

The nodules and their types

– definitions and discussions

With the new finds from the hieroglyphic deposit from Petras it is now possible to demonstrate that seven main types of sealed documents were in use within the hieroglyphic administration in Middle Minoan Crete. These are: the roundel, the *nodulus*, the crescent, the irregular string nodule, the combination nodules, the flat-based nodules and the direct sealings. Except for the roundel and the crescent there are sub-divisions in each main type. The roundel, the irregular string nodule and the combination nodule are new additions to the types previously known in the hieroglyphic archives. Almost all the nodules from Petras are in a very fragmentary condition, but some nodules were preserved to such an extent that the different types and sub-types could be determined (Fig. 1).

Type 1. The roundel

The roundel is a clay disc with one or more seal impressions along the edge. There is one roundel more or less completely preserved, **R1**. It is of the canonic type, also found in the Linear A administration.¹ It has remains from two seal impressions along the edge, and across the best preserved area is incised a stroke, probably the numeral 1. The seal impression(s), PE 021, are badly preserved. The design appears to be rather simple with linear and geometric designs, and does not appear to be from a high quality seal. For further comments on this roundel and its significance, see above p. 157. In the Petras material there is another fragment, which could perhaps be from a roundel. **R2** has an outline and size which is not incompatible with a roundel, and in the existing part there are no impressions from strings. However since there are no inscriptions and no seal impressions, the identification must remain uncertain.

Type 2. The *nodulus*

The *nodulus* was identified as an individual document by Weingarten.² It is a clay lump which has not been fastened to anything and which, according to type, carries one or two seal impressions. In Linear A and Linear B Type 2A, the dome-*nodulus* may be inscribed.

¹ Hallager 1996, 36 and 79-120.

² Weingarten 1986.

Type 2A.

The dome-*nodulus* is roughly dome-shaped and never carries more than one seal impression. None of this type has with absolute certainty been identified at Petras, although **N1** is considered a likely candidate, as the fragment is relatively large and no imprints from string or objects can be seen in the fracture, which is where a nodule usually breaks. Another likely candidate is **N2**, which has the typical shape of a *nodulus*. It is complete, without string holes and has not been pressed against anything, while the surface has been polished, ready to receive the seal impression. The same features can be observed on **N3** which, however, is of a slightly irregular shape. The three supposed *noduli* were found close together in Square E, close to the crescents and roundels (see below Fig. 87). The seal impression on **N1**, PE 037, is badly preserved. The decoration consists of indeterminable linear designs and appears not to be from a high quality seal.

Type 2B.

The disc-*nodulus* is a small clay disc with a seal impression on each of the flat sides. None identified at Petras, although one piece of clay may have been prepared for such a type: **N4**.



Fig. 32. **Cr2**.



Fig. 33. **Cr4**.

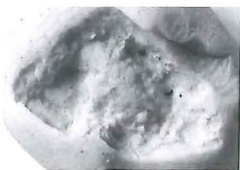


Fig. 34. **Cr6**.

Type 3. The crescent

The crescent is a crescent-shaped nodule with a gable-shaped section and flat bottom, with a string running along the long axis of the crescent. It is usually inscribed with hieroglyphs and usually carries at least one seal impression. In the Petras material, one is almost completely preserved **Cr1**, as well as fragments from at least three others: **Cr2**, **Cr3** and **Cr4**. In all four cases relatively thick strings were used. In the case of **Cr1**, a knot was noted on the string inside the crescent and the same is probably the case on **Cr2** (Fig. 32), while on **Cr3** we are dealing with two, probably crossed, strings, apparently without knot, although the same need not be the case on the more fragmentarily preserved **Cr4** (Fig. 33). Most crescents found in other deposits are more or less complete and they appear to be relatively solid documents where, as is the case with, for example the Mycenaean regular string nodules, a knot was always tied inside the nodule to keep the string in a firm position.³ One might have expected the same with the crescents, but at least with regard to **Cr3** this does not seem to be the case – it seems, in fact, to be the exception to the rule.

On the crescents identified with certainty only one seal impression has been identified – PE 001. It is from a small oval seal displaying a simple symmetrical branch design of no particular quality. The combination of inscription and a non-hieroglyphic seal is only found on five other crescents from Knossos,⁴

³ Müller in Pini *et al.*, 58.

