Masada: Emphasizes Herod’s Evolving Style

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Herod is remembered for his great flair for building. Early dwellings on Masada demonstrated the Hasmonean tradition that he followed in the first phase of building. In the subsequent phases, Herod was involved in the design, planning, and carrying through of the projects. Herod brought innovation and new ideas to creating structures that were based on symmetry, had control over nature, and were aesthetically pleasing, practical, and luxurious. Masada showcased his evolving style.

Keywords: architectural design, innovative decoration, craftsmanship

Introduction

This article is part of a series concerning the prolific building of Herod the Great written for this publication in the last few years (Bergin, 2017; 2018; 2019). Most of the historical information we have about this king who reigned from 37 B.C.E. until his death in 4 B.C.E. is gleaned from the writings of Flavius

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1 See http://www.bibleplaces.com, accessed on 4.8.2009.
Josephus. Recorded in the *Jewish Antiquities* (JA) and the *Jewish Wars* (JW) (Whiston, 1999). The methodology for investigating Masada is to use the accounts of Josephus as the baseline of research and compare it with what archaeological excavations have discovered over many years to give an accurate and detailed account of Herod’s architectural and engineering ingenuity and evolving style.

Herod needed a secluded place of safety during his early turbulent years in office. Masada was the perfect choice, situated at the top of a rocky plateau shaped rather like a ship adrift in the desert. It would provide Herod with a natural stronghold in the middle of a wilderness, with the Dead Sea and the desert as natural buffer zones. It is located geographically about 25 kilometres south of En-Gedi. The east side falls in a sheer drop 400 metres to the Dead Sea. On the west, it rises 100 metres above the surroundings. To the north, it stands 45 metres above the Mediterranean Sea. The cliff top measures 600 metres north to south and 300 metres east to west. There were only two paths in antiquity for accessing the barren rock, one to the east, commonly known as the “Snake Path” and the other to the west now obscured by the Roman siege ramp (Netzer, 2006; Magness, 2019). Josephus described them thus “Now of the ways that lead to it, one is from Lake Aspaltitis, towards the rising sun, and another on the west, where the ascent is easier” (JW 7.281).

Masada was to play a crucial role in Herod’s path to legitimacy. We will briefly examine the history of his essential association with the site before turning to the emergence of Herod’s unique approach to building. He was influenced by Roman art and architecture garnered during his travels, but he was also inspired by the Hellenistic palaces built around the Mediterranean. Herod was an architectural designer with an innate sense of symmetry. He considered his building projects from a holistic point of view sourcing men and raw materials from the locality where possible. Herod had an analytical mind, administrative ability beyond his years, and an unerring understanding of construction principles. Masada encapsulated the progression of his evolving style.

**Herod’s Association with Masada**

Masada was significant to Herod at key moments in his career (Roller, 1998). In the early days, during his rise to power, he used it as a stronghold and a refuge. He fled to Masada with his family and followers when Matthias Antigonus seized control of Jerusalem in 40 B.C.E. before he escaped to Rome. He left his brother Joseph in command with 800 men during his absence (JA 14:361-362) (Stern, 1993). They were besieged by Antigonus and nearly died of thirst. A sudden fall of rain saved them from this fate and they were able to hold out until Herod arrived with reinforcements, “but God, by sending rain in the night time, prevented his going away, for their cisterns were filled…” (JA 14:390-391) (Stern, 1993, p. 973). This incident would have far reaching consequences as it convinced Herod of the necessity of building a serviced fortress on Masada. Plentiful stores of food and water would be essential if the site were to survive an extended siege.

Herod felt threatened by Cleopatra’s covetous intentions towards Judea. This perceived menace played a role in his need for secure protection for himself and his family. She was avaricious for the land under his rule and desired to acquire these territories to augment her Egyptian kingdom. She urged Mark Antony, Rome’s Governor in the East, to remove Herod and cede the region to her (Hurvitz, 1997).

The *Jewish War* states that

*the other danger was greater and more terrible, which arose from Cleopatra, queen of Egypt, who did not conceal her intentions, but spoke often to Antony, and desired him to cut off Herod, and entreated him to bestow the kingdom of Judea on her. (JW 7:300-301)*
Some land was signed over to Cleopatra and Herod was forced to lease the Jericho Plain, but Mark Antony needed the continuing support of his friend in the East. Cleopatra continued to be a threat during her lifetime but ultimately the parcel of land was given back to Herod after her death.

In 30 B.C., Herod again left his family at Masada when he travelled to see Octavian at Rhodes after he (Octavian) defeated Mark Antony at the Battle of Actium. He divided his contentious family by securing his wife Mariamme and her mother at Alexandreion, while his own mother and sister were placed at Masada (JA 15:184) (Hurvitz, 1997).

Later, Herod would add to Masada showcasing his evolving architectural style as part of his monumental construction plans for his kingdom. His travels and friendships in Rome would influence his designs incorporating old and new and utilising the skills of artisans at home and from abroad. His wealth, administrative ability, and logistical approach to building were evident at Masada.

Josephus suggested that the first palace on Masada was built by one of the Hasmonean Kings “upon the top of this hill, Jonathan the High Priest first of all built a fortress” (JW 7.285). There is no archaeological evidence indicating any physical remains of a Hasmonean stronghold. Archaeological excavations on Masada confirmed that the earliest buildings were indeed Herodian (Netzer, 2006).

