

INTERACTIONS BETWEEN AEGEAN SEALS AND OTHER MINOAN-MYCENAEAN ART FORMS

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Most scholars use seals as comparanda, especially when discussing iconography. But few have commented on their monumentality or on their ability to influence other media, both in sculpture and painting.¹ Besides discussing iconography and iconographic similarities across media, this survey will focus on the two aspects that are specific to seals: their function to create imprints or impressions and their intaglio technique.

From early on, Aegean seals were used to impress or imprint patterns. In the Neolithic period, Aegean seals belonged to a broad *koinê* of shapes and motifs that stretched from central Europe to the Near East.² These stamps performed decorative functions; their deeply carved, geometric designs usually of an *en rapport* or wall-paper type, often unbounded by any periphery line, seem ideal for stamping designs on the flesh, on pottery, and on textiles; for this reason they are called 'pintaderas'.

From painted Neolithic and Cycladic figurines,³ it seems certain that the peoples of the Aegean decorated their faces with meanders, hatching, and spirals — it is possible that this practice continued into the Late Bronze Age, as well.⁴

* I wish to thank Paul Rehak for valuable suggestions and comments; I am also indebted to Ingo Pini for illustrations from the CMS archives (Figs. 1–5. 7. 8. 11).

In the introduction to CMS Beih. 4, XIIff., I pointed out one area that still needs attention: the artistic interaction between sealstones and other Minoan-Mycenaean art forms; this paper is an attempt to address that concern.

Abbreviations:

ChT	Chamber Tomb
HMm	Heraklion Museum, precious metal inventory no.
HMs	Heraklion Museum, sealing inventory no.
NMA	National Museum Athens, inventory no.
ShGr	Shaft Grave

¹ R.A. Higgins, CIR 30, 1980, 161: "In spite of (seal-engraving's) small scale, this was the great Minoan art ..."

² J. Makkay, Early Stamp Seals in South-East Europe (1984). J.G. Younger in: Πρακτικά του Ζ' Διεθνούς Συνεδρίου Προϊστορικού Αιγαίου, Athens, 30 August–5 September 1987 (forthcoming).

³ For painted designs on Neolithic figurines, see L.E. Talalay, Neolithic Figurines of Southern Greece: Their Form and Function (PhD dissertation, Indiana University; UMI 8321396) 161ff., esp. 166ff. For painted Cycladic figurines, see P. Getz-Preziosi – S.S. Weinberg, AntK 13, 1970, 4ff.

⁴ Terracotta statuettes from the sanctuaries at Mycenae and Tiryns: Hägg – Marinatos, SC 54 Fig. 6; 176 Figs. 8. 9; the plaster female head from Mycenae: Marinatos – Hirmer, CaM color Pls. XLI. XLII.

Many Neolithic pots carry meander designs like those on the pintaderas, and others, like a jar from Dimini,⁵ feature a spiral in a reserved tondo, as if stamped by a pintadera.

Seals as stamps continue to impress pottery from EBA II into the Middle Bronze Age; but the practice seems to have been rare in the Late Bronze Age.⁶

It is possible, however, that the main function of the early stamps was to imprint designs on cloth. Their geometric patterns (rectilinear zig-zags, meanders, diamonds, triangles, cruciforms; and curvilinear spirals and concentric circles) are those that could easily be woven into cloth;⁷ and it is quite likely that these stamps were used to imprint these designs as an easy alternative to weaving them.



Fig. 1 CMS V,1 No. 111.

Most of the Lerna sealings carry designs in so many 'look-alike' versions⁸ of weave patterns (Fig. 1) that they must have been important; the earliest lions on the dentine cylinders⁹ have the kind of angular profile, hatched manes, and occasionally contorted

⁵ Hood, APG 30 Fig. 3.

⁶ EBA II impressed pottery: e.g., CMS V,1 Nos. 52 from Lerna and 467, 475 from Ayia Irini, Keos; rolled pithoi: e.g., CMS V,1 Nos. 120–148 from Lerna and 529–571 from Tiryns; and stamped hearth rims: e.g., CMS V,1 Nos. 149 from Lerna, Nos. 451–459, 461–466, 468–474, 476–478, and many inventoried pieces with Kerbschnitt, all from Ayia Irini, Keos. MH/MC pottery: J.G. Younger, *Hydra* 8, 1991, 35ff. with catalogue. For an impressed MM pithos from Knossos: see Evans, *PM* I 564 Fig. 410 (broken architectonic seal). A LBA I jug from Ayia Irini is of local clay and carries an applied raised boss of clay which a lentoid impressed with a lion (CMS V Suppl. 1A No. 343).

⁷ E.J.W. Barber, *Prehistoric Textiles* (1991) 175, 226 with n. 3; cf. CMS V,2 No. 693 (step-design) with Barber 143 Fig. 4,21.6 and CMS V,2 Nos. 706, 708 (zig-zags) with Barber Fig. 4,21.5.

⁸ The term 'look-alike' comes both from Weingarten, Zakro Master and Weingarten, *SSMC* I 279ff., esp. 289ff.; and from I. Pini, *AA* 1983, 559ff. Compare Lerna sealings CMS V,1 Nos. 50 with 56–64; 54 with 55, 68; 53 with 65, 66; 69 with 70; 74 with 75; 76 with 78; 82 (and 80) with 466 (Ayia Irini); 91 with 92; 94 with 95; 100 with 101, 462 (Ayia Irini); 104 with 105–108.

⁹ Yule, *ECS* 208f.: 'The Parading Lions/Spiral Complex', and motifs 7.5 (CMS II,1 Nos. 295b, 252a); 7.6 (CMS II,1 Nos. 3a, 52a, 223a, 248a, 251a, 312a); II,5 No. 281; Sakellariou, *CollGiam* Pl. XVI,45a); 7.7 (CMS II,1 Nos. 249, 250a); 7.8 (CMS II,1 No. 336a).

bodies that would have made attractive border or hem designs; ¹⁰ terracotta conoid stamps from EBA and MBA contexts seem to continue the pintadera tradition; and modern wood stamps (σταμπωτά) are still used today to impress designs on cloth throughout Greece and the eastern Mediterranean. ¹¹

The question arises: at Lerna, when stamps were needed to impress sealings why were they adapted from cloth stamps like the pintaderas? Since such stamps with weave-like patterns continued to be used for impressing sealings at MM II Phaistos ¹² and contemporary sites in Anatolia, ¹³ it is possible that these textile patterns were thought appropriate for reflecting administration because they incorporated designs from special costumes, say those of the administrative elite. Such a situation may explain the curious sealing CMS II,5 No. 327 from Phaistos, which was impressed by a wad of cloth.

