

# The Evolution of the Hybrid Herodian Style at Jericho

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Herod the Great built three Winter Palaces at Jericho, which contained large entertaining spaces with beautiful gardens, pools, terraces, Roman bathhouses, and luxurious living areas, which demonstrate the evolution of his own personal style of architecture.

*Keywords:* palaces, gardens, pools, architecture, design

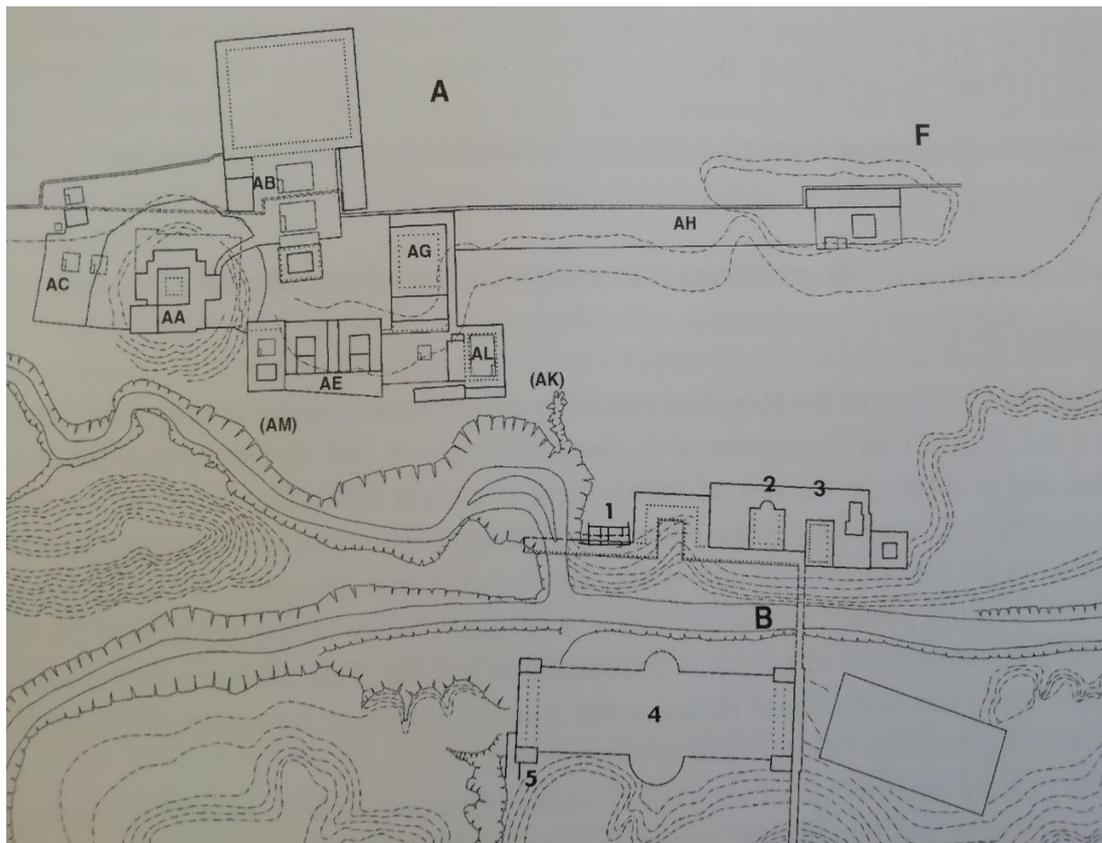


Figure 1. The different areas of the Hasmonean and Herodian Palaces (Gleason & Bar-Nathan, 2013).

## Introduction

In this article the discussion will be about the three Winter Palaces that Herod built at Jericho schematically illustrated above. Herod was an innovator and today he could be classified as a trendsetter (Peleg-Barkat, 2014).

He was a talented architect and engineer demanding the creation of monumental palaces in extraordinary topographical settings. These three palaces demonstrate his developing architectural style reflecting his personal circumstances as a client king appointed by Rome. To undertake this research, it will be essential to look at:

- a brief history of how Herod achieved this honour
- how his architectural flair developed through his reign
- the incorporation of new technologies and styles from Italy
- moulding together of old and new
- the creation of gardens

All references to Josephus will be taken from the Whiston Translation (Whiston, 1999).

### **History**

In 67 B.C.E. Civil War broke out between the Hasmonean royal brothers Hyrcanus II (the rightful heir) and his younger more ambitious brother Aristobulus II (JA 14:4-7; JW1:120) (Vermes, 2014, pp. 32-36). This created the perfect opportunity for Rome to actively pursue its strategic objective against the Parthians. Pompey invaded Judea and the once independent Jewish State surrendered. Hyrcanus was permitted to act as High Priest. Antipater (Herod's father) became the "iron fist" who ordered the affairs of State on behalf of the Romans (AJ 14:143-144). He was murdered in 42 B.C.E. (Vermes, 2014, pp. 34-35).

Herod, a keen supporter of Rome was forced to flee when Antigonus Mattathias (the son of Aristobulus II) seized control with the aid of the Parthians overthrowing Roman rule (AJ 14:331-363). Herod arrived in Rome and appealed to Mark Antony to plead on his behalf before the Senate to make him ruler of Judea like his father Antipater. Mark Antony recognised in Herod a man who had ambition like his own. Rome required a strong person to run the affairs of Judea, an important trading crossroads in the ancient world and a buffer state on the edge of their recognized territory. Herod was appointed King of Judea (AJ 14:384-389) and with the help of Rome he won back his new kingdom (Richardson, 1996, pp. 128-130).

Herod was politically astute. He divorced his first wife Doris and married Mariamme, a Hasmonean princess, to gain legitimacy and further secure his throne. Persuaded by his new wife, he appointed Aristobulus III (brother of Mariamme) to the position of High Priest (JA 15:20-52). This decision was greeted with jubilation by the Jewish people because he would be continuing the Hasmonean line. Symbolically, it was a hugely attended event with a corresponding outpouring of love for Aristobulus but Herod felt threatened by the ecstatic reaction of the crowd and arranged for his brother-in-law to die in a swimming accident (JA 15:53-56) in Jericho. This set him at odds with the Hasmonean women in his family who plotted and schemed against him.

Herod's difficulties did not cease with his in-laws. Cleopatra, the Egyptian Queen, persuaded Mark Antony to grant her control of the area of Jericho (JA 15:77-479, 88-96). Herod was obligated to lease the orchards from Cleopatra. The Hasmonean Kings owned vast royal agricultural estates in the Jericho area, and they created an elaborate irrigation system which filled reservoirs and swimming pools providing water to the palaces and irrigation to the royal gardens and their estates. They farmed vast orchards with groves of balsam and palm trees supporting a lucrative industry for oils and spices. Growing dates was an important industry and palm trees used a significant amount of water. Each tree consumed approximately 160,000 litres per year.<sup>1</sup> The provision of a substantial water system was essential. Josephus recorded "This country bears that balsam,

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<sup>1</sup> <https://historicalsitesinisrael.com/en/ancient-jericho-water-supply/>, accessed on 22.8.2022.

which is the most precious drug that is there, and grows there alone. The place also bears palm trees, both many in number, and those excellent in their kind” (JA 15:96).

Jericho is situated in the Jordan valley known as Tulul Abu el-Alayik. It lies 200 metres below sea level and remains one of the lowest inhabited areas on the planet. In the winter it has/had a warm and pleasant climate. During the second temple period it provided an attractive environment for the royal family to build palaces and for the wealthy to build mansions away from the harsh winter weather in Jerusalem. At this time of year there was a regular supply of water from the flash floods that occurred during the winter months.

Accordingly, it waters a larger space of ground than any other waters do and passes along plain of seventy furlongs long and twenty broad: wherein it affords nourishment to the most excellent gardens that are thick set with trees. There are in it many sorts of palm trees that are watered by it, different from each other in taste and name; the better sort of them, when they are pressed, yield an excellent kind of honey, not much inferior in sweetness to other honey. This country withal produces honey from bees; it also bears that balsam which is the most precious of all the fruits in that place, cypress trees also, and those that bear myrobalanum; so that he who should pronounce this place to be divine would not be mistaken, wherein is such plenty of trees produced as are very rare, and of the most excellent sort. (JW 4:467-470).

Josephus has not recorded any meaningful descriptions about Herodian building in Jericho. Consequently, in this article the information about how he built his palaces at Jericho depends solely on the results of the archaeological excavations that have taken place in Jericho. Charles Warren first dug here in 1868 but did not find anything that merited a subsequent excavation. E. Sellin and C. Watzinger carried out excavations here between 1909 and 1910 but their findings were never published. Two American expeditions led by J. L. Kelso and D. C. Baramki in 1950 and another by A. H. Detweiler and J. Pritchard in 1951 produced reports on their work (Kelso & Baramki, 1955; Pritchard, 1958). Ehud Netzer (2001a) extensively excavated the site from 1973 to 1983 and again between 1997 and 2000. To track the progress of Herod’s architectural development this article will look at the building of his first palace at Jericho in 35 B.C.E., the second palace built around 25 B.C.E., the third palace built circa 15 B.C.E. and the many gardens he created.

