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NOESIS
ΚΕΝΤΡΟ ΔΙΑΔΟΣΗΣ ΕΠΙΣΤΗΜΩΝ & ΜΟΥΣΕΙΟ ΤΕΧΝΟΛΟΓΙΑΣ

Το Διοικητικό Συμβούλιο της Εταιρείας Διερεύνησης της Αρχαιοελληνικής και Βυζαντινής Τεχνολογίας (ΕΔΑΒυΤ) ανέλαβε την ανάρτηση στην ιστοσελίδα της (www.edabyt.gr), σε ψηφιακή μορφή, των εργασιών του 3ου Διεθνούς Συνεδρίου Αρχαιοελληνικής και Βυζαντινής Τεχνολογίας (Αθήνα 19-21 Νοεμβρίου 2024).

Οι εργασίες είχαν γίνει αντικείμενο κρίσεων και σχολιασμού από την Επιστημονική Επιτροπή. Επι πλέον, έγιναν κι άλλες παρατηρήσεις και σχόλια κατά την συζήτηση που ακολούθησε μετά την προφορική τους παρουσίαση στο Συνέδριο.

Οι εργασίες αναρτώνται όπως κατατέθηκαν από τους συγγραφείς μετά την ολοκλήρωση του Συνεδρίου. Οι συγγραφείς φέρουν την ευθύνη του περιεχομένου της εργασίας τους, τόσο ως προς τις απόψεις τους όσο και ως προς την ακρίβεια και την ορθότητα των στοιχείων που παραθέτουν.

The Board of Directors of the Association for Research on Ancient Greek and Byzantine Technology (EDAByT) undertook the posting on its website (www.edabyt.gr) of the papers presented at the 3rd International Conference on Ancient Greek and Byzantine Technology (Athens, November 19-21, 2024).

The papers had been subject to reviews and comments by the Scientific Committee. Additionally, further observations and comments were made during the discussion that followed their oral presentation at the Conference.

The papers are posted as submitted by the authors after the conclusion of the Conference. The authors are responsible for the content of their work, both in terms of their views and the accuracy and correctness of the data they present.

MASON'S MARKS FROM THE MINOAN PALACE OF GALATAS

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Abstract

The Minoan Palace of Galatas Pediados is located in Central Crete, about 15 km to the southeast of Knossos. It is the fourth largest Palace after Knossos, Phaistos and Malia. Excavations begun in 1992 under the direction of G. Rethemiotakis and have brought to light significant remains of the palatial compound, particularly the North Wing which housed the most important functions of the Palace. Ashlar masonry was common at the Palace of Galatas and in the destruction debris numerous dressed stones were discovered, bearing mason's marks on their upper surfaces. These consist of engraved or carved signs, such as the *trident* and the *star*. Mason's marks are a common feature across several Minoan sites in Crete, particularly at Knossos. Outside Crete, such marks are rare, with the largest concentration found at Akrotiri on the island of Thera. The characteristics of the ashlar blocks—including their type, shape, size, and the tools and methods used in their carving—along with the types and distribution of marks, underscore the importance of these signs. Nevertheless, their exact purpose remains elusive. Scholars' interpretations vary, suggesting either religious or secular functions related to the construction process, the identity of the stonemason, or even the quarrying and processing of the ashlar blocks. A preliminary report of The Galatas mason's marks is presented for the first time, with the aim of providing fresh data and encouraging a reconsideration of existing theories.

Keywords: Galatas, Minoan Palace, Mason's marks

1. Introduction

Mason's marks are commonly found in most cultures that use dressed stones in building operations and are often linked to script. It is no surprise, therefore, that such marks appear in significant numbers in the Aegean, shortly after the beginning of the

Middle Minoan period. This period coincides with the advent of ashlar technology and the emergence of Linear A script.[1]

Mason's marks are abundant in Minoan architecture, and new finds continue to emerge as excavations continue to expand throughout Crete and beyond. One such case is the site of Galatas.[2] Excavations at Galatas begun in 1992 under the direction of G. Rethemiotakis, and have brought to light an important palatial center approximately 15 km southeast of Knossos, along the route that leads to the Messara plain and Phaistos (Rethemiotakis and Christakis. 2011). Ashlar masonry was common at Galatas and in the destruction debris numerous dressed stones were discovered, bearing mason's marks on their upper surfaces (Fig. 1).

Fig.1 Ashlar blocks bearing mason's marks as found during excavation.

The various types of mason's marks, their distribution patterns and connection to script have garnered significant scholarly attention, resulting in a rich bibliography.[3] More recently, Sinclair Hood's longstanding work on the mason's marks of Knossos has culminated in an impressive two-volume publication (Hood 2020). This colossal corpus of signs stands out for its comprehensive and meticulous examination of mason's marks that were found at Knossos but also at other Minoan sites on Crete, as well as on the Aegean islands and the Greek mainland. Therefore, it consists an invaluable body of data, essential to all future studies of Aegean Bronze Age civilization. The mason's marks from Galatas presented in this paper are a small tribute to his lifelong contribution to the study of the Minoan world. The comparative

[1] The correlation between mason's marks and script, though evident at first glance, remains elusive. See Notti 2014, 133-136 on palaeograohic comparissons and her closing remark that "it has rarely been possible to confidently identify true inscriptions on blocks, which are constituted of signs clearly belonging to a recognized writing system".