After the Phaistos sealing deposit, textiles seem to influence seals less dramatically, although it is possible that many of the designs called Architectonic might continue to derive from woven patterns. ¹⁴ But by the Late Bronze Age textile influence seems restricted to friezes of decorative figures like shells, nautili, figure-8 shields, and spirals on metal objects (rings, jewelry, and bronzes). ¹⁵

That seals enjoy a close relationship with jewelry is obvious: seals are themselves beads, items of jewelry worn on bracelets and necklaces. For a brief time (EM III—MM I/II), seals in soft materials (dentines, ivory, and glazed steatite) ¹⁶ even take on sculpted shapes (human feet and animal hooves, duck-head stamps, crouching monkeys, etc.), and many of these forms we also see in jewelry. ¹⁷ For a brief time after the introduction of the horizontal bow drill (MM II; see below for a more detailed discussion), a few zoomorphic seals were carved

¹⁰ See Barber (*supra* n. 7) 320ff. for representational patterns on Minoan dress.

¹¹ I am grateful to Harriet Blitzer for an interesting discussion on recent developments in cloth-stamping in central Greece.

¹² J. Weingarten in: ASSA 105ff.

¹³ Cf. CMS V,1 No. 111 with CMS II,5 Nos. 162, 163, 166; CMS V,1 No. 112 with CMS II,5 Nos. 87, 93–96; and CMS V,1 No. 100, 101 with CMS II,5 No. 104, etc. On Lerna/Phaistos: A. Xenaki-Sakellariou, *KretChron* 15/16, 1961/1962, I, 79ff. (on chronology); M. Heath-Wiencke in: CMS Beih. 0, 149ff. (on composition). On Karahöyük/Phaistos: Alp, *ZSK* 275 ff. And on all three sites: F. Matz in: CMS Beih. 0, 58ff.

¹⁴ Architectonic designs (e.g., Knossos sealings: Gill, *KSPI* Vc, L8) may imitate simple weaves; and seals that carry animals against a hatched background may be inspired by decorated hems (e.g., CMS XII No. 136 and HM No. unknown from Kamilari [ASAtene 39/40, 1961/62, 7ff. No. 16 Figs. 125, 142]; and Knossos sealings HMs 134 [Gill, *KSPI* Pe], and 167 [Gill, *KSPI* K8]).

¹⁵ As dadoes on rings: murex shells below figure-8 shields (HMs 266 [Gill, *KSPI* R22]); double nautili below spirals (CMS I No. 329); spirals: Younger, *Iconography* 322, Dado 9. In jewelry: see Sakellariou, *ThTM* 292ff. (for a general typology of beads from the tombs), especially types 113–115 (murex shells), and 117, 118 (nautili and double nautili). On the rims of bronze vessels: see E.N. Davis, *The Vapheio Cups and Aegean Gold and Silver Ware* (1977) Nos. 107, 129, 137 (murex shells); 131 (nautili); 112 (spirals/snails), etc.

¹⁶ Yule, *ECS Shapes* 33a–l; much of this material appears in CMS II,1. For dentine seals see O. Krzyszkowska in: CMS Beih. 3, 111ff.; and for glazed steatite see H. Hughes-Brock in: CMS Beih. 3, 79ff.

¹⁷ Compare early dress pins with zoomorphic finials (Hood, *APG* 191 Fig. 187) with duck-head stamps (e.g., CMS II,1 Nos. 209, 213, 216 from Lenda); the gold bird bead from the Aigina treasure (R. Higgins, *BSA* 52, 1957, Pl. 15f.) with the ivory fly stamp, CMS II,1 No. 379; and gold crouching lion beads like HMm 124 from the Ayia Triada tholos (Marinatos – Hirmer, *CaM Pl.* 110 below) with stamp seals like CMS IV No. 7D.

out of harder stones (e.g., CMS II,2 No. 17 a cat's paw of rock crystal carrying lines and striations), but jewelry in zoomorphic shapes continues well into the Late Bronze Age.¹⁸

As intaglios, seals are meant to produce impressions, a type of relief sculpture. And these impressions are produced even as the subject on the seal's face takes shape, for intaglio sculptors, as they work, take impressions as they proceed, myself included when I try sculpting seals. And these, in clay, could have provided the inspiration for appliqués for MM II–III plastic relief vases.¹⁹



Fig. 2 HMm 1034. Ring from Sellopoulo.



Fig. 3 CMS XII No. 262. Mould for glass seals.

Since intaglio seals, therefore, can reproduce their designs in relief, we would expect seals to inspire other impression-producing intaglios. Finger-rings (Fig. 2)²⁰ perhaps come first to mind — many of them have at least some of their motif cast in intaglio moulds²¹ along with bezel and hoop.

And then there are glass seals,²² a mould for which is extant (CMS XII No. 262; Fig. 3)²³ and whose contorted bulls have brothers and sisters that come from the Medeon

¹⁸ J.G. Younger in: *Eikon* 257ff., esp. 266 with n. 26. For a general typology of LH zoomorphic beads, see Sakellariou (supra n. 15), esp. octopus type 116, argonauts 117ff., and butterfly 131.

¹⁹ K.P. Foster, *SIMA* 64 (1982).

²⁰ The earliest surviving metal ring with engraved bezel seems to be CMS V Suppl. 1A No. 45 from Gerontomouri, Lasithi; others are attested among the Phaistos sealings (J.G. Younger, review of Yule, *ECS*, GGA 240, 1988, 188ff., esp. 207ff.; compare CMS II,5 No. 8 with the Gerontomouri ring).

²¹ J.A. Sakellarakis in: CMS Beih. 1, 167ff.; A. Xenaki-Sakellariou in: CMS Beih. 3, 323ff. For rings that had much of their motifs cast: CMS I No. 91; V,2 No. 336.

²² T.E. Haevernick, *Archaeology* 16, 1963, 190ff., and ead., *BJb* 178, 1978, 111ff.: glass was introduced into the Aegean in the early 16th century.

²³ The mould CMS XII No. 262c has a vertical groove running through it and looks pinched above and below. The groove would probably have received a pin for forming the stringhole in the liquid glass; the pinching resulted from wear around the top and bottom of the groove where the cooled seal would have been pried loose from the mould. See CMS V,2 No. 598, an extant glass lentoid from Mycenae, House with the Idols, with the same pinching.

cemetery (CMS V,2 Nos. 348, etc., V Suppl. 1A No. 82, etc., LH IIIB/C contexts) and elsewhere.

We expect, therefore, to see intimate connections between seals and other mould-related objects, not only repoussé like the contorted animals on the gold box from Mycenae ShGr IV²⁴ that look like those on the Medeon glass seals, but also mould-produced, like the nanny suckling her kid on faience plaques from the Knossos Temple Repositories, a scene that resembles other nursing scenes on seals.²⁵

As an art form, therefore, seals fuse two aspects, intaglio and relief.

Scholars today tend to see a conceptual difference between intaglio and relief and consequently several have debated whether seals were meant to be appreciated from the stone itself or from its impression.²⁶

But the difference between intaglio and relief was probably not an issue to those who created, wore, and used seals. While many seals were undoubtedly worn as amulets, the intaglio aspect of their designs insured that in fact they were always a functional item: to produce relief impressions. Consequently, the purpose of seals always depended on their inherent duality: intaglios that produce relief.

