

KO-RO-NO-WE-SA

Proceedings of the 15th international colloquium on Mycenaean studies, September 2021
edited by J. Bennet, A. Karnava & T. Meißner

Ariadne Supplement Series 5, Rethymno 2024, p. 511-526

© The Faculty of Philosophy of the University of Crete, Greece, and the individual authors

Comparing Cretan Hieroglyphic and Linear A seal stones: a preliminary assessment of forms, materials, sequences, uses

Matilde Civitillo

As is well known, the use of inscribed seals is traditionally considered as one of the most important ‘divides’ between the partially contemporary Cretan Hieroglyphic and Linear A writing traditions and administrations in Protopalatial Crete. Of a total of 331 Cretan Hieroglyphic documents published in *CHIC*, the bulk consists of seals and seal impressions, i.e. 136 seals and 57 seal impressions. An additional 122 documents are written on various clay formats and 16 on other media, a picture not altered by the discoveries of new texts after *CHIC*’s 1996 publication. While seals are distributed across central and north-eastern Crete, most of the other documents come from Knossos, Malia and Petras, and are dated to MMII; in fact, only four seals have been dated to MMIA¹ and few are judged more recent.²

Conversely, the extant Linear A inscriptions, ca. 1400 in *GORILA*, mostly consist of administrative documents that, along with non-administrative ones, were prevalently recovered at Haghia Triada, Zakros and Khania and dated to MMII³ but, especially, LMIB.⁴ Among this documentation, only four more or less dubious seals are listed:⁵ **CR (?) Zg 4**,

¹ #202; #203; #252; #315.

² #134, #138 and #205 are dated to MM II-III; #177 and #204 are dated to LM I.

³ A tablet fragment from the SW House at Knossos (KN 49) and a painted larnax rim from Tholos E at Archanes (ARKH Zc 8).

⁴ Only a few inscriptions can be assigned to LM II, LM IIIA and LM IIIB: ARM Zg 1; KH 94; KH Wc 2117-2118; KH Zc 106; KN Zb 40; KN Ze 16; PO Zg 1.

⁵ Among the seals in the forthcoming *GORILA* supplement, DEL FREO & ZURBACH 2011 deem ARM Zg 1 as very conjectural, and CR (?) Zg 3 possible, but uncertain; CR (?) Zg 4 and KN Zg 55 seem more certain.

KN Zg 55, ARM Zg 1 and CR (?) Zg 3.

This marginal use of seals in Linear A administrative practices and the choice of writing supports different from those selected by Cretan Hieroglyphic users is generally stressed to highlight either the difference between these two writing traditions⁶ or, on the contrary and more recently, to minimize the gap between them. Even if sporadic, in fact, the four mentioned seals would actually demonstrate the use of this scriptorial support in the Linear A writing tradition.⁷ In this scenario, therefore, we think that an assessment and a more in-depth analysis of this issue is necessary. Even if Linear A seals have been periodically listed by Jean-Pierre Olivier and Maurizio Del Freo⁸ and, in two cases, have been the subject of more detailed papers,⁹ no specific study has been carried out with the aim of an overall analysis of these objects, neither on their own nor in comparison with Cretan Hieroglyphic seals. Notwithstanding the extremely poor documentation we have, it would, in fact, be of interest to examine both their textual contents and palaeographic peculiarities and all the ‘external factors’ attached to them. In our opinion, the concomitant evaluation of these elements is a key factor for the understanding of any writing act in any writing system.

Therefore, in what follows, we will try to make an analysis of the aforementioned Linear A seals: the forms and materials used for their manufacture, the typology of signs and sequences inscribed, the formatting of the texts on their surfaces and their possible uses in the administration. We will then compare all these elements with the Cretan Hieroglyphic seal material, with the aim to begin assessing their interpretation in a more structured frame of reference.

Analysis of the seals

The first seal that we will analyse, **CR (?) Zg 4** (Fig. 1.1), is a slightly convex spool of unknown provenance.¹⁰ Its first editor Victor Kenna assigned it to MM IIIB/LM IA,¹¹ while Maria Anastasiadou convinc-

⁶ OLIVIER 2010, 291; PERNA 2016, 96.

⁷ ANASTASIADOU 2016; DEL FREO 2005, 664; GODART 1999.

⁸ OLIVIER 2010; *Rapport* 1991-1995; *Rapport* 1996-2000; *Rapport* 2006-2010; *Rapport* 2011-2015.

⁹ PERNA 2014; 2019.

¹⁰ CMS XII, no. 96.