⁴ HMs 170, 171, 177, 184 and 202.

but these all differ from the Petras crescent in that, while our crescent is inscribed on all three sides, the Knossian ones are only inscribed on one or two sides.⁵ This makes **Cr1** unique, but whether it has any significant meaning remains uncertain. On the uncertain **Cr6**, part of a seal impression is preserved, PE 017, which might display a hieroglyphic sign.

For further discussion on the function of the crescents see above, p. 156.

Type 4. The irregular string nodule

The irregular string nodule is a piece of clay set around or partly around one or more strings and bearing at least one seal impression. None from Petras are sufficiently complete to definitely prove the presence of the type. In the *CMS* terminology, the irregular nodule definitely meets the terms “Schnurplomben mit offner Rückseite”, “Schnurplomben mit gewölbte Rückseite” and “Schnurplomben mit dreiartiger Rückseite”.⁶ It is the type of nodule that has been pressed more or less casually around or over some kind of string or strings and then sealed. In the Mycenaean period, these sealings were almost exclusively found in storerooms or workshops.⁷ One or possibly two such nodules were found in the Hieroglyphic Deposit at Knossos.⁸ A few have also been found in the Temple Repositories,⁹ while the type is not found in the LM IB deposits all over Crete. Of these, especially HMs 140 from the Hieroglyphic Deposit and HMs 168/4, 168/6, 385 and 397 from the Temple Repository are interesting because they were pressed over a ‘Wickelband’ as was usual in the Mycenaean period and as was also found in six examples from the Petras material, three of which are on this type of nodule.¹⁰ Other impressions noted inside these nodules included crossed strings of different material, some leather.¹¹ Twisted strings, probably with knots, were noted twice,¹² while an impression of strings and knot in a smooth material was noted once.¹³ The remaining impressions from strings were broad flattish bands apparently made of some kind of fibre,¹⁴ and a small fragment with the impression of a fine thin string(?).¹⁵ As mentioned, none of the Petras nodules of this type are sufficiently complete to be absolutely sure of a correct identification, but the impressions from the strings inside the nodules display the same kind of variations as found in later deposits, and the shapes of those nodules do not seem to fit with any of the other known or recognised types from Petras.

⁵ On one side (g): *CHIC* #004, 006, 008 and 012; on two sides (g+b): *CHIC* #016.

⁶ *CMS* II, 8, 59-69.

⁷ Hallager 2005.

⁸ HMs 140 (*CMS* II, 8, 286) and HMs 128 (*CMS* II, 8, 157).

⁹ HMs 168/4-6, 359, 1240, 385, 391 and 397.

¹⁰ **I12** and **I1** and most likely **I4** (Figs. 35-7). For comparison to Mycenaean types, cf. Pini *et al.* 1997, Taf. 41, 6-8.

¹¹ **I14**, **I5** (Figs. 38-9), **I8** and probably **I9**. For “crossed strings” see *CMS* II, 8, Abb. 19b.

¹² **I7** and **I11** (Fig. 40).

¹³ **I2** (Fig. 41).

¹⁴ **I3** (Fig. 42), **I15** and **I6**.

¹⁵ **I13** (Fig. 43).



Fig.
35.
I1.



Fig.
36.
I12.



Fig. 37. **I4.**



Fig. 38. **I14.**



Fig. 39. **I5.**



Fig. 40. **I11.**



Fig. 41.
I2.



Fig. 42.
I3.



Fig. 43. **I13.**

If correctly identified the question must, however, also be asked whether they are all of the irregular type or whether some could have been of the “two-hole hanging nodule” type known from the LM IB deposits in the Linear A administration.¹⁶ This is not very likely as these nodules are almost always complete, and do not – to my knowledge – show the same variation of string impressions as found in the Petras material.

None of the fragments of this type of nodule carries more than one seal impression, and it is also noted that none of the seals – as far as the motifs can be identified – have figural motifs. However, three of the seals used seem to be of a high quality¹⁷ where the very marked designs would seem to indicate hard stone seals. This, at least, seems particularly true for PE 020 on **I2**. The best preserved impression from this group is PE 004 on **I1** with a spiral and plant motifs which, however, do not seem to be of an outstanding quality. Both discoid/lentoid¹⁸ and stamps/petschafts¹⁹ were used on this kind of documents.