One curious object in the Ashmolean Museum²⁷ illustrates this fusion; it is a trapezoidal chunk of steatite with a tondo face on the upper surface carrying a cow suckling her calf in intaglio. Kenna thought it an unfinished seal, but sculptors never begin the seal face before they finish the seal's shape.²⁸ Instead, the intaglio face could have functioned as a mould for

²⁴ NMA 808–811: Marinatos – Hirmer, *CaM Pls.* 198. 199 below; J.G. Younger, *Kadmos* 22, 1983, 109ff., esp. 50ff. I. Pini, *JRGZM* 28 (1981) 48ff., prefers to date the manufacture of the Medeon glass seals closer to their context dates because of their conical backs, a typical – but not exclusive – feature of Spectacle-Eye seals, many of which impressed Knossos sealings in spite of Pini's complaint (*SMEA* 28, 1990, 116) that conical backs hurt the fingers.

²⁵ E.g., the mother animals suckling their young: K.P. Foster, *Aegean Faience of the Bronze Age* (1979) 89ff. Compare similar scenes on seals: Younger, *Iconography* 70ff.

²⁶ H. Biesantz, *Kretisch-mykenische Siegelbilder* (1954) 51ff.: seals are designed to be seen in the original; I. Pini in: *CMS Beih.* 3, 201ff.: some seals were meant to be read from the original and some from impression.

Some impressing stamps carry their designs in relief: e.g., *CMS* II,1 Nos. 196b. 202. 203; V,2 Nos. 462. 467. 476. Hieroglyphic seals occasionally are ambivalent about which way the inscription reads (see n. 33 *infra*), e.g., *CMS* XI No. 299a (Evans, *SM* I 184 No. 11, fronds; 198f. No. 44); *CMS* II,2 No. 296a (Evans, *SM* I 184 No. 11; 198f. No. 44; 206 No. 62), as if HAT on the seal would read just as sensibly as TAH in its impression (such ambivalence in reading direction finds parallels in archaic boustrophedon inscriptions). Another bemusing example concerns inscriptions that wrap themselves over two faces of a seal, like a/ja-sa-sa-ra[-me] (assuming this is one word and we can read it) on *CMS* II,1 Nos. 393. 394; II,2 No. 217; VII No. 35 (over two registers on one face); and Kenna, *CS* Nos. 95 and 96.

On many seals the subject on the seal face takes into account the colors and veins of the stone itself whose significance is lost in impression (e.g., the owl placed in the [later?] burnt corner of Kenna, *CS* No. 220b [M.A.V. Gill in: *CMS Beih.* 1, 83ff., esp. 88]; and the rippling veins of *CMS* XII No. 263 contribute to the sense of the moving calves). On the other hand, other sealstones are so translucent that the motif is virtually undetectable until it receives an impression (cf. *CMS* V,2 Nos. 499. 500 and a similar lentoid from Phylakopi [C. Renfrew, *The Archaeology of Cult* (1985) 281 No. 2], all cut from the same chunk of white limestone).

²⁷ *AM* 1938.1087 published in: J.G. Younger, *BSA* 74, 1979, 258ff.

²⁸ J.G. Younger, *Expedition* 23.4, 1981, 31ff.

gold foil that could have been used to provide the obverse face of a gold lentoid like the one in the Benaki Museum (CMS V,1 No. 200).

In iconography, however, the greatest contribution of seals is the direct result of their small size — seals as miniature sculptures must focus on the simple image, which, to be at its most interesting, is taken from nature. The Mallia Workshop²⁹ seems to have been the first to have exploited these simple naturalistic images. It produced over 530 extant seals, most of which are three-sided prisms whose faces usually carry a single image,³⁰ e.g., CMS XII No. 44a) person to left; b) dog? runs left; c) boar stands right.

Some of the more interesting images imply narrative, albeit simple ones: human figures stand saluting, holding objects difficult to identify: 'Bristly Sticks' (e.g., CMS XII No. 18a) or 'Vertical Supports with Globular Attachments' (e.g., CMS XI No. 7a); other figures sit with pots (as potters [e.g., Kenna, CS No. 39b], beer-brewers [e.g., CMS II,2 No. 76], or crab-catchers [e.g., Kenna, CS No. 39c]).³¹ One figure sits at a board game (e.g., Kenna, CS No. 38a), possibly Sennet.

The appeal of these simple images is so direct that they have a pictographic quality. And when combined, such simple pictographic images can become legible as hieroglyphic inscriptions.

The connection, I think, is clear: Proto-Palatial seals as bureaucratic, sphragistic tools, impressing sealings in store rooms, are now (early MM) intimately connected with writing;³² in the Aegean, the earliest appearance of writing in any form is on seals — a stamp with Egyptianizing signs impressed a EC II hearth rim from Ayia Irini (CMS V,2 No. 478), and seals begin carrying hieroglyphic inscriptions from the opening of the Middle Bronze Age (e.g., CMS II,1 Nos. 391–394; Kenna, CS Nos. 95 and 96). I assume therefore that when writing was introduced, seals as bureaucratic tools hastened to refer to it, abandoning their earlier link with cloth and costume. This new alliance explains the switch in the iconography of seals; as if in response to writing's demand for legibility and clarity of

²⁹ Yule, ECS 212ff. on the Mallia Workshop; also see J.G. Younger, review of Yule, ECS, GGA 240, 1988, 188ff., esp. 201ff. A preliminary catalogue of the Mallia workshop includes 504 seals and 28 sealings, most of which (88%) are three-sided prisms or gables of dark steatite; of these, 68 seals and 13 sealings (total 81, or 15%) carry hieroglyphic inscriptions.

³⁰ G. Walberg, *Tradition and Innovation. Essays in Minoan Art* (1986), passim, esp. chapters 2 and 3, compares motifs found on seals and pottery. She suggests (p. 18) that seals copy some naturalistic motifs, like the octopus (e.g., CMS II,5 Nos. 301–303), from pottery; but isolated figures are not specific to any one medium. Octopi, for example, appear in any circular or square space: on vases (Marinatos – Hirmer, CaM Pl. 87; LM IB), stone vases (P. Warren, *Minoan Stone Vases* [1969] 88: HM 254 [Evans, PM II Figs. 130. 307]; and NMA 2490 from Mycenae ChT 26 [B. Kaiser in: CMS Beih. 0, 37ff.], lentoid seals (Younger, *Iconography* 208–209), gold sequins (NMA 18 [Kaiser, UMR 55: cf. CMS II,5 No. 312]. 39. 40, all from Mycenae ShGr III), and floors (E.S. Hirsch, SIMA 53, 1977, Nos. C4 [from Ayia Triada shrine]. G8. G10. G11 [from Pylos]; G20. G24 [from Tiryns]).

The decorative motifs that appear on both MM II/III pottery and seals may all ultimately derive from textiles.

³¹ As potters: Evans, PM I 124 about Kenna, CS No. 39b and Evans, PM IV 521 about Kenna, CS No. 38b. More recently: the pots are for brewing beer (H. Katz – F. Maytag, *Archaeology* 44.4, July/August 1991, 24ff.), or, because of the frequent association of fish with these pots, they are for catching crabs (J. Powell in: *Eikon* 307ff., esp. 313f.).