¹¹ CMS XII, 162-163, no. 96; KENNA 1963, 4, Fig. 2.d-f; 1964: 9, *sub* MMNY 26.31.158, Pls. I.26, 2.12 and 3.21.

ingly proposes a MM IB/II date, based on the contextualization of its form and material (chlorite, not serpentine as reported by Kenna) in the broader production of Minoan glyptics.¹² These two elements suggest this seal comes from south-central Crete, where round-faced black chlorite seals were very commonly produced in the early Protopalatial period and reels were frequent.¹³ The seal is engraved on both sides, divided into two registers. On face *a*,¹⁴ in the lower register, a papyrus flower is incised and, in the top register, there are three signs of writing. On face *b*, the upper register presents an architectural motive and the lower one three signs. Architectural (or tectonic) motives¹⁵ are technical virtuosités firmly belonging to MM II-III glyptic production, well-established in hard stone and emulated by soft stone engravers. The date of their inception is provided by seal impressions from *Vano 25* at Phaiastos, with a *terminus post quem non* of MM IIB. Geographically, seals with these motives come in similar quantities from central and eastern (but not from northern) Crete. The sign sequences incised on the two seal faces were first interpreted as Linear A signs by Kenna,¹⁶ Raison and Pope (*sub* KT[?] Z 2),¹⁷ and John Younger,¹⁸ but Louis Godart and Olivier did not include the seal in *GORILA* since they judged it as bearing a pseudo-inscription.¹⁹

However, the seal has been recently re-admitted among Linear A inscriptions by Del Frio,²⁰ following a new examination by Massimo Perna in 2010.²¹ Hence, the sequences written on the seal's two faces must be read (using, for ease of presentation, Linear B phonetic values) as follows: *a*. AB 28-01-01 (I-DA-DA), hapax; *b*. AB 08-02-04 (A-RO-TE), hapax, both intended to have been readable on impressions of the seal. The only perplexity lies in the identification of the sign AB 02 on face *b*, rendered

¹² ANASTASIADOU 2016, 176; cf. 63-67, 167.

¹³ ANASTASIADOU 2011, 120-37; 2016: 167 n. 59.

¹⁴ PERNA 2014, 256-257, adopts an inverse numbering of seal faces with respect to *CMS*, *Rapport* 2006-2010, 14-15, and *Rapport* 2011-2015, 17-18.

¹⁵ KRZYSZKOWSKA 2005, 86-87; 132.

¹⁶ *CMS* XII, 162-163.

¹⁷ RAISON & POPE 1994.

¹⁸ Linear A inscriptions, YOUNGER [last accessed 11/11/2022].

¹⁹ *GORILA* IV, xxi; for a more positive position: OLIVIER 2010, 291, n. 16.

²⁰ Cf. DEL FRIO & ZURBACH 2011, 86, n. 42-43; *Rapport* 2006-2010, 14-15; *Rapport* 2011-2015, 17-18.

²¹ PERNA 2014, 256-257.


















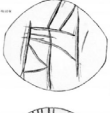



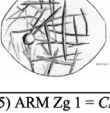
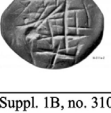





1) CR (?) Zg 4 = CMS XII, 96					Find place and dating: Find place unknown; MM II
					Form: Spool, slightly convex
a					Material and technique: Black chlorite; scraped, cut
					Inscription: a. AB 28-01-01 b. AB 08-02-04
b					Museum: New York, USA, Metropolitan Museum of Art, inv. n.º. 26.31.158, Seager collection
					Dimensions: length: 1.45, width: 1.45, thickness: 1.15
2) KN Zg 55 = CMS II.2 no. 213					Find place and dating: Knossos, temenos; MM II-MM III?
					Form: Discoid, biconvex
a					Material and technique: Black chlorite; scraped
					Inscription: b. AB 57-31-57
b					Museum: Heraklion Museum, inv. n.º. HM 621
					Dimensions: length: 1.4, width: 1.4; thickness: 0.6
3) CMS VII no. 31					Find place and dating: provenance unknown; MM II?
					Form: Pierce-grip seal
					Material and technique: Chlorite (Anastasiadou 2016: 176); scraped, drilled
					Inscription: AB 08-31 (Anastasiadou 2016, 178); Cretan Hieroglyphic? (Perna 2019)
					Museum: British Museum, inv. n.º. 1947.9-26.13
					Dimensions: length: 1.7, width: 1.6; thickness: 0.8
4) CR (?) Zg 3 = CMS XI, no. 311					Find place and dating: Provenance and dating unknown
					Form: Amygdaloid seal
a					Material and technique: White limestone; scraped?
					Inscription: a. A 131c + AB 60 b. AB 30
b					Museum: Ermitage Museum, inv. n.º. 511; acquired in 1865, Collection Ross
					Dimensions: length: 1.75, width: 1.55; thickness: 0.8
5) ARM Zg 1 = CMS V Suppl. 1B, no. 310					Find place and dating: Armeni, Necropole. Tholos tomb no. 200; Context dating: LM II-LM IIIA2; Stylistic dating: MM I?
					Form: Pendant, cono-pyramidoid; green steatite
					Material and technique: Green steatite; filed, drilled
					Inscription: A 606
					Museum: Rethymno museum inv. n.º. Σ 179
					Dimensions: length: 1.3, width: 0.91; thickness: 1.11

Fig. 1. Linear A seals (drawings and photographs, courtesy of CMS-Heidelberg).

