

AEGAEUM 5

Annales d'archéologie égéenne de l'Université de Liège

AEGEAN SEALS, SEALINGS AND ADMINISTRATION

Proceedings of the NEH-Dickson Conference
of the Program in Aegean Scripts and Prehistory
of the Department of Classics, University of Texas at Austin
January 11-13, 1989

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Université de Liège
Histoire de l'art et archéologie de la Grèce antique

1990

ABBREVIATIONS

Bibliographical abbreviations in this volume for the most part follow the conventions of *Studies Chadwick*, 621-625 (especially for references to publications or studies of Mycenaean texts), and *American Journal of Archaeology* 90 :4 (1986) 381-394. Idiosyncratic abbreviations are noted in individual papers. Some common abbreviations that may not be familiar to general readers are :

<i>BCILL</i> :	<i>Bibliothèque des Cahiers de l'Institut de Linguistique de Louvain.</i>
<i>CMS</i> :	<i>Corpus der minoischen und mykenischen Siegel</i> (1964-).
<i>CS</i> :	V.E.G. KENNA, <i>Cretan Seals. With a Catalogue of the Minoan Gems in the Ashmolean Museum</i> (Oxford 1960).
<i>Docs</i> ² :	M. VENTRIS and J. CHADWICK, <i>Documents in Mycenaean Greek</i> (Cambridge 1973) second edition.
<i>ÉtCrét</i> :	<i>Études Crétoises.</i>
<i>GORILA</i> 1-5 :	L. GODART et J.-P. OLIVIER, <i>Recueil des inscriptions en linéaire A</i> (Paris 1976[1], 1979[2], 1976[3], 1982[4], 1985[5]).
<i>MARI</i> :	<i>Mari. Annales de recherches interdisciplinaires.</i>
<i>PCA</i> :	C.W. SHELMEERDINE and T.G. PALAIMA (eds.), <i>Pylos Comes Alive</i> (New York 1984).
<i>PM</i> I-IV :	A.J. EVANS, <i>The Palace of Minos at Knossos</i> , (London 1921[I], 1928[II], 1930[III], 1935[IV]).
<i>Res Mycenaee</i> :	A. HEUBECK und G. NEUMANN (eds.), <i>Res Mycenaee. Akten des VII. Internationalen Mykenologischen Colloquiums in Nürnberg vom 6.-10. April 1981</i> (Göttingen 1983).
<i>SM</i> I :	A.J. EVANS, <i>Scripta Minoa</i> I (Oxford 1909).
<i>Studies Chadwick</i> :	J.T. KILLEN, J.L. MELENA and J.-P. OLIVIER (eds.), <i>Studies in Mycenaean and Classical Greek Presented to John Chadwick</i> (Minos 20-22, Salamanca 1987).
<i>TAPA</i> :	<i>Transactions of the American Philological Association.</i>
<i>TAPS</i> :	<i>Transactions of the American Philosophical Society.</i>
<i>Tractata Mycenaee</i> :	P. ILIEVSKI and L. CREPAJAC (eds.), <i>Tractata Mycenaee. Proceedings of the VIIIth International Colloquium on Mycenaean Studies, held in Ohrid, 15-20 September 1985</i> (Skopje 1987).
<i>TUAS</i> :	P. BETANCOURT (ed.), <i>Temple University Aegean Symposium</i> (Philadelphia 1976-1985).

When they impressed sealings with sealstones, the Mycenaeans in the III B palaces used hard-stone heirlooms, at least a generation old in all cases. Soft-stone seals produced from the middle of the 14th century on, however, were certainly popular amongst the humble; these seals were dedicated in sanctuaries, worn on sea journeys like the one that ended in a wreck off Kaş, and lost in new settlements, like Beşik Tepe in the Troad. But these soft-stone seals were not used sphragistically.

In both Weingarten's periods, therefore, the Minoan of LM I-III A:1 and the Mycenaean of LH III B, people both inside and outside the palaces had access to seals—in this sense, it seems permissible to say that almost everybody had a seal. But the periods differ in the ways the people outside the palaces used seals. In the Minoan period sealings were impressed outside the palaces by both hard- and soft-stone seals. The soft-stone seals are mainly examples of the serpentine Cretan Popular Group, whose examples have been found in large numbers from humble tombs and town sites. We may imagine, therefore, that in the Minoan period a wide range of people participated in the bureaucratic process of sealing, both the palatial administrators with their hard-stone seals and the more humble possessors of soft-stone Cretan Popular Group seals outside the palaces.