³² J.G. Younger in: ASSA 240f.

meaning,³³ the Mallia Workshop prisms developed the simple naturalistic image. If this is so, then the great and earliest influence on the development of narrative comes from writing via seals.

If the narrative quality of the early seals, especially those of the Mallia Workshop, is linked intimately with the development of legible writing, then perhaps it is not surprising that these early focused, narrative images had little artistic influence³⁴ or found few parallels in those arts, like pots,³⁵ that had no such functional link to administration and therefore no similar incentive to convey narrative or naturalistic legibility.

Seals only broke free of their dependency on writing when they acquired new tools suitable for exploring their potential for carrying sculpture. The old tools probably consisted basically of gouging instruments and a drill that required the artist to hold it against his chest

³³ Olivier has expressed doubts about the legibility of hieroglyphic seals: J.P. Olivier in: CMS Beih. 1, 105ff.; id. in: ASSA 11ff. There are patterns, however, in the arrangement of inscriptions on the different faces of a single seal; see J.G. Younger, SMEA 28, 1990, 85ff.

³⁴ It is possible that the Pylos fresco of people (symposiasts?) sitting at table (M.L. Lang, *The Palace of Nestor at Pylos in Western Messenia II, The Frescoes* (1969), 44 H 6) finds immediate sources in the Knossos Campstool fresco (Evans, PM IV color Pl. XXXI) and ultimately in a Mallia Workshop prism; the motif and stilted style seems similar (cf. the man at a board game on Kenna, CS No. 38a, or two men sitting on CMS II,2 No. 241a; VII No. 16a, or Kenna, CS No. 16).

Another Mallia prism may have impressed the Pylos sealing, CMS I No. 369; the three men saluting, the 'ladder', and the gouged style are characteristic of the Mallia Workshop (the dimensions, however, 1.5 x 2.4 cm [for sealing or for impression?], are larger than the usual Mallia prism). Two other Mallia Workshop seals survived into the Late Bronze Age: CMS II,2 No. 262, an olive-green prism found in a LM I olive oil jar at Palaikastro, and CMS V,1 No. 263, a pyramidal stamp from Armenoi T. 38 (LM IIIA2-B1 context).

³⁵ The earliest vase-painting with the human figure seems to be a cup from Palaikastro (R.C. Bosanquet et al., BSA Suppl. 1, [1923] 11, Pl. Va); Walberg, PMMP 61 Motif 25.1 places the cup in her phase 1 (EM III/MM I) but relates the motif to Classical Kamares (MM II) (Walberg, Kamares 69 Motif 26.1). The triangular conception of the figure closely parallels a few human figures on seals in the Border/Leaf Complex (Yule, ECS 209f.; e.g., CMS II,2 No. 204a).

Similar in conception are figures on sherds from Phylakopi (Immerwahr, *Aegean Painting* 32f. Fig. 11e). Their thin bodies and curly hair resemble the figure and the decorative rosette on the ivory stamp CMS II,1 No. 55 (Yule's *Parading Lions/Spiral Complex*, Yule, ECS 208f.).

Another person on Classical Kamares pottery is Walberg, Kamares 69 Motif 26.1/Walberg, PMMP 61 Motif 25.1 on an ovoid amphora from Phaistos (Walberg, Kamares 134 Shape 71.11; G. Walberg, *Tradition and Innovation* (1986) Fig. 4 illustrates the amphora; Immerwahr, *Aegean Painting* 32 Fig. 11f. presents a drawing of the entire preserved composition). All these angular and energetic figures correspond closely to the gouged figures on Mallia Workshop prisms (e.g., CMS VII No. 6c, and Kenna, CS Nos. 39a and 40b).

Two well-known bowls, one stemmed, from Phaistos (Walberg, Kamares 67ff., pictorialized Motif 25.VI.1-3; Immerwahr, *Aegean Painting* 33 color Pls. II. III) present women in petaloid dresses that seem to originate from paisley designs. On the bowl, two 'dancing' women bend around and flank another figure consisting of a solid-painted triangular oval outlined with arcs and surmounted by a human head to right. Several scholars have interpreted this scene (Walberg, Kamares 68 and notes [Long: women in hide skirts; Furumark: epiphany of a goddess]; Immerwahr, *Aegean Painting* 33 agrees with Furumark; G.C. Gesell in: O. Krzyszkowska - L. Nixon (eds.), *Minoan Society* (1983) 92ff.: "snake goddess by the serpentine loops along her dress" (p. 94); I prefer 'xoanon'). The figures have few parallels on seals: see Kenna, CS No. 78 (Yule, ECS Motif 58.24) and compare CMS II,5 No. 171.

with one hand and bow it with the other ³⁶ — with such tools there is almost no opportunity for delicate and precise modelling of stone.

But towards the end of the Mallia Workshop's life, the horizontal bow-drill was introduced, ³⁷ a tool which freed the artist from holding the seal and bowing the drill at the same time. The principle of the horizontal bow-drill has changed little since MM II; the apprentice has now become electrical and the broad wheel that shapes the stone has become divorced from the drilling bits that model it. But however the drill is turned, by a separate apprentice or by electricity, it turns faster, allowing the artist to sculpt harder materials, agate and cornelian, rock crystal, and various conglomerates and minerals. With freedom of movement, the artist holds the stone up to the rapidly turning bit of the drill, a process that encourages the development of seals with biconvex shapes, the lentoid, amygdaloid, and cushion.

The horizontal bow-drill is solid; by itself it produces dots when the seal is held stationary to it, but, when the seal is moved slightly against it, it models large areas. The drill can also receive attachments: a hollow tip for producing circles when the seal is held perpendicularly to the drill, and arcs when it is held obliquely; a thick wheel for shaping the stone; and a thin wheel for cutting straight lines.



Fig. 4 CMS XIII No. 13D.

The marks of this process are obvious: the early figures are made of straight lines, circles, and dots. We can even see on a single seal (e.g., CMS XIII No. 13D; *Fig. 4*) how the artist drilled out the shoulder and hip, cut the limbs, dotted the features, and then moved the muzzle of this animal back and forth across the small tip of the solid drill to model it, producing striations within the form.

³⁶ For an illustration of a modern drill operated by one person, see G.L. Posschl, *Expedition 23.4*, 1981, 39ff., esp. 45 Fig. 11.

³⁷ J. Betts in: *CMS Beih.* 3, 1ff.; J.G. Younger, *Aegaeum* 3, 1989, 53ff.

The new tools for sculpting seals cannot have come along by themselves — no technical innovation stands alone. And by late in MM II, early in MM III, we see a veritable explosion in the arts.

Perhaps the most important innovation was fresco painting whose broad wall surface invites opportunities for landscape and narration. Frescoes are, of course, impressive, and it is understandable that many scholars view them as the primary influential art form, even though the narrative seals of the Mallia Workshop precede them.

Hood³⁸ in "The Arts in Prehistoric Greece" introduces Late Bronze Age seals like this:

"seal-engraving, like other arts, was influenced by wall-paintings and painted reliefs, although their small size and shape made faithful reproduction of fresco scenes on seals difficult if not impossible."

