The hieroglyphic archive at Petras, Siteia

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Monographs of the Danish Institute at Athens
Volume 9

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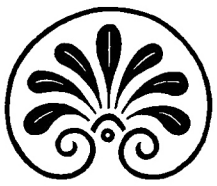

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Preface

The excavation at Petras started in 1985, initally as a small-scale test dig. In the late 1980's it was granted the status of a "systematic research project" by the Hellenic Ministry of Culture. It is a happy coincidence that the 25th anniversary of the excavation and the studies of its finds is marked by the presentation to the scholarly community of this monograph which constitutes the final publication of the hieroglyphic archive that came to light in a MM IIB destruction deposit of the palace of Petras. Ever since my very first visit to the site in 1983, I was, for various reasons – some of them not even conscious – convinced that Petras was hiding much more than its first excavator, R.C. Bosanquet, had thought. Frequently over all these years I asked myself the type of rhetorical question that often tortures archaeologists: what would our knowledge of Minoan archaeology, or at least of Minoan eastern Crete be, had the British archaeologist stayed in Siteia to excavate Petras, at the beginning of the 20th century, instead of moving on to Palaikastro. Would the site today look somewhat like Gournia? I doubt it, as I believe that the urban plan of Petras was different. Yet I will never be able to learn more about it. This is a void, not only for our general knowledge of the Minoan period, but also for my own soul. What I was able to investigate of the Minoan urban settlement during the past 25 years, in the course of the systematic, and also several test excavations, is very fragmentary.

In the last quarter of the 20th century, especially within the framework of the Greek Archaeological Service, it probably would not have been possible to accomplish much more. However, if one were to start the excavation today, the research methods would be superior and many more archaeometric studies would be conducted on various categories of artefacts. Fortunately, the excavation and study of the settlement's cemetery, which started in the 21st century, offer us this opportunity.

During the excavations at Petras I have known moments of incredible happiness as well as experienced emotions that I was not even able to fully understand at the time, on account of the pressing need to continue the work in the best possible way. Since the beginning of my research, I dreamed of finding administrative documents. I have always expressed this wish to Erik Hallager, an old friend, who used to tease me, saying "since you are not personally interested in publishing documents, why do you want them so badly?" Of course he knew very well, as I did, that the documents would provide the necessary proof of the importance of Petras as an administrative centre.

Just after the end of the symposium on the Minoan Villa organised by the Swedish Institute in 1992, I had the opportunity to show Petras to the participants. The excavation of the "central building" on the plateau had just started. The baulks were still in place, but the continuation of the long walls

was very clear in the successive trenches. I was holding my breath, in anticipation of the comments from my much more experienced colleagues. And it was Erik, after me, who first proclaimed, very clearly and loudly, the magic sentence, "You have a central court here!"

The preservation of the palatial building of Petras was less than perfect. It was very close to the surface, on a flat surface. Furthermore, the construction of 33 Byzantine graves had caused serious damage to the Neopalatial walls and architectural features. The whole south part of the palace is not preserved, and we do not have any indication of its original size. The finding of the first Linear A tablet, just below the surface in a disturbed layer containing many Byzantine sherds, in the west part of the building, and soon afterwards of a second one, in the same layer, suggested that the building had a certain administrative function, although it was not possible to establish the exact type of administration they represented. The Linear A tablets constituted important evidence, but they were not sufficient to prove the building's function as the centre of a wider geographic area (constituting what is usually called a "palace"). We will never know whether Petras was equipped with a Linear A archive which was not preserved.

It was several years before I understood the history of the building, and more importantly, before I realised why the "palace" of Petras, although it shared various features with other buildings of this type, still looked somehow atypical. This was mainly due to the Protopalatial core of the building which had been preserved until the final destruction in LM IB. A series of stratigraphical trenches were excavated to investigate the early history of the building and to reveal what had preceded the Neopalatial phases and plans. It was established that the Petras "palace" was a Protopalatial construction, with a long history and various reconstructions and modifications, which in Neopalatial times maintained a highly symbolic character.

The hieroglyphic archive came to light as the result of the stratigraphical trenches. Trench Z1, had already revealed in previous seasons, the two Linear A tablets, in an LM IB destruction level disturbed by Byzantine graves. The same trench contained, in a slightly deeper level, a LM IA destruction deposit with a very large number of conical cups. In order to fully document this LM IA deposit and the dense concentration of pottery, it was excavated in 0.50 × 0.50 squares. After the end of the Neopalatial level we continued excavating in the small squares. This fortuitous coincidence helped us to notice immediately the particularly fragile hieroglyphic documents. A second happy coincidence was that the very first document that came to light was the clay bar **PE Hh 016**. Even an inexperienced person would not have overlooked it. I was conducting the excavation in the area, with the valued assistance of Dr Michael Wedde, and the very experienced foreman of the Petras excavation Mr Pandelis Kampanos. Soon after finding the first hieroglyphic tablet, I called Erik (and this was before mobile phones), who arrived at Petras before the end of that day's work. At the same time Alekos Nikakis, the very experienced conservator of the 24th Ephorate of Prehistoric and Classical Antiquities came from Aghios Nikolaos to Siteia to assist with the *in situ* conservation.

How one deals with the strong emotions engendered by the discovery of unique finds is a very complex process, as I had the opportunity to discover. These become even more difficult to come to terms with since the responsibility towards the finds is always demanding and the realisation that mistakes need to be avoided is overwhelming. Today, in 2010, so many years later, all I can remember is that I must have eventually realised and accepted, the importance of the discovery of the hieroglyphic archive at Petras, probably after the end of the excavation. What was important at the time of the fieldwork was to do our best as far as the excavation and the documentation were concerned. Furthermore less than a month later, Erik and I were able to give a first presentation of the hieroglyphic archive of Petras at the Cretological Conference in Heraklion.

Furthermore, the pressure on me was enormous when I realised that it was not possible to finish the excavation of the destruction deposit containing the archive in 1996. We had to cover the soil of the destruction deposit with a plastic sheet. On many occasions I returned to Petras during the winter of 1996–1997 to check up on it, full of anxiety and concern. I wanted to make sure that the plastic sheet was still in place, and that the rainwater did not go through it. When the summer of 1997 finally came, the Ministry of Culture decided to interrupt all systematic excavations, in order to promote the studies. This was one of the most difficult moments in my life. I am grateful to Alexandra Karetsou, Acting Director of the 24th Ephorate, who realised the importance of the find, and the need to continue and finish the excavation of the deposit containing the archive. She supported me and asked Alekos Nikakis to continue his work at the excavation and on the conservation of the documents.

The publication of the hieroglyphic archive of Petras is presented to the scholarly community, and is open for review and criticism. Allow me to finish this brief introduction by saying that the present volume is less than I would have wished it to be, but I did my best, with the precious assistance of an experienced team of co-workers, who I am happy to mention below and to whom I wish to express my deep gratitude.

East Crete
Easter 2010
Metaxia Tsipopoulou

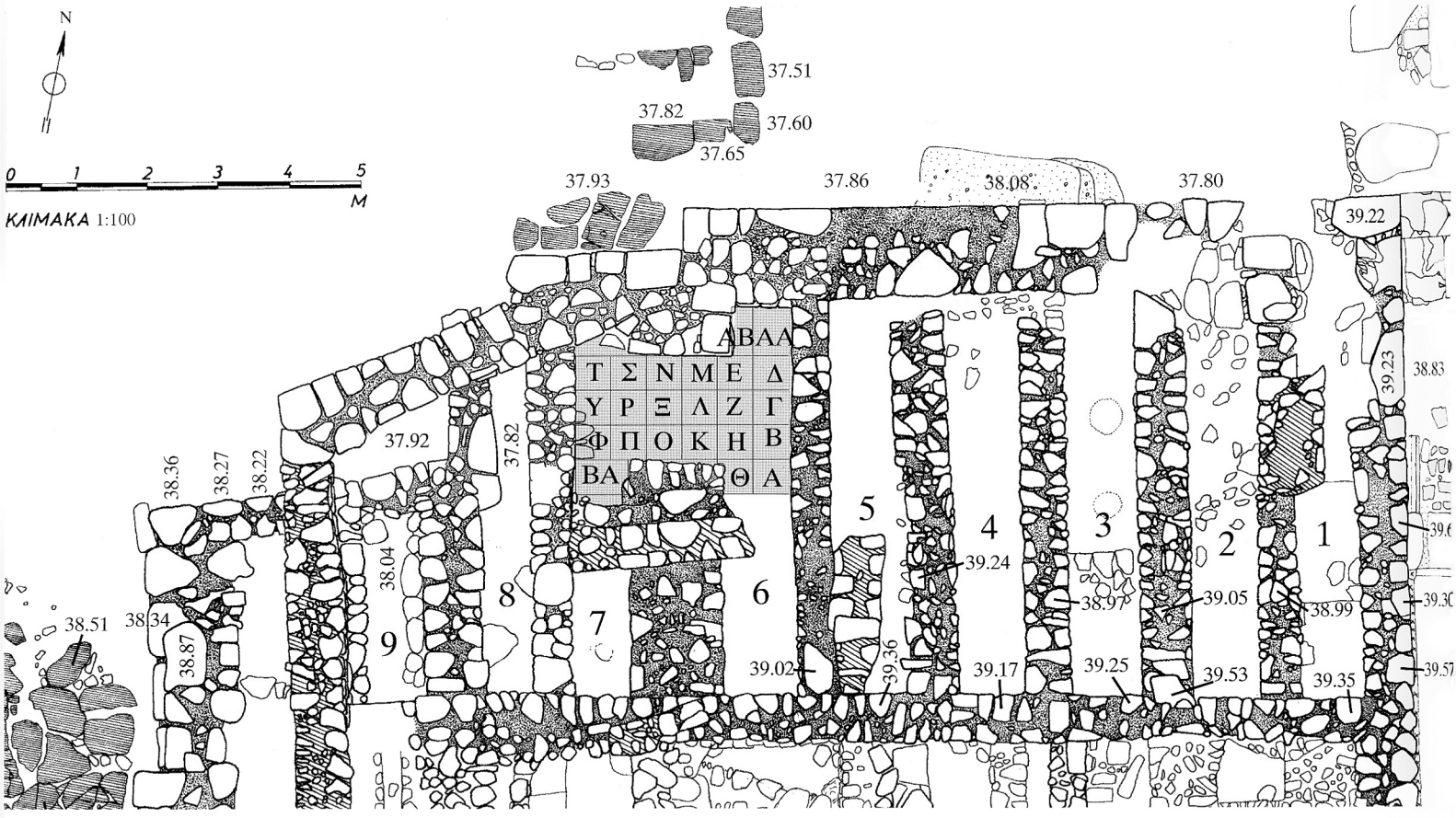


Fig. 80. Northwest corner of palatial building with indication of archive, corridors and altitudes.