### **First Palace**

When Herod considered building his first palace at Jericho, he did not have control over the land of Jericho. The area remained under Cleopatra’s control and the Hasmonean family remained friends with her (Netzer, 2008, p. 45). Herod chose a site south of the Wadi Qelt to build his first winter palace near to the Hasmonean palaces. Despite these restrictions he carried out extensive irrigation projects bringing water in aqueducts from the three springs in the west. The Qelt River flows eastwards cutting through the limestone of the Judean Mountains. It has three perennial springs, each having an Arabic and Hebrew name Farah/En Prat (the largest at the head of the valley), Ayn Fawar/En Mabo’a, and the lowest Wadi Qelt.<sup>2</sup>

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<sup>2</sup> <https://historicalsitesinIsrael.com/en/ancient-jericho-water-supply/>, accessed on 22.8.2022.

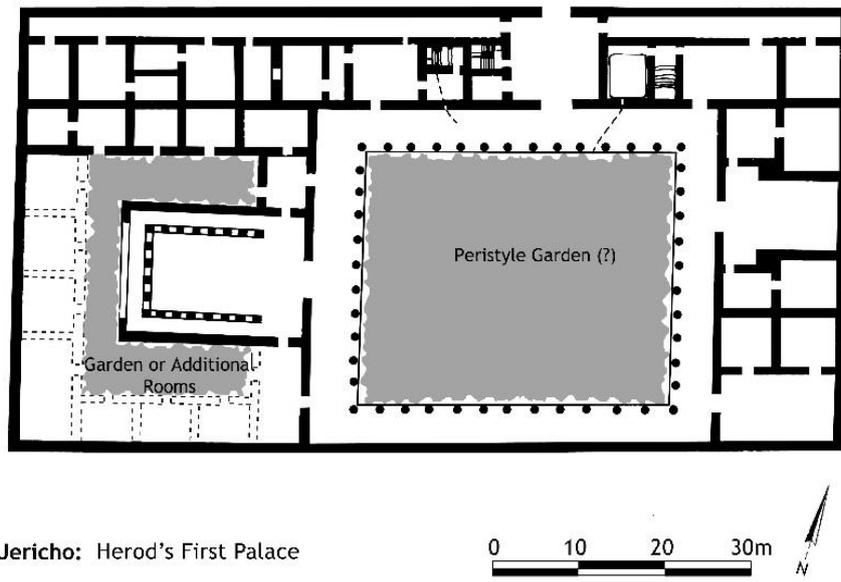


*Figure 2. The Wadi Qelt*<sup>3</sup>.

When Herod considered building his first palace it was a single-story structure with an introverted character built around the peristyle courtyard. It reflected Herod's delicate political situation and limited jurisdiction in the area. He preferred a closed safer palace (Netzer, 2001b, p. 42). This building was a rectangular shape with walls of unequal measurements (e.g., north 86.77 m, south 86.81 m, east 46.41 m, and in the west 46.05 m), unearthed by James B. Pritchard in 1951 (Pritchard, 1958, p. 2). Excavations indicate that the palace was built of mud bricks on a fieldstone base not stone blocks as reported by Detweiler and Pritchard in 1951 (Pritchard, 1958, p. 2). This remained the conventional building material used in this area up to the twentieth century (Netzer, 2001b, p. 42). Wood for ceilings was not mentioned specifically, as no remains were found, but long straight wood planks would have been required for ceilings. This wood was most probably imported in the same way as suggested in my article on "The Innovative Genius of Herod at Caesarea Maritima" (Bergin, 2018, p. 382). Archaeologists through years of excavations were able to produce a ground plan of the building.

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<sup>3</sup> [http://farm3.static.flickr.com/2056/2095157579\\_0f6054c0c5.jpg?v=0](http://farm3.static.flickr.com/2056/2095157579_0f6054c0c5.jpg?v=0), accessed 14.1.2009.



Jericho: Herod's First Palace

Figure 3. First Palace at Jericho.<sup>4</sup>

The palace was entered from the north through a room (9 m × 8.5m) which led directly into the peristyle courtyard. Corridors ran full length of the northern facade of the Palace for the use of servants. Most parts of the structure could be accessed from the courtyard which took up an area of about one third of the size of the palace (42 m × 35 m) with a formal garden and overlooked by rooms on three sides (Netzer, 2008, pp. 46-47). A *triclinium* (18 m × 12.5 m) could be entered on the west side of the courtyard through a 4.3 m doorway containing rows of columns on the other three sides. All that remains of this hall are the stone pedestals on which the columns resided.



Figure 4. Stone pedestal in situ (Pritchard, 1958, Plate 13.3).

<sup>4</sup> [https://roman-gardens.github.io/province/judaea/jericho/herodian\\_first\\_palace/](https://roman-gardens.github.io/province/judaea/jericho/herodian_first_palace/), accessed on 28.2.2022.

There was a smaller T-shaped room (12 m × 7.9 m) on the east side of the courtyard which was possibly used for dining or receptions (Netzer, 2008, p. 47). The living quarters for Herod and his family may have been on either side of this room.

Despite Herod's situation his first palace contained innovative ideas including a full Roman bathhouse in the northern side of the building containing six rooms—*apodyterium* (dressing room), *caldarium* (a hot room with heated floor and walls, water could be thrown on the floor to create a steam room), *tepidarium* (a slightly cooler room before entering the *frigidarium* (a room with a stepped pool for cooling off), *laconium* (a sweating room), *praefurnium* (boiler room). The remains of a hypocaust system were discovered in situ. The floors of the bathhouse were paved with mosaics in black and white geometric designs. It is likely that this was the first Roman bathhouse installed by Herod in any of his palaces (Netzer, 2001b, p. 41). A Jewish bathhouse was also available in the palace similar to those in the Hasmonean palaces nearby.

The first palace presented a mixture of features. Herod retained elements of Hellenistic/Hasmonean traditions but introduced a novel Roman bathhouse. The typical features of Herod's palaces, a main wing with a *triclinium*, a peristyle courtyard with colonnades, living quarters, a Roman bathhouse and pools were becoming part of his architectural design style which evolved using old and new traditions over time.

An earthquake struck Judea in 31 B.C.E. which destroyed the multistorey Hasmonean palaces. Herod's single storey palace survived intact perhaps because it was better able to withstand the force of the shock. It was a new building, and the bricks and mortar would not have dried out completely, therefore it was not as rigid as other structures which allowed it to remain undamaged (Netzer, 2001b, p. 42). Jericho is known for its earthquakes and is still considered to be the main active fault in the northern Dead Sea and lower Jordan valley (Lazar, Ben-Avraham, Garfunkel, Porat, & Marco, 2010).



Figure 5. A mosaic fragment found in the hypocaust room (Pritchard, 1958, Plate 11.5).

The first palace continued in existence during the building of the second and third winter palaces and became part of the later palace complex recognised by Ehud Netzer (2001b, p. 42). It was a great personal achievement for Herod considering the difficulties that beset him early in his reign. He nearly lost his family at Masada when Antigonus Mattathias besieged Masada where Herod had secured his family while he was away

in Rome (JA 14.390). He felt threatened by his in-laws and their constant intrigues with Cleopatra against him. After the battle of Actium, Herod's appointment as King by Octavian was confirmed when he received back all the lands that had been bestowed on Cleopatra. This authority gave the new king freedom to design the next palace without feeling under pressure from his in-laws.

### Second Winter Palace

The catastrophe of 31 B.C.E. provided Herod with a golden opportunity to build his second palace at Jericho and stamp his mark on the landscape. The Hasmonean palaces had been built in prime positions over many years. The site was surrounded by a breath-taking landscape and Herod would use this attribute to his advantage.

Before commencing his new project Herod repaired the damage wrought on the water systems by the earthquake (Netzer, 1975, p. 93). New larger irrigation projects brought water in aqueducts from the Qelt springs to the palace (Singer, 1977). Interestingly, the swimming pools next to the Hasmonean palaces survived the earthquake. Herod was known for building in a monumental way. He merged the two pools into one (c. 32 m × 18 m) and redeveloped the area around the single unit. A formal garden was created around this feature to enhance the experience of bathers.