Many seals do reflect fresco, of course; but, on the other hand, many do not; and, besides, it is quite likely that it was seals that influenced many frescoes.³⁹

CMS I No. 179, the Tiryns Treasure ring, for instance, combines both glyptic and fresco compositional elements. It carries a seated woman whom four genii face with their usual ewers. The core of the scene, a monster facing a seated woman, occurs on several seals and rings, for example CMS I No. 128 from Mycenae ChT 91. In this particular example, the pose of the seated woman complements the seated pose of the griffin and the bent profiles of each seem to reflect the oval frame surrounding and circumscribing the scene; the two figures seem balanced with respect to each other and tightly locked together by the close-fitting periphery of the bezel. The Tiryns ring, with its taller bezel (W. 3.5 cm) substitutes the taller genius for the griffin and, since its wide bezel demands a proportionately broad length (L. 5.7 cm), the ring multiples the single monster into four, producing a frieze of figures that do indeed seem to step off fresco,⁴⁰ although the small fresco fragment from Mycenae (LH I-II? context) with a comparable file of genii⁴¹ is only twice as large (L. 11.5 cm x H. 8.5 cm) as the ring itself.

As soon as wall-fresco is developed, it immediately begins to open the wall up to entire vistas.⁴²

³⁸ Hood, APG 219.

³⁹ Seals have also influenced how we interpret frescoes. CMS II,3 No. 198, published in 1907, very probably influenced E. Gilliéron fils's reconstruction (1926; Evans, PM II 775) of the 'Prince of the Lilies'; given the similar torsos, Gilliéron adopted the seal's trailing arm and general stance for the plaster relief.

⁴⁰ Processions, like the fresco file of women at Thebes (H. Reusch, *Die zeichnerische Rekonstruktion des Frauenfrieses im böotischen Theben* [1956]), are ideally suited to wall painting; they convey both the length and direction of a wall and reflect, *pari passu*, the spectators who walk alongside them. Several seals carry short processions (e.g., CMS XII No. 168).

⁴¹ AEphem 1887 Pl. 10,1; W. Lamb, BSA 24, 1919/21, 190; Marinatos — Hirmer, CaM color Pl. XLIII below.

⁴² Early examples would include: Knossos, House of the Frescoes, rm D with monkeys and bluebirds and rms E-F with agrimia (Immerwahr, *Aegean Painting Kn Nos. 2. 3*); the Akrotiri West House frescoes with the Nilotic scene and the vignettes of daily life in the Meeting on the Hill (Immerwahr, *Aegean Painting Ak No. 12*). And for a later example, see the fresco with cat stalking birds in the cramped cubicle 14 at Ayia Triada (Immerwahr, *Aegean Painting AT No. 1*; M.A.S. Cameron in: Hägg — Marinatos, FMP 320ff. [the color illustration is

In this regard, finger-rings, not seals, are the closest glyptic form to fresco. Many rings, like HMm 989 from Archanes Tholos A and 1034 from Sellopoulo T. 4 (*Fig. 2*) (both LM IIIA1 contexts),⁴³ carry complex cult scenes, often in an outdoor setting; with objects or figures at the sides flanking a central figure, these scenes exhibit a balance, a principle of symmetry easily accessible on the small ring but appreciable in fresco too. For instance, a fresco from Akrotiri, Xeste 3, carries a seated goddess flanked by attendant monkey and salient griffin;⁴⁴ this central scene of a seated Potnia Theron resembles the ring CMS V Suppl. 1B No. 195 preserved in a cast in the British School at Athens.⁴⁵ And this central scene has been inserted within another scene from seals, the central woman flanked by two figures (e.g., Kenna, CS No. 295).

A few seals contemporary with the early development of fresco try to imitate their landscapes, presenting expansive scenes, like HMs 126 (Gill, KSPI Pa; Kenna, CS No. 5S) from Knossos, a seal impression depicting a deer lying in a meadow, or like CMS X No. 69, a rare bronze lentoid depicting a fish-filled stream. But these ambitious seals fail.

It is not so much their small size that dooms these landscape seals; it is the lack of frame. Frescoes, when successful, operate like windows in a wall opening up to all outdoors; the frame, that is the boundaries of the wall itself (socles, lintels, bottom and top sole plates),⁴⁶ do not limit the murals, but rather themselves present additional areas for paintings, predelle and dadoes. With seals, however, the frame, which is the rim of the seal face, is integral with the medium — as the frame and the reserved background⁴⁷ bind the subject and constrain it, they therefore interact with the scene, focus our attention on it, and demand a balance within it. This tension between subject and framing background constitutes the major aesthetic principle of intaglio seals.

On Kenna, CS No. 227, the agrimi in the upper corner and the dog in the lower corner stress the oblique axis, creating a centripetal force that is held in check only by the frame. Frescoes cannot rely on such frames; their scale is too big, their occasions too full of incident, their narrative too sweeping to depend on simple, single, internal tensions. The individual narrative moments on which seals focus become incidents in fresco.

But such incidents on seals take up our entire attention. For instance, a pair of bulls on CMS IV No. 256 (*Fig. 5*) stand in Pose Type 19C, Right,⁴⁸ one animal regardant to echo

reversed]; P. Rehak in: *The Function of the Minoan 'Villa'* [8th International Symposium, Swedish Institute at Athens, 6–8 June 1992; forthcoming].

⁴³ For the Archanes ring: J.A. and E. Sakellarakis, *Archanes* (1991) cover, 72ff. *Fig. 54*. For the Sellopoulo ring: M.R. Popham, *BSA* 79, 1974, 217ff. No. J8.

⁴⁴ For a reconstruction drawing: Marinatos, *AaR* *Fig. 40*.

⁴⁵ The ring, now lost, is said to have come from the Amari plain, Crete, near the Idaean cave: A. Evans, *JHS* 45, 1925, 66 *Fig. 56*.

⁴⁶ The diagram in Immerwahr, *Aegean Painting* 12 *Fig. 4*, illustrates how borders refer to construction elements of the wall and how the pictures fill the areas between.

⁴⁷ Filling motifs, by encroaching on the background, may help reduce its mass and suggest landscape or setting for the subject. Compare, in order of increasing clutter, the following seals in the Jasper Lion Group: CMS X No. 303; XII Nos. 207. 271; V,1 No. 304; XI No. 242; II,3 No. 122 (Younger, *Aegean Seals* II 109ff., esp. 119f.).

⁴⁸ Younger, *Iconography* 75.

the curve of the rim. The pose has no other purpose than to balance the mass of the animals against the reserved background, or to make the regardant turn of the far bull's head echo the curvature of the rim.



Fig. 5 CMS IV No. 256.