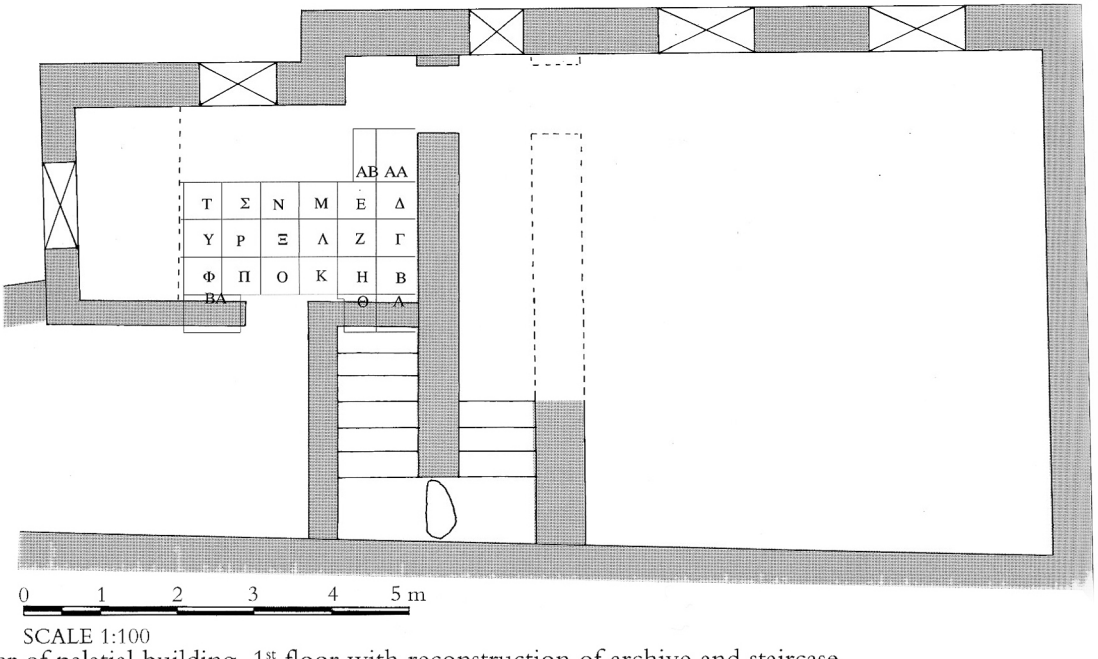


Fig. 81. Northwest corner of palatial building, 1st floor with reconstruction of archive and staircase.

The archive – conclusions

Much of what we will present in this closing chapter is a house of cards which may partly or entirely collapse if one or more of our suppositions prove to be wrong. For example we do not know for certain what the north-western corner of the MM II palace looked like and this is essential when one wants to reconstruct the archive room on the first floor. Also, we cannot prove beyond doubt, that the staircase leading up to the archive really existed. It seems reasonable to suppose that the archive was actually stored on the upper floor since by far the majority of the finds, documents as well as more or less complete vases and plaster fragments, were found in the upper passes during the excavation and not on the floor of the ground department (Fig. 8). However, and most crucially, can we be sure that the finds on the ground floor really reflect the original position of the finds on the upper floor as argued above (pp. 46–7). And also in this connection, we cannot be certain which finds may originally have belonged to the floor of the basement room. What we have ascribed to the basement room are a few items only, which were found during cleaning operations of the floor. These finds mainly consisted of pieces of carbon, mud-brick, a few bones and a few pieces of obsidian. With these serious uncertainties in mind, we do however wish to present a conjectural reconstruction and interpretation of the MM II hieroglyphic archive at Petras.

The architecture

The north wall of the archive room must by nature have followed that of the north facade. In the basement this wall is *c.* 1.30 thick, but there is no reason why it should exceed 0.60–0.70 in thickness on the upper, 1st, floor. The north wall would also display the recess found on the ground floor. The eastern wall of the archive would seem to be identical with the partition wall between corridors 5 and 6 since no archival remains were recovered in corridor 5. The southern limit of the archive is the Squares A, Φ and BA, which were all without many finds. For this reason the southern wall of the archive should be situated above the squares mentioned. This position is also confirmed by architectural considerations, in that the southern wall could not be pushed further south, as it would prohibit use of the lower flight of the staircase (Figs. 80–1).

Due to the distribution of finds we must assume that the staircase started in the opening of corridor 6. At the southern end of the wall between corridors 5 and 6 is seen a slightly worn schist slab almost 0.80 wide. It is at a height of 1.40 above the floor of the passage and we believe it to be part of the landing

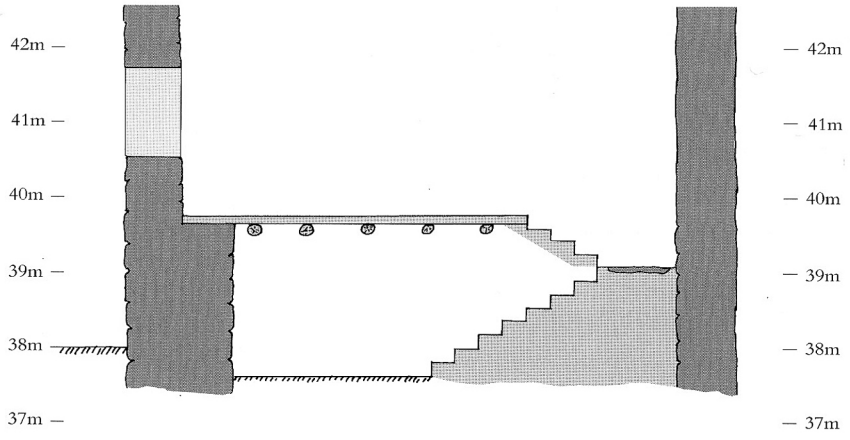


Fig. 82. Conjectural reconstruction of staircase and floor of archive room. Scale 1:100.

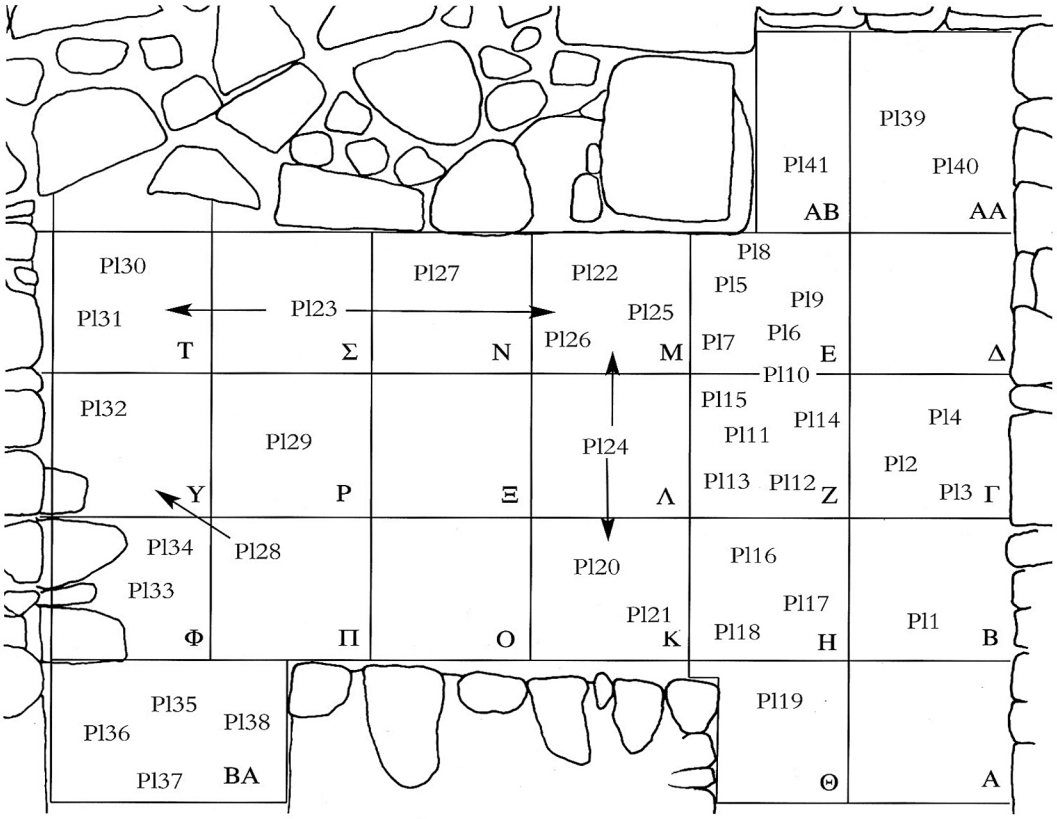
of the staircase. This means that there were probably eight steps (0.33 deep and 0.175 high) and with another four steps leading upwards from the landing, the surface of the floor on the first floor, it would be at the altitude of *c.* 39.75 – 2.10 above the floor of the passage Allowing for *c.* 0.15–20 for the ceiling/upper-floor construction this would give a height for the passage/basement room at *c.* 2 metres (Fig. 82). This, we have been kindly informed by Martin Schmid, architect of the Malia excavations, is the usual height in basement rooms in MM II buildings.

Concerning the first floor it is thus clear that the staircase would end more towards the south than where it started on the ground floor. We still believe that the east wall of the archive is the partition wall of the staircase, but it is questionable whether it ended in a 4.50 long corridor or whether one would have entered the room/rooms above corridors 1–4 (Figs. 80–1) directly. Perhaps the latter alternative is the more probable since there is no evidence to show that this part of the building had yet another storey and since this solution would supply the otherwise very dark staircase with more light coming from hypothetical windows in the upper storey.

The identification of the western wall of the archive is more problematic. If one follows the limit of where the documents were found on the ground floor it would be situated where there is now a partition wall between corridors 7 and 8 (stippled line on Fig. 81). However, as seen in the section in Fig. 7, the deposit with the archive continues below that wall and this part of the hieroglyphic archive is as yet unexcavated and in the narrow northern area of corridor 8 did the excavation stopped at a level where the MM II hieroglyphic deposit started in the neighbouring area. From a constructional point of view the most obvious solution to the western wall of the archive room would be the one where we have earlier identified the entrance to the basement room (cf. above p. 24 and Fig. 5).

If one extends the southern wall of the archive up to the western wall of corridor 8 one comes upon a large apparently corner block, presumably of EM date. The wall which this block belongs to continues north and runs below the later MM III/LM I wall probably to meet the continuation of the north facade. If this wall was re-used as a wall foundation in the MM II period

Fig. 83. Distribution of plaster fragments.



it may have constituted part of the west facade and thus been the natural limit of the archive room above. At any rate, the evidence, as preserved, seems to show that there was no full wall below the south wall of the archive, but large rafters running from the east wall of corridor 6 across the thick wall between corridors 6 and 7 and up to the above mentioned corner stone could easily have carried a thin, either mud-brick or wooden, wall at the upper floor. Since only very few and small pieces of mud-brick were found in the southern part of the archive (see below Fig. 95) it may perhaps be conjectured that a wooden wall existed here. Furthermore a wooden wall would not necessarily have needed plaster and as seen in Fig. 83 few pieces of plaster were found in the area of the south wall.

We thus suggest that the westernmost wall of the archive is situated in line with the partition wall between corridors 8 and 9, but if the distribution of finds on the ground floor reflects the actual size of the archive room above, one may envisage a small room with a narrow veranda in front. In any case it would most likely be necessary for the west wall to face an open space in order to provide the necessary light to the room (cf. below).

