

The Oldest Datable Chambers on the Temple Mount in Jerusalem

By Shimon Gibson and David M. Jacobson

Religious sensitivities have discouraged scientific investigation of subterranean features within the *Haram al-Sharif* in Jerusalem, which incorporates the area of the ancient Temple Mount. In consequence, the mystery of this sacred place has been heightened, providing fertile ground for flights of fancy concerning the two Jewish temples that formerly occupied the site. Even serious scholars have had to make do with hypotheses concerning the position and layout of these ancient complexes (Busink 1970:1–20), one of the present authors included (Jacobson 1990–91). However, for a brief period in the second half of the nineteenth century a handful of intrepid European explorers, in particular Charles Wilson, Charles Warren, Claude Regnier Conder, and Conrad Schick, succeeded in lifting this veil of secrecy and visited many of the underground chambers that pepper this sacred site. They left records of some 45 subterranean chambers that they classified as cisterns as well as other cavities and structural remains. Much of this material was published by them (Wilson 1866: 42–45; Warren 1871:204–17; Warren and Conder 1884; Schick 1887:72–87; 1896: 292–305), but many important details were confined to manuscript and deposited in the archives of the Palestine Exploration Fund (PEF) in London.

Some of the most reliable and detailed information was recorded by the German-born Conrad Schick (1822–1901), who settled in Jerusalem and worked there as an architect through the second half of the nineteenth century (Carmel 1983; Strobel 1988). The house that he designed and built there for his own residence, called “Thabor,” still stands

on the Street of the Prophets. Its distinctive character has made it a landmark of western Jerusalem: today it is occupied by the Swedish Theological Seminary. In addition to his architectural pursuits,



Conrad Schick, a German-born artisan, resided in Jerusalem in the latter half of the nineteenth century, where he practiced as an architect. Schick’s architectural career was launched in 1848, when he was appointed Superintendent of the House of Industry, a craft training center run by the London Jews’ Society for Jewish converts to Christianity. During this time, he investigated many of the antiquities of Jerusalem and recognised the significance of the Siloam Inscription, which commemorated the completion of King Hezekiah’s water conduit. This photograph was taken in 1897. (Courtesy of the PEF Archives).

Schick was one of the leading pioneers of the exploration of Jerusalem’s ancient remains, regularly publishing his findings in the learned journals of the British and German societies dedicated to the exploration of Palestine, namely the Palestine Exploration Fund and the Deutscher Palästina-Verein. While Schick received considerable encouragement and support for his endeavors from Wilson at PEF headquarters in London, as attested by their frequent correspondence, he was cold-shouldered by Warren, who was directing reconnaissance surveys and excavations in Jerusalem on behalf of the Fund during the years 1867–70. In a letter to Wilson dated 15 December 1871, Schick, in his poor grammatical English, complained that “Captain Warren used my service only in a few and very exceptional cases, so to the most part I learned by his printed reports(,) only(,) what was going on” (PEF Archives, Schick 2). Yet, Schick, with his sharp eye for detail, subsequently provided superior information about the subterranean cisterns of the *Haram*.

Normally, the interior of the *Haram* was kept out of bounds to explorers, but in 1872 Schick was afforded a golden opportunity to investigate this area. Turkey wished to be represented at the Great Exhibition to be held in Vienna, and the Austrian consul in Jerusalem persuaded them to put on display there a detailed model of the *Haram al-Sharif*. As Schick related in a letter to Charles Wilson, dated 7 June 1872, he was awarded the assignment of producing a suitable model in wood at a reasonable cost (PEF Archives, Schick 3). He wanted his model to be of value to “students of history and topography” and not merely a dis-



play of craftsmanship. It was exhibited with another model in the Turkish pavilion at the Vienna Exhibition of 1873 and later they were sold by his agent, Rev. J.H. Brühl, to the Mission House Museum in Basle, Switzerland, as we are informed in letters from Schick to Wilson, written between 16 June, 1873 and 23 April 1874 (PEF Archives, Schick 7, 9-11). Schick was determined to depict “the substructions (*sic*), cisterns and all underground buildings as well as those above ground” (PEF Archives, Schick 3). He thereupon set about examining and recording as many of the subterranean features as he was able, during the years 1873 and 1875, and continued making models. Some of Schick’s models may still be seen in Jerusalem at the St. Paulus Hospice, better known as the Schmidt School, which is situated opposite the Damascus Gate. By Schick’s own admission, his monograph on the Tabernacle and the Temple, *Die Stiftshütte*, is largely a commentary on these models (Schick 1896:III-IV, 55).

This was a period when much need-

ed repairs were being made to the Dome of the Rock by the Ottoman Turkish authorities which brought builders and engineers into the *Haram*. These circumstances made it easier for Schick to gain access to areas normally barred to foreigners. He was able to observe digging operations and the clearance of blocked underground channels. Several of the cisterns were visited and recorded by him at this time. Schick’s drawings benefit considerably from his architectural knowledge. Much of this valuable material remains unpublished.