[2] The study of the Galatas mason's marks is an ongoing project that will be incorporated in the forthcoming publication of the Architecture of the Palace of Galatas, assigned to Clairy Palyvou by the director of the Galatas excavations, Giorgos Rethemiotakis.

[3] For a comprehensive bibliography on Minoan mason's marks see Devolder 2018.

discussion and the statistics applied herein, are based mostly on the material provided in Hood's book.

2. The material evidence: ambiguities and limitations

Before we proceed, some clarifications are pertinent. The majority of mason's marks reported at Galatas were found on stones scattered in the destruction layers of the Palace. A few were found in the surrounding buildings. Only a small number of blocks with mason's marks are in situ, on walls, pavements, door bases and steps (Fig. 2, 3).

2

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Fig. 2. Two blocks with the sign of the trident: one in situ, and the other in the debris of the collapsed ashlar wall.
Fig. 3. Reused ashlar block with the sign of the trident embedded in the pavement of the Central Court.

The blocks bearing signs in the debris were meticulously recorded in the day-books of the excavation before they were removed. For the purposes of this study these blocks were measured and re-examined, and a comprehensive Catalogue of the Galatas signs was composed, including detailed information about both the sign and the block of stone. The statistical assessments that follow are based on this Catalogue.[4]

Unfortunately, due to inconsistencies in the way mason's marks are reported in publications, comparative evaluation with other sites is not always feasible. In many instances, there is only a brief reference to the presence and type of mark, while comments on its size, form, and appearance are either missing or very limited. Most publications lack information regarding the blocks bearing mason's marks: their dimensions (particularly the height, which indicates the row they correspond to); their form (elongated, trapezoidal, corner stone, etc.); the tools used to dress the stone and carve the sign; the exact position of the mark on the block's surface; the presence of

[4] The recording of the mason's marks involved detailed measurements of both the signs and the ashlar blocks bearing marks. We wish to thank architect Foteini Belliou for her valuable contribution in this process. The complete Catalogue is to be published in the forthcoming volume on the Architecture of the Palace of Galatas.

other cuttings, such as dowels and more.[5] These deficiencies pose significant challenges when attempting comparisons between datasets of varying provenance.

Another problem, unavoidable this time due to objective limitations, is the varying extent of excavation and the state of preservation of buildings at each site. Prehistoric structures are typically preserved to a height of no more than one or two meters; the upper floors are missing, and debris from their destruction has been eroded and plundered over time, with dressed stones visible on the ground surface being the first to be removed for reuse. Therefore, statistical analyses are bound to be ambiguous and deficient.

A crucial factor is the amount of ashlar masonry used at a site and the proportion of ashlar stones bearing mason's marks. Since mason's marks are closely associated with ashlar masonry, the number of blocks *with* mason's marks relative to the number of blocks *without* such marks is meaningful. In places where ashlar technology is limited, even a few mason's marks are significant. Conversely, at sites where ashlar masonry is widely applied, their scarcity, as at Palaikastro, or their absence, as in the case with Vathypetro and Myrtos Pyrgos, is equally noteworthy (Hood 2020, 45).

The above notes of caution are meant to underline the complexity and ambiguity of this research topic, while highlighting its poly-parametric nature. In quest for a pattern that might reveal the scope and meaning of these signs statistics is the main tool used. Ideally, one should be able to compare the number, type, and location of mason's marks per square meter of total ashlar surface, but such information is unattainable, for obvious reasons. Therefore, the statistical analyses discussed below are tentative and apply primarily to piles of blocks found in the destruction layers. Additionally, most of these piles have been removed and the information relies exclusively on the excavation daybooks. It is quite certain that the actual number of blocks bearing mason's marks was much higher. However, this is not necessarily a statistical misfortune, as it holds true, to varying degrees, for all Bronze Age sites.

3. Minoan mason's marks in numbers

According to Hood, the known mason's marks from the Aegean Bronze Age, along with a few from the Greek mainland, amount to approximately 2350, 1600 of which from Knossos and the remaining 750 from all other sites added together (Hood 2020, 1, 45). These sites count to 24, including some outside Crete, notably Thera and the Peloponnese.[6] They appear in a variety of structures, including tombs, religious edifices, and quarries, but they are far more common in Palaces and elite structures.

In terms of quantity of marks, the 24 sites can be grouped into four distinct clusters or ranks, with considerable numerical distances between them (numbers are provided in Hood 2020) (Table 1):

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[5] Devolder's work on the mason's marks of Malia stands out in this respect for she acknowledges the importance of the properties of the block bearing the sign and focuses on their properties (Devolder 2018).

[6] See Devolder 2018, n.13 for references regarding mason's marks found outside Crete, on Akrotiri Thera, Therasia, Aigina, Mycenae, Pylos, Peristeria and Cyprus. All these places have yielded a very small number of mason's marks, with the exception of Akrotiri which stands out for its numerous marks (Palyvou 1988, 115-116, fig. 32-33; Palyvou 1999, 120-121; Notti 2014).

Table 1: Site classification according to the quantity of MM

RANK	**Number of MM**	**Sites with MM**		**Number of Sites**
		Palace	**Other**	
Rank 1	1600	Knossos (1600)	-	1
Rank 2	100-250	Phaistos (250) Malia (160) Galatas (130)	Little Palace & Unexpl. Mansion (156) Akrotiri, Thera (90)	6
Rank 3	15-45	Zakros (20)	Amnissos (45) Petras (31) Ayia Triada (30) Archanes (21) Tylissos (16)	6
Rank 4	1-10	-	9 on Crete 3 elsewhere	12

Rank 1 stands out with over 1600 marks, far more than any other site, and refers exclusively to the Palace of Knossos.

