

Reassessing the Function of Grooves in Mycenaean Tombs

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Among the Chamber and Tholos Tombs that were built in Greece during the Late Helladic period are some that show a particular feature: a pair of grooves that are carved on the floor of the *stomion* (a short corridor that leads inside the tomb), leading from the *dromos* (a long road that leads towards the tomb itself) into the chamber. Archaeologists have suggested a number of explanations regarding their function; however, none of these seems entirely plausible. In this article, we offer a different kind of hypothesis mostly based on architectural evidence. We will suggest that, rather than being related to ritual practices, the grooves were mainly used to facilitate the construction of the graves.

During the excavations of ten Mycenaean Chamber and Tholos Tombs (Fig. 1), a particular set of features – a pair of grooves – were uncovered. The grooves were carved



Figure 1. Map showing locations of Mycenaean sites and tombs in Greece.

directly into the floor of the *stomion* area and rose outwards into the *dromos* and inwards into the chamber. In most cases the grooves were parallel to the doorjambs, with an average length of three or more metres and an average depth of 10-25 centimetres, the depth of each groove decreasing gradually towards the terminals.

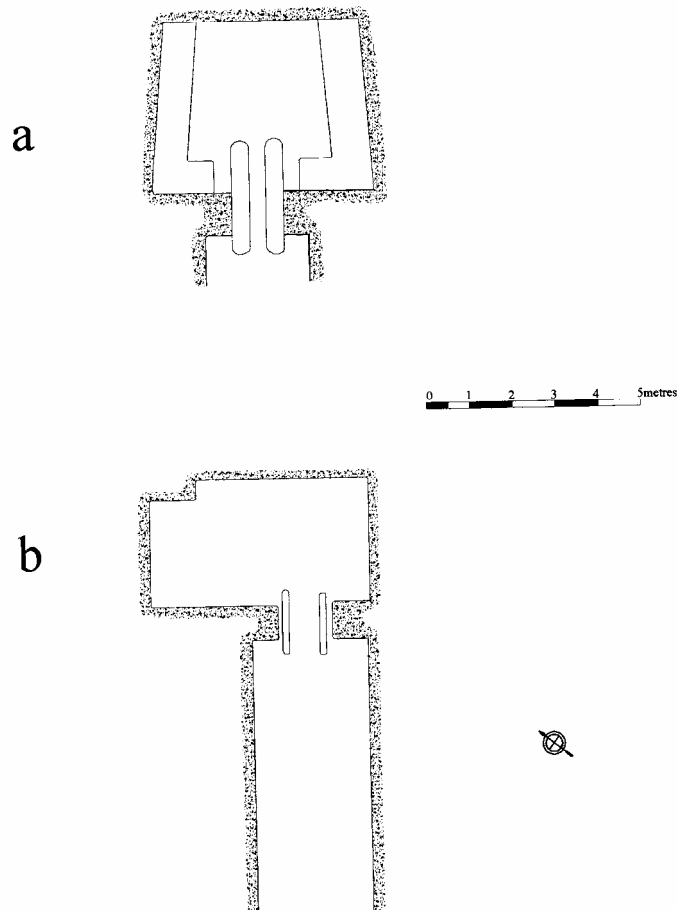


Figure 2a. Plan of Tomb 15 at Thebes.

Figure 2b. Plan of Tomb 26 at Thebes.

(Redrawn from Keramopoulos 1917, 24, fig. 89.)

Keramopoulos (1917, 159-162 and 194-203) first noticed these grooves at Thebes, in Kolonaki, Tombs 15 (LH IIIA1) (fig. 2a) and 26 (LH II) (fig. 2b). Blegen (1937, 123-128, 173-179 and 206-215) came across the same arrangement in two of the Chamber Tombs at Prosymna, nos. 2 (LH II) (fig. 3) and 44 (LH II) (fig. 4), while in Chamber Tomb 37 (LH IIIA1) (fig. 5) he noticed a broad and shallow groove in the *stomion*. In 1942, Persson (1942, 20-35, 37-41 and 51-55) excavated Tombs 6 (LH I), 8 (LH I) and 9 (LH II) (figs. 6, 7 and 8 respectively) at Dendra including grooves that led from the road into the chamber. During the excavations at Pylos, in the