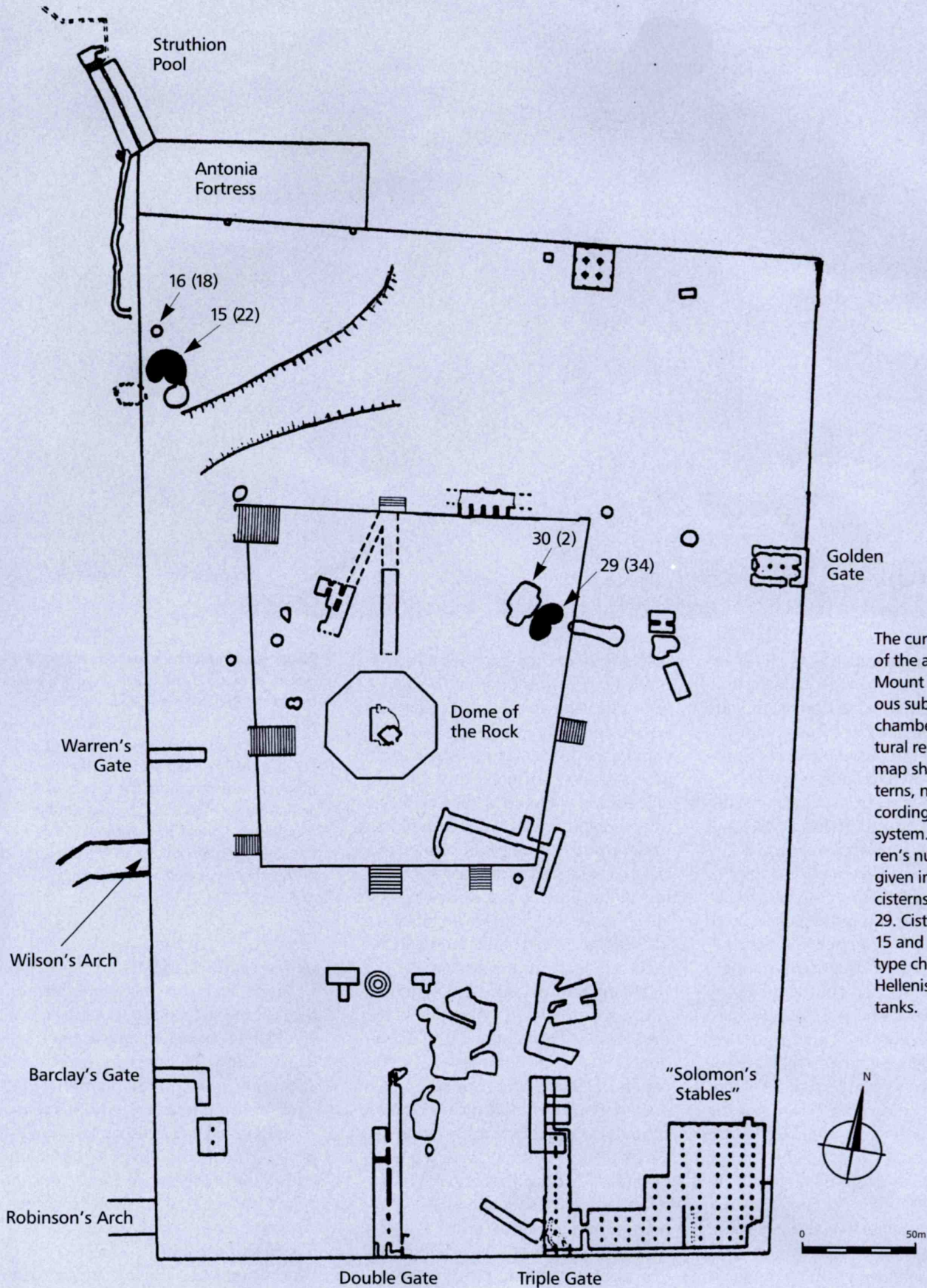
We are now engaged in a systematic study of the archival material held by the Palestine Exploration Fund in London, including its holdings of Schick’s papers, focusing particular attention on documentary material, including correspondence and drawings, relating to the cisterns. By sifting through these records and critically analyzing the information, we have established a typology for the cisterns, which will shortly be published. Associated with this quest is an attempt to date these

Photograph of the western edge of the *Haram al-Sharif*, from north to south, taken by Francis Bedford on April 6, 1862. The *Sabil Basiri* can be seen just behind the tree in the foreground and the opening to cistern no. 16 may be discerned inside the low rectangular wall in front of the corner of the arcade on the right. The ancient double chambered portion of cistern no. 15 lies beneath the rock outcrop in the foreground of the photograph. (Courtesy of the PEF Archives: P 1783).

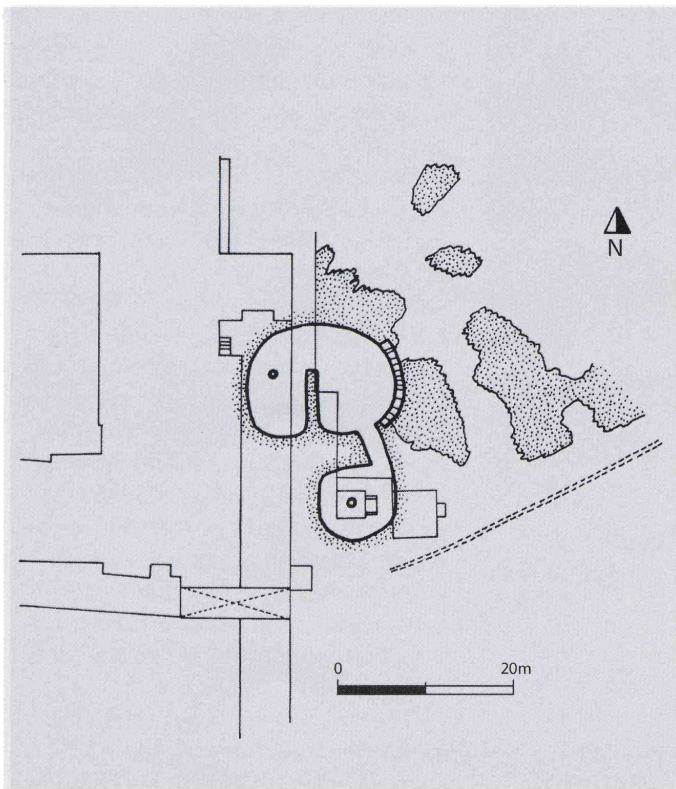
underground chambers.

There can be no doubt that some of the cisterns and caves within the *Haram al-Sharif* reach back in date to pre-Christian antiquity. On this point, we have the testimony of the pseudepigraphal *Epistle of Aristeas*. More correctly, this work should be entitled a discourse which provides an account of how the Greek translation of the Jewish Torah came into being. It is generally believed that the author of the *Epistle of Aristeas* was an Egyptian, probably an educated Jew of Alexandria, but scholars have not been