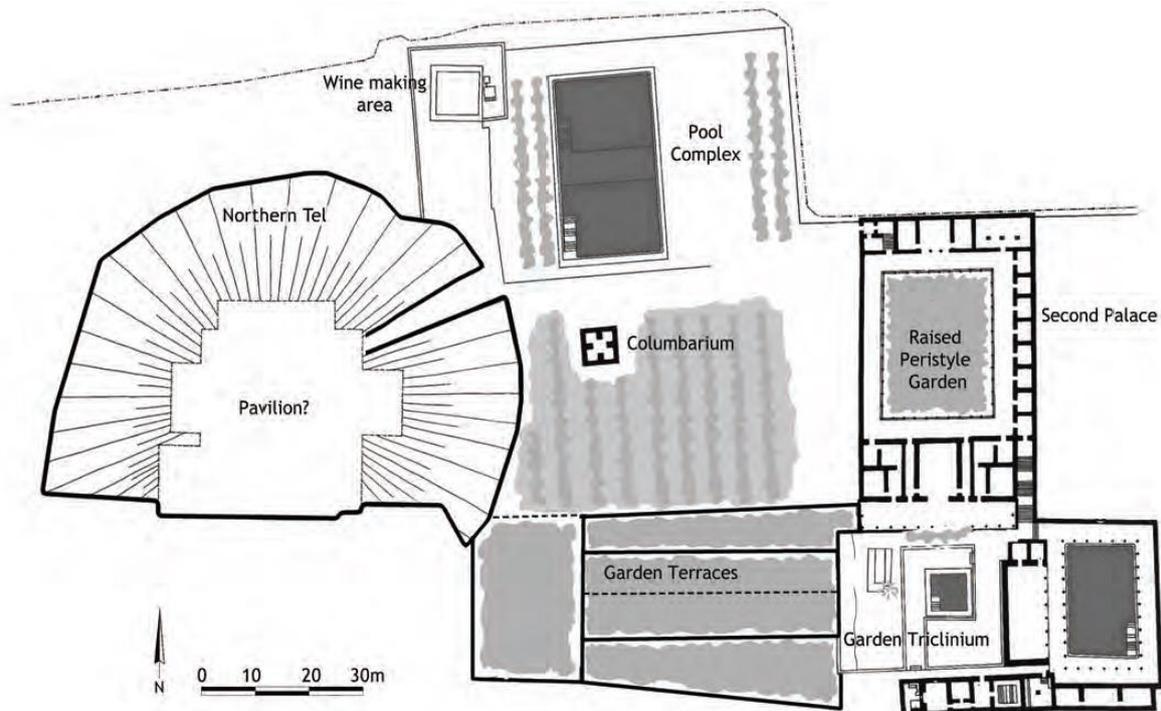


Figure 6. Second winter palace (Gleeson, 2014, p. 76).

The second palace was built on the ruins of the Hasmonean palace in two wings and a terraced garden. The main wing was erected on a north-south axis of symmetry. The prior foundations were incorporated into the podium base of the new main wing which was designed to overlook the lower wing. The two wings were joined together by a large staircase leading from the eastern court. A section of the staircase was uncovered to confirm the connection between the two sections (Netzer, 2001a, p. 312). The main wing was appointed around a central peristyle courtyard (34 m × 28 m) surrounded by colonnades. This garden will be considered in

greater detail later in this article.

Eight rooms of comparable sizes lay along the eastern side of the courtyard (c. 3.6 m × 3.2 m). To the north some large rooms were discovered. At the centre was a room 5.8 m × 5.4 m, possibly an exedra (a room with bench seating) with access to the rooms on either side of modest size. In the easternmost corner was a room 10.5 m × 5.4 m with three columns supporting the ceiling that was unearthed which may have been used as a kitchen. At the opposite corner (north-west) there was a suite of rooms that included a staircase. There was an exit here which gave access to the pool complex mentioned above (Netzer, 2008, p. 52). No rooms were discovered west of the courtyard.

South of the peristyle courtyard a *triclinium* occupied a central position with a window that faced the courtyard (fragments excavated and reconfigured prove this assertion). This was a large reception room measuring 10 m × 7 m with corridors to east and west which provided access to two suites. These apartments may have contained bedroom accommodation for the king and his family. The hall was decorated with frescoes. To the south in front of the *triclinium* was an area which excavators conjecture was a balcony, 28 m long and 5 m wide offering a beautiful view of the Wadi Qelt and the southern part of the Jericho Plain (Netzer, 2008, p. 52). Below the balcony of the main palace a small square swimming pool (7 m × 7 m) was included, surrounded by a small formal garden (41 m × 27 m) and terraces to the west.

The second wing was organised in a totally different way from the main wing. Herod incorporated a swimming pool on the most easterly side that had been added late in the Hasmonean era. This decision forced his architects to design the wing differently. The area around the pool was levelled and a structure with colonnades built. Bathers could have rested in the shade (Netzer, 2001b, p. 45). A group of rooms lay to the south of the pool but as only the foundations remained it can only be hypothesized what might have been their function. To the west of the pool was a building which could be described as a roofed courtyard. This structure could have been used by bathers as a dressing area. Two small rooms to the north of this space may have been used for the same purpose or for leaving clothes in niches while bathing (Netzer, 2008, p. 53).

To the southwest of this swimming pool a small Roman bathhouse was created. It contained an *apodyterium* (5 m × 3 m), a *frigidarium* (5.2 m × 4.9 m) in the form of a stepped pool, a *tepidarium* (3.5 m × 3.1 m), and a *caldarium* (5.1 m × 4 m). Most of the colonnettes of the hypocaust have survived. The floors of the bathhouse were covered by mosaics and the walls decorated with frescoes. Small areas of mosaic or imprints have survived and fragments of frescoes confirm the bathhouse decoration (Netzer, 1975, pp. 211-214).

Herod stamped his evolving style on the second palace. He integrated the swimming pools of the Hasmoneans and altered them creating large areas of gardens and shade. This palace was open to the landscape and Herod used it to great advantage. The northern wing overlooked the southern section of the palace with gardens and terraces against the backdrop of the magnificent landscape of the Judean desert. The two palaces together created a large complex for Herod, but he was not satisfied for long with this compound and turned his attention to building a new palace. The use of decorative architectural elements increased (Peleg-Barkat, 2013, p. 261). His ability to merge, almost seamlessly, new styles and ideas with older traditions evolved in the third palace at Jericho.

### Third Winter Palace

Although Josephus did not leave us specific description of Herod's winter palaces, his description of the Jerusalem palace and garden gave archaeologists some idea of what they might uncover in their excavations at

## Jericho.

For it was so very curious as to want no cost nor skill in its construction: but was entirely walled about to the height of thirty cubits; and was adorned with towers at equal distances, and with large bed-chambers, that would contain beds for an hundred guests apiece. In which the variety of the stones is not to be expressed. For a large quantity of those that were rare of that kind was collected together. Their roofs were also wonderful; both for the length of the beams, and the splendor of their ornaments. The number of the rooms was also very great; and the variety of the figures that were about them was prodigious. Their furniture was compleat; and the greatest part of the vessels that were put in them was of silver and gold. There were besides many portico's, one beyond another, round about; and in each of those portico's curious pillars. Yet were all the courts that were exposed to the air every where green. There were moreover several groves of trees, and long walks through them, with deep canals, and cisterns, that in several parts were filled with brazen statues: through which the water ran out. There were withal many dove-courts of tame pigeons about the canals. (JW 5:177-181)

In Herod's Third Winter Place a Jericho a strong Italian influence was discovered. This palace was built after Marcus Agrippa's visit to Judea in 15 B.C.E.<sup>5</sup> Agrippa travelled around as Herod's guest staying in his host's beautiful palaces doubtless appreciating the architectural genius of the king. It is conjectured that a team of engineers and artisans were sent from Rome after this visit to help Herod with any further building projects (Netzer, 2001b, p. 48). A high quality of design was noted throughout this palace (Netzer, 2001a, p. 318).

Herod's third palace was a unique design. He utilised the fast-flowing winter waters of the Wadi Qelt as a rare central feature by building on both sides of the river and joining them together with a bridge (Netzer, 2001b, p. 49). Who has a river surging through their palace? Topographical difficulties were a challenge for Herod as we have observed at Masada (Bergin, 2020) and Herodium (Bergin, 2017). At Jericho he used this natural feature to dramatic effect. The inclusion of the visual landscape continued to be an important aspect in this new project.

Josephus was obviously aware of the new palace at Jericho and commented, "the king erected other places at Jericho also, between the citadel Cypros and the former palace, such as were better and more useful than the former for travellers, and named them from the same friends of his" (JW 1.407). This translation suggests that Herod built bigger more luxurious buildings in Jericho than he had before.

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<sup>5</sup> Marcus Agrippa was second in command to the Emperor Caesar Augustus. He was responsible for rebuilding the city of Rome. He was a friend and ally of Herod's, a man of considerable wealth and prestige.