Rank 2 falls abruptly in numbers, ranging between 100 and 250 marks, and includes six sites: three Palaces (Phaistos, Malia, Galatas) and three elite mansions (Little Palace, Unexplored Mansion, Akrotiri Thera).

Rank 3 follows with no more than 45 mason's marks per site. It includes one Palace (Zakros), three palatial compounds (Petras, Archanes, Ayia Triada) and two mansions (Amnissos, Tylissos).

Rank 4 is limited to a maximum of 10 signs and includes 12 sites, mostly mansions and houses (nine on Crete).

The picture that emerges shows that only seven out of 24 sites have mason's marks in large numbers, exceeding 100. These include the four Palaces -Knossos, Phaistos, Malia, and Galatas- but also the three large mansions mentioned above. In all other sites, including the Palace at Zakros and the smaller Palaces of Gournia and Petras, mason's marks are reported in very small numbers, ranging between one and ten. Moreover, as mentioned above, they seem to be absent in important sites with ashlar buildings such as Vathypetro, Myrtos Pyrgos, and the House of the Chancel Screen.

The superiority of Knossos is of course obvious and comes as no surprise, but, more than that, it is truly conspicuous. The Palace of Knossos stands alone at the top of the pyramid. The next group, *Rank 2*, falls abruptly to a much smaller number of mason's marks and includes buildings that are *not* Palaces. The Palace of Galatas belongs to

this category, and so does Akrotiri, Thera, which means that the two sites rank high in the network of Minoan sites in Crete and beyond.

At the other end of the spectrum, it is equally noticeable that many sites (about half of those that have mason's marks) count only a few such signs. This, to my understanding, is more difficult to comprehend and deal with. Small numbers do not allow for meaningful statistics, and there is no apparent pattern that could explain their presence. Why does Amnissos, for example, have 45 mason's marks, while Kommos has only three? It is indeed strange that only a few random signs are found in many sites. The interpretation of mason's marks as indicative of the identity of a mason or the position of the block in the building can hardly stand in such cases.

4. The Galatas signs

4.1 Types

The Galatas mason's marks identified so far are 130 in total, 117 from the Palace and 13 reused in the surrounding houses. They represent nine different types of signs discussed below. The comparative assessment is based mostly on the data provided by Hood's meticulous account of the mason's marks found at Knossos and other sites.

Trident (53). This is the prevailing sign at Galatas and Phaistos, and the most common in the Minoan world, "it has been found on a larger number of different sites than any other type of mason's mark" (Hood 2020, 27). There are several sub-categories of the *trident*, the most common being the *trident* with a shaft, either long or short (Hood's type 12a) as in the case of Galatas (Fig. 4). The only *trident* from Akrotiri is of this type too. Two of the Galatas *tridents* are without shaft (Hood's sub-type 12c). Interestingly, this type seems to occur almost exclusively at Knossos and Phaistos.

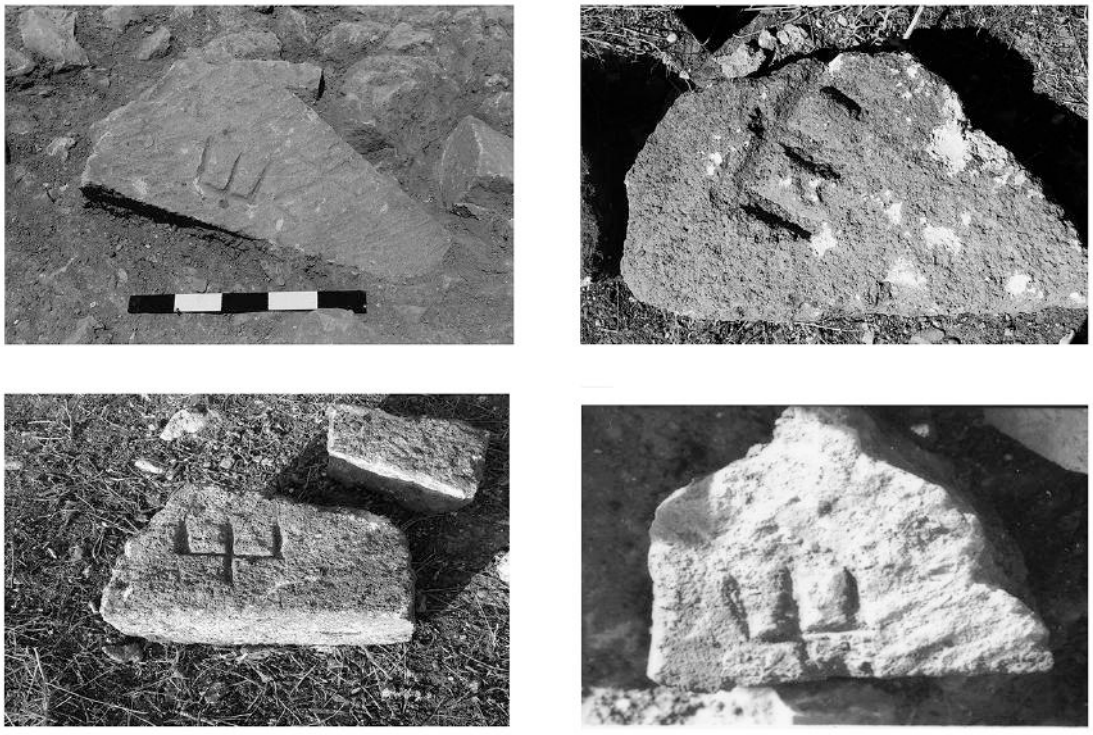

Fig. 4. Tridents.