more like a star than a cross, but, as Del Freo observes,²² the ductus of this sign could have been influenced by the rhomboids on the upper register as well as by the preceding sign AB 08. The sequence on face *a*, AB 28-01-01 (I-DA-DA), is perhaps not an hapax *stricto sensu*, being related to the word AB 28-01 (I-DA), recurrent with other derivatives on clay tablets, libation tables and gold artefacts. The connection of this sequence with the (or with a) toponym *Ida* seems to be suggested by its contextual attestation on clay tablets, where, in at least one case (ZA 24a.1) it seems interpretable as a place name, as well as by its position on Minoan ‘libation formula’ (on IO Za 2.2; KO Za 1b-c; SY Za 1). From a palaeographic point of view Perna observes that the most interesting parallels for signs 08, 04 and 28 are to be found on stone libation tables from Mont Iouktas (Fig. 2),²³ generally ascribable to a MM III-LM I horizon. Based on these parallels, therefore, Del Freo suggests that «il est donc possible que l’origine du sceau soit à chercher dans la région de Cnossos.»²⁴
















	AB 04 (𐀔)								
		-	-	-	-	-	-	-	-
CR Zg 4.b	IO Za 2	IO Za 3	IO Za 5	IO Za 6	IO Za 7	IO Za 8	IO Za 11	IO Za 13	
	AB 08 (𐀘)								
			-	-			-	-	-
CR Zg 4.b	IO Za 2	IO Za 3	IO Za 5	IO Za 6	IO Za 7	IO Za 8	IO Za 11	IO Za 13	
	AB 28 (𐀙)								
						-			
CR Zg 4.a	IO Za 2	IO Za 3	IO Za 5	IO Za 6	IO Za 7	IO Za 8	IO Za 11	IO Za 13	

Fig. 2. Palaeographic variations of signs AB 04, 04 and 028 in Iouktas inscriptions (after KARETSOU *et al.* 1985).

However, these resemblances should perhaps not be understood as a precise correspondence among our seal and the Iouktas inscriptions. Linear A signs appearing on these libation tablets, in fact, show a certain degree of internal graphic variability, in contrast to some recurrent, technical peculiarities of execution. Moreover, the most common (but not mandatory) characteristic in the rendering of AB 028 on the Iouktas attestations, consisting in the central part of the sign drawn as a circle

²² Rapport 2006-2010, 15.

²³ PERNA 2014, 257.

²⁴ Rapport 2006-2010, 15.

and not as a horizontal trait,²⁵ does not seem to compare to its ductus on **CR (?) Zg 4**. In addition, the differences in the size of the tools used for engraving inscriptions on stone libation tables and on (very small) seal stones cannot but have had an impact in the rendering of the written signs, preventing an automatic comparison among signs engraved on different supports. The similarities evoked by Del Freo and Perna, therefore, could be perhaps more broadly attributed to the very accurate rendering of Linear A signs on a stone seal, with strong symbolic value. Consequently, there seems to be no reason to discard a dating hypothesis for our seal to MM II and a provenance from central Crete. However, given the absence of any contextual, chronological and provenance indication for **CR (?) Zg 4**, all comments should be understood as conjectural.

Our second Linear A seal, **KN Zg 55** (Fig. 1.2),²⁶ again in black chlorite, with round faces (a biconvex discoid) and manufactured with the same technique as **CR (?) Zg 4**, is assigned to a MM II-III date. We have already seen the circulation of chlorite seals in Protopalatial south-central Crete; as for the seal form, biconvex discoids are the MM II-III shape *par excellence*. On face *a*, the seal carries a boar's head surmounted by a dagger, while on face *b* three script signs are incised. Since on face *b* the signs are to be read as AB 57-31-57 (JA-SA-JA), an hapax, the hypothesis suggested by Younger is intriguing, even if not provable: he interprets the sequence as a palindromic abbreviation of AB 57-31-31-60-13 (JA-SA-SA-RA-ME), i.e. the already mentioned 'libation formula'.²⁷ On Linear A libation tables this sequence is attested, along with its variant AB 08-31-31-60-13 (A-SA-SA-RA-ME),²⁸ as a middle component in the *formule principale* and as a final component in the *formule secondaire*,²⁹ and also recurs on an altar fragment (**IO Zb 10**), on ritual vessels (**PK Za 4**; **IO Za 6**; **TL Za 1b**), on a silver pin (**PL Zf 1**) and on a clay figurine (**PO Zg 1**). However, the first part is never attested alone in Linear A, while the Cretan Hieroglyphic sequence A-SA (042-019) – its possible

²⁵ KARETSOU *et al.* 1985, 118, 125-126.

²⁶ *CHIC* 12, n. 17; *CMS* II.2, no. 213; cf. DEL FREO & ZURBACH 2011, 89; MATZ 1928, 14, *sub* E 132; OLIVIER 2010, 291 n. 16; XANTHOUDIDIS 1907, 164 no. 40 and Pl. 6; YOUNGER 1996-1997, 385.

²⁷ Linear A inscriptions, YOUNGER [last accessed 11/11/2022].

²⁸ AB 08-31-31-60-13 (A-SA-SA-RA-ME): **PK Za 11b-c**; **PR Za 1c**; AB 57-31-31-60-13 (JA-SA-SA-RA-ME): **IO Za 9**, **Za 12**, **Za 16**; **PK Za 14a-b**; **PS Za 2.2**.