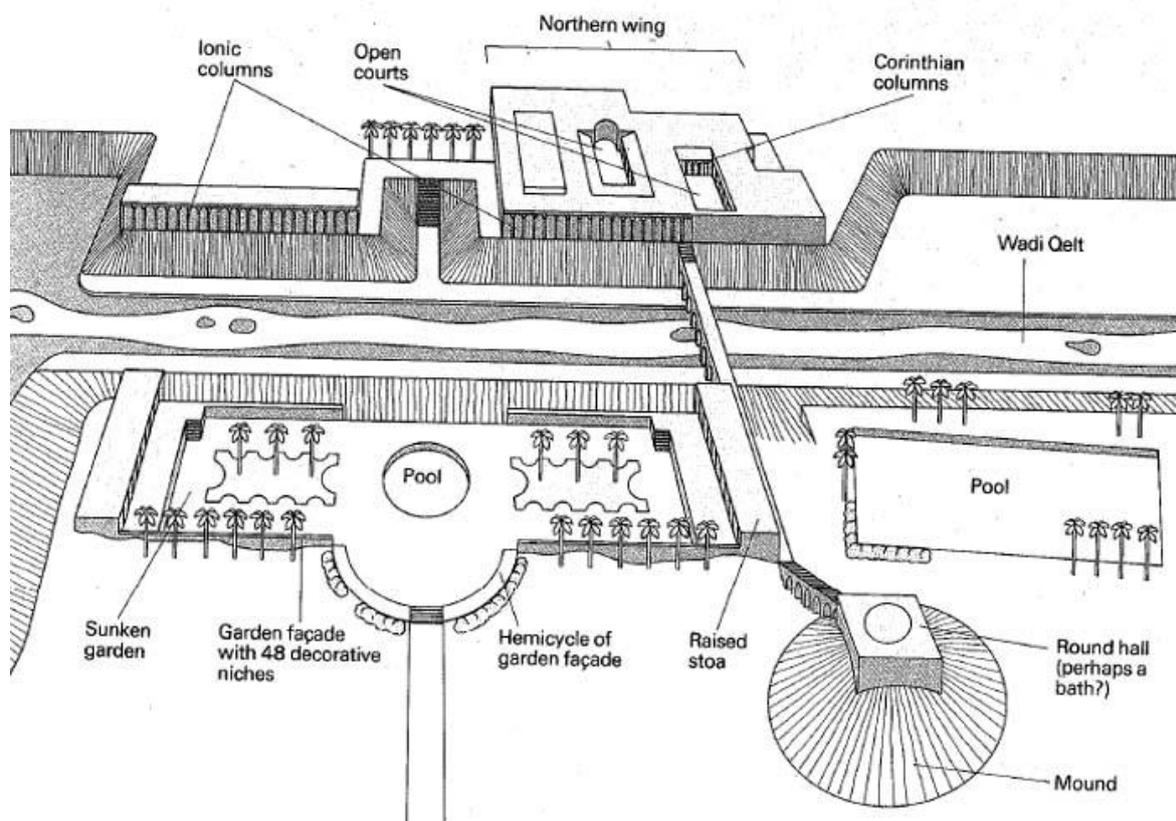


Figure 7. Plan of Herod's third palace at Jericho.<sup>6</sup>

The third Herodian winter palace was divided into four distinct areas: the Northern Wing, the Big Pool, the Southern Tell, and the Sunken Garden. Each of these units will be discussed separately.

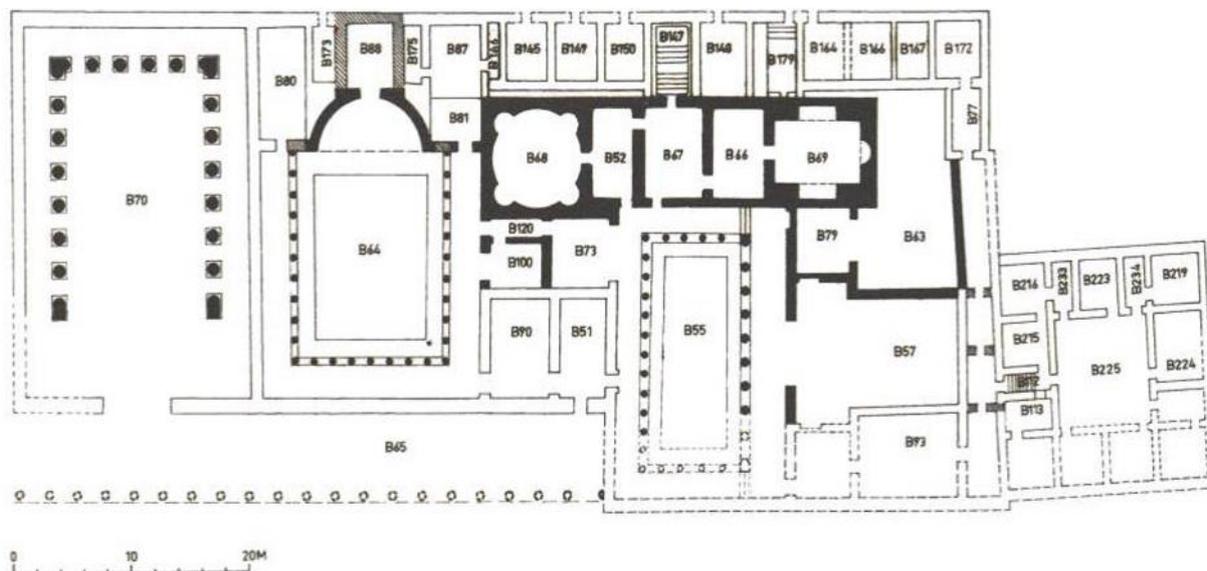


Figure 8. The northern wing of Herod's third palace at Jericho (Netzer, 2001b, p. 51).

<sup>6</sup> <http://www.bible-architecture.info/Jericho.htm>, accessed 14.1.2009.

Looking at the detailed plan of the Northern Wing above, prepared by Netzer, two different techniques can be observed. The black lines indicate the use of *opus caementicium* (Roman concrete) which was faced with small stones in the *opus reticulatum* style recognised in Roman architecture. The lighter lines represent walls built of mud bricks (Netzer, 2001a, p. 318). *Opus quadratum* (squared work) where stone blocks of the same height are used in parallel courses, were also discovered (Netzer, 2001b, p. 48). These two different styles used together in the same buildings reveal that both the Roman and local craftsmen worked together. All walls were plastered when completed. It would be impossible for anyone to know, looking at them, how the walls were constructed (Netzer, 2001b, p. 49).

The northern wing was fronted by a colonnade and was entered from the south. The access faced the bridge that linked the two areas of the palace together. It contained reception halls, two peristyle courtyards, two suites, a Roman bathhouse, and service rooms for palace staff (Gassner, 2017, pp. 44-45). The numbering system above will help the reader to know which rooms are being discussed. A villa/mansion predated the northern palace. It was partly demolished but some of the rooms were incorporated into the new building namely the areas to the north and east.

The hall (B70) on the western side of the palace a *triclinium* (dining room) was the largest found in Israel to date measuring 28.9 m × 18.9 m and it was entered by a wide doorway (c. 5.5 m wide). It resembled the *triclinium* found in the first palace except in size but with only one doorway. The reception room was built of mudbricks therefore the roof system would have been built with long wood beams as evidenced in Herod's Jerusalem Palace "Their roofs were also wonderful, both for the length of the beams" (JW 5:178) (Bergin, 2019, p. 643). It was surrounded on three sides by columns with an *opus sectile* floor (tiles are cut and inlaid in the floor to make a pattern or patterns) most of which had been stolen in antiquity, but the indentations made by the tiles remained on the plaster into which the tiles were embedded.



Figure 9. Large reception hall (B70) (Netzer, 1977, p. 228, Copy of Figure 11).

Three different geometric designs were recognised on the floor and at the centre there had been a mosaic rug which also had been looted (Netzer, 2001a, pp. 233-239). The work was meticulous and the technical implementation was faultless, completed by team of skilled Roman pavers (Netzer, 2008, p. 64).

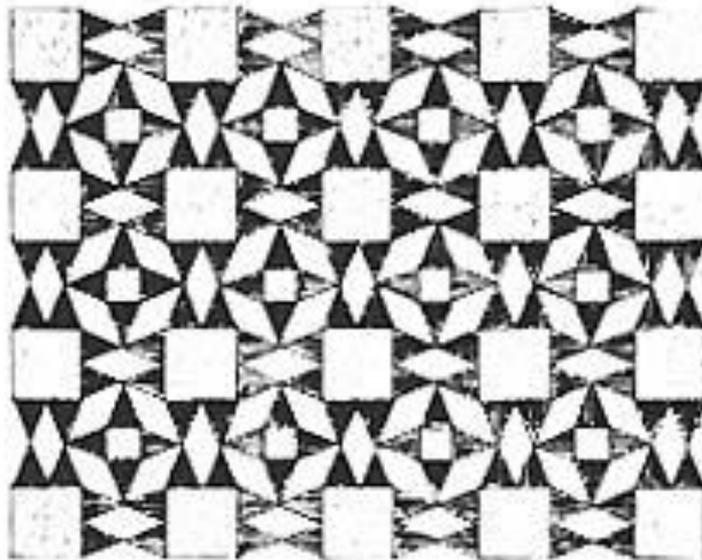


Figure 10. *Opus Sectile* design in the dining room (B70) (Singer, 1977).

The walls would have been decorated with frescoes and the ceilings with ornamental stuccowork. Some examples were uncovered in the north-western corner of the hall which made it possible to envisage how the walls and ceilings were decorated (Netzer, 2008, p. 64). “In the fragments of paintings it was possible to discern rectilinear, geometric, curvilinear and floral patterns, as well as architectural motifs, all of which appear in a variety of colours” (Rosenberg, 2013, p. 190). It was clear that Herod had first-hand knowledge of Roman art which inspired him to create new motifs and colour combinations in the third palace at Jericho (Rosenberg, 2013, p. 194).