We conjecture that an entrance to the archive existed at the end of the partition wall of the staircase. The archive may thus have been reached from the large room above corridors 1–4 or from the basement via the staircase. There is also the possibility that a door or opening may have existed above the Squares O and K (cf. below). It thus seems that the archive room measured *c.*

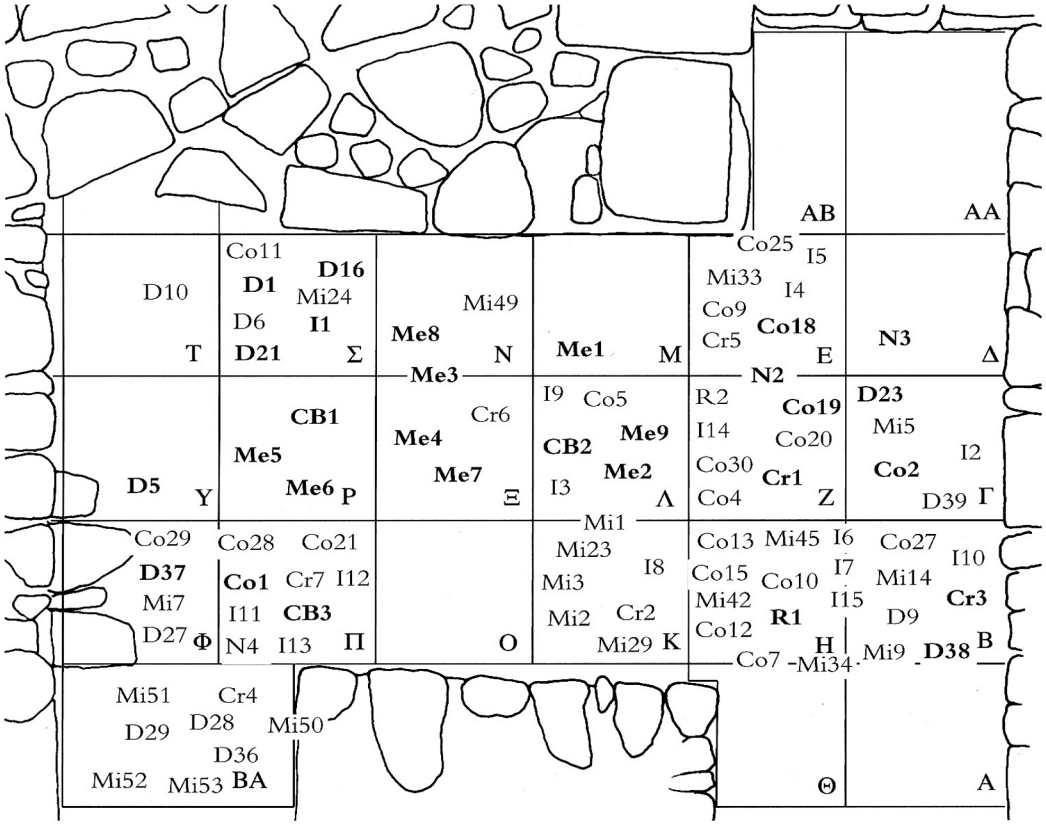


Fig. 84. Distribution of most archival documents. Those in bold script signify more or less complete documents.

2.5 × 3.1 or 2.5 × 4.3 depending on the position of the western wall. One entrance seems to have been in the northeastern corner of the room. Light might have been partly provided through a window in the north wall, but since this is the direction which provides the least light, it is reasonable to suppose that the main source of light would have been a large window in the west wall. Concerning light it would be reasonable also to expect a window in the north wall at the end of the stairway.

If one considers the distribution maps of all finds from the archive, Figs. 30, 77–8 and 84, it immediately springs to notice, that there were no finds in Square O and very few finds in the Squares X, R, U, L, K, M, AB and AA. It almost seems as if a passage was kept free from the southern part of Squares O/K over X, Λ, N, M, AB up to the northeastern door (the many plaster finds in Square M are supposed to derive from the wall in the basement) and from X up to the western part of Y. There is no structural reason for missing finds in these areas, and storage of perishable materials is not very likely. The most simple explanation is that these areas were kept free because they represent areas where it was necessary for people to be able to move freely. Thus, the above suggestion, that a door existed in the central part of the southern wall and that a window existed in the central part of the western wall. The few cups and pieces of obsidian found in Square Y may perhaps have been placed in the windowsill.

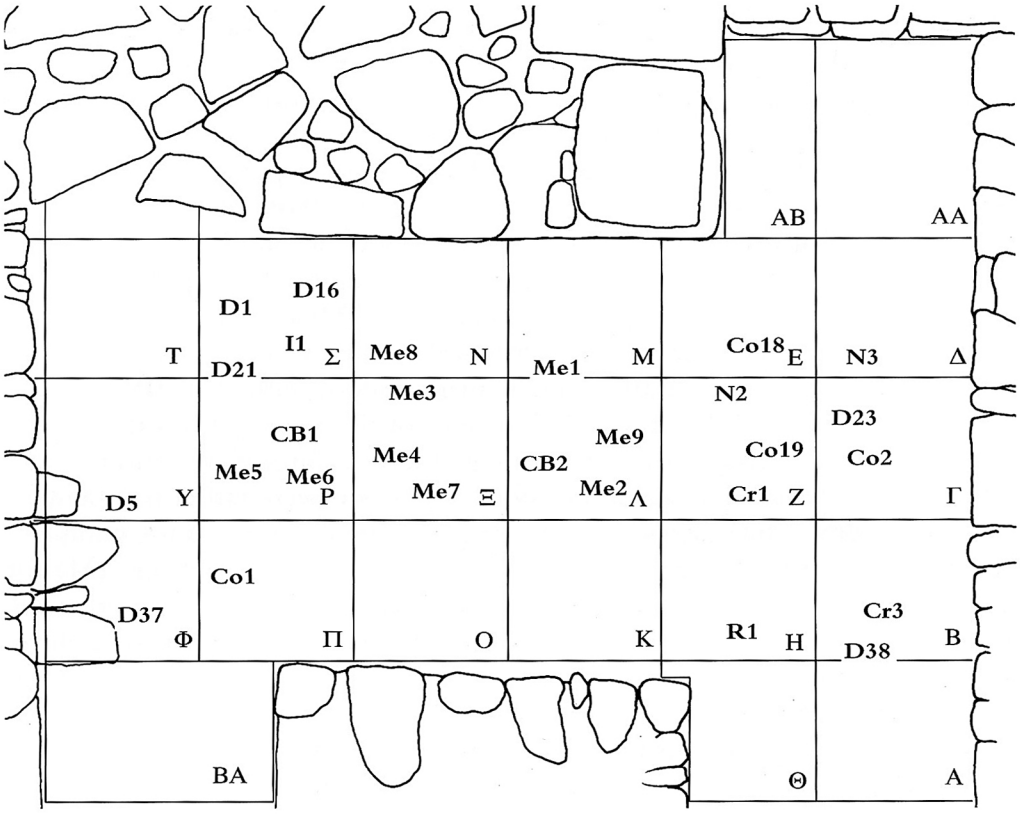


Fig. 85. Distribution of complete and more or less completely preserved (more than half) documents. Only the clay bars (CB) and the medallions (Me) were found intact.

Distribution of finds

The finds from the archive consisted mainly of pottery, documents, plaster and obsidian. Concerning the plaster, some fragments had undoubtedly fallen from the walls of the basement while the majority would have come from the archive room indicating that the inner walls of the room and perhaps the floor were plastered. Also among the plaster fragments were found remains from tables of which three may have existed: two in the southwestern part of the room and one in the eastern part (cf. above pp. 31, 39, 43, 45 and Fig. 83). Obsidian flakes and blades were scattered over most of the archive room with concentrations in the northwestern and southeastern corners (Fig. 77).

Concerning the documents there were two concentrations of very fragmentary sealings found: one around Square P and another in the Squares B/H. The medallions and clay bars were found scattered and more or less isolated in the central part of the room, while two smaller collections of sealings were found around the Squares Σ and E/Z respectively (Fig. 84). The more or less completely preserved vases were concentrated in three areas: to the northwest, in the southwestern corner, and in the eastern area especially around Square E/Z (Fig. 30). In a very general way we notice that where we have the large concentrations of very fragmentary sealings there is very little pottery while in the areas with better preserved sealings (Fig. 85) we find a mixture of sealings and vases (Squares T/Σ and E/Z/Γ).

The northwestern corner

The most interesting combination of finds is perhaps the one noted in the northwestern corner of the room. Three restorable large containerscame to light in this area: a wide-mouthed jug (**P16**), a large spouted cooking pot? (**P52**), and a very fine carinated bridge-spouted jug (**P10**), and together with these also the fragment of a small decorated amphora with a potter's mark (**P49**). Furthermore there was a fine decorated straight-sided cup (**P14**), a fine carinated cup (**P9**), a painted ledge-rimmed bowl (**P7**) and a deep conical cup (**P15**). The only other place with larger vessels is the area of the Squares Λ/Z/Γ with part of an amphora (**P20**), a fragmentary wide-mouthed jar (**P11**), and a fragmentary wide-mouthed jug. The quality of the pottery from the northwestern corner is matched by the sealings. Eight sealings were found in this area, seven of which had seal impressions. Only two were rather fragmentary (**Co11** and **D6**) while four were more or less complete. One of the complete specimens was the only complete peg sealing found in the archive (**D1**) for which reason one may perhaps suggest that it actually sealed a chest or cupboard stored in the archive. Two of the other completely preserved sealings were direct sealings of Type 7C. One of these, **D21** with seal 002, is of a type which could have sealed one of the large containers while the other **D16**, might have sealed an object in perishable material stored in the area. The type 7D sealing **D35**, although small is also fairly completely preserved, and may well have been sitting on an object when the catastrophe occurred, and the same applies to the Type 7B sealing **D10**, which secured an object with a flat surface probably made out of wood. It should be noted that five pieces of carbon were collected within the same area which also produced seven pieces of obsidian some of which may have been used to cut the strings of the sealed objects presumably stored in the area.

From the northwestern corner there is thus some evidence which permits the suggestion that items were actually stored and sealed in this part of the archive. The storage may have been somewhat more extensive than the preserved evidence seems to show. This is so because almost one metre of the northern part of the archive room rested directly upon the wall of the north facade (the area without squares in Fig. 81). What was stored in this area could therefore not have fallen to the ground floor, but would have been crushed in connection with the destruction or – at any rate – been removed in connection with the later building activities. If our idea that this area was used as a storage area is correct we do not know whether the items were brought in to be further monitored or whether they were for the "daily use" of those working in the archive in the form of writing material, writing equipment, tools, food, wine, etc. or even more importantly the finished written documents. Two points may perhaps speak in favour of the latter interpretation. One is the actual position within the archive: in the corner most remote from the doors of the room. The second is the evidence of the seal impressions. Impressions from seven different seals, five of which were high quality seals, were identified in the area, and impressions from two of these seals, the intert-

wined rope-design PE 003, and the bovid PE 005, were also found among the fragmented seals in the southeast corner of the room (see below, Fig. 98). This fact may reflect the well-known system of opening and closing containers and discarding the broken sealings. If the above speculations should prove to hold true they are interesting in that it would permit us to identify seals used by officials responsible for at least some of the activities in the archive room. Apart from the two mentioned above, these seals are PE 002 with the possible bird representation, PE 004 with the very well-executed double spiral motif. PE 016 with an indeterminable geometric(?) design, PE 006 with a simple geometric design and PE 018 with the representation of a walking lion.