²⁹ KARETSOU *et al.* 1985, 134.

but debated ‘counterpart’ in the Cretan Hieroglyphic writing system – is known from some impressions (**#134-137bis**). That the first part of the inscription is an independent word in the Cretan Hieroglyphic documentation³⁰ seems to be sufficiently proved not only by the previously mentioned impressions, but also by its possible ‘inflected’ form (042-019-031) with syllabogram 031 in final position, a sign also used in the formation of other inflected ‘words.’³¹ This sequence is always attested on Cretan Hieroglyphic seal forms different to the more frequent prisms (engraved with at least a ‘formula’) or *Petschafte* (most inscribed with hapax sign-groups). If Younger’s hypothesis were confirmed, it would be interesting that, even in a different writing tradition (Linear A), this inscription was engraved on selected (two-faced) seal forms. It may be perhaps not by chance that, searching for formal comparanda for **KN Zg 55**, the only two discoids in the entire Cretan Hieroglyphic corpus are **#202** and **#203**, inscribed with the ‘Archanes inscription’. However, unlike **KN Zg 55** (if written with the first part of the ‘Archanes inscription’ in the form JA-SA), Cretan Hieroglyphic seals bearing this sequence were always inscribed with the entire inscription, which is regularly written on two different sides of the seal (**#202-#203**; **#251-#252**; **#292**; **#313**; **#315**), or split in two registers on the same seal face (**#205**; **#179**). Finally, a connection with ritual contexts for Cretan Hieroglyphic seals inscribed with this sequence cannot be excluded³² and, in the case of **KN Zg 55**, it could be enhanced by the boar’s head surmounted by a dagger, that could allude to the sphere of sacrifice, as seems to be suggested by same motive incised on a dagger found at the Anemospilia sanctuary.³³ However, in the absence of any comparison, Younger’s hypothesis must be considered as a suggestion and the sequence AB 57-31-57 (JA-SA-JA) could be just an hapax.

The discussion on the recurrence of the A-SA-SA-RA-NE/ME sequence in the Cretan Hieroglyphic and Linear A relates to another seal recently interpreted by Anastasiadou as having been written in this latter script.³⁴ This is CMS VII, no. 31 (Fig. 1.3), a chlorite (?) pierce-grip

³⁰ KARNAVA 2000, 197.

³¹ 036-092/036-092-031; 038-10/038-010-031; 047-070 ></047-070-031; 076-013/076-013-031 ><.

³² CIVITILLO 2016; cf. WEINGARTEN 1995, 303.

³³ SAKELLARAKIS & SAPOUNA-SAKELLARAKI 1997, 137-156.

³⁴ ANASTASIADOU 2016, 178, 179, Fig. 12.c.

seal of unknown provenance stylistically dated to MM II.³⁵ If written in Linear A, the two-sign sequence it bears would be legible as AB 08-31 (A-SA). However, Perna has recently suggested that the seal is written, instead, in the Cretan Hieroglyphic script; in this case, the two signs it bears, readable on the cast, would be 042-019 (again, A-SA). In order to prove his hypothesis, Perna focuses on the presence of a dot at the lower end of the central bar of 042,³⁶ and highlights palaeographic parallels with a three-sided prism from Andromili (#293.γ) for sign 042 and with a disc from Archanes (#202.β) for 019 (Fig. 3).



Fig. 3. Signs 042 and 019 in #293.γ, #202.α and CMS VII, no. 3 (#293, #202 and CMS VII, no. 31 are courtesy of CMS-Heidelberg; the drawing of #068 is courtesy of L. Godart).

But, in our opinion, if written in the Cretan Hieroglyphic, the sign 042 on CMS VII, no. 31 seems not have been ‘canonically’ carved. In fact, examining its all attestations (Fig. 4), it can be observed that the contour of the two opposite blades of the double axe is always rendered with two triangles facing each other, except once in #068r.A recovered in Knossos. The latter is considered a very dubious Cretan Hieroglyphic tablet because of the unusual appearance of signs on its surface:³⁷ in fact, this is the only instance in the entire Cretan Hieroglyphic corpus of 042 (used as logogram, *175) written in a form very close to its Linear A counterpart (AB 08). Therefore, we wonder if its occurrence on our seal should be interpreted as a second exceptional rendering of the sign, or if the seal itself could be preferably attributed to this very writing tradition. Furthermore, it is uncertain whether the small globular depression at the lower end of the vertical bar of the double axe was conceived as a distinctive trait of the sign itself or was a part of the decoration (comprising six dots) of the seal surface.

³⁵ CMS VII, no. 60.

³⁶ PERNA 2019, 51.

³⁷ CHIC, 18; KARNAVA 2000, 154-155.

