

From Where Did the Romans Breach into Masada?

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Abstract

In his book, *The War of the Jews*, Flavius Josephus describes the Roman conquest of Masada. He reports that the Roman soldiers breached the site's western wall with a battering ram installed on a siege tower and positioned at the top of a siege ramp. In this paper, I challenge this narrative and argue that the Romans entered Masada from the south through the Southern Gate.

Keywords: siege ramp; the Southern Ascent; Camp G

1. Introduction

Masada is a natural stronghold situated on a mesa-like platform at the top of a stand-alone massif in the Judean Desert, bordering the Dead Sea Rift Valley. It measures about 600 m from north to south and 300 m from east to west. Its summit is 58 m above mean sea level (asl); its north side rises some 300 m above its surroundings, while its south stands only 120 m above the riverbed below (Fig. 1). It is approachable via four ascents: the winding Snake Trail in the east, the Water Cisterns Ascent in the north, the Ramp Ascent in the west, and the Southern Ascent in the south.

In 73 CE, it was the site of a political and military drama, as the Tenth Roman Legion, headed by Lucius Flavius Silva, governor of Iudea, set siege and took over the bastion from the Sicarii, a faction of Jewish zealots who captured it several years earlier (66 CE). In his book, *The War of the Jews*, Flavius Josephus provides the only detailed description of these events, which has since become the scholarly consensus.

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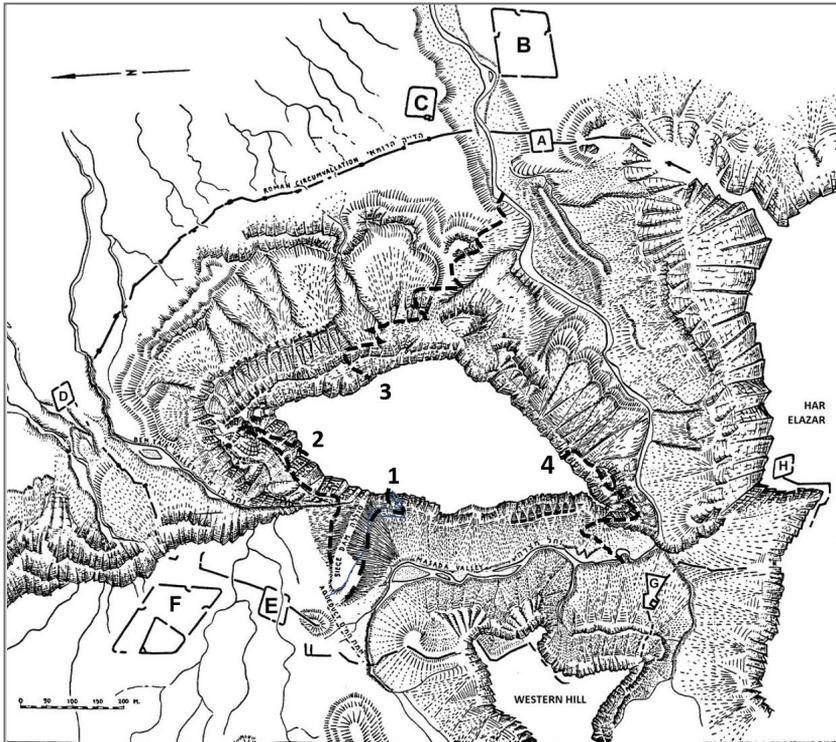


Fig. 1. Masada and the Roman siege system: (1) the Western Gate, the ramp, and the Western Path; (2) the Water Gate and Water Cisterns Ascent; (3) the Snake Gate and Snake Trail; (4) the Southern Gate and Southern Ascent (after Avi-Yonah et al. 1957: Fig. 2).

According to Josephus, the stronghold of Masada was established in the early first century BCE by the Hasmonaean high priest King Jonathan, probably Alexander Jannaeus (104–76 BCE; *B.J.* 7.285), and in the later part of the same century, during the Parthian invasion, Herod's family took shelter there (40–37 BCE; *B.J.* 1.266–1.267, 1.286). Subsequently, King Herod (37–4 BCE) rebuilt and encircled the site with a casemate wall (*B.J.* 7.252–7.303). In its final chapter, Masada became the last Jewish stronghold in the First Revolt against the Romans, ultimately falling in 73\74 CE (*B.J.* 7.252–7.402).

Josephus provides a detailed description of the Roman military strategy applied to various rebelling cities and fortresses, including Yodfat/Jotapata, Jerusalem, Machaerus, and Masada (*B.J.* 7.304–7.318). The Roman army would circle the besieged site with a siege wall and camps and then storm the walls. If this first measure failed, the army would build a ramp and place a siege tower equipped with war machines and a ram to breach the walls.