Not all seals achieve this balance, however; occasionally a seal lacks tension and its subject ignores the frame. The chaotically arranged birds, for instance, on CMS I No. 151 from Mycenae ChT 518 (LH I–II context) negotiate their space with clumsy difficulty, but in the Spring Fresco at Akrotiri⁴⁹ such free-falling birds seem acrobatic. The larger field of the Spring Fresco provides them with room to manoeuvre and time to straighten themselves out, find their wings, and fly right.⁵⁰

If few seals try, and fail, for the narrative sweep of fresco, several early frescoes try, with limited success, for the classical balance inherent in seals. Even though the Antelope Fresco from Akrotiri,⁵¹ for instance, adapts for its animals the same pose PT 19C (see above) from seals, it fails, for there is no frame to constrain it; the wavy boundary above probably only separates painting sessions.⁵² A glyptic derivation for the pose of the antelopes thus proves

⁴⁹ Sp. Marinatos, *Thera IV* (1971) 20ff., 49ff., color Pls. A–C, especially the swallows on the West wall in color Pl. C bottom. C. Doumas, *The Wall-Paintings of Thera* (1992) Pls. 66–76. M.B. Hollinshead, *AJA* 93, 1989, 339ff., discusses the iconography and archaeological context of the Spring fresco.

⁵⁰ M. and H. van Effenterre in: *Eikon 325ff.*, distinguish four Aegean ways of representing time. Representing time and implying sequences of events are crucial factors in conveying narrative.

⁵¹ Marinatos (*supra n.* 49) 28ff. 46ff., color Pls. D. F right. Doumas (*supra n.* 49) Pls. 83. 84.

⁵² Lang (*supra n.* 34) 10ff.: "Method 1" (p. 13), a white 'reserved' area receives the outlined figure (in this case, antelopes); vertical and horizontal straight and wavy divisions of color (p. 21f.) correspond to divisions between the work of one time period and another. Immerwahr, *Aegean Painting 17*, summarizes: "...the changing background color zones characteristic of many Aegean paintings are the likely result of the technical problem of matching colors from one day's work to the next."

more satisfying than a symbolic meaning for it; several scholars, for instance, have suggested that the pose conveyed sexual and programmatic nuance.⁵³

When small frescoes are provided with a close-fitting frame, however, some imitate seals successfully, but only to a degree. The Taureador panels from Knossos⁵⁴ provide frame and a symmetrical balance of figures and mass that imitate the balance on rings; to have received a completely painterly treatment these bull-leaping scenes should have been placed in some sort of larger outdoors setting like the figures in the Dance in the Grove fresco.⁵⁵

Likewise, the two solitary fisherboys painted each on a narrow moveable panel in the West House at Akrotiri seem cramped; their background is proportionally too small. Each boy would look better if he appeared alone on a sealstone (e.g., CMS VII No. 88, Kenna, CS No. 205). For them to appear comfortable, we must view them together and in a larger context,⁵⁶ set in opposite corners, themselves providing the frame for an entire room.

The later Pictorial Vase-Painting is perhaps more successful at copying seal motifs; many pots concentrate on pose and the solitary animal, especially bulls and birds, and almost all enclose these subjects in horizontal bands that provide frames similar to those of seals. And some of these pictorial vases⁵⁷ seem to translate graphically, with modelling lines, the plastic modelling of seals, while at least one pot, with three dots at the bull's muzzle, even imitates a technical detail of Almond-Eye seals.

Even the latest frescoes at Pylos could have remembered seals (see n. 34). The individual scenes in the Vestibule and on the south-east wall of the Throne Room, large bulls and diminutive seated pairs of men, could each have come separately from seals, even though the entire composition now seems imperfectly understood.⁵⁸

⁵³ Apropos the Vapheio Quiet Cup, Evans, PM III 183 n. 1 suggested that lifted cow tails signified sexual receptivity. Sp. Marinatos, Thera IV (1971) 46ff., adopted this suggestion for the pose of the antelopes. W.W. de Grummond, *AJA* 84, 1980, 335ff., points out, however, that the bull being tethered on the Vapheio Quiet Cup also lifts its tail. Nonetheless, Vermeule – Karageorghis, MPVP 30, apply Evans's suggestion in their discussion of pot IV.32: "The cows' ... tails lifted high (as so often in scenes of the prelude to mating)". Since sex is rarely depicted in Aegean art (there are only three examples: CMS II,1 No. 446a with a man and a woman, and, with agrimia, CMS VII No. 68 and possibly the pot XI.85), it is possible that sex was also rarely implied.

Marinatos, AaR 106, interprets the antelopes as in conflict, thus echoing the pugnacity of the adjacent Boy Boxers.

⁵⁴ Evans, PM III 212 Fig. 144. Compare the ring CMS I No. 200 and the sealing HMs 250 (Gill, KSPI R8) impressed by a ring. Barber (*supra* n. 7) 325, suggests that the barred bands, including, presumably, the overlapping half-ovals between them, bordering the Taureador frescoes derive from textiles. Overlapping half-ovals also appear on seals to signify terrain or water (e.g., CMS I Nos. 167, 185?).

⁵⁵ E. Davis in: Hägg – Marinatos, FMP 157ff., discusses the setting of the Grandstand and Dance frescoes.

⁵⁶ Marinatos, AaR 37f.

⁵⁷ The carefully painted bulls on Vermeule – Karageorghis, MPVP VI,1–4 include dappling and modelling lines that seem to translate into paint the sculpted areas of seals; the fuzzy face bucranion on *ibid.* V,102 finds a close parallel on CMS IV No. 168; the encircled muzzle of bulls like those on *ibid.* V,46.49.51, etc. could reflect the dot placed on bull muzzles in the Almond- and Dot Eye Groups; and the three circles for the nose and mouth of the bulls on *ibid.* V,48 seem to be lifted from seals like CMS V,2 No. 433, XII No. 248.

⁵⁸ Lang (*supra* n. 34) 38ff. 192f. L.R. McCallum, *Decorative Program in the Mycenaean Palace of Pylos: The Megaron Frescoes* (PhD dissertation, Pennsylvania University 1987; UMI 8804933), 77ff., presents an odd reconstruction.

But by late LH IIIB, painting alone seems to have survived many of the other arts: seals in hard stones probably had not been sculpted for nearly a century,⁵⁹ and other art forms may also have ceased if they were not in decline: metal vases, ivory carving, stone vase carving, and faience.⁶⁰ Architecture, too, seems to have achieved its greatest expressions by the time of the latest frescoes.⁶¹

It might be possible, therefore, to revise the scholarly consensus: while rings with cult scenes are intimately related to frescoes, sealstones hardly ever copy frescoes, though frescoes can incorporate sealstone compositions. And this revision makes some sense — frescoes can use the individual scenes of seals within large compositions far more easily than seals can excerpt elements from the larger and more narrative compositions of frescoes.

The small size of seals not only focuses our attention on the single subject but also forces our eye inward, inside the subject, to focus on the sculptural manipulation of the stone's surface. And the new horizontal bow-drill opened up opportunities for modelling this surface plastically.

In the years that followed the introduction of this new tool, there is an increased awareness of anatomy and mass, not just in intaglio seals but in all the sculptural arts,⁶² whole classes of which, including stone and plaster reliefs, stone vases, and repoussé metalwork, may have been specially developed to respond to the new opportunities.

Seals also participate in this shared appreciation of mass. The Robed Priest Groups⁶³ carry sinewy men (e.g., the acrobats on Kenna, CS No. 204) similar to the ones that twist in relief frescoes⁶⁴ or box on the Boxer Rhyton.