However, even if we posit that CMS VII, no. 31 is written in Linear A, it remains quite an odd document. In fact, the general presentation of the inscription fits better the picture we can reconstruct for Cretan Hieroglyphic seals, where the sign alignment and the orientation is marked by a great variability. Moreover, it is a peculiar feature of Cretan Hieroglyphic seal inscriptions to be accompanied by filling motives, like the six dots we have seen. But, if written in Cretan Hieroglyphic script, the text on our seal would be the only instance of the attestation of the sequence 042-019 alone on a signet ring; in fact, as we have stressed above, taking apart a cylinder (#201), the so-called ‘Archanes inscription’ only recurs on seals with at least two faces. Signet rings, for their part, firmly established in the Cretan Hieroglyphic repertoire, are inscribed 12 times with hapax sign-groups (#182-#193, P.TSK06/145),³⁸ in just one case with a sequence attested on other documents (#197), in five cases with a ‘formula’ (#181; #188; #194-#195) and once with a ‘formula’ plus an hapax (#180), but never with the ‘Archanes inscription.’ Moreover, chlorite is, to date, unknown among Cretan Hieroglyphic seals production.

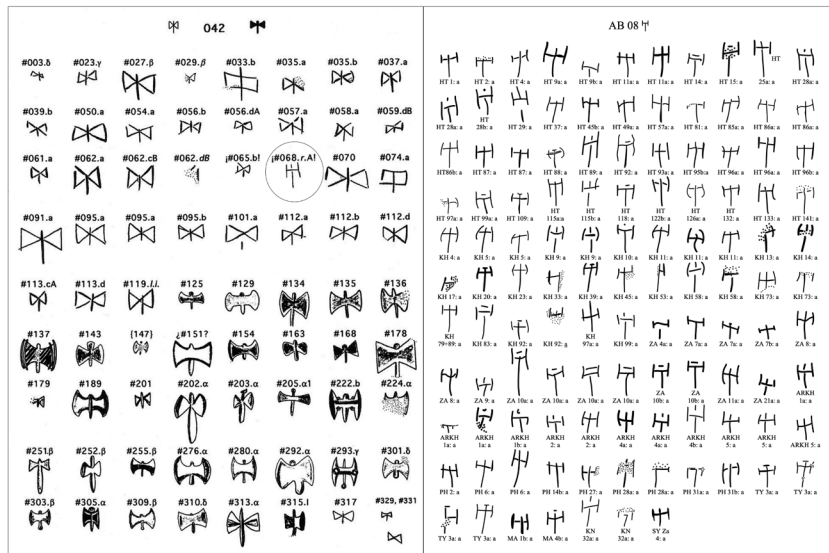


Fig. 4. Cretan Hieroglyphic sign 042 and AB 08 (drawings of sign AB 08 are from the SigLA database (SALGARELLA & CASTELLAN 2020; <https://sigla.phis.me/index.html>).

³⁸ KRZYSZKOWSKA 2012, 148-150, Fig. 4.

Therefore, we may conclude that CMS VII, no. 31 is a decidedly uncanonical seal, mixing some decisive features typical of Linear A (the ductus of the first sign) with some peculiarities of the Cretan Hieroglyphic writing tradition, like the presence of decorative fillers and the graphic arrangement of the inscription.

The next Linear A seal, **CR (?) Zg 3** (Fig. 1.4),³⁹ is of unknown provenance and dating and is a limestone amygdaloid seal, a form that appears for the first time in Protopalatial Crete (cf. #204). It was first published in CMS as engraved with linear motifs,⁴⁰ but Olivier cautiously interpreted it as written in Linear A.⁴¹ In fact, face β was judged to have been inscribed with a variant of AB 131 VIN, i.e. A 131c in ligature with A 60, that in the forms A 594 and A 595 surmounts the logogram (cf. ZA 6b.2; ZA 15b.3 and A 595). Face α «pourrait évoquer le logogramme FIG des écritures crétoises (*155, AB 30)». Olivier proposes an interesting parallel between this seal and #206, an agate (or onyx) cushion seal carved with the same logograms as **CR (?) Zg 3**. A more general problem arises about the function and the use of seals written with logograms, very rarely attested in the Cretan Hieroglyphic seal corpus. Probably, the bureaucratic function of a Cretan Hieroglyphic seal would have been to ‘authenticate’⁴² an economic transaction with the impression of the name and/or the title of its owner and/or a series of administrative ‘formulae’ (from one up to four). In this sense, Hieroglyphic seals seem to have a ‘universal’ use, not being connected with a specific product, but able to be used for different transactions connected to a variety of subjects. On the contrary, the presence of a logogram on a seal surface seems to limit its use to the specific product indicated on its face. On Cretan Hieroglyphic seals logograms appear in two contexts: on standard prisms, in direct (#145; #274.a) or indirect (#305.δ) association with ‘formulae’, or on seals with peculiar form and text formatting (#206; #291), where they are attested with klasmatograms and seem interchangeable with the ‘Archanes inscription’⁴³ (#292; KN S (4/4) 01) (Fig. 5).

³⁹ CMS XI, no. 311.

⁴⁰ CMS XI, no. 326.

⁴¹ OLIVIER 2010, 291, n. 16; *Rapport* 1991-1995, 423.

⁴² YOUNGER 1996-1997, 391-392.

⁴³ Cf. the alternation in the Minoan ‘libation formula’, of the word A-SA-SA-RA-ME with logogram OLIV in SY Za 2.