The eastern area

Some evidence exists to indicates that the eastern area of the Squares Γ, Δ, E, and Z was the place where transactions with the outside world took place, *i.e.* an area where documents from outside were received and an area where documents intended to leave the archive were issued. First of all – at least, as we logically envisage it – it would ideally have been only one metre from the entrance of the room along the eastern wall. Furthermore the evidence of the *noduli* shows (cf. below) that it is almost certain that it was here that two *noduli* were in the process of being issued. If we consider also the distribution of other possibly unfinished documents (see below, Fig. 93) they are all – with the exception of a lump found in Square BA – found in the same general area. Furthermore, a few lumps which may have been prepared for documents were also found here. As demonstrated below, the same area is the only other area – apart from the northwestern – where some fairly complete sealings were found. For this reason we do not find it unreasonable to guess that these sealings may perhaps represent documents delivered to the archive. When we consider the remaining finds from the same area, we see that it produced an amphora and a wide-mouthed jar together with several cups and bowls (not of fine quality) which may have provided drinks and "snacks" for employees as well as "clients". It is also the area with the largest concentration of bones. Some consumption may have taken place here and for whatever reason, the area also produced fragments from one or two plastered tables. All things considered it would not be unreasonable to view this area as a place where people from inside and outside were stayed while their transactions were carried out.

If we are correct in thinking that the relatively few but also relatively well-preserved sealing in this area represent sealings brought into the archive for further registration, we may envisage that the seals PE 009, 011, 048 and perhaps 022 found on the combination nodules in the area, represent people (or bureaucrats), who work outside (or also work outside) the archive. The same argument would apply to seal PE 012 which was found in Square Γ on the almost complete direct sealing of Type 07C(?). If we also extend the argument to include the less well-preserved sealings from the area we may add another four seals PE 020, 039 and 040 found in irregular string nodules and

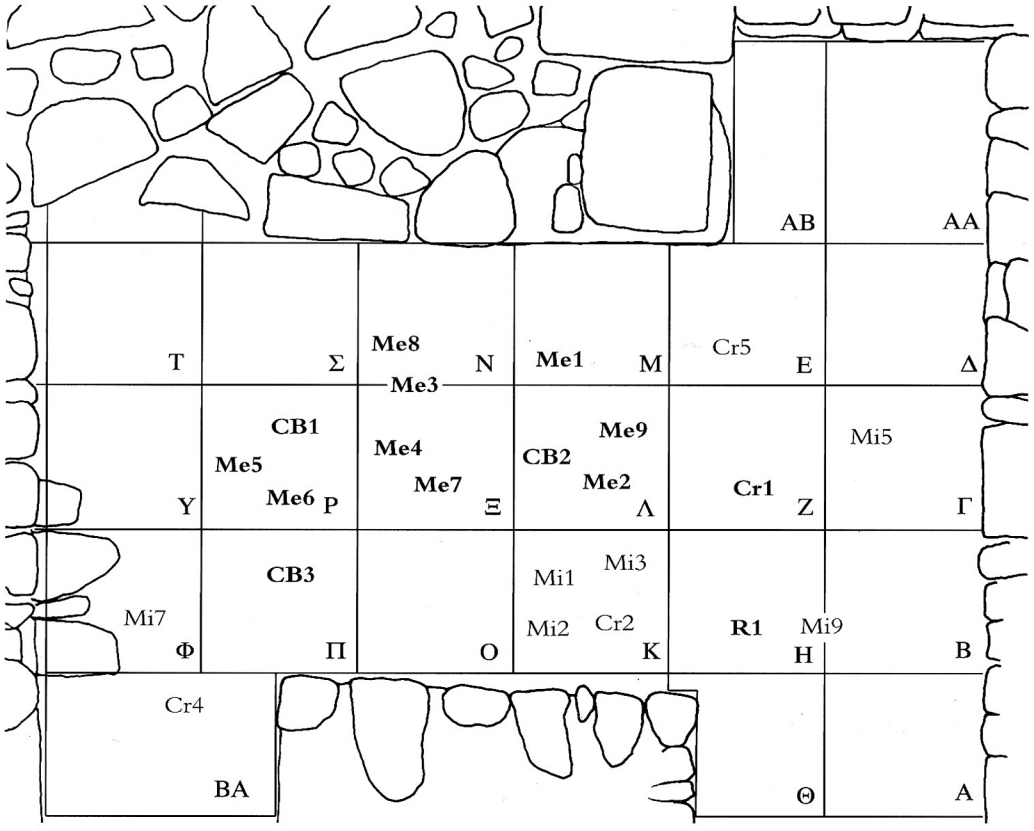


Fig. 86. Distribution of inscribed documents. Bold script indicates more or less complete documents. Ordinary script indicates the **Hx** documents. **Mi4**, **6** and **8** were collected from sieved soil.

PE 010 found on a peg sealing; and it is almost certain that PE 021 found on the roundel represents an "outside seal", and the same applies to PE 001 found on a crescent.

The inscribed documents

The clay bars and the medallions were found rather isolated in the centre of the room in a restricted area within the Squares P, Ξ, Λ, N and M, and if we include the inscribed crescents and the roundel, the area includes also the Squares Z, K and H (Fig. 86). An interesting point about the clay bars is that they (or at least **Hh 016**) were in the process of being written. On side d on **Hh 016** we see that the scribe had finished the first sign-group followed by numerals and the vertical stroke which indicates that another sign-group is to follow. Actually we can also see that the scribe started to write a new sign – but never finished. The rest of this side of the bar is empty. For some reason – probably a warning of the catastrophe – the scribe must have dropped what he was working with and left the archive never to return. At any case, the preserved evidence clearly shows that the scribe of **Hh 016** was actually writing on his clay bar at the time of the catastrophe. The same may perhaps have been the case with the scribe of the other clay bar **Hh 017**. Here it seems that side c was never written to the end, while side d is still completely empty. At a distance of less than 0.30 to the east of **Hh 017** was found a bronze point

(Fig. 14) which we believe was a stylus (cf. above p. 133). The scribe of **Hh 017** may therefore have dropped what he was working with at the time of the catastrophe. This evidence also confirms the observation made above (p. 175) that it was two different scribes who inscribed the clay bars. Another noteworthy point is that the few documents executed in the same soft yellow clay as **Hh 017** were all found at a distance of 0.40 or less from the clay bar. Of these the three medallions were also written with a similar fine, very pointed stylus. Thus, if the medallions were also written by the two scribes we learn that they were produced before the clay bars. It seems certain, in any case (since the medallions are finished documents) that they were written before the bars and that they were found close to the scribes producing the clay bars.

We may thus imagine one of two scenarios: (1) that the scribes had produced a number of medallions after which they made the clay bars or (2) they may have had at close hand some written evidence which they were transferring onto the clay bars. We do not know which. While the evidence of the soft yellow clay seems to favour the first solution, it is tempting to argue that the evidence of the same sign-group found on **Hh 016** and the crescent **Ha 003β** (cf. above, p. 156, 164) favours the second solution. The same argument may perhaps also be valid concerning the three sign-groups starting with 042–023 on **Hh 016**, the medallion **He 006** and the crescent **Ha 003γ**. Also, the suggestion above (p. 177), that the medallions were "working documents" in workshops and magazines – later transferred to the archive – would seem to accord well with the second solution. Concerning the other inscribed crescents it is noted that the largest and best preserved **Ha 004**, was also found in the general area of the inscribed material, while the very fragmentary one **Cr4** (**Hx 22**), was found among the very fragmented sealings in Square BA and may thus be remains of a crescent which had served its purpose.

However it clear that two scribes were at work in the archive, in a space which was obviously not occupied by other activities and physically located relatively close to the supposed window in the west wall.

It must remain uncertain whether the medallions were actually inscribed in the archive and the same applies to the crescents, while the roundel (**R1**) most likely would have been inscribed at the place where the transaction for which it was required took place. The evidence of roundels in the Linear A administration strongly suggests that these documents functioned as receipts within the administration and that they were temporary documents containing information which had to be transferred to other media, in an archive. If so, the find spot of **R1** is interesting in that it was located in Square H together with the many fragmented sealings. It would thus seem that we are here dealing with a discarded roundel which had served its purpose.

The state of the sealings

While the inscribed material from the archive is relatively well- and/or completely preserved, exactly the opposite is the case with the sealings where only a dozen are more than half preserved (Fig. 84). Now, it may be argued that

the inscribed documents (at least the clay bars and the medallions) are solid documents in contrast to most sealings that enclosed strings or sat on objects, and were thus more fragile. This explanation probably does not hold true, since documents such as, for example, peg sealings, are also fairly solid, and at other sites as Knossos, Phaistos and Malia mostly found in a rather complete state. It should also be recalled that string nodules, when found in LM I B archives in the Linear A administration, are usually recovered in a fairly complete state. The same is also true for by far the majority of the Mycenaean sealings found in, for example, the archive rooms (7–8) at Pylos. Another explanation which could perhaps account for the state of poor preservation of the sealings would be that they were not very well fired during the destruction of the archive and were therefore very vulnerable to the process of the collapse of the archive and to general disintegration. However, neither does this explanation seem fully satisfactory since the same argument would also apply to the inscribed documents and the more or less completely preserved sealings.

Another explanation should probably be formulated. When we consider the distribution of more or less complete sealings (Fig. 84) we see that, apart from those found in the southwestern corner, they are concentrated in two areas: the northwestern corner and a small area in the eastern part. In the northwestern corner we believe, as argued above, that the sealings were in use at the time of the catastrophe, while the eastern area could have been the place where the archive bureaucrats met people coming from outside. The more or less complete sealings found here may thus represent sealings brought to the archive from outside. This leaves us with two areas where most of the sealings were discovered and where most were in an extremely fragmentary condition: around Square P and in Squares B/H. There can be little doubt that the sealings in these two concentrations represent broken sealings and the very poor state of preservation (see for example **Mi41**, **Mi27** and **Mi45**) may indicate that they were even deliberately crushed sealings – probably intended for re-use (cf. below). Only a few documents seem at first sight not to belong in these two concentrations. In Square B/H we find a broken, but almost complete roundel, a broken but almost complete direct sealing (**D38**) and the broken, but fairly complete and considerably burnt crescent (**Cr3**). In and around Square P we find three roughly half-preserved direct sealings (**D31**, **D37** and **D17**). The explanation for these unusually well-preserved documents in the mentioned areas may very simply be that they were not yet crushed. And in this connection it should be noted – for what it is worth – that a small stone (*c.* 3.0 in diameter) is still glued to the direct sealing **D20** (which may originally have been part of **D17**).

