinpoint the date or origin of the original seal used on **I1**. In any case, the seal had in all probability been manufactured earlier than the time the loomweight was stamped.

Scorpion

All the (at least) 13 impressions on the pithos rim **I2** were made by the same convex and slightly asymmetrical oval-faced seal of 1.1 cm in length and 1 cm in width (*Fig. 94*).[790] The seal face displays a scorpion seen from above and rendered symmetrically: five bent legs emanate from both sides of a central vertical line, which stands for the animal's body; pincers protrude from the front part, again on both sides, whereas the back part of the body ends in a curled tail. The motif takes up the entire seal face.

The scorpion motif occurs on both Prepalatial Cretan seals,[791] and on examples of Protopalatial date.[792] It was subsequently passed on to the Neopalatial 'talismanic' tradition,[793] as were many of the soft stone Protopalatial decorative motifs. The scorpion motif is also attested on impressions from the Knossos Eastern Temple Repository[794] and from Zakros House A.[795] The morphological traits of the Theran impression neither resemble the Prepalatial representations of scorpions, where the body is always oval-shaped, nor typical 'talismanic' examples, where the body comprises adjoining semi-circles. However, it does seem to borrow an element found on scorpions on a few soft stone seals, presumably of late Prepalatial and Protopalatial date: the abstraction in depicting the animal's body, indicated by a simple straight line.[796] In addition, the fact that a real scorpion has four pairs of legs, instead of the five shown here, betrays the craftsman's intention to cover all available space on the seal face, rather than to depict the animal in an anatomically realistic manner.

The craftsmanship of this particular seal was extremely fine and most probably denotes a hard stone seal. The convex seal face points to a manufacture date from the MBA onwards, when seal faces became convex in order to facilitate engraving.[797]

787 *CMS* II,5 nos. 213–222.
788 *CMS* II,1 no. 102 (Agia Triada); II,8 no. 1 (Knossos); V Suppl. 1A no. 251 (Moni Odigitria).
789 *CMS* V no. 526a (Asine, Argolid); V Suppl. 3 no. 208a (Krannon, Larissa); XI no. 139 (Kolonna, Aegina).
790 The discussion about this impression is based mostly on Karnava – Nikolakopoulou 2005 (section written by the present author), augmented and updated.
791 *CMS* II,1 nos. 223, 225, 248, 250, 307 (Marathokephalo, Platanos).
792 *CMS* II,2 nos. 153, 182, 240 (Malia).
793 Onassoglou 1985, 82–85 (*Das »Skorpion«-Motiv*). See also *CMS* I Suppl. nos. 85, 86; II,3 no. 308.
794 *CMS* II,8 no. 153.
795 *CMS* II,7 no. 108.
796 *CMS* II,1 no. 307b (*stilisierter Skorpion*); II,2 nos. 240b, 292b.
797 Krzyszkowska 2005a, 85.

