

Old Photographs as a Source of Archaeological Information in the Study of Jerusalem The Case of Birkat Sit Maryam

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Introduction

Archaeologists frequently seek to investigate sites that are no longer accessible.¹ Some of these sites are covered with a thick layer of earth or hidden under modern buildings. Others have been destroyed over the years. Moreover, during the nineteenth century, in many cases even when sites were accessible they were studied only superficially. In Jerusalem inaccessibility to sites under study is common in archaeological research because Jerusalem is not only an ancient site; it is a still-inhabited city that has undergone rapid development over the past 150 years. Consequently, many ancient remains that could still be reached in the nineteenth century have been covered up by the municipal authorities or as a result of private construction.

Archaeologists commonly use photographs to document excavations, doing so almost simultaneously with the research itself. Archaeological excavation is "destructive" in that it disconnects excavated material from its site, and so photographs are an important tool in recording the site during the dig or documenting a stratum that is to be removed after it is excavated. Excavation photos are also an important source of visual information about a site, for example, for future researchers who want to assess finds or study some aspect not examined by the site's excavator.

But visual aids in archaeological research should not be limited to documentation of excavations. Quite often old photographs are a primary source of information, sometimes the only one, from which one may learn about antiquities sites that are no longer accessible. In fact, during the nineteenth and early twentieth centuries, many photographers and painters were active in Jerusalem. They sought to document the inhabitants' way of life and the way the city looked in their time. Their main purpose was to make the sights of the Holy Land accessible to a Western audience who could not visit them in person. Paintings, lithographs and photographs became popular tourist souvenirs. Some of the images were also taken for military purposes, for example aerial photographs from World War I. Only a small portion of the photographs were taken by actual researchers.² This

¹ This article is based on research for the author's Ph.D. dissertation ("Unroofed Water Pools in Jerusalem in the Late Second Temple Period"), which was conducted at the Department of Archaeology, University of Haifa. The author expresses his gratitude to the dissertation adviser, Prof. Ronny Reich for his guidance, comments and extensive assistance in this research. The author is also grateful to Dr. Mira Waner for her linguistic comments (Hebrew), and to the Megalim Institute for its support in printing the dissertation and in translating the article.

² For example, the photographs accompanying the publication of the Ordnance Survey of Jerusalem, see Wilson 1865.

entire array of visual sources recorded, sometimes unintentionally, valuable information about archaeological sites.

Thus, visual documentation, regardless of certain challenges it presents, can serve as a valuable source for present-day scholars seeking to study sites that can no longer be surveyed or archaeologically excavated. For example, Jacobson and Gibson (1995) proposed the route of the Soreg (internal barrier) in the Herodian Temple Mount compound based, among other things, on a staircase they identified in two rare photographs taken in 1870. This staircase no longer exists, and the photographs are the only evidence of its location. Another example is Birkat Israil, which has been covered with soil since the British Mandate in 1930. Analysis of an unknown painting from 1800 by the artist Luigi Mayer assisted this author to assess the original height of the pool's walls (Gurevich 2012: 179). Nineteenth-century photographs also added support for the dating of Birkat Israil based on the masonry typology (ibid.: 188). Old photos can also help clarify controversial research questions. For example, World War I aerial photos and an urban landscape photo from 1911 helped cast doubt on the location of a pool described as supposedly in the Morasha neighborhood (Gurevich 2013:159). What is more, aerial photos from World War I were able to reestablish the location of that pool, which no longer exists, near the Tombs of the Kings. These photos are also the only visual source for the appearance of this ancient installation (ibid.: 156). In all the above cases, the old visual sources have allowed us to quite reliably answer research questions that we would have had difficulty answering today through other means at the disposal of archaeologists.

This article focuses on another water pool in Jerusalem that no longer exists – Birkat Sit Maryam. The research method is based on analysis of old photographs from the nineteenth and early twentieth centuries, which will produce a number of significant conclusions regarding the history of the pool.

Birkat Sit Maryam

Birkat Sit Maryam is a small pool, located about 50 m from Lions' Gate in the area of the present-day al-Yusifiyeh Muslim cemetery (Fig. 1). The pool, in which scholars showed no interest in the past, has never been excavated; consequently, information about it is meager; the installation is currently covered with earth and scholars do not know what it looks like.