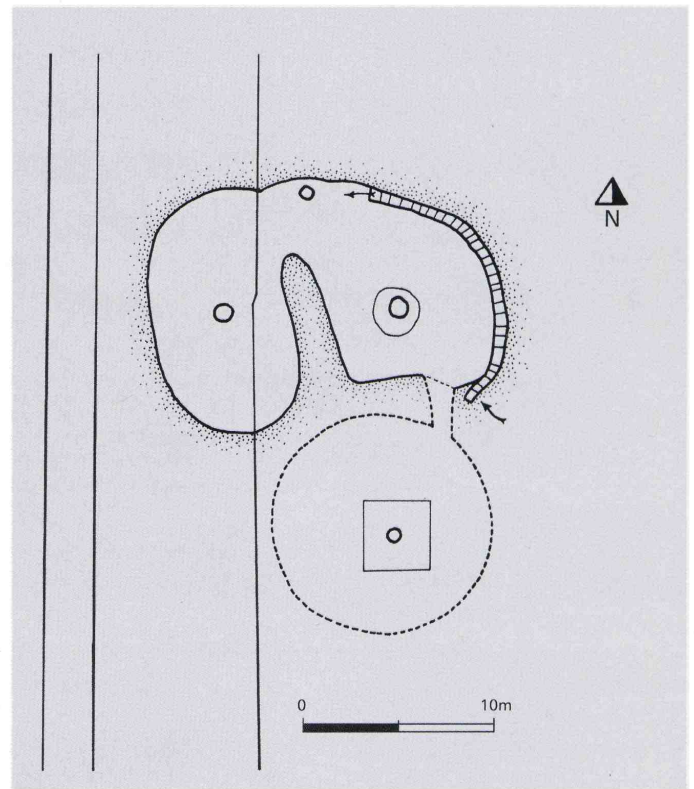
The Ḥaram al-Sharīf



The current shape of the ancient Temple Mount hides numerous subterranean chambers and structural remains. This map shows the cisterns, numbered according to Schick's system. Wilson/Warren's numbering is given in brackets for cisterns nos. 15 and 29. Cistern numbers 15 and 29 match a type characteristic of Hellenistic water tanks.



Plan of cistern no. 15 according to Warren (after PEF Archives, JER/WAR 62:12; original scale 1:500).



Plan of cistern no. 15 according to Schick (after PEF Archives, Schick 239:6; original scale 1:200).

able to form a consensus on the date of its composition. From the internal evidence of the work itself, it can be placed somewhere in the second century BCE (Schürer 1986:677–87). The author of this tract provided a brief description of Jerusalem and its Temple in his day, noting that:

There are moreover wonderful and indescribable cisterns underground, as they pointed out to me, at a distance of five furlongs [equal to approximately 940m, with one furlong or *stade* being 600 feet or *podes*] all around the site of the Temple, and each of them has countless pipes so that the different streams converge together (*Ep. Arist.* 89; transl. Charles 1913:103).

This description begs the question: among the 45 cisterns and other underground chambers that exist today within the area of the Temple Mount, can any be identified as belonging to the group reported by the author of the *Epistle of*

Aristeas? The answer is almost definitely “yes.” There are two cisterns that fit a type that is highly characteristic of Hellenistic water tanks of the third and second centuries BCE. These are the cisterns numbered by Schick as nos. 15 and 29 and listed by Wilson and Warren as nos. 22 and 34, respectively. We shall henceforth refer only to Schick’s numbering of these chambers, which is ordered in a clockwise sequence around the *Haram*, whereas the Wilson-Warren scheme followed a somewhat random spatial distribution.

Cistern No. 15

Cistern no. 15 is situated towards the north-west corner of the *Haram*, coincident with the present-day *Sabīl Baṣīrī*, the cubic domed structure. This photograph of the western edge of the *Haram*, looking south, was taken by Francis Bedford in 1862, during the tour of the East by the Prince of Wales (later King Edward VII). Schick records its colloquial name as *Bir* (well or cistern in Arabic) *Shaikh al-Akḥtar*, conferred by the nearby

tomb of the same personage.

Charles Warren (1871:214) described cistern no. 15 as follows:

A large cistern of the type found down by Beit Jebrin and Deir Duban. It is cut and roofed in rock, domed. A flight of rock-cut steps runs round the curved wall: there are two openings into it from above, now closed up.

A general plan of this cistern by Warren survives in manuscript, dated 3 February 1869 (PEF Archives, JER/WAR 62:12).

The account given by Conrad Schick (1887:78–79) was more specific. He concurred that it was completely hewn from the rock and noted that it comprised three interlinked chambers. The PEF archive possesses a detailed plan drawn by Schick (PEF Archives, Schick 239/6). This plan must have been executed before 31 December 1875, which is when he enclosed it with a letter to Wilson (PEF Archives, Schick 15), in which he pointed out that his plan “in some way

Dimensions and other particulars of Cisterns Nos. 15 and 29 on the *Haram al-Sharīf* in Jerusalem

(Based on the observations of C Schick and supplemented by the data of C Warren and C R Conder)

Feature	Area Dimensions			
	Cistern 15		Cistern 29	
	Dimension from plan	Dimension from text	Dimension from plan	Dimension from text
Western chamber (cistern no. 15)	7 x 13 m [SA/239/6]	7.25 x 13 m [S 1887, 78]		
Eastern chamber (cistern no. 15)	9 x 10.5 m [SA/239/6]			
Northern chamber (cistern No. 29)			9.5 x 7.6 m [SA/239/3]	10 x 7 m [S 1887, 83]
Southern chamber (cistern No.29)			8.2 x 8.0 m [SA/239/3]	8.2 x 8.2 m
Height of chambers:		7.6 m [S 1887, 78–79]	11.4 m [SA/239/2]	11.5 m [S 1887, 83]
Width of interconnecting passage:	3 m [SA/239/6]	4 m [S 1887, 78]	2.5 m [SA/239/3]	3.4 m [S 1887, 83]
Depth of floor below <i>Haram</i> :		11 m [S 1887, 78]	14.4 m [SA/239/2] 13.7 m* [SA/239/4]	14.8 m [S 1887, 83]
Depth of rock surface below <i>Haram</i> :		1.2 m [Wa 1871, 214]	1.9 m [SA/239/2] 1.5 m** [SA/239/4]	1.2 m [C 1880a, 83]
Ceiling type:	Domed rock roof [Wa 1871, 214]		Rounded rockceiling [S 1887, 83; SA/239/2]	
Shaft openings:	One round shaft opening to each chamber; An additional round opening (inlet) close to the north side of this cistern [SA/239/6]		One round shaft opening to each chamber [SA/239/2,3,4]	

* Plan caption gives the value as 45ft

** Plan caption gives the value as 5ft

Table abbreviations

Archival references: SA=PEF Archives, Schick

Bibliographic references: C=Conder; S=Schick; Wa=Warren

differs (sic) from Captain Warrens." He probably visited the cistern the previous autumn when it was dry, according to his normal habit (PEF Archives, Schick 5). Schick wrote on the plan that it was measured and sketched by him, indicating that it is based on measurements and observations made on the spot. The southern cave is shown as almost perfectly circular, with a diameter of 11 m. It has an opening in the middle of its roof, which is topped by a domed structure, the *Sabīl Baṣīrī*, which was erected at the expense of one Ibrahim al-Rumi in 1435–36 (Walls and Abul-Hajj 1980:17, building no. 180; Burgoyne 1987:542–43). The cave, too, may have a medieval origin. This round chamber communicates northwards with a double chambered rock-cut cave via a short passage-way, 0.60 m wide, that is asymmetrical to the circular chamber.