**Herodian Building at Masada**

Scholars agree that there are three distinct building phases discernible on Masada. The bracketed numbers refer to the annotated map on the next page.

**Phase 1:** The core of the Western Palace (2), three small palaces (3, 4, 5), a residential/barracks (6), administration building (7), a swimming pool in the south (8) and a round columbarium (9) and two square columbaria (10, 11).

**Phase 2:** The Northern Palace (12, 13, 14), the large bathhouse (26), a complex of storage halls (16, 17), addition of extra units to the Western Palace (27, 28), and an extensive water system on the north-western side of the plateau.

**Phase 3:** Erection of a casemate wall (20) around the edge of the plateau, more storerooms on the western and southern sides (22) and further additions to the Western Palace (19) (Netzer, 2006).
Figure 2. Map of Herodian Masada.\textsuperscript{2}

\textsuperscript{2} With kind permission of the Israel Exploration Society.
Phase 1

There is broad agreement among scholars that the nucleus of the Western Palace was built first and for the purposes of this section it will be called the Core Palace (28 × 24.5 metres). This Palace held large reception and dining areas, its own internal bathhouse with bedrooms on a second floor. At its highest point, it would have clear sight on all the countryside around and any approaching danger. It displayed a clear Hellenistic quality following the building traditions known locally. Three small palaces were built around the same time following the same principle, access to rooms off a central courtyard. These mansions provided accommodation for members of the royal family. Other buildings erected on the site included accommodation for soldiers and servants, columbarium towers (also used as watchtowers) and a swimming pool which doubled as a reservoir.

A large cistern with a capacity of 120 cubic metres was carved out first under the palace. It was protected by hydraulic plaster on the walls, ceiling and floor. Rainwater from outside the building could be channelled under the floor into this tank. This cistern provided all the water for the Core Palace independently of other water supplies on the site (Yadin, 1965).

Stone for the first building phase was quarried on Masada. The dolomite was so hard the stonemasons extracted the blocks but did not “dress” the stones before delivery to the construction site. These rough-hewn blocks, weighing between 200 and 300 kilograms were laid in two courses with smaller stones filling up the space between them. The stones were held together by mud-based mortar and the walls were plastered on the outside and inside of the palace reaching a thickness of 85-90 centimetres (Yadin, 1965).
The Core Palace (2) was built around a central courtyard, granting access to most of the ground floor rooms and was decorated in the Masonry style which characterised the local Hellenistic tradition (Rosenberg, 2014). This type of wall adornment referred to a type of stucco which can be moulded to give a three-dimensional effect mimicking stonework. The entrance to the Palace was in the north through a guardroom with benches. Access to three other rooms opened from this area. The main entrance doorway had a sandstone frame with dressed doorposts and a raised threshold (Netzer, 1991).

Entry to the open-air courtyard (12.2 x 10.2 metres) was through another guarded room. In the northern corner there was a circular opening which allowed access to the cistern underneath. There were six doorways opening off the courtyard. On the southern side was a large open reception room (7.1 x 6.9 metres), the walls decorated with panels of white stucco, entered through a portico with columns and pilasters painted black and red. There was access from this room to another reception area known as the “throne room”. There has been some discussion about the four deep holes discovered in the floor and what their purpose was - were they for a canopied throne or perhaps a table displaying precious items belonging to Herod? Another room (7.9 x 5.0 metres) with three doors and a staircase presented excavators with a beautiful square mosaic panel (3.5 x 3.5 metres) on the floor in the southern part of the room. Features in this mosaic include geometric and floral designs (Netzer 2001). It was an outstanding creation and one of the most magnificent revealed at Masada. The design of the mosaic floor contains motifs popular in Jewish Art of the period, pomegranates, vine and fig leaves and a geometric pattern of circles in the centre (Yadin, 1966; Netzer, 1991; Hachlili, 2009).
In the corner of the entrance/dressing room to the bathhouse stairs, 70 centimetres wide were discovered which indicated probable access to another floor above. Massive pilasters found here would have provided support for floor partition walls in rooms on the first floor. Archaeologists have surmised that the chambers were probably arranged in two suites with sleeping accommodation for the king and his wife or perhaps they were servants’ quarters. The roofs of the palace would have been flat resting on wooden beams. As we have no information from Josephus about this Core Palace, it will have to remain a hypothesis (Netzer, 1991; 2001).

On the eastern side of the Core Palace, a small bathhouse was discovered with paved polychrome mosaics. The entrance area (6.5 × 2.6 metres) served as a dressing room (apodyterium) with a beautiful mosaic panel set with a rosette. This panel has a Jewish motif (Hachlili, 2009).

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3 Author’s own photograph taken in Masada in 2011.
4 Image from DVD *The Lost World of Herod the Great*, History Channel, A & E Television Networks, 2008, http://www.History.com.
5 Straight logs were required for construction. The nearest source of lumber was Edom/Idumea (now Jordan). Stands of Phoenician Juniper (*Juniperus phoenica*) grew in the highland forests to a height of 8 metres. These trees had long straight trunks, a pleasant smell and would make perfect logs for building purposes. It is likely that wood for the project was procured in Idumea because of Herod’s family and commercial connections.
A ritual bath (*mikveh*) cut into the bedrock descending into a cavern-like area was found. The bathroom (3.2 × 2.7 metres) originally contained a bathtub and a basin with a fountain which provided water. There was a stone chair facing the bath and the room was paved with a simple mosaic.