The *noduli*

In the Linear A administration the *noduli* are supposed to have functioned as dockets and/or tokens – in either case issued by the administration. It is therefore highly interesting to find in the archive one (**N2**) or more probably two (**N3**) unfinished documents which could hardly have served any other pur-

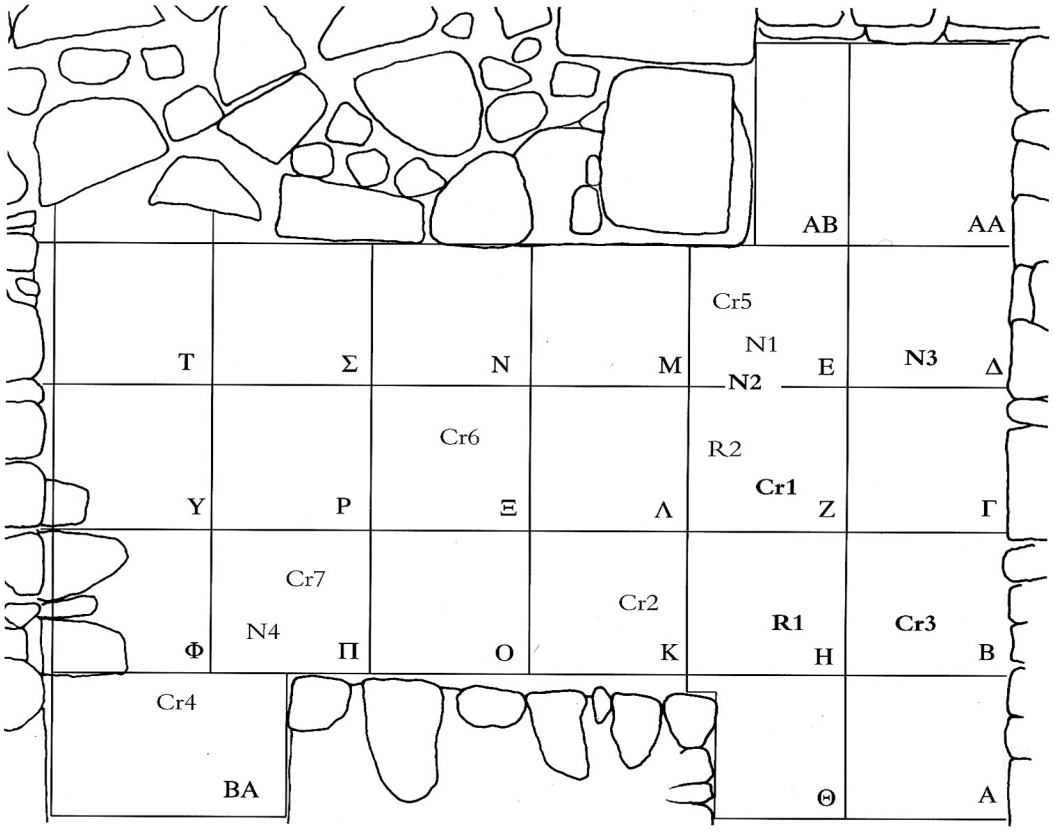


Fig. 87. Distribution of roundels (R), *noduli* (N) and crescents (Cr). Bold script indicates more or less complete documents. Ordinary script indicates fragmentary and/or doubtful.

pose than being *noduli*. One (**N2**) had the classical appearance of a *nodulus*, the upper surface of which had been very well-polished, ready to receive a seal impression. **N3** also had a similar well-polished surface prepared for a seal impression. These two unfinished documents seem to confirm that sealing activities were taking place in the archive which may be taken as a supporting argument for the general hypothesis that *noduli* were issued by the administration. The find spot may also be important in this connection. The two unfinished *noduli* were found in Squares Z and E/Δ (Fig. 87) which are relatively close to the entrance of the archive room. One could easily imagine that these documents were in the process of being issued to waiting individual(s) who had entered the archive.

Distribution of other sealed documents

When we consider the remaining sealed documents (Figs. 88–92) it becomes clear that no special type was designated to any special area within the archive. The only two tendencies we notice is that six out of eight peg sealings or possible peg sealings were found in the western part of the room, as were the three Type 07B sealings (those which had been placed on a flat surface). It must remain uncertain whether these tendencies may be related to the presumed storage activities in the northwestern corner. Concerning the Type 7B sealings this would seem possible since one of them was actually found in the northwestern corner while the other two wore seal impressions (PE 032 and

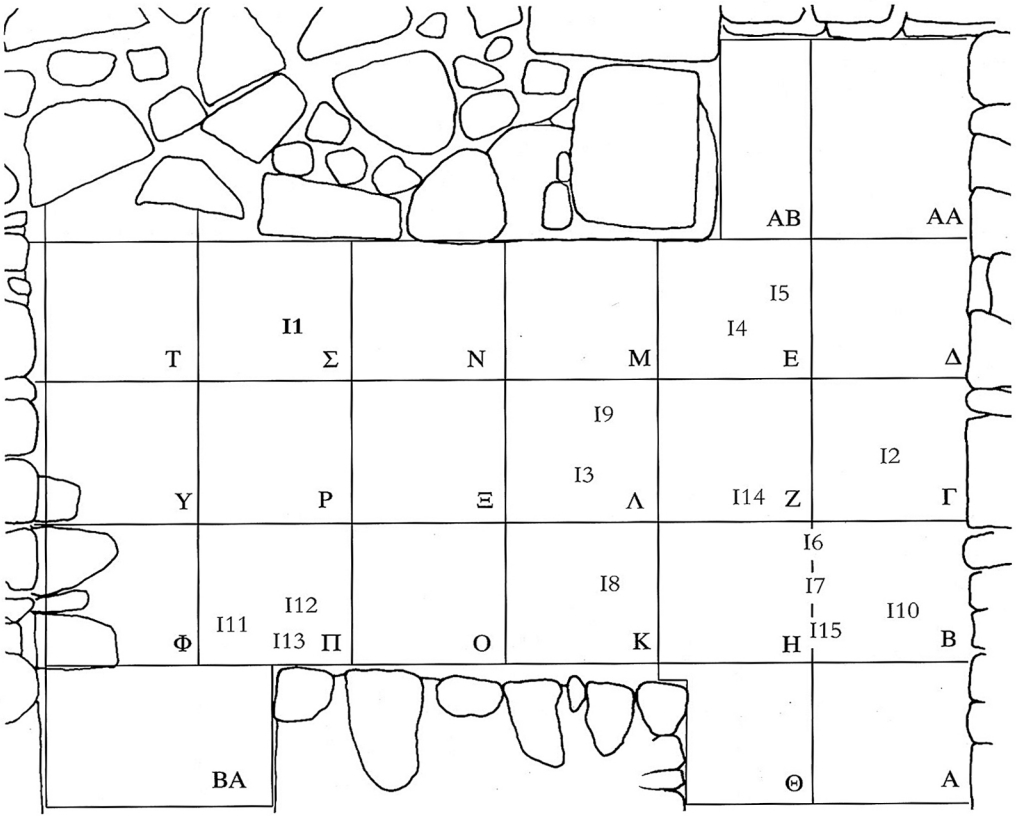


Fig. 88. Distribution of irregular string nodules (I). Bold script indicates more or less complete document. Ordinary script indicates fragmentary and/or doubtful.

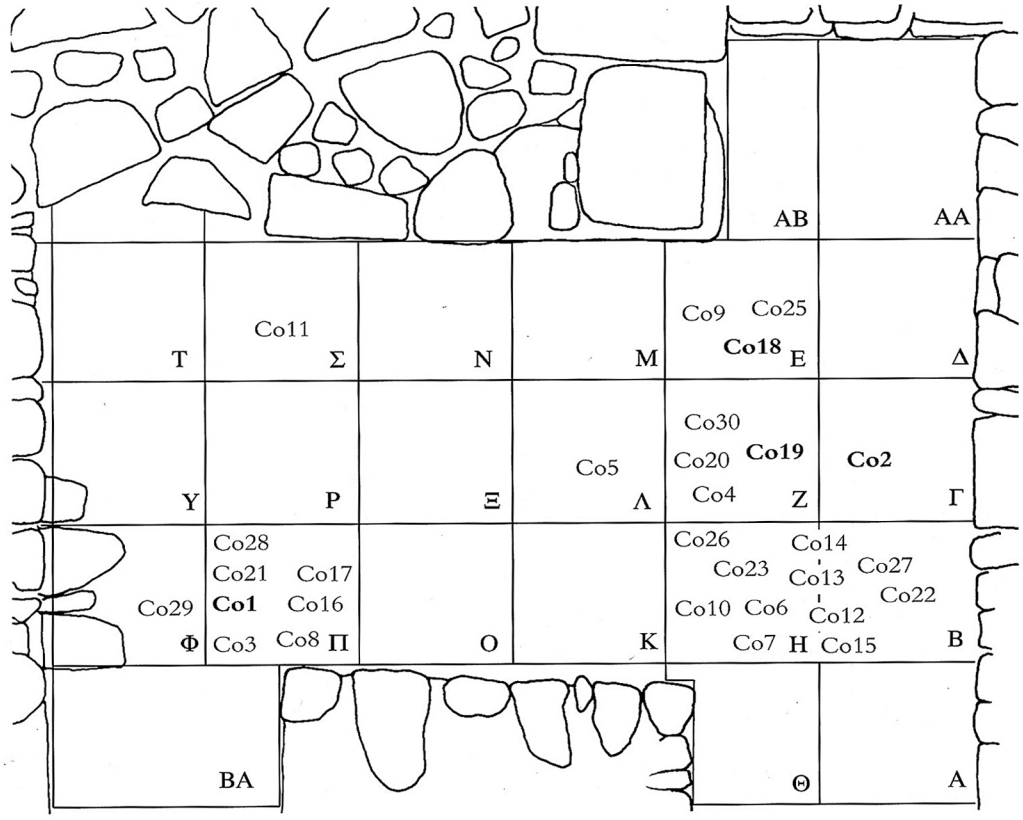
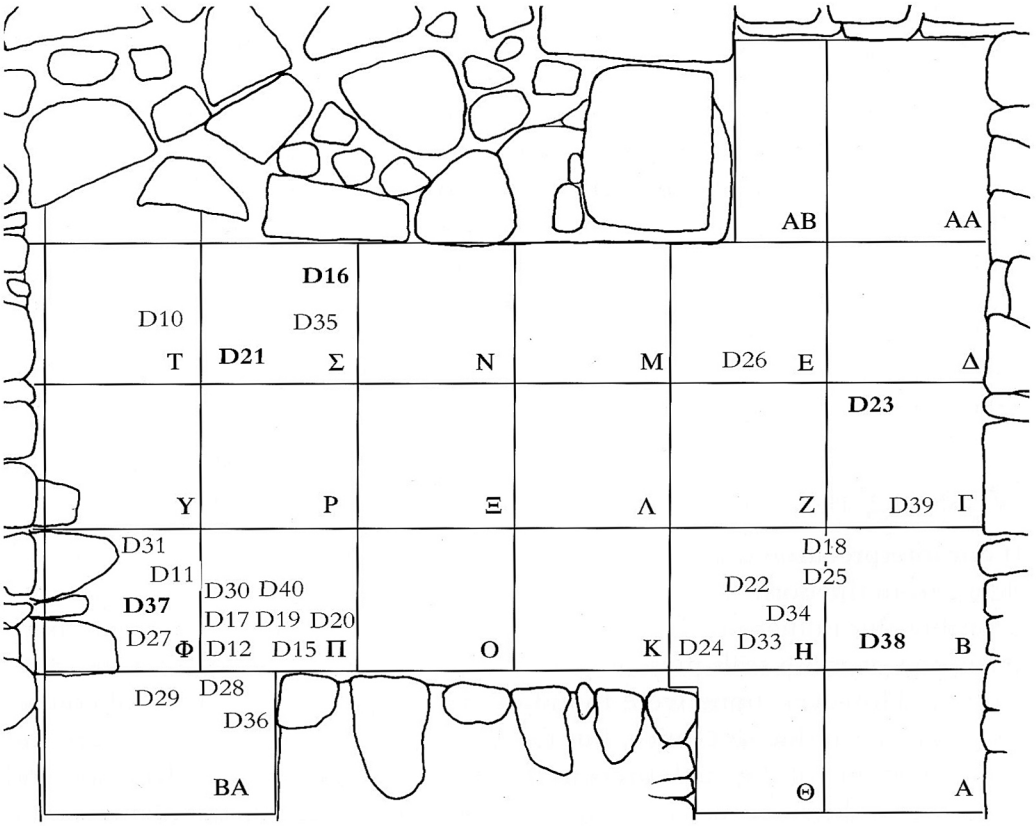


Fig. 89. Distribution of combination nodules (Co). Bold script indicates more or less complete documents. Ordinary script indicates fragmentary and/or doubtful.