Josephus' account of the siege on Masada speaks of the construction of such a ramp on the site's western side. According to Josephus, it was built of earth and

stones and reached ca. 100 m high (200 cubits). A massive 25 m³ (50 cubits³) stone foundation was built at the top of the ramp. Presumably, it was built of large stones (B.J. 7.307) dismantled from Herod's great tower at the bottom of the Western Path (B.J. 7.293). Josephus further recounts that a ca. 30 m-high (60 cubits) armored siege tower was stationed on the platform. This tower was designed for firing catapults and *ballistae* onto the wall and was equipped with an iron ram for breaching the wall. Thus, resting on the platform, the tower would have stood 55 m (110 cubits) above the ramp and approximately 5 m (10 cubits) above the top of the wall (B.J. 7.304–7.310; Schulten et al. 1933: Plan XV: a).

Josephus reports that having breached the stone wall, the Roman soldiers encountered a second wooden wall, which they burnt down by the end of the same day. The next morning, they entered Masada through the breach and found that all the besieged, except two women and five children, had committed suicide (B.J. 7.310–7.319, 7.400).

While many archaeologists and historians accept this narrative as a faithful account of the events, some suggested that the Sicarii were captured and massacred by the Romans (e.g., Cohen 1982: 399). Regardless, I argue that a Roman attack from the west is incompatible with the site's topographic and structural features and that they are much more likely to have broken into Masada from the south. Following a brief review of the history of research, I demonstrate that Josephus' account of the events is incompatible with the landscape and the site's physical features. Next, I revisit the archaeological evidence—topography, fortifications, the Roman siege system, and the distribution of *ballistae* stone balls—and argue that the Roman forces are much more likely to have targeted the site's Southern Gate. I end the paper with an attempt to offer a coherent alternative account of the events in question.

2. History of Research

American missionary Samuel W. Wolcott and English painter William Tipping were the first to climb to the top of Masada in 1842. Notably, international researchers were mainly interested in the Roman siege works surrounding the mesa, which were visited by Wolcott (1843: 63), Hawkes (1929), Schulten et al. (1933), and Richmond (1962). Significantly, Schulten and colleagues produced highly detailed and precise maps of Masada and its surroundings, upon which the present analysis relies.

Israeli archaeologists, on the other hand, showed much greater interest in the stronghold. Shmarya Guttman visited Masada several times in the 1930s and 1940s. He surveyed the fortress in 1953, studying the trails leading up the cliffs and

the water systems and identifying Herod's Northern Palace (Guttman 1954: 254). In 1955 and 1956, a joint archaeological expedition of the Hebrew University, the Israel Exploration Society, and the Israel Department of Antiquities and Museums conducted the first excavations at the site (Avi-Yonah et al. 1957). Subsequently, Yadin directed large-scale excavations on the mountain in 1963–1965 (Netzer 1991), and in 1995, Goldfus and Arubas excavated Camps F, F1, and the ramp (Goldfus and Arubas 2002; Netzer and Stiebel 2008; Goldfus et al. 2016). Most recently, Guy Stiebel resumed archaeological excavations at the top of Masada.

3. Did the Romans Breach Masada from the West?

Geological and archaeological studies of the ramp demonstrated that most of its volume consisted of a natural spur (Gill 1993: 570, Fig. 1a,b; Goldfus et al. 2016: 86). The Roman contribution to this feature was a relatively thin layer of earth, one meter thick, mixed with tamarisk trunks and palm branches for stability. The ramp reaches 14 m below the base of the wall and is about 3 m wide at the top (personal observation; Figs. 2, 3); significantly, it features no remains of the platform described by Josephus. In fact, constructing a 25 m² platform on such a narrow base is impossible, not to mention dragging a 55 m-tall siege tower up the steep slope and positioning it on such a platform. I tried walking up the embankment from the bottom but found it so steep that I often could not stand upright straight.



Fig. 2. The Siege Ramp, looking east (Photo: Gideon Hadas).



Fig. 3. The top of the Ramp with Masada Wall above (Photo: Yehonatan Hadas).

While Josephus offers a credible description of Masada and its surroundings, his depiction of the ramp is greatly exaggerated (Fig. 4). The dimensions cited are twice the size observed in the field, and no signs of significant erosion were observed (Goldfus et al. 2016: 86), suggesting that the ramp's construction was not finished. Under these circumstances, a breach from the west, as is widely assumed, is highly improbable: The ramp was never completed, and it could not support any artillery, whether catapults, *ballistae*, or a ram. If so, from where did the Romans break into Masada, and why would they invest in a ramp that was not put to use? To engage these questions, I revisit Masada's fortifications and the Roman siege system and artillery.