Fig. 44. **Co1**.



Fig. 45. **Co2**.



Fig. 46. **Co18**.



Fig. 47. **Co19**.

Type 5. Combination nodule

The combination nodule is a type of sealing not previously attested in hieroglyphic deposits.²⁰ It is a nodule which has both been pressed against an object and which also had a string inside the clay. This type of nodule is unknown among the Minoan Linear A documents, while it is well-known from the Mycenaean repertoire.²¹ The Mycenaean combination nodules are of two main types: those pressed against wickerwork and those pressed against a flat surface. In the Petras material we only find those pressed against a flat surface, but they exist in two main types. Type 5A which is a kind of disc-shaped combination nodule, has rather straight, upright sides, while the bottom is pressed against a flat object and the upper surface carries one or two seal impressions. The other, Type 5B, is a dome-shaped combination nodule pressed against a flat object, with an upper domed surface that bears a single seal impression. Type 5A could perhaps be further sub-divided according to thickness, cf. below.

From each of the main types, two nodules are sufficiently well-preserved to justify the subdivision. The two from Type 5A are **Co2** and **Co1**, and the two of Type 5B are **Co18** and **Co19**. When we observe the inside of those four combination nodules we also note a clear difference. Inside the disc-shaped nodules we find heavy strings with large knots (Figs. 44-5), while inside the

¹⁶ Cf. Hallager 1996, 160-1.

¹⁷ Seals PE 020, 014 and 057.

¹⁸ PE 004 and 035.

¹⁹ PE 014 and 020.

²⁰ It should be noted that one such sealing of an unknown context from Knossos (AM 2383 = *CMS* II, 8, no. 13), to judge from the seal impression, may perhaps be an early specimen. The type, however, fits perfectly with the late Mycenaean ones.

²¹ Weingarten 1988, 6-7 (Class XII), *CMS* II, 8, 69-74.

two dome-shaped nodules we find relatively fine crossed strings which are almost identical in the two nodules (Figs. 46-7). Furthermore it should be noted that in Type 5A – when it has a thickness of more than 0.70 – the string is always provided with a knot, or in two cases, with windings which would have functioned as a knot, while those with a thickness less than 0.70, as in Type 5B, have relatively fine crossed strings inside (Figs. 48-9).²² If these observations are consistent, it is almost certain that the doubtful **Co28** with a string and knot (Fig. 50) belongs to Type 5A, and judging by the knot found inside **Mi21**, this nodule (now categorised as Type 8) also ought to be a Type 5A.²³

It seems that the knot is a consistent feature on the thick disc-shaped combination nodules, and one may thus ask whether the thin variant with its crossed strings functionally belongs with the dome-shaped type. In the remaining Type 5B?, Type 5 and Type 5?, we find crossed strings (Figs. 52-3),²⁴ crossed leather strips (Fig. 54),²⁵ the best preserved impression from ‘Wickelband’ (Fig. 55),²⁶ and finally an odd string/object(?).²⁷ It thus seems that the thick disc-shaped combination nodule is a document which required a knot, while the remaining combination nodules were usually with crossed strings, but also with other string combinations like the irregular string nodule.

The one thing which all the identified combination nodules have in common is that they had been pressed against a flat surface or been smoothed flat. These even surfaces have no distinct impressions to indicate what they have been pressed against. Small boxes could be considered a possibility.

When we look at the more completely preserved specimens (**Co1**, **Co2**, **Co3**, **Co18** and **Co19**) it can be observed that the nodules are fractured in the direction of the string impressions which leads us to suppose that these nodules were broken on purpose in the Minoan period,²⁸ *i.e.* in the archive room. If this supposition is correct, we may perhaps imagine that small sealed containers had been brought to the archive room where the seals were broken and the contents registered and perhaps also with a note indicating supplier or responsible official (the seal impression)?

It will first be noted that the thick disc-shaped combination nodule might carry one or two seal impressions as is seen on **Co1**. It is also noted that this same type of nodule is stamped with seals with figural motifs,²⁹ as well as prisms with hieroglyphic inscriptions.³⁰ Several of the impressions seem to come from high quality seals.³¹ These observations, taken together with the

²² **Co5**, **Co8** and **Co17**.