Fig. 90. Distribution of peg sealings (D, Type 1). Bold script indicates more or less complete documents. Ordinary script indicates fragmentary and/or doubtful. D7 was recovered from sieving.

Fig. 91. Distribution of direct sealings other than peg sealings (D). Bold script indicates more or less complete documents. Ordinary script indicates fragmentary and/or doubtful. D13, 14 and 32 were recovered from sieving.



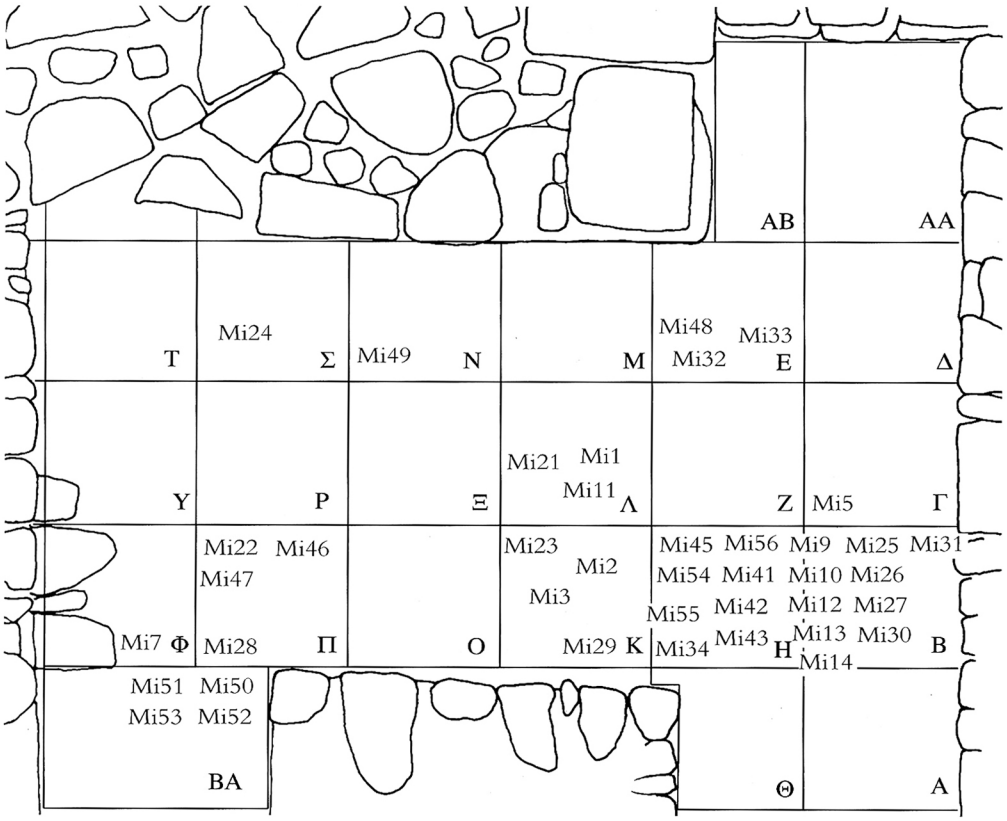


Fig. 92. Distribution of miscellaneous (indeterminable) documents (Mi). Bold script indicates more or less complete documents. Ordinary script indicates fragmentary and/or doubtful. **Mi4**, **6**, **8** **15–20**, **35–40** and **44** were recovered from sieving.

007) which were also found elsewhere in the archive although on different types of direct sealings. It is possible therefore, that those two seals should be added to the list of seals used by individuals working in the archive room (cf. above). With regard to the peg sealings, the evidence is not equally suggestive mainly because two fragments were actually found in the eastern part. Concerning the combination nodules it is noted that the more or less complete ones were only found in the eastern area where we suspect that transactions with the outside world took place. These combination nodules may thus represent sealings brought into the archive for further registration (cf. above). It should also be noted that, with the possible exception of **Co11**, the northwestern area produced only direct sealings and irregular string nodules. The significance of this observation will be discussed further below.

Missing items

If our interpretation that sealing activities took place in the archive, as the evidence from the northwestern corner, the unfinished *noduli* (and crescent?) and probably the numerous lumps seem to indicate, there must obviously have been one or more seals present in the archive room at the time of the catastrophe. However, none were found during the excavation. This, of course, may have been due to chance, but recalling the seal worn on a string around the arm of one of the cupbearers in the Procession Fresco from Knossos, and considering the importance of the seal as an instrument for the identification

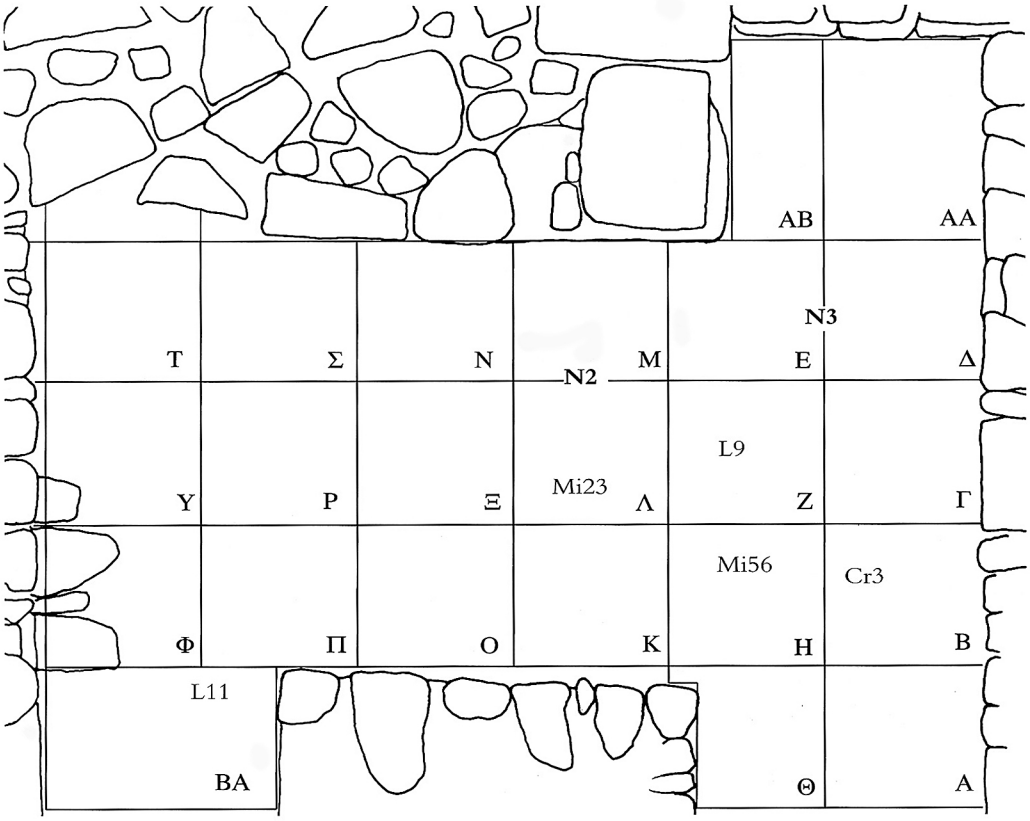


Fig. 93. Distribution of unfinished(?) documents. Bold script indicates more or less complete documents. Ordinary script indicates uncertain.

of a person or an office, it is hardly surprising that this would have been the one item that would not have been left behind if possible. In other words the absence of the seals is to be expected.

The clay bars which were in the process of being incised, the unfinished documents (Fig. 93) and the numerous clay lumps (Fig. 94) clearly indicate that the clay used to form these documents must have been kept in the archive. In ordinary circumstances, raw or tempered clay would have been covered in skin or a piece of cloth and kept moist by adding a little water now and then. It is unlikely that people fleeing the room would have tried to salvage a package of clay, so the material should have existed or been found during the excavation. It is probable that one or more of the temporarily misplaced pieces of "mud-brick" may actually have been "raw clay" intended for documents. One of the areas where this clay may possibly have been stored would have been the northwest corner (cf. above) and two of the few mud-brick fragments were actually excavated here (Fig. 95). One might expect raw clay to have been kept in the eastern part of the room where *noduli* were obviously being issued. In this connection we may note that pieces of "mud-brick" were noted in both Squares H and K.

Another source of clay for documents may have been rejected and broken-up sealings intended for re-use. We noted above that in two areas in particular in the Squares Π and H/B there were numerous fragmented sealings (Fig. 84). In this connection it should be noted that it was in the same two general areas that by far the majority (86%) of the clay lumps were found (Fig. 94).

Fig. 94. Distribution of lumps (L). Bold script indicates more or less complete documents. Ordinary script indicates fragmentary and/or doubtful. L17–19 and 22–24 were recovered from sieving or surface cleaning.

While the possible evidence for the existence of larger lumps of raw clay intended for documents has been temporarily misplaced, the evidence discovered seems to indicate that discarded sealings may have functioned as another source of clay for documents. Here in the Petras hieroglyphic archive the evidence speaks for an economic re-use in contrast, for example, to the enormous amount of discarded sealings from the contemporary Linear A archive at Phaistos.

The archive must also have contained items with which it would have been possible to smooth the surface of the documents, as clearly shown by the clay bars and the unfinished *noduli*. In the case of the *noduli* the object must obviously have had a very flat, smooth and strong surface – perhaps small boards of plaster were used? In the case of the inscribed documents, other means were used to smooth the surfaces. We do not know what was used, but if the items were excavated and we consider the distribution map Fig. 78, bone fragments seem the only possible solution, although a small smoothed sea or river pebble would also have done the job.