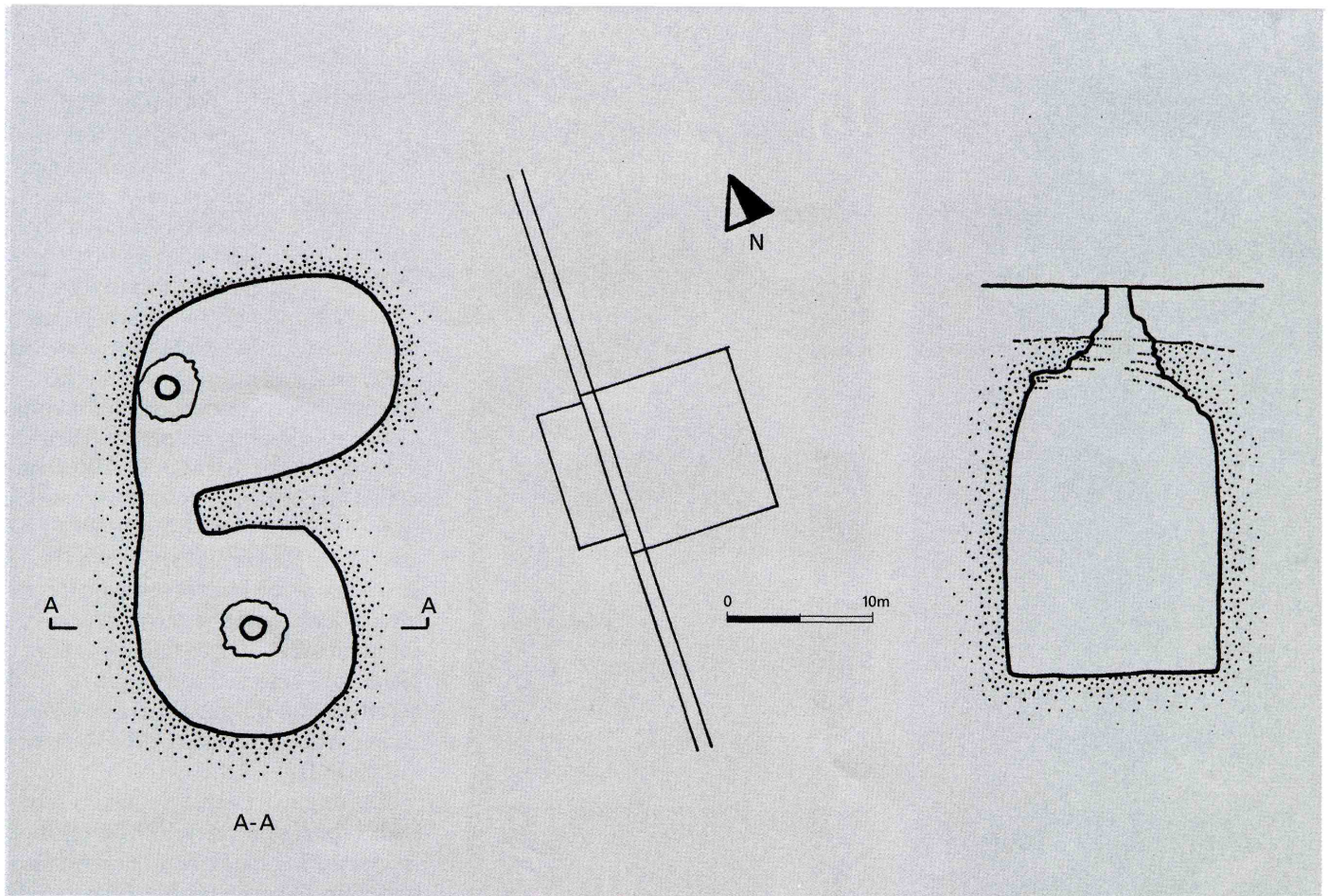
The double chambered cistern has a totally different character, being kidney-shaped in plan, and would appear to be much more ancient. Its original entrance was through a rectangular opening leading from the surface of the *Haram* down a flight of narrow steps (0.60 m wide), running anti-clockwise along the wall of the eastern chamber. On Schick's plan, this chamber measures about 9 x 10.5 m and the western chamber 7 x 13 m. They were connected by a doorway 3 m wide. Each chamber had a circular shaft entrance in its ceiling and there is an additional circular opening close to the north wall. The latter opening may have constituted an inlet leading from a conduit. Key dimensions of this group of chambers are summarized in Table 1 to the left.

Cistern No. 29

This second kidney-shaped reservoir is located just inside the eastern wall of the inner platform on which the Dome of the Rock is built. Its Arabic name is *Bir as-Suaneh* or Well/Cistern of the Firestone (Schick 1887:83).

Warren (1871:217) made only a very cursory examination of this cistern and described it as follows:

No. 34 [Schick's no. 29] is close to No. 2 [Schick's no. 30], at northeast angle



of platform; it was examined, but not measured; it is of an irregular shape, cut in the rock, and perhaps 60 feet in diameter; at the north-east angle is a passage cut into the rock which appears to terminate after about 10 feet.