The pool is known by a number of names. Most of the names associate it with Mary,



Fig. 1: Birkat Sit Maryam and its surroundings in the Kuemmel map, 1904.

the mother of Jesus, apparently because of its proximity to Lions' Gate, known in Arabic as Bab Sit Maryam (Gate of Mary), to the Tomb of Mary in the Kidron Valley, and to Mary's traditional birthplace.³ The pool was also known as Birkat al-Asbat (Baedeker 1912: 73) due to its location near a Temple Mount gate known as Bab al-Asbat, the Gate of the Tribes.⁴ The pool was also called the Dragon's Pool and Hezekiah's Cistern (ibid.). Edward Robinson referred to the pool as Birkat el-Hejjeh (Robinson 1841: 344-345, 486), which is surprising considering that this name was known as pertaining to a large cistern near the northern wall of the Old City (Kloner 1976: 33-34; Bieberstein and Bloedhorn 1994: 108).⁵

Birkat Sit Maryam measures 23 x 29 m and was approximately 4 m deep (Baedeker 1912: 73-74; Bloedhorn 1994: 207). The pool had openings in its southwestern, southeastern and northeastern corners (Ben-Arieh 1984: 73-74). The pool may have originally had steps in each of its corners (ibid.); however, in the nineteenth century steps could only be seen in the southeastern corner (Barclay 1857: 481).

According to the first scholars to describe the pool in the nineteenth and early twentieth centuries, it supplied water to the bathhouse known as Hammam Sit Maryam which was within the Old City walls near Lions Gate (Barclay 1857: 541; Pierotti 1864: 14; Wilson 1865: 86; Hecker 1956: 206). In 1864, Pierotti reported that the pool was in poor condition and held very little water, which was channeled to the bathhouse for only 20 or 30 days a year. He also noted that the water was not potable. The Baedeker guide

³ In this context the following names for the pool are known: Birkat Sitti Maryam (Wilson 1865: 86); Birkat Hamam Sitti Maryam (Barclay 1857: 541); Birkat al-Sayda Maryam (Asali 1982: 205).

⁴ Lions' Gate is also sometimes called by this name.

⁵ In the same source, Robinson also mentions the cistern near the northern wall, but does not name it.

(1912:74) mentions a niche for drawing water in the southwestern corner of the pool, and that the water went into to a channel that led it to the bathhouse. At the beginning of the twentieth century Zuta and Sukenik (1920: 123) also noted that the water was used for the bathhouse. According to Asali (1982: 117), the water in the bathhouse was used "until a few decades ago." However, the scholars surveying the Ottoman structures in Jerusalem proposed that Hammam Sit Maryam and the nearby Sabil Bab Sit Maryam received their water supply via an underground channel connected to the Low-Level Aqueduct from Solomon's Pools (Qanat al-Sabil) (Natsheh 2000: 698). Presumably, due to the declining condition of the Birkat Sit Maryam, the authorities decided to find an additional source of water for the bathhouse (Asali 1982: 205) and therefore connected the bathhouse to the aqueduct. According to documents from the Crusader period, the bathhouse near the Jehoshafat Gate was already in operation at that time (Boaz 2001: 162). But it is also possible that in the Crusader period the pool did not exist, that the eastern moat of the city ended where the pool was later built, and that water was brought to the bathhouse from the pools in the compound of St. Anne's Church or from Birkat Israil (ibid.)

In January 2011, this author perused the Israel Antiquities Authority archives seeking any unpublished information about the pool. All the files in the archive dealing with this part of Jerusalem were examined, from the British Mandate (the records of the Mandate Department of Antiquities) to the present day. However, the search revealed no new information about the pool.⁶

Photograph A: Auguste Saltzmann

The earliest photograph of Birkat Sit Maryam was apparently taken by the French photographer Auguste Saltzmann, who visited Jerusalem in 1854 (Fig. 2). Significantly, photographic technology had only been invented a few years before his visit, in 1839. Saltzmann took the photographs to illustrate the studies of the French scholar Louis Félicien de Saulcy, which had been published a few years before and had been dubiously greeted by European scholars. Saltzmann believed that these scholars doubted de Saulcy's conclusions because they had not seen the sites for themselves, an obstacle he sought to overcome through his photographs (Donadio 2008: 143-145). This fact makes Saltzmann's work important to archaeological research today, because many of

⁶ The author would like to thank Arieh Rochman-Halperin and Silvia Krapiwko of the Israel Antiquities Authority archive, Rockefeller Museum, Jerusalem.