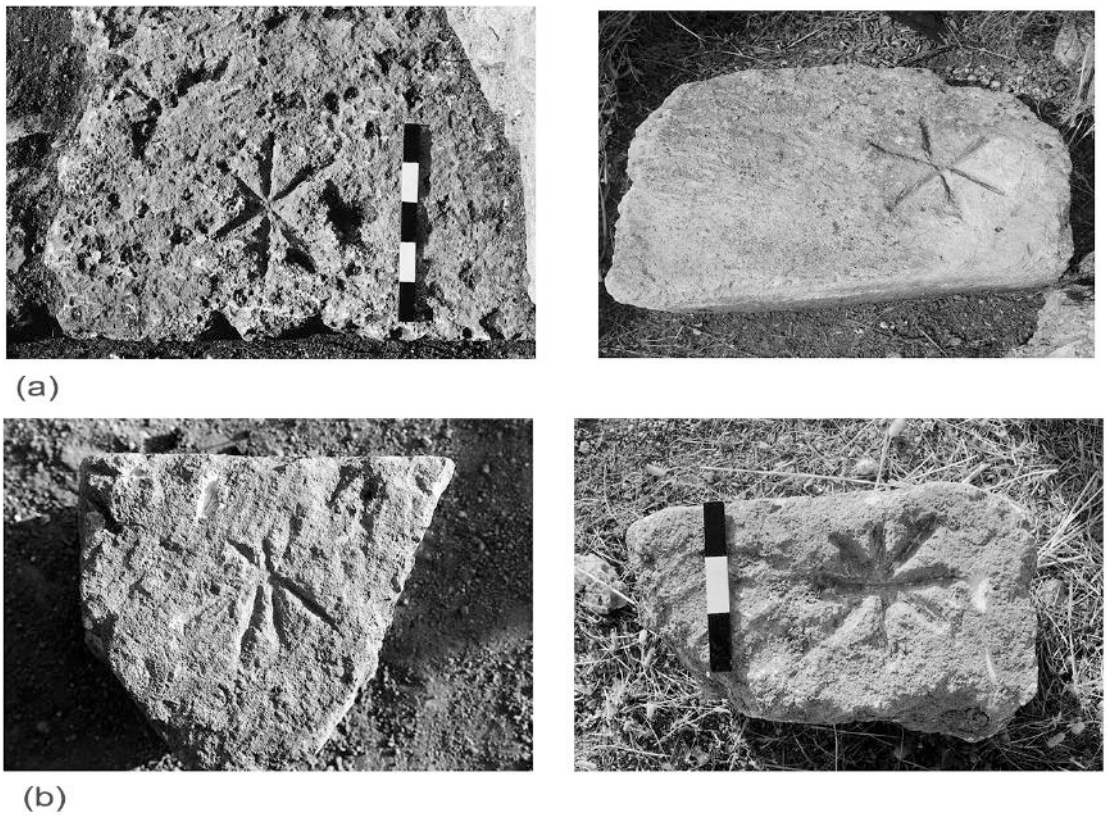

Fig. 5. 5a) Stars with six rays 5b) stars with eight rays.

Star (41). The *star with six or eight rays*, the second most popular sign at Galatas, is also very common at Knossos, Phaistos and Malia (Fig. 5a,b).

Double Cross (12). This is the third most popular sign at Galatas placing the site second after Knossos in terms of number of such signs (Fig. 6). One or two occur at Phaistos and one at a nearby quarry, while none have been reported from Malia.

Cross (5). The type is well represented at Knossos and Phaistos but less so at Malia, with only two examples.

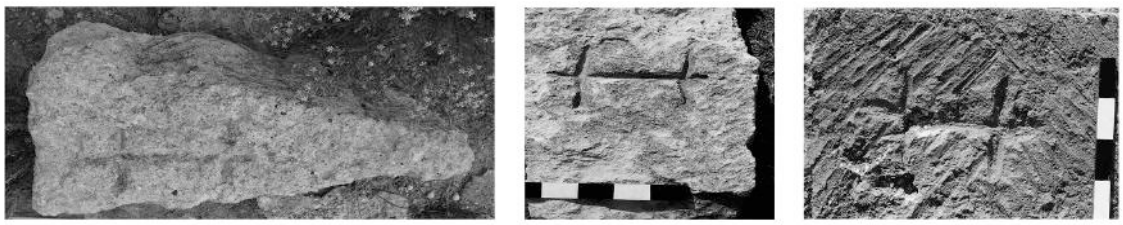

Fig. 6. Double Cross.

Eta (3). Two such signs were found in the North Wing and one in the East Wing. The latter was found in situ, probably on an earlier wall. The type is fairly well represented at Knossos and less so at Phaistos and Malia.

Branch (3). This sign is common at Knossos, Phaistos, and Malia (Fig. 7).