Plans and a section of this cistern were prepared by Schick sometime before 31 October 1872 (PEF Archives, Schick 4) and sent to Wilson at the PEF on 28 February 1873 (PEF Archives, Schick 5). Three versions of the plan exist in the PEF archives (Schick 239:2,3,4). Like no. 15, this cistern comprises two oval shaped chambers (9.5 x 7.6 m; 8.2 x 8.0 m) connected by a doorway 2.5 m wide (or 3.4 m wide according to Schick.) In his drawings, both chambers are shown as having round shaft entrances piercing their roofs, but only the southern one was open at the time of Schick's visit. Schick concurred that these chambers "are entirely rock hewn, and have a rock ceiling which is rounded" (Schick

1887:83). The principal data recorded by Schick and his contemporaries for this cistern are presented in Table 1.

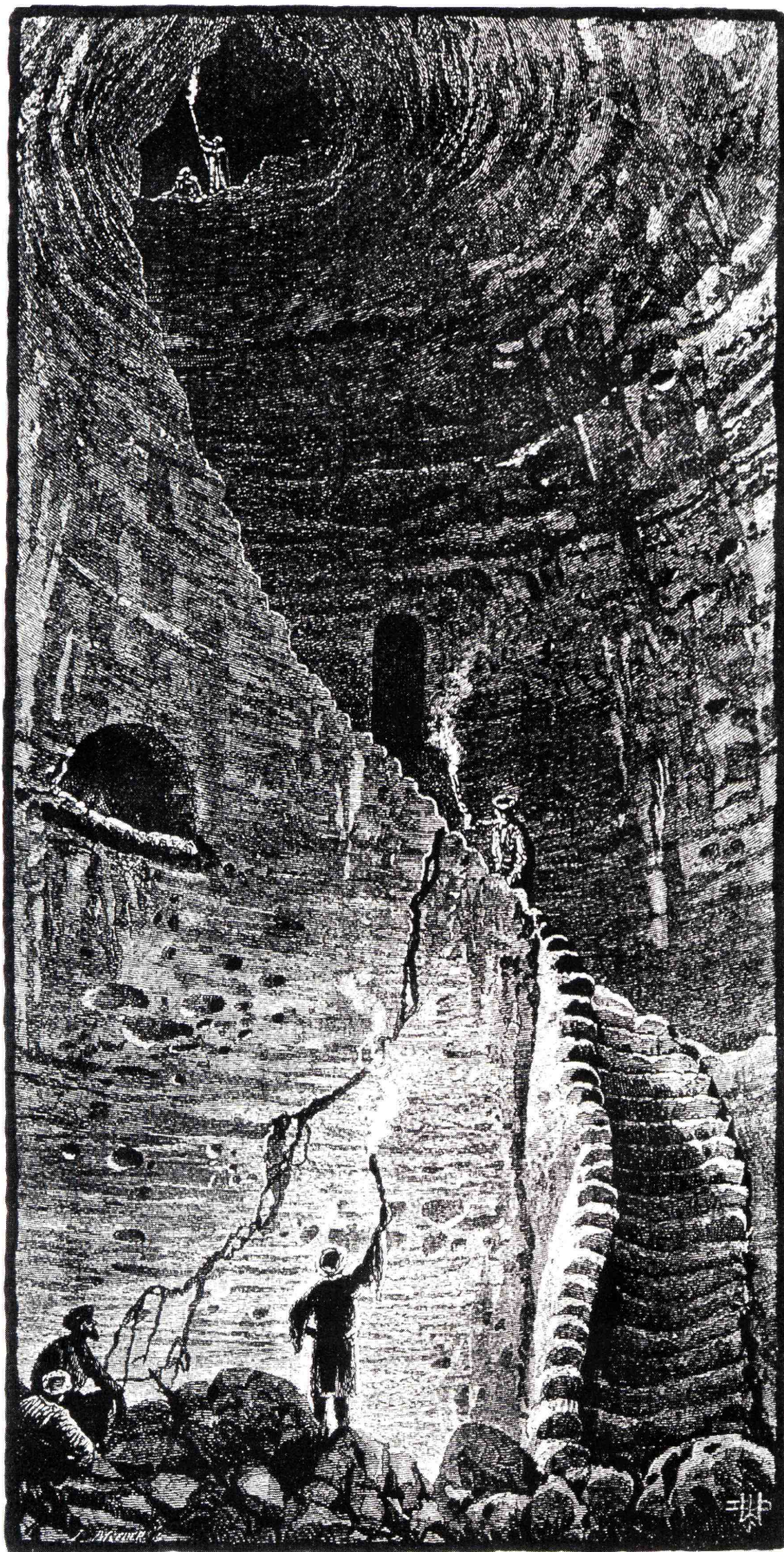
Discussion

The original twin-chamber arrangement of cistern no. 15 is closely similar to the layout of cistern no. 29. Both comprise interlinked oval cavities with bottle-shaped elevations. This arrangement differentiates these cisterns from the others within the *Haram*. They also have similar dimensions and share other common features. Their distinctive design does more than suggest that they are contemporaneous: it actually provides a firm clue to their date. The bell-shaped form of these cisterns taken together with the staircase fringing the circular walls of cistern no. 15 find immediate parallels in the cisterns of Hellenistic date in the Maresha/Beit Guvrin area in the western edge of the Judaeian hill country, which lies just 24 miles from Jerusalem, as the crow flies (Kloner 1993). This re-

Plan of cistern no. 29 according to Schick (after PEF Archives, Schick 239:2; original scale 1:200).

semblance was first pointed out by Warren, as noted above (Warren 1875:97). A somewhat romanticized engraving of one of these cisterns at Beit Guvrin, was published in 1880.