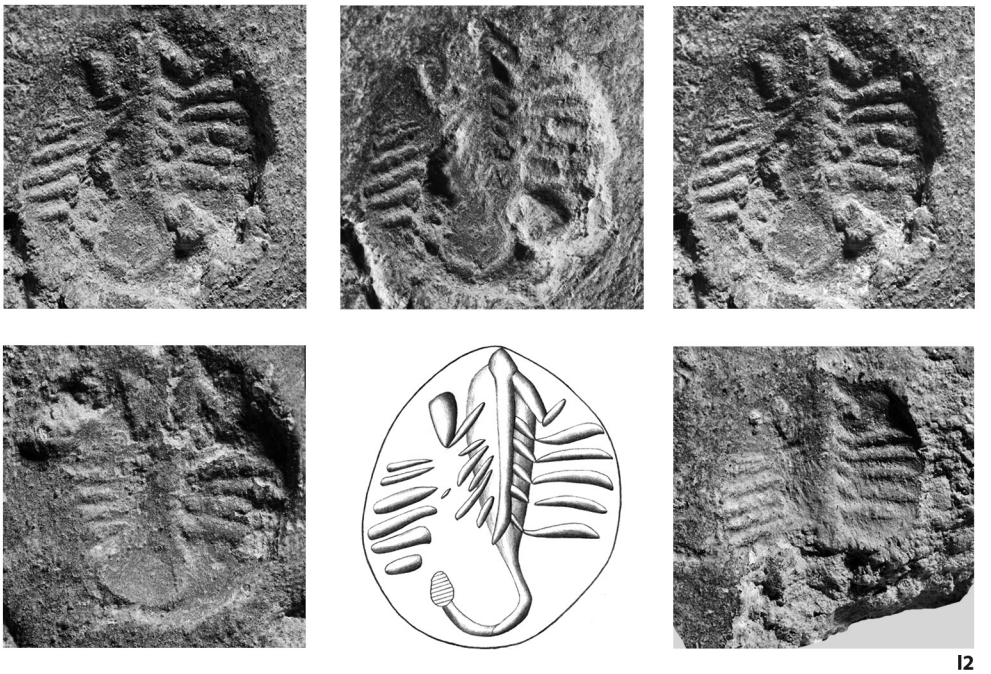


Fig. 94. Multiple impressions of the same seal on pithos rim **I2** (Akrotiri Excavations Archives/*CMS* Archive).

Whirl

The impression attested on the fragmentary object **I3** originated from a flat, circular-faced seal (Ø 1.5 cm) (*Fig. 95*). It is quite worn and the motif is almost effaced. The seal had a simple whirling motif that covered its entire surface; the central part is too worn to say if the motif had a central boring/disc, as attested on numerous seals with a whirl motif. No supplementary decoration can be discerned.

The whirl is quite stylized and its six tentacles end in scrolls. The motif, or variations of it, is first encountered among EM III–MM IA seals made of hippopotamus ivory from tholos tombs in central Crete.[798] Later, in the Protopalatial period, numerous examples of whirl motifs come from the Malia Workshop and are mostly found on three-sided steatite prisms.[799] A near parallel for the present motif occurs on a seal in the Metropolitan Museum, New York,[800] which has a seal face with a diameter of 1.3 cm, a round flat face and a rather superficially engraved motif. This specific seal is attributed to the Malia/Eastern Crete Steatite Prisms Group, examples of which are found in sites in east-central and eastern Crete during the Protopalatial period.[801]

798 *CMS* II,1 no. 3 (Drakones); IV no. 41 (Kaloi Limenes); V Suppl. 1A no. 268 (Moni Odigitria).

799 Anastasiadou 2011, 285–86, pls. 100, 101, motif 255: Whirl. More specifically, they are listed under the Malia/Eastern Crete Steatite Prisms group.

800 *CMS* XII no. 51b; Anastasiadou 2011, 286, pl. 101, motif 257: Whirl Spiral.

801 Anastasiadou 2011, 113, fig. 55; 2016, 160–63.

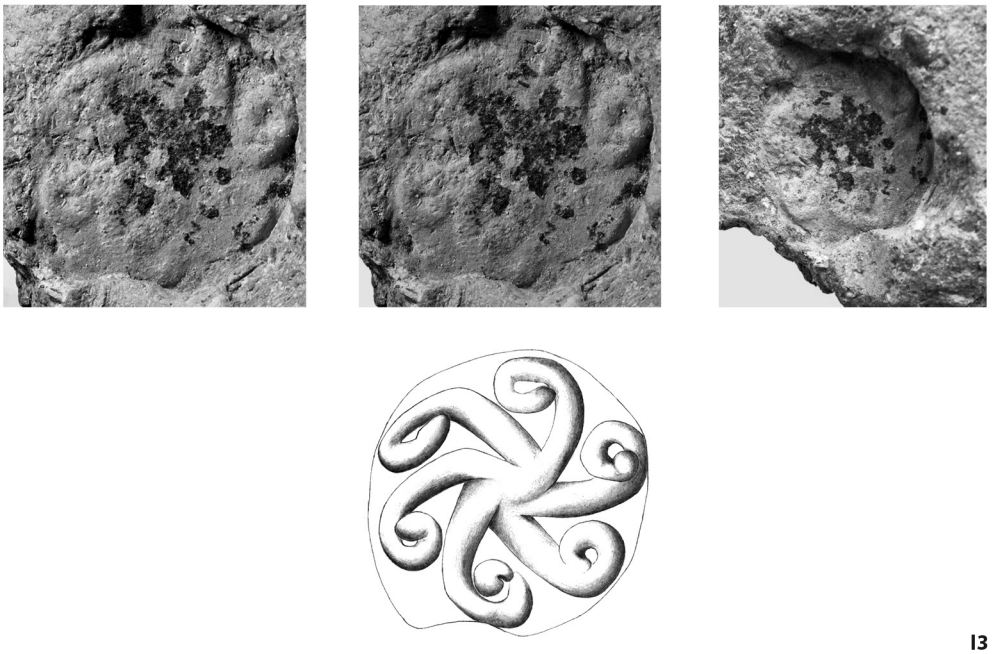


Fig. 95. Impression on the probable spherical loomweight **I3** (Akrotiri Excavations Archives/*CMS* Archive).