The archive produced two clay bars, which were probably both in the process of being inscribed. A natural question would therefore be: where are the clay bars which had been finished? The piles of broken sealings certainly seem to indicate that a great deal of information had already been transferred to other media and from a common sense consideration, it is difficult to believe that the archive would have contained no more clay bars when we recall the

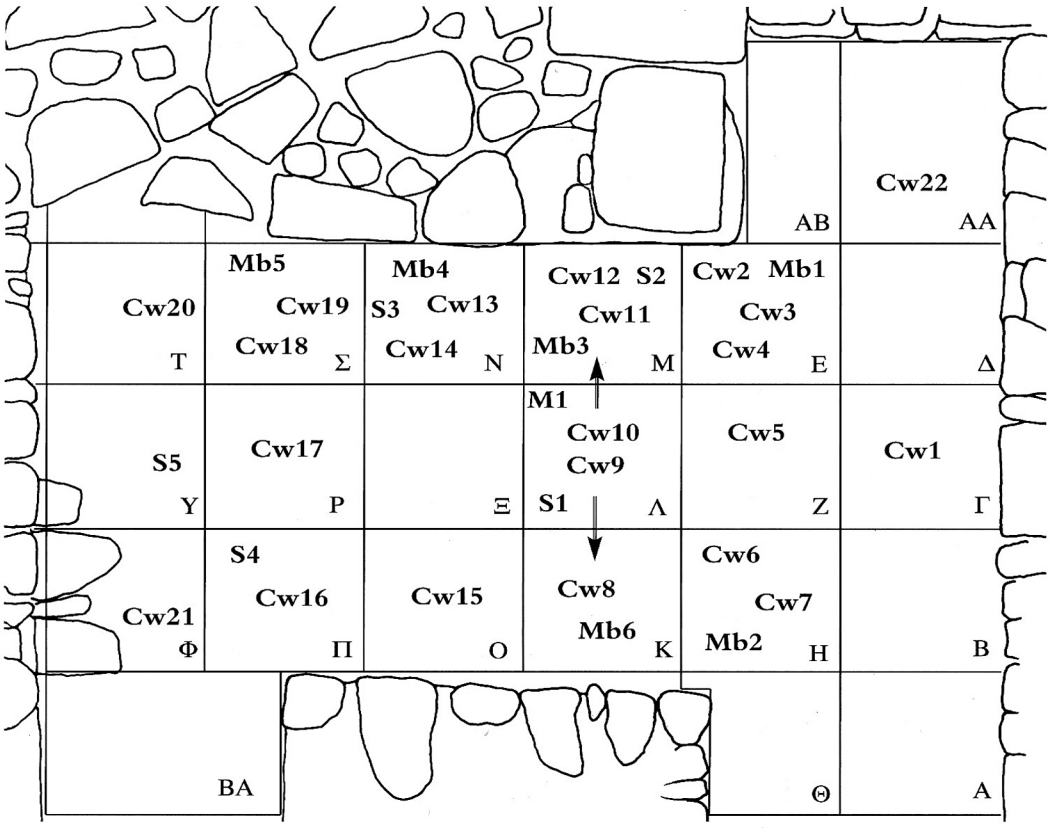


Fig. 95. Distribution of metal, stones, carbonised wood, carbon and fragments of mud-brick. **Cw14** is a fragment of burnt almond shell.

amounts of such documents discovered in the remains from the hieroglyphic archives of the palaces at Knossos and Malia. We believe that the archive at Petras also contained more finished documents, and if this is the case they would have been stored in the northern (northwestern) part of the room, where – as argued above – such objects would have had no chance of survival.

Writing material

Clay was used as writing material, but the question is whether perishable material was also in use. Here we can initially state that the types of documents which in the Linear A administration are supposed to have been attached to documents written on parchment (flat-based nodules) and papyrus (single-hole hanging nodules) are not recorded from the Petras archive. It can also be stated that none of the sealings bore impressions of anything reminiscent of papyrus. Leather, however, was in frequent use, but the identification of this material is mainly connected to the string found inside or on the reverse of the sealings. From the Neoplalatial period we have plenty of evidence that Linear A was used on almost all kinds of material and the inscriptions inside two conical cups from Knossos also show that some kind of ink was used for inscriptions. No such supporting evidence exists for the Protopalatial period within the hieroglyphic administration. The evidence

from Knossos, however, clearly shows that parchment was in use within the hieroglyphic administration, but only – it seems – well into the Neopalatial period (cf. above, p. 187). We have (above, p. 192) ventured to suggest that the direct sealing **D38** might perhaps – in spite of all the differences compared to the classical flat-based nodules – have been a forerunner of these. There is absolutely no way we can prove this, and the sealing belongs to those we believe to have been discarded. Had it only been found in the northwestern area, where we believe finished documents to have been stored, we might perhaps have felt somewhat more confident. However, we had no such luck, and none of the sealings found in the northwestern area could have been of the same type as **D38**. If this sealing had been sitting on a parchment document it would be reasonable to suppose, that seal PE 019 had also been used by a bureaucrat in the archive. If, indeed, parchment was prepared and used in the archive room, the piece of pumice stone in a pre-eruption deposit may be noteworthy, since we know – at least with regard to the medieval period – that pumice was used in the process of making leather into parchment. Unfortunately this piece of pumice which was found in Square Y together with obsidian blades (which may have been used to cut leather) is among the temporarily missing items, and we have no way of telling what it may have been used for. In short: there is no positive evidence that perishable material was used as writing material, but there are indications that the possibility cannot be excluded.

The seals

The seal devices above (p. 198) were divided into four categories: hieroglyphic inscriptions, figural motifs, geometric motifs and indeterminable. When we consider the distribution of the recognisable categories (Fig. 96) we notice the same as with the distribution of the sealing types: there is no consistent pattern. All types of seal devices were found in all areas, while sealings with more than one seal impression (Fig. 97) were only noted among the fragmented sealings. However, since all kinds of sealings were found in the fragmented deposits nothing can really be based on this observation. Also there is no consistency either in the types of documents which bore more than one seal impression. Multiple impressions were found on three direct sealings (of which two were, not surprisingly, peg sealings), on one combination sealing, one roundel and one indeterminable sealing. When we consider the distribution of sealings where an impression from the same seal is found more than once, it is probably significant that two which were in a more or less complete state were found in the northwestern area. The third which was also in a more or less complete state came from Square Φ while the remaining probably all belonged to the fragmented seals (Fig. 98). We have argued above that these seals were probably used by bureaucrats in the archive.

The seals which for one reason or another we considered to have been used by bureaucrats in the archive are PE 002–007, 013, 016, 018, 019 and 032,

Fig. 96. Distribution of seal devices.
Legend:
F Figural motif
G Geometric design
H Hieroglyphic inscription

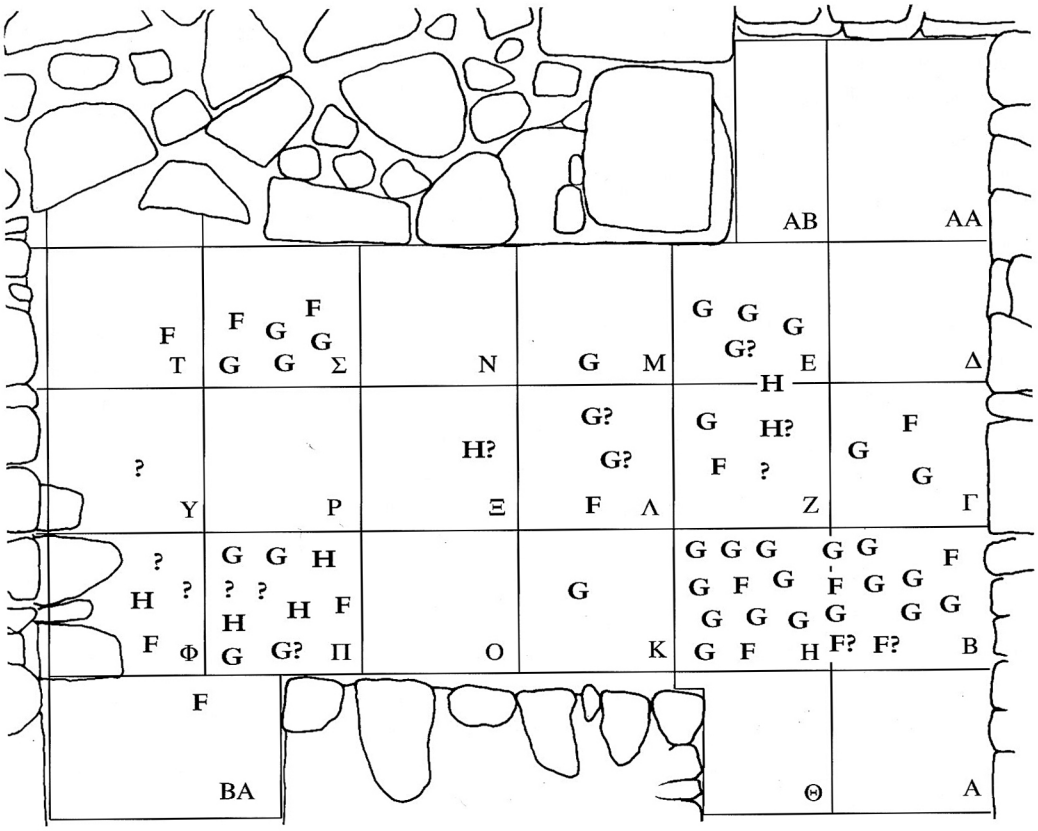


Fig. 97. Distribution of documents with two seal impressions. Bold script signifies the two impressions were identified with certainty, while ordinary script signifies that one of the impressions is uncertain.

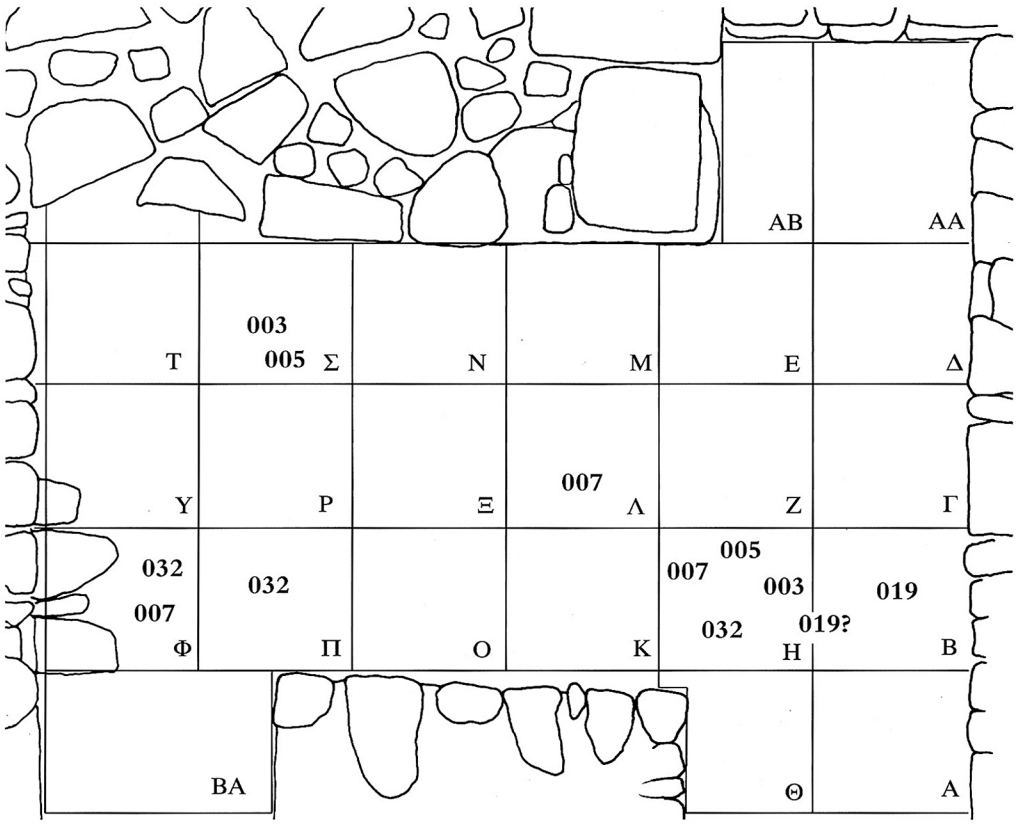


Fig. 98. Distribution of different documents bearing impressions from the same seal. The numbers refer to the seal device number.