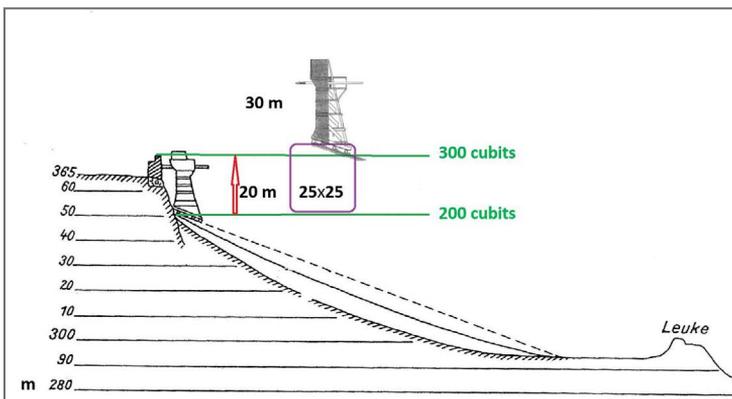


Fig. 4. A section of the ramp superimposed with the platform and the tower according to Josephus' measurements (after Schulten 1933: Plan XIII, adapted by Efrat Hadas). The measures in cubits on the right follow Josephus (B.J. 7.305–7.309).

4. Masada's Fortifications

Having disqualified the ramp as the site of the Roman breach into Masada, two elements of the stronghold's fortifications are pertinent: the casemate wall encircling the site and the site's southern sector. Alongside Masada's topographic superiority, the visually impressive casemate wall was the stronghold's principal means of defense, albeit a flimsy and ineffectual one, while the site's southern sector was where it was most vulnerable.

4.1. The casemate wall

Masada's casemate wall is 1,290 m long and made of roughly cut local dolomite and limestone. It includes 70 cells and about 27 towers. The cells are 4 m wide; their outer wall is 1.4 m thick, while their inner wall is 0.95 m thick. Mud mortar was used for bonding; mud plaster covered the wall's internal faces, and lime plaster coated the outer face (Netzer 1991: 605–607).

The excavation plans and photographs indicate that all gates were destroyed, and the outer part of the casemate wall was severely damaged—only one or two courses survived. On the other hand, although thinner and weaker, the casemate's inner wall remained standing higher (Netzer 1991: Ills. 52, 835).

4.2. Masada's southern sector

As indicated above, Masada is weakest in the south due to a comparatively moderate topography there. While the north end features an elevation difference of 300 m between its top and base, the difference in the west is ca. 170 m and in the south only 120 m. As such, it is more readily assailable than other parts of the mountain and an almost obvious target for a ground offensive. Three significant elements comprise Masada's southern sector: the Southern Fort, the Southern Gate, and the Southern Ascent (Fig. 5). Let us discuss them one at a time.

4.2.1. The Southern Fort

The fort is a rectangular building (ca. 11 × 26 m) located at the lowest point in Masada (47 m asl) and integrated into the southernmost corner of the casemate wall (Netzer 1991: 485–493, Ills. 753, 754; Fig. 5: C, D). It is oriented east-west and comprises two rows of four rooms. The fort's north, east, and south walls are 1 m thick, while the western wall is 2.8 m thick, the most robust at Masada. This wall and two casemate cells adjoining the fort from the north were entirely

