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NON-SPHRAGISTIC USES OF MINOAN-MYCENAEAN  
SEALSTONES AND RINGS\*\*

The use of Late Bronze Age seals and rings in the Aegean has always stirred discussion,<sup>1</sup> but published versions concerned with solid evidence have attempted little more than to point to the various representations of human figures who wear sealstones, and often only to the Cup Bearer fresco from Knossos (Pl. . . . fig. 2).<sup>2</sup> This article will try to bring together the archaeological data that bear on the other uses for sealstones and rings than for (sphragistic) sealing or stamping.

It should be noted at the outset that the archaeological evidence here assembled is not meant to be exhaustive. The documentation for the uses discussed is, however, full to the extent that it well supports the conclusions drawn. Special attention has been given to seals and rings from dated contexts. In addition, the iconography of the seals and rings is not accepted as the sole determining factor for any of the uses discussed;

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\*\* In addition to the standard abbreviations, the following are used:

Chronology — A. Furumark, *Mycenaean Pottery II: The Chronology*. Stockholm 1972

CMS — *Corpus der mykenischen und minoischen Siegel*

CS — V. E. G. Kenna, *Cretan Seals*

Dissertation — J. G. Younger, *Towards the Chronology of Aegean Glyptic in the Late Bronze Age*. Unpublished Ph.D. dissertation, University of Cincinnati, 1973

GGFR — J. Boardman, *Greek Gems and Finger Rings*

PTK — A. Evans, 'The Prehistoric Tombs of Knossos', *Archaeologia* 59, 1905, 391—562

TDA — A. Evans, 'The Tomb of the Double Axes and Associated Group at Knossos', *Archaeologia* 65, 1913, 1—94

An asterisk (\*) denotes that the author has personally examined the sealstone or ring.

Photographs and figures are by the author.

<sup>1</sup> E.g., V. E. G. Kenna, 'Ancient Crete and the Use of the Cylinder Seal', *AJA* 72, 1968, 321—336; 'Seal Use in Ancient Crete after the Destruction of the Palaces', *BICS* 13 (1966) 68—75; and the series 'Seals and Script', *Kadmos* 1, 1962, 1—15; 2, 1963, 1—6; and 3, 1964, 29—57

<sup>2</sup> E.g. GGFR 398

e.g., the so-called talismanic subjects do not, in the author's view, substantiate by themselves the identifications of seals that carry them as talismans or amulets.

### I. As Ex-Votos in Shrines

Sealstones were deposited as ex-votos in at least three shrines, the Temple at Ayia Irini in Keos,<sup>3</sup> the Shrine at Phylakopi in Melos,<sup>4</sup> and the House with the Idols at Mycenae.<sup>5</sup> The pottery contexts for all these deposits are essentially LH III B or thereabouts, suggesting that regardless of the longevity of the religious practices in these buildings only those during ca. LH III B included the offering of seals which have survived.

The Ayia Irini Temple yielded four lentoids (CMS V \*497—\*500), two of which (CMS V \*499 and \*500) are by the same hand as an extremely similar lentoid from the Phylakopi Shrine (Ex. inv. no. \*Ph5.844). All these seals are remarkably fine, though CMS V \*497 from Kea, a worn lentoid, seems stylistically earlier, perhaps LH III A. The Phylakopi Shrine also produced five other lentoids, all of steatite and all considerably worn; these carry schematic quadrupeds (Ex. inv. nos. \*PH5.833, \*834, \*837, \*840, and \*841). Two other sealstones from this Shrine, an amygdaloid and a cushion seal (Ph5.\*808 and \*831), may be heirlooms.

The seals from the House with the Idols include one fine agate lentoid with a bull-leaping scene (CMS V \*597), two disks made of undoubtedly valuable material — one of blue glass (CMS V \*598) and one of imported lapis lazuli (CMS V \*600), and one unfinished and unbored lentoid of agate (CMS V \*599).

It is interesting to note that the seals deposited in the three sanctuaries fall into two main categories: the finer seals all (but CMS V \*497 from Kea) in styles which seem contemporary with LH III B pottery, and the steatite seals from Phylakopi much worn through hard use carrying originally crude depictions of animals.<sup>6</sup> If the quality of the sealstones offered reflects the wealth or station of the faithful then such seals may imply an egalitarian practice of dedicating ex-votos by the wealthy as well as by those of modest means.

<sup>3</sup> See CMS V 355 for discussion and bibliography.

<sup>4</sup> AR 1975, pp. C. The seals are unpublished; the author is grateful to Professor Colin Renfrew for his permission to mention here the seals from the Shrine.

<sup>5</sup> See CMS V 414 for discussion and bibliography.

<sup>6</sup> These belong to the author's Mainland Popular Group (LH III A:2—C:1), Dissertation 439—441.

## II. As Charms

Certain findspots for sealstones suggest that they were used as charms in two major ways.

### *a. In jars.*

At least three sealstones were found inside jars — an EM-MM early three-sided prism of green steatite at Palaikastro in a LM II jar used for purifying oil;<sup>7</sup> a lentoid of gray steatite carrying undeciphered signs(?) in the LM IIb 'Bird Amphora' in Ayios Ioannes T. 1;<sup>8</sup> and a lentoid (CMS I 297) of black steatite in a LH III B:2-C storage jar at Pylos.

The jars probably contained some liquid, oil probably in the Palaikastro and Pylos jars, wine in the 'Bird Amphora'. The specific purpose of the sealstones is suppositional. The green stone of the Palaikastro heirloom may have been thought appropriate to the color of the olive oil; the (undecipherable?) signs on the Ayios Ioannes disk may have made wine suitable for the deceased to drink; the soft quality of all the stones may have been thought to dissolve slightly in the liquid, like pearls or Cretan gypsum in wine,<sup>9</sup> thus imparting some special quality to it; or the stones may have been thought magical in other ways, like the soupstone in the French folk tale (M. Leach, *The Soupstone*).

Two other lentoids from Pylos were found in areas connected with water — the broken rock crystal (CMS I 300) in Reservoir 102, and the broken steatite seal (CMS I 296) in a drain. Both seals, however, probably found their way to these areas more because they were broken and then discarded than because they were meant to impart a special quality to the water in them.

### *b. In tombs.*

Six agate lentoids (CMS I \*140, \*141, 142, 143, \*144, and \*145) were found at the narrow end of the dromos, the 'forehall', just before the stomion of Ch. T. 515 (LH IIb).<sup>10</sup> It appeared to the excavator that these seals may have been removed there during a clearing of the tomb to make way for new burials. To the excavator, then, these six seals had no special significance for the tomb itself. Two of the lentoids (CMS I

<sup>7</sup> Pendlebury et al., BSA 40, 1939—40, 43—44, fig. 8.1 (HM 567)

<sup>8</sup> Hood, BSA 47, 1952, 248—249, 265, no. 1.13, fig. 18

<sup>9</sup> Gypsum is found in Crete in at least two major areas: in sheet form east of Myrtos, and in a crystalline form in the Gypsades hill south of Knossos. During modern celebrations at Knossos an elegant thing to do is to drop a small crystal of gypsum into the excellent local *kokinelli* wine, and after it dissolves to drain the cup.