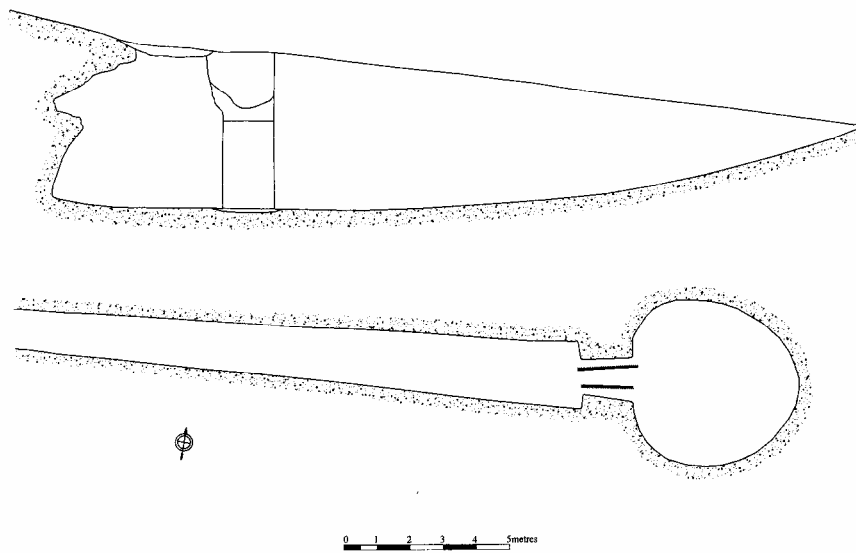


Figure 3. Plan and section of tomb no. 2 at Prosymna (Redrawn from Blegen 1937, pl. 38).

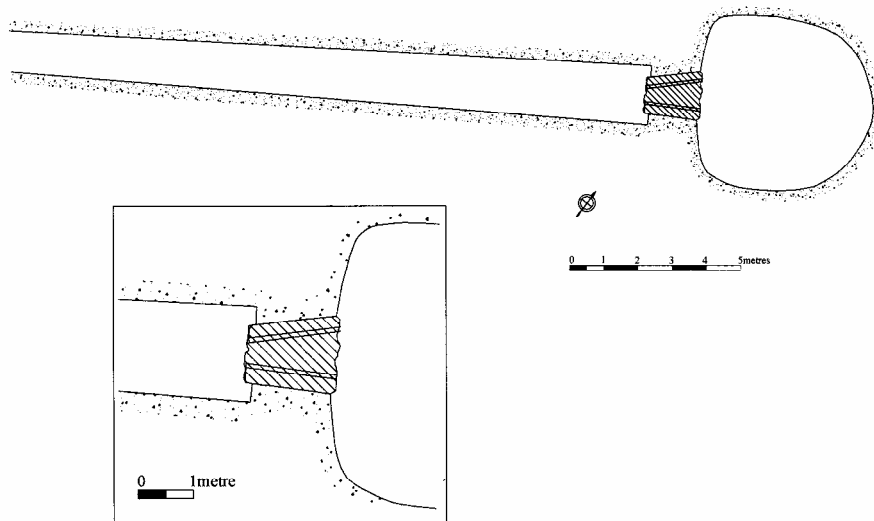


Figure 4. Plan of tomb no. 44 at Prosymna (Redrawn from Blegen 1937, pl. 47).