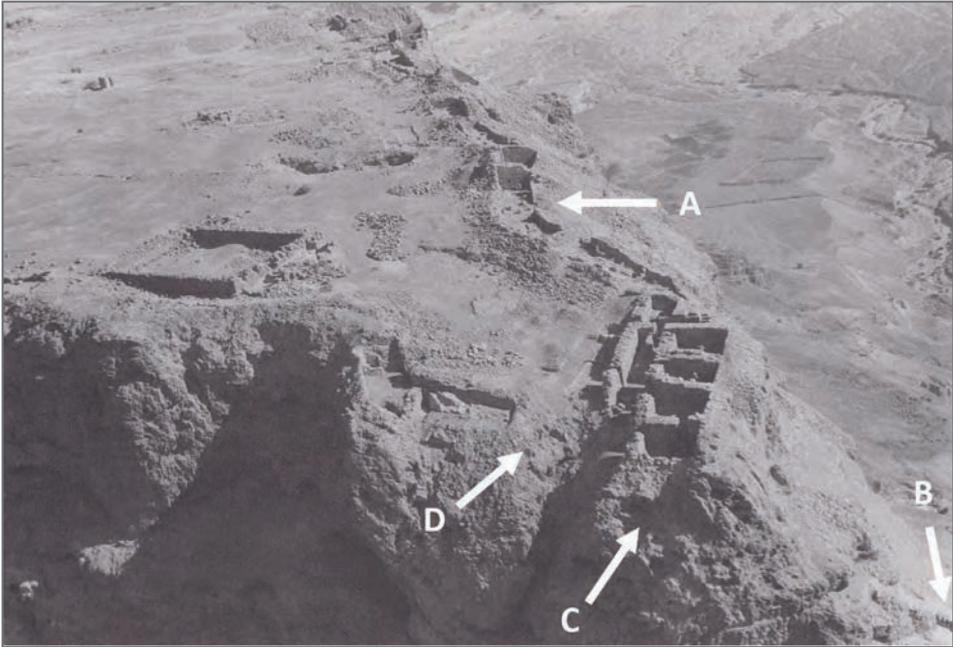


Fig. 5. Masada's southern sector, looking east: (A) the Southern Gate; (B) the Blocking Wall; (C) the Southern Fort's ruined west wall; (D) ruined casemate wall cells (after Netzer 1991: Ill. 754).

destroyed. While other parts of the fort were better preserved, including the walls and the staircase (Netzer 1991: Ill. 754), the massive piles of fallen stones indicate that the building originally stood two or three stories high (Netzer 1991: 485).

The Southern Fort was designed to control the Southern Ascent and the areas south and southwest of the massif. The Romans recognized its strategic importance and stationed a garrison there after quelling the revolt (Netzer 1991: 640; Yadin 1965: 85–86).

4.2.2. The Southern Gate

The gate is located ca. 150 m northeast of the Southern Fort, near the large southern mikveh, and it is more akin to a small entryway than a proper gate (Fig. 6). It consists of a rectangular room, ca. 4 × 5 m, with a ca. 1 m-wide outer opening and a 0.75 m-wide inner opening (Netzer 1991: 504–506, Plans 49, 50).



Fig. 6. Southern Gate, looking south (Photo: Yehonatan Hadas).

The gate had no benches and was undecorated and unpaved (Yadin 1965:72). Apparently, it served the residents of Masada only, providing access to the cistern and the caves on the southern cliff outside the wall (see Ben-Tor 2009: 47).

4.2.3. The Southern Ascent

This trail overcame an elevation difference of 120 m between the south end of the mesa and Nahal Masada riverbed. It had two parts. The upper part meanders between the Southern Gate and rock shelves to the west, where a wall obstructs the path above a high rockfall slope—the Blocking Wall (Figs. 7, 8). The lower part of the trail was destroyed in antiquity, and its route is somewhat obscure. Judging by the hillside’s topography, it probably continued zigzagging west down the slope to the riverbed (Fig. 1: 4; Schulten et al. 1933: Plan I).

Several scholars report walking this trail. Wolcott (1843: 66) mentioned that he had descended from a bastion at the south end of Masada to the bottom of the wadi in March 1842. Shmarya Guttman walked down the trail to Nahal Masada in 1952 and ascended it when he identified the Blocking Wall (Guttman 1954: 258). Most recently, Roi Porat and Uri Davidovich descended and climbed the trail in 2004 (personal communication).



Fig. 7. The Southern Ascent, traced (in white) from the Southern Gate to the Blocking Wall at the lower left side of the photograph, looking northeast (after Netzer 1991: Ill. 753).



Fig. 8. Southern Fort and Blocking Wall, looking east from Camp G (Photo: Gideon Hadas).

5. The Roman Campaign

5.1. The Roman siege system

The Roman siege system at Masada is excellently preserved (Fig. 1). It comprises a siege wall, eight camps, and a ramp, all described in detail by Josephus (*B.J.* 7.275–7.277, 7.304–7.310). The camps vary in size and position relative to the siege wall. Camps B and F are large, intended for accommodating half a legion each, and located outside the wall. The remaining six camps—A, C, D, E, G, and H—were smaller and located on or adjacent to the wall. Significantly, Camps G and H were strategically positioned to control Masada's southern sector, including the roads from Rosh Zohar and Ma'ale Mor (Guttman 1954: 259–258).