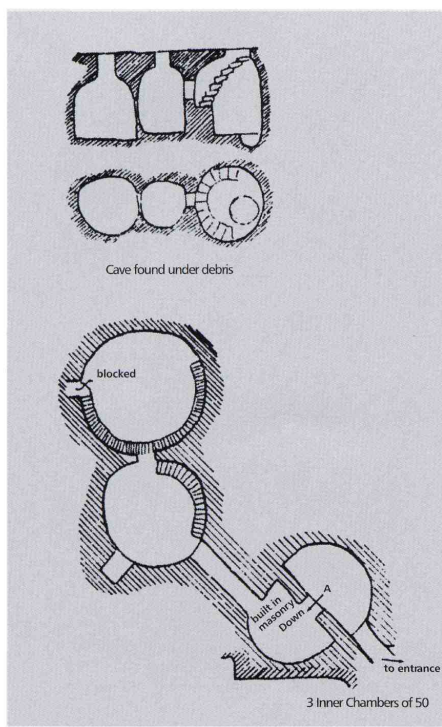
At the turn of the century, more than 100 stepped bell-shaped cisterns were investigated at Maresha by F.J. Bliss and R.A.S. Macalister (1902:pl. 101), and they described these chambers as the "*Sandahannah* type," after the Arabic name of the location. These cisterns are completely rock-cut, with oval or rounded plans and flights of steps hewn along their inner walls from top to bottom. The steps usually have low rock-cut parapets along their outer edges. Cave 56, examined by Bliss and Macalister, has twin chambers with steps, which are fairly close in plan to cisterns nos. 15 and 29 in Jerusalem.



Recent archaeological work at Maresha carried out by Amos Kloner has shown quite conclusively that this type of cistern is of Hellenistic date, from between the third and second centuries BCE (Kloner 1991:84; Ben-Haim and Kloner 1989). In the Lower City of Maresha, in Area 53, Kloner unearthed a house that was built in the mid-third century bce and destroyed in the sack of the city by John Hyrcanus I in 113–112 BCE. Beneath the house were two bell-shaped cisterns with spiral staircases. These cisterns belonged to a larger network that encompassed neighboring properties. Thereafter, we suggest that Maresha was abandoned and settlement was transferred to nearby Beit Guvrin (Gibson 1992), contrary to Kloner (1993:953), who believes that some form of settlement continued during the first century BCE on the main tell known as the Upper City. Hence, at Maresha the (*terminus ad quem*) date for this type of cistern is the razing of the settlement by the Hasmoneans in 113–112 BCE.

The origin of the bell-shaped cistern with a spiral staircase which occurs in Judaea during the Hellenistic period is uncertain. No evidence has been found for its existence elsewhere so that it is unlikely to have been imported from outside of Palestine. A typical cistern encountered in Greece and Asia Minor is bottle or pear-shaped, circular in plan and without steps (Tölle-Kastenbein 1990:106–114, 210). In our opinion, the type of cistern under discussion would appear to be the result of a hybrid of two earlier forms of water installations found in the Iron Age. These are small bell-shaped water cisterns as at Tell en-Nasbeh, on the one hand, and shaft water systems with steps spiralling along the inner walls as at Gibeon, on the other. The shaft water pool at Gibeon, excavated by J.B. Pritchard (Pritchard 1961; Cole 1980) and dated to before the tenth century BCE, has a parapet along the inside edge of the spiralling flight of steps, which is remarkably similar to the much

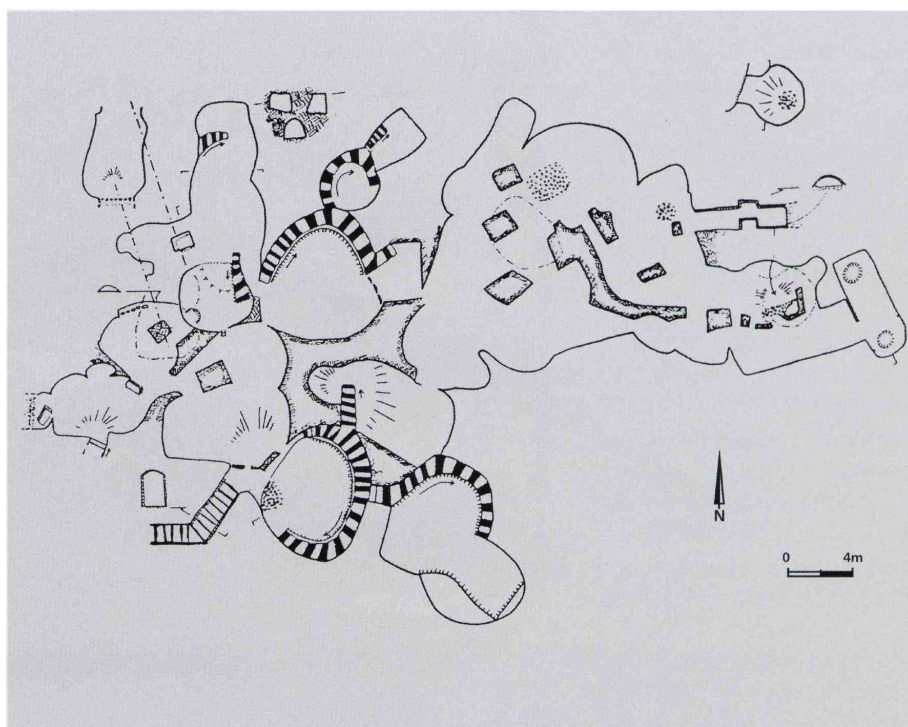
View of cistern at Tell Sandahannah in a nineteenth century engraving (after C.W. Wilson, ed., *Picturesque Palestine, Sinai and Egypt* [London: 1880]:179).



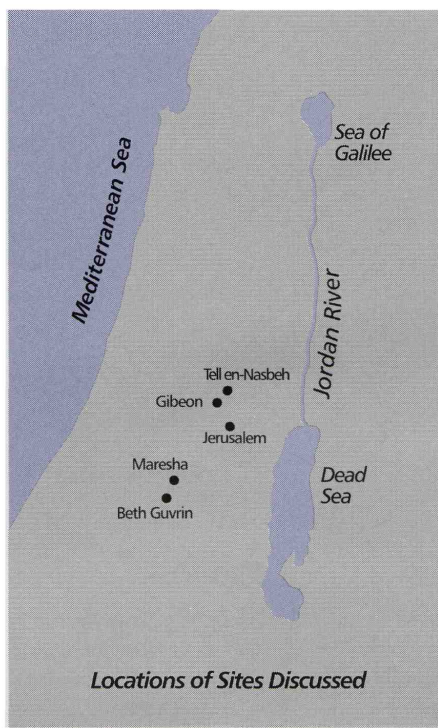
Plan of cave 56 at Maresha (after Bliss and Macalister 1902:pl.101) which has twin chambers and steps.

later Hellenistic examples. There are no known instances of bellshaped cisterns with steps being constructed after the second century BCE. While stepped water cisterns did exist in the Roman and Byzantine periods, these were very different from the Hellenistic “*Sandahannah*” type.

