

Funeral Processions and the Chamber Tombs of Knossos

By

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Abstract

In this thesis, I argue that funeral processions were practiced at Knossos between LMII and LMIIIB, particularly in conjunction with the chamber tombs that emerged during this period. In conjunction with this, I argue that chamber tombs were designed to accommodate and enhance the effect of the funeral procession. I begin by situating the chamber tomb within the context of earlier burial forms on Crete, demonstrating the novelty of this form of funerary architecture. From there, I offer an analysis of fifty-eight *dromoi* from major cemeteries around Knossos. In surveying these *dromoi*, I point out chronological and spatial trends in *dromos* construction from LMII to LMIIIB that demonstrate the skill and forethought that went into the construction of these deceptively simple ramps, and the effect that their various dimensions would have on the funeral procession. I then use this data to discuss the logistics of transporting the body and grave goods to the tomb and down the *dromos*. Next, I apply these logistical conclusions to an analysis of two tombs (and two funeral processions) from the Zapher Papoura cemetery. I conclude by speculating about who built these tombs, and for whom they were built. In all aspects of this thesis, I try to approach these tombs with an awareness of space and movement. By using this perspective, I hope to shed new light on the burial practices, funerary architecture, and grave goods of the Knossian elite from LMII to LMIIIB.

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Introduction

Studies of the LMII – LMIIIB burials around Knossos have pointed to a dramatic shift in funerary practices that coincides with other major cultural and political changes following the LMIB destruction. It is during this period that the chamber tomb first appears on Crete, a tomb consisting of a narrow ramp (a *dromos*) leading down to a subterranean chamber in which the body and grave goods are held. Compared to earlier types of burial on Crete, like house tombs or *tholos* tombs, chamber tombs exhibit fewer burials per tomb as well as more grave goods per burial. Giving careful attention to these material changes, scholars have begun to describe an elite (warrior) culture emerging at Knossos during this period, which some believe was Mycenaean.¹

Less attention, however, has been given to the effect that these material changes would have had on the process of burial. Indeed, a burial is not a static collection of objects, but a process, a ritual performance in which the grave goods and the body act as symbols to construct the identity of the dead as well as that of their living relatives. Furthermore, since multi-phased burials were not the norm during this period, the body and all the grave goods would have been seen only during this moving ritual. Once buried, they would have existed only in memory, where they would have been forever associated with the process of their interment. For these reasons, it is important that we not restrict our understanding of the grave goods and the body to the static condition in which they are found. Rather, we should speculate about what the process of burial may have looked like, however difficult it may be to reconstruct.

In this thesis, I suggest that funeral processions were practiced at Knossos between LMII and LMIIIB, particularly in conjunction with the chamber tombs that emerged during this period. Ritual processions are well attested in Minoan art, with depictions appearing in a variety of

¹ Alberti 2004; Preston 2004a

media, from rings, to sealstones, to wall paintings. Funeral processions in particular can be found on the Hagia Triada Sarcophagus (Figure 1) as well as on contemporary larnakes from Tanagra.² Moreover, funeral processions, as well as processions in general, remained an important facet of Greek religion during the Classical period.³

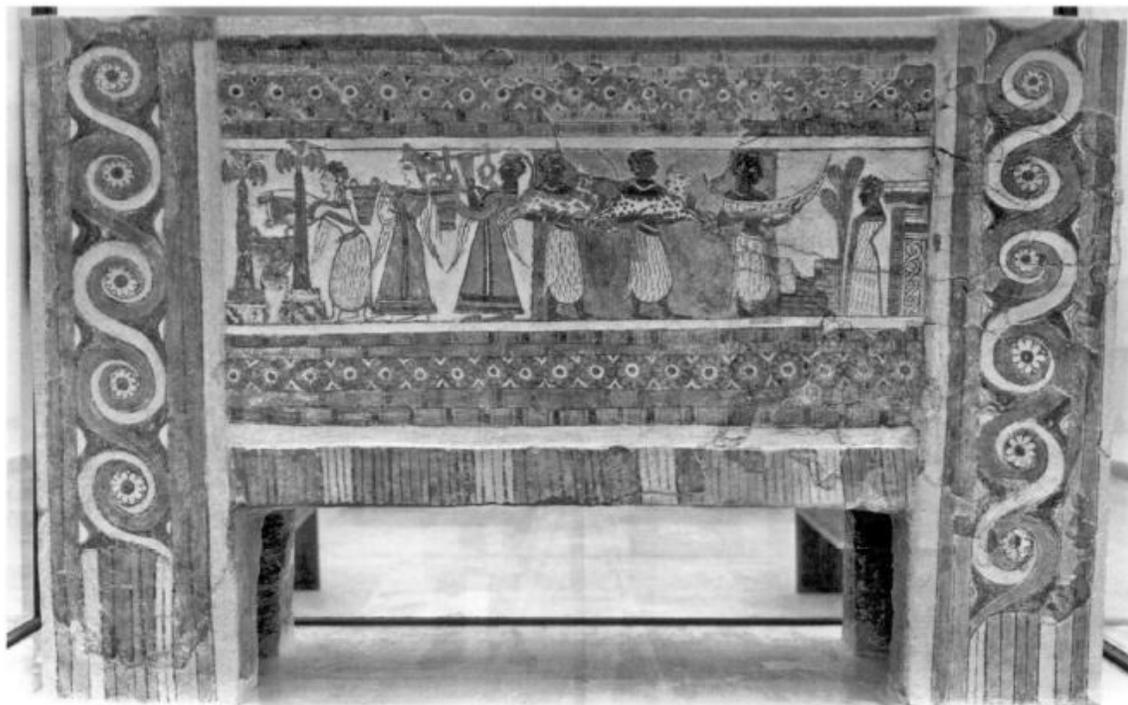


Figure 1: Side A of the Hagia Triada Sarcophagus (Burke 2005, 404)

Building off of this evidence, I hypothesize that chamber tombs were designed to accommodate and enhance the effect of a funeral procession. The narrow *dromoi* associated with these tombs can only accommodate visitors marching single-file. Thus, when the burial took place, the people transporting the body and the grave goods—we shall see that some tombs would have required over 20—would have had to approach the tomb marching single file, that is, in a procession. In suggesting this, I hope to contribute to the current discussion of funeral processions in Bronze Age Greece.

² Immerwahr 1995

³ Bremmer 1996, 45-45; Burkert 1985, 99-101

Admittedly, there is no hard evidence that chamber tombs in particular were used for funeral processions, so this thesis is something of a thought experiment: *if* chamber tombs were used for funeral processions, what would the practical considerations of that ritual be? This is not an unreasonable question to ask; processions were certainly popular among the elite who established themselves at Knossos in LMII and repainted the palace with the famous “Procession Fresco.”⁴ But even if one is not convinced by my hypothesis, the findings of this thesis still have value. The grave goods and the body had to be transported to the tomb somehow, and much of this thesis simply deals with the logistics of that process, whether it was ritualized or not.

I begin in Section I by situating the chamber tomb in its historical context. In doing this, I demonstrate how greatly the chamber tomb differs from earlier tomb forms, and I propose that this new form accommodates a new burial practice: the funeral procession. In Section II, I offer an in depth analysis of fifty-eight *dromoi* from major cemeteries around Knossos.⁵ In surveying these *dromoi*, I point out chronological and spatial trends in *dromos* construction from LMII to LMIIIB, hoping to demonstrate the skill and forethought that went into the construction of these deceptively simple ramps, and the effect that their various dimensions would have on the funeral procession. As of yet, there has been no study of this kind conducted on Knossian *dromoi*, and in the future, I hope to expand the data I have collected here into a more comprehensive catalogue of *dromoi* all over Crete. In Section III, I use data from Section II to discuss the logistics of transporting the body and grave goods to the tomb and down the *dromos*, taking into account such factors as the weight and size of objects, the restrictive dimensions of the *dromos*, and the distance from the cemetery to Knossos. In Section IV, I use my conclusions from Section IV to closely analyze two tombs from the Zapher Papoura cemetery and imagine what

⁴ McEnroe 124

⁵These data are presented in Appendix A.

their funeral processions may have looked like. Finally, in Section V, I briefly speculate about who built these tombs, and for whom they were built. In all aspects of this thesis, I try to approach these tombs with an awareness of space and movement. In all aspects of this thesis, I try to approach these tombs with an awareness of space and movement. By using this perspective, I hope to shed new light on the burial practices, funerary architecture, and grave goods of the Knossian elite from LMII to LMIIIB.

Section I: The Chamber Tomb and its Context

After the LMIB destructions, three distinct types of tombs emerge around Knossos in LMII: the shaft grave, the pit-cave, and the chamber tomb.⁶ The shaft grave (Figure 2) consists of a large rectangular shaft with a smaller grave dug into its bottom. The body and grave goods were placed in this grave, and then sealed inside by several stone slabs placed above. Larger grave goods were occasionally placed on top of these slabs. The pit-cave (Figure 3) is similar to the shaft grave, except that the grave at the bottom of the shaft was dug into the wall of the shaft rather than the floor, creating a small “cave.” The body and grave goods were sealed in this cave by a stone wall with several courses.⁷

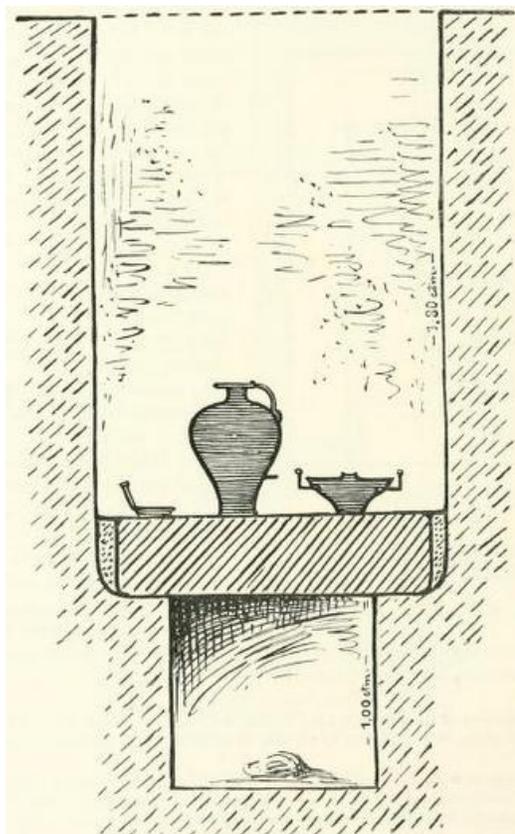


Figure 2: section of a shaft grave (no. 36) from Zapher Papoura Cemetery (Evans 1914, 14)

While both the shaft grave and the pit-cave are interesting in their own right, the chamber tomb is the most important for the study of space and movement in the burial process. The most prominent feature of the chamber tomb is its long, narrow, often downward-sloping ramp, called a *dromos*. At the end of the *dromos* is an even narrower entrance, framed by small stones, which is called a *stomion*. Beyond the *stomion* lies the chamber, which houses the body and the grave goods. The body was either placed in a clay coffin (called a *larnax*), a wooden chest, or a cist

⁶ There are three examples of MM chamber tombs around Knossos (Upper Gypsades VII and Mavro Spelio VII and IX) although these are quite different in shape than those found in the LM period.

⁷ For a more complete description of these grave types, as well as several examples of each, see Evans 1905.

grave dug into the floor of the chamber. After the body and grave goods were placed in the chamber, the *stomion* was sealed with several courses of stone.

From this brief description, one can already see how the chamber tomb is particularly relevant to questions of movement and space in Minoan burial practice. Most interesting is the *dromos*. These long narrow passages prescribe the type of interaction one has with the dead. Most *dromoi* are only wide enough for one person. Thus, if several people

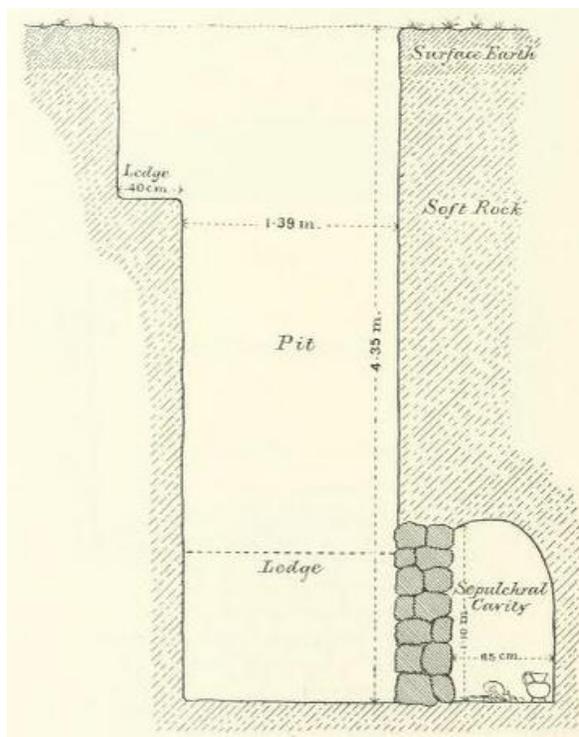


Figure 3: section of a pit-cave tomb, no. 60 from Zapher Papoura (Evans 1914, 18)

were to enter the *dromos*, they would have to do so in single file, focusing the attention of the group on the inhabitant of the tomb rather than on the living community of visitors. In this way, the shape of the *dromos* accommodates and even enhances the effect of a procession.

Before analyzing the chamber tomb in detail, it will be useful to contextualize it within a brief history of Minoan burial practices and tomb styles. Unfortunately, there is very little evidence of burial practices around Knossos before the LM period. Thus, it will be necessary to derive an understanding of earlier Minoan burial from a type of tomb which was very common on other parts of the island: the *tholos* tomb. My goal in reviewing these earlier tombs is not to discern a linear evolution in burial practice on Crete. Instead, I hope to simply display a type of tomb and a style of burial that differ vastly from those represented by the chamber tomb. By examining the architecture of the *tholos* tombs, we can discern the type of burial they were

designed to facilitate and, to some extent, the attitudes toward death they promoted. We can then turn to the chamber tombs and better understand how their architecture accommodates a different type of burial and promotes a different attitude toward death.



Figure 4: *Tholos* tomb from Kamilari, 3km west of Phaistos

Before the advent of the chamber tomb, the most prevalent type of tomb on Crete was the circular *tholos* tomb.⁸ Predominately located on the Messara Plain, the *tholos* tomb saw over a millennium of use, from roughly 2,800 to 1,700 BCE. *Tholos* tombs are vaulted,⁹ circular structures with walls a meter or more wide. Their inner diameter ranges anywhere between 2.5 meters (Apesokari) and 13 meters (Platanos A). Their single entrance is often quite short (64cm high at Lebena II) and often slightly narrower at the top than at the bottom.¹⁰ Sometimes this entrance is accessed through a small rectangular antechamber, often attached to a series of other rectangular rooms that served as ossuaries.

Tholos tombs were built on elevated ground, often on a level terrace which had been artificially cut from a slope. In nearly every case, they are found a very short distance from contemporary settlements. For example, at Salame, the *tholos* is only ten meters from the settlement, while at Viannos there is a MMI house constructed right next to a small *tholos*. In

⁸ For a full treatment of these tombs, see Branigan 1970

⁹ Although this point was long debated, it seems that most scholars now agree that the tombs were, in fact, vaulted (Blackman and Branigan 1982, 45-46; Alexiou and Warren 2004, 15)

¹⁰ McEnroe 2010, 26

addition, it is not uncommon for two or three *tholos* tombs to be located within a few meters of another.

The open space before *tholos* tombs is often paved. Given the location of these tombs in relation to settlements, these paved areas probably served as a site for feasting and other community events. Indeed, the large amount of small ceramic cups found in and around these tombs seems to suggest some kind of “toasting” ritual took place, perhaps at the time of inhumation, but maybe also at intervals throughout the year.

Either way, the *tholos* was a communal place for the dead. Some of the tombs span a full millennium of use and contain hundreds of burials.¹¹ Two to four families would share a single *tholos* tomb for several generations,¹² inhuming their dead according to a two-stage process. First, the bodies were inhumed in the central round room with a few grave goods. Once the bodies had fully decomposed, the tomb was fumigated and the bones were moved either to one of the small rectangular ossuary rooms, or they were deposited in a walled trench outside of the tomb. There appears to have been no effort to keep bones or grave goods separate, although skulls are sometimes grouped together, and bones deliberately broken.¹³

¹¹ Ranging from 157 at Koumasa to 850 at Platanos B (McEnroe 2010, 27)

¹² Branigan 1993, 93; Bintliff 1977, 635-641

¹³ Branigan 1987

These burial practices appear to have gone on quite consistently throughout the millennium between the beginning of EMI and the destruction in MMII.