By the Mycenaean period, however, only people within the palaces used seals, only occasionally, and only heirloom hard-stone pieces. The rest of the population possessed examples of the Mainland Popular Group of steatite seals with schematic designs but these were apparently never used to impress sealings; instead, these "seals" must have functioned only as items of personal adornment or as amulets.

Thomas G. PALAIMA

The original intention which Erik Hallager, Judith Weingarten and I had when we sat in the Prison of Socrates restaurant in Athens on an evening in early September, 1987 and discussed the possibility of holding such a conference as this was to bring together a critical mass of scholars, representing as wide a range of pertinent specialties and perspectives as possible, who could contribute to a critical discussion of the use of seals and sealings as tools independent of and integrated into the formal administrative bureaucracies which controlled principally economic activities in the various regions of the Aegean (i.e., mainly the Minoan and Mycenaean) world during the Middle and Late Bronze Ages. We drew up the list of topic questions printed in the introduction to this volume. These questions address several obvious problems—and current approaches to solutions of those problems—which confront students of ancient societies, social and economic systems, and the mechanisms developed and used by those systems : (1) origins; (2) attested and inferred applications, overall and by culture and period; (3) transitions and modifications through time and across cultures and regions : identification of their natures and characteristics, and explanation of their causes; (4) the social and economic impacts of the systems and mechanisms, and the conditions under which they worked; (5) comparative perspectives; (6) disappearance and the factors causing it. This volume does not contain anywhere categorical answers, either by general consensus or by individuals, to any of our original questions. Nor does it contain papers or chapters which present definitive answers to any of the six general problems just listed. What can be found in its individual papers, responses, discussion and closing commentaries are new ideas and interpretations—in some cases even important new data—which bring us closer to an understanding of the role of seals and sealings in the Minoan and Mycenaean administrative systems by bringing into clear focus : the complex and subtle problems, new and old; the possibilities for different, often irreconcilable interpretations; and the limitations of data and interpretative methods confronting Aegean and Near Eastern experts alike. Consequently we have more problems and viewpoints to consider than when we began and a much better idea of the challenges facing us.

1a. Joan Aruz has stressed the practical need for standardizing terminology, so that Near Eastern, Egyptian and Aegean scholars interested in seals and administration can speak the same language and thereby avoid confusion in communicating with one another. Judith Weingarten's recent typological classifications of Minoan and Mycenaean sealings can be taken as the Aegean standard. Perhaps we Aegeanists can prevail upon Enrica Fiandra, Bonnie Magness-Gardiner, and Michelle Marcus to develop an illustrated typology of Near Eastern sealings. One need not arrive at identical terms—this is perhaps impossible. But if the practice of all Near Eastern scholars conformed to one standard glossary of terms and that of all Aegeanists to another (Weingarten's), and if these glossaries were published in prominent and readily accessible journals or series, e.g., for the Aegean one of the *CMS* volumes or *Beihefte*, and were then circulated widely as offprints, the dialogue between Near Eastern and Aegean experts could proceed with accurate simultaneous translation. Similar standard "typological glossaries" could be set up for seals (Younger, Pini, Aruz, Marcus) and even written administrative records and documents (Palaima, Olivier, Powell).

1b. Other issues related to terminology arose at many points. Enrica Fiandra and Bonnie Magness-Gardiner debated whether one could differentiate clearly between storerooms which were used for long-term storage and those that were "distributive", sealings from the latter

being directly linked to administration. This led immediately to the question of defining what one meant by "administration", a term whose precise definition is of critical significance in debating the origin of Minoan sealing systems and full-scale regional economic organization. Does Pini's catalogue of pre-palatial seals and sealings in and of itself offer enough evidence for the "systematic and regular application" of seals that most of us would consider "administration" ? I questioned whether one could view the single Myrtos sealing as a "reproducible singleton", i.e., the sole surviving evidence for what might have been a fuller system of seal applications. Certainly one must multiply our surviving Linear A tablet material from major sites like Zakro, Knossos, and even Hagia Triada to get a full picture of how neo-palatial Minoan administration must have worked.

Jean-Claude Poursat's analysis of the proto-palatial hieroglyphic material from Quartier Mu at Mallia led to a similar debate about what materials, inscribed or sealed, one can consider "archival". This problem is especially acute at sites which offer limited data : Hasanlu, Mallia and many later Minoan sites, including the major centers where later habitation often destroyed earlier evidence. In the Mycenaean period, classification of inscriptions from the main palace centers as archives, deposits, bureaus and so on, has been accomplished ⁵. Aravantinos now presents us with an illustration of a collection of sealings from Thebes which, from find circumstances, we would consider a deposit. But their large number and intentional collection might indicate a step taken toward "archival processing".