Camp H was built on top of Har El'azar; it overlooked Masada from the south and accommodated two-thirds of a cohort (Schulten et al. 1933: Plan XI). Camp G was built on the west bank of Nahal Masada, opposite the Southern Fort, beside the road from Ma'ale Mor, and apparently at the mouth of the Southern Ascent (Fig. 1). It accommodated a cohort (Braslavski 1956: 438–437) comprising approximately 460 legionaries (Bar-Cochva 2008: 94, n. 15). Notably, this camp is peculiarly positioned and planned. Unlike all other

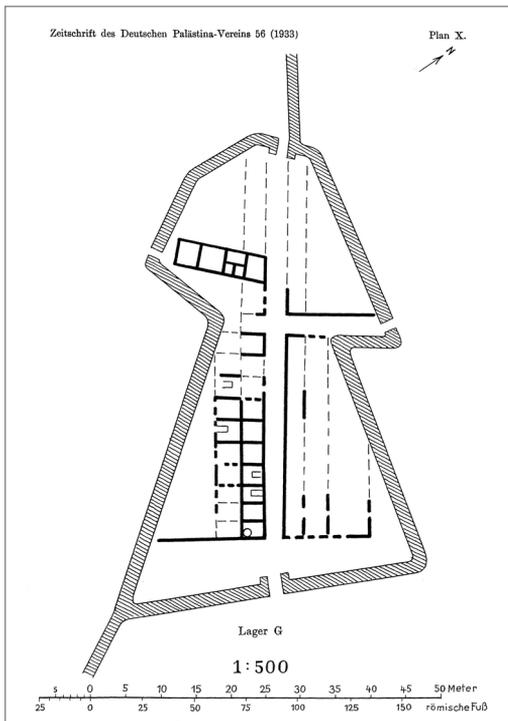


Fig. 9. Camp G, plan (after Schulten et al. 1933: Plan X).

camps, which were built on relatively level ground (see also *B.J.* 3.77), this one was built on a steep, 34% slope (Shmidov and Wiegman 2023: 445), and while other camps are rectangular or rhomboid in plan, Camp G is keyhole-shaped (26–46 × 73 m; Fig. 9). Furthermore, Camp G has no direct line of vision with either of the main headquarters, Camps B and F, implying that visual communication had to be conveyed indirectly via Camps H or A (Shmidov and Wiegman 2023: Fig. 29).

Camp G's distinct plan and position raise the question of motivation: Why did the Romans choose such a topographically challenging position and uncommon layout when a more convenient setting was only 50 m to the south (Fig. 10)? Surely, they must have had a tactical maneuver in mind, most probably in preparation for assaulting the Southern Gate.

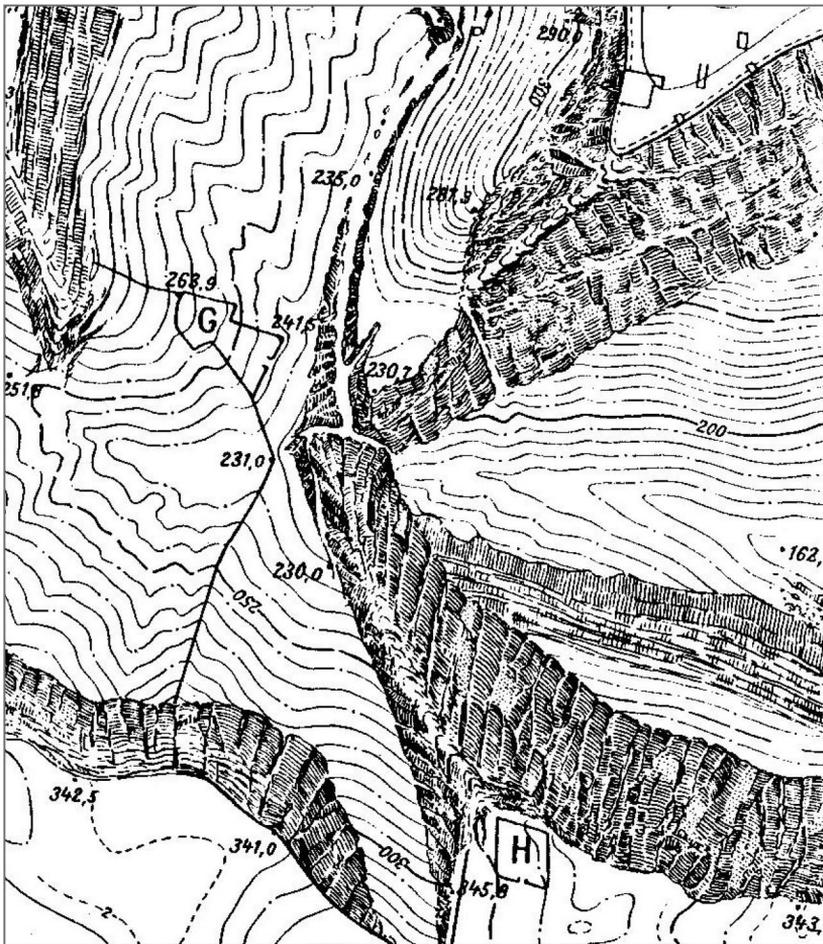


Fig. 10. Camps G, H, and the Southern Fort; note the relatively leveled area south of Camp G (after Schulten et al. 1933: Plan I).