The room next to the bathroom had a small reservoir with a capacity of 1.2 cubic metres of water which included an area for fuel and a heating installation. A cauldron heated the water which was funnelled into the basin via the fountain. The bath would have been filled from this basin.

Three small palaces (24, 26, 33) were built in an almost identical layout to the Core Palace built around courtyards open to the sky. They had reception rooms, bedrooms and bathrooms, including steps to another floor. These mansions were of different sizes and probably housed different members of the royal family. The mansions had no architectural link with the Core Palace. In contrast later Herodian palace complexes would be planned along very particular architectural lines. The Core Palace characterised local Hellenistic architectural customs in continuity with the Hasmonean tradition (Peleg-Barkat, 2014).

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6 Author’s own photograph taken in Masada in 2011.
7 Ibid.
There was a large building (38.7 × 30 metres) located in a north-easterly direction from the Core Palace which has been identified as a residential block (6). It was organised in apartments around a central courtyard. The three residential units to the north, west, and south were identical each having one large room adjoining two smaller rooms. The eastern side of the building contained three divisions. The central division provided an entrance to the building with a room on either side. There were two additional blocks added in the north-western and southwestern corners that could only be accessed from outside (Netzer, 1991).

An administration building (7) was constructed in the north-western area of Masada which housed administrative, storage, and residential facilities. It was designed around a central courtyard but access to some of the rooms was directly from outside. This edifice had varying floor levels with the gradient rising as much as 3 metres from the lowest floor to the highest. It was generally rectangular in shape, but the wall lengths differed slightly because of the terrain. The western wall was 31.5 metres, the eastern wall measured 32.2 metres, the north wall was 25.2 metres and the wall in the south measured 23.8 metres. It was planned as an independent unit (Netzer, 1991).

The pool (8) mentioned earlier was 18 × 13 metres in size and had dual functions. It functioned as a reservoir and also as a bathing pool accessible by steps in the north-eastern corner. It was built with field stones plastered together with lime-based mortar. The northern part was hewn directly into the rock. A second square pool (3.1 × 3.1 metres) was constructed in the north-western corner sharing part of the wall of the large pool. Both were built at the same time, but they appear to have been used separately. The pools were both lined with ash lime plaster (Netzer, 2006; 1991).

Three columbaria towers were built. Two were square towers erected on the west (10, 11) above the western pathway to guard that approach and the third was a circular structure (9) at the centre of Masada. The walls were constructed of greenish ashlars on the outside and lined with sandstone. The floor was on the bedrock (Ben-Tor, 2009).

See https://www.google.com/search?q=Masada+Pool&client=firefox-b-d&tbm=isch&source=iu&ictx=1&fir=0HN88JpGsFaHkM%2B52CFiYtgWXMeDkU%3252C%2B%2520&vet=1&usg=AH4_-kQvLs5co3kHY6SlZo4p-6w1w_9CITQ&sa=X&ved=2ahUKEwiM4o3vx7nrAhUCQxUIHZB4DKwQ9QF6BAgKECA#imgres=0HN88JpGsFaHkM, accessed on 27.8.2020.
Figure 9. Columbarium.

The ground floor areas of all three structures contained small windows into dovecotes. The upper floors were used as guard towers. Access doors into the columbaria were on the first floor not at ground level (Netzer, 2006).

An abandoned bathhouse was discovered on the north-eastern side that would later be incorporated into service rooms for the Northern Palace. When excavated by archaeologists, it contained two rooms both paved with white mosaic floors still intact. In the first was a *caldarium* with walls covered in white lime plaster. In the second was a stepped immersion pool which acted as a *frigidarium* (with a barrel-vaulted roof of dressed sandstone) and an L-shaped room beside the pool which was used as a *tepidarium*. It was not built in a Roman style which would suggest that the bathhouse predated Phase 2.

In this first phase of building at Masada, Herod followed the existing style of construction known in Judea. The Core Palace (2), the small palaces (3, 4, 5), the apartment building (6), the administration building (7), the swimming pool (8), and a columbarium (9) provide evidence of this statement. The design, construction, plastering, internal decoration on floors, walls, and ceilings was characteristic of Hellenistic buildings around the Mediterranean Sea. The palaces were introverted in nature. No consideration had been given to the view of the surrounding landscape. Perhaps this was for protection purposes? This was to be a safe palace-fortress for Herod and his family in the early unstable years of his rise to power. Masada was a strategic site. Herod ensured that it was protected, and that the palace fortress provided all the necessary utilities and comfort for his family. It is unlikely that Herod had much engagement in the building processes as he only first visited the site on the completion of the first phase. When he witnessed the indiscriminate way in which the buildings had been spread out on the summit, he planned a more cohesive scheme for subsequent phases of work at the site. He became more directly involved with the projects and Herod’s flair for modifying and incorporating foreign influences would develop.