2. We have all agreed that publication of the backs and sides of sealings is essential to an understanding of their functions. Would it be possible for casts of the backs of Near Eastern sealings to be added to the full collection of Aegean casts housed at the center of CMS in Marburg ? Such a central repository would certainly facilitate future research.

3. Although not part of the brief of this conference, Michelle Marcus's paper and subsequent discussion by Joan Aruz, Bonnie Magness-Gardiner and John Younger have made it clear that differences in seal style (design, iconography and quality) should be taken into consideration. Stylistic elements can be clues to understanding patterns of use, general and particular. This was clear in Marcus's treatment of local vs. Assyrian style seals at Hasanlu. Magness-Gardiner has pointed out that the very quality of seals can be related to the status of the users or owners in highly unpredictable ways. Both Ann Blasingham and Judith Weingarten have used the grouping of seal designs and motifs around particular themes to understand the workings of administrative and social networks in Early through Late Minoan times.

4. A major problem raised in regard to Minoan seal use, particularly within an administrative context and directly related to this last approach, concerned look-alike seals. What defines a look-alike ? To what degree of accuracy must one seal be a copy of another in order to have functioned as a look-alike within Minoan or Mycenaean culture ? Are slight variations in motifs and themes meaningful; and, if so, what purposes do they have ?

An associated problem concerned the degree of legibility required of a seal impression. This came up especially in the case of the Minoan roundels since the technique of impressing seals on the perimeter of a flat clay disc might be thought conducive to producing blurred or distorted images. Recall that on the Minoan counter-inscribed nodules, unlike the Mycenaean, the seal impression is carefully avoided by the inscriber. Still in the Near East where rolled cylinder impressions often overlap and blur one another, as Marvin Powell and Joan Aruz pointed out, it was the symbolic act of making a seal impression—consequently something that

5 J.-P. OLIVIER, *Les Scribes de Cnossos* (Rome 1967) and T.G. PALAIMA, *The Scribes of Pylos* (Rome 1988).

could be done with one's fingernail or the cloth of one's garment—that was particularly important. Erik Hallager indicated that the roundel impressions lose at most 10-20% of the seal image. Many are entirely clear reproductions of the seal designs. Erik Hallager, Malcolm Wiener, and Cynthia Shelmerdine emphasized the limited numbers and specialized natures of sealing transactions in all periods; and I pointed out that, since the official in charge was dealing with a few known craftsmen or tradesmen, it would be an easy matter to summon a particular party, in case any questions or disputes arose, and then to compare his seal impression to the at least 80% legible impressions on the edge of the roundel.

Marvin Powell used the analogy of a modern credit card as a transactional instrument, while I pointed out that illegibility of signatures was no impediment to getting the checks drawn from NEH funds cashed in order to reimburse participants in the conference for travel expenses. According to the arrangement I had made, I simply produced a list of signatures headed by my own and by my bank account number. Thus the bank had no way of checking and no particular desire to check the many signatures of the foreign or American scholars receiving payment. The essential point was that the bank's procedures for signing were followed and that I was a known "transactor" whose signature could be checked in case of any subsequent problems. An elaborate system was in place, and everything was done *pro forma* to satisfy the requirements of this system.

5. We have not reached a consensus about the ultimate origins of Minoan and Mycenaean sealing systems, but that does not mean we should not continue to try. Malcolm Wiener has summarized very well not only the the two major schools of thought : Weingarten's that the earliest Minoan *system* was a fairly direct importation from the Near East; Pini's and Younger's that one can trace antecedents to the Minoan system earlier on Crete and on the mainland which support a hypothesis of internal development within Minoan culture itself; but Wiener has also called to our attention the important historical ramifications of these two lines of interpretation. We might also ask why the Cretans, if using Near Eastern practices as models, did not adopt the cylinder seal as their primary identifying device. Were they already under Egyptian influence which determined their choice of stamp seals ?

6. We must consider the related question of the origins of the writing systems that are used simultaneously with seals and sealings for purposes of administrative control. If the Minoan seal and sealing system is Near Eastern or Near-Eastern-influenced, why does the earliest writing on Minoan seals take a hieroglyphic form and why does writing almost totally occupy the surfaces of such seals, rather than being ancillary or complementary to iconographical representations as in the Near East ? Marvin Powell has proposed that the differences between Near Eastern and Minoan-Mycenaean written administrative systems can be explained by differences in the intensity of settlement, in the very sizes of the respective systems, in the length of time the respective systems had to evolve, in the complexity of scribal hierarchies, and in the degree to which scribes—and written information—became essential to the workings of society as a whole. Here we are reminded once again what relative cultural backwaters the Minoan and Mycenaean societies were.