Whereas the *tholos* tomb originated in the Messara and spread north and east, the chamber tomb originated at Knossos and spread south and west.¹⁴ The earliest chamber tombs appear at the Mavro Spelio cemetery (Tombs VII and IX), dating to the MMIII period, but these tombs differ from their LM counterparts in that they have multiple chambers branching

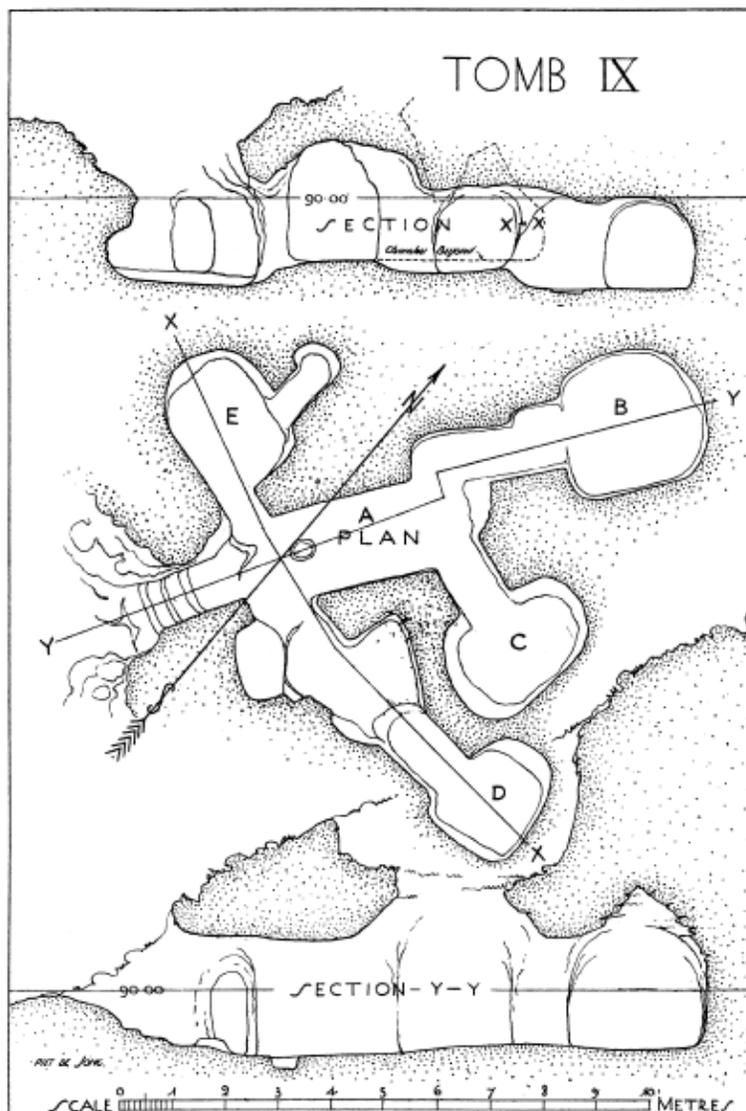


Figure 5: Middle Minoan multi-chamber tomb (IX) from Mavro Spelio Cemetery (Forsdyke 1926, 265)

off a single *dromos* (Figure 5). Nevertheless, these tombs show signs of continuous use until LMIII. Another possible MM chamber tomb is found in the Upper Gypsades cemetery (Tomb VIII), however its *dromos* is incredibly short (around 1.5m) and it contains many burials. Because of this, we might interpret this tomb as some kind of hybrid between the *tholos* tomb and the chamber tomb—perhaps the product of a transitional phase in burial practices.

¹⁴ Preston 2004a, 138-139

Although it is risky to draw general conclusions from so little evidence, it seems that chamber tombs around Knossos during the MM period facilitated burials for a single family. House tombs, which predate the chamber tomb in northeastern Crete (EMII-MMI/IIA), represent similar burial practices. Like *tholos* tombs, house tombs were used for multi-phase burials involving a primary burial of the body followed by fumigation and secondary burial of the bones. Like the chamber tombs, however, they contain fewer burials than the *tholos* tombs, with each house tomb probably accommodating two families. They are often found in groups, creating a kind of necropolis at the edge of the settlement.¹⁵

In general, then, it seems that multi-phased, communal or family burial appears to be the norm all over Crete during the EM and MM periods. To varying degrees, Cretans maintained a close relationship with the dead, which was facilitated not only by the proximity of the burial ground and the settlement, but also by their constant interaction with the bodies of the dead in different stages of decay. These practices are in stark contrast to the dramatic shift in burial practices that occurs around Knossos during LMII.

From LMII to LMIIIB, single burials make up the vast majority of burials found around Knossos.¹⁶ In accordance with this, single-chamber tombs appear for the first time on Crete in LMII.¹⁷ These tombs fit the description given above: a long, usually descending *dromos* leading to a single, subterranean chamber (Figure 6). A strong majority of these tombs contain single burials, although they sometimes contain double or even triple burials—perhaps a remnant of the chamber tomb's earlier use as a place for family burial.

¹⁵ Soles 1992, 251-255

¹⁶ Preston 2000, 200, Figure 5.12, and Figure 5.13

¹⁷ Alberti 2004, 128

Preston has noted that funerary expenditure at Knossos (both in terms of grave goods and in terms of tomb construction) peaks during LMII, but then seems to steadily decline until LMIIIB.¹⁸ Nevertheless, even in LMIII, the amount spent on a single person far outweighs anything seen before LMII; not only are entire tombs constructed for individuals, but grave goods are often more numerous and expensive during this period as well. We should also bear in mind that we have far more burials dating to LMIII than to LMII, and many of the LMIII burials are poor by comparison. This fact may have skewed Preston's average for LMIII. Indeed, among the many poor LMIII burials, there are some that are quite wealthy (e.g., Sellopoulo Tomb 4 and Upper Gypsades Tomb VII). During LMIII, then, it seems that elites continued to spend a great deal on burial, although perhaps spending slightly less than in LMII. It seems, however, that alongside these elites, less powerful families, who previously could not construct tombs (because of either financial or social restrictions), suddenly gained access to this custom.¹⁹ I will discuss who these people may have been in the conclusion.

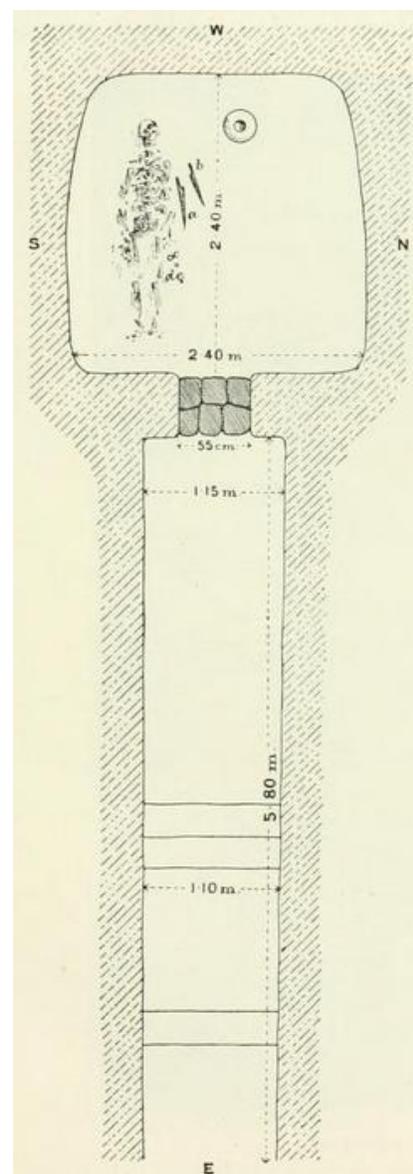


Figure 6: Late Minoan single-chamber tomb (no. 92) from Zapher Papoura Cemetery (Evans 1914, 5)

¹⁸ Ibid 138-139

¹⁹ Rehak and Younger (1998) have suggested burial at sea as a possible explanation for the dearth of Neopalatial funerary evidence (111). Perhaps the people who once practiced burial at sea can now create tombs for their loved ones.

This reallocation of power to the funerary realm in LMII is probably linked to the LMIB destructions that mark the end of the Neopalatial period. At this time, many types of palatial cult equipment either cease production or are appropriated for funeral use. Rehak and Younger have suggested that this might mark the rise of a funerary cult that rejected the Neopalatial religious system by returning to older traditions.²⁰

²⁰ Rehak and Younger 1998, 142, 152-153

Section II: The Architecture of the *Dromos*

With a historical context established, let us turn our attention to the single-chamber tombs of Knossos, and in particular, to their *dromoi*. In this section, I present the results of my own survey of the *dromoi* of chamber tombs around Knossos (represented in Appendix A).²¹ I will begin by discussing the dates of the tombs and the possibility of any evolution in construction method overtime.²² I will then survey the remaining data, pointing out significant patterns that can be found in the catalogue.²³

Date

The only aspect of the *dromos* which displayed some development over time was length. Although there are few examples of *dromoi* dating from MMII to LMI, those that do remain are some of the shortest around Knossos.²⁴ These *dromoi* are short enough to even resemble the antechambers of the earlier circular *tholoi*, and so they may represent an experimental phase between these two types of tomb.

²¹ I have reviewed the reports for the cemeteries at Mavro Spelio, Isopata, Ayios Ioannis, the New Hospital site, Sellopoulo, Zapher Papoura, and the Upper Gypsades. From these reports, I have compiled the dimensions, orientation, and date of 58 *dromoi*, all of which can be found in Appendix A. The appendix is as complete a catalogue as possible for these cemeteries, though several chamber tombs have been excluded, either because their *dromos* was no longer extant at the time of excavation, or because the excavators neglected to provide sufficient information about the *dromos*. Indeed, specific dimensions are not always given, so many of my figures are taken from my own measurements of scale drawings.

²² Finding dates for individual tombs was difficult. Most studies do not bother to go into such detail, instead giving a rough range for the entire cemetery's use. Where this information was not provided, I have attempted to date each tomb based on the grave goods found therein. The most interesting thing that emerged from this was that a single tomb could contain grave goods which represent multiple generations, even centuries, of use. For the purposes of locating the *dromoi* of such tombs in a chronological framework, I have dated them by the tomb's earliest artifact, the tomb and *dromos* would have been constructed for their inaugural use and, I assume, unchanged thereafter.

²³ I am indebted here to Oliver Pelon's *Tholoi, Tumuli et Cercles Funéraires*, whose appendices on Mainland *tholos* tombs served as an excellent model for my Appendix A.

²⁴ Mavro Spelio VII and IX; Gypsades VIII

After this early stage, *dromoi* begin to lengthen. The tombs at Mavro Spelio demonstrate this point fairly well, with no MM material in the longest *dromoi* there.²⁵ This lengthening trend reaches a climax in LMII, where we find three of the three longest *dromoi* around Knossos: Isopata tombs 1 (4.5m), 2 (16m), and 5 (13m). The *dromos* of Zapher Papoura tomb 14 is also quite long: 14.5 meters long. This tomb has not been dated, although Alberti has suggested the possibility that some tombs in this cemetery date back to LMII.²⁶

Interestingly, after LMIIIA, the *dromoi* around Knossos shrink to an average of 4.5 meters—still longer than their MM predecessors, but significantly shorter than the *dromoi* of LMII. This pattern is in keeping with the decline in funerary expenditure that Preston has observed. As less powerful people gain access to tomb burial, we see a greater variety of wealth represented in funerary architecture. This shift also occurs after the LMIIIA destruction. Perhaps after the LMIIIA destruction, people of lower status had gained access to a type of tomb which was once reserved for only the most powerful. As part of this shift, the *dromos* shrinks, reducing the amount of work that went into the construction of the tomb (and so reducing its cost).

I was somewhat surprised to find that, apart from length and incline ratio, the variance in the shape of the *dromoi* could not be easily tied to any sort of chronology. Instead, each different feature appears to be fairly equally represented throughout the entire use of these cemeteries. As a result, while analyzing each feature of the tomb in its own right, it will be important for us to consider factors other than time and tradition that may have caused these variations.

²⁵ Forsdyke 1926, 247

²⁶ Alberti 2004

Orientation

Orientation toward particular cardinal points appears to be insignificant, since it varies from cemetery to cemetery. Because of this, many excavators have assumed that the orientation of the tombs is simply mandated by the terrain. It should be noted, however, that nearly every cemetery is either oriented toward Knossos or toward the Kairatos river. For example, at Mavro Spelio and Sellopoulo, which are northeast of Knossos, the tombs face southwest; the tombs at Zapher Papoura, on the other hand, point east toward the river Kairatos, along which there was probably a major road leading from Knossos to the harbor town.

Isopata is the only cemetery that does not follow this pattern. Located far to the north of Knossos and west of the Kairatos, three of Isopata's tombs face to the north, and two face to the west. We might imagine that the tombs facing north were pointing toward the harbor town as if to greet incoming ships, but then how do we interpret the west-facing tombs? Perhaps they were meant to face the setting sun like Egyptian tombs, or perhaps there was a shrine or settlement to the west.

Either way, the orientation and placement of the majority of these cemeteries reveals a social role of the dead which differs greatly from what we see in the EM and MM communities in the Messara. Rather than living at the center of town, the LM dead are placed far up on hillsides; but rather than facing away from the village, the chamber tombs point their *dromoi* and *stomia* toward the community like watchful eyes, or guard the road to the sea.

Floor shape and width

In terms of floor shape, the tombs around Knossos may be divided into two categories: parallel *dromoi* and widening *dromoi*. In the first group, the walls are parallel, so that a constant width is maintained throughout the *dromos*' length. In the second group, the walls diverge, so that the width of the *dromos* before the *stomion* is greater than that before the entrance. There is only one example (Mavro Spelio V) of a *dromos* that narrows all the way to the *stomion*, although this tomb is somewhat odd already, since it contains three chambers.²⁷ Another oddity

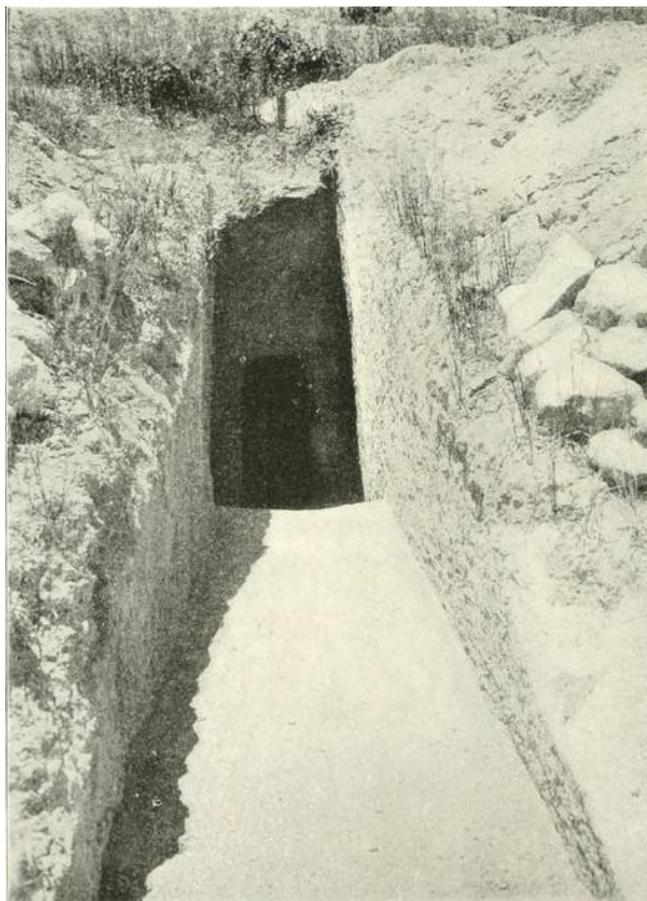


Figure 7: Entrance of tomb 92 from Zapher Papoura Cemetery (Evans 1914, 6)

is the tomb at Ayios Ioannis described in Hood 1968. There, the 8.5m *dromos* begins at a width of 1.25m, narrows to 1m, then widens back to 1.25m just before the *stomion*.

The divergence of the walls in a widening *dromos* is often subtle, and as a result, these *dromoi* tend to be a bit longer than parallel *dromoi*. However, we should not assume that parallel *dromoi* are merely *dromoi* that were too short to achieve a proper widening affect. Indeed, Isopata 1 (our longest *dromos*) does not widen at all. This same example also shows us that we cannot assume that parallel *dromoi* were always made because they would be less complicated

²⁷ Mavro Spelio XIII technically narrows as well, but I do count it here because it is not a gradual narrowing. The first have is a wide parallel *dromos*, which then abruptly becomes a much narrower parallel *dromos*.