Logically B64 is the next place to enter. This area is known as the western peristyle courtyard (19 m × 19.5 m), and it is accessed from the entranceway past rooms B52 and B90. Colonnades bordered the courtyard on three sides with equidistant columns which were built with small stones in the style of *opus quadratum* (commonly known as “squared work”). The columns were smooth on the Attic bases and covered with fluted plaster finished at the top with Ionic capitals. Fragments of frescoes with floral decoration were discovered in the courtyard indicating that the walls were covered with floral frescoes (Netzer, 2008, p. 62; Gleason, 1993, p. 157). A formal garden measuring 12.7 m × 9.3 m adorned the centre of the courtyard. A full description of this garden and the findings discovered will be discussed below.

At the top of the courtyard there was an *exedra* (an outdoor recess containing a seat or seats). Although the courtyard was built with mudbricks archaeologists found that the *exedra* was built with Roman concrete in the form of *opus reticulatum* and *opus quadratum*.



Figure 11. Examples of *opus reticulatum* and *opus quadratum* in exedra B64 (Netzer, 2001a, p. 243, Photographs 363 and 364).

The remains indicate that it was probably covered with a half dome and may have led to a throne room B88 (Netzer, 2001a, pp. 243-244). This room was beautifully decorated and stone slabs covered the floor. It was in a good state of preservation (Netzer, 2001b, p. 53).

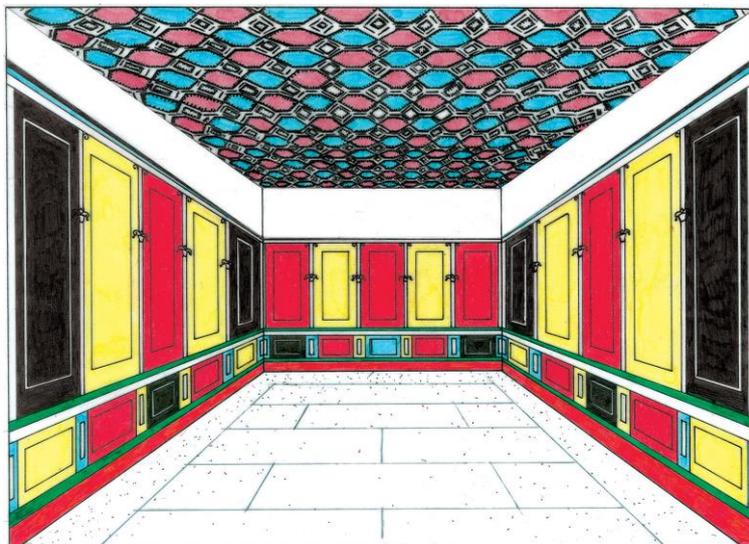


Figure 12. Tentative colour reconstruction of the Throne Room decoration in Herod's Third palace at Jericho, after 15 B.C.E. (Rosenberg, 2013, p. 123, Figure 6). The central part of the walls was decorated with vertical panels in alternating bright red (cinnabar), yellow, and black, divided by painted representations of slender columns which, by linking the horizontal segments of the wall, reinforced the architectural illusion of the room. Reconstruction by S. Rozenberg; drawn by P. Arad.

It is unclear what the rooms B80, B173, and B175 were used for but it is likely that B87 and B88 could have been bedrooms.

Two entrance rooms B51 and B90 could be accessed directly from the main access to the third palace. The eastern Peristyle Courtyard (B55) was entered by turning right after entering the palace through the colonnade. This space measured 20.5 m × 14.4 m with a formal garden (Netzer, 2008, p. 59). The four sides of this courtyard were surrounded by a colonnade. The columns were constructed by Roman craftsmen, built of small stones (carved in the form of a quarter-circle), and they differed from normal circular Herodian drums (Netzer, 2008, p. 61).

A T-shaped hall B57 (13.5 m × 44.0 m) was entered from the eastern courtyard comparable with the T-shaped *triclinium* already discussed in the first palace. From the remains it was clear that this hall was erected using concrete bricks and may have been covered by a vaulted ceiling unlike other Herodian buildings. Repeating the pattern, it had a wide opening (4.0 m) through which the garden in the peristyle courtyard could be viewed. No decorations were discovered in the debris (Netzer, 2001b, p. 50).

The Roman bathhouse and its entrance were situated north of the eastern courtyard. Most of the rooms lying in a row were constructed of cement and covered with vaulted roofs to better manage the wetter environment but the round room, the most westerly was more than likely covered by a dome. Other rooms lying north of these rooms were built of mudbricks including the *frigidarium* (cold room) and the *praeefurnium* (furnace for heating the hypocaust system). Both the *tepidarium* and the *caldarium* were heated by the hypocaust which was most unusual in Herodian bathhouses (Netzer, 2008, p. 52). The *apodyterium* (7.1 m × 5.0 m) was the only entrance to the bathroom. Doorways off this room gave access to the *tepidarium* (7.1 m × 4.4 m) which led through to the *caldarium* (7.4 m × 4.9 m) on the eastern side, to B52 and the *laconium* (round room 7.8 m diameter) on the western side, and in the north the *frigidarium* (5.8 m × 3.5 m) which was totally taken up by a stepped pool (Netzer, 2001a, pp. 254-260).

In only two rooms were rough plastered floors uncovered which may originally have been the basis for *opus sectile* floor. The *laconium* B68 was circular in shape with semi-circular niches in the four corners of the outer space. It was remarkable as it had two channels running under the floor which were not covered by hydraulic plaster; therefore, they could not have been used to carry water or heat! Rooms like this one, were found in Italy in bathhouses of the period (Netzer, 2008, pp. 64-65).



Figure 13. *Laconium* in Herod's third palace at Jericho.<sup>7</sup>

The rooms remaining from the demolished villa that predated the palace in the north and east were mainly used as service rooms apart from those incorporated into the Roman bathhouse.

The three wings south of the Wadi Qelt will now be considered. The large pool (90 m × 42 m) lay on the south-eastern side. Few remains have been discovered but it is believed that this pool was used for swimming, boating, games, and competitions (Netzer, 2001b, p. 56). The pool was lined with grey plaster, but excavators found that more than one-third had been eroded and much of the rest was covered by alluvium. A long supporting wall was discovered north of the pool with concrete foundations which may indicate it was once covered by a terrace. A deep slope was discovered in the south which could have contained tiered seating arranged along the full length of the pool, where audiences could view performances (Netzer, 2001b, pp. 292-293).

Midway between the pool and the Sunken Garden was the Southern Tell which was an integral part of the palace complex. This unusual building was reached by monumental steps that faced the bridge over the Wadi Qelt. It was a second *triclinium* in the complex, overlooking a breath-taking view of the Jericho Plain. It was set on a square foundation (20.5 m × 19.5 m) with a circular structure resting on it which had a diameter of 15 m (Netzer, 2001b, pp. 57-59).

<sup>7</sup> [https://en.wikipedia.org/wiki/Hasmonean\\_royal\\_winter\\_palaces#/media/File:Jericho\\_Herodian\\_bath.JPG](https://en.wikipedia.org/wiki/Hasmonean_royal_winter_palaces#/media/File:Jericho_Herodian_bath.JPG), accessed on 1.8.2022.

