Excavation of the approach to the mountain palace-fortress at Herodium

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In 2014, the Ehud Netzer Expedition for the Study of Herodium from the Hebrew University commenced excavations in the area of the approach to the mountain palace-fortress at Herodium (hereafter "the mountain palace"). The excavations produced surprising new data with respect to the stages of construction and the layout of the entrance to the hilltop structure, shedding light on Herod's last building project at the site at the time when he transformed the entire hill into his burial and memorial complex (fig. 1 in colour).[1]

The presence of a monumental stairway ascending the NE slope of the mount and leading to the structure at its top has long been known, as was that of a sloping passageway that led to the door entering the mountain palace. This arched passageway was intended to make entry possible through the fill of the conical artificial mount. Also prior to the new excavations the entrance room of the hilltop structure was known. The door leading into the courtyard of the palace had been exposed during the Franciscan excavations directed by V. Corbo in the early 1960s,[2] while in 1968-69 G. Foerster exposed the S part of the entrance room, as well as some of the upper arches of the passageway (fig. 2).[3]

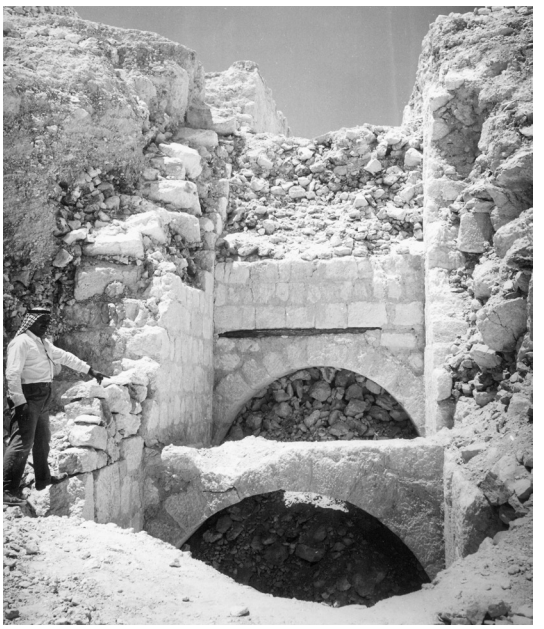

Fig. 2. Uppermost arches of the passageway as revealed during Foerster's excavations (view from northeast) (© G. Foerster).

In our own excavations (2006-10) on the NE slope it became evident that at various stages during Herod's reign two straight and broad monumental stairways were built rising to the top of the mount. The earlier of the two belongs to the early building phase, at which time next to it on the slope the royal theatre and mausoleum were erected. The late stairway, which was partly built on top of the early one but on a slightly different orientation, was con-

1 The data assembled in the new excavations complement and amplify those from the previous excavations on the slope, some of which have been published in the final report of the excavations at Herod's tomb precinct: R. Porat, R. Chachy and Y. Kalman, *Herodium* I. *Herod's tomb precinct* (Final Reports of the 1972-2010 Excavations directed by Ehud Netzer; Jerusalem 2015).

2 This doorway was found to be blocked by two massive walls that were dated by the excavators to the time of the Bar-Kokhba Revolt: V. C. Corbo, *Herodion* I. *Gli edifici della fortezza* (Jerusalem 1989) figs. 104-5, map 2.

3 G. Foerster ("Herodium, notes and news," *IEJ* 19 [1969] 123-24; id., "Herodium," *RBibl* 77 [1970] 400-1, pls. XX-XXIII) concluded that the fill excavated by him between the walls of the upper part of the passageway was part of the deliberate blockage carried out by Herod towards the end of his life, a conclusion supported by the results of our recent excavations. We thank him for sharing with us his conclusions and materials from his excavations.

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Fig. 1. Aerial view (from northeast) of Mount Herodium with the royal theatre (right) and tomb precinct (left) divided by the early and late stairways. Note the arched passageway at the top of the stairways (© S. Tiram).

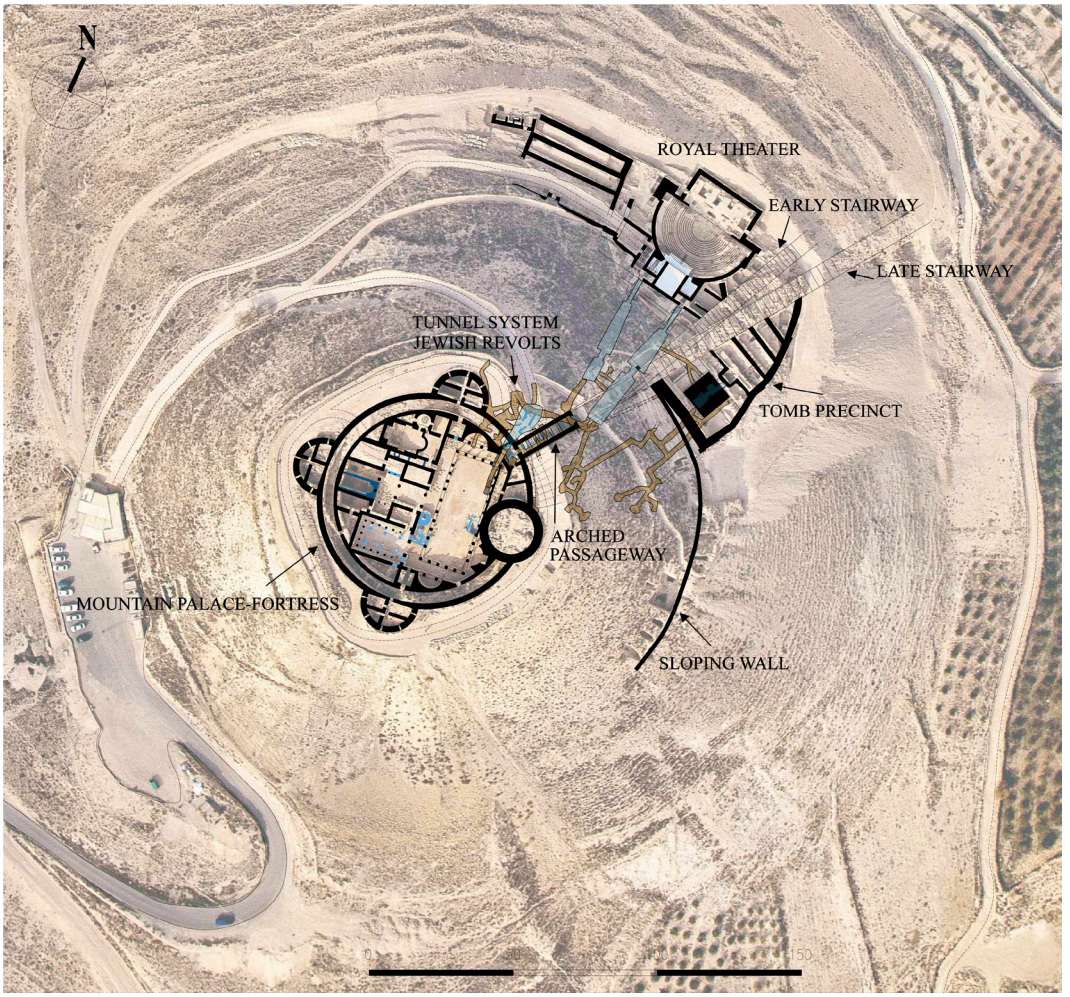

Fig. 3. General plan of Herodian structures on Mount Herodium over aerial photograph. (Remains dating to the Jewish revolts are marked in colour) (© Tatspit, superimposition by M. Edelcopp; drawing © Herodium Expedition).

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structed only at the time of the creation of the artificial mount — the monumental memorial for the king — evidently in the last years of his life; it also became evident that at that moment the buildings that had previously existed on the slope, including the theatre, but notably excluding the tomb precinct and the mausoleum which we have proposed as Herod's, were destroyed and covered over.[4]

The new excavations (2014-15) in the area of the approach to the mountain palace were intended to clarify the connection between the various stairways, the arched passageway, and the palace, and to provide more information about the overall layout of the approach to the hilltop structure during its various stages of construction. Here we will describe and review the various structures that have been exposed in the approach area and discuss their stratigraphic and chronological relationships, before presenting our initial conclusions at this stage of the research.

Phasing of the structures in the approach area

Summary of the building stages

In the area under discussion, five main stages are distinguishable at this point in our research, three of them stages during Herod's reign, and the other two stages of activity during the two Jewish revolts (the Great Revolt and the Bar-Kokhba Revolt), which include some construction but mainly destruction. Elaboration will follow this summary (fig. 3 in colour).

The first stage was the one in which the circular mountain palace with its decorated entrance room was built, along with an ascending path or stairway, most of which has not survived. Construction of the round eastern tower preceded (at least technically) that of the mountain palace. The sloping wall encircling the mount was erected on the slope at this stage. The early stairway was also erected at an early stage but the relationship between it and the mountain palace is not certain and it is unclear whether it arrived at the entry doorway of the palace. The royal theatre, the tomb precinct and the mausoleum were built in stages next to this stairway at the foot of the sloping wall on the NE slope.