(and so less expensive) to construct, since Isopata 1 has the most impressive architecture of any tomb around Knossos. Nevertheless, some of the very simple tombs at Zapher Papoura may have chosen the parallel *dromos* out of frugality.

Each of these shapes would have had a different effect of the visitor, and it is safe to assume that this was taken into account during the construction of the tomb. The parallel *dromos* creates a stunning visual effect. The visitor is able to see the *stomion*, framed by the long walls of a completely visible *dromos*. The parallel *dromos* is more welcoming in this way, but also because its entrance is not as restrictive. It would also be more comfortable to stand in.

By contrast, the narrow entrance of the widening *dromos* would obscure the *stomion* as well as its own interior. With entrances often under a meter in width (sometimes as narrow as 0.4m) the widening *dromos* is also more restrictive; it would be impossible for two people walking abreast to enter the *dromos* and in some cases difficult even for one. In this way, the widening *dromos* more strictly mandates individual interaction with the dead, and even rewards this type of interaction by allowing the path to become wider and more comfortable after any visitors have been funneled into a single file.

What is most interesting about these widening *dromoi*, however, is the rate at which they widen. The fifteen tombs in Table 1 represent all the widening *dromoi* in Appendix A for which I have the measurements at the entrance and before the *stomion*. Of these, eight have a widening ratio roughly between four and seven centimeters per meter (bolded text in Table 1). This is remarkably close, and probably is no coincidence. Indeed, these tombs represent every widening *dromos* at Isopata, the New Hospital site, and Sellopoulo; and half of the widening *dromoi* at Zapher Papoura. Despite this, none of the *dromoi* at Gypsades use this otherwise popular ratio.

Table 1: Width Increase / Meter at Various Cemeteries			
Cemetery and Tomb	Length	Smallest, greatest width	Width increase / meter²⁸
Isopata 2	>14.8	<0.5, 1.55	7.1cm
Isopata 5	13	1.15, 1.87	5.5cm
New Hospital I	>4	<1, 1.15	3.7cm
Sellopoulo 3	5.5	~1.25, ~1.6	6.4cm
Sellopoulo 4	>3.4	<1.2, 1.4	5.9cm
Zapher Papoura 8	4.5	~0.7, 0.9	4.4cm
Zapher Papoura 9	5	0.8, 1	4.0cm
Zapher Papoura 12	4.5	0.4, 1	13.5cm
Zapher Papoura 14	14.5	1.3, 1.55	1.3cm
Zapher Papoura 35	4.5	0.85, 1.05	4.4cm
Zapher Papoura 92	5.8	~1, 1.15	2.8cm
Upper Gypsades III	4.5	1, 1.4	8.8cm
Upper Gypsades V	5	1, ~1.1	2.0cm
Upper Gypsades VII	>5	<0.85, ~1	3.0cm
Upper Gypsades VIII	>1.5	<1, 1.3	20.0cm

This apparent standardization of construction makes us wonder if a single team of builders worked on many of these tombs. Alternatively, since the tombs at Isopata are the earliest here, it is possible that these tombs served as a model for the rest of these tombs, all of which were probably built after the LMIIIA destruction. As power changed hands, what were once unique funerary monuments for a select elite were reproduced on a smaller scale for people of lower status who sought to emulate the old elite.

Whatever happened, it is becoming clear that Minoans were particular about their *dromoi*. When it came to widening, they generally wanted it to be subtle. The purpose for this subtlety may have been to maintain the narrowness of the passage, while speeding the visitor along to the *stomion* as they were naturally attracted to the less claustrophobic part of the

²⁸ This is an average figure, since the walls are sometimes rather roughly cut and widen at an irregular rate.

dromos. On the other hand, it may have simply demonstrated the skill of the tomb builders, and thus the wealth of the family who hired them.

Slope and depth

Nearly all of the *dromoi* I have studied slope downward to meet the *stomion*; however, the nature of this slope is quite varied. Most *dromoi* descend for their entire length, although some have a horizontal portion before the *stomion*. Almost half of the *dromoi* for which I have slope data have steps, and like the *dromoi* themselves, these steps vary in quality and size. Some, like those at Isopata, are quite evenly spaced and precisely cut. Others, like those in Gypsades V, are quite rough and indistinct (Figure 8).

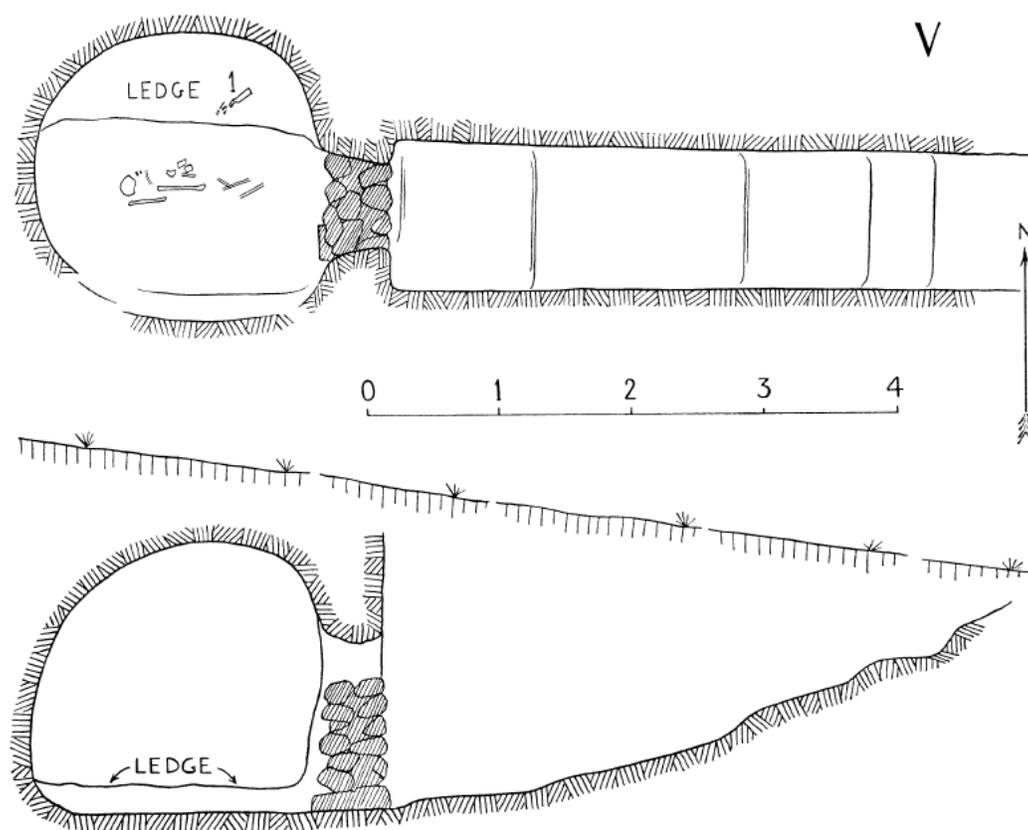


Figure 8: Tomb V from the Upper Gypsades cemetery (Hood et al. 1958, 204)

In almost every case, the bottom of the descending *dromos* is over 1.5m below the surface, and it is often over 2m, with the greatest depth being 6.8m at Zapher Papoura 14. This means that the depth of the *dromos* is usually greater than average human height. This appears to be a practical measure, allowing the tomb builders to construct a fully subterranean chamber. However, this type of construction also creates two visual effects that were probably purposeful. First, for a visitor entering the tomb, the descent would slowly remove the upper world from view as one came closer and closer to the narrow *stomion*. If the *dromos* widened, then the subterranean space would expand as the world above shrank. Although the widening of the *dromos* would be somewhat welcoming, we must imagine that being in such a cramped space below the earth could inspire reverence or even fear in the visitor. Second, anyone who entered the tomb (e.g., those carrying the body) would gradually disappear from the view of anyone standing outside. Thus, for both the visitor and the spectator, the realm of the living and the realm of the dead were separated by the *dromos*.

This disappearance would, of course, be affected by the slope of the *dromos*—steps serving to create a rapid disappearance, while a ramp would make this process more gradual. Interestingly, all but one of the tombs at Zapher Papoura for which I have this data, descend at a rate around fifty centimeters per meter. While this may be inconsequential—we have insufficient data for the vast majority of the tombs in this cemetery—it may be another sign that one team of builders worked on several of these tombs, or that a common “blueprint” was used.

Section III: The Logistics of a Funeral Procession

With a broad understanding of trends in *dromos* construction established, we may now turn our attention to the logistics of the funeral procession. How were the grave goods brought from Knossos to the cemetery, and once there, how were they brought down the *dromos* into the chamber? This is a complicated question with a number of factors to consider. How far could a person carry these objects before having to rest? How many people would be used to carry the different object types? Who would these people be? Would there be people involved in the procession who were not gift bearers? How would the people in the procession be arranged? How would the body have been treated? In this section, I will try to answer each of these questions in turn. The answers will then lay the foundation for my interpretation of two specific tombs and their funeral processions in the following section of this thesis.

Let us begin with my first question above: how far could a person carry these objects before having to rest? As a serious religious ceremony, as well as an intensely emotional event, we must imagine that the organizers of the funeral would want the procession to be unbroken by rest periods, since doing so would disturb the mood. Still, the organizers would want the procession go some distance, since this would increase the opportunity for spectators to witness the power of the deceased's family. The funeral processions of powerful Romans often began at their homes and went to the forum for the eulogy, but since these people usually lived very close to the forum, they would take a circuitous route to arrive there, thus extending the length of the procession.²⁹

Two factors must be considered in determining how far a person could carry these objects before having to rest: the distance travelled and the weight of the objects carried. Using Whitelaw's analysis of the limits of Neopalatial Knossos, and assuming that these limits would

²⁹ Favro & Johanson 2010

generally remain the same during the post-palatial period (the period in which many of the cemeteries were used), we can derive a range of distances to travel to each cemetery from different points in Knossos.³⁰

Cemetery	Distance from furthest point of Knossos³¹	Distance from central court of Knossos palace	Distance from nearest point of Knossos	Distance from edge of Karaitos
Mavro Spelio	900m (15min ³²)	650m (11min)	400m (7min)	350m (6min)
Isopata	3200m (53min)	2700m (45min)	2300m (38min)	500m (8min)
New Hospital	1350m (23min)	1200m (20min)	500m (8min)	n/a
Sellopulo	1550m (26min)	1350m (23min)	800m (13min)	50m (1min)
Zapher Papoura	1150m (19min)	950m (16min)	400m (7min)	150m (3min)
Upper Gypsades	1500m (25min)	1000m (16min)	600m (10min)	n/a

In addition to these distances, I have listed the distance to the cemetery from the edge of the Kairatos River. It is likely that a major road ran along the river, connecting Knossos to the port town of Poros. If the procession did not begin in Knossos, then the body and grave goods would have probably been brought up this road in a wheeled cart to the edge of the cemetery. Then, the procession would begin on foot from the side of the road. This method does not apply to the New Hospital site, since it is not located along the river. The Upper Gypsades cemetery is located along one branch of the river south of Knossos. The road may have continued this far, but it seems more likely that some other road went straight up the hills to reach the cemetery.

³⁰ For the New Hospital site, Sellopulo, and Zapher Papoura, I have counted the south end of the palace as the further point of Knossos rather than the true southern end of the town. Since these cemeteries are located north of it city, it seems likely that they would service people from that section alone. Calculating from the true southern end of the city adds roughly 250 meters or 4 minutes to each of these figures

³¹ Low density areas have been disregarded for this calculation

³² Average preferred walking speed for unencumbered adult humans is 1.4m/s (Mohler et al. 2007; Browning et al. 2006; Levine 1999). However, given the weight of the objects carried, as well as the somber nature of the procession, I have estimated a preferred walking speed of 1m/s for my calculations here.

Having considered the distance, let us now consider the objects to be carried. The most difficult thing to carry would have been the large bronze vessels, such as those found in Tomb 14 in the Zapher Papoura cemetery.³³ The largest vessel in that tomb was a hydria 35cm tall with a diameter of 35cm (Figure 9). Empty, this vessel would have probably weighed around 5kg.³⁴ Based on this figure, I acquired a 5kg vessel and carried it as far as my arms would allow me, making sure to hold it in front of myself as is shown Figure 10. After

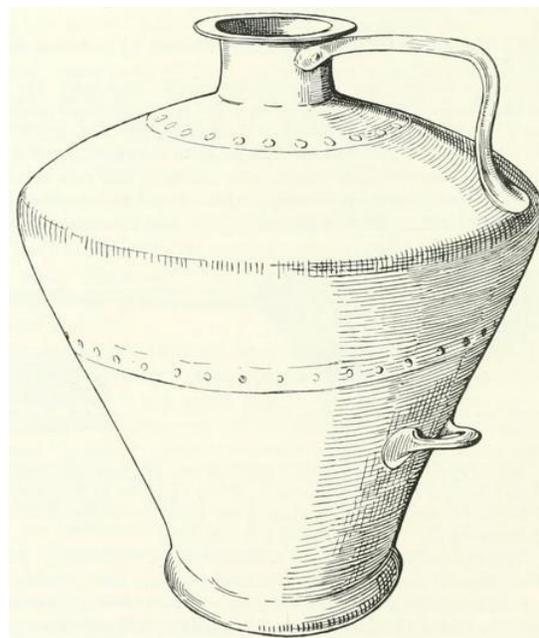


Figure 9: Hydria (14g) from Tomb 14 of Zapher Papoura cemetery (Evans 1914, 40)

seven-hundred meters, my arms and back were hurting so much that I could go no further. I am a young person in fairly good shape, but I imagine that the average young Minoan would be in far better shape than I. On the other hand, the organizer of the funeral would not want the gift-bearers to be pushed to their physical limits (as I was) since this might have caused them to drop the gifts out of exhaustion. So let us assume that one kilometer was a reasonable maximum distance for a Minoan to carry gifts to the grave. This figure is appealing, since it limits the

³³ One might object that the body of the deceased would be the most difficult thing to carry, but although the body would certainly be heavier than any bronze vessel, its weight would be divided among two to four people. Furthermore, these people could employ the strength of their whole bodies by carrying the liter on their shoulders, whereas the vessel carriers could only use their arms.

³⁴ Based on the weight of a 35cm tall bronze tube with a 35cm diameter and a wall thickness of 2mm. It is highly unlikely that these vessels would have been brought to the tomb filled with water or any other liquid. I calculate the volume of this vessel at roughly 22,500cm³. Thus it would take about 22.5kg of water to fill this vessel. Carrying this amount of weight would be difficult in general, but it would be impossible to carry it in a procession, where one must hold the vessel in front of oneself as shown in Figure 9.

length of the procession to sixteen minutes.³⁵ As a highly emotional event, it is unlikely that the Minoans would want the procession to drag on much longer than this.

Referring to Table 2, we find that the Mavro Spelio cemetery falls within this limit, even from the furthest point of Knossos. If we consider the measurements from the central court of Knossos, Zapher Papoura and Upper Gypsades qualify as well. However, these two cemeteries qualify for very different reasons. Nearly the whole city of Knossos lies between the palace and the Zapher Papoura cemetery, while almost none of it lies between the palace and the Upper Gypsades. Thus, whereas almost anyone living in Knossos could begin a funeral procession to Zapher Papoura from their home, few could do so if their destination were the Upper Gypsades. For this reason, we should not consider the Upper Gypsades to be within “procession distance” of the town.



Figure 10: Detail of group C from the procession fresco at Knossos

Why are these two cemeteries so much closer? In the case of Mavro Spelio, location was probably the determining factor. The cemetery is uniquely situated on the steep slopes of the Kairatos River valley so that the tombs overlook the town of Knossos. Zapher Papoura, on the other hand, appears to have been chosen for its proximity. This cemetery contains far more burials than any other around Knossos, and thus it appears to be facilitating an unprecedented trend in burial custom: burial within a tomb was no longer something only for the most elite members of society. During LMIII, it seems that a middle class at Knossos gained access to this ritual and chose to situate their burials on the borders of the town. This proximity allowed

³⁵ See n.35.

families to have funeral procession go through the streets of the town, and thus facilitated public displays of power. As the procession made its way to the cemetery, onlookers would be able to discern the family's wealth from the grave goods on display, and the family's influence from the number of people involved in the procession. In addition to facilitation competition, however, this cemetery may have had a unifying quality. Much like the *tholoi* of the Messara or the house tombs in northwestern Crete, all the dead in the Zapher Papoura cemetery lived together in a community adjacent to the town. I will return to these points in my conclusion, once we have examined two tombs from this cemetery in detail.