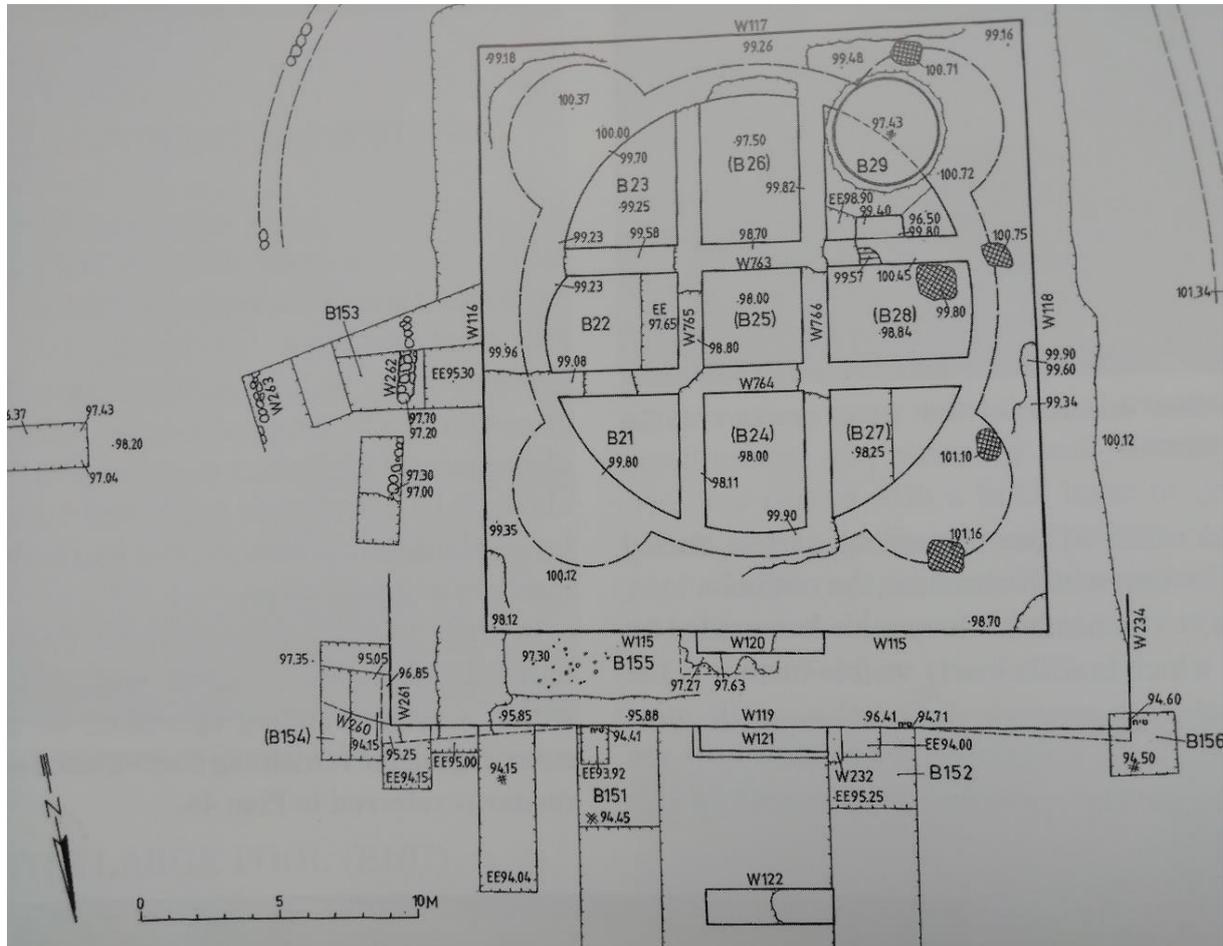


Figure 14. Plan of the southern tell (Netzer, 2001b, p. 294, Copy of Plan 46).

Looking at the diagram made by Netzer of the Southern Tell it is possible to tell that it is basically a round building on a square plinth. The square structure was built of “roughly dressed masonry and larger field stones” which was then filled with smaller stones (Netzer, 2001b, p. 294). This structure was then covered by a fill to create the slope like the gradient created by Herod on which he built the fortress-palace at Herodium (Singer, 1997). In the basement area beneath the square platform the remains of a small Roman bathhouse were uncovered. Remains were excavated that support this view (Netzer, 2001a, pp. 58-59). The bathhouse included a *caldarium* (B29), a *praefurnium* which supplied hot air to the hypocaust, which may have been located outside the structure, and a *frigidarium* (B27) (Netzer, 2001b, p. 295, 327).

Large blocks of Roman concrete were unearthed on the summit which suggested that the round structure was built of concrete and was covered by a cupola. To support such a roof, it would have been technically imperative to build the structure with concrete blocks.

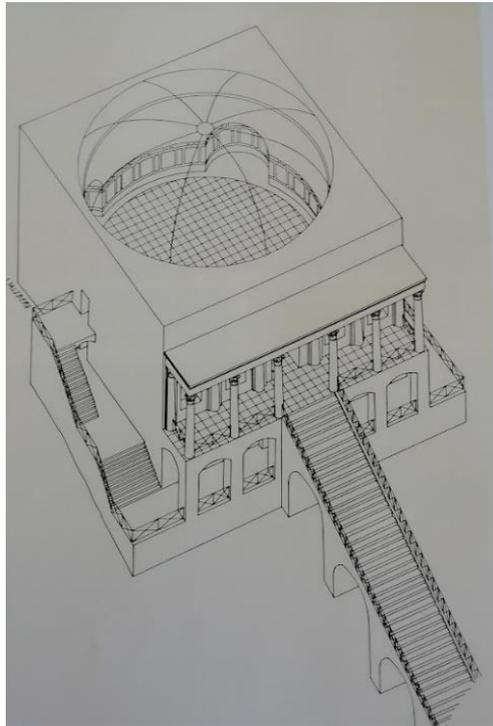


Figure 15. Isometric drawing of the southern tell (Netzer, 2001b, p. 294, Copy of Fig. 75).

It is likely that the entrance was through a portico at the top of the steps that led up the incline. The round hall was decorated with extravagant stucco, frescoes, and terracotta ornamentation. Remnants discovered in the debris confirm these assumptions. It bears a strong resemblance to a Spa at Baiae where a similar hall was built (Netzer, 2001a, p. 59). It is a testament to Herod's ingenuity and his ability to transform ideas to meet his needs (Netzer, 2001b, p. 330). It was used as a *triclinium* for the entertainment of the king's guests. The southern tell hall with its small Roman bathhouse resembled the configuration of the *triclinium* with an adjacent bathhouse in the Northern Palace at Masada. It similarly had wonderful views of the countryside.

The steep stairway that rose up along the slope of the Southern Tell was supported by a substructure of piers with concrete foundations. The stairs faced north directly across from the bridge that crossed the Wadi Qelt to the North Wing. The steps were comparable to the grand stairway that connected the palace-fortress to the lower area at Herodium (Kelso & Baramki, 1955, pp. 11-12).

### Herod's Gardens in Jericho

Herod visited Rome twice and he brought back ideas about new building technology and novel gardening styles that he had witnessed along with the latest styles in decoration (Rona-Shani, 2006, p. 198). He had a reputation for creating beautiful gardens in his palaces. Archaeological excavations over many years uncovered landscaped terraces, pools, water systems, ornate retaining walls, and colonnaded walkways (Gleason, 2009). Herod's Jericho Palace Complex included:

1. A Peristyle Courtyard Garden in the First Palace and possibly a *triclinium* surrounded by a garden in the west.
2. Peristyle Courtyard Garden in the Second Palace, a raised *triclinium* garden, Pool Complex, and Garden Terraces.

3. Two Peristyle courtyard gardens: one in the east and one in the west of the northern wing of the Third Palace.

4. The Sunken Garden of the Third Palace.

Roman gardens at this time were created spaces planted with shrubs and trees and some herbaceous plants (Bar-Nathan & Gartner, 2013, p. 317). Herod styled his palaces to maximise the potential for viewing the many beautiful gardens he created against the backdrop of the spectacular countryside surrounding the sites (Gleason, 1993, p. 156).

The central courtyard took up about one-third of the entire area of the first palace with a vibrant garden at its centre. In design it was similar to the lower Herodian Promontory Palace at Caesarea (Gleason, 1998, pp. 223-252). The evidence of drains entering the garden from the bathhouse area in the north and the earth in the centre of the court was indicative of a garden (Gleason & Bar-Nathan, 2013, p. 325). Relying on the evidence of archaeological excavations at other Herodian palaces and Herod's keen interest in gardens, it can be assumed that this was a peristyle courtyard (Langgut, 2022, p.4). Colonnaded gardens were necessary to give shade to those strolling around the garden providing protection from the heat. They offered spaces where business could be conducted, and intellectual conversation pursued. The large *triclinium* in the west was focused on the peristyle garden and indeed may have been surrounded by a U-shaped Garden (Gleason, 2014, p. 83).



Figure 16. Axonometric reconstruction of Herod's first palace (Yaniv Korman).<sup>8</sup>

When Herod was confirmed as King of Judea after the battle of Actium, he was in full control of all the royal properties at Jericho. The design of the second palace concentrated on a variety of garden areas including a central peristyle courtyard in the main palace and various other enclosed swimming and dining spaces.

At the centre of the main peristyle courtyard there was a unique feature, a raised garden (26 m × 20 m) approximately 80 to 90 centimetres above the colonnade floor. A narrow wall (*pleuteus*) with three courses of

<sup>8</sup> [https://roman-gardens.github.io/province/judaea/jericho/herodian\\_first\\_palace/](https://roman-gardens.github.io/province/judaea/jericho/herodian_first_palace/), accessed on 28.2.2022.

large square cut stone (ashlars) was erected between the columns (Gleason & Bar-Nathan, 2013, p. 329). This garden was raised so that people could enjoy the variety of plants nearer to their eye line. This was an Italian innovation that Herod incorporated in this palace. A distinctive syphon system, made of ceramic pipes was constructed to irrigate the raised garden. Most of Herod's other palaces have peristyle courtyards that were designed with gardens at the same level as the floor (Netzer, 2001a, pp. 44-45).



Figure 17. The small retaining wall of the raised garden (Netzer, 1975, p. 177).

Having amalgamated the two Hasmonean swimming pools into the Pool Complex he laid out a colonnaded garden area around it with rows of flowerpots about 1.2 m from the edge with a 2.4 m space in between the pots (Gleason & Bar-Nathan, 2013, pp. 329-330; Gleason, 2016, p. 19). Confirmation of this suggestion was the discovery of many plant pots (*ollae perforatae*) in situ. Two designs were encountered some with a hole in the bottom of the pot and the second sample with holes in the sides. The arrangement of these pots made it possible to work out the design of the garden (Gleason & Bar-Nathan, 2013, p. 327). The earlier pavement was used as the base for the garden. Planting pots were placed on the ready-made surface and then held in position by the soil added to finish the beds. To the western side of the pool two rows of planted pots extended along the length of the pool about 1.2 m from the edge and spaced at 2.4 m intervals. The rows of pots on the eastern side of the pool were not close to the colonnade. It is speculated that these pots may have been planted with vines or creeping plants that could have been trained over trellises (Gleason & Bar-Nathan, 2013, p. 327).