Fig. 7. Branch.

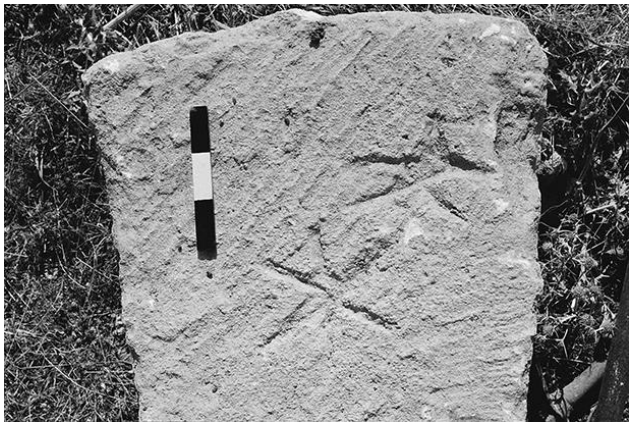

Fig. 8. Combination of two stars.

*Arrow, Single Line, Three Lines***.** These are single cases.

Multiple signs (3) There is only one clear instance of a block bearing more than one sign: it is a combination of a *trident* and a *star* (Cat. Number MM43). The ashlar block was found in the debris of the West Passage in front of the south façade of the North Wing. Two more cases are questionable: one was found in the same Passage and consists of two *stars* side by side (Cat. Number MM47) but it may be a correction of an initial clumsy carving (the five-ray *star* is awkwardly carved while the second *star with six rays*, is well executed) (Fig. 8), and the other was found in the debris of the North Wing, along with several ashlar blocks. It features a *trident* and an *eta* or a *double cross* (Cat. Number MM92). This may also be the result of recarving: the *double cross* is faintly carved, whereas the trident is conspicuous and overlaps the *double cross* at one point. None of the three cases described above counts as a true ligature.

Double axe **(**0). Although this sign does not appear at Galatas, its very absence is noteworthy (Hood 2020, 22). It is the most popular sign at Knossos, albeit not exclusive to Knossos for it is also found in small numbers at many sites throughout Crete, including Phaistos, Malia and Zakros. Additionally, it appears on the Greek mainland.

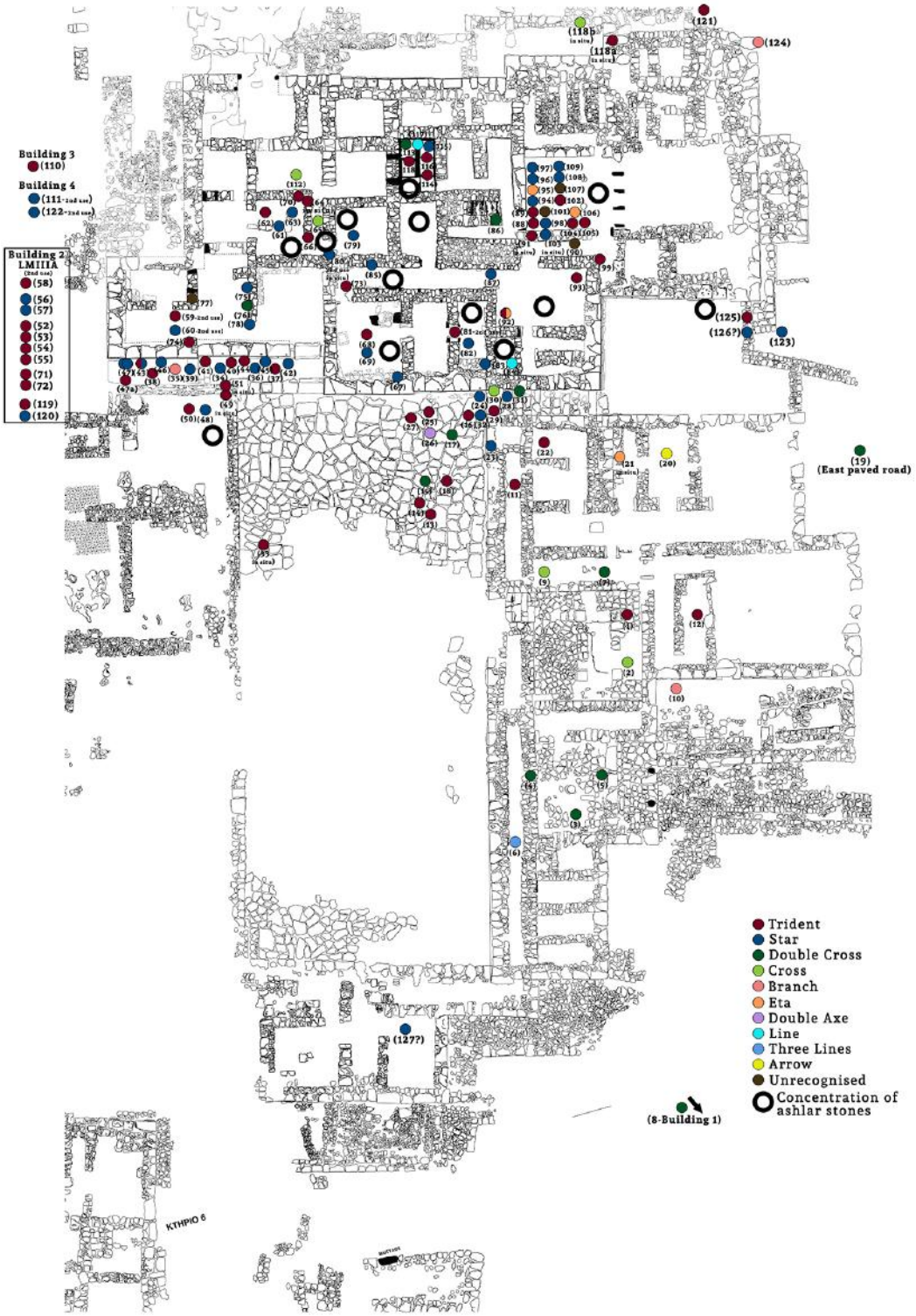

Fig. 9. Plan of the Galatas Palace with distribution of mason's marks.