Item type	Carriers	Item type	Carriers
Body on wooden bier	2 – (4) ³⁶	Special vessel	1
Larnax / wooden coffin:	2 – (4)	Conical cup	*
Large ceramic vessel ³⁷	(½) – 1	Tool/toiletry ³⁸	0 – 1
Small ceramic vessel	(½) – 1	Large weapon ³⁹	1
Large bronze vessel	1	Small weapon ⁴⁰	0 – 1
Small bronze vessel	(½) – 1	Unique item ⁴¹	*

How many people would be involved in these processions? Table 3 presents my conjectures for the number of carriers required for each item type. I will now explain my reasoning for each of these ranges. I will explain the range presented for a body on a wooden bier as well as the range for a larnax in my discussion of Tomb 80, since my estimates rely on the particular restrictions presented by that tomb.

In addressing each of these object types, we must first ask how the objects were carried. Depictions of processions in art offer us two possibilities: objects were either carried by hand, or

³⁶ Numbers in parentheses represent a possible, but unlikely number of carriers.

³⁷ I consider any vessel with a diameter or height under over 20cm to be “large.” Everything else is considered “small.” These definitions apply to ceramic and bronze vessels.

³⁸ This item type includes knives, razors, tweezers, and mirrors.

³⁹ This item type includes large and small spearheads.

⁴⁰ This item type includes swords, daggers, and arrows.

⁴¹ This is a “catch-all” category for items that appear in two or fewer tombs.

they were suspended from a pole that was carried upon the shoulder. This latter method only applies to large ceramic vessels, so let us deal with those first.

Large ceramic vessels were probably transported by hand in a procession. Numerous works of Aegean art depict young men in processions holding large vessels in front of themselves. The procession fresco from Knossos (Figure 10) is probably the most famous of these. This would be the most impressive way to bring grave goods into a tomb, as well as the most intimate if we regard each of these items as a personal gift that would be carried by its giver.

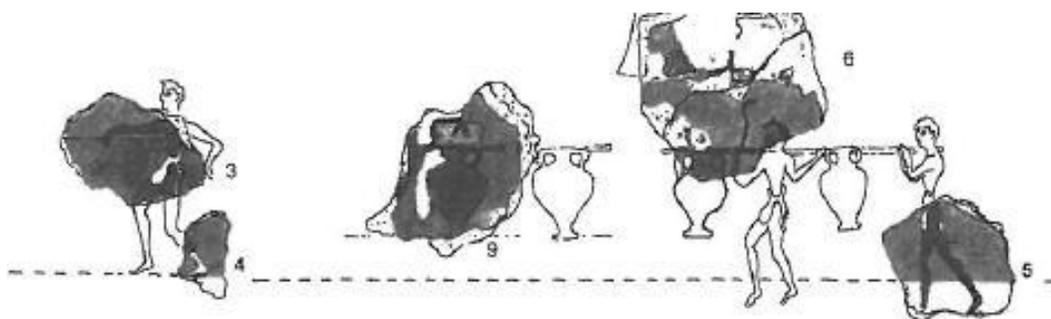


Figure 11: Detail of a fresco from Tyllissos depicting a feasting scene (Wright 2004b, 37)

Nevertheless, artistic evidence also shows that vessels were sometimes carried upon a pole in processions, as shown in a feasting scene from Tyllissos (Figure 11). In this scene, two vessels are suspended from either end of a pole; the pole rests upon the shoulders of one person, while another walked behind and kept the pole straight. Using this as our model, there would still be one carrier for each large ceramic vessel whether these vessels were carried by hand or upon a pole. However, a scene from side A of the Hagia Triada sarcophagus (Figure 12) might call this interpretation into question. In this scene, only one person carries two large vessels upon a pole. Thus, a large ceramic vessel would probably require one carrier, but could have required only $\frac{1}{2}$ a carrier (i.e. 2 vessels per person).

I would like to qualify this second possibility, however; for while this is a common method of carrying two vessels in many cultures, it could not have been used within the *dromos*. I say this because when one carries two vessels in this manner, the pole is not balanced upon one shoulder, but across both. Most *dromoi*, then,

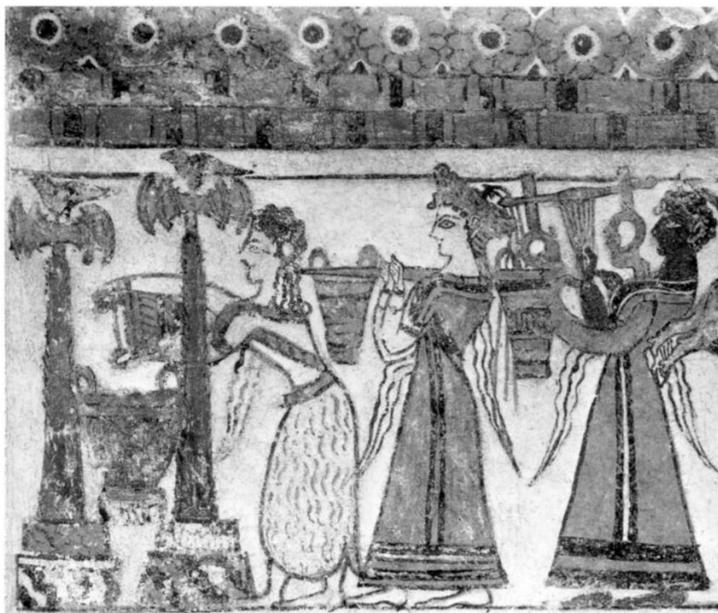


Figure 12: Detail of side A of the Hagia Triada Sarcophagus
(Burke 2005, 416)

would be far too narrow for this method of transport. It is possible that the pole would be turned sideways once the procession reached the *dromos*, but this would have disrupted the procession, especially since the carrier probably couldn't shift the pole in this way while moving. Moreover, I wonder why this method would be used at all, since a person who could afford to be buried with numerous large vessels would probably have enough relations, associates, and subordinates to carry these vessels into the tomb. The idea behind these tombs and their processions was ostentation, and having many people involved was probably an even greater expression of power than having many objects involved.

How, then, do we explain the scene on the Hagia Triada Sarcophagus, since it is a religious procession in which this method is apparently being used? One explanation is that the woman could actually be carrying the water over her two shoulders, but that the artist was unable to depict this because of the perspective of the piece. Indeed, the scene appears to be an outdoor

one, and so there would be nothing stopping her from carrying the pole (burdened with heavy, water-filled vessels) in this much easier way.

Another possibility is that there simply was not enough room on the side of the sarcophagus to depict another person behind her stabilizing the pole. The whole of side A is crowded as it is, and the artist seems to be representing groups of people by means of individual characters. For example, the other half of side A (see Figure 2 above) depicts three men bringing offerings to what is typically interpreted as an important tomb. Certainly more than three gift-bearers would be required for the burial of anyone with a tomb like the one depicted. Likewise, each side only depicts one musician. Especially on side B, which depicts a bull sacrifice, more than one flute player would be needed to drown out the sounds of the animal, bellowing as it is slaughtered. In the same way, this one woman carrying the vessels upon a pole might represent two people.

In conclusion, large ceramic vessels were probably brought to the tomb individually, by hand. If a pole were used, then there would still probably be one person per vessel. Nevertheless, there is a possibility that one person would carry two vessels, and so I include this possibility in my table, albeit qualified by parentheses. Let us move on now to the rest of the item types, which should take considerably less time than the large ceramic vessels.

Large bronze vessels were probably carried by hand, and they are large enough that the carrier could not carry another item. One might suggest that these vessels could be carried on poles like the large ceramic vessels, but I would question this because these vessels clearly prestige objects of some kind. Again, why would someone would bother to be buried with such finery, only to have them swinging from a pole on their way into the tomb? Far better to have people carrying them aloft for everyone to see.

There are also practical differences between bronze and ceramic vessels which make it unlikely that they would be transported on a pole. The vessels in Figures 11 and 12 all have two handles, which helps distribute the weight of the vessel; but some of the bronze vessels have no handles, and those that do usually only have one (e.g. see Figure 25 below). It is likely that these handles would break off if they had to support the weight of their vessel, especially if the vessel were filled with some liquid. Vessels like these need to be

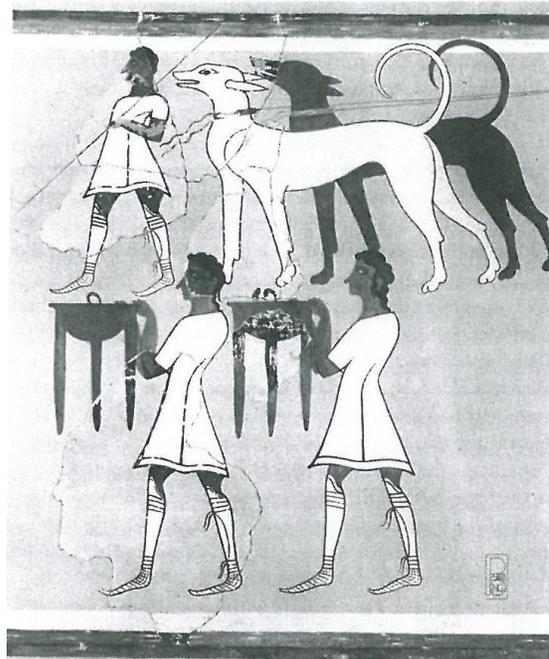


Figure 13: Fresco from Pylos depicting men, dogs, and tripods (Wright 2004, 39)

supported from the bottom, as is shown in the Knossos procession fresco above (Figure 10). The one possible exception to this is the tripod cauldron, which features two rings upon the rim that might suggest suspension from a pole. However, artistic evidence (Figure 13) shows that these rings were not even used when the vessel was carried by hand. Again, they might not be sturdy enough for this function.

Small vessels, whether ceramic or bronze, could have been carried in one hand, so it is possible that one person could carry two at once. Indeed a frieze from Thebes (Figure 14) as well as the fresco from the Pylos megaron (Figure 15) each depicts a woman carrying a small vessel in one hand. However, the woman in the Theban frieze holds nothing in her other hand, while the woman in the Pylos fresco holds a flower in her other hand. In addition, both of these works depict what look like pyxides being carried in two hands. This was probably for practical reasons—a pyxis has no handles and so it must be carried carefully—but these vessels may have

also been sacred and thus deserved to be carried alone. Thus, while it is possible that one person in a procession could carry two small vessels, artistic evidence suggests that this was not the custom. This is probably especially true of small bronze vessels, because of their greater value, as well as of special vessels, all of which appear to have some ritual significance.

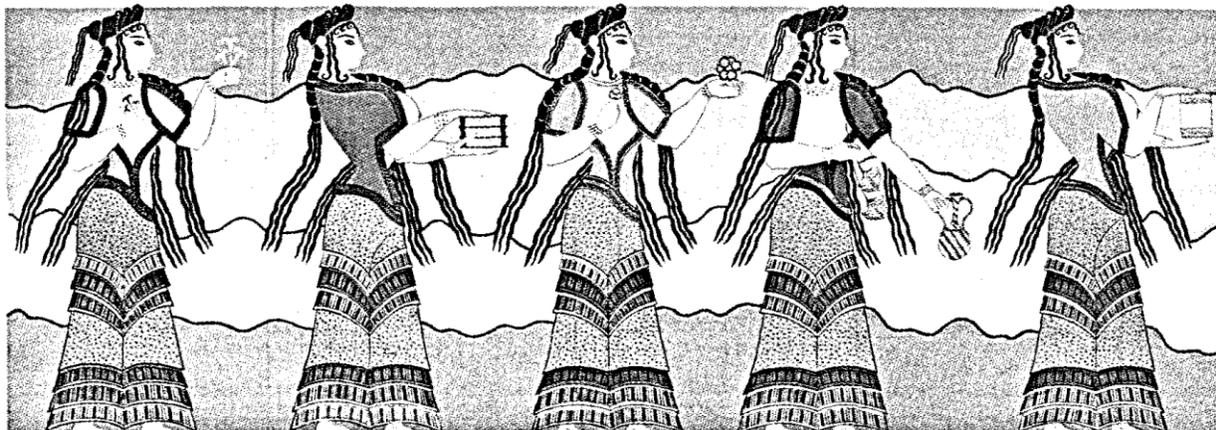


Figure 14: Women's frieze from Old Kadmeia at Thebes, as reconstructed by H Reusch. (Hägg 143)

Weapons, tools, and toiletries appear in Aegean art, but never in scenes of procession.⁴² Large weapons (i.e. spears) were most likely carried upright by one person with both hands upon the shaft. Any other method would be dangerous and illogical. Small weapons were either held before the body in a similar way, or they were transported with the body upon the bier. I offer this second possibility because daggers and swords are sometimes found very close to the body. Thus, the range for small weapons is zero to one, although one of these options can often be confidently chosen by looking at the placement of the object in its tomb.⁴³ The same range can be applied to tools and toiletries, since these are often found very close to the body. In one case, they are even found on a large silver platter. Again, these must be dealt with on a case by case basis.

⁴² I do not consider double axes weapons, but rather ritual objects. For this reason, they are categorized as “unique items.”

⁴³ All the arrows in any given tomb were probably carried by one person. Thus, the range of 0 to 1 should be applied to the group, not to each individual arrow.

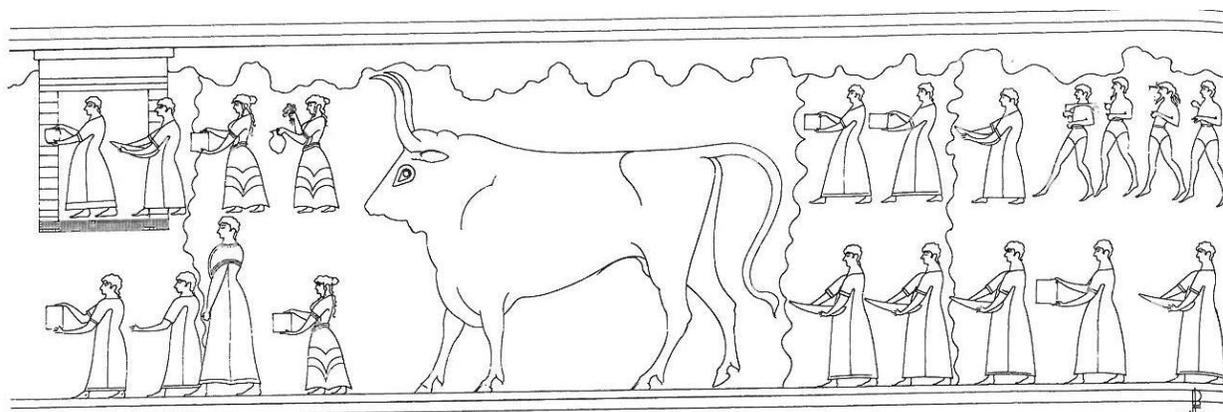


Figure 15: Pylos megaron procession fresco (Wright 2004, 42)

Conical cups and **unique items** should likewise be dealt with on a case by case basis. Conical cups are found in the chamber, the *dromos*, or the space around the tomb. In the later two cases, these vessels were probably only part of a toasting ritual, and so the cups would probably not have been processed to the tomb. Indeed, this ritual may have happened after the burial if the tomb were revisited. However, conical cups are occasionally found within the chamber among the grave goods. In this case, they should be treated as having $\frac{1}{2}$ - (1) carriers because of their minor value. Unique items like figurines, scale pans, lead weights, etc., can in general be assumed to have one carrier, although they really must be dealt with on a case by case basis because they are all so different.

Having established how many people would act as gift-bearers, let us now consider who these people would have been. In terms of gender and age, artistic evidence indicates that a variety of people were involved. Many depictions of processions show both men and women, and the fresco from Pylos (Figure 15) appears to depict an adult chaperoning a procession of children.

The role played by people in these processions, however, appears to be determined by their gender. As in other aspects of Aegean art, depictions of processions show women in more

important roles than men. In addition, women are more common in procession scenes, and some contain only women.⁴⁴ It seems unlikely, however, that a funeral procession would be restricted to women, since relatives of all genders would want to attend and give gifts. When men do appear, they tend to carry larger vessels than women. However, the woman on the Hagia Triada sarcophagus is carrying rather large vessels, so this assignment is probably not solely based on physical ability. Instead, the smaller vessels may have been sacred in some way, so that only women would be allowed to carry them.