5.2. Roman artillery at Masada

According to Josephus, the Tenth Legion came to Masada equipped with as many as 53 large *ballistae* and catapults, which had previously been used in the siege on Jerusalem (*B.J.* 3.166, 5.269–270). Catapults launched armor-penetrating arrows and spears, whereas *ballistae* launched stone balls to burst through city walls. Both machine types were accurate weapons capable of repeatedly hitting the same spot in direct and high-trajectory fire (Soedel and Foley 1979:151). Interestingly, unlike Yodfat and Gamla, which featured similar frequencies of catapult arrowheads and *ballista* stone balls (Aviam 2007: 377; Syon 1995: 23), only stone balls were found in Masada (Stiebel and Magness 2007: 31), suggesting that Roman artillery employed at Masada consisted of *ballistae* only. Two lines of evidence allow us to better understand the use of artillery at Masada: metrical and spatial distributions of stone balls and the positions they were fired from.

5.2.1. *Ballistae* projectiles at Masada

Unfortunately, while Yadin uncovered hundreds of *ballista* stone balls at Masada, only 50 were examined closely. Nevertheless, this analysis demonstrated that their dimensions vary considerably—from 6.5 cm to 25.0 cm in diameter and from 0.6 kg to 22.0 kg in weight (Holley 1994: Table B)—and that the Tenth Legion employed at least four light *ballistae* types, which fired balls 0.87–4.37 kg heavy, and two heavy *ballistae* types, which fired balls 13–22 kg heavy (Holley 1994: Table 6).

Interestingly, all the balls reported were found in the northwestern part of the site, spanning the Northern and Western Palaces (Holley 1994: Fig. 4, Appendix C; Fig. 11). Thus, about 70 balls were found in a casemate north of the synagogue, 80 balls were recovered south of the synagogue, approximately 90 balls were recorded outside the Scroll Room, and as many as 300 were discovered among other finds inside the Scroll Room (Fig. 12: Locus 1039). The bombardment of the casemates and the Western Palace is likely to have shattered their walls and roofs, possibly also causing the collapse of the water cisterns nearby. The recent recovery of *ballista* balls inside the cisterns north of the church reinforces this conjecture (Guy Stiebel, personal communication).

Notably, some *ballista* balls in the Scroll Room were found in piles. Netzer proposed that having fallen through the roofs, they were gathered by the zealots to be used against the Roman offensive building below the wall

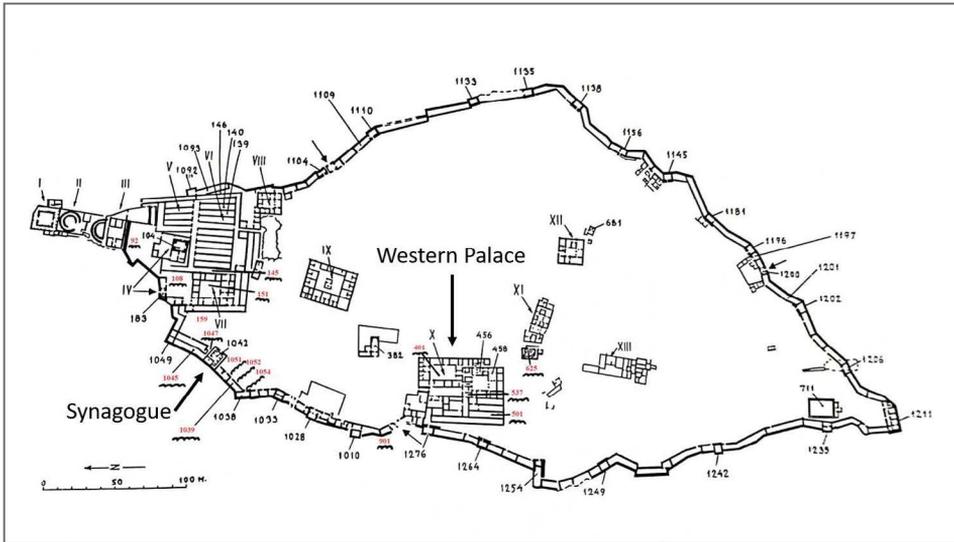


Fig. 11. Loci on Masada where *ballista* stone balls were found, indicated in red (after Holley 1994: Fig. 4).