²³ The knot is almost identical to the ones found on other combination nodules **Co9**, **Co28**, **Co11** and **Co7** (Fig. 51). The only other knot of the same type is found on the possible crescent **Cr6**.

²⁴ **Co21**, **Co25**, **Co30** and possibly **Co23**.

²⁵ **Co20**.

²⁶ **Co22**.

²⁷ **Co29**.

²⁸ Cf. the Mycenaean period irregular string nodules as explained in *CMS II*, 8, 55-56 .

²⁹ PE 022, 065 and probably 008.

³⁰ PE 029 and possibly 030.

³¹ PE 034, 008, 065 and possibly 022 and 011.



Fig. 48. **Co5**.



Fig. 49.
Co8.



Fig.
50.
Co28.

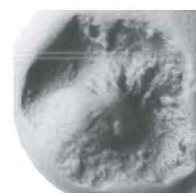


Fig. 51.
Co7.



Fig. 52.
Co21.



Fig. 53.
Co25.

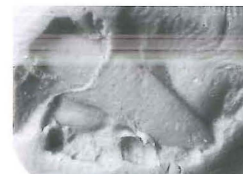


Fig.
54.
Co20.



Fig.
55.
Co22.

fact that the thick combination nodule is always provided with a ‘Haltenknote’, seem to indicate that this kind of nodule may have played a special role in the hieroglyphic seal administration and perhaps that the seal users were of high rank within the administration. The type of seals used on these nodules are the prism,³² the lentoid/discoid³³ and perhaps the stamp/petschaft.³⁴ From the certain dome-shaped combination nodules only one seal is preserved – actually the only completely preserved seal impression in the Petras material – PE 009, which is a well-engraved stamp/petschaft with a relatively simple geometric design.

Type 6. Flat-based nodules

Flat-based nodules are lumps of clay pressed over a folded piece of parchment wound by a thin string which is also wound into the clay. This kind of nodule has so far not been identified at Petras and is only known from Knossos; Ingo Pini, with very good reasons, has suggested that they are in fact not part of the Hieroglyphic Deposit,³⁵ but the evidence, as we know it, seems to indicate that they are,³⁶ and in *CMS II*, 8, dedicated to the Knossos sealings they are ascribed to the Hieroglyphic Deposit.³⁷ It has, however, been very strongly argued by Pini that the deposit should be dated MM IIIB/LM IA.³⁸ If correct, it means that the “classical” flat-based nodule so far is unknown from the MM II period. In the Knossian material the recumbent type is found, both with one and two seal impressions. On this problem, see further below p. 250.

Type 7. Direct sealings

Direct sealings are lumps of clay which have been pressed over/fastened to an object, but where no string marks are visible inside the clay. This is the most common sealing type in the Petras material and it has been sub-divided into five main groups.

Type 7A. Peg sealing

The peg sealing is pressed against a flat surface and a peg (or pommel) wound by a string. One such sealing **D1**, is almost completely preserved. It has the typical triangular profile and it bears a single seal impression. On the inside is found the impression of a peg with a diameter of more than 1.2 cm and wound by a single string at least five times (Fig. 56). On three more fragments, the same characteristic feature with a single string wound around a peg is observed.



Fig. 56. **D1**.

³² Co1.

³³ Co2, Co6 and possibly Co7.

³⁴ Co10.

³⁵ Pini 1990, 41 and 43.

³⁶ Hallager 1996, 36 and n. 33.

³⁷ *CMS II*, 8, 8 and Tab. II, p. 816.

³⁸ *CMS II*, 8, 6–8.

D4: also with the fragment of a single seal impression preserved; **D3** on which there seem to be traces from two seal impressions; and on the small fragment **D7**, where no seal impression is preserved. On **D5** there seems to be part of a pommel preserved (Fig. 59), which has been wound at least twice by a single string. On the fragments **D6** and **D8**, both without seal impressions preserved, we find clear impressions of a peg and an apparently twisted string leading up to the peg, but no windings around the peg are seen. On **D2**, part of a peg is clearly seen while the string wound around is unusually thick.