<sup>10</sup> Wace, *Chamber Tombs* 50—63, 199—201; *Chronology* 50—51.

\*144 and \*145), however, are twins, each a lentoid of carnelian, and of about the same size; in addition, each carries a *Potnia* flanked by two rampant lions, the only difference in the two scenes being the direction of curve in the lions' tails. While the other seals found their way into the hollow in the middle of the 'forehall', CMS I \*144 and \*145 were each found directly opposite each other on one of the two low benches that flank the hollow. Their symmetrical position, the separation of these two seals from the others of the "forehall", and their almost identical form, material, and motif all make it unlikely that their position is accidental. Surely these *Potniai* were meant to guard the entrance to the tomb against desecrators. /

Two other tombs have yielded sealstones found in possibly significant places. A lentoid of green steatite was found in the middle of a skull in Room 8b (LM phase) of Ossuary Building 5 at Archanes.<sup>11</sup> This seal may of course have entered the skull by accident or by whim when the bones were reburied.

Lying alone on the bench of Isopata T. 3 (LM III A:1)<sup>12</sup> were two lentoids HM \*908 and 909. Again, these seals may have been placed there for no significant reason or they may have formed part of a larger group of offerings later swept away, perhaps that found in the northwest corner.<sup>13</sup>

As charms in tombs, therefore, only the lentoids with *Potniai* from Mycenae T. 515 seem unequivocal, but if so, both their location and probable function as guardians are unique, and thus such guardianship as theirs may not have been universally esteemed.

### III. As Valuables

Many persons of the Aegean Bronze Age not only considered their gems handsome as well as useful and distinctive, but they also enjoyed collecting them. Around the skeletons in many tombs are found several sealstones and rings which may be said to form small and casual collections.

Often these collections include seals that are much older, some possibly heirlooms, and others perhaps considered antique at the time they

<sup>11</sup> Praktika 1972, 324 pl. 274

<sup>12</sup> TDA 14—18 figs. 20a and b; Younger, 'A Glyptic Sketch from Isopata, HM 908', Kadmos 13, 1974, 1—5

<sup>13</sup> It is to this group of offerings that Furumark assigns the date LM III A:1, Chronology 104.

were buried.<sup>14</sup> Four tombs, however, provide evidence for more discriminating acquiring. In the Vapheio Cist twenty-four of the twenty-eight sealstones<sup>15</sup> were found divided into two equal groups, one near each hand. In the original excavation report Tsountas records that around the mound at the left hand the earth was stained brown, perhaps preserving the traces of "a wooden box dissolved into dust in which were guarded the silver tool ([his] pl. 7.16) and also silver earpicks" (author's translation) along with the twelve seals.<sup>16</sup> Another wooden box was found in Gypsades T. 11 (LM III A:2) preserving two amygdaloids.<sup>17</sup> These seals, not numerous enough to constitute a sizeable collection, were undoubtedly, however, thought valuable enough to be secured in a box; on stylistic grounds they appear early, probably LM I, and thus may have been precious heirlooms. To these boxes we may compare the ivory box that may have held four seals found in the Ivory Cutter's Workshop (LM Ib) at Knossos.<sup>18</sup>

Two other tombs yielded collections that were set apart from the other grave goods. In Rutsi Tholos 2 (LH IIb?)<sup>19</sup> the deceased held his collection of twelve seals (CMS I 275—286) cupped in his hands. And on the breast of the King buried in the Midea Tholos (LH III A:1)<sup>20</sup> was a silver cup<sup>21</sup> that held six lentoids (CMS I 282, 283, 285—288) and four bronze rings whose bezels preserve only traces of their original designs.

<sup>14</sup> Many early seals come from late burials. Noteworthy are CMS V \*483—\*485, EH seals found in a MM IIb—IIIa tomb at Ayia Irini in Keos; and the many so-called talismanic seals (MM III—LM I) like CMS V 174 or 273 found in graves of LB III date.

<sup>15</sup> Tsountas, *ArchEph* 1889, cols. 129—172. Younger, 'The Vapheio Gems: A Reconsideration of the Find-Spots', *AJA* 77, 1973, 338—340.

<sup>16</sup> Tsountas, *op cit.*, col. 147. Later, Tsountas decided against his former observation and omitted the box(es?), transforming the two mounds into the remains of two bracelets (The Mycenaean Age, 145). Both reconstructions may be correct: bracelets secured in boxes.

<sup>17</sup> Hood, *BSA* 53—54, 1958—9, 200, 245, pl. 62 s.n. III.4 (*sic*) and II.5 and pl. 63 s.n. II.4 (correctly) and II.5.

<sup>18</sup> *AR* 1959—60, 23—24 fig. 27, and *AR* 1960—61, 26—27.

<sup>19</sup> Marinatos, *Antiquity* 31, 1957, 97—100, and *ILN* 6 April 1957.

<sup>20</sup> Persson, *Royal Tombs* 29, 32—33, 55—58. *Chronology* 40 and 53.

<sup>21</sup> A silver bowl or cup was found on the midriff of both Burials I and II in Sellopoulo T. 4. Though these vessels held nothing, a bronze dish placed near the feet of Burial II originally held sixty-three beads of various materials (*BSA* 69, 1974, 195—257, especially p. 213 discussing the beads J 13 in the bronze dish B 31, and p. 214 discussing the silver vessels J 4 and J 11).

## IV. As Personal Ornaments

All scholars agree that sealstones were worn on bracelets and necklaces.

*a. Sealstones and rings on necklaces.*

The evidence for necklaces consisting of beads and sealstones or rings comes only from burials. At least three necklaces with sealstones have survived from Cretan tombs: a necklace from Burial III Sellopoulo T. 4 (LM III A:1 early) of three faience beads, two glass beads, an amber bead, and a scarab with a cartouche of the reign of Amenophis III (*ca.* B. C. 1417—1379);<sup>22</sup> a necklace of beads, and a crystal lentoid with cow and calf (not in CMS V) is displayed in the Chania Museum as coming from one of the LH III A:2-B(?) tombs at Armenoi near Rethymnon; and another necklace of fourteen beads of crystal, carnelian, bronze, gold and ivory, and the two sealstones, a lentoid and an amygdaloid, both of carnelian, adorned the neck of the north (male) skeleton buried in Zafer Papoura T. 99 (LM III B:1).<sup>23</sup>

The Mainland has produced at least four similar necklaces with sealstones: a string of nine beads with the amygdaloid (CMS I 6 and p. 11) in the middle, from Mycenae Grave Circle B grave Mu (MH end—LH I); a necklace of several beads and a lentoid (CMS I 406 and p. 418) from Thebes, Ayia Anna T. 2 (LH I—II); another of glass beads with the two lentoids (CMS I 202 and 203) in the middle, from Nafplion T. 2;<sup>24</sup> and from the Vapheio Cist (LH IIa) a necklace of eighty amethyst beads with two seals (perhaps CMS I 255 and 256).<sup>25</sup>

Other sealstones as well as some rings were found in tombs near the skeleton's neck and may have been either suspended on necklaces or perhaps deposited there or nearby as grave gifts. From Crete come two lentoids from Ayios Ioannes T. III (LM IIb);<sup>26</sup> one lentoid and three gold rings found on the chest of the Priestess-Queen buried in the side chamber of Archanes Tholos A (LM III A:1);<sup>27</sup> four lentoids from Kalyvia T. 1 (LM III A:1);<sup>28</sup> an amygdaloid from Gypsades T. VII

<sup>22</sup> Popham, BSA 69, 1974, 195—257, especially 203 and 216—217.