4.2 Distribution

In terms of distribution, the vast majority of mason's marks derive from the North Wing of the Palace (77%) (Table 2) (Fig. 9). This is in accordance with the extensive use of good quality ashlar masonry in this part of the Palace and its important functional characteristics. Several marks were reported from the East Wing (18%).

Table 2: Distribution of signs at Galatas according to type and location

Type	North Wing	East Wing	South Wing	West Wing	Central Court	Build. 1	Build. 2	Build. 4	Total
Trident	33	8		3	1		8		53
Star	34	1	1	1			3	1	41
Double Cross	5	6				1			12
Cross	3	2							5
Branch	2	1							3
Eta	3	1							4
Arrow		1							1
Single Line	1								1
Three Lines		1							1
Multiple signs	3								3
Un-identified	6								6
Total	90	21	1	4	1	1	11	1	**130**

North Wing: 77% - East Wing: 18% - Other 5%

The other two Wings of the Palace are poorly preserved: only one sign was found from the South Wing and four from the West Wing. The rest were found on reused stones in surrounding houses of a later date. Blocks with mason's marks found dispersed in the Central Court, derive from the ashlar façade of the North Wing, while a small group of fallen blocks closer to the East Wing have been attributed to this part of the Palace.

In regard to the type of sign, the distribution shows a clear pattern. In the North Wing there are as many *tridents* as there are *stars*. In the East Wing, on the other hand, the predominant sign is the *trident*, whereas the *star*, the second most common sign at Galatas, is conspicuously absent. The other two Wings are badly eroded.

A closer look at the distribution of the 90 blocks with mason's marks in the North Wing shows that they derive from five different locations, all of which correspond to areas where ashlar masonry prevails. In order of quantity, these locations are:

a) To the south of the main ashlar façade looking upon the Central Court, with predominant the sign of the *star*. These blocks derive from the two-story ashlar façade flanking the Central Court. Their concentration to the east may indicate that there was more ashlar in this part of the façade or that the stones tumbled down to the east due to the inclination of the Court's floor.

b) Along the West Passage that separates the North and the West Wings, with predominant signs the *star* and the *trident*. There is a large concentration of ashlar blocks in this area, caught in the narrow space of the Passage.
c) Within the debris of Rooms 67 and 41, located in the heart of the North Wing, amidst large piles fallen ashlar stones. The excavators have suggested that the blocks likely originated from the upper story of the adjacent Room 47. It is plausible that Rooms 41 and 47 functioned as light-wells which would explain the presence of ashlar masonry. This hypothesis is supported by their strategic location, which allows them to provide light and air to the surrounding otherwise 'blind' rooms.
d) Several blocks with *tridents* and *stars* were found in relation to the most emblematic architectural unit of the Palace, the Minoan Hall. They originate from the ashlar facades bordering the light-well. The pile of stones remains in situ, as found during excavation, with several mason's marks partially visible. It is highly likely that many more blocks with marks are buried underneath.
e) It should be noted that no blocks with mason's marks were found in relation to the west and north facades of the North Wing except for one in situ. The ashlar masonry in these facades consists of blocks of lesser size and quality of dressing. To the east, the steep inclination of the ground and subsequent erosion has left very little standing. Nevertheless, a few blocks with mason's marks fallen near the two ends of this facade may correspond to corner stones.

Another criterion related to the distribution of mason's marks is the dimensions of the ashlar block that bears the sign and more specifically its height. Ashlar masonry in the Aegean Bronze Age is never truly isodomic, at least not intentionally. Instead, the rows tend to diminish in height from bottom to top in a systematic manner. This rule is observed particularly at Akrotiri, thanks to the well-preserved ashlar facades reaching two stories high (Palyvou 2005, 157). The height of the blocks bearing mason's marks therefore shows the corresponding row and its location on the wall.

Table 3: Height of row vs Number of blocks with mason's marks

Height of row	Number of blocks with mason's marks
11-17 cm	5 (probably from projecting cornices)
20-24 cm	19 (predominantly 21cm)
27–30 cm	13 (predominantly 27cm)
34-43 cm	4 (at a distance from the N. Wing)

The blocks that could be fully measured at Galatas (approximately 40 in total) can be grouped in four main categories (Table 3). The picture that emerges is that mason's marks appear throughout the facade of a building, from bottom to top. The five shorter blocks (11-17cm) derive either from the topmost row of an ashlar wall or from projecting cornice typical of Minoan architecture. The second group is the most common, with predominant height 21cm. The third group follows closely with predominant height 27cm. The fourth group comprises only four blocks from the North Wing. These large

blocks most probably derive from the lower courses, the majority of which are still in situ, hence the smaller number.[7]

4.3 Tools and modes of carving

All the mason's marks at Galatas are carved on the flat horizontal face of the block. The majority are found in the debris, making it difficult to determine whether the surface bearing the sign was originally the upper or the lower. The few mason's marks found on blocks in situ are naturally carved on the upper surface of the stones, otherwise they would not have been visible today. In the relevant literature the question of the position of the mark on the block of stone remains open (see, for example, Devolder 2018, 353). Yet, it makes more sense to set the stone with the carved sign visible, that is carved on the upper surface, so that it can remain observable during the process of building of at least one row of blocks at a time. This is especially effective if the function of the mason's marks is understood as pertaining to the different stages of construction, as discussed below.