Based on dress and adornment in procession scenes compared to that in other art, Blakolmer has concluded that processions were an elite activity.⁴⁵ In addition, Borgna has suggested that elites may have organized funeral processions in which common folk acted as spectators.⁴⁶ It is certainly true that burial in a tomb was a privilege, and one which did not become very common at all until after the LMIIIA destruction. After this, however, a wide range of wealth is represented in the grave goods and architecture of the LMIII tombs around Knossos. Nevertheless, it would have required a good deal of resources to construct a chamber tomb, and may have involved hiring a team of skilled laborers. Thus, the LMIII tombs still represent people with a higher social standing than most.

Thus far we have only discussed participants in the procession who carried gifts. Who else would be involved? Group A in the procession fresco from Knossos (not shown here) shows women playing musical instruments: two sistra, one double pipe, and one seven-stringed lyre). The Hagia Triada sarcophagus also shows a male flute-player. Musicians are a common part of processions in a variety of cultures, and they serve a practical function as well as an aesthetic one: the rhythm of their music keeps everyone moving at the same rate.

⁴⁴ Blakolmer 2008, 259

⁴⁵ Ibid. 261

⁴⁶ Borgna 2004, 145

There is also the possibility that people would be involved who carried objects that were not to be placed in the tomb, such as religious symbols. Hägg has suggested that the gold vessels catalogued in Pylos tablet Tn 316 were probably processed on an annual basis.⁴⁷ Vessels such as this were probably not used in funeral processions, since it might have been an insult to the dead to bring such a fine vessel to the funeral only to take it away, but Hägg's example is still relevant. It is possible, for example, that double axes on poles were carried in the procession as we see in some seal images,⁴⁸ but then brought back after the funeral.

Perishable gifts are also a consideration, not only things like wooden bowls, but gifts of flowers. The fresco from Thebes (Figure 14) shows two women holding flowers and nothing else, while the fresco from Pylos (Figure 15) has a woman holding a small vessel in one hand and a flower in the other. These factors are important to keep in mind as we calculate the size of the procession based solely on the number of grave goods. While carriers of flowers and religious symbols would certainly not have been the majority of people involved in the procession, we should assume that whatever figure Table 2 gives us might be slightly lower than the number of people who would have been involved in the procession.

A final consideration is the treatment of the body. Some might wonder whether or not the body was exposed during the procession. Certainly some kind of shroud would be draped over the body⁴⁹ but I believe that this would probably be pulled back to reveal the face of the deceased during the funeral. J. Scott has argued that exposure of the dead was common in Archaic Greece. To support this, he points to Achilles' interaction with the shrouded body of Patroclus in the *Iliad*: Achilles cuts hair from his own head and places it in Patroclus' hands;

⁴⁷ Hägg 2001, 145

⁴⁸ E.g. CMSII.3, nos. 8 and 11

⁴⁹ Popham et al. 1974 (198-199) provides evidence of this from the Sellopoulo cemetery.

then he rests his hands on Patroclus' head as he laments (XXIII, 134-137, and 152). Presumably Patroclus' hands and head would need to be exposed for Achilles to do this.

Scott's hypothesis is supported in Bronze Age art: several larnakes depict mourning rituals in which the body is un-shrouded or only partially shrouded.⁵⁰ A Minoan larnax from Pigi Rethymnou provides a particularly good example. The lid of this larnax (Figure 3) depicts a body in prosthesis, which appears to be wrapped in a shroud with its face uncovered.

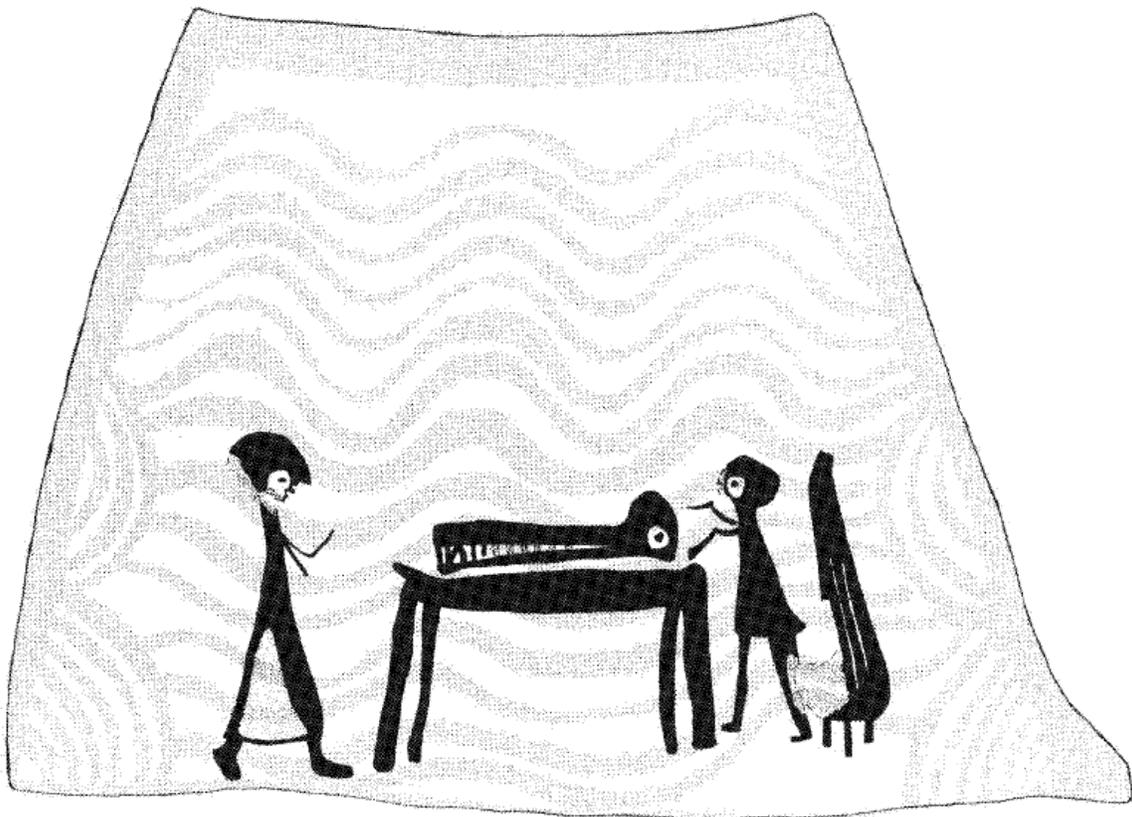


Figure 16: Pigi Rethymnou larnax lid with prosthesis scene (Baxevani 1995, 18)

⁵⁰ E.g., see Mee 1998, 166-167

Section IV: Two Funeral Processions in the Zapher Papoura Cemetery

Now that I have discussed the logistics of funeral processions in general, I will conclude my thesis with an in depth analysis of two tombs from the Zapher Papoura cemetery: Tomb 80 and Tomb 14. My goal is to imagine the funeral processions for these tombs with as much detail as possible. I have chosen the Zapher Papoura cemetery because it offers the greatest number and variety of unrobed chamber tombs around Knossos. In addition, its proximity to the town and its location on a relatively flat and spacious hill make it an ideal destination and site for processions. Finally, its creation after the LMIIA destruction make it one of the most interesting cemeteries around Knossos, since it apparently models much of its funerary architecture on older much more elaborate tombs.

I have chosen Tomb 80 and Tomb 14 for three reasons. First, they both have entirely preserved *dromoi* as well as complete sets of dimensional data. Second, they contain single burials. While a double burial⁵¹ would be interesting to consider, such a complex project is beyond the scope of this thesis. Third, they represent two drastically different types of chamber tomb burial: Tomb 80 is simple and frugal, whereas Tomb 14 is one of the most lavish tombs around Knossos.

⁵¹ Burials I and II at Sellopoulo 4 are possible candidates.

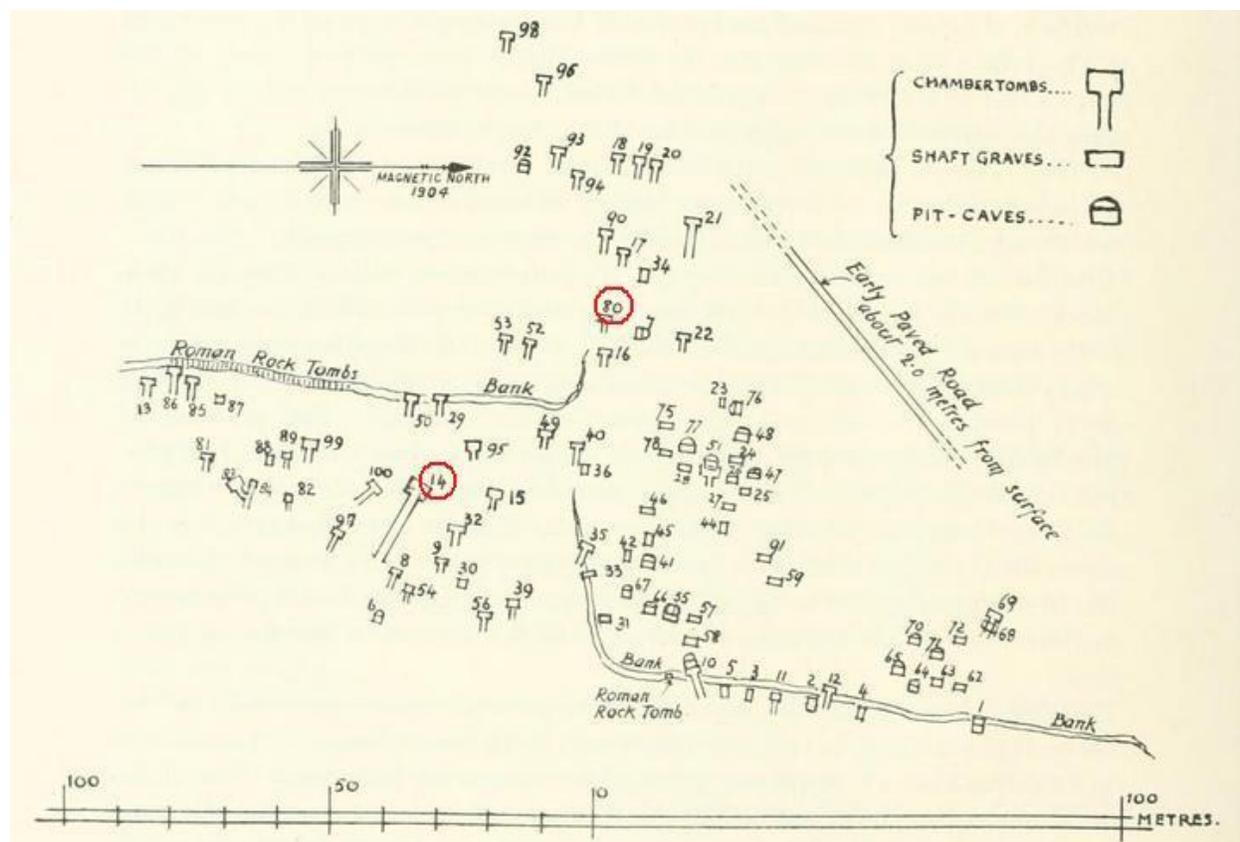


Figure 17: General plan of the cemetery of Zapher Papoura with tombs discussed here circled (Evans 1914, 102)

Zapher Papoura Tomb 80

Zapher Papoura Tomb 80 (Figure 18) is one of many, small, individual burials in the Zapher Papoura cemetery, northwest of Knossos.⁵² Like most tombs in the cemetery, its entrance faces east. Its *dromos* is 1 meter wide and 2.5 meters long, descending in three long steps. The walls of the *dromos* run parallel and do not converge toward the top. Compared to many other *dromoi*, which gradually widen toward the *stomion*, descend in an even ramp, and have inward leaning walls, the construction of Tomb 80's *dromos* is simple and may point to the frugality of expenditure on this burial. Frugality is also suggested by the paucity of grave goods (two knives and a razor) all contained in a larnax with the body. The *stomion* is 1.4 meters high

⁵² Originally published in Evans 1905, 469-470

and was found with its blocking wall intact, which tells us that the tomb was never looted. The chamber's vault was 1.5m high; just below standing-height. The chamber was small (1.2m²) and roughly cut; both signs of the frugality of this burial.

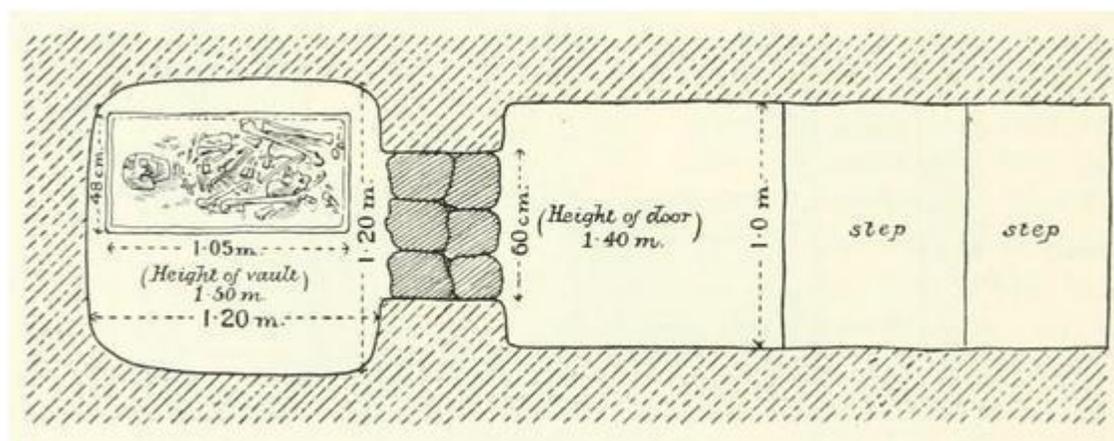


Figure 18: Plan of Zapher Papoura Tomb 80 (Evans 1914, 78)

Tomb 80 is most useful for the present study as a clear and simple example of a larnax burial in a chamber tomb. Much has been said about the iconography and origins of the Minoan larnax, but less has been said about their functionality and use in funerary ritual. Since Tomb 80 and its burial are both so simple, they provide an excellent starting point for the analysis of burial in a chamber tomb, with or without a larnax. In particular, the small size of the chamber and *dromos* create practical, spatial restrictions that will help imagine the logistics of burial in a chamber tomb. As will be seen, the transport of the body was taken into account in the construction of these tombs, and presumably, the way in which a body was brought to its tomb was fairly consistent. Because of this, by looking at a tomb like ZP 80, which was made just large enough to accommodate this transportation, we may discover the standard method of transport which was used in small and large tombs alike. In this way, I will use Tomb 80 a template for my study of other tombs. Before dealing with Tomb 80 in particular, however, it will be helpful to briefly establish a historical context for larnax burial.