<sup>23</sup> PTK 477—480 figs. 101.2 and 3, and pl. 90. Chronology 105

<sup>24</sup> The lentoids seem stylistically to be III A.

<sup>25</sup> Tsountas, ArchEph 1889, col. 146. For a possible identification of the two lentoids, see Younger, AJA 77, 1973, 339, last paragraph.

<sup>26</sup> Hood, BSA 47, 1952, 249—251, 272—273, nos. III.20 and 21, fig. 16

<sup>27</sup> Archaeology 20, 1967, 276—281, fig. 13, and ILN 26 March 1966, 32—33, figs. 7 and 8.

<sup>28</sup> MonAntichi 14, 1904, 617—625, figs. 85, 88, 93, 94. Chronology 104.

(LM III B:2—C:1).<sup>29</sup> And at Perati in Attica Tomb 24 (LH III B:2—C:1) contained a burial around whose neck a broken Cypriot conoid (CMS I 396) may have hung as a pendant suspended from a necklace of five beads of glass paste, faience, and rock crystal.<sup>30</sup>

*b. Sealstones on bracelets.*

In addition to necklaces of beads, sealstones, and probably rings, there is ample evidence for similar bracelets with seals (Pls. I, II). A bracelet with a single lentoid is worn on each wrist of two terracotta statuettes, one from Knossos, the Shrine of the Double Axes (PM II 339 fig. 192), and the 'Dove Goddess' (PM 337 and 340 fig. 193 Al). Such an arrangement may owe its symmetry to the aesthetic qualities of the statuettes rather than to actual practice.

There is more evidence for just one bracelet of beads and sealstones worn on one wrist, almost always the left.

1) *The Left Wrist*. Two frescoes, the monumental one with the Cup-bearer (Pl. II)<sup>31</sup> and the miniature with the marching warriors,<sup>32</sup> both from Knossos, depict a lentoid on each left wrist, the face turned in (see p. 156 and note 76, below). A terracotta female statuette in the 'hut urn' (PM II 705 and 129 fig. 63) wears a lentoid on the internal side of her left wrist, but no bracelet is depicted.

In tombs several sealstones have been found near the left wrists of skeletons and they might have been attached to bracelets, plain or beaded. From Crete: Ayios Ioannes T. IV (LM Ib-II) a lentoid and an amygdaloid;<sup>33</sup> Zafer Papoura T. 36 two lentoids and an amygdaloid;<sup>34</sup> and T. 84, Southwest skeleton, an amygdaloid, Northeast skeleton, a lentoid and a 'steatite seal' (lentoid?).<sup>35</sup> From the Mainland: Midea tholos (LH III A:1), the Queen, a lentoid (CMS I 184); and Athens Agora T. 40 (also LH III A:1), skeleton D, an amber bead and the amygdaloid (CMS V 174).

2) *The Right Wrist*. One burial in Asine Ch. T. 1 (LH III C:1) produced a broken lentoid near the right wrist.<sup>36</sup> A fresco from the House

<sup>29</sup> Hood, BSA 53—54, 1958—59, 205—208, pl. 62—63, no. VII.21

<sup>30</sup> Iakovides, Perati I 340—343, II 400—406 for the date.

<sup>31</sup> PM II 705 fig. 441, 701 fig. 443

<sup>32</sup> Cameron, 'Notes on Some New Joins...', Europa, Festschrift Ernst Grumach, 67, fig. 7B and C, and pl. IVd

<sup>33</sup> BSA 51, 1956, 81—99, fig. 5.3 and 5.4

<sup>34</sup> PTK 441—449, fig. 61

<sup>35</sup> PTK 470—471

<sup>36</sup> Asine, 154—161, 356—377, fig. 242.2; Chronology 75. CMS I 225 and V p. xliii both note that the seal's present whereabouts is unknown.

with the Idols at Mycenae shows a lentoid without bracelet worn on the inside of the right wrist of the woman at lower left.<sup>37</sup>

If the proximity of a sealstone to the wrist indicates the former presence of a bracelet, then on the basis of the above evidence it can be said that one to three sealstones were worn on bracelets sometimes in the company of beads of various types, and that these bracelets were almost always worn on the left wrist.

Two other bracelets with sealstones are known. A fresco fragment from Pylos (*Pylos* II fresco 13 Mnws) depicts two bracelets or a double one, each consisting of four gold(?) wires securing a lentoid of banded agate(?) whose face is turned in (to the flesh?); the fresco fragment is too small, however, to identify where the bracelet is worn, though the wrist is presumed.<sup>38</sup> In addition, a \*double-stranded bracelet of gold beads (Pl. I) from near the left forearm of Burial I in Sellopoulo T. 4 (LM III A:1) has been reconstructed to include a carnelian \*lentoid with gold caps. The reconstruction is not secure, as the excavator points out, since the sealstone was found broken "high up in the roof-fall above the region of the skull and obviously disturbed from its original position."<sup>39</sup>

The evidence for sealstones on bracelets seems unequivocal: the representations in fresco and on statuettes demonstrate this usage clearly and the archaeological evidence from tombs fully supports this usage.

As several human figures in representations with religious connotations wear bracelets that carry a lentoid (the statuette from the Shrine of the Double Axes at Knossos, the 'Dove Goddess', the statuette in the 'hut urn', the woman in the fresco from the House with the Idols), it might be concluded that at least here, if not also on the wrists of the Mycenae warriors and of the Cupbearer, such sealstones were considered not only as pieces of jewelry but also as amulets, in the sense that they may have connoted some physical connection between the wearer and his divinity, either by protecting him apotropaically from evil or by bringing him divine favor; in much the same way a Christian wears a cross. Since such lentoids when depicted clearly are worn face turned to the flesh, their motifs cannot always, however, be conclusively considered as significant contributions to the efficacy of the sealstones' amuletic function. In other words, except for the *Potnia theon* and

<sup>37</sup> Antiquity 43, 1969, 91—97, fig. 2, pl. Xa.

<sup>38</sup> Pylos II, 17, 34, 122, 124, 184, 219, pls. 112 and B. GGFR 398

<sup>39</sup> BSA 69, 1974, 201—202, 220 and 224, figs. 5, 12, 14 C, pl. 35a: sealstone S \*1 on bracelet J 5.



similar motifs, the sealstone on a bracelet may have functioned more as an amulet in whose class (shape and material, i.e., sealstone-ness) power resided, than as a talisman in whose engraved motif divine power was represented, implied, or possibly invoked by inscription. This amuletic function may also be inferred from the fact that several sealstones of various shapes and materials have been found in shrines apparently as dedications from the faithful to elicit divine attention.