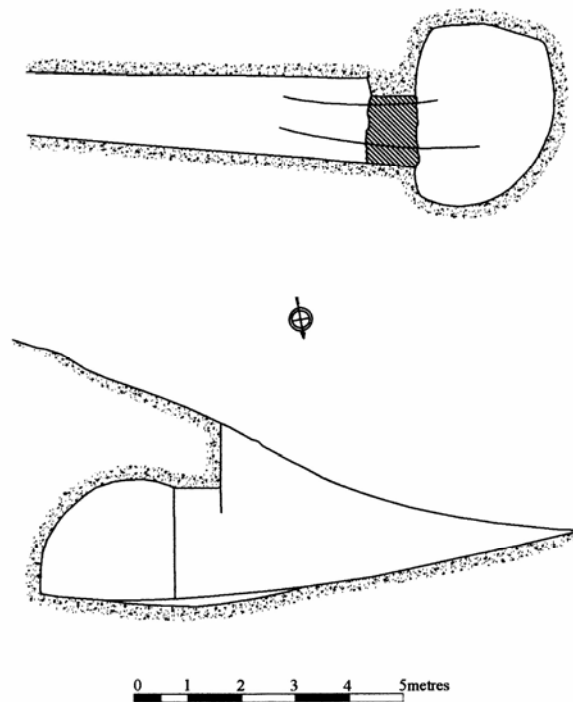


Figure 5. Plan and section of Tomb 37 at Prosymna (Redrawn from Blegen 1937, pl. 23).

chronological extent. The number of tombs that display this characteristic is so limited that it is not possible to consider it part of a tradition, even though grooves were found in Chamber as well as Tholos Tombs throughout the Mycenaean world at different periods of time. The extremely scattered evidence related to this feature is a strong indication of the grooves' eccentric nature rather than the product of inherited knowledge or a cultural relic passed from one generation to the next. In this paper we argue that the function of the grooves was merely practical; that they were accessories whose use was related to the process of constructing the tomb. As practical accessories rather than indispensable elements in the architecture of the tomb, the grooves were utilized by individual workers only where they were needed for the solution of particular problems. We therefore conclude that only the worker's resourcefulness in solving practical matters accounts for the presence of the grooves in some tombs rather than in others.

In an attempt to explain the presence of these grooves, Keramopoulos (1917, 159 and 194) first suggested that they were created as wheel nuts for the vehicle on which he assumed that the deceased was carried to his resting-place. The grooves would prevent the axles of the wheels from causing damage to the doorjambs of the *stomion* cut in the rock. The same suggestion was advanced later by Marinatos (1955, 251; 1957, 119; 1959, 176), when he published the excavation of the Tholos Tombs from Tragana and Routsí. Marinatos (1959, 176), influenced by the burial of

1950s, Marinatos (1955, 245-255; 1957, 118-120) found similar pairs of grooves in Tholos Tomb 1 (LH I) at Tragana and in Tholos Tomb 1 (undated) at Myrsinochori (Routsí). These particular tombs are located in different areas of the Mycenaean world (for a bibliography on the groove phenomenon see Kontorli-Papadopoulou 1987). Dendra and Prosymna are important sites in the north-eastern Peloponnese, Tragana and Routsí belong to the south-western Peloponnese, while Thebes is in central Greece.

The limited number of graves that feature grooves suggests that it is an idiosyncratic rather than a regular phenomenon relating to their geographical and