7. Marvin Powell has also stressed that the highly evolved economic and social systems of the Near East made great use of sealed written records, i.e., what he terms "documents", while the Minoans and Mycenaeans made no use of such documents. This introduces a further problem. There must have been some need, even in what we might consider the more primitive Aegean systems, for something equivalent to "documents". It hardly seems likely that such texts would have been kept exclusively on perishable materials. What then takes their place ? How are the contractual relationships which we see in Mycenaean tablets and sealings (e.g., the

land disputes in the Pylos E- series and the *o-pa*, *a-pu-do-si*, and *qe-te-o* transactions in Aravantinos's Thebes sealings—and sealings elsewhere) and perhaps even in Hallager's Minoan roundels made and kept valid ?

8. Such concerns led immediately to a related question : to what extent did the ownership and use of seals permeate Minoan and Mycenaean societies ? Who would have owned seals ? How were they distributed ? What were the rights and obligations connected with seal ownership and use ? Here Aegeanists are again in a worse position, because no readable texts discuss such matters, and all non-hieroglyphic seals known to be of the Minoan and Mycenaean palatial periods are uninscribed ⁶. John Younger, estimating from the number of finds, their distribution, and probable population figures, adopts the extreme view that almost all Minoans and Mycenaeans would have owned seals ⁷. If so, how were they used at each stratum of society ? We should rightly ask whether there was not some cut-off point in social or legal or economic status below which seals would not have been used. In the Near East some slaves had seals, but only because they belonged to an upper economic class. Marvin Powell emphasized that in the Ur III period, as well as at other times in Near Eastern history, palace centers should be conceived of as large urban centers. The population of these centers stood in contrast with the broader, for the most part anonymous populations in the countryside and in smaller settlements along rivers and land routes. In his view those people who receive the barest mention in any records at all belonged to an elite stratum of society, perhaps the upper 10%.

I emphasized that the same must hold true for Mycenaean society. Again the number of individuals mentioned in the fairly complete archives from destruction levels of sites like Pylos and Knossos must represent only a fraction of the overall population. Even if we reasonably multiply the number of individuals mentioned to take into account the certain fact that at other periods of the administrative year the central administration would have compiled information about other facets of the overall economy, we would still arrive at a small percentage figure. It is hard for me to imagine that the labor force of women receiving rations in the A- series at Pylos or employed in regional cloth workshops in the L- series at Knossos would have owned and used seals. They would never come into the higher or more complicated levels of the economic system that required the use of these devices. Moreover Shelmerdine pointed out that one must take into consideration the decline in seal manufacture in the Mycenaean period at a time of increasing population as a reflection of the fact that only a limited percentage of people used seals. She also pointed out that the tomb finds of the III A period indicate a pattern of concentration of several seals in wealthy burials only. This would seem to bear out a pattern of use restricted to the upper strata of society. Exactly how those strata were determined is a broader question.

Finally here again Aegeanists must admit that the paucity of our written documentation leaves us ignorant, even for the Mycenaean period, of the principles or applications of law and of the fine grades of official, social and economic stratification so much better attested in the Near East. Therefore, we are at the mercy of the limited physical data available in reconstructing the range of uses for seals. We have nothing like the Old Assyrian caravan texts which mention the sealing of bags of tin, silver and gold. Nor do we have texts of sealed receipts and disbursements, labor contracts, loans and gifts, donations and offerings to temples, and so on. Of course, it is sobering to contrast the 25,000 documents from a 30-year span in Ur III with

6 CMS V, no. 415 and CMS II, 2, no. 213, are the only seals known to me which have non-hieroglyphic writing on them. The first is from an LH III C context; the second is a chance find.

7 For example, for the Late Bronze Age we have extant over 4000 seals and some 500 sealings, and we have at most three seals used to to impress any of the sealings.

the fewer than 7,000 texts total from all Minoan and Mycenaean sites during the second millennium B.C.

Yet we must not let our new-found sobriety bring with it an intimidating pessimism. Because of the restricted numbers of the Aegean data, they are published and studied comprehensively and exhaustively. Thus we have for nearly all clay records and sealings the kind of knowledge about find contexts and physical characteristics which Fiandra decries as missing for the Near East, where sealings have often been published with little reference to exact find-spots or their relationships to one another. For all the major Mycenaean centers we have full treatments of the tablet-writing bureaucracies. Louis Godart's palaeographical studies in *GORILA 5*, as Erik Hallager's study of the roundels has illustrated, now ushers in an age when similar work can be done for the Minoan centers.