The evidence for such amuletic usage is admittedly too slight to corroborate Kenna's assertions (CS p. 1 n. 1 and *passim*) about the specific functions of the so-called talismanic group. In fact, the evidence may lead us to broaden our conception of such functions to have applied on occasion to the whole range of sealstones. The 'talismanic' group, on the other hand, probably should be defined as one consisting of a few shapes on which a simple and mechanical technique was employed to create unlimited variations on a select number of motifs, often purely linear in nature.<sup>40</sup>

### *c. Rings on bracelets.*

The varying and often small diameters of the hoops of fingerrings have led certain scholars to postulate that they were not always worn on the finger. Sir Arthur Evans (TDA 12—13) theorizes that rings with very small diameters were placed on the finger after death, indeed after the deterioration of the flesh, *in usum mortuorum*. Since only a few rings have been discovered actually on the finger bones of a skeleton, and they are not engraved,<sup>41</sup> we may discount this hypothesis at least for engraved rings. Instead, the number of rings found in the vicinity of the wrist has led certain scholars, notably R. Higgins (Greek and Roman Jewelry 84) and J. Boardman (GGFR 63) to maintain that, along with sealstones and beads, rings were also suspended, usually from bracelets. Since another scholar, M. R. Popham, has, however, criticised this view,<sup>42</sup> it may be helpful to review the available evidence in several areas: the diameters of the hoop, the suitability of suspending rings on bracelets and necklaces, and the find-spots of rings in tombs.

<sup>40</sup> See J. Betts' review of Kenna's *The Cretan Talismanic Stone in the Late Minoan Age*, *BibO* 31, 1974, 309—314, especially 310—311.

<sup>41</sup> E.g., in Zafer Papoura T. 84, a plain silver ring on the Southwest skeleton's finger, PTK 470—471, and in Mycenae Chamber T. 514, two plain silver rings on the left hand of Skeleton 1 (Wace, *Chamber Tombs at Mycenae*, 49—50).

<sup>42</sup> *BSA* 69, 1974, 223 s.n. J 8

1) *The diameters of the hoop.* Most of the extant engraved rings have hoop diameters falling in the range of 1.5 to 2.0 cm. The rings within this range may be considered small by modern standards, but no doubt the average Bronze Age Aegean was slighter and had thinner fingers. We may then arbitrarily estimate men's rings to have diameters in the upper half of this range (1.8 to 2.0 cm.) and women's rings in the lower (1.5 to 1.7 cm.),<sup>43</sup> realizing of course that men can wear 'women's' rings on the little finger, and women 'men's' rings on the thumb and index finger.

Among the 'men's' rings from dated contexts are CMS I \*15 and \*16 from Mycenae Shaft Grave III (LH I), CMS I \*253 from the Vapheio Cist (LH IIa), and CMS I 390<sup>44</sup> and 391 from Perati Tomb 1 (LH III B:2—C:1). 'Women's' rings include CMS I \*126—\*128 from Mycenae T. 91 (LH II[—III A?]),<sup>45</sup> CMS I 189 from the Midea Tholos (LH III A:1), and \*one from Sellopoulo T. 4 Burial I (LM III A:1).<sup>46</sup>

A few rings, however, have hoop diameters that are extremely large (e.g., CMS I 155 from Mycenae T. 520 [LH III A:2]<sup>47</sup> and CMS I 218 from Prosymna T. 44 [LH III B:1];<sup>48</sup> diameters are 2.3 cm. and 2.7 cm. respectively); these may have been intended for the thumb. A number of other rings have very small hoops with diameters of 1.3 or 1.4 cm. (e.g., TDA 6—3 fig. \*16 from Isopata T. 1 [LM Ib—II]; CMS I \*129 from Mycenae T. 91 [LH II(—III A?)]; *Praktika* 1967 pl. \*137a and *Archaeology* 20 [1967] 280 fig. \*13, both from Archanes Th. A [LM III A:1]; *MonAntichi* 14 [1904] 501—666 fig. \*51 from Kalyvia [LM III A:1]; and CMS I \*201 from Asine [LH III A:2]); these would have made splendid rings for the little finger.

From the evidence it is possible that normal sized rings and rings with small hoops (i.e., rings meant to be worn on the fingers, but not on the thumb) were popular from the beginning of the Late Bronze Age through the III A period, and that those few rings with extremely large hoops were fashionable later.

2) *The suitability of suspending rings on bracelets and necklaces.* Almost all engraved fingerings have elliptical bezels.<sup>49</sup> When the motifs on such

<sup>43</sup> See Furtwängler, *Beschreibung der Geschnittenen Steine*, 1, n. 1.

<sup>44</sup> The diameter of CMS I 390's hoop, 1.8 cm., is given in Perati I 166 s. n. M 4.

<sup>45</sup> Sakellarakis, 'Die Chronologie der Siegelringe und Siegel aus Grab 91 von Mykene', *Die Kretisch-mykenische Glyptik und ihre gegenwärtigen Probleme* 115—132.

<sup>46</sup> BSA 69, 1974, 223, J 8

<sup>47</sup> *Chronology* 57—58

<sup>48</sup> *Chronology* 130 and 131.

<sup>49</sup> Exceptions: rings with round bezels, such as a ring from Sphoungaras (MMIII—LMI)

rings are viewed upright the bezel's long axis is horizontal, the hoop aligned vertically to allow for the finger (or a strand) to pass through it horizontally.<sup>50</sup> Thus the orientation of the bezel and its motif to the hoop is exactly the same as the face of an amygdaloid and its design is to its stringhole.<sup>51</sup> When worn on the finger the ring presents a bezel that is parallel to it, with the motif at right angles. To read the motif the hand must be brought toward the body as if a modern person were to read a watch. If suspended, such a ring would, like the amygdaloid, be more conveniently viewed on a necklace; if on a bracelet, the motif on the ring would be sideways either to the wearer or to another admirer.

3) *The find-spots of rings in tombs.* As stated above, not one engraved ring has come to light around the bones of a finger. Instead, when associated with a skeleton, they have all been found either near its neck (see above, p. 7) or near the left wrist:<sup>52</sup> from Crete — Zafer Papoura T. 7 (LM III A:1) a gold-plated ring;<sup>53</sup> from the Mainland — the Vapheio Cist (LH IIa) the bronze ring with steatite bezel (CMS I \*253), Prosymna T. 44 (LH III B:1) the gold ring with griffins (CMS I 218).

In addition, several unengraved rings have also been found near the wrist. Near the left wrist: Zafer Papoura T. 99 (LM III B:1) at the mother's left wrist a spiral gold ring with three stone whorls and at the father's left wrist one (or two) gold rings,<sup>54</sup> and Isopata T. 5 a silver ring;<sup>55</sup> near the right wrist: from Crete — Sellopoulo T. 4 Burial II (LM III A:1), a spiral gold ring J 12 between the two sealstones S \*2

(Hall, Anthro. Publ. Univ. Pa. Mus. 3, 1912, 69—70 fig. 44). Some rings have round bezels, but the motif follows the same orientation to the hoop as do those with elliptical bezels, e.g., CMS I 410 from Phylakopi and \*one from Archanes (Praktika 1967 pl. \*137a).

<sup>50</sup> Exceptions: those rings whose elliptical bezel is only a wide flattened section of the hoop, e.g., CMS I 383 from Sparta and CMS I 407 from the Dimini Tholos.