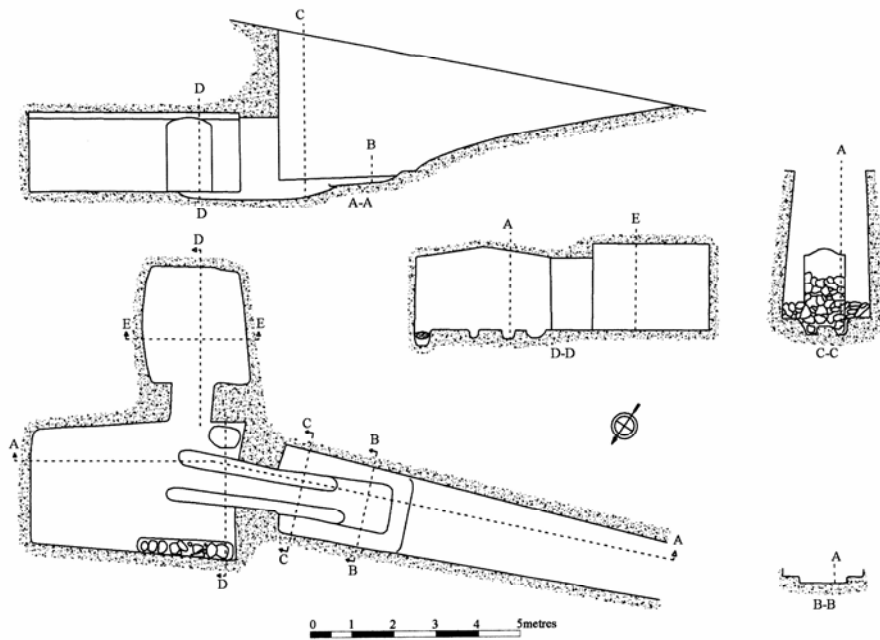


Figure 6. Plan and section of tomb no. 37 at Prosymna. Redrawn from Blegen 1937, plate 23.

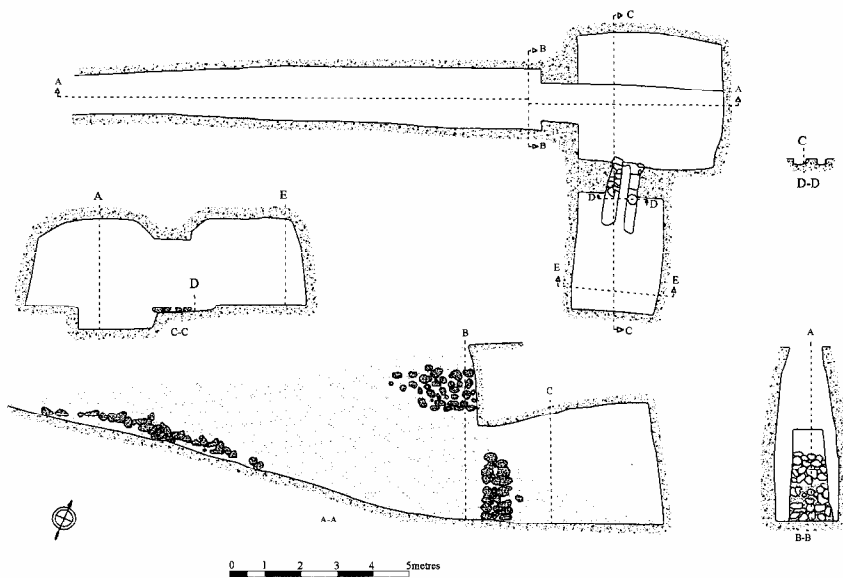


Figure 7. Plan and sections of tomb no. 6 at Dendra. Redrawn from Persson 1942, 21, fig.20.

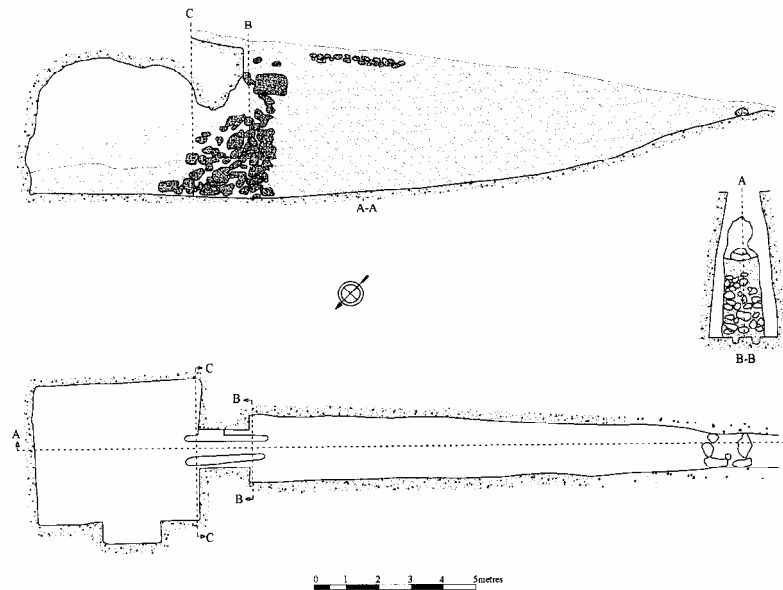


Figure 8. Plan and sections of Tomb 9 at Dendra. (Redrawn from Persson 1942, 52, fig. 54).

horses in the *dromos* of a tomb at Marathon came to the conclusion that horses were used to pull a cart that carried the deceased into the grave, the animals being subsequently sacrificed and buried on the spot.