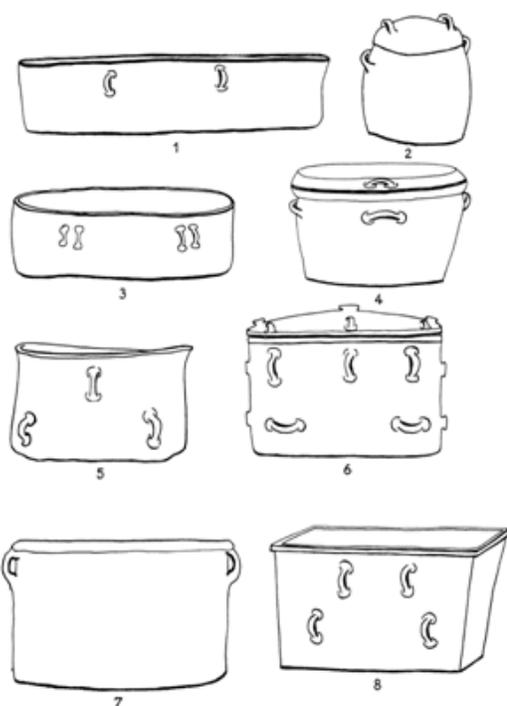


Figure 19: Pre-LMI clay larnax types
(Rutkowski, 221)

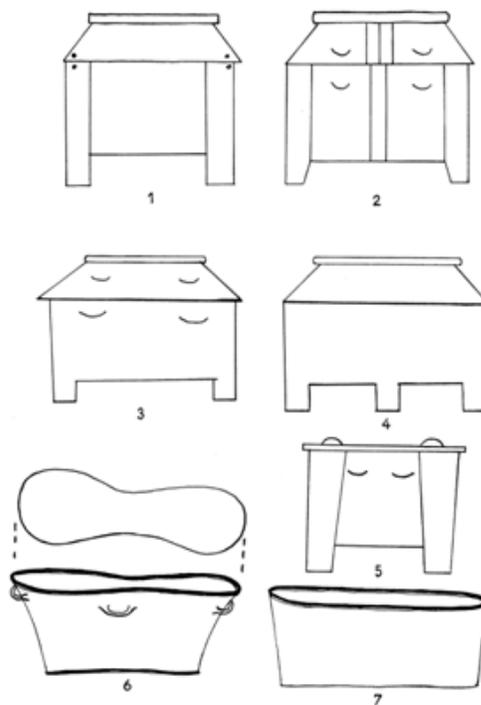


Figure 20: Post-LMII clay larnax types
(Rutkowski, 224)

Larnax burials first appear on Crete in the Early Minoan period and become more popular during the Middle Minoan period. These early larnakes are typically found in or around circular *tholos* tombs, which some have claimed marks a transitional phase between communal burial and individual burial. EM larnakes tend to have rounded edges, flat lids, and often many more handles than later larnakes (cf. Figures 19 and 20). From LMI/II to LMIIIA2, wooden coffins and biers entirely replace the clay larnax.⁵³ From LMIIIA1/2-B, however, clay larnakes begin to see use again, and the wooden coffins disappear. There has been much debate over the origins of these wooden chests, but whether they are a local tradition or a foreign custom, it is clear that they inspired the shape and design of the larnakes that follow them. In contrast with the MM

⁵³ Popham et al. 1974, 225; Preston 2000, 146

larnakes, LMIII larnakes are square, have few or no handles, and often have feet and gabled lids (see Figure 20). In addition, they are found almost exclusively in chamber tombs.⁵⁴

Hood considers this later type of larnax to be a less expensive imitation of the wooden coffin which was popular between LMII and LMIIIA2.⁵⁵ Preston, however, argues that the revival of the clay larnax signals a return to older traditions in Minoan culture.⁵⁶ For her, the wooden coffin was skeuomorphed into clay, not solely for financial reasons, but as an “*appropriate translation* of the wooden version” [Preston’s italics] since it recalls the even earlier MM clay larnakes.⁵⁷ At the same time, the LMIII clay larnakes mark a “clear departure” from the mainland mortuary practice of using the wooden coffins.⁵⁸ While this may be true, we cannot ignore Hood’s point that the clay larnax would have likely been much less expensive than its wooden counterpart. Indeed, wooden coffins tend to be found in richer tombs,⁵⁹ and as Preston notes, there was a steady decline in funerary expenditure between LMII and LMIIIB.⁶⁰ The revival of the clay larnax, reviving tradition or not, appears to be part of this decline.

The clay larnax from Tomb 80 is clearly of the later type, providing us with a plausible date for our burial (LMIIIA2/B), as well as another indicator of this burial’s frugality: clay was chosen instead of the more expensive wood. There are two questions I would like to address in regards to the use of the clay larnax in Minoan burial practices. First, how was the larnax brought into tomb? Second, was the body inside the larnax as it was brought to the tomb?

In answering both questions, we must first estimate the weight of the Tomb 80 larnax. Unfortunately, Evans does not provide this datum, and I have found no study of Minoan larnakes

⁵⁴ The only exceptions are in 3 shaft graves (Upper Gypsades 12, Mavro Spelio 20, and Zapher Papoura 35) and pit grave East of the Temple Tomb (Preston 2000, 157 n.32)

⁵⁵ Hood 1956, 86-87

⁵⁶ Preston 2004

⁵⁷ Preston 2000, 154

⁵⁸ *Ibid*, 152

⁵⁹ Hood 1956, 86-87

⁶⁰ Preston 2000, 138-139

which even mentions the weight of these vessels. However, based on the dimensions provided by Evans, I have roughly calculated that the Tomb 80 larnax would have weighed between 44 and 68 kilograms (about 100 to 150 pounds).⁶¹ This is a very rough estimate, but it demonstrates an important point: larnakes are heavy. Even at 44kg, an empty larnax would be difficult to move, and the Tomb 80 larnax is even a little under average size.⁶² If the body were in the larnax as it was moved, then it would weigh over 100kg.

There is the possibility that the body could have been de-fleshed before it was placed in the larnax. This would significantly reduce the body's weight and thus make it possible that two people could carry the larnax and body into the tomb. But while it is true that some larnakes were used as ossuaries,⁶³ they seem to have mostly been used for primary burials. Indeed, many larnakes have holes in the bottom for fluids to drain through,⁶⁴ and the position of complete skeletons found within them often demonstrates that the body was placed inside before decomposition.⁶⁵ Tomb 80 is such a case—the legs are still in place, drawn up over the torso—so we can proceed with our interpretation of this burial, knowing that the body was placed in the larnax intact.⁶⁶

⁶¹ This figure does not include the weight of the feet or gabled lid. I have reached this estimate by calculating the volume of the larnax's body and multiplying that by the specific gravity of fired clay. Again, this is a very rough estimate. Evans only provides the interior dimensions of the larnax (96L x 35W x 45D) and does not mention the thickness of its walls. Wall thickness is another feature of larnakes which is left out by the all reports; however, Hood et al. 1958 contains top-down, scale drawings of some LM larnakes (Figures 24b and 24c). These drawings show that wall thickness falls between two and three centimeters. Taking these figures as my range, and assuming that the bottom of the larnax would be as thick as its walls, I calculated a range of possible volumes for the larnax's body: 32,100cm³ – 49,536cm³. Finally, I multiplied these two figures by the specific gravity of fired clay (1.362), which yielded a weight range of roughly 44kg to 68kg. This is another problem with my methods, since the specific gravity of ceramic varies greatly based on the clay used and the firing process. I found this specific gravity figure on the following engineering website: <http://www.csgnetwork.com/specificgravmattable.html>.

⁶² Watrous 1991, 287 n.8 lists the average dimensions of the Minoan larnax: 100L x 45W x 60H (with lid?)

⁶³ Vavouranakis 2014, 213

⁶⁴ Watrous 1991, 289; Evans 1905, 488-490

⁶⁵ Evans 1905, 399-400

⁶⁶ One might suggest that the body was placed in the larnax and left to decompose before the burial, but where the larnax would be left during this process? It could certainly not be left at home because the smell would be unbearable, but it could not be left outside the town either, since wild animals might destroy the coffin and/or defile the body.

This poses a problem, however, since lifting the larnax with so much weight inside could have broken it, and even if this were not the case, it seems unlikely that so much weight could be carried any significant distance. Of course, the distance the larnax could be carried would depend on the number of carriers and how they carried it.

Larnakes were not designed to be carried by hand. If they have handles at all—the later types often do not—these do not appear sturdy enough to support the weight of the larnax for a long distance, even without a body.⁶⁷ Without the use of handles, two people lifting the larnax would have to face each other, holding either end of the larnax from underneath. This, however, seems unlikely, since neither of the carriers could clearly see where they were going: the height of the Tomb 80 larnax (87cm with the lid) would obstruct the view of the carrier in back, while the carrier in front would have to walk backward. This would have been a fine method for moving the larnax short distances in a non-ceremonial context, but it seems rather inappropriate for a funeral. Indeed, there may have been some reluctance to handle the coffin in such a clumsy and irreverent way.

How was the larnax carried then? One possibility is that it was carried on a liter, as some bodies were. This seems like a far more respectful way to transport the coffin, and it is more practical too, given the distance from Knossos to the cemetery. Using a liter would allow the carrier in front to face forward, guiding the movement of the larnax for the carrier in back, whose vision would still be obstructed by the larnax.

Another possibility is that the larnax was suspended from a pole: the larnax would be placed upon a board suspended from one or two long poles by ropes at either end, creating a sort of swing or palanquin for the larnax. The pole could then be carried upon the shoulders with the

⁶⁷ Instead, these were probably only used for securing the lid with a cord (Watrous, 289; Hood et. al 1958, 227; Evans 1905, 488).

larnax hanging in the middle, where it would not obstruct the view of the carrier in back. This method may seem bizarre, but the fresco fragment from Tylissos (Figure 11 above) shows us that Minoans transported large ceramic vessels in a similar fashion. Furthermore, frescoes and ceramic miniatures from the palace at Knossos depict palanquins and their use.⁶⁸

Whichever method was used, the narrowness of the *dromos* indicates that the carriers moved in single file. The Tomb 80 larnax is 35cm wide, whereas the *dromos* of Tomb 80 is only 100cm wide. If we place the larnax in the middle, this leaves only 32.5cm on either side for the carriers, which is far too small.⁶⁹ And while a *dromos* width of 100cm is fairly average, the average larnax is actually 10cm wider than the Tomb 80 larnax. Thus, with both the liter method and the palanquin method, the carriers would be in single file.

Knowing this helps us put a limit on the number of carriers. The *dromos* of Tomb 80 is 2.5 meters long. If we assume the average carrier would be about 30cm wide (from chest to back), and that they would require another 30 cm between themselves and the larnax, then two people carrying a larnax on a liter or a pole would take up about 2.2m. Adding another carrier on either side would require another 120cm (allowing for 30 cm between each carrier) which the *dromos* of Tomb 80 could not contain (see Figure 21). So, while it is possible that four carriers could have been used in some of the tombs with longer *dromoi*, we should imagine that the Tomb 80 larnax was brought in by two carriers.

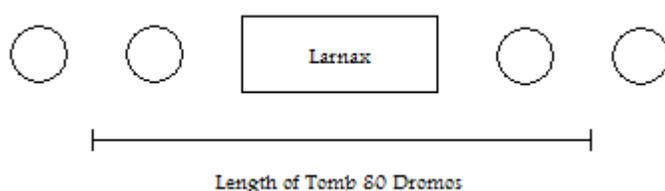


Figure 21: Diagram demonstrating the space required to carry a larnax with 2 or 4 carriers,

⁶⁸ Evans 1921-1935, 224, fig. 166; 771, fig. 502

⁶⁹ Fisher (2009, 445) estimates that average-sized adults can only pass comfortably through a 60cm wide doorway. Anything narrower requires turning one's body to the side, which would be difficult with a larnax.

But there is reason to believe that 2 carriers would even be used in tombs with longer *dromoi*, for although their *dromoi* provide more room for carriers, their chambers do not. Zapher Papoura Tombs 8 and 9, for example, have chambers that are roughly 2 meters square, just large enough to accommodate two people carrying the larnax on a liter or palanquin, but no more than that. If four carriers were used, then one of the carriers in front would need to break away from the procession before it reached the *stomion*, which would be difficult in the narrow *dromos*. It is possible that two carriers were in back and only one in front, but this orientation probably was not used because it would not make the larnax any easier to carry: the larnax had to be carried down the *dromos*, and thus the majority of its weight would have been shifted to the person in front.

Interestingly, the chamber of Tomb 80 is only 1.2 meters long, barely enough to fit the larnax, and far too small to fit two carriers on either end. In the case of Tomb 80, then, the larnax must have been set down before the *stomion*, removed from its liter or palanquin, and then simply pushed into the small chamber. The small size of the chamber is another demonstration of the frugality of this tomb's construction.

In summation (at least for ZP 80) we can say with some confidence that the larnax was carried to the tomb upon a liter or palanquin by two people. Because of this, it is likely that the larnax and the body would be carried separately. Not only is it doubtful that the larnax could be lifted with the body inside without breaking the larnax, but it is unlikely that two or even four people could carry so much weight from the town to the cemetery without resting. In addition, since the process of getting the larnax through the narrow door and into the small chamber of Tomb 80 would be so difficult, it was probably done when the larnax was still empty, both

because it would make the process easier, and because it might have been seen as disrespectful to unceremoniously shove the larnax into place while the body was in it.

Let us turn our attention now to the treatment of the body. So far we have seen that the body in Tomb 80 was placed in the larnax intact, when the larnax had already been put inside the chamber. This means that it was brought to the tomb intact, most likely on a wooden bier. Once at the tomb, it would have to be set down while the larnax was brought into the chamber. During this time, the body may have received a final blessing or been present for lamentation. Once the larnax was in the tomb, it could be brought down the *dromos*. Like the larnax, however, it would have to be set down at this point, since neither the chamber nor the larnax are long enough to receive a supine corpse. The body would have to be trussed with ropes in order to fit into the larnax, so we must ask whether this done within the chamber, or just before the *stomion*.

Many *dromoi*, including the *dromos* of Tomb 80, are 1m wide, and even *dromoi* that widen as they approach the *stomion* tend to reach a width of 1m just before the *stomion*. This may be because the space before the *stomion* served as a space to prepare the body for the larnax.

One problem with this theory is that there are some larnax burials which occur in tombs with very narrow *dromoi*.⁷⁰ However, each of these narrow *dromoi* has a corresponding chamber which is large enough to accommodate two carriers on either end of a larnax. Indeed, even the very small Zapher Papouria Tomb 11, with a *dromos* around 60cm wide, has a chamber which is 1.6m²—cramped, but large enough if the carriers squeezed up against the larnax. In all these cases, the body and larnax must have been carried straight into the tomb. Then, the body would be placed into the larnax within the chamber itself.

This method seems more likely, even in tombs whose *dromoi* could accommodate the trussing of the body, since the chamber offers more privacy than the *dromos*. Trussing the body

⁷⁰ E.g. Zapher Papouria Tomb 11, and Upper Gypsades Tombs IV, IX, and X.

and fitting it into the larnax would have been difficult, inelegant, and may have even involved breaking bones—it was probably done out of sight. The *dromoi*, then, are often 1m wide to accommodate the larnax and the body as each was set down and removed from its conveyance before being brought into the tomb. In addition, the space before the *stomion* may have been used for some kind of ritual, perhaps a final toasting of the dead. Indeed, small vessels are sometimes found in the *dromoi* of chamber tombs (e.g. Zapher Papoura Tombs 32 and 38). Hamilakis has suggested that these may have been broken as part of a “rite of passage before entering to the ritually controlled heterotopic space of death.”⁷¹

This explanation also has the benefit of explaining the size of the Tomb 80 chamber. As we have seen, nearly every aspect of this burial displays a frugality of expenditure: the chamber is roughly cut and just long enough for the larnax; the *dromos* is simple and just long enough for the larnax and its carriers; the larnax itself is clay instead of wood; and there are very few grave goods. In spite of this, the chamber is twice as wide as it needs to be to contain the larnax. Why? In other tombs, this space served as a location for grave goods, but Tomb 80 has no grave goods, save the small tools within the larnax. It is possible that there were grave goods which perished, but that doesn't explain the height of the chamber, which is also greater than what the larnax requires. Since the builders of this tomb were so frugal, it is probably safe to assume that this extra space was used for the trussing of the body.

So what would the burial have looked like at Tomb 80?

A small procession winds its way through the streets of Knossos to the Zapher Papoura cemetery. In front, two people carry the body on a bier. Following them are two people carrying the empty larnax on a simple palanquin. It sways gently back and forth as they walk. Next are the family members who walk behind, holding a few gifts for the deceased or keeping

⁷¹ See Hamilakis 1998, 122 for more examples

their children in time with the slow pace of the group. As the procession reaches the tomb, the body and larnax are set down. A priestess emerges from the crowd and blesses the larnax. Two people lift the larnax again and bring it down the dromos. They set it down just before the stomion and remove it from the palanquin. Then, one enters the chamber and stands to the side. The one outside pushes the larnax in, and the one inside pushes it against the wall and out of the way of the door.

The two pick up the empty palanquin and return to the surface to find the priestess saying prayers over the body and pouring libations. When she is finished, she descends the dromos and enters the chamber. A lament is raised as the shrouded body vanishes down the dromos, carried on a liter. Just before the stomion, the body is set down and taken from its liter. One of the carriers, a close relative of the deceased, helps the priestess bring the body inside the chamber and together, under the priestess' guidance, they truss the body and fit it inside the larnax. The relative places the two knives and the razor into the larnax and closes the lid. The relative leaves. Now the family members take turns, descending the dromos one by one to visit the body in its final resting place with the priestess standing by. Once everyone has said goodbye, the group walks back to Knossos, and two people begin to wall up the stomion.