<sup>51</sup> Evans (PM II 175 and 198, III 139 and 140, IV 510—511 and JHS 45, 1925, 48) characterized this arrangement as peculiarly Minoan and traces it to the bead seal; for Evans's ideal intermediate type in the development from bead seal to ring (PM IV 510, fig. 454c), see CMS I 180, a ring from Tiryns.

<sup>52</sup> Sellopoulo T. 4 Burial I, however, yielded three rings in the area of the fingerbones of the left hand (BSA 69, 1974, 199—202, 217—220, 222—223, rings J 6, \*7, \*8 plan figs. 5 and 10). It would be tempting to put ring J \*9 with a hoop of 1.58 cm. on the little finger and the larger ring J 6 (hoop diameter of 1.8—2.0 cm.) on a thicker finger, perhaps the index, but the fingerbones near J \*8 (fig. 5) are not identified.

<sup>53</sup> PTK 415—417, fig. 21. Chronology 104

<sup>54</sup> PTK 477, fig. 99 and 478, fig. 101 b and c

<sup>55</sup> TDA 21—30, fig. 34

and S \*3,<sup>56</sup> Zafer Papoura T. 66 (LM III A:2) a gold hoop,<sup>57</sup> T. 100 (LM III A:2) South skeleton a bronze ring,<sup>58</sup> T. 2 a gold ring with a bracelet of glass and clay beads and a pendant,<sup>59</sup> T. 21 East skeleton a gold ring with a small round bezel,<sup>60</sup> and T. 75 a small plain gold ring.<sup>61</sup>

There is archaeological evidence for unengraved rings being worn on the finger — such were so found in several tombs; and it is logical to assume from the diameters of the hoops that engraved rings were also worn on the fingers — a few have been found close to the finger bones of skeletons in tombs. From the orientation of the bezel to the hoop, analogous to that inherent in the amygdaloid seal, it is also plausible to imagine engraved rings suspended on necklaces — and three engraved rings have come to light in a tholos tomb at Archanes in the region of the skeleton's neck. If such evidence is admissible and the conclusions drawn are plausible, then it would be perverse to deny the probability that both engraved and unengraved rings were also suspended on bracelets — Zafer Papoura T. 2 and T. 99 yielded such bracelets for unengraved rings. The orientation of the motif and bezel to the hoop should not preclude such a fashion of wearing the rings; amygdaloid seals suffer the same disability but they were also apparently worn on bracelets. And if the proximity of an excavated sealstone to a wrist convincingly implies the original presence of a bracelet, then the same proximity for rings, especially for rings also found with beads and whorls suitable for suspension on bracelets, also ought to imply convincingly the original presence of a similar bracelet.

#### *d. Sealstones on anklets.*

A similar argument can be made for the possibility (and the author would rate it no higher) that three deceased people wore anklets with sealstones in their grave in the Zafer Papoura Cemetery. T. 6 (LM III A:2) yielded a steatite lentoid carrying "traces of . . . an animal" near the right ankle;<sup>62</sup> T. 35 produces a steatite rectangular plate seal carrying circles also near the right ankle of the South skeleton;<sup>63</sup> and in T. 66 two

<sup>56</sup> BSA 69, 1974, 202—203, 219—220, 223, fig. 14G and pl. 37 d.

<sup>57</sup> PTK 461—462, fig. 119.66 b

<sup>58</sup> PTK 480—482

<sup>59</sup> PTK 412—413

<sup>60</sup> PTK 436—437, fig. 119.21 d

<sup>61</sup> PTK 466—467

<sup>62</sup> PTK 414—415. Chronology 105

<sup>63</sup> PTK 441

anklets came to light — from the right ankle a Mitannian faience cylinder with a chain of ribbed glass beads, and from the left ankle a chain of amber colored glass beads.<sup>64</sup>

All four anklets, if such they are and not the remains of bracelets or necklaces placed near the feet, may be examples of a late and local practice. The author interprets the description of the lentoid from T. 6 to imply that the steatite seal is worn. Worn steatite lentoids with crudely rendered quadrupeds, often showing up as nothing more than traces, occur in two styles, in that of the Cretan Popular Group and in that of the Mainland Popular Group.<sup>65</sup> The former appears in Crete extensively in LM Ib, the latter almost exclusively on the Mainland in LH III A:2—C:1, but a few do come from Crete, e.g., AGDS I Munich 83. If the ceramic date for T. 6 has a bearing here, and the sealstone is not a LM Ib heirloom, it may belong to the later Mainland Group. The rectangular plate seal from T. 35 cannot be truly restricted to a date as the shape and the motif both appear sporadically throughout the Late Bronze Age, but compare a similar plate seal with circles (CMS VIII 30) which may possibly come from Crete as it was acquired by J. M. Dawkins. The Mitannian cylinder, on the other hand, has several parallels — e.g., CMS V 230 and 231 from a LH III A(?) chamber tomb in Chalkis in Euboea, CMS V 260 from Armenoi T. 32 (LM III A:2—B:1) near Rethymnon, CMS V 576 from Profitis Ilias T. 19 (LH I—III A) near Tiryns, CMS V 727 from Mega Monastiri (LH III A—B:1), T. Gamma near Volos, and one from Mycenae T. 517.<sup>66</sup> These Mitannian cylinders, from the dated contexts, are all apparently LM III A:2(—B),<sup>67</sup> and they, along with the pottery date for Zafer Papoura T. 6 and its possibly LH III A:2—C:1 lentoid, may pin the wearing of anklets to the Zafer Papoura Cemetery after the Destruction of the Palace at Knossos.

*e. Other aspects of sealstones as adornments.*

We may now consider two more aspects of sealstones that can affect their use as personal adornments: the alignment of the stringhole and the addition of gold caps and mounts at the stringhole.

1) *Stringhole Alignment.* When a motif on a sealstone is read upright the stringhole is generally aligned either parallel to it (i.e., vertically,

<sup>64</sup> PTK 461—462, fig. 81b

<sup>65</sup> Dissertation 415—416 and 439—441, respectively

<sup>66</sup> BSA 52, 1957, 197—204 and ChT 72, no. 32, 73 fig. 28, 197

<sup>67</sup> CMS V xxviii—xxix.



Fig. 1.  
CMS I 184 from Midea  
with vertical stringhole.



Fig. 2.  
CMS IX 160 from Spata (?)  
with horizontal stringhole.

Fig. 1) or at right angles to it (i.e., horizontally, Fig. 2).<sup>68</sup> Most amygdaloids, rectangular plate seals, and cushion seals have horizontal stringholes.<sup>69</sup> Such horizontal stringholes seem more appropriate to suspension from a necklace, but some amygdaloids, as we have seen, were found near wrists and so may have been worn on bracelets, in which case the motif would normally be aligned parallel to the arm and thus upside down to either the wearer or another admirer.

Lentoids and disks generally, however, have vertical stringholes.<sup>70</sup>

<sup>68</sup> Several sealstones have oblique stringhole alignments; e.g. CMS V 30, 215, 216, and 597.