The whirl motif therefore proves popular during the late Prepalatial as well as the Protopalatial period. On iconographical and stylistic grounds, however, the closest parallels for the Akrotiri impression are those found among EM III–MM IA seals of hippopotamus ivory. Tentacle arms that end in scrolls are most characteristic of seals of the Parading Lions Group, which dates to EM III–MM IA and is popular in south-central and central Crete.[802] It is, therefore, possible that the Akrotiri impression came from a seal of this type. Whether the seal had actually travelled to Akrotiri depends on whether object **I3** is a local Theran or an imported product; for now this cannot be determined.

DISCUSSION: RANDOM STAMPING AT AKROTIRI

The Small Number of Impressed Objects

The way things stand and on the basis of the material that has been presented so far in this study, we have no secure evidence of actual seal use at the site of Akrotiri apart from the stamped pithos rim **I2** of local manufacture (*Figs. 90–91, 94*). For the time being, the other two objects with seal impressions defy classification under local or imported production. Therefore the question posed in Chapter 1 regarding the existence of seals, in their majority imported at Akrotiri, now recurs in connection with these few stamped objects. What

802 Yule 1981, 208–09; Sbonias 1995, 89–99. The seal group has recently been the focus of analysis on the social identity and interaction between seal users (Anderson 2013; 2016, *passim*).

was the role of seals at Akrotiri? The case for administrative functions is weak. So far we have had evidence for the presence of individuals who were literate in Linear A, as demonstrated by the locally-made Linear A tablets, the locally produced as well as imported inscribed pots and a graffito on a pot sherd.[803] This evidence points to a purely administrative use of the writing system on Thera. While this purpose is also attested in the script's original home in Crete, there it is supplemented by additional functions in the religious and mortuary spheres not currently attested in Thera. Assuming that the pithos rim was stamped and inscribed by one and the same person, whether potter or scribe, this is the closest we come for now to the possible existence of a seal bearer/administrator at Akrotiri. But as previously discussed, the particular way in which the seal was used does not really offer solid grounds for its administrative use. At present, therefore, we cannot confirm that seals were actually used at Akrotiri, or if they were used in a fashion comparable to Neopalatial Crete.

The stamped loomweights could make a more compelling case for some kind of organized administration, were they to be proven local. It has been suggested that textile production for trade purposes must have been among the many important economic activities in LC Akrotiri. This view is supported by the hundreds of loomweights found in different buildings of the town, and also by the entries on the Linear A tablets which indicate considerable quantities of textiles.[804] Production of textiles on an industrial scale would certainly have required some sort of control and organization, in which the stamping of loomweights may have played a part.

The Findspots of Stamped Objects

The only findspot of a stamped object at Akrotiri that is worth discussing is that of the discoid loomweight **I1**, which was found inside a room in Delta-North (*Figs. 81–83*). The other two stamped objects were both discards in open-air spaces. Delta-North, seemingly a separate building unit from the other three that constitute Complex Delta (Δ),[805] does not stand out from the rest of the typical urban houses at Akrotiri.[806] One of its lower floor storerooms, the basement Room D3, contained a hoard of bronze vessels,[807] while the upper-storey Room D17 was probably decorated with wall paintings.[808] Whether this

803 Michailidou 1992–93; Karnava 2007–08; Boulotis 2008. The inscribed pithos from the House of the Ladies is a Cretan import (Boulotis 2008, 69; on the inscription, see now Karnava 2016b, 350–52) and the infamous *a–re–sa–na* jug THE Zb 2 is also probably imported (Nikolakopoulou, pers. comm.; *Figs. 82–83*). In this respect, the suggestion that an inscribed pithos from the Knossos Temple Repositories belonged in all probability to a batch of imported pithoi from the Cyclades constitutes a most interesting development (Christakis 2010).