In the second stage, the project of creating the cone-shaped mount was launched through construction of the arched sloping passageway in front of the entrance door of the palace. This passageway was intended to maintain and make possible the full operation of the mountain palace by passing through the planned fill of the cone to reach the palace's entrance room.[5] The lower part of the late stairway, intended to lead to the passageway, was possibly built at this stage, but the artificial mount was not completed now and there is no direct evidence that the dumping of the fill was begun.

The third stage brought a dramatic change in the perception of the tomb precinct through the completed execution of the new plan, the focus of which was the transformation of the entire mount into a monumental memorial by eliminating earlier buildings on

4 E. Netzer, Y. Kalman, R. Porat and R. Chachy-Laureys, "Preliminary report on Herod's mausoleum and theatre with a royal box at Herodium," *JRA* 23 (2010) 84-108; cf. also iid., "Herod's tomb and a royal theatre on the slope of the mount at Herodium, " *Qadmoniot* 138 (2009) 104-17 [Hebrew]; Porat *et al*. (supra n.1) 132-51. For another opinion with regard to the dedication of the mausoleum, see J. Patrich and B. Arubas, "Revisiting the mausoleum at Herodium: is it Herod's tomb?" *PEQ* 147 (2015) 299-315.

5 It is not yet known from where the palace was entered while this activity was taking place; it is difficult to believe that all use of the palace would have been halted during this period.

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the slope and by creating a tumulus on the hill. The arched passageway was completely blocked and the royal theatre and other buildings on the slope were buried. In this stage the late stairway was completed in its final guise; its upper part apparently passed above the blocked, arched passageway to reach the hilltop structure at a higher level. Lastly, the huge, cone-shaped artificial mount was created by the dumping of hundreds of thousands of cubic meters of soil and stones on the slope.

The fourth and fifth stages refer to activity by the rebels and battles at the time of the two revolts, when it is also possible to distinguish activity by the Roman garrison stationed here. At the end of the second revolt, the mountain palace was in a state of ruins. From the absence of finds of the Byzantine period in the entrance area, it can be assumed that the massive collapse of the enveloping wall there occurred prior to that time.

Stage 1: construction of the mountain palace

The main doorway and entrance room to the mountain palace

The main doorway in the circular peripheral wall of the mountain palace, exposed during the new excavations, is 2 m wide with projecting jambs, of meticulously-dressed large ashlars, preserved to more than 2.5 m in height; the doorway's upper section and lintel had collapsed along with parts of the encircling wall in the area. The entrance room (6 x 4 m), built inside the circular peripheral corridor of the mountain palace, was adapted to its width, but its SW wall, in contrast to its curvilinear, NE (outer) wall, constituted a straight segment in the otherwise curvilinear inner wall.[6] In Corbo's excavations of the palace's courtyard this wall was exposed for a height of more than 6 m (fig. 4).[7] Later, its upper part collapsed, to be partially restored by Foerster, who also revealed part of a fresco on the wall's NE face decorating the entrance room. A wide doorway in the W part of this wall connected the entrance room to the peristyle courtyard. The NW wall of the entrance room is preserved to a considerable height; a doorway in its N section led into the peripheral corridor. Most of its SE wall has collapsed, but its lower part was found standing. An

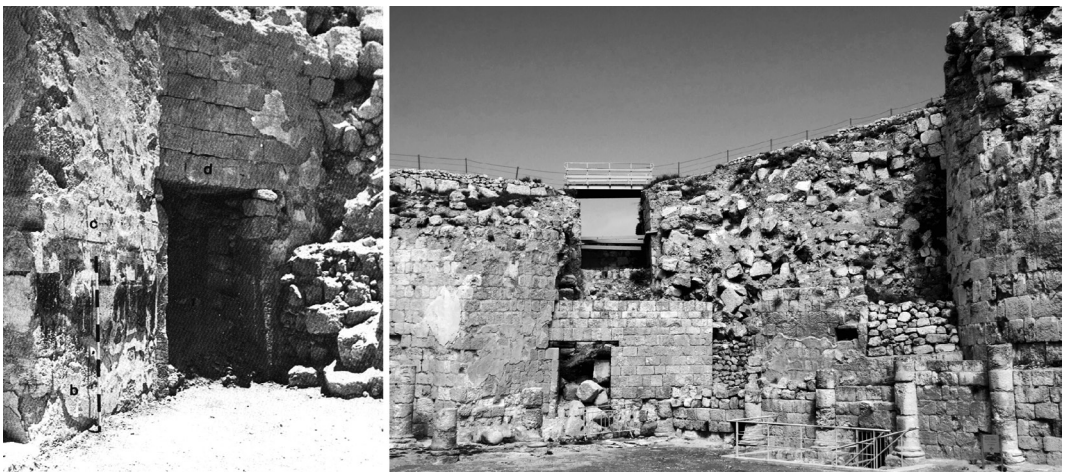

Fig. 4. Doorway leading from the entrance room to the palace's peristyle courtyard (left: during Corbo's excavations [after Corbo 1989, DF 43], right: at the onset of our 2014 excavations [© Herodium Expedition, R. Porat]; both views from southeast).

6 Our most recent excavations subsequent to the preparation of this article, however, revealed that this straight part of the wall replaced a previously curvilinear wall.

7 Supra n.2.

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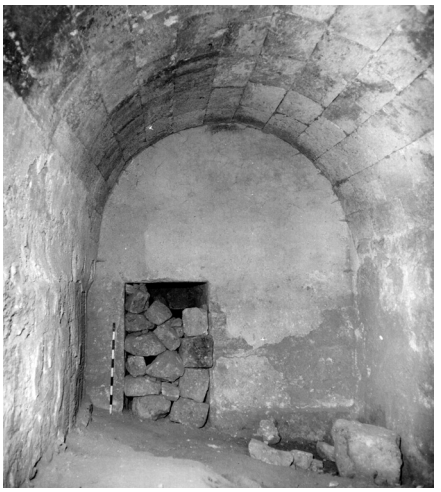

Fig. 5. Vaulted room below entrance room, with doorway to curvilinear corridor (view from east) (© G. Foerster).

Fig. 6. Section of sloping wall above tomb precinct (view from northwest) (© Herodium Expedition, R. Porat).

original doorway in its S end was found blocked and covered with fresco decoration. The room's walls, coated with white lime plaster, were decorated with rectangular fresco panels in dark red and white surrounded by green and black, with broad, vertical black bands between them. The dado below the panels was dark red with a broad black band above. The plaster coating was also present in the area of the entrance door, but its lower part, apparently once also frescoed, was later covered with gray plaster (see below). Below this room, above the bedrock, a basement more or less equal in size to the entrance room, and with a fully-preserved barrel-vault, had been revealed during previous excavations (fig. 5).

The sloping wall

We had previously exposed remains of a curving wall over a length of *c.*100 m on the N and E slope of the mount, with a maximum preserved height of *c.*6 m (12 courses).[8] It was built on the bedrock with a single face, not set vertically but at an angle of 60°, using large, trapezoidal ashlars cut from the local *nari* rock (fig. 6). The wall was apparently erected around the top of the entire mount to surround the mountain palace at a distance of some 50 m from its outer enclosing wall. As its binding material and quality of construction are characteristic of construction at Herodium in Herod's day, the sloping wall will have been erected at the start of the first royal project as a wall enclosing the area around the hilltop structure, separating it from the other complexes. It will have been built with a dual purpose in mind: security and its architectural appearance. Excluding the part above the tomb precinct, which was not covered during the artificial mount project, this wall would essentially be dismantled at that time, its ashlars being re-used in construction of the middle and upper parts of the late stairway (see below).

The monumental early stairway

This broad stairway was created on the mount's natural slope by building a freestanding base that was bounded by two parallel, fieldstone walls, set *c.*6 m apart at their tops and *c.*7 m apart at their bases (they lean slightly inwards). The space between the walls was

8 One section of the sloping wall was uncovered in the 1960s during massive illegal excavations carried out on the NE slope of the mount between the third and fourth seasons of Corbo's excavations of the mountain palace (cf. Porat *et al*. [supra n.1] 52-64).