This theory presents us with technical problems that make it difficult to accept. One problem is that the grooves are not always parallel with each other. At Tholos Tomb Tragana 1 and Chamber Tombs Dendra 8 and Prosymna 44, they are parallel with the doorjambs. This would mean that a cart would have to abandon this pre-cut path as it moved towards the chamber. Another problem is the distance of the grooves from the doorjambs. Some of the grooves are only a few centimetres away, while others, i.e. those at Chamber Tombs Dendra 6 and 9 and Thebes 15, are located directly adjacent to them. For example, in Tomb 9 of Dendra, the right-hand groove widens into a small shaft close to the doorjamb, where some skeletal material, not in association with the first phase of the grave, was found. Furthermore, the *stomia* of Tombs 2 at Tragana and 4 at Koukounara, which, according to Marinatos were hewn out in order to facilitate the access of a carriage, were seemingly damaged due to the absence of any grooves. In addition, the small dimensions of the above tombs could have caused more difficulties. The width of the *stomion* was between 0.70 and 1.39 cm, while the height was lower than 1.45 cm. As for the chambers, they were certainly not large enough to allow the passage of a horse followed by a burial cart. Finally, there are example of obstacles, such as steps (Tomb 6, Dendra) or blocking walls (Tomb 9, Dendra) in the *dromos* that would not permit the passage of a cart. Persson (1942, 156-157) approached the problem from a different angle. He referred

to the Egyptian tomb of Senebtisi at Lisht (Mace and Winlock 1916, 14), which shows skid poles fitted into two grooves carved into the floor. These skid poles were made of cedar and were fitted in grooves packed with wood-chips. The purpose of the chips was to hold the poles in position, while the heavy wooden coffin was slid over them into the chamber. Persson believed that the grooves found in Tomb 8 at Dendra facilitated the pulling of a coffin into the grave, following the Egyptian customs of the LH I period.

Although Persson's theory sounds plausible, it has its own problems. He suggests that Mycenaean customs followed the Egyptian ones. However, he does not have sufficient evidence for this claim apart from the fact that coffin and grooves were present both in the Dendra and the Senebtisi tombs. It is important to note that this is the only case in which a coffin was found together with grooves in a Mycenaean Chamber or Tholos Tomb, making a strong, general relationship between coffin and groove difficult to establish. In addition, the overall number of coffins used by the Mycenaeans was so small that any real link between Mycenaean and Egyptian custom in this respect, is likely to be impossible to prove (Hägg and Sieurin 1982, 177-186).

Also of note is the fact that the grooves do not extend to the beginning of the *dromos*, rather they start at some point near the *stomion*. Since the *dromos* was not wide enough for the relatives to carry the coffin on their shoulders, they would have probably needed to push it along the entire length of the *dromos*. However, the grooves extend only a couple of metres beyond the *stomion*. Since they were so short, they could not have been used to slide the coffin along the *dromos*. Practical considerations would also seem to mar this theory.

According to another theory, first advanced by Åkerström (1988, 202-205), the grooves were related to the worship of the dead, since they provided a way to establish contact with the deceased, perhaps by offering libations. When the tomb was used for more than a single burial, the relatives, after closing the entrance, would present their offerings standing outside the grave. Their libations would supposedly reach the deceased in the chamber through the two grooves.

Åkerström based his ideas mainly on the evidence from Chamber Tomb Thebes 4, a tomb not thus far mentioned because it does not share the same characteristics as the rest of the group. In this tomb, Keramopoulos (1917, 129-136) found a rectangular niche at a somewhat higher level than the chamber floor. The floor of the niche had an elevated section of oblong shape. This was traversed at each end by a groove, which was made to slope towards a large shaft that was cut in the floor at the front of the niche. As Åkerström suggested, the shaft in front of the niche was made for the sole occupant of the tomb. The grooves that led to it were used probably for the performance of libations. However, the grooves cut in the entrance of the chamber are different from the grooves cut within it. The grooves of the *stomion* are longer and deeper and probably serve a different purpose, because they do not end in a shaft and they belong to another part of the grave. Furthermore, evidence that might indicate the worship of the dead has never been found directly associated to the grooves that extended from the *dromos* towards the chamber. On the contrary, there is enough

evidence to suggest that funerary rituals took place only within the chamber and not in the *stomion* or *dromos*.