The area which lay south of the Pool Complex was terraced covering an area of c. 48 m × 38 m (Netzer, 2008, p. 54), on top of the ruins of the destroyed palace creating another area of gardens (Gleason & Bar-Nathan, 2013, p. 327) which added to the overall landscaping of the area as viewed from the northern wing of the palace balcony. Below the veranda lay a small garden with a central pool (ca. 7 m × 7 m) which also became part of the outlook from the balcony of the northern wing (Netzer, 2008, p. 54).

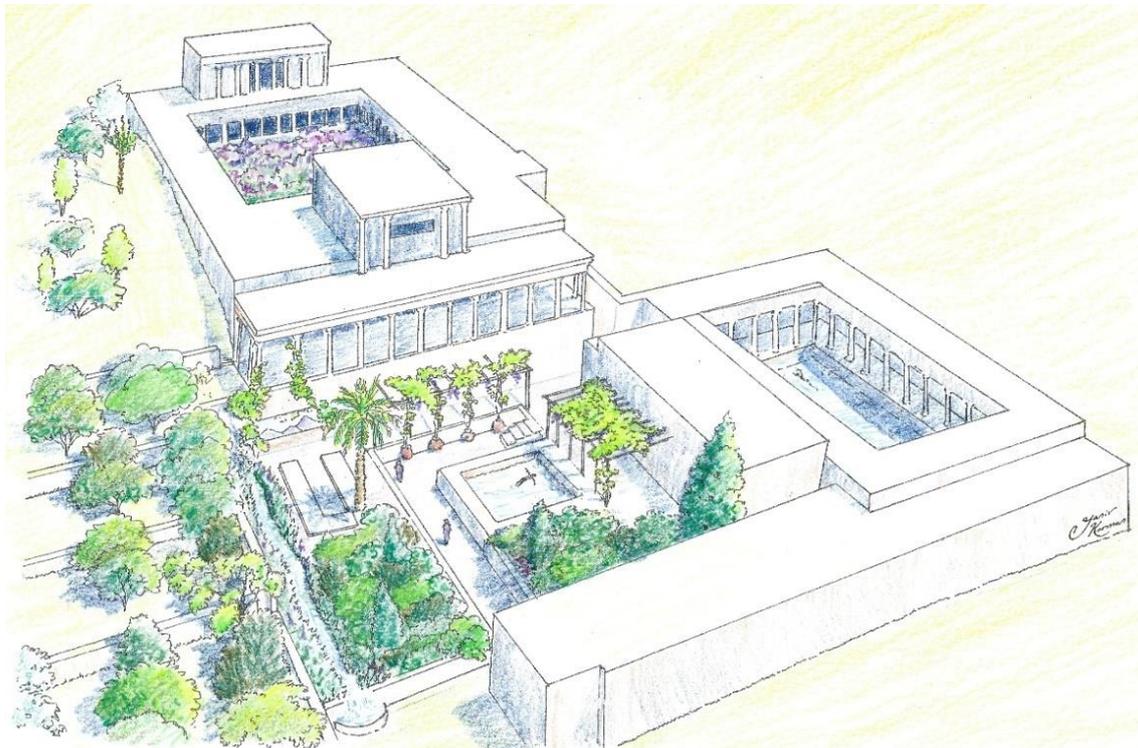


Figure 18. Axonometric reconstruction of Herod's second palace (Yaniv Korman).<sup>9</sup>

The Third Palace gardens were Herod's "*pièce de résistance*". These cultivated spaces demonstrated some of the finest garden remains known in the Roman world. Gardens existed on both sides of the Wadi Qelt. There were two peristyle courtyards in the northern wing B64 and B55. B64 (16 m × 12.1 m) was colonnaded on three sides with a rare open walkway around the porticos on the outside. Ridges were created in the garden from north to south as a form of irrigation. Planting pits and holes for pots were dug and the whole area was covered with topsoil. Archaeologists uncovered three planting pits and 64 pots during excavations proving the existence of the garden (Gleason & Bar-Nathan, 2013, pp. 334-342). The pots indicate that the plants' size may have been controlled in this garden. Could the plants have been miniaturised or dwarf species (Langgut, 2022, pp.15-16)?

Sediments from the planting pots were analysed palynologically. Cedar (*Cedrus*) pollen was identified in Jericho. As this is a non-native tree to Israel it is likely that these trees were used as ornamental plants. The presence of airborne pollen of trees like pine (*Pinus*) and cypress/juniper (*Cupressaceae*), native to Mediterranean vegetation would suggest that these varieties were used as ornamental plants too. The same applies to the pollen of oriental plane (*Platanus orientalis*) and bay tree (*Laurus nobilis*). Olive pollen (*Olea europaea*) was identified, and it is found normally in the Mediterranean basin. Grapes (*Vites*), Myrtle (*Myrtus*), and roses pollinated by bees may have been grown in local gardens or nurseries. All those discussed above were well known in Roman elitist gardens as ornamentals at this time (Langgut, 2022, pp. 9-12). Herod led the field among the local monarchs of the area in being the first of the Roman client kings to introduce such delights in the east.

<sup>9</sup> [https://roman-gardens.github.io/province/judaea/jericho/herodian\\_second\\_palace/](https://roman-gardens.github.io/province/judaea/jericho/herodian_second_palace/), accessed on 15.7.2022.

B55 is the second peristyle courtyard (23 m × 14.3 m) to be discussed. It was surrounded on all four sides by colonnades, but the fourth side has been eroded by the Wadi Qelt. This courtyard also contained an open walkway outside the colonnades. The columns collapsed in on top of the courtyard in antiquity and no soil was uncovered beneath them. No pots were found here either (Gleason & Bar-Nathan, 2013, p. 342). Was this area a garden? Ridging similar to B64 above was found with the lines going east to west which suggested irrigation but for what purpose?

The final garden examined in this section is the unique Sunken Garden of Herod the Great which was first discovered by Kelso and Baramki (Netzer, 1977, p. 9). It was a flat rectangular shape (140 m × 47 m) cut into the river-bank and extended over fills. The retaining wall was designed as a magnificent, niched façade broken in the centre by a semicircle banked like a theatre. The wall was covered with *opus reticulatum*. The alcoves had an alternating pattern of curved and rectilinear niches like the stone screen behind the stage (*pulpitum*) in the theatre at Caesarea Maritima. It is debatable whether water pipes came through the wall into basins in the niches, or whether they were filled with statues or plants (Taylor, 2014, pp. 148-152).



Figure 19. Niches in the Sunken Garden Façade (Singer, 1977, pp. 6-17).

The theatre like structure in the centre of the façade was decorated with polychromic mosaics. It was not seating for an audience but rather was tiered for plants in the form of a hanging garden like the ancient gardens of Babylon. If this was the designer's intention it could be part of a Roman tradition of designing gardens and villas after famous places. This is the earliest theatre-like garden known in antiquity (Taylor, 2014, p. 158). Plant pots were found in situ in the hemisphere which confirms the observations about this garden (Kelso, 1951, pp.33-43).

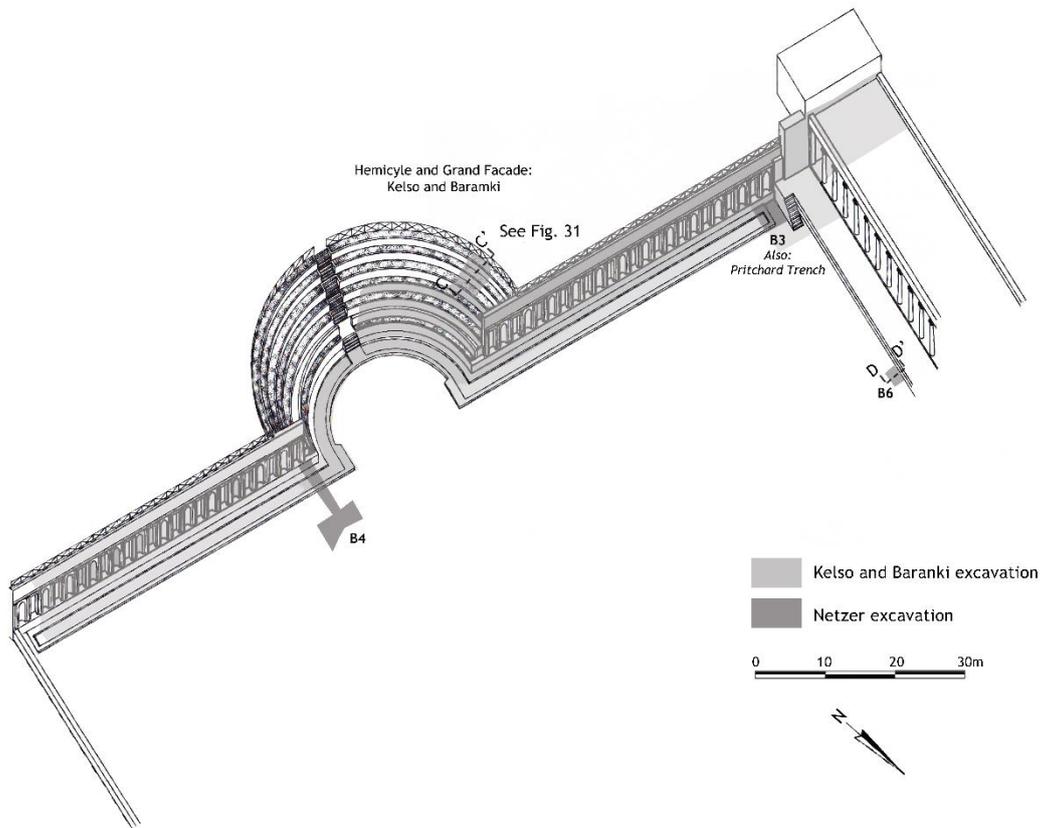


Figure 20. Axonometric reconstruction of the Hemicycle and the Sunken Garden terrace showing the excavation areas. Light shading indicates the Kelso and Baranki excavations, dark shading indicates Netzer's excavations (K. Gleason after J. Salzberg).<sup>10</sup>

A long narrow pool 1.6 m wide and 1.37 m deep ran parallel to the façade. It was the only water feature so far discovered in this monumental garden. It has been suggested that the pool might have had a reflective function but since the façade was normally in the shade this is unlikely.