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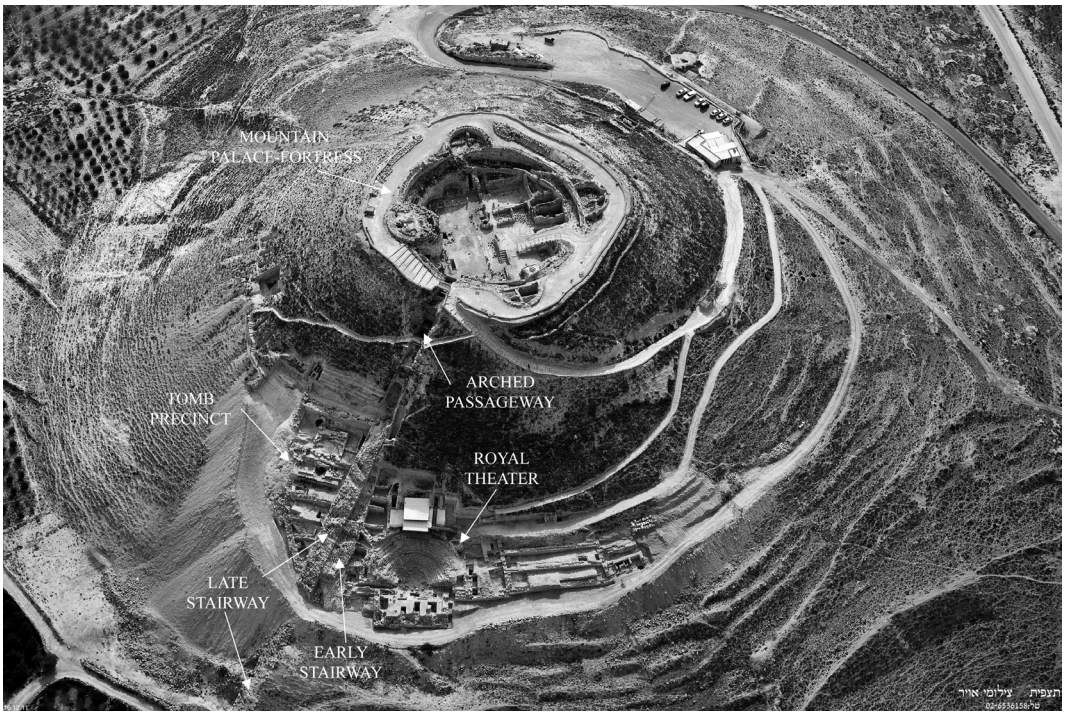

Fig. 7. Aerial view (from northeast) of Mt. Herodium with locations of various Herodian structures (© Tatspit).

filled with stones and soil and the joints between the fieldstones in the walls' outer faces were roughly coated with plaster. This stairway, which ascended the slope from northeast to southwest (an azimuth of 26°), is known over a length of *c.*60 m, up to the point where it reaches the sloping wall that preceded it.[9] Its top and bottom parts have not yet been exposed and important questions remain unanswered (see below). Shortly after construction of the early stairway, the royal theatre was built close to it on the W side, while to the east there developed in stages the area that became the tomb precinct in which the mausoleum was built (fig. 7). Construction of the early stairway thus preceded the artificial mount project and construction of the arched passageway that was intended to pass through its cone, but we cannot at present rule out the possibility that the passageway was planned so that people ascending the early stairway would enter the passageway and pass through it into the mountain palace (see below).[10] The early stairway would be eliminated by construction of the lower part of the late stairway.

Stage 2: the sloped, arched passageway

The arched passageway structure

The arched passageway was laid out between two parallel walls *c.*1.3 m wide and *c.*3.2 m apart. These walls, *c.*20 m in length, survive remarkably for a height of up to 16 m. Five parallel sets of arches were exposed between the walls, each featuring three superimposed arches, as well as two broad arches (actually vaults) erected at each end of the passageway (fig. 8). These arches, intended to sustain the walls of the passageway against the pressure

9 Ibid. 64-71.

10 Since the orientation of the early stairway is slightly different from that of the passageway, a local adaptation of the thoroughfare in the area between them would have been necessary.

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Fig. 8. The two upper series of arches in the passageway (view from northeast) during our excavations. Note the remains of the drainage channel in the foreground (© Herodium Expedition, R. Porat).

of the fill of the artificial mount outside, were placed along the passageway in such a way that they could withstand the pressure at the various levels, their elevations corresponding with the incline of a stairway inside the passageway. The stairway originally featured stone steps placed on a tiered, fieldstone foundation which was revealed in sections above the bottom level of arches and above a fill that had been dumped between and below these arches (the steps themselves do not survive *in situ*).

The S end of the passageway abutted the circular enclosing wall of the mountain palace at its wide entrance door, while at the N end it was bounded by a wall featuring a doorway into the passageway.[11] This doorway, *c.*2 m wide, had two projecting jambs of meticulously dressed ashlars (fig. 9).

For its full length the passageway was set on bedrock. The inner faces of its walls were of medium-size ashlars of *nari* rock, using a high-quality, light-gray binding material, while

11 The broad N arch was partly integrated into this wall, high above the doorway.

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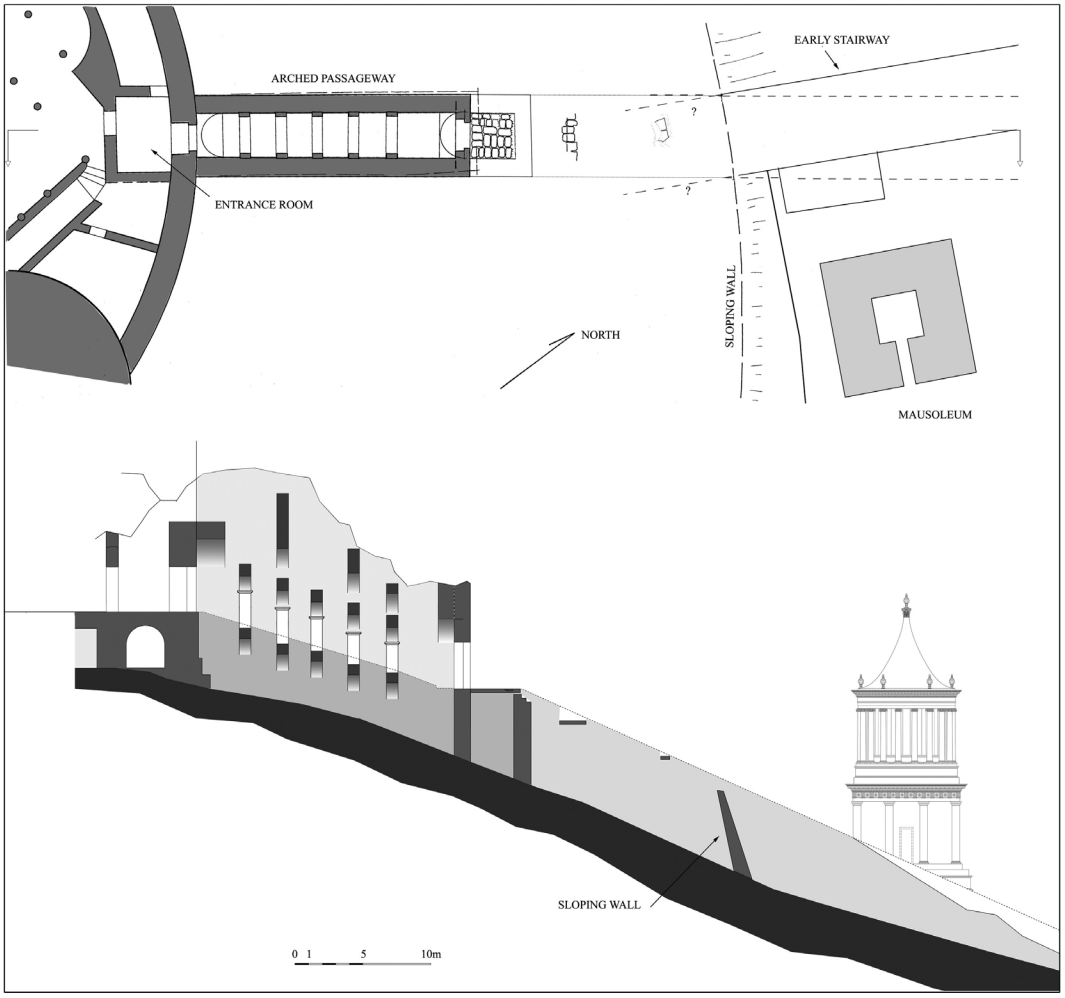

Fig. 9. Schematic plan and section of the approach to the mountain palace-fortress during Stage 2, when the arched passageway was constructed (© Herodium Expedition, R. Chachy).

the outer faces used large dressed stones of various rock types. The walls were apparently built to a height matching the intended slope of the surface of the artificial mount; their tops must thus have been set at an angle close to 35°. The spacing and height of the supporting arches within this passageway were thus the result of an engineering reckoning of the impact of the fill in its different sectors. The arches were also constructed of precisely hewn vousoirs of *nari* rock with a grayish binding material. Walls of various heights were erected on top of the two 'vaults' and, in an alternating manner, on the upper arches in between them, so as to buttress the higher part of the passageway (see fig. 2). Incorporated along the length of these buttressing walls were horizontal wooden beams (of *Cupressus sempervirens*), intended to give the structure a measure of flexibility. By contrast with the varying heights of the arches of the top level, those at the two lower levels within the passageway were built more or less along a continuous line, rising at an angle of *c.*20°. Unlike the arches of the top and bottom levels, which were bonded directly into the walls of the passageway, those of the intermediate level (essentially in the area above the steps) were built on top of engaged pilasters that jutted into the passageway proper and were topped by projecting mouldings resembling capitals, which bore the arches (fig. 10). The northernmost arch on the intermediate level has not survived, but at the point of its connection with the walls

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Fig. 10. The arched passageway as seen from within (view from northeast) (© S. Tiram).