If the above fragments are all correctly identified as peg sealings, the usual system seems to be that a relatively thin single string (with a diameter of *c.* 0.2 cm) is wound several times around the peg upon which the clay is pressed over string and peg and up against the flat surface from which the peg protrudes. Twisted strings and thicker strings may also have been used. This kind of sealing is usually interpreted as a sealing for doors or chests. It has been found all over the ancient world³⁹ and in Crete it was quite common in the old palatial period, where it has been found both within the hieroglyphic⁴⁰ and within the Linear A administration.⁴¹ This type of sealing has not been found in any of the large LM IB deposits and is not known within the Mycenaean administration either.

Usually, the peg sealings are stamped more than once with the same seal,⁴² and in the Petras material one, or possibly two, peg sealings are stamped more than once,⁴³ as may have been others of the very fragmentary pieces. The completely preserved sealing **D1** is, however, definitely only stamped once, but this also is known from elsewhere.⁴⁴

At Petras there are five securely identified peg sealings with seal impressions preserved and they are all from different seals. This indicates different seal users and probably also indicates sealings from different chests/doors. This last point is partly confirmed from the imprints on the reverse, in that **D2** has a very different string from the others (Fig. 60), and that **D5** apparently has a pommel. It is also noted that **D3** and **D4** have a slightly finer string than the one used on **D1**. So it seems fair to argue that these seals had sealed different chests/doors and that it was done by different “officials”. Among the seals used, PE 010 is outstanding, since it is a prism with hieroglyphs. For this phenomenon there is only one parallel from Quartier Mu at Malia.⁴⁵ The remaining seals used appear to be from stamps and discoid(?) of a moderate quality with the possible exception of PE 015.



Fig. 57. **D4**.



Fig. 58. **D3**.



Fig. 59. **D5**.



Fig. 60. **D2**.

³⁹ For example 4th Millennium Arslantepe, Ferioli & Fiandra 1983, 490-6.

⁴⁰ At Malia, cf. Poursat 1990, 28 and pl. II.

⁴¹ At Phaistos, Fiandra 1968. At Knossos peg sealings have been found in Room of the Olive Press, the SE Pillar Room, while a single fragment has been found on the S side of the Royal Road., cf. *CMS* II, 8, Tab. 3 and p. 30. At Knossos we cannot be certain whether it belongs to the one or the other kind of administration.

⁴² Among the published material there is only one odd exception from this rule on HMs 412 (*CMS* II, 8, no. 17/18) where one seal was stamped over with another seal.

⁴³ **D3** and the uncertain **D9**.

⁴⁴ For example HMs 1072 (*CMS* II, 6, no. 198) from Malia.

⁴⁵ HMs 1086, cf. *CMS* II, 6, no. 183 and *CHIC* #173.



Fig. 61. D10

Type 7B

Type 7B is a relatively thin sealing (none exceeds the thickness of 0.74), which has been pressed over a flat surface with a string (Fig. 61). Five such possible sealings are identified⁴⁶ and all of them are broken at the weakest point where the string impression is seen. This could perhaps indicate – as was the case with some of the combination nodules – that these sealings were broken deliberately in the archive room. Another thing that the five fragments have in common is that the string is heavier than seen on, for example, the peg sealings. When it was possible to measure, the thickness of the strings was at least 0.3. Both single strings and twisted strings are noted. This type of sealing would not be very well-secured to the object on which it was fastened, and one would therefore suppose that it was intended as a mark for identification rather than securing the object. On the largest fragment of this type, **D10**, the flat surface displays a faint structure which could perhaps be wood, while in the remaining four cases the flat – or almost flat surface – is very smooth. Among Aegean sealings, a couple of possible parallels may be pointed out, one being HMs 148 which is apparently a Mycenaean sealing found on the Landing of the Grand Staircase at Knossos.⁴⁷ This almost completely preserved sealing has also been pressed over a flat surface with a single heavy string without knot, but it is slightly thicker and has a triangular and not flat section. Other possible parallels are two direct sealings from the Archive Room at Pylos NMA nos. 9048 α and β .⁴⁸ Whether or not they are sealings with the same function must remain uncertain. A possible function for some of these sealings might have been Type D1 from Arslantepe “clay sealings inside pots”.⁴⁹



Fig. 62. D15.



Fig. 63. D25.