Gold rings present massive bulls (e.g., the sealings from Gournia [HMs 101], Ayia Triada [497–499], and Sklavokampo [613–624 etc.])⁶⁵ similar to those that run on the MM III

⁵⁹ J.G. Younger in: CMS Beih. 1, 263ff.

⁶⁰ R. Laffineur, *Les Vases en métal précieux à l'époque mycénienne* (1977) 88; J.G. Younger in: E. Thomas (ed.), *Forschungen zur Ägäischen Vorgeschichte. Das Ende der mykenischen Welt (Akten des internationalen Kolloquiums 7–8 July 1984 [1987])* 63ff., and K.P. Foster, *Aegean Faience of the Bronze Age* (1979) 158.

⁶¹ E. French in: M.M. MacKenzie – C. Roueché (eds.), *Images of Authority (Festschrift Joyce Reynolds)* Cambridge Philological Society Suppl. 16 (1989) 120ff. (I am grateful to Paul Rehak for bringing this important survey to my attention), outlines the major architectural history of Mycenae, placing the construction of the Atreus tholos late in LH IIIA1, then the first phase of the citadel walls late in LH IIIA2, the Clytemnestra tholos early in LH IIIB1, and finally the western extension of the citadel walls, including the Lion Gate and the remodeling of Grave Circle A, in middle/late LH IIIB1. This spate of construction, therefore, took approximately three generations and French suggests that each project followed from the preceding with the twin intentions of making Mycenae more impressive and of maintaining a constant work force. Part of this extended building program would also have included the incorporation of early art, the gypsum bull reliefs probably sculpted in MM III at Knossos (n. 66 *infra*) decorating the Atreus tholos and the Lion Relief probably sculpted in LH II (argued below) surmounting the Lion Gate. This incorporation of Middle Minoan and early Mycenaean art and of early Mycenaean monuments (Grave Circle A) suggests that the IIIA1–B building program was conscious of Mycenae's earlier history and place in the cultural continuum of the Aegean.

⁶² For a detailed presentation of Minoan perceptions of anatomy, see J. Coulomb, *RA* 2, 1978, 205ff.

⁶³ Younger (*supra* n. 37) 59.

⁶⁴ E.g., the athletes from Knossos, Blocked Corridor (Kaiser, UMR 279f. Figs. 444–448 Pls. 45, 46).

⁶⁵ J. Betts, *Kadmos* 6, 1967, 15ff. Figs. 2–3.

Elgin plaques from the Treasury of Atreus⁶⁶ and in bull-leaping scenes on the relief frescoes from Knossos.⁶⁷ Seals from Mainland workshops, the Mycenae-Vapheio Lion Group (LH I)⁶⁸ and its school (e.g., CMS II,3 No. 271, and Kenna, CS No. 202) and the closely related Vapheio Cups,⁶⁹ also present these muscle-bound bulls.

Along with the iconography and interest in anatomy and mass, these sculptural arts, especially reliefs, also share the techniques used in sculpting intaglio seals.

Seals in the Robed Priests Groups build the anatomy of their figures using elongated modeled ovals for individual muscles, a dot eye in a reserved hollow, arcs for the mouth and jaw, a full circle for a ringlet of hair, etc.



Fig. 6 Harvester Vase, detail.



Fig. 7 CMS I No. 5.

The elongated muscles are easy to produce in intaglio — the sculptor holds the seal up to the turning drill and rocks it slowly back and forth. It is surprising, therefore, to find these elongated ovals imitated in larger relief. The similarly elongated oval muscles in plaster relief at Knossos⁷⁰ are built up by hand plastically and are therefore similarly easy to produce. But, on stone vases, like the Harvester Vase (Fig. 6), these forms must be produced by laborious abrasion.

Again, in seals the lips of the mouth can be expressed as arcs (e.g., CMS I No. 5 [Fig. 7]; II,3 No. 13b; VIII No. 110), produced by holding the seal obliquely to the hollow drill; ringlets of hair appear as circles created by holding the seal vertically to the drill. But to produce these marks in relief, raised circles for hair and a lunate arc for mouth and jaw, is

⁶⁶ J.G. Younger in: W. Schiering (ed.), *Kolloquium zur Ägäischen Vorgeschichte*. Mannheim, 20–22 February 1986, *Schriften des Deutschen Archäologen-Verbandes IX* (1987) 138ff.

⁶⁷ Kaiser, UMR 270ff.

⁶⁸ J.G. Younger, *AJA* 82, 1978, 285ff.

⁶⁹ Marinatos – Hirmer, *CaM Pls.* 178–185. Davis (*supra* n. 15) 1ff.

⁷⁰ For the athletes in relief plaster: Kaiser, UMR 270ff., Figs. 419. 423 right. 439, etc.

difficult.⁷¹ For the circular ringlet the artist must drill out the center and then abrade away the stone at a distance around it; ⁷² the arcs of jaw and mouth are even more time-consuming to produce in relief (*Fig. 6*), for the artist must abrade the stone away on both sides. The Boxer and Harvester Vases seem to be deliberately conjuring up the effect of having been produced from an intaglio mould. And this special mould-produced effect would have been enhanced by the gold foil that probably covered these vases,⁷³ contributing to them the nuance of repoussé.

Another peculiarity of seals concerns how, in sculpting intaglio, artists must reverse their sense of near and far planes. Details that will, in impression, appear nearer to us, must be engraved deeper into the seal's far surface.

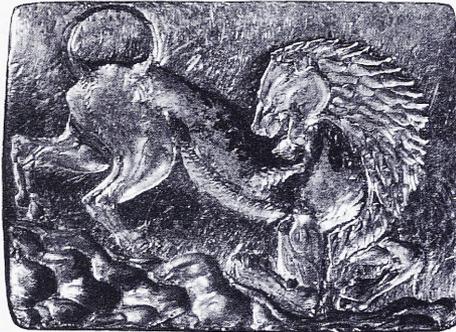


Fig. 8 CMS I No. 10.

Usually, glyptic artists have this concept firmly in mind; but the artists of the Mycenaean-Vapheio Lion Group maintained one convention that contradicts this principle. When they sculpted lions (e.g., CMS I No. 10, *Fig. 8*), they invariably carved the cheek deeper into the stone than the mane. On the seal itself, then, the mane stands naturally out toward the viewer and the cheek sinks into the farther plane; but in impression, both are reversed, so that the cheek stands out above the mane, like a fish gill.

This reversal of convention, restricted to the Mycenaean-Vapheio Lion Group and to the objects under its influence, occurs not just on seals. We should expect it in the Group's

⁷¹ Both the Chieftain Cup (Marinatos – Hirmer, *CaM* Pls. 100–102) and the Sanctuary Rhyton (Marinatos – Hirmer, *KTMH*² Pls. 108–110) carry comparatively shallow reliefs, without much energy expended on time-consuming abrasion; as a result, the figures are flat and dry.

⁷² See the boxer's hair on the Boxer Rhyton (Marinatos – Hirmer, *CaM* Pl. 107 lower right). Kaiser, *UMR* 281 *Fig.* 454 extreme right, describes a possible griffin's neck ornament of spirals with central hole drilled and the curves set off by abrasion.