Fig. 11. Wooden beam sawn flush with E wall's face (© Herodium Expedition, R. Porat).

of the passageway one can detect the shallow manner in which it was incorporated into the walls after they had been built (at least in this section). On the intermediate level between the arches were found the remains of thick, horizontal wooden beams (*c.*20 cm in diameter), the ends incorporated into the passageway's sidewalls. They had been inserted into niches cut into the ashlars and arranged opposite one another, with wooden wedges rammed forcibly between the sides of the niches and the beams to affix the latter. At a certain moment during construction, these beams had been sawn flush with the faces of the sidewalls, leaving the ends in place (fig. 11); the latter, together with the wedges, were then covered with the gray binding material used in the construction of the passageway. These wooden beams had apparently been used to support the walls of the passageway at the time of their construction, prior to the erection of the spanning arches (it is less likely that they were part of scaffoldings erected during construction of the arches).

Although no stone steps were found *in situ* within the passageway, from the finds of stone steps scattered in the passageway and on the slope, and to judge by a few steps found *in situ* north of the passageway, it became evident that preparation of the floor of the

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passageway included the laying of steps of flat hewn *nari* rock (*c.*20 cm thick) in sequences of 4-5 steps, followed by a landing. The walking level in the passageway stood above the lowest level of arches, between the pilasters carrying the intermediate arches. A constructive fill of soil, gravel and stones was encountered below the tops of the lowest level of arches, extending down to bedrock. Beneath some of the lowest arches were found double-faced retaining walls of sorts, built of fieldstones without any binding material, that were apparently intended to lend additional support to the arches supporting the stone steps.

Excavation of the passageway revealed the complete absence of plaster on its walls, although from the finish of the walls we can tell that the passageway was meant to be coated on the inside at least with white lime plaster, similar to that on all of Herod's interior walls at Herodium. It thus appears that the passageway was never completed: it was eliminated and blocked before serving the purpose for which it was built (see below).

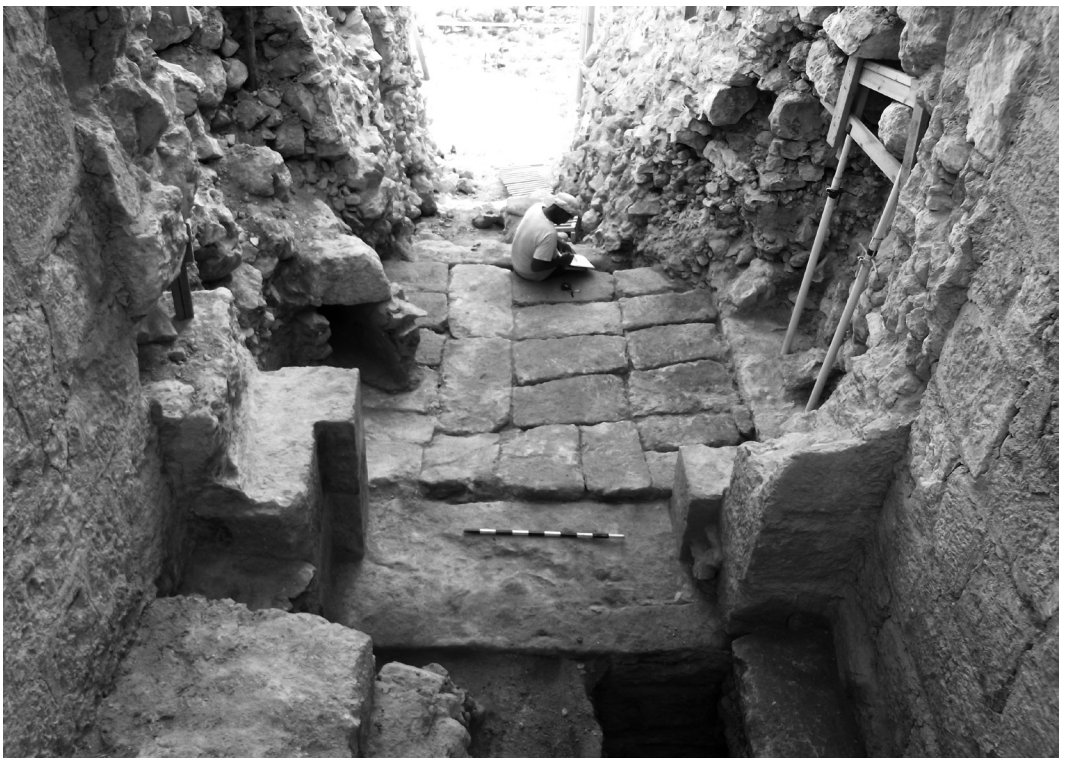

Fig. 12. The pavement in front of the N doorway of the arched passageway (view from south) (© Herodium Expedition, R. Porat).

Remains of the steps and the pavement leading to the arched passageway

A square pavement with large dressed stones was revealed in front of the doorway at the N end of the passageway (fig. 12). It was bordered on the south by the passageway's N wall, and on the N, E and W sides by broad, well-built walls, the freestanding parts of which appear to have been dismantled at some earlier stage. The E and W walls form corners with the N wall, whereas on the south they form a continuation of the passageway's sidewalls. At the present stage of the research it is difficult to reconstruct the original appearance of these walls, but it seems that they were part of the original N end of the passageway (see below). A 30-cm-wide gap between the pavement and the N wall (the preserved elevation of which was *c.*50 cm below that of the pavement) might demonstrate that steps set on top of the wall had been dismantled. In the area north of the pavement,

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Fig. 13. View of the stepped foundation in the area to the north of the arched passageway, with the *in situ* stone step in the foreground (© S. Tiram).

running down to a point above the sloping wall, we exposed a stepped and fragmentary foundation of small stones and mud-like binding material. Slightly south of the sloping wall, a stone step was revealed in 2008, the orientation of which matches that of the early stairway (fig. 13).[12] This could suggest the adaption of this stairway's course to that of the passageway (see below). In addition, a part of a landing was exposed slightly north of the pavement, and a strip of binding material on top preserved the imprint of a step that had been set above it.

Stage 3: blockage of the arched passageway and erection of the artificial mount

Blockage of the passageway and its doorways

Upon excavation, the passageway was found to be blocked with a fill of soil and stones. At the elevation of the uppermost arches, a thick, massive layer of fieldstones of various sizes and soil devoid of pottery was excavated. Below this layer were beds of soil and gravel that filled the lower part of the passageway, above the level of its floor (the steps of which had been dismantled prior to the pouring of the fills). These therefore were intentional fills that were meant to block the passageway completely. The fills were contained by walls built inside the doorways at either end, the one at the south being built of large stones and single-faced (facing towards the entrance room of the palace), the one blocking the lower doorway also being single-faced but built of medium-sized to small stones

12 Porat *et al*. (supra n.1) 65-66.

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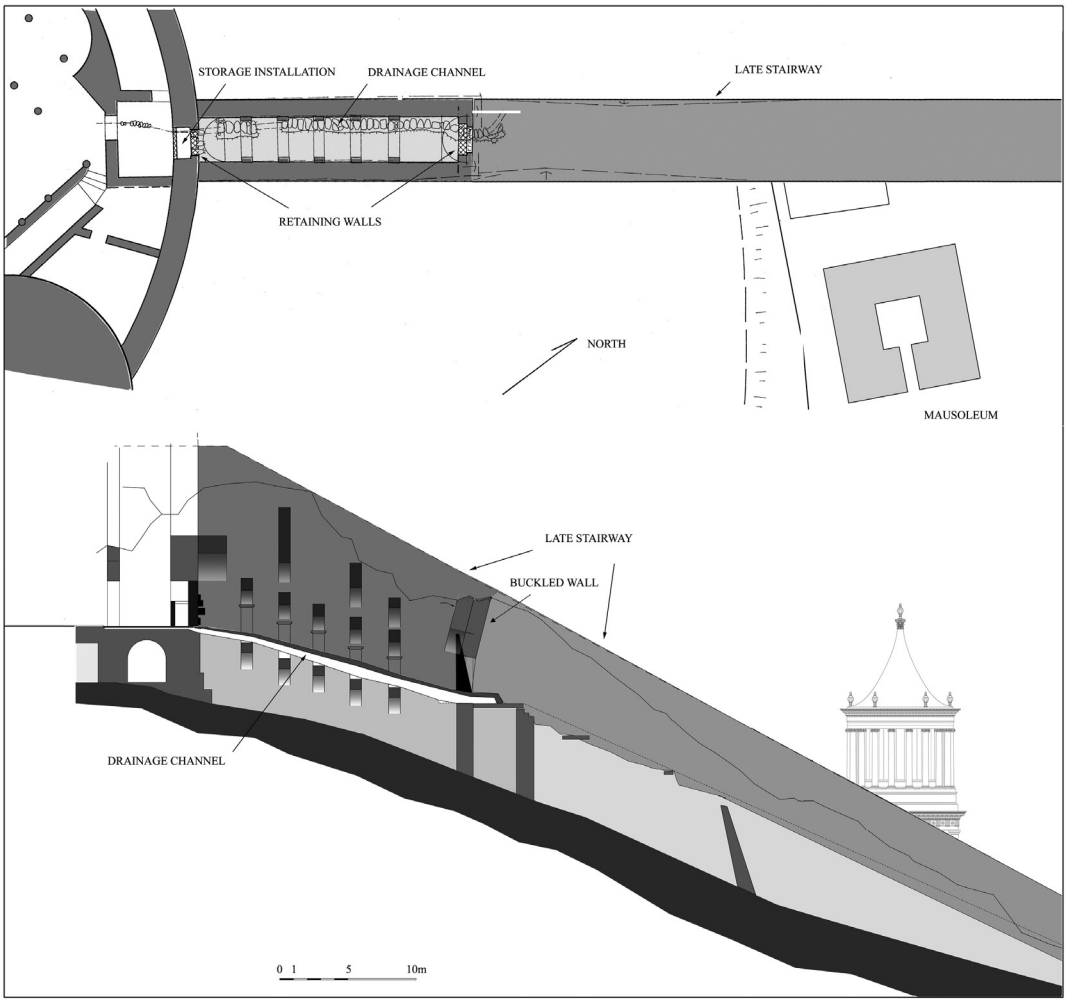