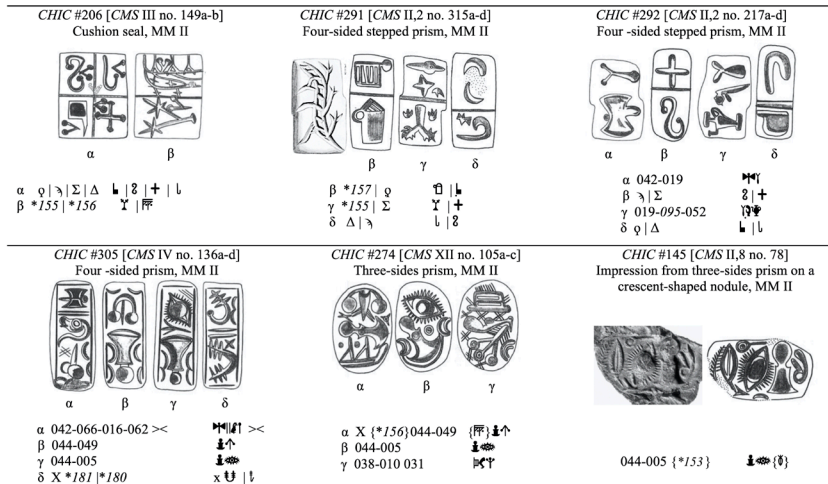


Fig. 5. Logograms and klasmatograms on Cretan Hieroglyphic seals (drawings and photographs after CHIC; courtesy of L. Godart).

It seems evident that this recurrent association of logograms and klasmatograms with seals with a peculiar form (stepped prisms, with a sign for each ‘step’: #291-#292) is hardly a coincidence, nor it is a coincidence that, when recurring on other seal types with flat surfaces, these signs are engraved in precisely delimited registers (#206; KN S (4/4) 01). Therefore, having these special and recurrent associations in mind, we could venture to suggest that if the bulk of Cretan Hieroglyphic seals were meant to ‘authenticate,’ ‘certify’ etc. a transaction, the few seals we are examining could have been possibly meant for ‘counting’ something, with klasmatograms used not as ‘decorations,’ as supposed by CHIC editors, but for their mathematic function. As the parallels discussed above show, this ‘something’ could have been the quantities of products indicated by logograms or, when these latter were absent, the object of A-SA-SA-RA-NE/ME,⁴⁴ indicating perhaps the act of offering or the offered object,⁴⁵ i.e. something that could have been counted in specific fractions of a given amount. So, it is interesting to observe,

⁴⁴ This sequence is associated with numerals and fractions also in the Mikro Vouni dome nodulus SA Wa I, that has a face impressed by a Cretan Hieroglyphic cushion seal with the first part of the ‘Archanes formula’ (#137 = CMS VS 1B, no. 327) and the second incised with three Linear A signs: the numeral ‘10,’ the fraction A 708 and the sign AB 04, possibly used as countermark: MATSAS 1995, 240-241, Pl. XXXVIIa-c.

⁴⁵ CIVITILLO 2016, with previous bibliography.

among Linear A seals, the presence of this ‘minoritarian’ typology of seals with logograms, already known in the Cretan Hieroglyphic corpus but using different seal forms, text formatting and sign associations – on Linear A seals, logograms appear alone. In fact, another logogram would be attested on the last seal we are dealing with, **ARM Zg 1**⁴⁶ (Fig. 1.5),⁴⁷ a green steatite cono-pyramidoid seal stylistically dated to MM I, but found in a LM II-LM IIIA2 context, thus possibly an heirloom. The seal is deemed as very conjectural by Del Freo and Zurbach,⁴⁸ and Perna,⁴⁹ but Olivier⁵⁰ identifies signs A301+311 on its surface, forming the logogram A 606, attested nine times on the roundels from Chania (**KH Wc 2046-2053; 2113**). Even if the disposition of the signs is different, according to Olivier one can be sure of the rapprochement; however, the reading is conjectural.

Discussion

For Cretan Hieroglyphic seals, despite the limitations of our documentation, a series of consistent and recurring choices can be detected in the selection of seal materials and formats, in the internal syntagmatic, orientation and directionality of the inscriptions they bear, all related with different textual contents.⁵¹ In many of these semiologically significant features, the seals we reviewed here seem to be different in many respects from their Cretan Hieroglyphic counterparts. For instance, regarding forms, documents with one or two circular inscribed surfaces are the rule, while the most used forms for Cretan Hieroglyphic seals are, instead, 3- and 4-sided prisms (more than 100), *Petshafte* (14), and a dozen of other 1- or 2-sided seals. Only two seal form matches the two repertoires, discoids (*supra*) and the amygdaloid seal **CR (?) Zg 3**, comparable with #204, made of soft stone as well (serpentine), inscribed on one face (or two?) and possibly dating to LM I. As to materials, the seals examined are all made of soft materials and, as for the execution techniques, they are drilled, scraped and cut. Particularly interesting is **CR (?) Zg 4**; in fact, on a total of the 136 Cretan Hieroglyphic seals published in *CHIC* not one is made of chlorite and reels are completely

⁴⁶ OLIVIER 2010, 291 n. 16; *Rapport* 1991-1995, 422-423; *Rapport* 1996-2000, 189.