**Phase 2**

Phase 2 would see the development of Herod’s evolving style in the building of the Northern Palace (12, 13, 14), the large bathhouse (26), a complex of storage halls (16, 17), additional wings to the Western Palace (27, 28), and an extensive water system on the north-western side of the plateau. Herod travelled widely and was influenced by Roman construction methods, styles of decoration and landscaping. Contemporary Hellenistic

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*Author’s own photograph taken in Masada 2011.*
and Roman structures proved that nature could be tamed as illustrated at the Pompeian Villa dei Misteri (second century B.C.E.), Villa of Diomedes (first century B.C.E), Villa of Quintillius at Tivoli (first century B.C.E.), and the villa of Pompeius at Albano (first century B.C.E.) (Foerster, 1991). Herod would prove that he could build a magnificent palace despite the topography of the area at Masada. The Northern Palace was challenging but Herod’s drive, ingenuity, innovative ability, imagination and endurance, with above all, his practicality would produce an amazing structure clinging to the rock of Masada. Josephus does record an accurate topographical description of this palace:

…it was within and beneath the walls of citadel but inclined to the north side. Now the wall of this palace was very high and strong and had at its four corners towers sixty cubits high. The furnishings also of the edifices, and of the passages, and of the baths, was of great variety, and very costly; and these buildings were supported by pillars of single stones on every side; the walls and also the floors of the edifices were paved with stones of several colors. (JW 7.289)

Josephus dramatic account spoke of the most spectacular building on Masada the Hanging Palace. This exquisite structure seemed to cling to the sheer cliffs. Three natural terraces already existed prior to any human intervention (Netzer, 2008). It would have served as the king’s residence and as an entertainment area for official guests.

Before building could commence, Herod would have had the area surveyed and sourced the raw materials for the structures, the architects, engineers, artisans, and workmen that could fulfil his dream. The heavy dolomite stones available on site would not have been suitable for building structures on the three terraces as they were too heavy. Limestone ashlars made lighter more portable stone blocks which were more desirable for building and ensured the finest quality of construction (Netzer, 1991).

Herod chose Cedar of Lebanon (Cedrus libani) because of its strength, trunk length, and pleasant scent. This wood did not grow in Israel therefore arrangements to procure logs from abroad were necessary. The trees were felled, transported to the coast, loaded onto sailings ships, or floated by sea to Israel and then on arrival transported to Masada. Serious commercial resources must have been available to the king to import this wood

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10 Image from DVD, *Masada*, A & E Television Networks, distributed by Doko Entertainment (1996), http://www.biblelandshop.com).
11 See http://jameshorrox.files.wordpress.com/2008/04/masada1.jpg, accessed on 4.8.2009.
which grows in the north of Palestine, the Anatolian peninsula, Edom, Gilead, and Bashan (Liphschitz, 2013; Liphschitz & Biger, 1991; 1992; 1995). We know from previous articles that Herod was independently wealthy and that when he was building the Northern Palace Judea had a strong economy and a large available labour-force (Bergin, 2018; 2019; Gabba, 1990).

Herod created the design for the Hanging Palace. It was an audacious architectural idea which would challenge the ingenuity and expertise of those carrying out his dream (Jacobson, 2006). Archaeologists discovered the remains of scaffolding which demonstrated that the first step in the building process was the erection of wooden scaffolding which was anchored into the bedrock (Netzer, 2008). From this scaffolding, the architects, engineers and builders could survey the terrain and work out how to build Herod’s daring design. The terraces were levelled and shaped by cutting into the bedrock of the cliff and creating massive substructures to support the buildings that would be erected on each level.

The new palace offered a commanding view in three directions, north, east, and west and formed the edge of the summit in front of a substantial wall. Facing north, it enjoyed maximum shade. It was isolated from the rest of Masada by a great wall and was entered through a guarded courtyard. This area was a trapezoidal shape following the outline of the plateau. It ran along the entire length of the rectangular building (22 × 12 metres) which contained a long central hall (11.5 × 7.6 metres) that opened onto a semi-circular balcony, surrounded by two rows of columns, that was part of the Upper Terrace (12). The roof of this room was constructed with beams raised above the roofs of the two wings to east and west that provided extra light into the area. Two suites lay to each side of the hall containing bed and sitting rooms. All the accommodation was paved with mosaic and the walls decorated with frescoes (Netzer, 1991; 2001; 2006).

Herod utilised styles and ideas that he had witnessed in Rome. It is likely that Roman craftsmen were responsible for the execution of some of the wall paintings revealed (Hurvitz, 1997). In contrast, however, the columns, which were designed for this terrace, were hewn in three separate pieces. These pieces were then fitted together, one on top of the other to create one long perpendicular column and were marked with Hebrew numbers suggesting that Jewish craftsman participated in this construction project (Yadin, 1966).

The Villa Romana Della Farnesina designed and owned by Herod’s friend Marcus Agrippa may have been chosen as a model for the building of the Upper Terrace. There are strong similarities in the plans (Jacobson, 2006). There may have been some collaboration between the two friends. Perhaps Agrippa’s architects had an input into the design of the top terrace (Foerster, 1995).

Figure 12. Corridor looking towards a bedroom.

12 Author’s own photograph taken in Masada in 2011.
Scholars are divided on the purpose of this semi-circular balcony. The argument is based on whether it was indeed Roman in design or deriving from older Hellenistic buildings (Jacobson, 2006).