On the eastern and western sides stood colonnades decorated with stucco and frescoes which were erected at a level two metres higher than the garden. This arrangement may account for the name this garden has been given “the Sunken Garden” (Gassner, 2017, p. 45). It would have been visible from the northern wing of the third palace. Entrances into it were limited to two access points, one in the outside eastern section through two small doorways into a confined area that necessitated a right-angled turn to enter the garden. The second was through the western side and was identical descending into the garden by a narrow stairway (Taylor, 2014, pp. 147-163).

The central area of the garden has not been excavated therefore there is no data on what might have been planted in this garden. There may have been pathways through the garden, trees, shrubs, and perhaps other water features. There is little evidence of trees in other excavated gardens in Jericho (Taylor, 2014, pp. 147-163).

The Sunken Garden was enormous in comparison with the more intimate gardens in Herod's palaces at Jericho (Taylor, 2014, pp. 154-163). It was unique among the gardens in Herod's many palaces. The king may

<sup>10</sup> [https://roman-gardens.github.io/province/judaea/jericho/herodian\\_third\\_palace\\_sunken\\_garden/](https://roman-gardens.github.io/province/judaea/jericho/herodian_third_palace_sunken_garden/), accessed on 30.8.2022.

have been influenced by what he had seen during his lifetime, the Petra Garden, and Pool Complex of the Nabatean kingdom (his mother was from that country) and in the east, and large villa gardens in Italy which he would have seen on his journeys to Rome. The drawing below gives us an overview of the Third Palace at Jericho and how the Sunken Garden may have looked in its dramatic setting, overlooked by the northern wing of the palace.

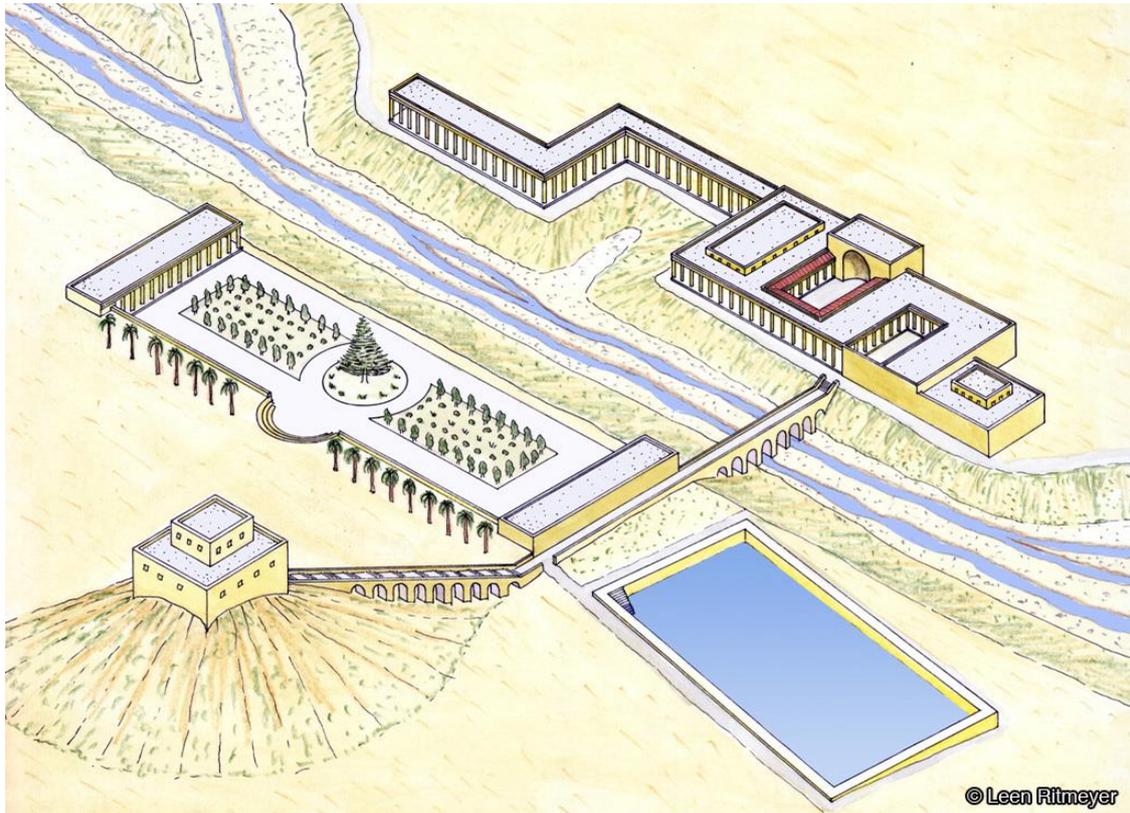


Figure 21. Drawing of the Winter Palace at Jericho courtesy of Leen Ritmeyer Archaeology.<sup>11</sup>

The examination of the gardens of Herod's palace complex at Jericho exhibits many fine features. Colonnades for strolling are present throughout the gardens except for the terrace garden of the second palace. Archaeology confirms that plantings were generally in pots or trenches. Pools were prevalent and sophisticated irrigation methods were used to keep the gardens vibrant. Results from pollen analysis show the many ornamental varieties that were present in the gardens. There are indications that dwarf species were present in the gardens. The gardens show Herod's emerging style from formal enclosed gardens to a more exuberant extrovert approach and finally creating the monumental sunken garden. Herod was in command of nature and paid scant attention to the topographical problems associated with creating a palace complex and gardens on two sides of a river.

### Conclusion

The aim of the research was to analyse how Herod's building techniques evolved over a period of thirty years at Jericho and how he was influenced by his contact with Rome. The investigation relied on the excavations of archaeologists and their reports because Josephus wrote little about Herodian Jericho.

<sup>11</sup> Copy of the drawing of the Third Winter Palace purchased from <http://www.ritmeyer.com>, Order No. 526 dated 9 March 2022.

Herod's three palaces were built near to one another and ultimately became one enormous complex. The first palace built early in his career when his political power was limited followed the Hellenistic/Hasmonean tradition. Nevertheless, he included a Roman bathhouse which would become one of the norms in all his palaces. The second palace incorporated the destroyed palaces and pools of his predecessors. This two-wing palace looked outward over the landscape including lush gardens, pools, and terraces reflecting his power and stability. The Roman bathhouse was covered with mosaics and frescoes but very little of this decoration has endured. Herod's emphasis here was on entertaining in beautiful surroundings in a well-structured environment that used the landscape of the Judean desert as a backdrop. These two palaces together formed a large palace complex (Netzer, 2001a, p. 61).

Strikingly, it was the third palace which showcased Herod's true genius and ingenuity. Laid out on both sides of the Wadi Qelt it was a topographical masterpiece. Both traditional and Roman techniques were discovered by archaeologists in this massive project. The evidence suggests that Roman craftsmen were lent to Herod for the duration of the building period. The use of *opus sectile pavements*, *opus reticulatum*, and *opus quadratum* and the technological precision demonstrated bear witness to this assertion. Nonetheless there is ample evidence of Jewish artisans working alongside their Roman colleagues, using well known techniques of building while absorbing new designs and practices (Netzer, 2001a, p. 61). The art and decoration in the third place expressed a riot of colour on walls and ceilings which proved that Herod was a conscious adherent of Roman style.

Archaeology revealed the existence of Herod's elaborate gardens at Jericho. Up until now the exact type of plants that grew there were unknown, but the analysis of pollen recovered from the gardens showed that species were imported and used. The work accomplished by archaeobotany confirmed the type of plants in the gardens including hazelnut, cypress, juniper, myrtle, and many other species. These plants were imported from the west and there is ample evidence of exchange between east and west with date palms being cultivated in the Roman world.

Herod's palatial complex of the three winter palaces, with pools, gardens, terraces, and Roman bathhouses showcases his architectural journey from the use of local architectural norms and decoration to the inclusion of Roman innovations, which evolved into a hybrid style recognised now as Herodian.

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