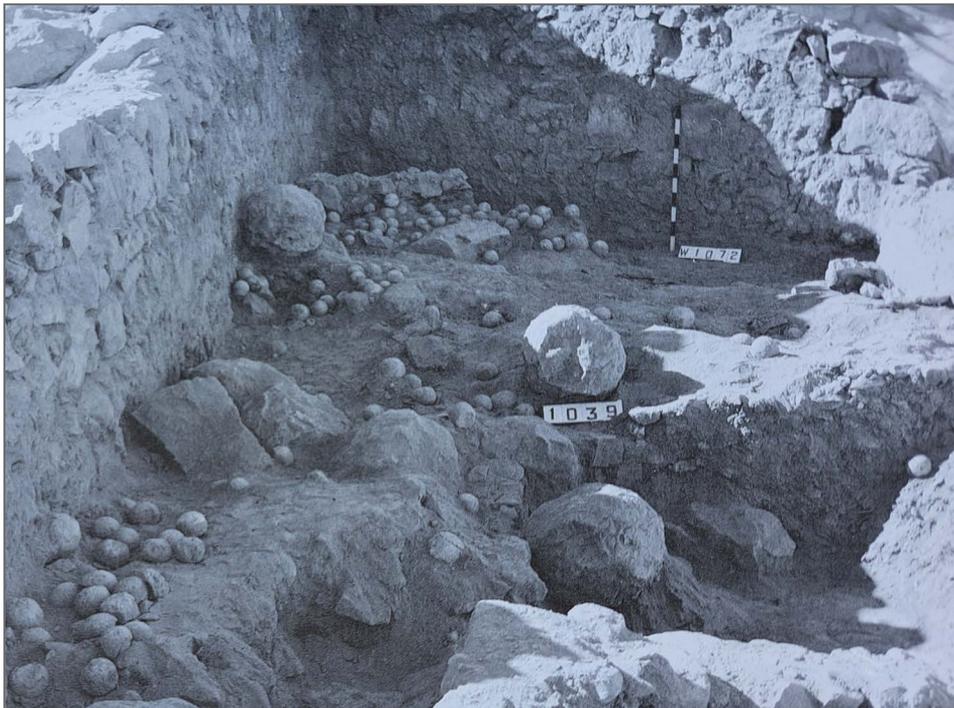


Fig. 12. The Scroll Room, looking south. Note that the casemate's outer wall, on the photograph's right side, is almost non-existent (after Netzer 1991: Ill. 660).

(Netzer 1991: 419–421). However, it is more likely that the Romans concentrated the balls there after the battle, clearing some space for their own occupation (Holley 1994: 360).

Significantly, although most *ballista* balls fired at Masada's fortifications are likely to have landed on its slopes, none were reported from outside the walls. This is primarily due to the challenging and inaccessible landscape. Nevertheless, cautiously drawing on the case of Gamla (Syon 1995: 23; Holley 2014: 37), we may estimate that thousands of balls strewed the stronghold's slopes.

5.2.2. The Roman ballistae firing positions

Given that *ballistae* have a maximum range of 400 m (B.J. 5.270), Masada's topography affords four firing positions, three in the west and one in the east (Fig. 13). Position A is located in the eastern corner of Camp E, ca. 90 m beneath the level of Masada and 383 m from the wall; its field of fire spans the Northern Palace and the Western Gate. Position B is located at the eastern end of the Western Hill, 6 m higher than and 350 m distant from the wall; its field of fire covers the area between the ramp in the north and the Southern Fort in the south. Position C is in the northeastern corner of Camp G (Davies 2011: Fig. 3), ca. 110 m below and 295 m from the wall; its field of fire covers the Southern Fort and the area around it. Lastly, Position D is located on a rock shoulder in the lower third of the Snake Path, 170 m below and 380 m distant from the gate's level;