All the signs were carved *after* the block had been dressed. The tools used to cut the signs left clear traces on several stones, indicating that two types of chisels were employed: pointed chisels and chisels with a flat edge. The traces also reveal two techniques: deep cuttings and shallow cuttings (Fig. 10). The flat chisel was used for the deep cuttings, whereas the pointed chisel was used for both deep and shallow cuttings. The vast majority of mason's marks at Galatas (80%) are of the deep type, made with the use of pointed chisels (Table 4: the statistics are based on 76 mason's marks).

Fig. 10. Deeply cut marks.

[7] It is noteworthy that at Akrotiri, Thera the prevailing height of stones with mason's marks falls within the range of 27-30 cm (Palyvou 1999, 157, fig. 235).

Table 4: Tools and modes of carving

Tool	Deep	Light	Total
Pointed	29 (74%)	10 (26%)	39 (51%)
Flat	25 (100%)	0 (0%)	25 (33%)
Unidentified	7	5	12 (16%)
Total	61 (80%)	15 (20%)	76 (100%)

The flat-edged chisel was the tool used to finish the dressing of the stone. The fact that, in most cases, the masons used the pointed chisel for cutting the sign may indicate a time lap between the two events, the dressing and the carving. This suggests that the two processes were not directly related. If this hypothesis is correct, it weakens (but does not exclude) the interpretation of mason's marks as indicative of labor.

Several mason's marks from Galatas are not only impressively large but they look even bigger because they are carved on small blocks of stone, smaller than the average size of an ashlar block (Fig. 11). These signs are truly conspicuous and it seems they were meant to be so. Such signs are mostly tridents, whereas stars are more often small and lightly dressed.

Fig. 11. Size of mason’s marks in relation to the size of the ashlar block.

5. Chronology

Mason's marks go hand in hand with the development of ashlar masonry. During the Early and Middle Bronze Ages, the use of ashlar technique was restricted, and so were mason's marks. In the Neopalatial period, ashlar masonry becomes popular all over Crete. Mason's marks from this period are numerous, yet they did not follow the same pattern of expansion as the ashlar technique.

Hood discusses at length the chronology of the Knossian mason’s marks and proposes five classes, ranging from the earliest to the latest (Hood 2020, 42-44). Class A is a group of large and boldly cut signs, often with a pick or punch, confined to the building of the First Palace at Knossos. The majority of mason’s marks at Galatas are deep-cut, as mentioned above, and could belong to this Class except that the date is too early. Hood assigns the Galatas small but deep-cut *tridents* with short stumpy shafts to the fairly distinct and homogeneous group of Class C that dates from the time

of rebuilding in MM IIIA after the destruction which brought the Early Palace of Knossos to an end in MM IIB. Both the Galatas tridents and the unique find from Akrotiri, Thera are comparable with the *tridents* of this group at Knossos and fit well the corresponding dates of both sites.

6. Meaning and purpose

The meaning and purpose of the mason's marks is one of the most elusive and tantalizing topics in Minoan archaeology. Several hypotheses have been put forth but, as Shaw and others have pointed out, it is difficult to agree on an unambiguous interpretation (Shaw 2009, 78).[8]

There are two lines of thought and corresponding antithetical perspectives: a magical, apotropaic or religious purpose; or a practical purpose (Notti 2014, 98). Hood, following Evans and others, prioritized their ritual and symbolic function (Hood 2020, 81-91: Chapter 7, Purpose of the Cretan Bronze Age 'Masons' Marks'). More scholars however, follow the second line of thought on the assumption that mason's marks represent their makers in different stages of construction (Devolder 2018, 361; Palyvou 1999, Begg 2004a, 12). In Begg's words "the signs assert a collective claim to the creation or ownership of workmanship, either for payment or to commemorate what that particular team had accomplished" (Begg 2004a, 20). Ritual function is not excluded, depending on the context, as in the case of a sign carved on an altar from Malia (Devolder 2018, 362).

The Galatas signs do not provide any safe arguments in favor of one or the other theory. Their function was probably much more complex and versatile than we imagine. One of the possible purposes of the Minoan mason's marks is that they may have functioned as markers for the planning and layout of composite building compounds (see Palyvou 2018, 115-120 on the use of Regulating Lines for laying out a building). The idea is corroborated by Begg's notion of mason's marks as boundaries**.** Clusters of identical marks found in specific areas, he writes, may have functioned as boundaries of these areas and show "how the Minoan designers conceived the constituent parts of the palaces" (Begg 2004a, 20, n. 167). The ongoing study of the architecture of the Palace of Galatas offers some hints in this direction, based on the presence of mason's marks in situ, in key positions of walls (discussed in Palyvou and Rethemiotakis forthcoming publication of the architecture of the Palace of Galatas).