Åkerström cited two other features as further proof of the validity of his theory: one, the presence of cavities hollowed out like small cups and two, some furrows leading towards the edge of shaft graves of Grave Circle B in Mycenae. He thought that the cavities were connected with the rite of the funeral meal, although Mylonas had already expressed considerable doubts about this (1973, 16-17). It is important not to confuse these cavities with *dromos* and *stomion* grooves, because they are two different types of feature and they belong to two different kinds of graves.

Our explanation of the purpose of the Mycenaean grooves is different from those cited so far. In order to interpret the function of the grooves, it is important to begin by determining the approximate time of their construction in relation to the different phases of the building. The blocking wall that sealed the chamber in front of the *stomion* is the only indication we have of their possible date. In most of the tombs discussed above, the blocking wall was *in situ* up to a certain height when the modern excavation took place – a fact which allows us to conclude that the grooves underneath were in use only during the first phase of the tomb, before its entrance was blocked. They were not used again during subsequent phases of construction or at the time of any successive burials. In the latter case, the relatives of the deceased would open only a small part of the *dromos*, creating almost vertical ‘paths’. When they finally reached the *stomion*, they opened its upper part, entered the grave with the new corpse and perhaps offered sacrifices either in the chamber or on the new *dromos*.

Another feature, which allows us to assume that the grooves were not used again after the sealing of the *stomion*, is the covering over of the grooves with stones in the side-chamber of Tomb 8 at Dendra. In the same tomb, the grooves of the main chamber disappeared during a second phase of construction. Also, in Tomb 9, the right hand groove was partly destroyed by a later burial. Moreover, sections of the grooves in Tombs 2 at Prosymna and Tomb 1 at Tragana were found with several small objects. The above cases show that the existence of the grooves must be related to the initial phase of construction of the tomb. Based on this evidence we intend to put forward the following hypothesis on the function of the grooves in Mycenaean tombs.

If we assume that the grooves were related to the initial phase of construction of the tomb, then we must be able to find a connection between them and the building process of which they were an indispensable part. Therefore, in order to understand correctly the function of the grooves, we need to analyse in detail the technique used by Mycenaean workers to hollow out the Chamber Tombs. It is most likely that the workers excavated the tomb by starting from the outer end of the *dromos*. During the excavation, they would dispose of the earth and rocks from the chamber by arranging them on the walls above the *dromos*. They would not take the debris far from the tomb because they had to use it later in order to backfill both the *dromos* and the chamber. In front of the entrance of the *stomion*, the *dromos*’ walls were very high. For this reason Marinatos (1957, 119-120) suggested that the builders

were forced to place the displaced earth in sacks connected to ropes. According to this hypothesis, when the builders finished this task, they dragged the sacks to the top of the walls, where they disposed of the earth within them.

We may conjecture that the digging continued in the same way within the *stomion*, until part of the chamber in front of it was also hewn out. This was probably the time when they decided to carve the two grooves in the floor. It is possible that Persson was right to suggest that the workers would fit two skid poles into the grooves, such as those found in the Senebtisi tomb, although we cannot accept his views regarding the habitual presence of coffins in Mycenaean tombs. The process of placing wooden poles into the grooves could have been a standard practice arising from common sense rather than being the result of a cultural influence from Egypt. Considering the fact that the depth of the grooves is around 10-25 cm, we have reasons to deduce that the workers intended to move a heavy object on them. Here we might speculate as to the nature of the object moved. We suggest that it was a kind of box, in which workers placed the earth and rocks as they were removed from the chamber. The size of the chamber was certainly large enough to generate a substantial volume of debris that needed to be removed in a swift and efficient way.