⁷³ Warren (*supra* n. 30) 162f. notes gold leaf adhering to two relief vases, HM 993 (p. 86) a rhyton from Palaikastro with charging boar, and HM 2764 (p. 87) the Peak Sanctuary Rhyton from Kato Zakro. An animal head (bull?) rhyton fragment in the HM 3323 also preserves substantial amounts of gold foil.

moulded products from the Mycenae Shaft Graves, whether they are repoussé or directly produced from moulds: the lions on the gold box, the gold sword pommel, and the gold lion head rhyton.

Even more illogical: some two-dimensional articles imitate the Group's fish-gill mane: the lions on the niello daggers, and the painted lions running on the hull of ship 2 in the Ship Procession fresco in Akrotiri's West House.⁷⁴

And it is even more peculiar that this same convention should appear on contemporary sculpture in direct relief: the ivory sword pommel from ShGr IV and the stele with lion from above ShGr V.



Fig. 9 Mycenae, Lion Relief.



Fig. 10 CMS I No. 46.

There occurs another remarkable instance where the intaglio techniques of seals have influenced a piece of sculpture in direct relief: the Lion Relief at Mycenae (Fig. 9). The Lion Relief has often been compared to the sardonix lentoid CMS I No. 46 (Fig. 10) from Mycenae ChT 8 (probably belonging to the earliest burial there),⁷⁵ especially on iconographic grounds,⁷⁶ but it is worth noting that the two are also similar in technique.

⁷⁴ For the lion on the hull: Morgan, MWPT Pl. 56.

⁷⁵ Sakellariou, ThTM 63ff. Both CMS I Nos. 45 and 46 were found near the head of the skeleton in the cist, not among the latest offerings in the tomb which included the Mainland Popular Group seal CMS I No. 47 from below the later wall in the chamber.

⁷⁶ Younger, Aegean Seals III 62ff. Younger (supra n. 60). The general pose, two animals antithetic and rampant (Younger, Iconography, PT 31) on a structure is found frequently: HMs 138 (Gill, KSPI no number; KN Ws 8498; lions? on in-curved altar); HMs 233/Gill, KSPI R88 (collared lions on in-curved altar, Sun and dots above); HMs 419/Gill, KSPI U107 (lions salient on rocks, all on Shrine); HMs 659/Gill, KSPI U117 (birds flank in-curved altar); HMs 577/AT 49 (lions? on an in-curved altar); cf. HMs 42/KZ 128 (two lions in PT 28B flank a column atop an in-curved altar) and HMs No. unknown/AT 96 (griffins rampant on nothing flank a Papyrus).

There are of course important differences between the two works, but these are few. For the hindlegs, the lentoid gives a fulsome rendering of all three sections, the massive thigh, the strong tibia of the lower leg, and the more delicate upper foot that ends in claws; the relief cuts the hindlegs short, concentrates on a strong thigh, omits a real tibia but marks where it joins the foot (the tarsus) with a pair of 'bracelets', below which there is a short, almost human foot with a high arch and wedges for paws.

The similarities between lentoid and relief, however, are more impressive. Both represent massive but sleek lions with a profiled belly, saphena vein on the hindlegs, and dotted tail tip. In both works the forelegs are rendered with the same conventions: they have a columnar shape with a profile line in back ending at the top with a dot at the elbow; a pair of horizontal 'bracelets' (like those on the relief's hindlegs) effects the joint (carpus) at the wrist.

The saphena vein and the columnar leg with profiling line and elbow dot are common sealstone conventions, especially in seals of the Mycenae-Vapheio Lion Group (e.g., CMS I No. 10) and Almond-Eye Groups (e.g., CMS XII No. 237). But the 'bracelets' at the wrist, articulating the joint are known only on four seals and nowhere else, as far as I know: CMS I Nos. 46 from Mycenae ChT 8 (earliest? phase) and 89 from Mycenae ChT 58, its twin lentoid from recent excavations at Elatia (Alonaki, Phokis; LH I–II context), and Kenna, CS No. 315, a seal found with LM II pottery at Knossos. On these seals, the 'bracelets' complement the extremely formal rendering of the foreleg, while the more expressive hindleg, with its separated femur and tibia, receives dots for the tarsus. On the relief, the hindlegs receive a more meaty treatment, solid and muscled down to the feet; the 'bracelets' that indicate the tarsus joint seem conventional in comparison and out of place there.

These similarities between seals influenced by the Mycenae-Vapheio Lion Group (LM/LH I–II) and the Lion Relief illustrates the latter's dependency on seals, as if the relief were an impression of a seal writ large.⁷⁷ These similarities, too, ought to suggest a contemporaneous date, LM/LH II, for both the Lion Relief and the seals (CMS I No. 46 probably from the earliest use of ChT 8, the Elatia lentoid from a LH I–II context; and Kenna, CS No. 315 from a LM II context at Knossos).

Dating the Lion Relief separately from, and much earlier than, the Gate is not a new idea.⁷⁸ Stanley Casson, on technical grounds, dated the relief earlier than 1400 and the Italian scholar Ferri gave it a date around 1500 B.C., identifying it as the plug to a tholos's relieving triangle.

⁷⁷ P. Åström – B. Blomé, *OpAth* 5, 1965, 159ff. give a detailed historiography of the relief (add M.C. Shaw in: *Φύλια Έπη εις Γεώργιον Ε. Μυλωνάν Α* [1986] 108ff.). They see the influence of seals on the relief (p. 188): "The lion relief is to some extent in its clear-cut style a magnified version of the scenes on the gems." They also cite several other scholars who see the same influence, e.g., Persson (p. 170) and Mylonas (pp. 172f.).

⁷⁸ Casson, *The Technique of Early Greek Sculpture* (1933) 30 with n. 3; 33f. (style earlier than 1400 B.C.). Åström – Blomé (supra n. 77) summarize an article by S. Ferri, *RendLinc* VIII, 8.7 (July–October 1954) 410ff.: the relief, datable around 1500 B.C., "once adorned the gate to a tholos above the shaft graves".

CONCLUSIONS

The aesthetics of seals seem always to have turned on their small size, their function, the relation of their subject to the frame, and their duality as intaglio producers of relief. Seals can serve as comparanda in iconographic studies only so far as they present certain set images, motifs, and compositions. But if the influence of seals on the other arts is to be fully appreciated, their unique aspects, as a functional imprinting object and as a sculptural duality (intaglio producers of relief), must be considered. Otherwise, we miss how their early connection with textiles might have provided a source for many early patterns as well as for the administrative practice of stamping; how the need for legible writing might have led to the development of the early figural image; how intaglios as moulds might have led to the emergence of other mould-related objects like repoussé and mould-produced jewelry; how the small size of seals fostered a focus on the isolated image and on the internal balance between composition and field; and how intaglio techniques get imitated in direct relief sculpture.

It is in these terms, therefore, that we can truly appreciate the enormous influence of seals on the other arts; and it is in these terms that seals, though small, were truly a monumental art form.