There were a series of staircases linking the three terraces. Josephus indicates that it was a hidden staircase that connected the terraces, although he calls it a hidden road: “Here also was a road dug from the palace and leading to the top of the mountain, which yet could not be seen as such who were without” (JW 7.292).
Two concentric walls about 3 metres apart are all that remains of the Middle Terrace (13), but archaeologists can tell that it was constructed on a squared-out platform on top of which was erected a circular structure 15.3 metres in diameter. The outer walls were built of greenish ashlar blocks bound together with high quality mortar. This created a circular reception hall surrounded by a veranda with columns where guests could walk and enjoy the view. Josephus indicates that these “were supported by pillars of single stones” (JW 7.290), but excavators discovered that the drums which were used fitted together and were then plastered to give the impression of a single unit indicating again that Jewish craftsmen worked on site. The area contained a water cistern and a stepped bath (a ritual bath). Scholars agree that the structure was circular, comparable with the *tholos* that embellished the large pool in Lower Herodium (Jacobson, 2006). It was designed for the entertainment and relaxation of Herod, his family, and guests. Nonetheless, some scholars have disagreed and suggested that it could have a cultic significance (Ovadiah & Peleg, 2009).

Near the rock face were two rooms and in the southern-most room were five niches in the wall. Were these alcoves for storing scrolls (a sort of library) or to hold precious objects for display? Archaeologists are of the

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13 Ibid.
14 Ibid.
opinion that above these rooms there may have been a second floor (Netzer, 1991; 2001; 2006).

The Lower Terrace (14) held a central rectangular hall surrounded by porticos with engaged columns on pedestals. Three sides were open to the landscape and the fourth, closest to the cliff face comprised half columns connected to the cliff face. Fresco panels decorated the spaces created by the half columns. The large hall (10.2 × 9 metres) was designed for receptions and banquets. Large windows sat between the columns (Netzer, 2001; Jacobson, 2006). The interior walls were stuccoed and painted in a Roman style known as the Pompeian Second Style (Rosenberg, 2014).

![Figure 17. Lower terrace.](image)

The decoration evoked a style portrayed on frescoes in some Roman Villas, in palaces built by Ptolemy II and Ptolemy IV and at the floating palace of Hieron II of Syracuse (Ben-Tor, 2009). The floor was of beaten earth, lime plastered, resting on a bed of small stones. It was found mainly intact by archaeologists. It is conjectured that the roof was a flat coffered one inspired by Roman styles. Two wings made up the remainder of the space. One was an entrance hall to the terrace and the second held two rooms and a substructure, entered by steps to a small private bathhouse designed in the finest tradition of Roman baths, with a tepidarium, a caldarium (both paved with mosaics), and a frigidarium in the form of a stepped pool (Netzer, 2008). A palace could not operate smoothly without a suitable service wing and storage areas adjacent to the palace. The buildings to the south east of the Northern Palace provide the perfect area for these functions. The abandoned bathhouse (referred to earlier) was now incorporated into the service wing.

Herod was known for his geometrical planning, meticulous approach to architectural design and the application of symmetry in the layout of buildings. The layout of Herodium demonstrated this application. The Northern Palace too was no exception. An axis of symmetry was calculated to pass through the three terraces and the large bathhouse but due to the topographical conditions the exact alignment could not be produced. Despite this deviation the architectural coherence is notable. The three terraces were surrounded by covered

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15 Ibid.
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colonnades where guests could stroll and take in the view. They also provided shelter to the rooms behind from the heat of the day as modern verandas do today (Jacobson, 2006).

Josephus’s description of the Northern Palace is accurate except for the towers. No such structures have been found. It is likely that Josephus based his record on what he had seen himself, from a distance, and heard about this magnificent structure. The records of Herod’s court historian, Nicolaus of Damascus, which are no longer extant would have been a good source of information.

The Northern Palace was built later in Herod’s reign c. 25-15 B.C.E. His concepts and designs were changing. He introduced innovative architectural elements at Masada. Pedestals in the classical past provided bases for statues but on the Lower Terrace they are used to support columns. A coffer style ceiling was a new feature reminiscent of the Roman ornate vaulted ceilings. Herod synthesised this with flat-roofed coffer ceilings beautifully decorated. These elements were some of the first Roman styles introduced in the east. The frescoes in the acropolis showed mixed influences of east and west (Rosenberg, 2014). The mosaic pavements follow Jewish trends and were aniconic in taste and design (Hachlili, 2009).

Both the Northern Palace at Masada and the Promontory Palace at Caesarea Maritima are stepped palaces built on extraordinary sites, albeit in totally different landscapes (Bergin, 2018; Gassner, 2017). The semi-circular balcony on the top terrace has a resonance with the semi-circular structure at the Lower Palace at Caesarea. They were unique sites, worthy of the Herodian challenge to subdue nature by overcoming the topographical difficulties and architectural problems that such sites presented (Ovadiah & Peleg, 2009). They expressed his daring adventurous spirit and the moulding together of new ideas and concepts.