Fig. 14. Schematic plan and section of the approach to the mountain palace-fortress during Stage 3, when the arched passageway was blocked and the late stairway constructed (© Herodium Expedition, R. Chachy).

with a sloping, N face. From the finds excavated in the passageway and the overall stratigraphic picture it is clear that its blockage was carried out toward the end of Herod's life (see below) (fig. 14).

The drainage channel

While excavating the fill blocking the passageway, we exposed a drainage channel that ran along the passageway's W wall, on top of the remains of the foundation of the original steps (fig. 15). The channel (*c.*0.5 m high, 0.5 m wide) was coated on the inside with a gray, hydraulic plaster, curving at the corners. The channel was covered by large, flat stones, some in secondary use (such as stones dismantled from the sloping wall). Within the passageway the channel took its start from a triangular groove cut in the masonry below the doorsill of the upper doorway near the entry to the palace. From there, it sloped down to the north, to skirt the W jamb of the lower doorway, where it exited the passageway. Here it was set on top of the entrance pavement, running between the stones in the débris, some of which were even incorporated into it (see below). From this point it turned to the northwest, apparently toward one of the cisterns on the slope. At the S end, the upper part of the channel was revealed during excavation of the floors in the entrance room to the palace (see below), where, covered by stone slabs, it ran below the floor, which it cut. It emerged

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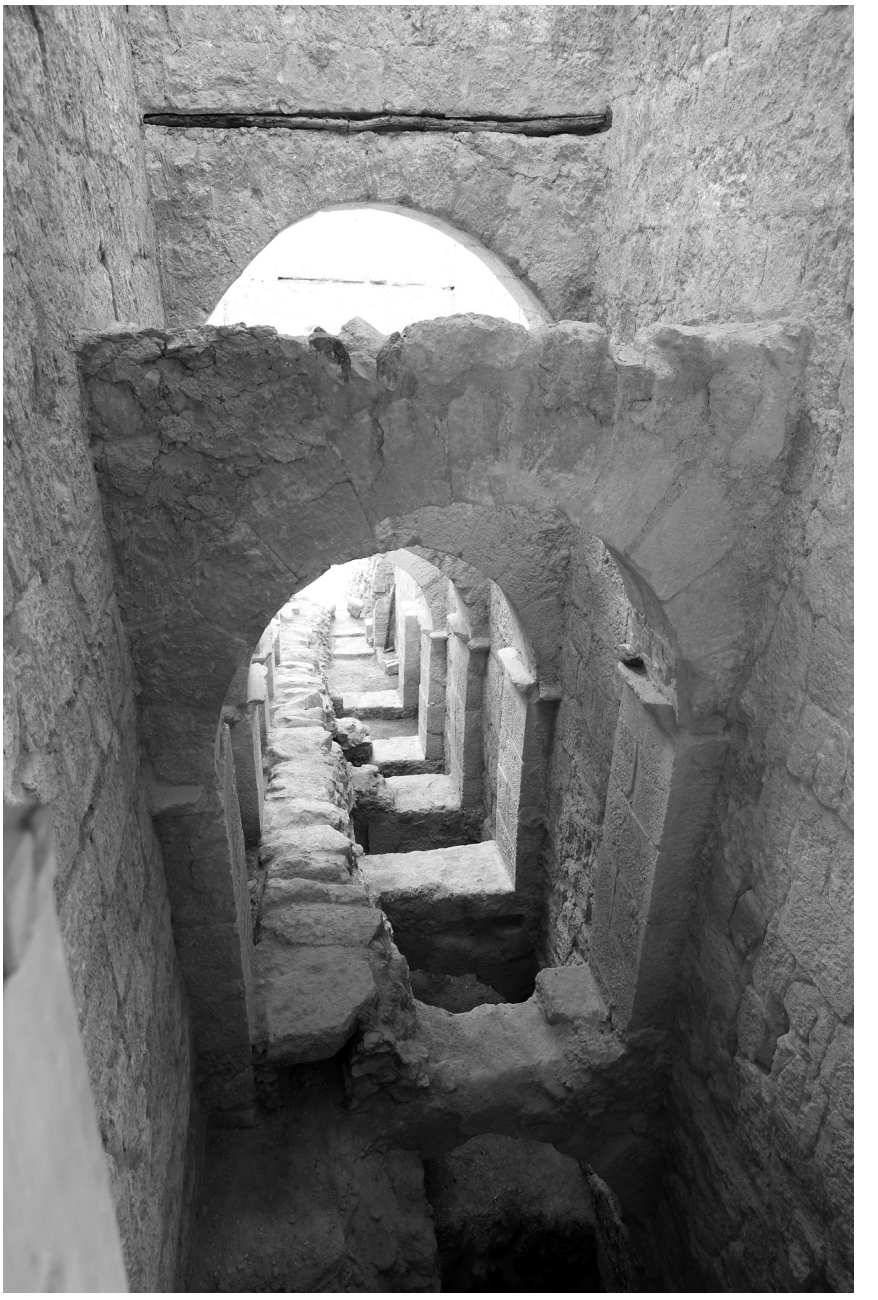

Fig. 15. The drainage channel built along the passageway's W wall (view from south) (© S. Tiram).

from below the doorway which connected the entrance room and the peristyle courtyard, whereas its N end linked up with the above-mentioned groove below the doorsill of the passageway's upper doorway. It was thus clear that the channel had been built right before the blockage of the passageway, and was intended to carry run-off from the palace and its courtyard.

The retaining wall at the N end of the passageway and buckling in this area

At the N end of the passageway a tall retaining wall was exposed, set across the width of the entrance to the passageway from the doorsill of the doorway (and the drainage

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channel passing above it) up to the broad arch above (fig. 16). This wall (*c.*1 m wide), built of small and medium-sized stones, had a single face on the N side, sloping inwards slightly into the passageway. Abutting the rear side of this wall were the soil fills that actually blocked the passageway. When we dismantled this retaining wall, it became evident that the abutted walls (effectively the jambs of the doorway) had buckled and tilted prior to its erection, whether as a result of an earthquake or some engineering fault. The N wall of the passageway and the broad arch incorporated into it were found to be tilted markedly to the north, and part of it, including the doorway entering the passageway, had buckled (fig. 17). Both the drainage channel installed at the moment when the passageway was eliminated and this retaining wall included stones from the collapse débris. The pavement in front of the doorway was damaged by this collapse; some of its stone slabs were found depressed and shattered as a result of the falling masonry. The retaining wall was thus erected in the context of blocking the passageway and it was intended to mark the N

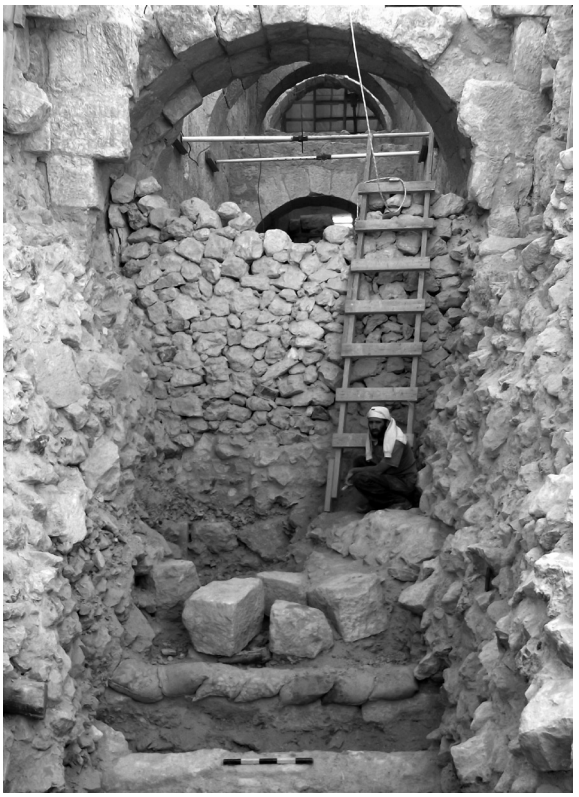

Fig. 16. Retaining wall blocking passageway's N doorway (view from north). Note the débris caused by buckling of the walls at its foot (© Herodium Expedition, R. Porat).