⁴⁷ CMS VS 1B, no. 310.

⁴⁸ DEL FREO & ZURBACH 2011, 86.

⁴⁹ PERNA 2014, 256.

⁵⁰ OLIVIER 2010, 291 n. 16; *Rapport* 1991-1995, 422-423 and n. 19.

⁵¹ CIVITILLO 2021.

unknown, pointing perhaps to a distinct writing tradition and maybe to a different use of this typology of seals. On the other hand, if **KN Zg 55** is inscribed with the first part of the 'Archanes inscription,' it is interesting to note that this sequence is inscribed on discoid seals in the Cretan Hieroglyphic repertory as well, perhaps pointing to the conservation of some seal forms for specific textual contents (and uses?). As for textual contents, Linear A seals include one or two hapax (A-RO-TE on **CR (?) Zg 4.b** and JA-SA-JA in **KN Zg 55**), a likely derivative of a toponym – in any case identifiable on Cretan Hieroglyphic seals – already attested in Linear A documentation (I-DA-DA in **CR (?) Zg 4.a**), the first part of the 'Archanes inscription' (certainly on *CMS VII*, no. 31, if inscribed in Linear A) and logograms – rarely attested on Cretan Hieroglyphic glyptics – (in **CR (?) Zg 3** and perhaps in **ARM Zg 1**). As to the formatting of the texts, except *CMS VII*, no. 31, they are characterized by greater regularity in their general appearance than Cretan Hieroglyphic seals: in fact, they tend to develop in a linear configuration even when they recur on circular surfaces (cf., for instance, **CR (?) Zg 4**). In some cases, Linear A signs are accompanied, on seals, by decorative fillers (*CMS VII*, no. 31), more complex motives (**CR (?) Zg 4**, side a and b) and by a boar head surmounted by a dagger (**KN Zg 55**, side a). Except in *CMS VII*, no. 31, these are not directly associated with the text (as often on Cretan Hieroglyphic seals) but are engraved on another seal face or inserted in delimited registers. The dating of most Linear A seals, MM II or II-III (**CR (?) Zg 4**; **KN Zg 55**; *CMS VII*; no. 31), is contemporary to the use of seals in Cretan Hieroglyphic administration. **ARM Zg 1** (if it bears script signs) is dated to MM I and no dating is proposed for **CR (?) Zg 3**. As for their network of circulation, the exact provenance is only known for **ARM Zg 1**, namely tomb no. 200 of the necropolis at Armenoi. As for their use, given that the texts they bear were intended to be read on the cast (except **KN Zg 55**), an administrative use through impression can be envisaged, but also a use as amulets cannot be discarded.

At this point, some questions arise: how to discern site (or area)-specific document formats which may have influenced different writing traditions,⁵² and formats specifically belonging to a particular writing system, with a codified and consistent use in a specific administration?

⁵² We point to the use of some Cretan Hieroglyphic 'tablets' from Malia (**#119**; **#120**) hugely influenced, in respect of their format (thicker than any other tablet) and the way they are written (on three sides), by 4-sided bars, conceivably because of the strong Cretan Hieroglyphic tradition established on this site.

As regards Linear A seals, two scenarios are, in theory, possible: the first is that in some archives where the Cretan Hieroglyphic tradition on seals was very strong (like in northern and eastern Crete) some writers occasionally engraved a few seals in Linear A but giving them, perhaps, uses and functions different (or even inconsistent) from their consolidated uses in Cretan Hieroglyphic. But, to date, we have no evidence of the use of Linear A inscribed seals from eastern Crete and the pertinence to northern Crete of **CR (?) Zg 4** is not at all certain. The second is that, on the contrary, in archives where the Linear A tradition was stronger (like in central Crete), the use of this writing system spread to the glyptic surface as well, with seals receiving codified uses in this specific administration, in part using the same (i.e. amygdaloid and discoid seals) and in part renewing the repertoire of seal forms for different intended purposes; partly by assigning the same contents to seals and partly by adding other word categories (like toponym derivatives). In the first scenario, we could interpret Linear A seals as ‘intrusive’ document formats, very rarely employed (if ever) in this administration. In the second (more probable), instead, we should presume the existence of a Linear A seal documentation with its rules and its codification, very difficult to reconstruct based on the evidence at our disposal but broadly suggested by the preceding discussion on some ‘choices’ that seems to distinguish Linear A seals from their Cretan Hieroglyphic counterpart, even if there may be a series of ‘overlaps’ among these writing traditions (notably, in *CMS VII*, no. 31). This idea could be perhaps further reinforced by the fact that Linear A seals do not seem to be the work of improvisers but are incised by craftsmen well acquainted with engraving script signs. However, in this case we would find ourselves with a quite completely (but selectively) lost written tradition, in contrast with the high number (in respect to other document formats) of Cretan Hieroglyphic seals that have survived. What is certain is that the two writing traditions we are referring to were connected to each other during the Prepalatial period, both in their evolution and in bureaucratic practices, and cannot be considered as two monolithic entities. Therefore, based on the very scanty (and controversial) documentation we have, it does not seem possible to resolve, at present, the problem posed by these seals but, thanks to recent discussions,⁵³ in the wake of which stands the analysis we have tried to offer in this paper, we think that future reflections on this topic can start from a more analytic frame of reference.