There were many bathhouses built on Masada. The most spectacular was the Large Bathhouse (26) which was constructed parallel to the acropolis and on the same architectural access. The bathhouse measured 20.4 × 11.7 metres was well planned with a simple layout (Netzer, 1991). It was lavishly built as a self-contained unit but its association south of the Northern Palace, with the entrance in the northeast, confirmed the close connection between the two. It consisted of four rooms and a roofed courtyard with colonnades on three sides and was decorated with frescoes. Column capitals were Nabatean in style and between the top of the pillar and the roof ran a border of metopes with rosettes.

The courtyard area was used as an exercise yard (palaestra) with access to an indoor swimming pool (natatio) where one could cool off after exercising. This was originally paved with a black and white honeycomb mosaic that was identical to one discovered on the upper terrace (Ben-Tor, 2009; Jacobson, 2012).

Figure 18. Fragment of metope with a rosette (Source: Yadin, 1966).
To the east was a service corridor which contained part of the water supply for the bathhouse and the furnace (*praefurnium*). A second service passage to the west but outside the bathhouse, controlled water to various installations on Masada (Netzer, 1991; 2008).

The entrance room (*apoditerium*) for disrobing was situated at the north-western side of the bathhouse and was decorated in stucco imitating marble panels on the walls, the floor of which was originally paved with a mosaic.

The doorway into the warm room (*tepidarium*) was in the south wall of this chamber. It was luxurious, decorated in a similar style to the Northern Palace. The walls were decorated with frescoes and paved with black and white tiles (*opus sectile*) carried through to other rooms in the bathhouse.

The cold room (*frigidarium*) contained a stepped pool that took up the whole room. The pool was plastered with hydraulic lime plaster and access was by seven steps. There was a water inlet at floor level in the western wall.

Finally, there was the hot room (*caldarium*) measuring 6.8 × 6.6 metres, covered with a stone vaulted, barrelled roof resting on two long thick walls (Avi-Yonah, 1975). The other roofs in the bathhouse were flat

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16 Ibid.
17 Ibid.
supported by wooden beams. It had two niches (not included in the measurement), one for a plastered bathtub and the other for a marble basin. The heavy floor was supported on 200 colonnettes (pilae) some made of round clay bricks and others of stone. Outside the room, a furnace created hot air which was forced under the floor and into square flues (tubuli) built in the walls creating a hot room. Water could be thrown on the floor to create a steam room if needed (Netzer, 1991; 2001; 2006; Jacobson, 2006).

The entire floor area of the bathhouse was decorated with mosaics similar to those in the top terrace (Yadin, 1966). Herod later had the floors covered with opus sectile floors with a different pattern in each room as can be seen in the model of the Bathhouse on the previous page. The mosaic in the palaestra was covered with a grey plaster pavement. Perhaps this change represented a change in Roman fashion.

The Large Bathhouse was one of the finest examples of Roman engineering found at Masada. It had contemporary parallels with villas in Italy and more particularly with other Herodian palaces at Herodium, Cypros and Jericho (Ben-Tor, 2009). It stood alone so that access would be available from all the palaces and mansions without the necessity of entering the Northern Palace.

A complex of Storerooms (16, 17) was created to store and make available provisions of food and drink for the site. The Storerooms followed local traditions of long storage halls. The core of the storage area was

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18 See http://www.bibleplaces.com, accessed on 4.8.2009.
19 Image from DVD, The Lost World of Herod the Great, History Channel, A & E Television Networks, 2008, http://www.History.com.
20 Opus sectile was a technique for making decorative pavements using cut and shaped pieces of stone using thin, polished slabs that are shaped to define parts of a geometric design.
built on either side of a long corridor containing 16 store halls, each 4 metres wide: 11 situated south of the corridor were 27 metres long, five to the north were 20 metres long, one of these was L-shaped and was much larger than the rest. Most were for the storage of food but at least one was used for wine and covered with lime plaster with three large depressions in the floor to collect any spilled liquid. These two groups of storerooms were enclosed by a U-shaped corridor for access. There was an entrance in the south providing access from the entire site. This Storeroom Complex was built with dolomite stone quarried on the site. Josephus does not make any mention of this storage facility, but he does record what it contained -

“for there was laid up grain in large quantities, and such as would subsist men for a long time; here was also wine and oil in abundance with all kinds of pulse and dates heaped up together” (JW 7.297).

![Unique storeroom built to store liquids (Source: Yadin, 1966).](image)

During this second phase of construction, two service wings were added to the Core Palace which we can now call the Western Palace. The eastern service wing was rectangular in shape with the rooms opening out onto a central courtyard (27). This unit had storerooms for the storage of precious objects, a guardroom and accommodation for palace staff. The western service wing had a different function (28). It was used for storage and preparation of food. Underneath this wing were two cisterns. Archaeologists found a stairwell leading to a floor above and some entranceways (Ben-Tor, 2009; Netzer, 1991).