<sup>69</sup> Some of the few exceptions: amygdaloid CMS I 205 (photograph upside-down) 232, and CMS V 578; plate seal MonAntichi 14, 1904, 617—625, fig. \*97; and cushion seal CMS I 199 and CMS V 11, 608, and 671

<sup>70</sup> Three-sided prisms of the Late Bronze Age generally have only two faces engraved. The blank third face may then be turned in to the skin. A few prisms, however, have only one face engraved (e.g. CMS I 153, XII 231); and a few other prisms have all three faces engraved (e.g. CMS V \*191 and 677, and VII 115). The stringhole alignments on these prisms are interesting because they follow no absolute pattern. The prisms with one face engraved might be expected to have, like normal lentoids, vertical stringholes; so CMS I 153 does, but CMS XII 231 does not. Those with two faces engraved have the one stringhole vertical and the other horizontal (e.g., CMS I \*193 and BSA 47, 1952, 243—277, fig. 16 no. \*III.22), both horizontal (e.g., CMS I \*272, V 312, and XII 162), or, more often, both vertical (e.g., CMS I 233, \*273, and \*287, and MonAntichi 14, 1904, 617—625, fig. \*10b and c). Of the three prisms with all three faces engraved, CMS V \*191 and VII 115 have all stringholes vertical, while V 677 has one vertical and two horizontal. From the preceding discussion all we can conclude is that prisms generally have only two sides engraved and both often have stringholes vertical to the motifs.

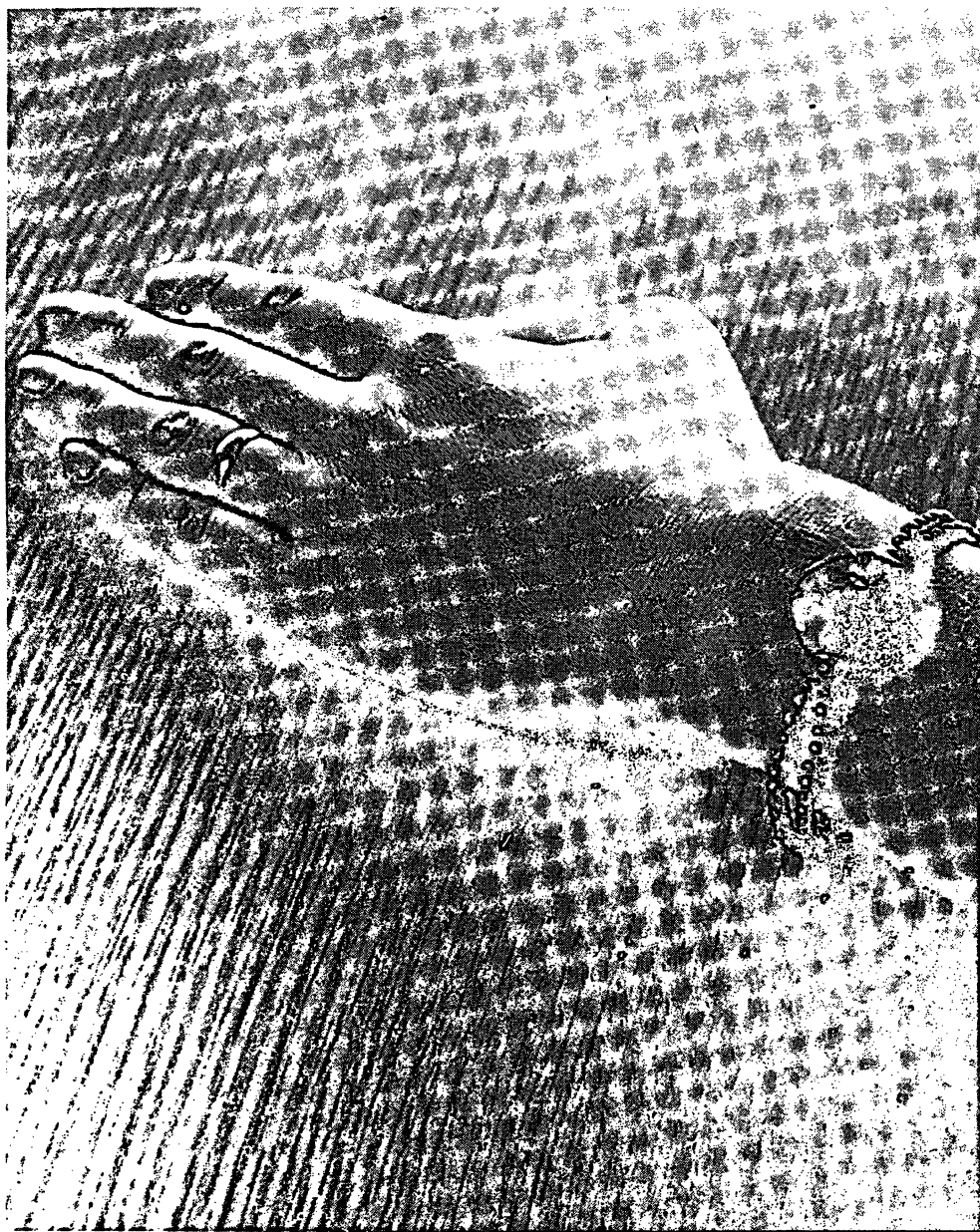


Plate I. Carnelian lentoid and bracelet of gold beads from Sellopoulo T. 4  
(worn by Elizabeth Warren).