Three seals have been identified on Type 7B and they all appear to be of a good quality. PE 018 is from a large oval well-engraved seal, perhaps a ring, depicting a lion(?) to the left. PE 032 is from a well-engraved discoid(?) depicting a “monster’s head”, while the last seal, PE 007, could be from a relatively well-engraved stamp with an unrecognisable complicated motif. The last two seals are “overlaps” in that they have also been impressed on other types of documents. Thus, PE 032 is also found twice on Type 7D, while PE 007 is also found on Type 7C and on an indeterminable fragment. The high quality of the three seals (with at least two figural motifs out of three) taken together with the fact that the seals were also used on other types of documents, probably indicates that the seal users on the Type 7B documents were high ranking local officials.

Type 7C

Type 7C is characterised by clay which has been pressed over a non-flat object



Fig. 64. D22.

⁴⁶ **D10, D11, D12, D13** and **D14**.

⁴⁷ Popham & Gill 1995, 19.

⁴⁸ Pini 1997, nos. 21A and B, p. 12 and Tafel 39,1-2.

⁴⁹ Ferioli & Fiandra 1983, 479 and especially fig. 12.

that was sometimes wound by a string. This type also has no indication of string marks inside the clay. The reverse, however, is without fracture and displays the impression of the object it was pressed against. From this type of sealing there are a few which are rather large or almost complete. The reverse of these sealings displays no consistent pattern. **D18** is pressed over a slightly curved surface with a thick string and might be a Type 7B. Three nodules are pressed over a slightly curved object which seems to have an end and which could perhaps have been sitting around something. These three nodules are **D15**, **D25** and **D22** (Figs. 62-4). Three seem to have been pressed over strings going in different directions (Figs. 65-6). These nodules are **D17**, **D16** and **D23**. Two, **D30** and **D24**, seem to have been pressed over smooth pegs(?) with something attached (Fig. 67), while **D19** where there is no seal impression preserved, was pressed over a large curved object. **D26** and **D27** have probably both been pressed over a relatively smooth object with a string, while **D21** was pressed over a slightly curved object with a rough surface with a string splitting in a Y-shape (Fig. 68). The last nodule ascribed to this shape is **D29**, which has the impression of what looks like very fine basketry from which a thick twisted string protrudes (Fig. 69).

These sealings have obviously been placed on different kinds of objects, more often than not also secured by a string. From practical experiments it has not been possible to make reconstructions which may reveal the nature of the object to which the nodules were applied. On none of this type of sealing was more than one seal impression found, while some of the best preserved seal impressions were found on Type 7C, most of them of a good quality. This is certainly true for the two stamps/petschafts,⁵⁰ while the intriguing and detailed motif on PE 026 is relatively poorly preserved. Of the two seals with figural motifs, PE 002 is apparently of a poor quality, while PE 012 also seems to have been poorly engraved. The very fragmentarily preserved PE 061 appears to be from a large, well-engraved seal. In this group of sealings is also noted a prism(?) with a possible hieroglyphic inscription, Seal 038. Furthermore it should be noted that Seal 007 found on **D24** is also found on a Type 7B seal and a sealing of indeterminable type.⁵¹

Type 7D

Type 7D has a characteristic incurved, triangular profile from the smoothed object against which it has been pressed. Seen from above, it appears to have a more or less circular shape. In the inside, *i.e.* opposite the incurved smooth surface, in most cases, only fracture without any string marks is noted. The only exceptions to this "rule" is found on **D31** where there are faint impressions from a smooth band. It remains uncertain what object this nodule was pressed against, although the shape is not incompatible with that of the Type



Fig. 65. **D17**.



Fig. 66. **D16**.



Fig. 67. **D24**.



Fig. 68. **D21**.



Fig. 69. **D29**.

⁵⁰ PE 003 and 044.

⁵¹ **D11** on Type 7B and **Mi11** on Type 8.

B examples at Arslantepe, which are sealings inside (leather) sacks.⁵² If correctly identified as a special type it is interesting to note that, so far, only seals with figural motifs have been used. Seal 032 with a monster(?) is found twice,⁵³ and the only two instances of Seal 005 with a standing bovine is also found on this type. The last seal impression, also from a high quality seal, represents a griffin. With this collection and overlaps with Type 7B it is again tempting to see high ranking local officials as seal users.