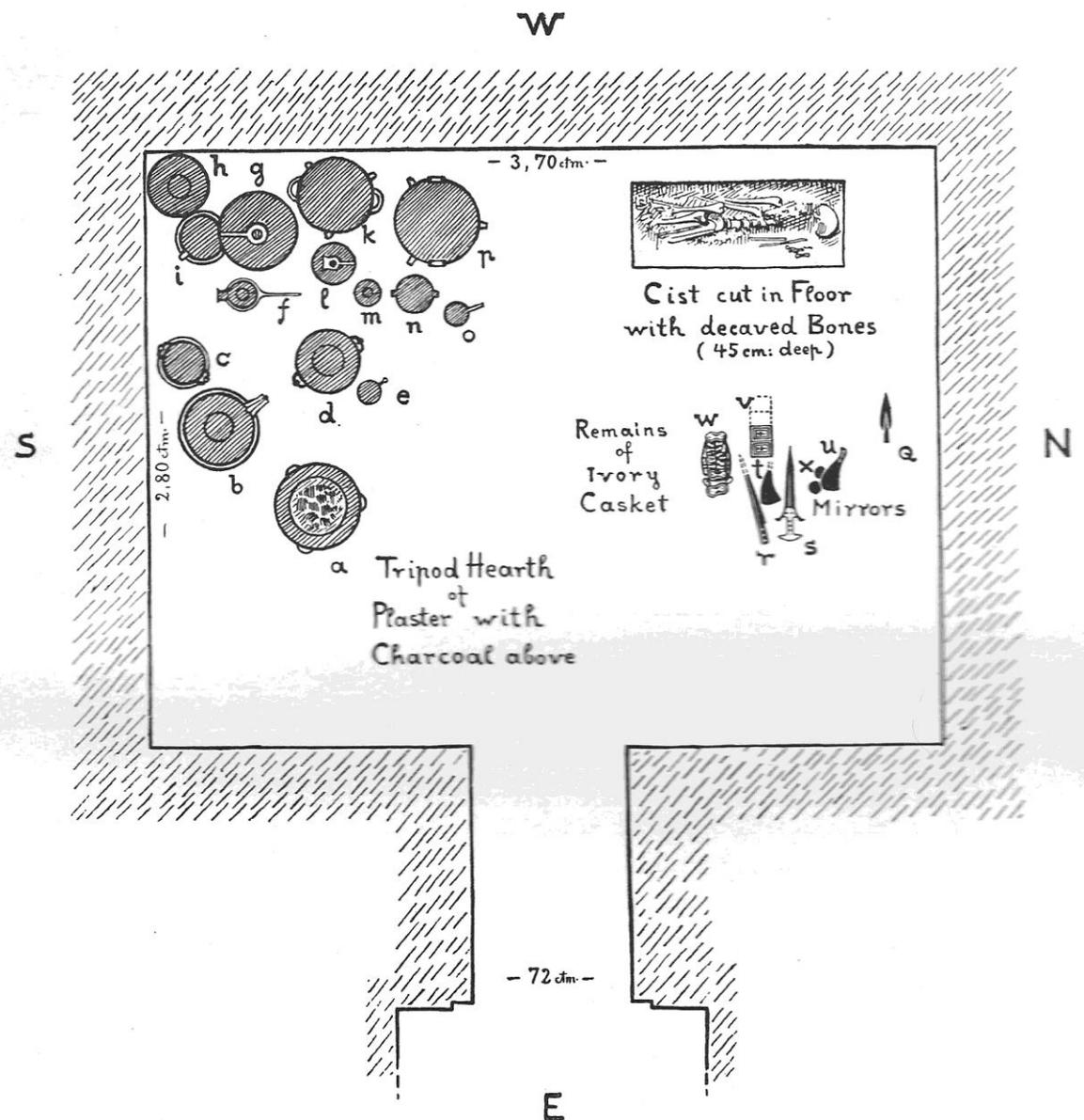


Figure 22: Plan of the chamber, Tomb of the Tripod Hearth (No. 14) (Evans 1914, 37)

The Tomb of the Tripod Hearth

Zapher Papoura Tomb 14, "The Tomb of the Tripod Hearth," is not only the most elaborately constructed tomb in its cemetery, but it is among the finest chamber tombs around Knossos.⁷² Its *dromos* widens more gradually than any other in the area (see Table 1 above) a clear sign of the skill with which it was dug. It descends rapidly with steps at intervals until it is

⁷² Originally published in Evans 1905, 424-35

6.8 meters below the level of its entrance point. The majority of the *dromos* is thus a tunnel, with walls which incline gently toward the 2 meter high ceiling (possibly to accommodate the spear that were carried in). The *stomion* inclines toward the top as well, and on either side of it is a groove, 2.5cm deep and 10cm wide. This was probably meant to hold some kind of barrier in place, though nothing of the sort was discovered. Through the *stomion*, a hallway 72cm wide leads to the spacious rectangular chamber with precisely cut walls and corners (2.8 x 3.7m).

Not surprisingly, the burial within this chamber is rich, including one of the largest assemblages of bronze vessels around Knossos, two decorative caskets, and a tree-footed plaster hearth, complete with charcoal, from which the tomb gets its name. The body was deposited in an open cist grave, which had been cut into the floor of the chamber in the northwest corner. The dimensions of this cist are similar to that of a larnax: 1m long, 40cm wide, and 45cm deep.

Evans finds two things puzzling about this burial. First, he believes that

the person for whom this grand tomb was built would have been interred at the center of the chamber, not located in an uncovered cist grave in the corner. Since there is no cist in the center, he suggests that the body was laid to rest in an elaborately decorated larnax, perhaps even plated

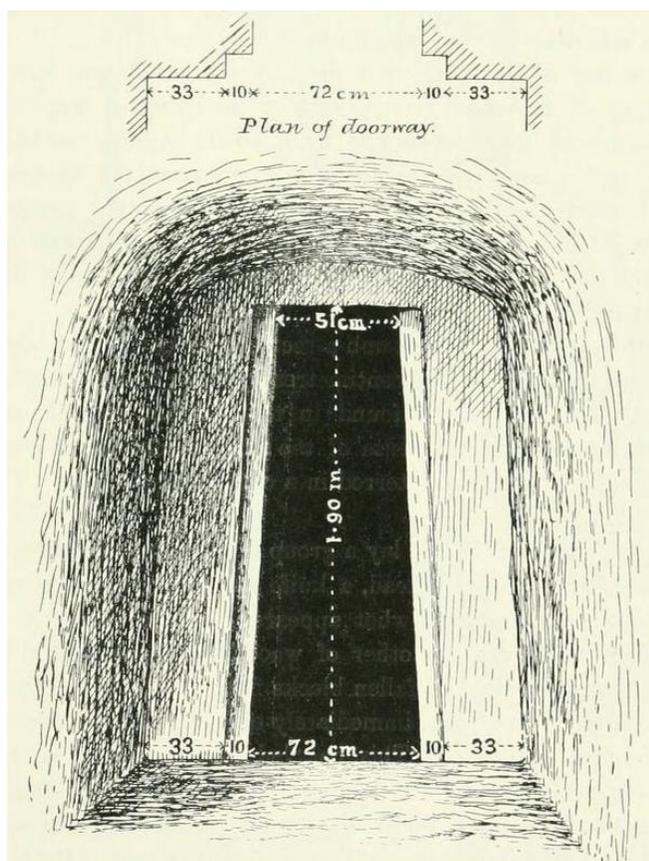


Figure 23: Doorway of the Tomb of the Tripod Hearth (No. 14) (Evans 1914, 35)

with bronze or gold. Second, he is troubled by the fact that there is “not a scrap” of precious metal within the tomb, even though many much less elaborate tombs in the Zapher Papoura cemetery contain jewelry and gold-mounted weapons. He dismisses the possibility that the tomb was robbed, because robbers are not known to take bodies, and they often leave clear signs of their intrusion.

To solve these problems, Evans suggests that the chamber threatened collapse shortly after the interment of the main larnax burial. When the family of the deceased saw this happening, they extracted the main interment as well as all of the valuables and relocated them in a more stable tomb. Shortly after this, the vault collapsed entirely, burying the bronze grave goods as well as the other interment. The doorway too, he thinks, would have collapsed, if it, along with the *dromos*, had not been filled with earth in response to the chamber collapsing. Evans thinks the bronzes were left because the precarious state of the tomb combined with their “minor value” made them not worth saving. The body in the cist grave, he suggests, would either be “some slave or attendant” of the deceased or else a “secondary member of the family.”⁷³

My main issue with Evans’ explanation is that he dismisses out of hand the possibility that the cist grave was in fact the main interment. Many individual burials around Knossos from the post-palatial period, both large and small, house their interment in a non-central position. The burial in the Tomb of the Double Axes, for example, as well as the one in Tomb 80 studied above are just two examples of this. The body in the Tomb of the Double Axes is even interned in a cist grave. Furthermore, Evans’ suggestion that the body in the cist was “some slave or attendant” is not supported by anything we know of Minoan social structure or burial customs. His alternative, a “secondary member of the family,” is equally unlikely: would the family really

⁷³ Evans 1905, 426-29

take the time to extract the body of one family member, along with all the jewelry, but not the other? Finally, I doubt that bronze vessels were of “minor value.” Indeed, assemblages like these are only found the wealthiest tombs and appear to be prestige objects or status symbols.

I see no reason to doubt, therefore, that the cist burial was the only interment in Tomb 14. The question still remains, however: why are the interments in chamber tombs so often in corners? I believe this is a simple question of logistics. The body, being the heaviest object, would naturally be in the front of the funeral procession, so that those carrying it could set the pace for the group; and because the body would be in front, it would naturally be the first thing placed in the tomb. It only makes sense, then, to place the body in the corner where it would not obstruct the path of the gift bearers who would come in after it to furnish the tomb.

Thinking symbolically, we might also explain this placement as fitting in with the idea that the tomb was a new home for the dead.⁷⁴ We rarely sit in the direct center of our homes, especially if we are home alone. Private rooms tend to be deep inside houses, and resting places (i.e. benches, beds, or coffins) are often placed against walls. By contrast, central spaces in homes are often kept open for doing work or greeting visitors; perhaps the inhabitant of this tomb was expecting some, especially if the tomb had a portable door as the groove around the *stomion* suggests. Indeed, the great size of this chamber was probably designed to accommodate preparation of the body or some other ritual, and so we should not be surprised that its center was left open and clear.

Having established that the cist burial is the sole interment of Tomb 14, let us move on to the funeral procession. Little more needs to be said of the body in this regard—like in Tomb 80,

⁷⁴ This idea appears to have been popular among Minoans. Small braziers are often found in the chamber tombs around Knossos, and Tomb 14 actually contains a hearth with charcoal, which Evans suggests was placed there to keep the dead warm (Evans 1905, 426). In addition, the house tombs, which predate the tombs studied here, suggest that this idea was not new to Crete.

the body was probably brought down the *dromos* on a bier by two people—so the remainder of this section will be devoted to a discussion of the grave goods and their transportation into the tomb. There are two questions that must be addressed here. First, how many carriers were involved in the procession? Second, in what order did they bring the grave goods into the tomb?

Table 2 provides us with the following numbers for Tomb 14: 2 carriers for the body, 9 carriers for the large bronze vessels, (3) – 6 carriers for the small bronze vessels⁷⁵, 1 carrier for the spear, and 3 carriers for the special items (the tripod hearth, the ivory casket, and the wooden casket). The dagger, cutting tools, and mirrors are far enough from the body that they were probably brought in separately, requiring another 3.5 – 7 carriers. Thus, the funeral procession for Tomb 14 probably involved 25 to 28 people, with a less likely lower limit of 22 people.

Curiously, if we allow each of these carriers 60cm of space (30cm for themselves and 30cm for their object) the length of this procession would fall between 13.8 and 15.6 meters.⁷⁶ Recall that the length of Tomb 14's *dromos* is 14.6 meters long. One must wonder if the *dromos* was designed with the length of the procession in mind. Was the architect extrapolating from an estimate of how many people (and possibly how many objects) would be involved when planning the tomb?⁷⁷

⁷⁵ I include the bronze lamp in this count

⁷⁶ This does not include the two carriers with the body, since I imagine these were brought in separately

⁷⁷ Admittedly, this calculation does not take into account the possibility of processors who did not carry objects, but the architect would probably only have a rough figure anyway.

The chamber itself might suggest similar planning. Using modern architectural estimates for maximum room occupancy, we find that the area of the chamber (10.36m²) permits roughly 35 people standing in a group situation of “normal spacing.”⁷⁸ But this estimate includes the space taken up by the grave goods and the cist grave. If we ignore the small grave goods gathered near the entrance of the tomb, we find a space before the body roughly 2m x 2.5m, providing standing room for 17 people. If we do not ignore these objects, then we are left with only the small space just inside the *stomion* (roughly 3m²), providing space for only 10 people. Either way, it seems that not everyone involved in the funeral procession could fit in the tomb, and thus if there were some ritual that took place there (e.g. a final toasting of the dead) then only a privileged few could participate. This restriction appears to be in line with a general trend toward privacy and exclusion in Minoan culture, as an elite ideology takes shape.



Figure 24: Deposit of bronze vessels in the Tomb of the Tripod Hearth, Zapher Papoura Cemetery (Evans 1914, 36)

⁷⁸ Fisher 2009, 444: A room permits 3.4 standing persons (or 1.9 persons seated on benches) for every square meter of floor space.

Let's now consider the order in which these object would have been brought into the tomb. The objects in Tomb 14 can be easily divided into three groups: 1) the body, 2) the bronze vessels, and 3) the collection of small goods close to the entrance (see Figure 8 above). As I have said above, it is likely that the body was brought into the tomb first, both because of its weight and because of its position in the corner of the tomb. Group 2 probably came before group 1 both because it contains heavier objects and because it was placed against the wall.

Within these groups, the order of the objects in group 3 cannot accurately be deduced, but such a deduction is possible for group 2. If we look at the arrangement of the vessels in group 2, as depicted in Figure 8 and Figure 10 from Evans, it seems that they were placed in courses roughly parallel with the back wall, with each course placed in front of the previous one (as shown in Figure 11). If we assume that these object

were placed in the tomb from left to right (i.e. starting in the corner and moving toward the center of the tomb), then we can actually deduce the exact order of these objects in the procession. The order that this deduction offers is convincing, because it places the heaviest vessels (courses 1 and 2) closer to the front of the procession than the lighter objects.

These courses may also suggest that the procession was organized into groups of people. Indeed, courses 1 and 2 seem to correspond with the groups of men with large vessels at the front of processions (e.g. Group C in the procession fresco from Knossos). The small vessels in courses 3, then, might be a group of women (as in the fresco from Thebes) or children

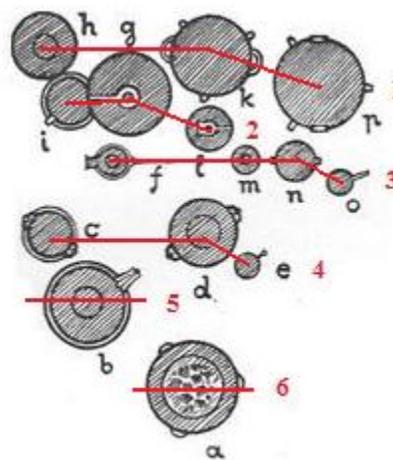


Figure 25: Diagram demonstrating the hypothetical courses in which the bronze vessels were placed in the tomb.

accompanied by an adult (as in the Pylos megaron fresco). All together, these three courses may represent an extended family which was closest to the deceased and so had the privilege of putting their gifts in first. Indeed, these three courses are far more closely packed than the other three. Courses 4 and 5, then, might be friends of the deceased who offer their gifts after the family. Course 6 is set slightly apart from the collection of bronzes, and may have been brought in separately, perhaps has the final piece of furniture to complete the tomb.

So what might the funeral procession for the Tomb of the Tripod hearth look like?

The sun is setting behind the Kairatos ridge as the people of Knossos follow the somber sound of flutes to the central court of the palace. The death of a powerful person was announced a few days ago, and now family members, business associates, and curious spectators gather to listen to the praise singers. After the life of the deceased has been told in song, the flutes begin to play, and the procession begins.

The body leads the way, carried upon a finely painted bier by two men in elaborate skirts. Next come the gift-bearers, more finely dressed elites, who walk with practiced dignity. A potter looks on with wonder as the bronze vessels pass by, and she is reminded of the public feasts the deceased used to arrange. A broad basin, a squat cauldron, a tripod cauldron, a two-handled pot, a capacious jug, an elegant ewer – the vessels gleam impressively in the setting sun, as does the jewelry of the elite carriers. A group of flute players comes next, keeping the procession in rhythm. Behind them are friends and family, holding flowers in their hands or leading wide-eyed children. As the procession leaves the city, most of the spectators go back to their own lives, but some follow at a respectful distance.

At the mouth of the freshly dug dromos, the procession comes to a halt. A brightly painted wooden door lies nearby and everyone marvels at it. It was brought there by cart earlier

that day. The body is brought in first, accompanied by a priestess, holding a lamp. They vanish into the earth. Inside the tomb, the carriers and the priestess remove the body from its bier and lay it in the cist grave. A simple shroud is laid over it and the priestess remains below to light the tomb with a bronze lamp.