7. Concluding remarks

The study of the 130 mason's marks at Galatas has offered interesting food for thought if not conclusive remarks. It has verified what is already known about these signs, their distribution and significance, and has added some plausible new ideas in the discussion.

a) Thanks to its numerous mason's marks, the Palace of Galatas can confirm its place in the hierarchical network of the Minoan world. The sheer number of

[8] For a general discussion of the various hypotheses put forth in regard with the functions of mason's marks and relative bibliography see Begg 2004a, 12, n. 86-93.

Fig. 12. The five Minoan Palaces.

mason's marks places the site fourth, after Knossos, Phaistos and Malia. This is in compliance with the size of the Central Court, a feature widely accepted as indicative of the significance of a Palace. In contrast, the Palace of Zakros, though close to Galatas in regard with the size of the Court, it has a very limited number of mason's marks (Fig. 12).

b) Of the nine different types of signs that have been identified at Galatas (Knossos has 25) only two are predominant, the *trident* and the *star*, and correspond to 72% of the total number of marks at Galatas. All the others occur in very small numbers -not more than five- or as single cases. These random finds are the most difficult to comprehend.

c) The *trident* is the dominant sign at Galatas (44%). It is also the dominant sign at Phaistos and Malia. The *trident with no shaft***,** in specific, is almost exclusive to Knossos, Phaistos and Galatas (Table 5).

Table 5: Prevailing types of signs per site

Palace	**double-axe**	**trident**	**Star**
Knossos	+	+	+
Phaistos	-	+	+
Malia	-	+	+
Galatas	-	+ (44%)	+ (33%)

d) Second in numbers comes the *star* (33%). This is also the case for the Palaces of Phaistos and Malia. The *star with six rays*, in specific, is the second dominant sign (after the *trident*) at two sites: Phaistos and Galatas. Interestingly, the Palace of Knossos follows the same order, albeit at a second level. Knossos has its own, exclusive sign at the top of the numerical pyramid: the *double axe*. But after that, here too, next come the *trident* and the *star*. In other words, the three Palaces - Phaistos, Malia and Galatas- share the same pattern with Knossos at a certain level and constitute a distinct group, one step below Knossos in hierarchy. On a closer look, one might even detect some special co-relations between Galatas and Phaistos.

e) Mason's marks appear in clusters in certain areas while missing from other (Begg 2004b, 221–222; Devolder 2018, 360). At Galatas, the majority of mason's marks derive from the North Wing. This part of the Palace is clearly of special importance, as is evident, among other, by its sophisticated architecture and the presence of a Minoan Hall. The prevailing signs, the *trident* and the *star*, appear in almost equal numbers (the trident slightly higher in numbers). But what is interesting is that the star is exclusive to the North Wing. In the East Wing the *double cross* takes its place as the second most popular sign after the *trident*. The *star*, in other words, distinguishes this part of the Palace of Galatas and marks the close affinities of the North Wing to the major Palaces of Knossos, Phaistos and Malia. This is in full accordance with the architectural character of the North Wing as opposed to that of the East Wing (see forthcoming publication of the architecture of the Palace of Galatas).

f) Size varies to such a degree that it has to be meaningful: there are small and there are big signs, as there are deeply cut and light cut signs. Some signs not only are big but they occupy almost the entire area of the block's surface. Since the two types coexist the difference is not a matter of chronology (Devolder 2018, 361). The cutting of a sign, especially the large and deep ones, is a process that consumes time and labor and would have increased significantly the cost of production of an ashlar wall. Therefore, there must have been a reason for investing more energy in the production of certain signs. Size, in other words, may have conveyed an additional meaning apart from the actual type of the sign. It is certainly no coincidence that deep cut signs are almost exclusively *tridents* whereas *stars* are more often light and shallow.

g) Mason's marks are often compared to script. Of the nine types of signs recorded at Galatas, only the three most common—the *trident* (with shaft), the *star*, and the *cross*—occur in Linear A script. The *trident*, in particular, script is associated with religion (Hood 2020, 7). Could it be that *tridents* are the signs that are deeply cut precisely because of their religious meaning?

h) Another meaningful differentiation is their position on the ashlar block. Signs cut on the visible face of the wall, as in the case of the *double axe* at Knossos and Zakros, are clearly intended to convey a long-lasting message (religious probably), for ashlar walls, as a rule, were not plastered over, only the interstices were sealed with lime plaster to protect the wall from humidity (Palyvou 2005, 117-118). Signs that remained visible only during the construction of the specific row of a wall are more likely to convey short-lasting messages, related to the process of construction, as many scholars have suggested, and/or for laying out a specific area, as proposed in this paper.

The statistical analyses of mason's marks discussed in this paper, despite their shortcomings, are the only means to deal with this difficult body of data. Though several patterns of consistency have emerged coherence is still missing and their underlying meaning eludes us. Their tough resistance to deciphering, due mostly to the inconsistencies of the data, is indeed their most characteristic feature. To quote Begg "The study of mason's marks is particularly hazardous in as much as we are unlikely ever to be able to examine all the sides of the large blocks embedded in walls and foundations. …Thus we are relying on the incompletely examined portion of surviving material for our analyses and risk committing even more than the usual number of errors based on negative evidence" (Begg 2004a, 1).

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