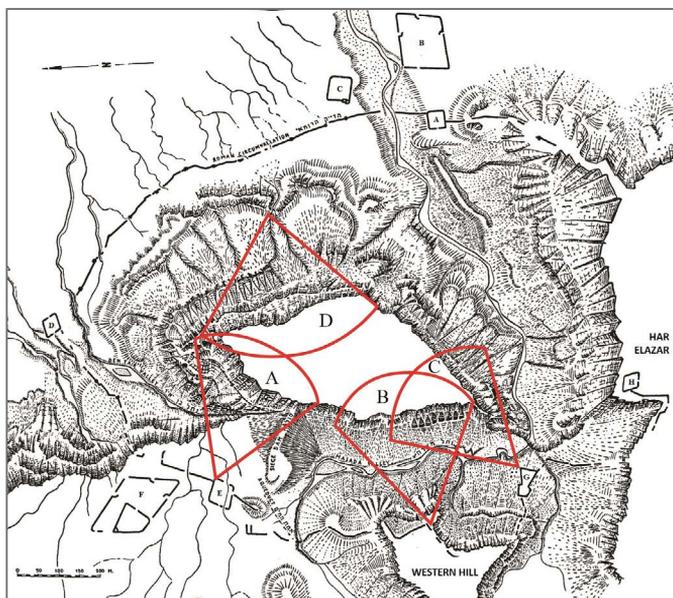


Fig. 13. *Ballistae* positions and ranges at Masada (after Avi-Yonah 1957: Fig. 2, adapted by Efrat Hadas).

its field of fire covers the trail to the lower water cisterns in the north, the Snake Path Gate, and the eastern bulge in the wall in the south (Schulten et al. 1933: Plan 1; *contra* Gichon 1995: 144).

6. From Where Did the Romans Breach into Masada

Having rejected the standard narrative of the Roman attack from the west and having reviewed the archaeological evidence relevant to the campaign, I would like to suggest that a southern offensive is the most probable. When Lucius Flavius Silva arrived at Masada with the Legion X Fretensis to destroy the rebels' last stronghold, it was evident that they could not afford a lengthy siege. Soldier maintenance alone was logistically complicated and expensive in the desert; each legionnaire required 7.5 kg of daily supplies: five liters of water (Albeq 2014; Gisolfi 1993), 0.85 kg of wheat (Roth 1999: 48), and 1.6 kg of wood/fuel (Lev-Yadun, Lucas, and Weinstein-Evron 2010: 781). Silva also had good intelligence of Masada's structure and plan—after all, a Roman garrison was stationed there until 66 CE—including its fortifications, ascents, and the militia occupying it. Under these conditions, building a siege ramp, as in Yodfat and Jerusalem, would require too much time and resources. Focusing instead on the stronghold's relatively low and, therefore, weak southern sector was a compelling alternative.

Reaching Masada, Silva commenced operations according to standard procedure, setting up camps and a siege wall. The construction of the inconveniently positioned and oddly planned Camp G was the only exception that could have raised the suspicion of the besieged. Next, he probably began bombarding Masada's walls and building the siege ramp, thus drawing the rebels' attention to the western side of the stronghold. Presumably, this was a ploy akin to Vespasian's misdirection of the besieged at Yodfat (*BJ.* 3.257). As the rebels in the stronghold sought to hinder the ramp's construction, the Roman forces continued firing *ballista* balls all along the mesa's western front, including the Southern Fort and the Blocking Wall. Once they were breached by artillery fire, the besieged lost their hold on the Southern Ascent. This must have been the cue for a professional Roman military unit to launch out of Camp G, rapidly climb the Southern Ascent, cross the Blocking Wall—perhaps with ladders—and break through the simple wooden door of the Southern Gate. From here, the Roman legionnaires quickly overtook Masada.

Roth (1995: 109) estimated that the campaign lasted almost seven weeks: “seven days to build roads, five days for the circumvallation, nine

days for preparations, 16 days to build the siege ramp and five for the stone platform means that only 42 days ... adding in four days for the battering and one to burn down the wooden wall gives a total of 47 days..." (Roth 1995, 109). However, if the Romans did not complete the ramp, did not build a stone platform, did not erect a siege tower, and did not attack the wall, the military operation was surely briefer. Accepting Roth's time estimates for road construction, circumvallation, and preparations, we reach a total duration closer to three weeks than seven.

What does this say of Josephus' descriptions of the last heroic battle, the breach of the wall, Elazar Ben Yair's speeches, and the mass suicide? Josephus had already been residing in Rome for several years when these events unfolded, and he did not witness them firsthand. He must have obtained much of his information from other sources, like the army archives in Rome. It is also likely that he based his description of the last battle in Masada on his personal experience of the siege on Yodfat and bridged gaps in the account according to Thucydides' example concerning the delivery of speeches: "... my habit has been to make the speakers say what was in my opinion demanded of them by the various occasions of course adhering as closely as possible to the general sense of what they really said." (*The Peloponnesian War*, 1.22.1).

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