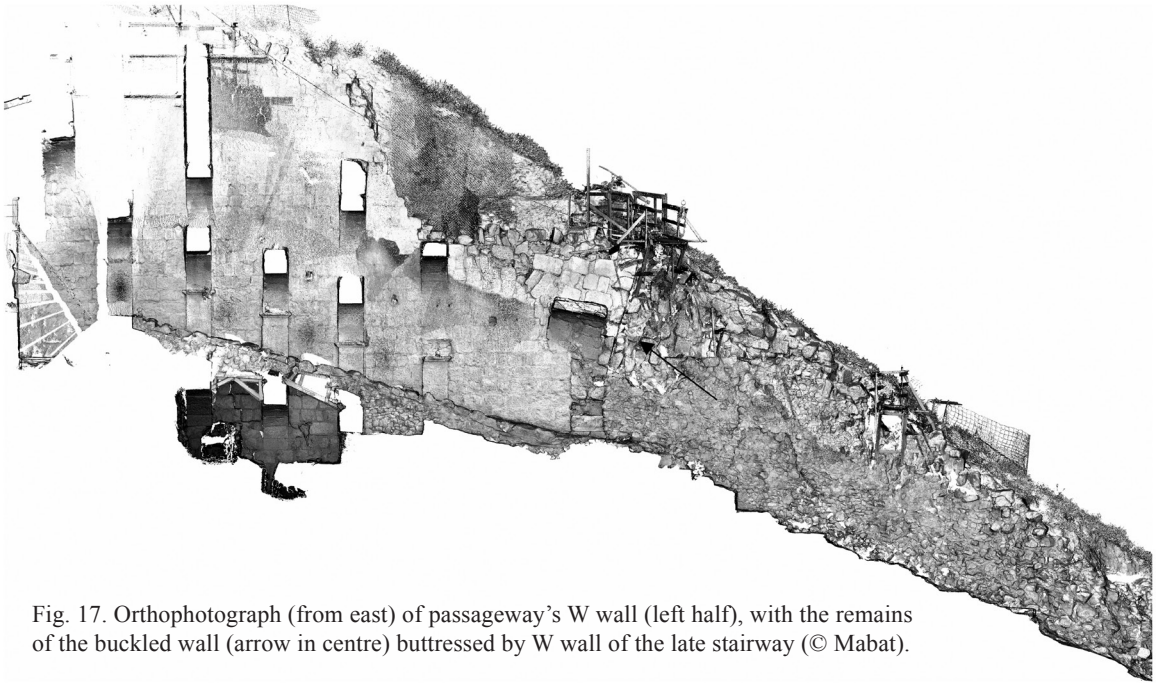

Fig. 17. Orthophotograph (from east) of passageway's W wall (left half), with the remains of the buckled wall (arrow in centre) buttressed by W wall of the late stairway (© Mabat).

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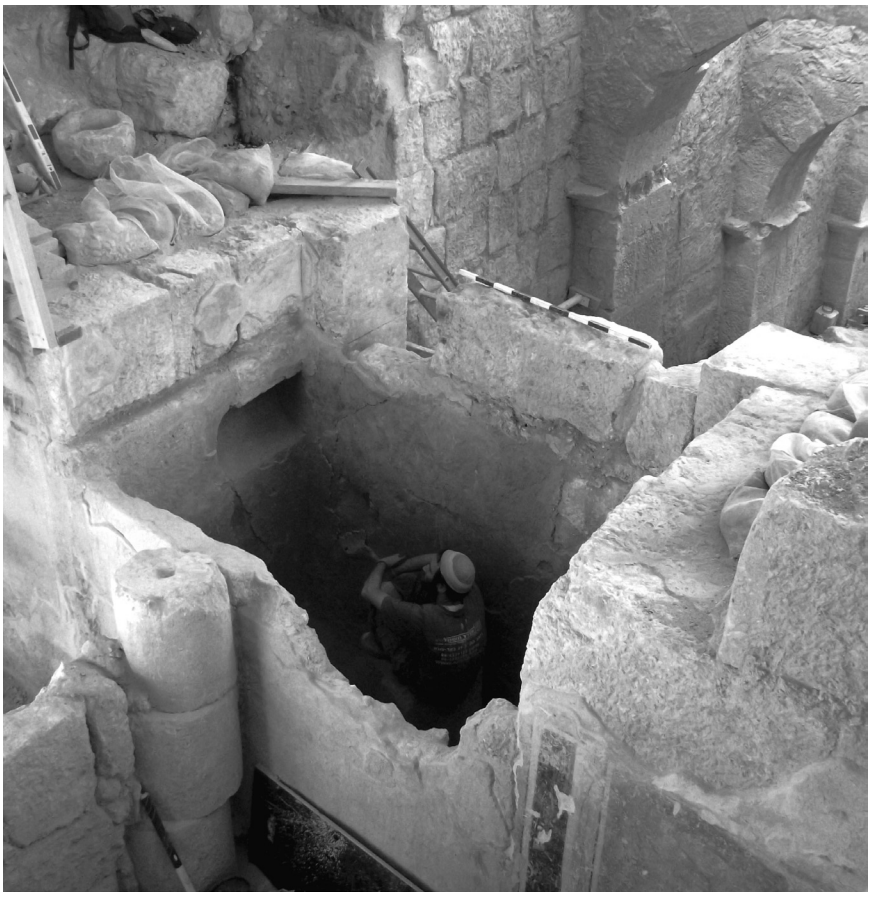

Fig. 18. Storage installation built inside the palace's entrance doorway (view from south). Note the niche in the installation's W wall (© Herodium Expedition, R. Porat).

limit of the fill. Construction of the late stairway and its core, abutting the buckled walls of the passageway and this retaining wall from the north, occurred after the passageway had been blocked.

The retaining wall at the S end of the passageway

The passageway's S retaining wall (50 cm wide) was built between the projecting jambs of the entrance door to the palace, using medium-size to large ashlars in secondary use, laid as headers (more than 50 cm in length) and stretchers, with the ends of the headers protruding from the wall's N face into the fill of the passageway. Thus only the S face of the wall was meant to be visible.

Storage installation in the palace's entry doorway

A rectangular installation (internal dimensions 2.3 x 1.25 m) coated with gray hydraulic plaster was revealed in the space between the doorway's jambs. It was bounded on the north by the single-faced retaining wall built between the projecting jambs of the entrance door, and on the south by a newly-constructed, thin wall set along the S edge of the doorway. The gray plaster coating on the outer side of this wall covered the margins of the decorated plaster on either side of the doorway. The interior of the installation was coated with a gray hydraulic plaster which covered the original lime plaster of the jambs of the doorway. Above the top of the gray plaster on both short walls, at 1.75 m above the floor, were two horizontal grooves intended to hold wooden roofing. Below the groove on the W side a curved niche of sorts, coated with the same gray plaster, was hewn into the wall. Its function is not clear (fig. 18).

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To judge from the manner in which plaster was applied within the installation, it was not intended for the storage of liquid but rather of some dry product. It was built after the passageway was blocked, toward the end of Herod's life or later. This happened after the installation of the drainage channel and construction of the retaining wall blocking the doorway. Although the nature of activity in the mountain palace after the blockage of the main doorway has not yet been clarified, it is apparent that the entrance room was prepared for some kind of rather secondary use, probably as a service room of sorts; the murals in the former entrance room were not repaired at this time, but the floor, damaged by the insertion of the channel, was restored.

The monumental late stairway

The chief surprise of the excavation came during work to the north of the passageway, when it became evident that the core of the late stairway abutted the N end of the passageway, and that its top was at a level significantly higher than that of the passageway. The late stairway was built with two walls having a single, outer face, with a core of stones between them. This broad stairway which has been prominent on the surface of the slope from the moment it was built and was already described at the outset of study of the mount, is apparently the stairway mentioned by Josephus (*BJ* 1.420), with its "two hundred steps of white marble". Our previous excavations on the slope showed that this stairway, which ascended in a straight line from the base of the mount to its top, was built relatively late as an integral part of the project for creating an artificial mount. This is based on technical and stratigraphical considerations which show that it was constructed and then enveloped by the core of fills while being adapted to the new gradient of the slope. The stairway was built partly on top of the foundation of the early stairway that was eliminated, but on a slightly different axis; apparently its orientation was adapted to that of the passageway it approached.[13]

The course of the late stairway can be divided into three parts, each with different technical characteristics: the bottom part, from the bottom of the slope up to the sloping wall; the middle part, above the sloping wall as far as the pavement in front of the passageway's N wall; and the top part, apparently ascending above the blocked passageway.