The evidence presented above clearly places the date of the construction of cistern no. 15 between the third and second centuries BCE. Cistern no. 15 may have been fed with water from the rock-hewn passage leading from the direction of the Struthion Pool, north-west of the *Haram* (Conder 1879:27; 1880:93). The conduit may have reached this reservoir via the small round cistern, no. 16 (no. 18 in the Wilson-Warren classification), which might have served as its filtering tank. Conder (1880:93) previously suggested that cisterns nos. 15 and 16 received water from the tunnel leading from the Struthion Pool. Schick (1887:79) believed that this was true of cistern no. 16. The round opening against the northern wall of cistern no. 15, shown in Schick’s plan, may repre-



Plan of cisterns beneath Hellenistic house in Area 53 at Maresha (Kloner 1991: figure on p.84). (Courtesy of A. Kloner).



sent the point of entry of the conduit leading from no. 16. According to Warren, the latter measured 2.1 x 3.0 m. Schick, on the other hand, maintained

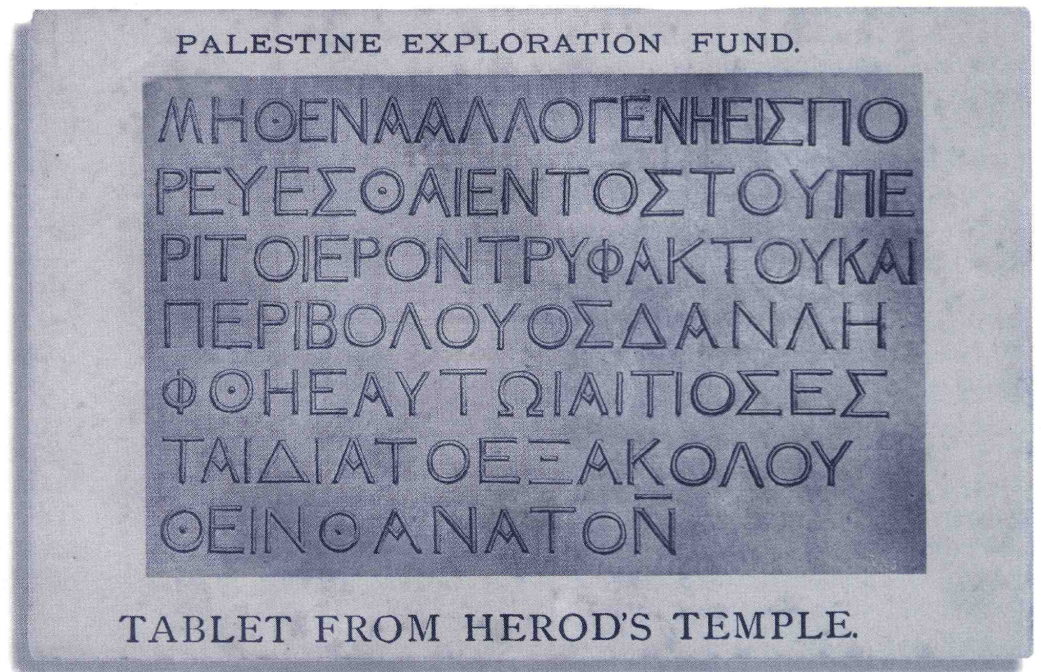
that it was perfectly circular, with a diameter of 3.25 m. The floor of this tank is approximately one meter lower than that of cistern no. 15, based on the data of Warren (1871:213–14) and Schick (1887: 78–79), which is consistent with no.16 serving the function of a filtering tank for its larger neighbor.

Concerning the conduit leading south from the direction of the Struthion Pool, Bahat (1988:10–12; 1990:48; 1991:79) has been able to confirm the earlier observation made by Wilson (1880:36) that the southern extension of this tunnel was cut through at the time of the construction of the western wall of the Herodian Temple Mount. The date of the construction of this passage can therefore be no later than the mid-first century BCE and is probably earlier. A Hellenistic (or pre-Herodian) date therefore seems fairly certain for both cistern no. 15 and the conduit. An additional cistern located immediately south-west of cistern no. 15 which, together with the south-eastern extremity of the conduit, was destroyed at the time of the construction of the western Temple Mount wall, has recently been investigated by Bahat (1991:76–77). It too may be of Hellenistic origin.

Finally, what of cistern no. 29? On typological grounds this too must be of

Hellenistic date. Its position inside the inner platform of the Dome of the Rock may be significant. One of the present authors has suggested that the existing platform derives from the fenced-off area that traditionally delineated the sacred precinct of the Temple Mount, and is largely coextensive with that area (Jacobson 1990–91: 50–51; for other opinions, see Ritmeyer 1992). When Herod extended the size of the Temple enclosure, or *temenos*, this hallowed zone was marked out by a balustrade, called the *soreg* in the compilation of oral rabbinical tradition known as the Mishnah. Inscriptions in Greek and Latin were posted to the balustrade, warning Gentiles not to cross this boundary and set foot within the sacred precinct (Josephus, *Jewish Antiquities* XV 417; *Jewish War* V 194, VI 124–28). One complete Greek warning inscription cut into an ashlar from this railing and a large fragment of a second one, have been recovered (Schürer 1979:285, n. 57; see also Segal 1989). The first is now housed in the Istanbul Archaeological Museum, and one of the others is on display at the Palestine Archaeological Museum (Rockefeller Museum) in Jerusalem. Presumably, the *soreg* reproduced the perimeter of the pre-Herodian Temple precinct, in which case cistern no. 29 formed part of the Temple complex as it existed in the Hellenistic period.