804 Tzachili 1990; Boulotis 2008; Karnava 2008, 383–84.

805 Palyvou 2005, 80–83. The distinction between building units through double walls can only be seen on the ground-floor level; the upper level(s) of the building units were probably restructured after the SDL and are not strictly divided. See also Chapter 1, p. 25, for the definition of 'building units'.

806 Palyvou 2005, 45–46, for the 'Theran house model' as opposed to the Xeste buildings that do not entirely conform to it.

807 *Thera* IV, 17–18, 39.

808 Doumas 1992, 188, pl. 151; Michailidou 2001, 308. The only other room in the whole of Complex Delta (Δ) to have wall paintings was the ground-level Room D2 with the Spring Fresco (Doumas 1992, 99–107).

'specialization' in the storage of bronze vessels points to a special significance of the whole building unit is far from certain.[809]

As far as discoid loomweights at LC Akrotiri are concerned, they appear not to have been present in every building of the settlement, nor in every room of the buildings in which they were found.[810] Almost half of the nearly 1000 discoid loomweights retrieved from the VDL layer at Akrotiri were found in the West House.[811] Some 200 were retrieved from Sector Alpha (A),[812] Building Beta (B) produced about 50 loomweights,[813] while the remaining specimens, some 300, are presumably from Complex Delta (Δ). Although it has been stated that in all of Complex Delta (Δ), only Delta-North produced discoid loomweights,[814] in fact numerous loomweights were also found in Room D1, which belongs to the building unit Delta-West,[815] as well as Room D13, which is part of Delta-South. The latter was described by the excavator as 'packed with loomweights'.[816] According to the numbers extracted from these preliminary reports and although no particular mention is made in Marinatos' accounts of loomweights in Room D4–D5,[817] it seems that from the whole of Delta-North only these two spaces produced '10-50 loomweights',[818] a number that would have been sufficient for the operation of a maximum of two warp-weighted looms.[819] Whether the loomweights found in Room D4–D5 were in use or in storage is not clear. In addition, the fragmentary state of **I1** does not allow us to judge whether the object had been broken and thus discarded or whether it broke because of the devastating events that occurred. In any case, the stamped loomweight **I1** was in an environment where weaving was with all probability actively practised, whether at the time of the volcanic destruction or prior to it.

The Stamped Loomweights

In the absence of petrological examination, the question currently remains open as to whether the discoid loomweight **I1** and the probable spherical loomweight **I3** were locally-made or imported. The idea that loomweights travelled is not unheard of in the prehistoric Aegean; they were exchanged, traded or accompanied specialized craftsmen. Some discoid loomweights found at Agia Irini on Kea, Miletus, and Nichoria in the Peloponnese are

809 Other concentrations of bronze vessels were found stored together with other kinds of vessels or objects, all on ground-floor rooms of Complex Delta (Δ) (Polychronakou-Sgouritsa 2000, 80–81). None of the other instances constitute, however, a typical storeroom, since Room D16 was probably a storeroom for objects to be traded (see further Chapter 1, pp. 33–38), whereas Room D18a was in all probability an 'emergency' storeroom, i.e. a context disturbed by the activities of the 'squatters' (see further Chapter 2, p. 144).

810 Tzachili 1990, 381, 385; 1997, 184, fig. 92. The numbers are based on whole items retrieved from building interiors and do not include broken or discarded specimens (Tzachili 1997, 184, n. 21).

811 Tzachili 2007a, 262–71.

812 *Thera* II, pl. 39.

813 Tzachili 1997, 185, fig. 92. The loomweights from Building Beta (B) are erroneously reported in p. 184 of that work as being 'in the area of 100'.

814 Tzachili 1997, 185, fig. 92; 2007b, 191, where it is specified that, as far as Complex Delta (Δ) is concerned, loomweights are limited to Delta-North, while they are ubiquitous in Building Beta (B).

815 *Thera* IV, 19, pl. 27a, where loomweights can be seen in a heap on what was probably a window sill.

816 *Thera* IV, 27, pl. 50a, where at least 50 can be counted in the photograph.

817 *Thera* IV, 13–14, where the excavation of these rooms is described.