One important point to notice is that the grooves are not of the same depth throughout their length but are deeper in the middle. Assuming that the poles were as long as the grooves, this suggests that when they were stretched to their full length, their ends would rest on the bottom of the grooves while their middle part would remain unsupported, as Åkerström suggested. This problem can be solved if we assume instead that the poles were slightly shorter. Furthermore, the workers may not have pushed the heavy mass directly on the poles, because this would have caused the poles to move out of place. Therefore, it is plausible to suggest that they used rollers under the box instead of moving it directly on the poles. Since the grooves extended up to 2.5 metres into the *dromos*, it seems logical to assume that the box would stop long before it reached its outer end. At the point where the grooves ended, workmen would remove the soil from the box and they would place it in sacks. Subsequently, they would drag the sacks up the wall of the *dromos* in order to dispose evenly of them. After the grooves had exhausted their function, the workers probably removed the poles and in some cases filled the grooves with small stones or packed earth.

An important detail that we should not underestimate, is the angle of the grooves in relation to the doorjambs. The fact that the grooves are parallel to the doorjambs and not to each other may indicate the necessity to protect the latter from possible damage during the construction of the tomb. In some cases, the elaborate decoration of the doorjambs increased the need to protect them. In particular, in two of the tombs mentioned above - Prosymna 2 and Thebes 15 - the doorjambs were covered with plaster and decorated with frescoes. Although the workers could have decorated the doorjambs after the construction of the tomb, the grooves would still be functional for the removal of tools or other material from or to the chamber.

Although our theory may be correct in general terms, a few exceptional instances

raise questions regarding its application to specific cases. Since the Tholos Tombs were constructed mostly on plains rather than on slopes, the workers did not need to hollow out any rock. In such cases the grooves could not facilitate the removal of any substantial debris. It is probable though, that the grooves were used during the process of transportation of the necessary stones for the construction of the *tholos* through the narrow *stomion*. At the same time the grooves would have eased the removal of the earth, which was extracted from the cists, or shafts of the *tholos*, and which was taken by the workers in the opposite direction.

A tomb with unusual characteristics is Chamber Tomb 37 at Prosymna. We have already mentioned that only one shallow and broad groove was found in its *stomion*, instead of the expected pair of relatively deep grooves. The shape of this groove follows the shape of the *stomion* and is parallel to the doorjambs. One possible explanation for this particular case is that the workers might have used a wide and thick slab rather than poles. The slab would have substituted the skid poles and it would have a more even surface and one that would have allowed a heavy box to easily slide on wooden rollers.

On the other hand, Tomb 8 at Dendra featured two pairs of grooves, one of them at the entrance of the main chamber and another at the entrance of the side chamber. This is the only case to our knowledge of a tomb which features two parallel grooves in the floor of the entrance to the side chamber. The size of the side chamber (3.25 x 2.50 x 2.40m in height) may provide an explanation for their presence. The debris produced during the construction of the side chamber would have easily filled a heavy box a number of times. Therefore, the box would slide on the poles towards the main chamber and from there, with the help of another pair of poles, it would have been pushed into the *dromos*.

The grooves found in Chamber and Tholos Tombs are, as we have already seen, a very peculiar feature of Mycenaean tomb architecture. They characterise graves scattered widely in space and time; however their number is extremely limited. We have argued that the grooves, which were cut on the *stomion* of the tombs, had no religious or sacrificial function related to the worship of the deceased, whether this involved libations, burial carriages or coffins. The grooves' main function was purely practical; they facilitated the construction of the tomb. They may have included a pair of skid poles, on which a heavy box could have been pushed and rolled in and out of the chamber or the *tholos*. The box was probably filled with the debris, tools or other weighty material resulting from the process of construction, which needed to be moved swiftly and without damaging the walls of the *stomion*. A distant parallel to this little-known practice might be seen in the Senebtisi tomb in Egypt. In both cases, heavy objects were probably moved on skid poles, which were placed in long grooves, although the objects themselves were of a different nature. In Egypt the grooves facilitated the entrance of a coffin into the chamber, while in Greece they helped the transportation of debris out of it.

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