One of Herod’s most important considerations was the supply of water to Masada. He commissioned the building of an extensive system. Two groups of huge cisterns were dug out of the rock on the north-western side of the plateau. The first cluster of eight was about 80 metres below the top of the cliff with a capacity of 3,000 cubic metres. The second group was hewn out of the rock 80 metres further down and was somewhat larger. Two openings were made in each cistern one for the water to enter and the other for withdrawing it. The system includes 17 large cisterns and many small to medium sized reservoirs. The small tanks attached to the bathrooms are not included in this count.
Josephus says:

He also cut many great pits, as reservoirs for water, out of the rocks, at every one of the places that were inhabited, both above and around the palace, and before the wall; and by this contrivance he tried to have water for several uses as if there had been fountains there. (JW 7.292)

How were these water cisterns filled as there was no available secure source of water in or around Masada? The solution was innovative and clever. Two streams ran close to the plateau in winter, Nahal Ben Ya’ir and Nahal Masada. During the flood season water flowed through the canyons descending rapidly from the west towards Masada. The simple strategy was to construct dams in two places and carve aqueducts to direct the water into the cisterns. Their assumption was that the flood water held behind the dams would flow down the channels, with gravity, into the cisterns, filling them up one after another. These conduits were substantial, lined with hydraulic plaster and supported by a wall made of field stones. Water was channelled from the northern stream for 380 metres to the upper cisterns and water from the southern wadi was guided to the lower tanks for 220 metres. When full, this accumulated a massive 41,000 cubic metres of water (Netzer 2002).

The water once stored was collected by human labour and carried to the summit by pack animals. Two specific routes were created one that led from the upper row of cisterns to the north-western corner of the storehouses through a Watergate (12) into a square. This was altered when the casemate wall was built. The second route from the lower cisterns to the east circled the summit from the north, adjacent to the cliffs following a path along the north-eastern slope in a direction that linked up with the “snake path” terminating at a gatehouse. Both squares inside the gates were paved with stone slabs to prevent the floor being worn down by

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21 See http://www.bible-topten.com/Masada18.jpg, accessed on 24.6.2010.
22 See http://n1559.com/Masada I.html, accessed on 24.6.2010.
hooves. The water was poured into covered channels and flowed into the huge tanks on the summit (Netzer 2002).

To add to the rainwater collection on the summit, Herod built several extra cisterns which added a further 6,200 cubic metres. Another 600 cubic metres could be added to this amount from the large open pool in the south. All the cisterns were plastered so no seepage could occur. The overall total of water available in cisterns, reservoirs and tanks on the summit was 15,000 cubic metres enough to supply people, animals and irrigation (Ben-Tor, 2009). Never again would Masada be short of water! (Netzer, 2002).

Archaeologists working at the site experienced the simple ingenuity of Herod’s idea for trapping water for use. Deluges of rain occurred in the winter months and filled the wadis with water which proved the premise that water could have been supplied to the cisterns by this method. Another comment made by Josephus proved true:

for the king reserved the top of the hill, which was of fat soil, and better mould than any valley for agriculture, that such that committed themselves to this fortress for their preservation be not even there quite destitute of food, in case they should ever be in want of it from abroad. (JW 7.288)

After the unusually heavy rains experienced by the archaeological team on Masada, they were surprised by the beauty unrolled before them as the terrain on the summit turned green and was enriched with a carpet of flowers (Yadin, 1966). As a result of Josephus’s comment archaeologists decided to see if they could identify agricultural activity on the top of the mountain. On the top terrace samples were taken that indicated grapevines had grown there. A photograph taken of the southern part of Masada by a drone showed the remains of shallow channels for the irrigation of plants. It is posited that vines were grown on Masada during the reign of Herod (Stiebel & Gross, 2018).

By the end of Phase 2, Herod’s flair for creating palaces on dramatic landscapes was unveiled with the Northern Palace. New innovations were introduced in the building of the palace including architectural inventions, decoration of walls and floors and addition of Roman bathhouses. Additional service wings were added to the Western Palace. Store halls were built to contain all the luxuries that the king expected in case he needed to retire to Masada. The experience of nearly losing his family for lack of water led to the construction of a substantial and efficient water supply system. The design and plan of the Northern Palace demonstrated a close link with the architecture of the late Hellenistic period. There were strong influences from imperial architecture, but Herod chose how these changes could be implemented using the methods of local artisans with the expertise of some experienced craftsmen from Rome.

Phase 3

The mountain top had remained un-walled during the first two phases but the rocky cliffs and steep slopes surrounding the plateau were as effective as any defence wall. During the third phase of construction the casemate wall surrounding the entire top of the mountain (except for the hanging palace and a few additional areas) can be dated to this phase of development. Josephus described the casemate wall:

He also built a wall around the entire top of the hill, seven furlongs long; it was composed of white stone; its height was twelve, its width eight cubits; there were also erected upon that wall thirty-eight towers, each of fifty cubits high; out of which you might pass into lesser edifices, which were built on the inside, around the entire wall. (JW 7.286-287)

Archaeologists have confirmed that the casemate wall (20), a double wall enclosing chambers, was about
1,290 metres long with 27 towers and it contained about 70 rooms, many of which were more than 30 metres long. The outer wall was 1.4 metres wide and the inner wall was 95 centimetres thick. The covered space between the two walls was approximately 4 metres in width. The internal chambers were of varying lengths. There were towers spaced out at intervals of c. 45 metres from one another which were generally rectangular in shape and their internal measurement was 6 × 8 metres. The two columbarium towers on the western side of the plateau were incorporated into the wall. Three gates were included in the construction of the casemate wall namely, the Western Gate, the Southern Gate, and the Snake Path Gate. The Water Gate which predated this structure was originally located in the square south of the Northern Palace but was replaced by a new gate which was not part of the casemate (Netzer, 1991; 2008). The wall was constructed with hard dolomite stone quarried at Masada and dressed afterwards with plaster to give the appearance of a “white” walled structure (Yadin, 1966). The wall does not encircle the plateau completely as suggested. The Northern Palace is not included.