Type 7E

Type 7E is only represented with a single example, **D37**. It is the fragment of a rather large sealing on the reverse of which is found the impression of a curved oval-shaped object (Fig. 70) which could be the rim of a fine-ware vase, perhaps a small jug. If correctly identified as a kind of stopper, one would have expected a kind of dome on the part sitting inside the vase, but this part is broken off (only fracture is displayed), while the part outside the rim is a real surface. If a stopper, it is unusual in that the clay was not packed around the side of the vase, but rather protruded outside. This was perhaps required so that the relatively large seal, which carries a hieroglyphic inscription, could be impressed in full.



Fig. 70. **D37**.

Type 7F

Type 7F, pithos sealings, have not been identified at Petras. They are, however, known in hieroglyphic connections in Quartier Mu at Malia.⁵⁴ There have further been found MM II contexts in large amounts in Monastiraki⁵⁵ and to some extent at Phaistos.⁵⁶

Type 7

One unique direct sealing **D38**, remains to be discussed. It is strictly speaking a Type 7C in that it is pressed over a non-flat object with a string. What makes this piece unique, however, is that it is almost completely preserved and that it carries two almost completely preserved seal impressions from a large seal depicting a beast, PE 019. The seal used and the very careful way the clay was packed around the object thus implies, more than any of the other nodules, that something of special importance was sealed here.

The object sealed is cylindrical with a diameter of more than 1.4 cm (Fig. 71). It is terminated at one end and close to the end it is bound by two crossed double strings set as the first part of a knot. It is far from certain, but it seems



Fig. 71. **D38**.

⁵² Ferioli & Fiandra 1983, 474-9.

⁵³ An impression of the same seal is also found on the Type 7B, **D12**.

⁵⁴ Poursat 1990, pl. II.

⁵⁵ Tsigounaki 2006, 202.

⁵⁶ Fiandra 1975b, 12-7 and figs. 11a, 12c-d.

that the object could have continued beyond the nodule. If not, the length of the object is 1.9 cm. On the cast, Fig. 71, it seems that the cylindrical object somewhat narrows where the string is and it thus seems to be a kind of soft material. The surface is rather smooth and in the intact part of the nodule there is a clear, slightly oblique line which may be just a scratch, but which could perhaps also indicate the edge of a rolled object.

The impression of the cylindrical object, thus, is not incompatible with a piece of rolled leather. If this is true, it is tempting to suggest that it might have been a written document. It is true that **D38** does not have all the characteristics of the later flat-based nodules. Here, a relatively thick string is used, the string is not wound into the clay, the supposed leather-piece is rolled and not folded, and the two seal impressions are from the same seal and not two different seals. On the other hand, there are at least two examples in the Minoan repertoire where a flat-based nodule has been wound by a rather thick string close to the one end of the package.⁵⁷

The evidence is far from conclusive, but the possibility, it seems, cannot be ruled out that **D38** sealed a written document in a way which had not yet found its final form. Ingo Pini has very convincingly argued that the Hieroglyphic Deposit at Knossos with its “classical” flat-based nodules should be dated MM IIIB/LM IA,⁵⁸ and it may thus be possible to see our MM II nodule as a forerunner or proto-type of the later well-known type.

Type 8. Miscellaneous

The miscellaneous documents mainly consist of small fragments from which too little is preserved to ascribe them to any of the above categories. Some have incisions which may be from hieroglyphic signs (**Hx 20-29**). With one exception, all these fragments have no impressions from strings and may thus be from bars, tablets or medallions. The only exception is **Mi5** which shows the impression from two smooth, heavy, almost parallel strings, the only parallel to which is found on the uninscribed crescent **Cr3**.

Of the other probable nodules, *i.e.* fragments with string impressions, should be mentioned **Mi10** with the seal impression PE 003 which was also found on the Type 7C sealing **D16**. **Mi10** with its flat reverse and string marks inside could not be from the same type of seal, and since the string seems to display a ‘Wickelband’ (Fig. 72) it would not be impossible to identify the nodules as an unusual Type 5A. Under any circumstances we have here another example of one seal used on two different kinds of nodules. A further example of a seal also found on other documents is **Mi11** with seal PE 007, also found on Type 7B and 7C nodules. **Mi11**, however, is such a small fragment that it might easily be from a direct sealing of one of the same types. Finally this discussion should mention **Mi14**, where the preserved part of the

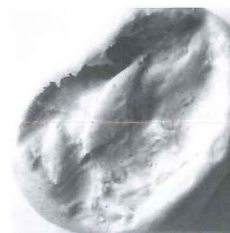


Fig. 72. **Mi10**.