818 Tzachili 1997, 185, fig. 92.

819 Barber 1991, 104.

thought to have been manufactured elsewhere and imported ready-made to these sites. The fabrics of these imported specimens are similar to those attested on Crete, leading to the suggestion that weaving equipment was transported by itinerant craftsmen, who carried the 'tools' of their trade.[820] In an interesting turn of events, LC discoid loomweights from Building Beta (B) and Complex Delta (Δ) appear to have been imports from Miletus, a suggestion put forward on account of their fabrics.[821]

The two loomweights under discussion here are interesting for different reasons. The discoid loomweight is no novelty at Akrotiri, but the spherical loomweight is. Very few discoid loomweights are known to have been stamped in Minoan Crete, but spherical ones offer a larger sample for consideration. In any case, it is certain that the practice of stamping loomweights originated in Crete; whether this represents another Minoan practice adopted at Akrotiri depends on whether the loomweights were themselves imported.

The seal impressions on both loomweights are again interesting for different reasons. The large seal that was used to stamp the discoid loomweight **I1** cannot be assigned a specific date based on its size (*Fig. 93*). Its quatrefoil motif can easily be placed within the decorative tradition of Minoan glyptic from EM III onwards, originating in the Mesara region and spreading towards north-central and eastern Crete, but its size remains a *unicum* pointing to even earlier dates. By contrast, the round, flat seal face used to stamp the probable spherical loomweight **I3** has numerous parallels among seal impressions on MM spherical loomweights, which conform in shape and size with it (*Fig. 95*). The motif, a whirling spiral, places the seal among late Prepalatial and Protopalatial seal production in central and eastern Crete. To date there is no evidence for the stamping of spherical loomweights after the Protopalatial period; thus the retrieval of the Akrotiri specimen from LC I layers is somewhat problematic. However a note of caution is justified, since many Neopalatial spherical loomweights have not yet been studied.[822]

The seal impressions on loomweights have hitherto been interpreted as indications of ownership.[823] A particularly bold suggestion by Weingarten concerns the use of cuboid LM I loomweights as tags that accompanied products, they therefore either indicated ownership, content or destination of the travelling products.[824] Whether such a suggestion can be expanded to fit other shapes of loomweights is not clear; the observation that cuboid loomweights follow the stamping patterns attested on other shapes of loomweights weakens the case for a potentially separate role for this shape.[825]

Multiple Seal Impressions on an Inscribed Pithos Rim

The inscribed pithos rim **I2**, with its (at least) 13 impressions, is unique by the standards of the prehistoric Aegean (*Figs. 90–91*): no parallels exist for seal impressions on inscribed pots and hence their purpose, if any, eludes us. As briefly discussed above, seal impressions on clay vessels are either seen as attempts at decoration or considered as some kind of

820 Barber 1991, 299–310; Cutler 2012, 149–50.
821 Knappett – Hilditch 2015b, 204.
822 Burke 2010b, 51–55.
823 Burke 2010b, 43–44.
824 Weingarten 2000.
825 Burke 2010b, 59.

administrative control. The question of personal ownership is currently unfounded, since there is no way of proving such a situation. The few parallels however — which all involve vessels that were stamped, but not inscribed at the same time — point to a Cretan origin for this practice, specifically during the Protopalatial period. By contrast, evidence for incised clay vessels derives from both the Protopalatial and the Neopalatial periods.[826]

The sequence of incising the inscription on the pithos rim and then proceeding to stamping prompts us to regard the stamping as some sort of authentication, control or even a mnemonic device relating to the content of the inscription or an action that was registered by the inscription (which, in this case, is suggested to have been the recording of wine). Against the idea that the seal impressions stood for something meaningful are their multiple, careless and random positions: if authentication or control had been intended, a single seal impression would have sufficed, especially on parts of the rim where they would have actually been visible. There is, however, a further suspicion created by the near agreement of the number of seal impressions, which are (at least) 13, and the horizontal strokes that stand for numerical entries on the vertical rim of the pithos, which are (at least) 12. These strokes are quite superficial and squeezed in between signs, as if they had been added at a later stage. Much like the seal impressions, some of which had been made when the clay was nearly dry, so too do the numerical entries gradually become more and more superficial from the bottom of the inscription to the top. This suggests that they could have been added one by one, corresponding with the seal impressions. In this case, the seal impressions could have functioned more as a reminder of the quantity '10', for which each stroke would have stood, rather than a sign of authentication.

826 For vessels inscribed in Cretan Hieroglyphic: *CHIC* pp. 293–318; for those inscribed in Linear A: *GORILA* IV pp. 63–115.