while those used by bureaucrats or individuals outside the archive are: PE 001, 009, 010–012, 020–022, 039, 040, and 048 (Fig. 99). Inside the archive we thus believe that at least 11 seals were in use: six discoids, two stamps, one petschaft, one three-sided prism, and possibly a ring. Six of these seals have figural motifs while the remaining five have geometric designs. With the exception of PE 006, and possibly 007 and 016, the seals are considered to be of a high quality. If our supposition, that the mentioned seals were used by the bureaucrats of the archive is correct, it is highly interesting in that it clearly indicates that the highest quality seals with the most intriguing natural motifs, were used by the highest ranking officials. This pattern where seal quality corresponds with the rank of the user, has always been presumed in general discussions on sphragistic use in the Aegean. However, it is here in the Petras material, that we find for the first time, an indication that this assumption may very well be correct. That certain seals of lesser quality were also used need not surprise us, since this has also been inferred from material found in other archives in the Aegean.

The collection of "archive seals" is highly interesting seen from another point of view, specifically, when we consider the type of sealings they were used on. In this discussion we shall omit PE 016 which was found either on a Type 5A or for reasons given below, perhaps more likely a Type 04. In any case, this document is missing the flat reverse which is a prerequisite for the Type 05 documents. What remains are 16 sealings, 14 of which are

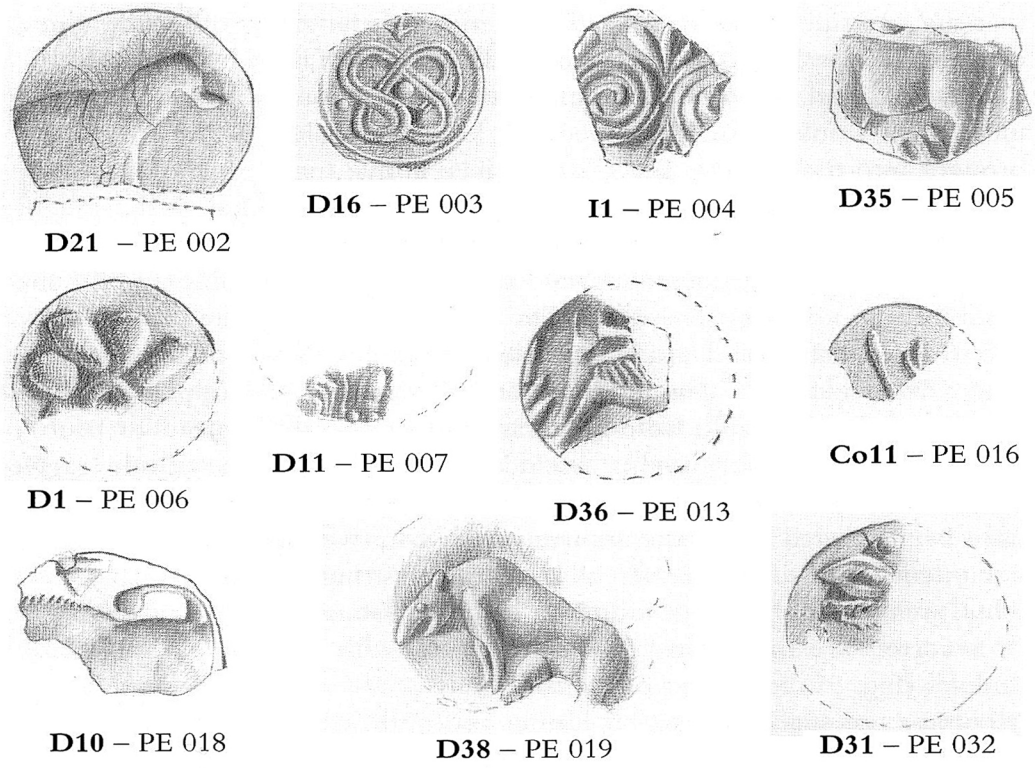


Fig. 99. Seals used by bureaucrats inside the archive are those depicted above the line, while those below the line are seals used by bureaucrats outside the archive.

direct sealings, one (or two) irregular sealings, and one indeterminable. It is known from other archives, not least the Mycenaean ones (cf. above, p. 184), that the irregular string nodules are often fastened to the strings in a perfunctory manner and thus functionally, are often equivalent to a direct sealing. It would therefore seem that the archive seals were all some kind of direct sealings and it would make perfectly good sense in the scenario envisaged above, that it was (stationary?) cupboards, boxes and other containers which were sealed in the archive. In contrast to the "archive seals" we see

that the "outside seals" were used on a much wider range of sealing types, of which Types 04 and 05 are the most dominant. Of the 11 "outside seals", four were found on combination nodules and three on irregular string nodules. One would naturally expect all kinds of sealed documents to be brought into the archive. For reasons given above (pp. 156 and 241) crescents and roundels are considered "working documents" that were brought into the archive, for which reason one would not expect to find "archive seals" on this type of document, and the same probably holds true for the combination nodules. These nodules are, as we have noted above (pp. 185–6), reasonably solid and in the case of Type 5A almost always provided with a 'Haltenknote'. It would therefore be reasonable to suppose that this kind of document could have been fastened to movable objects or been a document intended for moving around, as is clearly the case with the regular string nodules of the Mycenaean period. Such documents would not have been needed inside the archive and is why we now prefer to see the document stamped by PE 016 as an irregular string nodule, which is also why "archive seals" are not found on combination nodules. If this hypothesis is correct we may then add the remaining seals found on combination nodules (Fig. 99) to the list of "outside seals".

To take our speculations a bit further and into really deep water, we may note that there is no overlap between the "archive seals" and the "outside seals". This could very well be by chance, but it may, on the other hand, also indicate that these seals were confined to the archive for bureaucratic reasons, in order to differentiate sealing business performed outside the archive with the use of a different seal. This leads us to our last off-the-wall suggestion concerning the seals. In the Petras material there appears to be an example of "look-alike" seals. This is the bovine found on seals PE 005 and PE 065 (cf. above, p. 199). The interesting thing in this connection is that PE 005 is an "archive seal", while PE 065 is an "outside seal" found on a combination nodule. Might it be possible that both these seals were used by the same person: one inside the archive and the other outside the archive? One could also ask this question with reference to another pair of seals, PE 003 ("archive sseal") and PE 009 ("outside seal"), the designs of which are in principle much alike.

It has been noted a few times above that even when large enough to display an entire seal device, a sealing may only have displayed part thereof. This was the case with the stamp used on the peg sealing **D1**, and a similar observation can be made on PE 001 found on the crescent 0673. This may perhaps also be the case with seal PE 007, where at least on the preserved impressions, only part of the rim of the seal is visible. There are also other instances where the sealing was obviously too small to carry the entire image of the seal impressed upon it. This is the case with PE 005 (on **D35**), 008, and 022, while the edge of the roundel (**R1**) was too thin for the entire seal motif to be impressed and it is also doubtful whether there would have been space in its entirety for a second seal impression, PE 030, on **Co1**. These examples show a phenomenon which is well-attested in other contemporary and later archives in

the Aegean. Quite obviously, it seems, it did not matter to the Minoan bureaucrats whether or not a seal impression was complete as long as there was at least enough preserved for purposes of identification.

The shape of the documents

In the Petras archive were found eight main types of documents: four-sided clay bars, medallions, roundels, *noduli*, crescents, irregular string nodules, combination nodules (types A and B) and direct sealings (types A-E). When complete, or more or less so, none of these main types could be mistaken for anything else. We noted that all the medallions were executed very differently from each other, but possessed characteristics that differentiated them from other documents. For later periods the same holds true with *noduli*, but without being attached to anything they, too, are unmistakable. Roundels – like clay bars – are fairly uniform, and the same seems to be the case with the two types of combination nodules. Most of the direct sealings would also be immediately recognisable and so would, most likely, the irregular string nodules considered as types, although they may functionally have been a kind of direct sealing. If, for a moment, we disregard the irregular string nodules and possibly the direct sealings, the shape of which was dependent on the object they sealed, it is obvious that a great deal of care was taken to form each individual document into a specific shape. The reason for this could hardly be anything but a clear bureaucratic function. Clay bars were finished accounts, roundels were receipts, medallions were ..., crescents were ..., combination nodules signified ..., etc., etc. When we also include the direct sealings, matters may be slightly more complex but were probably still obvious to the bureaucrats. For example, peg sealings with specific seal impressions could have signified that this box or this door had been opened and closed – here it was the seal impression which was the essential message whether it was the door of the oil magazine or the linen chest that had been opened and closed by an official. The same would probably apply to the remaining kinds of direct sealings. If we go one step further and also include the irregular string nodules in the discussion, things become more complicated. There is no doubt that these nodules were attached to items through strings or 'Wickelbänder', but while the shape of the nodule would not have immediately revealed the type of object, it may perhaps have revealed the type of transaction. If, by comparison with the Mycenaean sealings of this type, they had originally been fastened to objects brought into workshops and/or storerooms, the shape of the nodule would clearly indicate what it had been used for, while the seal impression might have provided sufficient information to the bureaucrats to more precisely indicate the type of transaction. In the case of the irregular string nodules we cannot be sure whether the seal impressions were set by bureaucrats or individuals, while the evidence from the northwestern area of the archive certainly indicates that bureaucrats were among those who sealed this kind of document. We therefore have no doubt, that the shape of a document was important in itself and revealed a clear bureau-

cratic message, which – with the exception of the roundel – is not clear to us today.

As mentioned in the introduction to this chapter, much of what has been presented here is highly speculative, partly because we cannot be sure that all our suppositions are correct and partly because we have committed the unforgivable sin of allowing a hypothesis to take the role of fact, during the course of discussion. This is, for example, true for the northwestern area. We have assumed all the way through that this is a storage area for the archive – but is it really? We also assume that we can pinpoint a number of specific "archive seals", but again, it is no more than an assumption, and any new hypothesis built on this assumption cannot have much value. We are painfully aware of these weaknesses, but the above presentation is nevertheless a scenario which we believe that the finds and their distribution, may tell us about the activities in the hieroglyphic archive in MM II Petras.