⁵³ Cf., for instance, ANASTASIADOU 2016.

Bibliography

- ANASTASIADOU, M. 2011 *The Middle Minoan three-sided soft stone prism. A study of style and iconography*, CMS Beiheft 9.
- ANASTASIADOU, M. 2016 Drawing the line: seals, script and regionalism in Protopalatial Crete, *AJA* 120, 159-193.
- CIVITILLO, M. 2016 La 'formula/iscrizione di Archanes' nel contesto della glittica pre- e proto-palaziale. Un'analisi comparata, *Incidenza dell'antico: dialoghi di storia greca* 14.2, 71-116.
- CIVITILLO, M. 2021 R.E.A.D.I.N.G. Cretan Hieroglyphic inscriptions on seals, *Pasiphae* 15, 83-108.
- DEL FREO, M. 2005 Le scritture egee del II millennio: rassegna dei materiali epigrafici e considerazioni storiche, *MemLinc* 16.4, 633-668.
- DEL FREO, M. & ZURBACH, J. 2011 La préparation d'un supplément au recueil des inscriptions en linéaire A. Observations à partir d'un travail en cours, *BCH* 135, 73-97.
- GODART, M. 1999 L'écriture d'Arkhanes: hiéroglyphique ou linéaire A? In P. P. BETANCOURT, V. KARAGEORGHIS, R. LAFFINEUR, & W.-D. NIEMEIER (eds), *Meletemata. Studies in Aegean archaeology, presented to Malcolm Wiener as he enters his 65th year*, *Aegaeum* 20, 299-302.
- KARETSOU, A., GODART, L. & OLIVIER, J.-P. 1985 Inscriptions en linéaire A du sanctuaire de sommet minoen du mont Iouktas, *Kadmos* 24, 89-147.
- KARNAVA, A. 2000 *The Cretan Hieroglyphic script of the second millennium BC: description, analysis, function and decipherment perspectives*, Unpublished PhD thesis, Université de Bruxelles.
- KENNA, V. E. G. 1963 Seals and script II, *Kadmos* 2, 1-6.
- KENNA, V. E. G. 1964 Cretan and Mycenaean seals in North America, *AJA* 68, 1-12.
- KRZYSZKOWSKA, O. 2005 *Aegean seals. An introduction*.
- KRZYSZKOWSKA, O. 2012 Seals from the Petras cemetery: a preliminary overview. In M. TSIPOPOULOU (ed.), *Petras, Siteia - 25 years of excavations and studies*, 145-160.
- MATSAS, D. 1995 Minoan long-distance trade: a view from the Northern Aegean. In R. LAFFINEUR & W.-D. NIEMEIER (eds), *Politeia. Society and state in the Aegean Bronze Age*, *Aegaeum* 12, 235-247, Pls. XXXIV-XXXVIII.
- MATZ, F. 1928 Die frühkretischen Siegel: eine Untersuchung über das Werden des minoischen Stiles.

- OLIVIER, J.-P. 2010 Les sceaux et scellés inscrits en 'hiéroglyphique' crétois, en linéaire A et en linéaire B en Crète et en Grèce continentale, en chyro-minoen et dans les syllabaires du Ier millénaire à Chypre: un bilan. In W. MÜLLER (ed.), *Die Bedeutung der minoischen und mykenischen Glyptik. VI. Internationales Siegel-Symposium aus Anlass des 50 jährigen Bestehens des CMS, Marburg, 9.-12. October 2008*, CMS Beiheft 8, 287-295.
- PERNA, M. 2014 The birth of administration and writing in Minoan Crete: some thoughts on hieroglyphics and Linear A. In D. NAKASSIS, J. GULIZIO & S. A. JAMES (eds), *KE-RA-ME-JA. Studies presented to Cynthia W. Shelmerdine*, 251-259.
- PERNA, M. 2016 La scrittura lineare A. In *Manuale*, 87-114.
- PERNA, M. 2019 A seal in the British Museum with a Cretan Hieroglyphic inscription (CR (?) S (1/1) 07), *Kadmos* 58, 49-60.
- RAISON, J. & POPE, M. 1980 *Corpus transnuméré du linéaire A*.
- SAKELLARAKIS, Y. & SAPOUNA-SAKELLARAKI, E. 1997 *Archanes: Minoan Crete in a new light I*.
- WEINGARTEN, J. 1995 Sealing studies in the Middle Bronze Age III: the Minoan Hieroglyphic Deposits at Mallia and Knossos. In W. MÜLLER (ed.), *Sceaux minoens et mycéniens. IVe symposium international, 10-12 septembre 1992, Clermont-Ferrand*, CMS Beiheft 5, 285-311.
- XANTHOUDIDIS, S. 1907 Εκ Κρήτης, *AE*, 141-186.
- YOUNGER, J. G. 1996-1997 The Cretan Hieroglyphic script: a review article, *Minos* 31-32, 379-400.