9. Another crucial issue is the original interaction between formal writing and seals and sealings in the earliest phase of Minoan administration. Jean-Pierre Olivier's study of the hieroglyphic seals introduces immediately the problem of the tension between what I call "lexical information", i.e., the message conveyed by the formal inscription on a seal, and what John Younger and Michelle Marcus would term "aesthetic or stylistic messages", i.e., the information conveyed by pictorial designs, iconographical conventions, and even by the shapes and materials of the seals themselves. The Cretan hieroglyphic seals form a special and rather short-lived class of devices. Why were they ever invented? What purposes did such "lexically oriented" seals perform in contrast to "iconographical" seals? I would tend to see several of the seemingly decorative or iconographical motifs on hieroglyphic seals as nascent hieroglyphic signs, but it is perhaps impossible to explain all such signs that way. The extremist view, of course, is Olivier's: the hieroglyphic signs on many of these seals are not real inscriptions *stricto sensu*.

Jean-Pierre Olivier has also pointed out that the recurrence of sign groups on the separate class of hieroglyphic seals and their impressed sealings (and in some cases even on clay inscriptions) suggests some sort of institutional koine in the proto-palatial period. He proposes "palace" or "temple" and hints that this evidence may imply the existence of one central controlling authority. However a division of authority between such institutions as "palace" and "temple" in the proto-palatial period might also be used to explain the peculiar and separate existence of the hieroglyphic seal and its applications. The disappearance of Cretan hieroglyphic writing and sealing might then be seen as more than a process of administrative transformation, and instead as reflecting a shift in the balance of power among institutions within Minoan society. This gets us dangerously close, however, to viewing Cretan hieroglyphic along Egyptian lines which Jean-Pierre would like to avoid.

10. The next step is to examine how writing and seals are used, once permanently separated from each other. How do formal texts in the Minoan-Mycenaean scripts and devices with images interact through time? Younger would like to see the greatest tension between the two at the end of the Minoan neo-palatial period. He correctly stresses the limitations mere size imposes on the amount of lexical or iconographical information a seal can convey. Perhaps, however, we might also see the LM I B period as the high point of cooperation between the two systems. Obviously each was vital to Minoan economic organization, and we at this time have evidence for the spread of written records into the Cycladic islands where Minoan seal styles had already penetrated. Thus one observes a Minoan-Cycladic-mainland glyptic koine at a time when a relative koine in administration based on both the Linear A script and sealing practices prevailed throughout Crete.

11. A connected question then is how did these devices, procedures, and styles become widespread. What might have been the commonality of interests or conditions that made these types of koine possible ? Precisely why did they exist ? How did regional workshops and regional controlling bureaucracies communicate with one another ?

12. Ingo Pini and John Younger are agreed that there is an abrupt break in seal manufacturing in LM III A:1/LH III A:1. What causes this discontinuity ? Do systems grow so complicated that lexical systems alone can store the information necessary to assure the smooth working of economies and societies ? Or is centralization a key factor ? Written records increase in size, number and efficiency. Certainly after this break sealing is an ancillary practice at best. Yet sealing is well-attested, both independent of and in conjunction with formal writing. This is a supreme paradox. The devices themselves are no longer produced, but their practical applications continue and are obviously used and accepted by the central bureaucratic organizations. Younger points to the disappearance of other specialized crafts : for example, the manufacture of faience and of stone vases. But the Mycenaean palaces certainly had the power, resources and prestige to command all sorts of specialized crafts and industries. There is something very peculiar here.

13. Malcolm Wiener turned our attention to larger historical considerations, which were often neglected because of the specialized interests and concerns of most of the participants. His emphasis on the vital need of the early Cretan palaces to acquire important metals counterbalances my own over-concentration on essential agricultural and other local products. Such activities would certainly have put the Cretan elites in contact with Near Eastern-Syrian systems. Here we might ask what is cart and what is horse in the ability of the fledgling palace centers to conduct trade with and be influenced by Near Eastern societies. Artefactual and documentary evidence for contacts with the Near East, Egypt and Syria can be pushed well back into the third millenium, clearly pre-palatial times ⁸. Might gradual internal evolution have progressed hand in hand with a gradual familiarization with Near Eastern practices ?

14. Wiener properly weighed the pros and cons of the most radical idea advanced at this conference, namely Weingarten's that Crete in LM I B was administered exclusively from four major centers : Khania, Knossos, Hagia Triada and Zakro. In his closing commentary can be found a list of extenuating factors that might cause the current archaeological record on this and other points to be misleading.

We have then at the end of this conference far more questions than when we started, certainly a mark of our collective success.

⁸ L. GODART, "Quelques aspects de la politique extérieure de la Crète minoenne et mycénienne", in *Res Mycenaee* 132-134.