(a) The bottom part of the late stairway

Of this sector the base (*c.*6.5 m wide) bearing the actual steps has survived. It resembles that of the early stairway, being built of two parallel, single-faced walls, with a core consisting of courses of large stones between them. These walls, founded on bedrock and earlier structures, were generally built of local fieldstones and sometimes using hewn stones in secondary use with a mud-like binder. The walls of this stairway are not vertical but built with a slight inward slant toward the top, producing a base *c.*1 m wider than the top, which served to enhance its stability. In the bottom section of the late stairway no evidence of plastering of the outer wall was found. The stones of the actual steps, which were flat and of *nari* rock (like those in the early stairway and the passageway), have not survived *in situ* but were found in débris in the area of the tomb precinct;[14] in several sections their foundation, built stepwise, still survives. In the area of the tomb precinct, the late stairway completely covered the E wall of the early stairway, while close to the sloping wall the W

13 Ibid. 134-44.

14 Late in the 19th c., C. Schick recorded a number of steps *in situ*: "Der Frankenberg," *ZDPV* 3 (1880) 88-99.

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wall of the late stairway was built on top of the W wall of its predecessor. The E part of the late stairway was built within the area of the tomb precinct, an act that led to the elimination of the irrigation pool and to damage in the W parts of the terraces of the tomb garden next to the stairway's foundation trenches.

(b) The middle part of the late stairway

The middle part, exposed above the sloping wall and below the passageway, was also built with a wide base of two parallel retaining walls with outer faces, but the core between them contained a fill of medium-sized and small stones and soil, in contrast to the built core in the bottom part of the stairway. This fill resembles the one that blocked the passageway. During excavation of this core we found sections of technical retaining walls that were built between the sidewalls to permit their heightening in stages in stable conditions prior to filling in with the core. Here the two retaining walls were built mainly of large masonry blocks in secondary use, especially trapezoidal ashlars that had been removed from the sloping wall when it was dismantled in the context of the project of creating the artificial mount. Here too the walls were built with a mud-like binder. The upper part of the faces of the walls in this area was found to be coated with a white lime plaster, which covered the joints between the stones but not the stones themselves.

(c) The top part of the late stairway

Only a few remains of the top sector were found, probably because of its proximity to the surface at the top of the mount (and perhaps also because it had been intentionally dismantled by the rebels). It may be assumed that it was built on top of the blocked passageway, which served as its foundation: the way in which the late stairway abuts the passageway's (blocked) N wall — and this up to a high level above the thoroughfare in the passageway — supports this conclusion. The presence of many ashlars dismantled from the sloping wall that were incorporated in the upper parts of the passageway's walls could suggest a certain heightening of the latter in order to adapt them to the late stairway.

The construction of the late stairway from the sloping wall upwards, with the stepped thoroughfare on top of it being adapted to the slope of the artificial mount, produced a significant change in the gradient of the ascent to the top (25° instead of 20°). The considerable gradient (more than 25°) of the upper parts of this stairway suggests that it may have been used mainly for ceremonial purposes.

Stage 4: evidence from the entrance room dating to the time of the Great Revolt and thereafter

During Foerster's excavations of the S part of the entrance room of the mountain palace, quite numerous remains from the time of the Great Revolt were found, including a hoard of 19 coins from its fourth year. Our new excavations in this room revealed a thin wall dividing it into two units connected by a doorway (fig. 19). Incorporated in this wall were architectural elements which included column drums and two Corinthian capitals. Many coins from the revolt, including another hoard of 4 coins from its fourth year, were found above the earth floor, while 3 other coins from the same year were found on the bottom of the plastered installation in the entry doorway to the room. A doorway leading west from the entrance room into the enveloping corridor of the hilltop structure was blocked at this stage. The remains of thin walls and more coins from the time of the revolt were also excavated in the area southeast of the entrance room, between it and the E tower.

Fig. 19. Wall belonging to the Great Revolt that divides the palace's entrance room into two units (view from south). Note the débris in the storage installation and the burned wooden beams (datable to the end of the Bar-Kokhba Revolt) above it (© A. Peretz).

Following the Great Revolt, the area of the entrance room served for the dumping of refuse, as shown by the rich garbage dump heaped on the floor. Coins from the first decade after the revolt found within the dump, including several countermarked ones, indicate that the dump was formed after the revolt, apparently at a moment when a Roman garrison was stationed in the hilltop structure. A garbage dump from this period had also been excavated in the tomb precinct, southwest of the ruins of the mausoleum. According to the numismatic finds from across the mount, this Roman activity at the site was of short duration; during most of the interval between the revolts, and subsequently, the mountain palace stood abandoned, apart from occupation by another Roman garrison in the time of Trajan.

Stage 5: evidence from the time of the Bar-Kokhba Revolt

Remains from the time of this revolt were found throughout the area of the new excavations, mainly the remains of foray tunnels prepared by the rebels as part of their guerilla warfare against the Romans. They are exemplified by the systems found from the 1970s onwards.[15] The tunnels that burst through the walls of the hilltop structure were either dug within the fill of the artificial mount or hewn into the bedrock beneath it, to emerge at foray outlets hidden on the slope (fig. 20). These foray tunnels are characterized by man-high passages and steps, allowing for rapid movements in them. The tunnels bursting through the enveloping wall of the mountain palace led directly or indirectly to its collapse. There are signs of a major conflagration in some of the tunnels present at a relatively elevated point on the mount. They seem to be evidence of the conquest by the Roman army and its treatment of the fighters in the tunnels. The same applies to the sooty tunnels that burst forth next to the palace doorway, at the point of contact between the walls of the

15 See, e.g., E. Netzer and S. Arzi, "Herodium tunnels," *Qadmoniot* 69-70 (1985) 33-38 [Hebrew].

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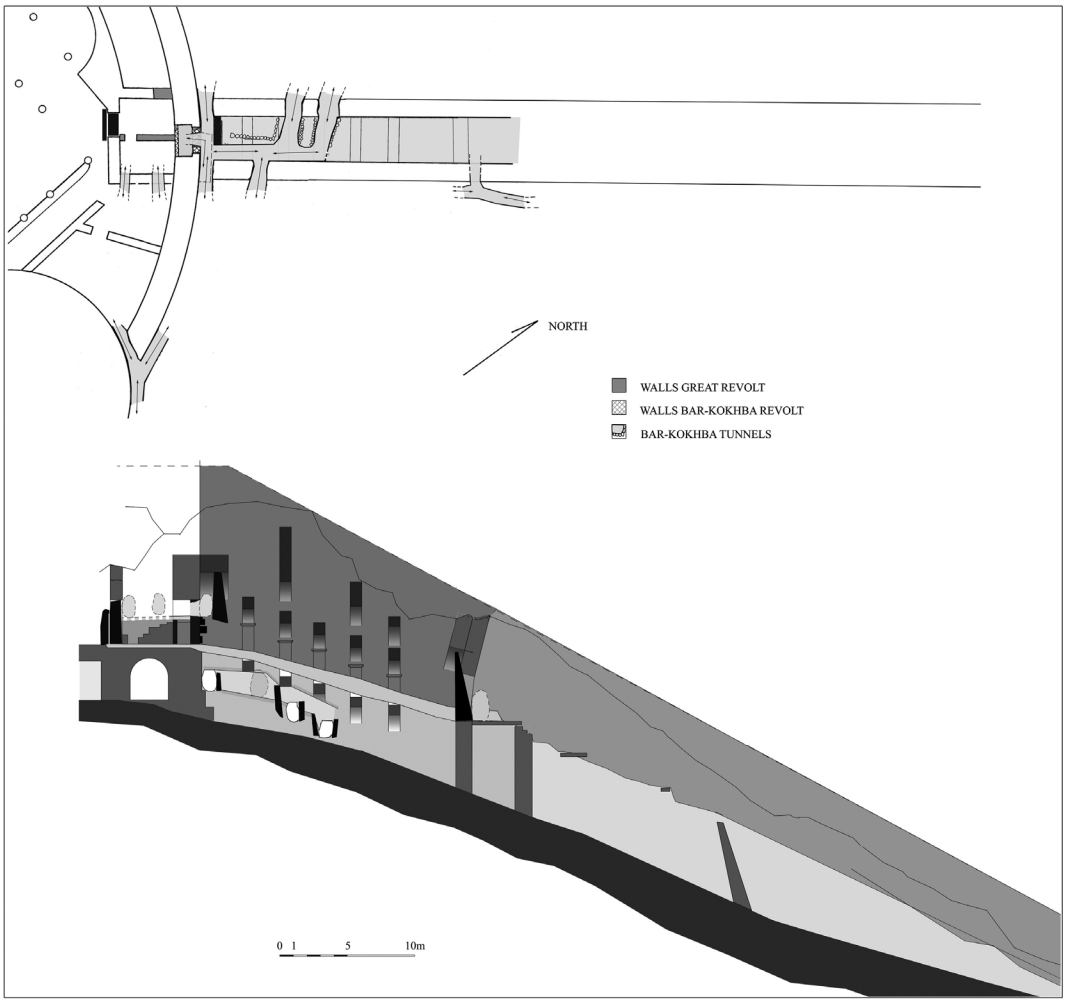

Fig. 20. Schematic plan and section of the original approach to the mountain palace-fortress during the Jewish revolts (Stages 4 and 5) (© Herodium Expedition, R. Chachy).

passageway and the palace's enclosing wall, and to the burned tunnel in the vicinity of the E tower where Bar-Kokhba coins, arrowheads and slingshots were found close to the point of its emergence. Signs of a mighty conflagration were found in the entrance room, apparently the result of the Roman assault on the structure at the end of the Bar-Kokhba Revolt. It would seem that even the collapse of some walls in this area was the result of a fierce battle that took place here.