The Southern Fort (21) guarded a weak point on the southern tip of Masada. This was a blind point as the concentration of buildings was to the north. As excavated caves and a cistern lay underneath this section and the slope was not too steep it was vulnerable to attack. The Fort was integrated into the casemate, but it rose considerably higher than the other towers guarding the approaches to Masada. The structure was three to four stories high with five rooms and a corridor on each level. The staircase was built around a central pillar that provided access to all the stories.

The casemate wall was not erected for the strategic defence of Masada. It was built at a time when Herod was firmly in control of Judea. Such walls are part of the Near Eastern tradition coming from the first millennium B.C.E. It was a custom that persisted into the Hellenistic-Roman age. The function of the internal

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23 See https://lukechandler.wordpress.com/2009/08/19/ancient-casemate-walls-an-inexpensive-flexible-defense/, accessed on 7.9.2020.
rooms was to provide additional accommodation for builders, servants, locals who lived on site permanently and for additional storage.

Additional storerooms were added along the western and southern sides of the Administration Building (22). A further two storage units were added south of the core storerooms (23). A small bathhouse was constructed during this phase for the use of the garrison guarding the storage complex, the Western Palace, and the small palaces. It was built in the Greco-Jewish style with a bathroom equipped with water heating installations and an immersion pool (Netzer, 1991; 2006). Another residential building was added (25), squeezed in between the quarry and the eastern edge of the plateau. Built on a platform, its walls were constructed of dolomite stone and covered with white lime plaster. Like the smaller palaces most rooms were appointed off a central courtyard but this residence was built to house the local commander of Masada responsible for the security and maintenance of the site (Netzer, 1991; 2006).

The entrance to the Northern Palace was altered during this phase of work. The original southern wall of the palace was thickened with a broad sloping wall which dominates the landscape of the Northern Palace today. The erection of this wall necessitated a new entrance to the palace through a trapezoidal shaped courtyard. Access to this palace was now through the Northern Square measuring 600 square metres. It was entirely open to the sky.

Further additions were made to the Western Palace. Four storerooms (19) were added to the south and west, three were 26 metres long and fourth was 55 metres in length. South of the core more smaller storage rooms were added. Two additional service units were added to the north-western corner of this building producing a rectangular shaped Western Palace in keeping with Herod’s desire for uniformity and increasing the overall size of the Palace to 3,700 square metres. The small palaces built in phase one remained unaltered.

**Conclusion**

There is no literary evidence from Josephus describing the Western Palace. What the building may have looked like was dependent on what archaeologists discovered in their excavations over many years. The first phase of construction on Masada was early in Herod’s career. His architects followed the Hasmonean tradition using local materials, dolomite stones quarried on site and wood from nearby Idumea for roofs, door frames, etc. (Liphschitz & Biger, 1995). All the buildings in this phase were inward looking focused around a central courtyard with few windows to the outside. They were spread out across the plateau indiscriminately. The palaces and other constructions followed the local Hellenistic style. Inside walls, and mosaic pavements created by resident craftsmen had a Greco-Jewish style. Bathhouses followed the same theme. It seems unlikely that Herod had much input into the first phase. The site bears none of the later hallmarks of his well-organised approach to building.

Josephus dramatically described the Hanging Palace (JW 7.289). This Northern Palace displays the characteristics of Herod’s planned, pragmatic approach to building. The site was surveyed, scaffolding erected, raw materials sourced and procured, architects, builders and artisans employed to carry out Herod’s unique and cohesive design. His building style was inspired by four stimulants:

- Hasmonean/local traditions;
- Hellenistic practices;
- Roman influences;
- Herod’s personality and genius.
The Northern palace, on three terraces, was constructed as a geometric unit. It contained new fashions, innovative architectural features, uniquely coffered ornamental stucco ceilings, and novel styles of wall paintings. It exhibited Herod’s flair for moulding difficult topographical landscapes to create unusual structures. The Northern Palace became his private pleasure villa with large reception rooms, open balconies, family accommodations, and bathrooms. Although there were many different styles featured in the Northern Palace, it retained its exceptional Herodian signature.

The large bathhouse was one of the finest Roman bathing complexes to be built with the latest Roman technology for heating water. Water would never be a problem. Herod created an extensive water supply system of cisterns, aqueducts and tanks with a capacity of 41,000 cubic metres to add to the water collection already available on Masada. A storage complex provided food for the site. The Western Palace was extended further, finally reaching a size of 3,700 square metres. The casemate wall was one of the final buildings erected on Masada in phase three which added 70 rooms of differing sizes and guard towers.

The three phases of work on Masada reflect Herod’s attitudes to building projects. Continuity with the past is presented in the first phase. The next phase saw Herod take control of the project and apply his considerable administrative ability and unique attention to detail to the task. Over this period, the architectural decoration of Herodian buildings at Masada presented a wide variety of shapes reflecting current fashions in Rome. Decoration also maintained its unique local character exemplified by the non-figurative trend cognisant of Jewish law. Herod combined all the available traditions which evolved into his unique personal style of architecture.

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