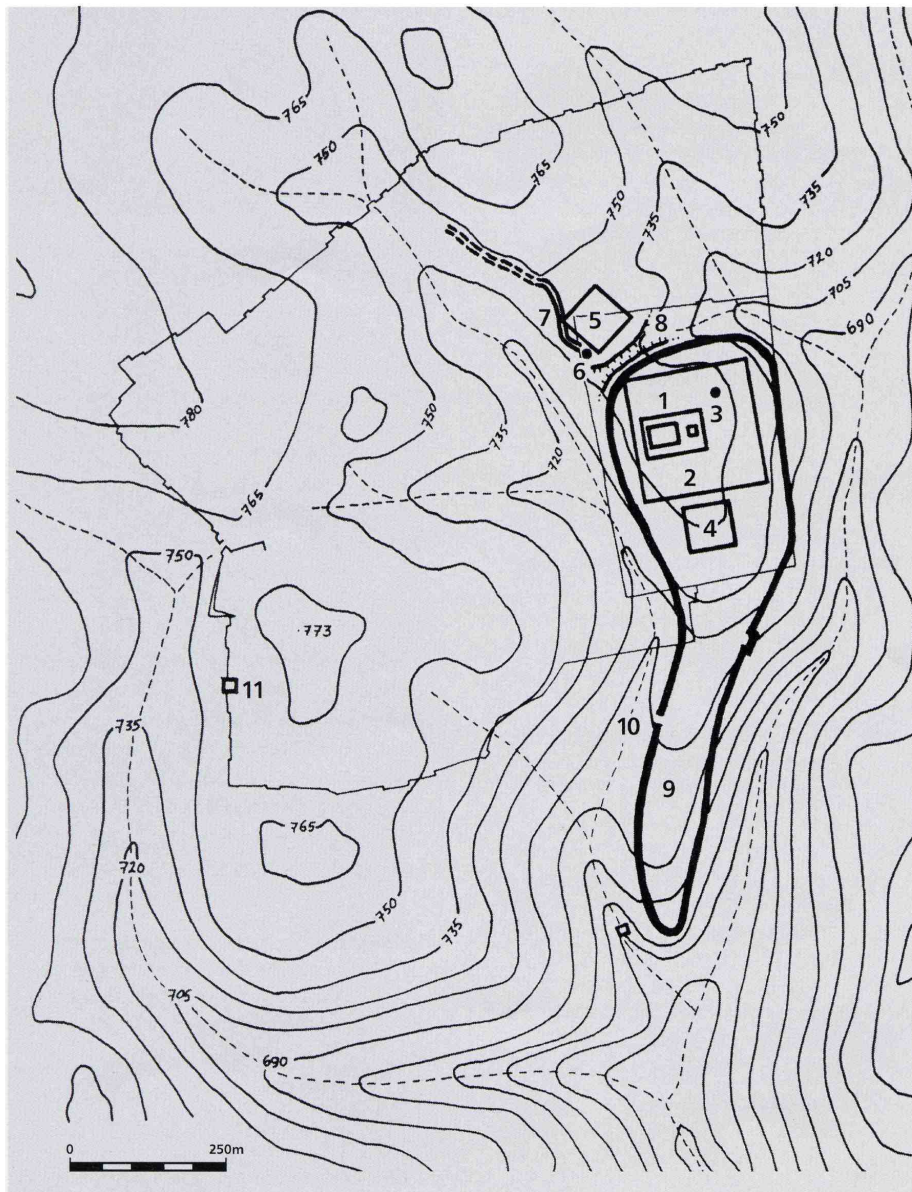
Accordingly, cistern no. 29 appears to have been associated with the Temple, whereas its near duplicate, no. 15, may have been linked to the citadel of Jerusalem as it existed in the Hellenistic period. It is generally agreed that this acropolis, which is referred to as such in 2 Maccabees 4:12, 27–28 and 5:5–6, and as the *akra* in the *Epistle of Aristeas* (100–104), was located north of the Temple, in the vicinity of this cistern



Greek inscription warning 'foreigners' (gentiles) from encroaching on the hallowed area of the Temple Mount, carved in a limestone ashlar. This complete inscription is in the Istanbul Archaeological Museum. Translated, it reads: "No foreigner is to enter within the forecourt and the balustrade around the Sanctuary. Whoever is caught will have himself to blame for his subsequent death" (Segal 1989:79). Another similar, but fragmentary, inscribed block is displayed in the Palestine Archaeological Museum (Rockefeller Museum) in Jerusalem. These belonged to a series of warning inscriptions in Greek and Latin that were fixed to the balustrade (*soreg*) marking the boundary of the sacred precinct of the Temple Mount. In this connection, it should be noted that similar prohibitions applied within Greek temples. (Courtesy of the PEF Archives).

and on the site of the former *birah* of the time of Nehemiah (Neh 2.8; 7.2; Schürer 1973:154, n. 39). Indeed, it was called the *baris* in the Hasmonean period (Jose-

phus *Jewish Antiquities* xv 403; *Jewish War* I 75; 118; Will 1987). This fortress is distinct from the *akra* built during the oppressive rule of the Seleucid king,



Jerusalem in the second century BCE, prior to the expansion of the city to the Western Hill (Upper City) under the Hasmonaean.

1. Temple Sanctuary and Altar
2. Sanctified precinct of the Temple Mount
3. Cistern no. 29
4. Suggested location of the Seleucid akra
5. Suggested location of the Hellenistic acropolis (*birah*, *baris*)
6. Cistern no. 15
7. Conduit and rock-hewn passage leading to cistern no. 15.
8. Fosse described by Warren
9. Lower city (City of David)
10. Remains of fortifications and gate
11. Small fortified tower on the Western Hill (M. Broshi's excavations)

Antiochus IV Epiphanes, which dominated the Temple and separated it from the residential quarter of the Lower City (Wightman 1989–90: 31–39; Jacobson 1990–91:51–54). This reasoning helps to create a tentative plan of Jerusalem in the second century BCE, before the Hasmonaean expansion of the city to the Western Hill. On this map, the two cisterns (Nos. 15 and 29) constitute the earliest datable chambers on the *Haram al-Sharif* and must surely be identified as two of the “wonderful and indescribable cisterns” mentioned in the *Epistle of Aristaeas*.

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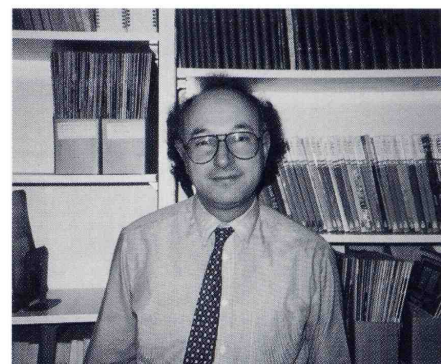
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