⁵⁷ On the Master Impression from Khania and on a nodule from Hagia Triada, cf. *CMS* II, 6, fig. 14 (ChM 1563) and fig. 13 (HM 558).

⁵⁸ Pini in *CMS* II, 8, 6-8.

seal impression presumably shows the back of an animal, the outline of which fits exactly to that on PE 019 on **D38**. If indeed from the same seal, we are here also concerned with one seal impressed on different documents, since **Mi14** has one surface smoothed flat.

Mi9 appears to be a rather unique sealing in that it has remains of two seal impressions set on surfaces which meet almost at a right angle. The only other nodule where such a phenomenon is seen is on **D38** (cf. above), but since **Mi9** appears to be solid inside and has two parallel surfaces, we are dealing with a different type of nodule, the type of which must remain uncertain.

Of the remaining nodules should be mentioned **Mi21** (cf. above) which displays a knot typical of Type 5A (Fig. 73); **Mi18** and **Mi25** which display remains of pegs(?); **Mi13** which perhaps shows imprints of strings running in different directions, cf. **D17**, **D16** and **D23**. The remaining fragments are too small to display any significant and recognisable impressions.



Fig. 73. **Mi21**.

Four items in the miscellaneous group are almost certainly not from archival documents, *i.e.* they were not been intended to be inscribed, nor sealed. These are **Mi50**, **Mi51**, **Mi55** and **Mi56**. The first two have the appearance of small rectangular terracotta rods in solid clay – a shape definitely not found in the archival material and the same is true for **Mi55** which is a triangular, solid terracotta rod. A few such have been found at Psathi in western Crete, but their function could not be determined here either.⁵⁹ The last piece, **Mi56**, with its pierced hole is not recognisable in the archival documents, while a small unfinished pendant could be a possible interpretation.

Type 9. Lumps

Among the material collected from the archive were many more or less intact small pieces of clay which had been worked, but which were without any particular shape and without seal impression and string marks. All – or most – of these lumps are probably nuclei ready to be used for the archival documents. In the catalogue, 27 such nuclei have been listed. To be considered a nucleus, the clay lump must display certain features. First of all, the lump should be of the typical document clay, and secondly, it must show signs of having been worked, either through the presence of fingerprints or through a smoothed or polished surface. If these criteria are used, three lumps⁶⁰ are almost certainly not nuclei, while two are doubtful.⁶¹

These clay lumps clearly show that sealing activities were going on in the archive at the time of the destruction. In this connection, the two supposedly unfinished *noduli* should also be recalled.⁶² These are strictly speaking nuclei, but they were both in such a finished state with a polished surface etc. that only the seal impressions were missing.

⁵⁹ Mytilineou & Hallager 2000, 52-3.

⁶⁰ **L17** and **L19** (two pieces).

⁶¹ **L14** and **L18**.

⁶² **N2** and **N3**.

Summary

In the hieroglyphic sealing repertoire, two, possibly three new types have appeared in the Petras sealings. The roundel and the combination nodule are seen for the first time, but they are both well-known sealed documents in that the roundel is one of the typical Minoan sealed documents, while the combination nodule reappears in the Mycenaean sealing administration. The irregular string nodule is known from a few examples from the Hieroglyphic Deposit and from the Temple Repositories from Knossos, while it becomes the most usual sealing in the Mycenaean period. The *nodulus* is a well-known type of sealed document in all three administrations, while the crescent – on present evidence – seems unique in the hieroglyphic administration. The classical flat-based nodule does not exist in the Petras material, but if the late date of those from the Hieroglyphic Deposit at Knossos holds true, a possible forerunner for this type of nodule might perhaps be identified in the Petras material. The most common sealed document in the Petras archive is the direct sealing for which several parallels can be pointed out in MM II Crete, especially the peg sealing, but parallels were also found here in the Mycenaean sealing system. Parallels in the details of what the nodules had been pressed against, for example, the ‘Wickelband’, were also found in both systems.

If the use of high quality seals and motifs with figural scenes and or hieroglyphic inscriptions is indicative of seal users of a high status, it is clear that the thick disc-shaped combination nodule and the direct sealings, with the possible exception of the peg sealings, were produced by high status seal users.