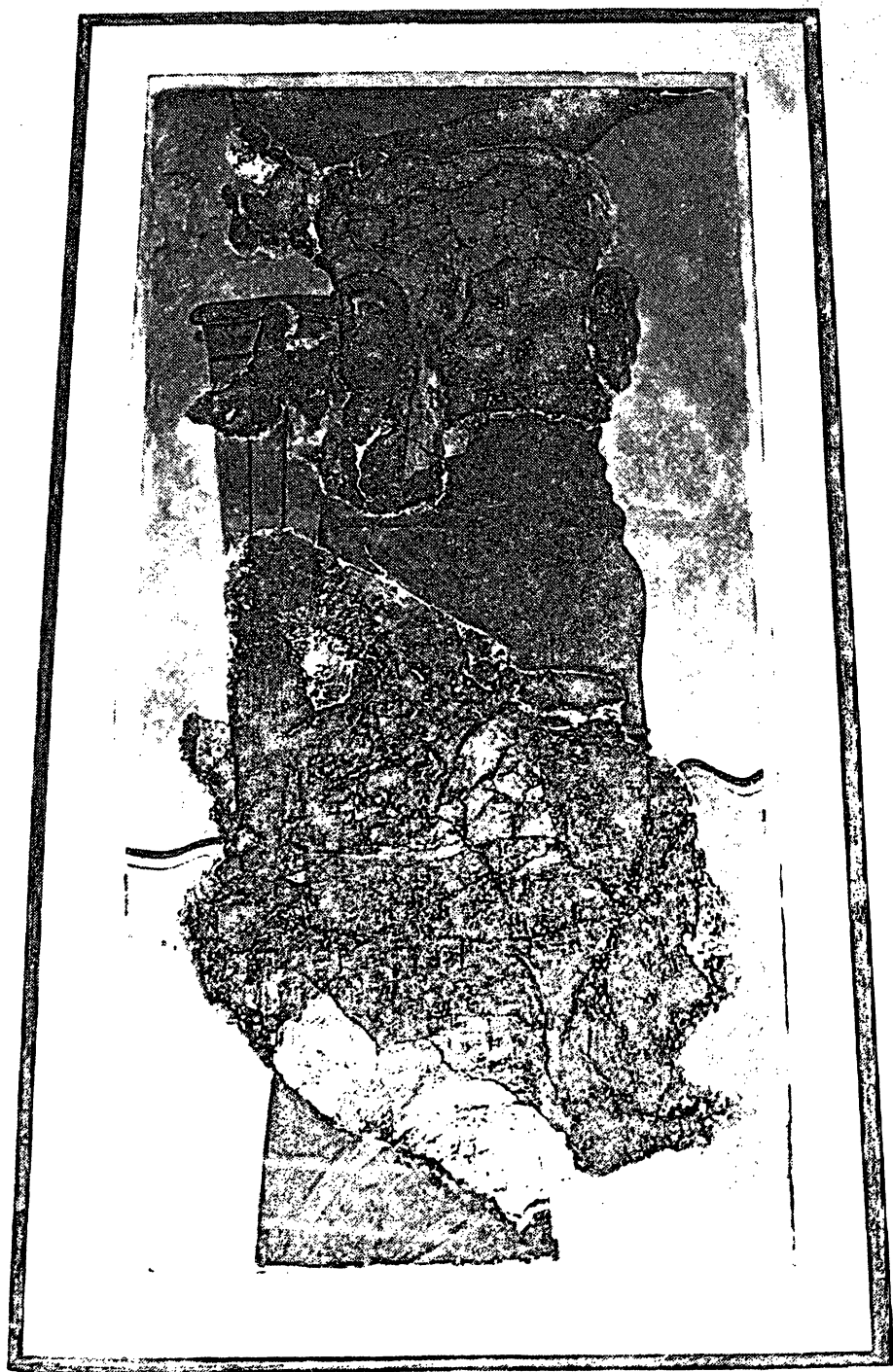


Plate II. The Cupbearer fresco from Knossos.



This means that most lentoids, like most rings, were meant to be read as modern watches are, and that the design was aligned at right angles to the arm if the gem was worn on the wrist.<sup>71</sup> There are, however, many exceptions to this general rule, seals in which the stringhole follows an orientation at right angles (horizontal) to the motif.<sup>72</sup>

Usually these exceptions seem to follow no pattern; others exhibit what appear to be compensatory factors. Two lentoids, HM 175 from Kalyvia (T. 8?)<sup>73</sup> and CMS V \*431 from Nichoria, carry a frontal human face; both have horizontal stringholes. One other motif, the *Potnia theron* carrying a 'snake-frame' and flanked by lions or griffins, always has a horizontal stringhole (e.g., CMS I \*144 and \*145 from Mycenae T. 515, the ones in 'forehall' mentioned above). Such lentoids as these may have been worn on necklaces or as pendants; a horizontal stringhole would then be appropriate.<sup>74</sup>

<sup>71</sup> In addition, it should be noted that a lentoid with a slightly elliptical face always, as far as the author is aware, has its stringhole bored to follow the shorter diameter.

<sup>72</sup> Kenna, LMS II 328, implies that horizontal stringholes are due to a general carelessness in LM III B engraving.

<sup>73</sup> MonAntichi 14, 1904, 617—625, fig. 96.

<sup>74</sup> Even with this hypothesis, however, certain groups of sealstone motifs remain puzzling. Were motifs consisting of two figures disposed in axial symmetry (e.g. CMS I 184 from Midea, Pl. . . . fig. 3) or in bilateral symmetry (e.g. CMS I \*131 from Mycenae) meant to be viewed with the bodies horizontal or vertical? If the bodies are placed horizontally then these seals have normal, vertical stringholes. Both seals CMS I \*131 and 184 have ground lines which confirm this orientation. A few lentoids, however, like CMS IX 160 from Spata(?), Pl. . . . fig. 4, have horizontal stringholes, although here a ground line at right may mean that the seal was meant to be viewed with the bodies of the bulls vertical.

Such a seal as CMS I \*131 may have been consciously produced to be appropriate to both a necklace and a bracelet: with the stringhole vertical the men are to be read perhaps as fallen warriors; and with the stringhole horizontal, the lotus is upright, the figures in a symmetrically pleasing design. The same dual purpose can be recognized in two twin sealstones in a similar style and possibly from the same workshop as CMS I \*131: CMS I 263 from Tragana and VII 130 whose provenience is unknown.

The Mycenae seal CMS I \*131 also has a twin, CS k. 204, a cushion seal with of course a horizontal stringhole, said to have come from north of the Palace at Knossos. It is possible that CMS I \*131 is a copy of the cushion seal, reproducing the same stringhole alignment; but the iconographic puzzles in CS k. 204 (the "Libyan plumes", and the unidentifiable flowers), the evidence that the Mycenae seal belongs to a larger group of seals similar in their ambivalent stringhole alignments, and the fact that Evans first published both the Mycenae seal from a cast he possessed before its proper publication and the cushion seal (PM IV 501—503, figs. 444 and 443, respectively), all make it probable that the cushion seal is a forgery based on the excavated seal from Mycenae. Other sealstones with two animals in axial symmetry, like CMS I 60, 92, and 157 all

There seems therefore to be some consistency in the alignment of stringhole to motif: vertical stringholes for lentoids, disks, and most prisms; horizontal for amygdaloids, cushion seals, and rectangular plate seals. Where there are exceptions, many can be explained with reference to the motif.

When we examine the stringholes of seals presumed to have been on necklaces, bracelets and anklets, we see, contrary to expectation, no pattern. Lentoids with vertical stringholes perversely exhibit their motifs sideways on necklaces (e.g., the lentoid on the necklace from Isopata T. 99, PTK fig. 101.2), amygdaloids sideways or upside-down on bracelets (e.g., CMS V 174 from Athens/Agora T. 40), and undoubtedly rings on bracelets acting like amygdaloids.

It seems obvious, therefore, that stringholes were not always bored in the workshop for the use the sealstones were later put to. Other considerations must have determined the alignments. The representations of sealstones being worn on the wrist all show lentoids; it is possible then that, in the glyptic workshops at least, amygdaloids were bored to be strung on necklaces, although several were not in fact so worn. The detailed representations of lentoids on bracelets, in the Cupbearer fresco (Pl. II) and possibly Pylos 13 Mnws, show only their variegated backs,<sup>75</sup> the faces therefore turned in to the flesh to protect their motifs.<sup>76</sup> From

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from Mycenae, have the stringhole aligned horizontally. Here, however, a horizontal branch with a frond at one end separates the animals, and so the stringhole may actually be vertical with the branch upright. A similar lentoid from Prosymna (*Prosymna* fig. 584), on the other hand, carries no branch; its stringhole therefore must be horizontal.

Several other lentoids with horizontal stringholes are individually explicable: surely, for instance, the birds on CMS I 151 from Mycenae fly up, not right as in the illustration in CMS; and the motif of a bowed lion attacking a bull (e.g., CMS I \*251, *Asine* fig. 242.2, and CMS V \*436) almost always has the stringhole perpendicular to the lion, not to the bull — this consistency of alignment probably indicates that the motif generally followed the rule and that the lion as victor received the accent, curled around his fallen prey while devouring it (cf. the amygdaloids CMS XII 213 and *Orientalia* 33, 1964, pl. V. 21; but see Mykenaikei Sphragidoglyphia 53—54 where Mrs Sakellariou maintains the alternate orientation).