The empty bier emerges. Now the gifts-bearers move as one. The spectators watch as, one by one, the treasures vanish below the earth. First the brothers and cousins descend, carrying the large bronze vessels, gleaming dully, now in the fading rays of sun, now in the flickering lamp light. Next the wives and children, carrying the small sacred vessels. More women follow, carrying the elaborate caskets and the personal effects of the deceased. Finally, the tripod hearth is brought down the dromos – coals from home still hot.

The spectators and acquaintances begin to trickle back to Knossos, but a few privileged elite remain. Deep under the earth, they share a final private moment. They sprinkle thyme on the smoldering coals and the tomb is filled with memories of the cooking fires at home. At last, they toast the dead and go back up into the chilly night air. Then the wooden door is brought down the dromos and fit into the groves around the stomion.

Section V: Builders and Burials

Two important questions remain: who built these tombs and for whom were they built? In regards to the first question, the findings of this thesis suggest that a team of skilled laborers would have been employed in constructing these tombs. The chamber tomb is too complex for unskilled laborers (e.g. the family of the deceased) to construct. First, there is a great deal of earth that needs to be moved, nearly double the amount required to create the average pit-cave, and over four times as much as is required for the average shaft-grave.⁷⁹ Second, it is difficult and even dangerous to create a stable subterranean chamber without any pillars to support it—the Tomb of the Tripod Hearth demonstrates that even skilled laborers can err here. Third, the builders had to be able to make careful measurements based on the size of the objects being brought into the tomb, as well as the number of people involved in the funeral. At Zapher Papoura Tomb 80, we saw that the dimensions of the *dromos* were calibrated to accommodate the larnax and the body; while at the Tomb of the Tripod Hearth, we saw how the length of the *dromos* may have been based on the number of people involved in the procession.

Thus, the team of laborers would have needed intimate knowledge of the size of larnakes and bodies when they were transported on biers. In addition, they would need to consult the family of the deceased about how many people would be involved in the funeral and what sort of gifts were to be given and how many. We may imagine that these tomb-diggers worked closely with the ceramicists who began creating larnakes again in LMIII. Indeed, one may have consulted the same person about ordering a larnax and arranging the construction of a tomb.

How many teams of this kind were there? The patterns I have pointed out in Section II might suggest that there were not that many. We have seen that *dromoi* widen at a seemingly standardized rate across several cemeteries. In addition, at Zapher Papoura, the rate of incline is

⁷⁹ Preston 2000, 358, Figure 5.8

similarly standardized. Perhaps a single team of builders worked on all these tombs, using the same methods again and again. Another possibility is that there were many teams, but they were all using that same set of guidelines for tomb construction. These guidelines may have been accidental—a common measuring tool made it easiest to widen the *dromoi* at this rate—or they may have been taken from a common model. Perhaps the LMII tombs at Isopata set the standard for the LMIII tombs at Zapher Papoura and elsewhere. Indeed, Tomb 2 and 5 at Isopata both widen at a rate rather close to what we see in many tombs at Zapher Papoura.

Either way it is clear that some kind of overarching organization was used in planning these cemeteries. Especially in a cemetery as large as Zapher Papoura, it is significant that we find no examples of one tomb overlapping the space of another.⁸⁰ We could explain this by imagining that the team of workers who built these tombs knew where they had already built, and so were able to plan accordingly. Alternatively, there may have been some palace official, religious or otherwise, who was in charge of apportioning plots of funerary land.

This brings us to our next question: for whom were these tombs built? Two things are clear. First, the people for whom these tombs were built probably had an above average amount of resources at their disposal, since they could afford to construct a chamber tomb. As I have just said, constructing a chamber tomb would be a labor intensive process that involved hiring a team of skilled workers, whereas digging a shaft grave, for example, could be done by anyone. What's more, while not all of these chamber tombs contain a great number of grave goods, they typically contain more than the average person buried in a Middle Minoan house tomb would have received. These people are not super elites, but they are elites nonetheless.

The second thing we can say about these people is that they were people who needed new tombs. There is a good deal of evidence in older cemeteries around Knossos that some chamber

⁸⁰ This occurs frequently at Mavro Spelio, e.g. Tombs XIII, XV, and XVI.

tombs were reused over several generations, probably by the same family. At Mavro Spelio, for example, several tombs show signs of at least sporadic use from the Middle Minoan period until LMIII, and Tomb XVII (not in my catalogue) shows signs of continuous use from MMIIB to LMIIB.⁸¹

It stands to reason, then, that anyone who needed a new tomb was probably not someone whose family did not already have a tomb established. I can see two possible explanations for this. First, these people may have been immigrants, Mycenaeans who established themselves on Crete in LMII and saw the first deaths in their families during LMIII, when cemeteries like the one at Zapher Papoura arose. This idea is appealing because these cemeteries contain shaft graves, a style of tomb which was certainly adopted from the mainland. On the other hand, the dominance of chamber tombs in these cemeteries may contradict this; for while there are chamber tombs on the mainland, they appear to be a Knossian invention dating back to the Middle Minoan period. The revival of the clay larnax during LMIII is also a sign that these people may not have been Mycenaean.

Another possibility is that these people were native Cretans whose status was somehow elevated after the LMIIIA destruction; a new elite, or perhaps a rising “middle class.” If this is the case, then their use of the chamber tomb might be a self-legitimizing tactic: by adopting a truly Knossian burial form they tie themselves to the old elite and thus obscure the novelty of their status. This might also explain why some people evidently spent a great deal on building a chamber tomb but then deposited so few grave goods in it. It may have been so important to these people to have a chamber tomb that they exhausted all their resources on the tomb and had little left to spend on its furniture.

⁸¹ Forsdyke 1926, 246-247

The revival of the clay larnax may be another attempt at self-legitimization. As I have said above, Preston argues that revival of the clay larnax signals a return to older traditions in Minoan culture.⁸² For her, the wooden coffin was skeuomorphed into clay as an “*appropriate translation* of the wooden version” [Preston’s italics] since it recalls the even earlier MM clay larnakes.⁸³ At the same time, the LMIII clay larnakes mark a “clear departure” from the mainland mortuary practice of using the wooden coffins.⁸⁴ By dissociating themselves from the wooden coffins used during LMII, these elites may have been trying to assert an even more authentic Knossian identity than their predecessors.

Another tactic they may have used was the funeral procession. Indeed, the proximity of the Zapher Papoura cemetery is ideal for this ritual. Processions could begin at the home of the deceased and march through the streets of the town, attracting the attention of all who it passed and displaying the power and influence of the family. This is would be a golden opportunity for people who had suddenly gained some power to acquire even more.

On the other hand, the Zapher Papoura cemetery and the processions that may have gone there would have created community. Whether or not the people who buried their kin there were rivals, the act of sharing a cemetery must have unified them. From this perspective, the funeral procession becomes moment for the family to display their grief to the community, and for the community to show its support. Perhaps this was used as an opportunity for gaining influence and power, or perhaps it was simply an opportunity to support one’s neighbor, and honor their dead.

⁸² Preston 2004

⁸³ Preston 2000, 154

⁸⁴ Ibid, 152

Conclusion

This thesis has explored the possibility that chamber tombs developed in conjunction with the practice of funeral processions at Knossos in the Late Minoan Period. By analyzing the dimensions of several *dromoi*, and by speculating about the logistics of the funeral processions that would move through these *dromoi*, two important points have emerged.

First, the process of transporting the body and the grave goods would have been complex and labor-intensive, in some cases requiring well over twenty people. This means that Minoan burial rituals likely involved people outside the immediate family of the deceased, and perhaps even outside of the extended family. This information supports the idea that Minoan funerals in the Late Minoan period were a venue for acquiring prestige. Indeed, the grave goods during this period—golden-hilted swords, elaborate jewelry, and assemblages of bronze vessels—serve to construct an elite (warrior) identity for the deceased. This thesis adds to that idea, suggesting that it was not only the grave goods themselves, but the way in which they were brought to the tomb that constructed this elite identity.

Second, even the poorest chamber tombs were constructed with a great deal of care and forethought. Especially after the LMIIIA destruction, chamber tombs appear to have been built according to certain standards, possibly drawing on common models. These standard dimensions appear to have taken into account the treatment of the body as well as the transportation of the grave goods. All this may indicate that there were teams of skilled laborers who specialized in tomb construction during this period. Interestingly, these laborers emerge at the same time as the revival of the clay *larnax*. Is it possible that LMIIIA marks the beginning of a funerary industry on at Knossos? If so, then it was not only the funeral itself that became more public during this time, but the entire process of death and burial.

Each of these points opens up avenues for further research. First of all, this thesis draws on a sample size that is far too limited. There are many *dromoi* all over Crete, and even some around Knossos that I didn't study here. Compiling a more comprehensive catalogue of the dimensions of these *dromoi* would allow us to make more definitive claims about trends in *dromos* construction. A catalogue providing dimensions for the chambers themselves could also be useful, as it might reveal more "standard" building methods, of the kind I have observed in the *dromoi*. Finally, Minoan archaeology is still in need of a catalogue of *larnakes* including their dimensions and weights. All three of these catalogues, should they prove fruitful, could ultimately lead to a larger work on the possibility of a funerary industry at Knossos.

Appendix A: Knossian *Dromoi* Dimensions

Mavro Spelio (MMIIB – LMIIB)									
Tomb	Date	Orientation	Length	Floor Shape	Width	Slope	Depth	Incline Rate	Wall Shape
I	MMIII?	SW	~3	=	~1.5	---	~2.5		
II	LM	SW							
III	LMIA - LMIII	SW	~3	=	~1				
IV	LMIII	SW	>2	=	~1				
V	LMIII	SW	~3	>	~1.2, ~1	\	~2.5	83cm/1m	
VII	MMII/III - LMIII	SW	~2	*	~1.5	⌊	~1		
IX	MMIII - LMIII	SW							
XII	LM	SW	~2.5	=	~1				
XIII	LMIIIA	SW	~4	*	~1.5, ~.75	---	~2		
XIV		SW	~3	=	~1				
XV	LM?	SW	~6	=	~1	⌊	~2	33cm/1m	/\
XVI	LM?	SW	~5.5	=	~1	⌊	~3	54cm/1m	/\
XVIII	LM	SW	~3	=	~1				
XIX		SW	~2	=	~1				/\
XXI		SW	~2		~1, <?	---	>1		

Slope: From the perspective of one standing at the exterior of the *dromos* (\) represents a downward slope. A dash (— or _) represents a horizontal portion of the *dromos*; for example (⌊) represents a *dromos* that slopes downward at first, but then becomes horizontal before the *stomion*; whereas (⌋) represents a *dromos* that is horizontal at first, but then slopes downward to the *stomion*. If a dash stands alone, then the *dromos* is entirely horizontal.

Floor shape: From the perspective of one standing at the exterior of the *dromos* (<) represents walls which diverge as they approach the *stomion*, while (>) indicates walls that converge. (=) represents walls that run parallel.

Wall shape: (/) represents walls converging toward their top, (\) represents walls diverging toward their top, and (||) represents vertically parallel walls.

Appendix A: Dromoi Dimensions (cont.)

New Hospital (LMII - LMIIIA1)									
Tomb	Date	Orientation	Length	Floor Shape	Width	Slope	Depth	Incline Rate	Wall Shape
I	LMII	SW	>4	<	<1, 1.15	\	>1.75		/\
III	LMII	SW	>2.6	=	0.9		>1		/\
Isopata (LM II - LMIIIA1)									
1	LMII	N	~45.5	=	1.67	\	2.81	6cm/1m	
1a	LMIIIA1/2	W		=	1.4	\			
2	LMII - LMIIIA1	N	>14.8	<	<0.5, 1.55	\	>5		
4	LMIIIA1	N	>4.7		1.45	\	>1.55		
5	LMII	W	13	<	1.15, 1.87	\	3.8	29cm/1m	
Sellopoulo (LMIIIA1)									
3	LMIIIA1	SE	5.5	<	~1.25, ~1.6	\	1.5	27cm/1m	/\
4	LMIIIA1	SE	>3.4	<	<1.2, 1.4	\			
Upper Gypsades LMIII (one MM?)									
I	LMIIIA1/2	E	~6	=	~0.9	└	~2.8		
III		NE	~4.5	<	1, 1.4	└	~2	44cm/1m	
IV		E	~3.5	=	0.9	\	~2.5	71cm/1m	
V		E	5	<	1, ~1.1	\	~2.5	50cm/1m	
VI	LMIIIA2/B2	NE	>2	<	?, 1.1	\	>1.3		
VII	LMIIIB2	NE	>5	<*	<0.85, ~1	\	>1		
VIII	MM?	N	>1.5	<	<1, 1.3	└	>0.5		
IX	LMIIIB2	E			?, ~0.7				
X	LMIIIA2	NE	>1		?, ~0.75				
XI	LMIIIB1/2	E							
XV	LMIIIA1/2	NE	>2	=	0.8	\	>1.25		

Appendix A: *Dromoi* Dimensions (cont.)

Zafer Papoura (LMII - LMIIIB1)									
Tomb	Date	Orientation	Length	Floor Shape	Width	Slope	Depth	Incline Rate	Wall Shape
8		E	4.5	<	~0.7, 0.9	\			
9			5	<	0.8, 1	\	>2.24		
11		E	short		?, ~0.6	\			
12		E	4.5	<	0.4, 1	\	>1.33		/\
14		E	14.5	<	1.3, 1.55	└	6.8	>47cm/1m	/\
17		E		=	1	\			
18		E	3.4	=	1		>.85		
21		E	5.8		1.17	\	3	52cm/1m	
32		E	short	=	1				
35		E	~4.5	<	0.85, 1.05	\	3.35	74cm/1m	/\
49		E	short	<	?, 1.1				
69		E	5.75	=	1	\	2.55	44cm/1m	
80		E	~2.5	=	1	\	>1.4		
81		E		=	1	\	2.7		
82		E	1.7			\			
83/84		E	~3	=	1	\			
89		E		=	0.8	\	1.4		
92		E	5.8	<	~1, 1.15	\	2.3	40cm/1m	/\
95		E	~5	=	1.15	\	2.8	56cm/1m	
97		E	3.5	=	1	\	>1.1		
98		E		<	>0.8, 1	\			
99		E		<	?, 1.2				
100		E		=	1.1	\	3		

Appendix B: Grave Goods from Representative Knossian Chamber Tombs

Tomb	Mavro Spelio				New Hospital	
	I	III	XIII	XVIII	I	III
Large ceramic vessel			000		0000000	00000000
Small ceramic vessel	o??	oo		?	oo	o
Conical cups	>0000000	o (stone)				
Large bronze vessel						
Small bronze vessel						
Secial vessel	o	00000000	oo	o		o
Large weapon				o	o	o
Small weapon				oo		oo
Tool/toiletry		000000		000	o	o
Brazier/lamp	>000	o			o	ooo
Unique item		Pair of scale pans; 3 lead weights; terracotta figurine			Shark tooth	Gold toggle; figure-eight shield?; loadstone; lump of blue glass

Note: Each (o) represents one of the given item type. Each (?) represents a possible remnant or the given item type, such as a pottery sherd or the studs normally used in the hilts of a swords. Greater than symbols (>) indicate that there were numerous, jumbled pieces of this item type, and so an accurate total cannot be given. In these cases, see the appropriate report for more information.

Appendix B: Grave Goods (cont.)

Tomb	Isopata		Sellopoulo Tomb 4			Upper Gypsades	
	2	5	Burial I	Burial II	Burial III	I	VII
Large ceramic vessel	0000000000	00000	000		0	000	0000000000
Small ceramic vessel	0		000	00			0
Conical cups			0	00		0	
Large bronze vessel			0000	0000000			
Small bronze vessel				0000	000		
Special vessel	000	0000	0	0			
Large weapon			00				
Small weapon	0?		000				
Tool/toiletry	000		000000000			0000	0
Brazier/lamp	0	0					
Unique item	3 bronze double axes		Fishing hook; six-pronged fork		Pair of scale pans		

Appendix B: Grave Goods (cont.)

Tomb	Zapher Papoura					
	12	14	21	35	80	95
Large ceramic vessel	o		o			
Small ceramic vessel						
Conical cups						
Large bronze vessel		oooooooo				
Small bronze vessel		ooooo		o		
Special vessel		oo		oo		
Large weapon		o				
Small weapon		o				
Tool/toiletry	o	oooooo	oo		ooo	
Brazier/lamp		o (bronze)				
Unique item		Plaster Tripod Hearth		Natural quartz crystal		

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