In addition to the tunnels found at the sides of the entrance door to the fortress and below the broad S arch of the passageway, we exposed a high retaining wall built along the entire width of the passageway up to that arch (fig. 21). It was apparently erected in order to prevent the fills in the passageway from subsiding into the tunnel along the S side of the wall.[16] It was built of many standing wooden beams reinforced in that position by horizontal ones, and of small stones set in mud (fig. 22). Incorporated at its top was a large wooden board (*c.*0.6 x 3 m, *c.*4 cm thick) carefully fashioned of *Pinus halepensis*, the Jerusalem pine. Evidently the Bar-Kokhba fighters had dismantled wooden elements in the

16 It is thus evident that the upper part of the original blocking wall here already lay in ruins at this time.

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Fig. 21. Retaining wall (partly dismantled) datable to the Bar-Kokhba Revolt, built below the S vault of the passageway (view from south) (© Herodium Expedition, R. Porat).

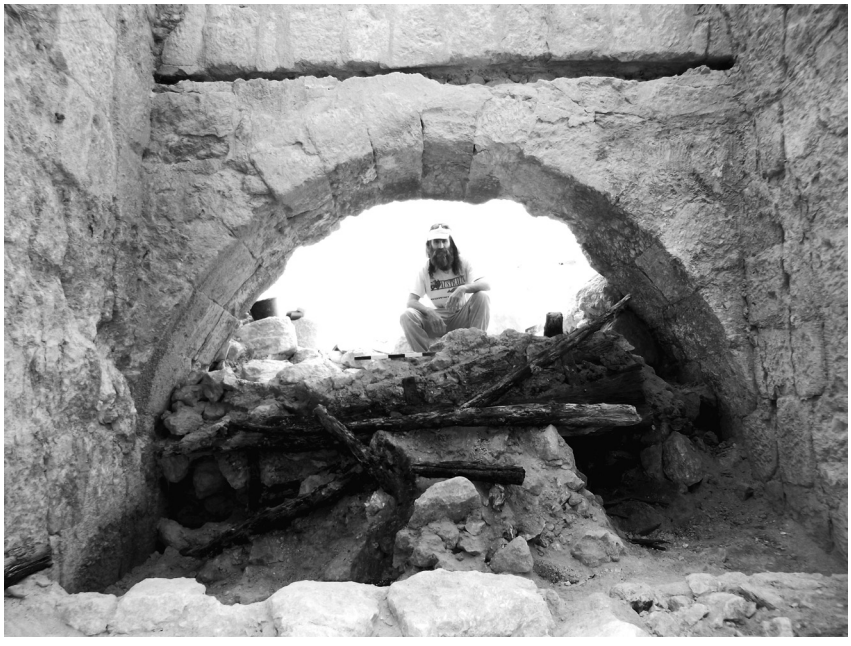

Fig. 22. Wooden reinforcement of the retaining wall of the Bar-Kokhba Revolt (view from north) below the passageway's S vault (© Herodium Expedition, R. Porat).

Herodian structure for use in the tunnel system. The main rooms in the Herodian structure were roofed with wooden beams of *sempervirens*, and it was mainly those that were put into secondary use to prop up the tunnels during the Revolt.

More sections of tunnels that burst through the walls of the passageway were found at four different points at the bottom of the passageway, below the lowest level of arches (fig. 23). The penetrating of the tunnels into the space of the soil-filled passageway obliged the

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Fig. 23. Tunnel of the Bar-Kokhba Revolt, bursting through the W wall of the arched passageway (view from south) (© S. Tiram).

Fig. 24. Roof of tunnel of the Bar Kokhba Revolt, with numerous wooden beams laid horizontally side by side, as preserved *in situ*. Note the blocked entrance doorway to the mountain palace (top) (© S. Tiram).

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rebels to erect numerous props (thin walls and numerous wooden beams) as vertical supports. One section of tunnel exposed at the foot of the entrance doorway of the palace (to its north) was entirely roofed with numerous horizontal wooden beams laid next to one another and resting on vertical beams (fig. 24). Another tunnel was exposed to the east of the passageway during excavations within the fill of the artificial mount; continuing along the passageway's E wall and the late stairway, it apparently led to the foray outlets on the slope above the tomb precinct. Most of the outlets of the newly found tunnels, however, have not yet been traced.

Discussion and summary

Two interconnected questions arise from the picture that has been presented:

1. What is the significance of the dramatic change of plan during the course of which the arched passageway, barely completed, was eliminated? There is no doubt that the passageway was built so that it could pass through the fill of the artificial mount and allow the mountain palace to continue to function even after it was enveloped. Why, then, was the passageway eliminated when the conical mount was finally raised?
2. Which of the two monumental stairways located on the slope was meant to reach the passageway and provide entry to the palace to those ascending the mount?

The answers are obviously dependent on a consideration of the changed appearance of the tomb precinct. It may be assumed that this change came about at the order of Herod himself in his later years. At that time the king's illness worsened. Famous for his numerous building projects that had led to the glorification of his name, Herod was bothered by the choice of how to perpetuate his name and deeds. It is likely that he then chose the way in which Hellenistic and Roman rulers of his day acted, by building for himself a burial mount and memorial, even though this would cover and eliminate the grand buildings he had previously erected on the slope.

Possibly the buckling and partial collapse that occurred in the N part of the passageway towards the end of its construction was an incentive for the change and marks the start of the execution of a new plan. It required taking a decision about the blockage of the passageway and the sealing of the doorway of the palace. Yet this mishap, which could have been repaired with a relatively small amount of investment, cannot have been the main factor that led to the significant changes to the entire complex, including serious alterations to the regal character of the mountain palace. A repair of the damage to the buckled area is dwarfed by comparison with the huge project planned for the first stage of the memorial project, one that included the incorporation of the mountain palace into the artificial mount by means of a passageway that was intended to pass through the fill of the cone-shaped mount. It thus seems unreasonable to regard the localized buckling as sufficient cause for the dramatic changes that were actually made. We prefer to think that this shift (which initially stemmed from the blockage of the passageway) to a new perception of the tomb precinct and of the whole mount is evidence for a possible planned change in the purpose of the hilltop structure after the king's death. The essence of this new perception, which was being carried out toward the end of Herod's life, was the transformation of the whole of Mt. Herodium into a monumental complex in the form of a memorial with its focus on the giant conical artificial mount resembling a burial mound.[17] The ingredients in

17 Among the excavated material from the hilltop structure it is worth noting the absence of coins dating to the period between Herod's death and the Great Revolt.

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this complex were the funerary complex in Lower Herodium, the tomb precinct and the mausoleum which remained exposed and prominent on the slope, the mountain palace which was left projecting above the cone as a unique monument, and the late stairway, serving as the architectural axis linking those structures and making possible a ceremonial ascent from the base of the mount. It is therefore possible that the buildings on the slope that became deliberately covered, including the royal theatre, were initially intended to continue to operate at the foot of the cone, and were finally buried only at the time of the completion of the last project.

It is still difficult to answer the question which of the two monumental stairways was originally intended to lead up to the passageway. It is possible that the late stairway and the passageway were planned together, with the former built on the architectural axis of the latter. But one cannot rule out the possibility that the lower part of this stairway, up to the sloping wall, had already been built, and that, when the new perception of the whole hill was decided upon, the purpose of the late stairway was changed, with its upper part ascending steeply to the top of the mount on top of the blocked passageway. The differences between the three parts of this stairway may lend support to this possibility.

On the other hand, some damage caused during the construction of the late stairway in the W part of the tomb precinct and the E part of the theatre area could indicate that all of it was executed only after the changed perception had come into effect, which occurred at the time of the creation of the artificial mount. If so, it seems reasonable that the early stairway, which was already present on the slope, was partly changed and adapted to the passageway, as is perhaps suggested by the orientation of the step that was found *in situ* close to the point of intersection of the two stairways above the sloping wall. In other words, in this scenario the change in the direction of the ascent to the hilltop was made in the area of the sloping wall, above the tomb precinct. This would then leave us with other important questions: What was the original destination of the early stairway? What was the appearance of its upper part prior to the construction of the passageway? Was its destination the well-known doorway of the mountain palace, or did it lead in a straight line to a structure that preceded the round palace, perhaps set next to the eastern round tower? Undoubtedly these and other questions will form the focus of future research.

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