<sup>75</sup> In fact, these two representations show banded agates whose banding has been carefully painted to produce axially symmetrical patterns in relation to the stringhole. Since the author has observed such patterning only on an extremely few sealstones, this patterning on fresco must represent an ideal situation in fashion.

<sup>76</sup> That sealstones were worn with their faces turned in to the flesh can be further supported by the high frequency of wear about the stringhole on the face side, and by the occasional appearance of the sharply conical reverse of the lentoid. This conical back would have been extremely uncomfortable if it rested against the wrist, and in a few

this we may draw the conclusion that the place for wearing sealstones did not seriously matter, since sealstones were worn because the stones they were carved from were pretty.<sup>77</sup> The workshop, however, generally bored the sealstones apparently with specific places in mind where they could be worn, places where their motifs could be seen to advantage.

2) *Gold Caps and Mounts*. A second factor that may affect use concerns the fitting of gold bands, caps, and mounts on the stringholes of sealstones. Bands are fitted over the rim of the sealstone, while caps appear over the ends of the rim at the stringhole; a band appears by itself over the rim of CMS V 654 from Ialysos in Rhodes (LH III C:1), caps over the ends of the cylinder CMS V 583 from the Kasarma tholos (LH I—II) and the ends of a \*cushion seal of chalcedony from Isopata T. 1 (LM Ib—II).<sup>78</sup> Mounts consist of a ring around the stringhole opening usually affixed to a cap or band, or to a small stemmed platform of gold whose stem is set in the stringhole. There are two types of mounts: a single or double wire ring (Pl. . . . fig. 1),<sup>79</sup> and a single or double ring of gold granules;<sup>80</sup> when the seal itself is of gold, then the mount may be fixed directly on the seal.<sup>81</sup>

Caps and mounts for sealstones appear early (cf. HM 2343, a prism from Herakleion Poros with a single ring of granules on caps, from a MH-LH I context)<sup>82</sup> and seem to run into LH III B (cf. the Thebes seal CMS V 673).<sup>83</sup> The various types of mounts, however, from the simple wire to the ring of granules, all appear contemporaneously, and thus it cannot be said that the latter developed from the former.

It would seem obvious that mounts and caps had, in addition to aesthetic value, two practical purposes as well: to protect the stringhole

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cases (e. g., CMS IV 264 and VII 106) it appears to have been cut down to eliminate this discomfort.

<sup>77</sup> Boardman, *Gnomon* 1966, 266, makes much the same observation.

<sup>78</sup> TDA 6—13, figs. 13 and 14

<sup>79</sup> E. g., on caps: CMS I 271 from Rutsi (LH II A) and CMS V 639 from Gouvalari (both with single rings) and CMS I \*152 from Mycenae (LH I—II) (double ring); on stemmed platforms: CMS I \*272 from Rutsi (LH II A) (single ring) and CMS I 252 from Vapheio (LH II A) (double ring); and on \*lentoid S 1 (Pl. . . . fig. 1) from Sellopoulo T. 4 (LM III A:1), BSA 69, 1974, 224, pl. 35a (double ring).

<sup>80</sup> A single ring on a band: CMS V 688 from Orchomenos; and on caps: CMS I 238 from Vapheio (LH II A) and CMS V \*430 and 434 from Nichoria (LH III A:2-B), and 673 from Thebes (LH III B). A double ring appears on caps on CMS V 312 from Delos.

<sup>81</sup> E. g. CMS I 274 from Rutsi Th. 2 (LH II A) and CMS V 200 in the Benaki Museum

<sup>82</sup> *Praktika* 1967, pl. 188

<sup>83</sup> Compare CMS I 262 from Kampos, Attica, with a single ring of granules on caps, which may be dated stylistically as late as LH III B.

from wear, particularly important for fragile seals,<sup>84</sup> and to conceal a crack or break along the edge of a seal<sup>85</sup> or to prevent such damage at the exposed angles of the stone.<sup>86</sup> From these two pragmatic considerations, the inescapable conclusion would seem to be that sealstones so outfitted, presumably in the workshop, were meant to be worn on necklaces or on bracelets, depending on the alignment of the stringhole.<sup>87</sup>

## V. Summary

From the evidence presented above, the following conclusions can be made:

1. Sealstones were dedicated as ex-votos in LH III B in shrines. The sealstones so dedicated are both fine and crude in quality and therefore may reflect the economic status of their dedicators.

2. Sealstones were used as charms occasionally in the production and storage of oil and wine, and rarely in tombs (e. g., Mycenae T. 515) where the motifs (the *Potnia theron* on CMS I \*144 and \*145) probably acted talismanically.

3. Sealstones and rings were collected by connoisseurs from LH II on. Usually such collections are found buried with their collectors, occasionally secured in wooden boxes or in silver bowls or cups. Some of these sealstones must have been regarded by their collectors as heirlooms or as antiques.

4. Sealstones were suspended from necklaces and worn on the wrist (almost always the left) on bracelets; occasionally such sealstones were protected by and further ornamented with gold caps, mounts, and bands that also effected an aesthetic transition from the stone to the bracelet. The conical backs to some lentoids and the specific representations in fresco of lentoids of banded agate both suggest strongly that lentoids,

<sup>84</sup> E. g. CMS I 256, a clay lentoid from the Vapheio Cist (LH IIa), and the glass seal from Nichoria CMS V 434 (LH III A:2-B)

<sup>85</sup> E. g. CMS I \*152 from Mycenae T. 518 (LH I—II context) where the left end of the seal has broken away leaving the bull-leaper legless.

<sup>86</sup> E. g. the Isopata \*cushion (LM Ib—II), supra n. 78

<sup>87</sup> Thus, the horizontal alignment for the stringholes of lentoids CMS I 255 (of lapis lazuli) and 256 (of clay), their gold mounts (255 with a single gold ring, 256 preserving only the stemmed platform), their similar motifs (a dog scratching its jaw), and their unusual material, all argue strongly for the probability that they were the two sealstones mentioned by Tsountas (ArchEph 1889, col. 146) as being found near the throat of the Vapheio Prince (cf. AJA 77, 1973, 339, col. 2, last paragraph, where the same suggestion is made as noted supra n. 25).

at least, were worn with the motif on the face turned in to the flesh; in this way the engraving would be protected from unnecessary scratches and wear, but turning the face in to the flesh mainly implies that the sealstone suspended on a bracelet functioned not as a talisman but as jewelry, possibly amuletic. Because of the normal alignment of the stringhole, the motifs on lentoids and the like are best displayed on bracelets and those on amygdaloids and cushion-shaped seals are best read on necklaces; many of these seals, however, have been found in places about a skeleton that suggest they were worn wherever the seal as a piece of jewelry was thought to look best, regardless of the legibility of the motif. Unengraved rings may have been worn primarily on the hand but most engraved rings have come to light near the neck or wrist of a skeleton and therefore were probably also worn suspended on necklaces or bracelets.