Fig. 2: Birkat Sit Maryam, in Auguste Saltzmann's 1854 photograph, looking southwest.

his photographs were intended to document the construction methods of the ancient remains or the appears of walls and reservoirs he saw in the city. Saltzmann published 177 photographs in his album.

Saltzmann took the photograph of Birkat Sit Maryam from the southeast. It shows the upper part of the pool's walls in a very poor state of preservation. Plaster can also be seen on the walls, covering their lower parts more or less to the level of the surface outside the pool. Above the plastered portion, roughly dressed stones can be seen. The upper part of the pool may have been built as an addition to the walls to raise the pool slightly above ground level. A vault appears at the southwestern corner of the pool. An installation of unclear purpose is situated on the vault.

Photograph B: Photograph by the Zangaki brothers

Saltzmann's photograph of Birkat Sit Maryam allows the pool to be identified in another photograph (Fig. 3), taken in 1890 by the Zangaki brothers. The caption does not mention the place where the picture was taken; rather, it merely reads: "Men getting water from the pool outside the wall." However a close comparison of the details of this photograph with that of Saltzmann's leaves no room for doubt – it is Birkat Sit Maryam.

The Zangaki brothers worked as photographers in the Holy Land from 1870 and until

the early 20th century. Their photographs were taken in various sites in Palestine and Egypt. They were apparently of Greek origin and maintained a studio in Port Said (Nassar 1997: 33).

This photograph also shows the southwestern corner of the pool. It resolves the question of the purpose of the vault and the installation constructed above it – two men are seen drawing water from the pool while standing on the vault and the installation held a rope attached to a vessel that was lowered into the pool to draw water. There was apparently an opening in the floor of the vault through which the vessel was lowered. The walls of the pool are still in very poor condition in this photograph, which also reveals that the floor of the pool was uneven. The northern part of the pool may have been full of garbage and consequently water collected only in the southern part. ⁷ Remnants of plaster can also be seen on the walls of the pool in this photograph. It also shows that a gated fence, which can be seen behind the vault, had been constructed around the pool.



Fig. 3: Birkat Sit Maryam, photograph by the Zangaki brothers, 1890, with caption: "Men getting water from the pool outside the wall."

7 Another possibility is that the floor of the pool was not built evenly due to the downward tilt of the bedrock from north to south, which dictated the level of the pool's floor and left the northern part higher. The author thanks Dr. Eyal Meiron for drawing his attention to this matter.

Photograph C: Photograph by the Armenian photographer J. H. Halladjian

Another significant photograph for our subject was found at the Talitha Kumi School in Beit Jala (Fig. 4). Undated and previously unknown, it shows the area around Lions' Gate from the direction of the Mount of Olives. The photographer's name, J.H. Halladjian, appears in the lower left-hand corner of the image. An enlargement of Birkat Sit Maryam in the photograph allows us to perceive a number of additional characteristics about the pool. It shows the pool raised above ground level (Fig. 5) and that its walls had clearly been renovated compared to the two previous photos. The renovations might still have been underway when the photo was taken, because there is a gap in the construction on the northern wall. In the southeastern corner the entranceway to the pool enclosure can be seen. Behind that entranceway was probably a staircase that led to the bottom of the pool, described by Barclay; however due to the angle of the photograph, it cannot be seen.

How can the date of the photo be determined? A photographer by the name of J.H. Halladjian was active in Jerusalem and Haifa at the end of the nineteenth century (Onne 1980: 90; Ankori 2006: 36) and until the early twentieth century (Nir 1985: 125, 276, n. 23). To arrive at a more precise date, we will use a number of structures that appear in the photo as chronological anchors.



Fig. 4: Birkat Sit Maryam and the eastern wall of the old City. Photograph: J.H. Halladjian, no date.



Fig. 5: Birkat Sit Maryam, enlargement from Fig. 4.

- The bell tower of the Lutheran Church of the Redeemer appears in the photograph. Its construction began in 1893 and ended in 1898 (Ben-Arieh 1984: 235).
- 2. The photograph shows the Notre Dame de France Monastery with the church at the center. On the roof of the church is a statue of Mary holding the baby Jesus. It is known that this statue was installed in 1904 (Ben-Arieh 1979: 381).
- 3. Jaffa Gate appears in the photo without its Ottoman clock tower. The tower was built over the gate in 1907 by order of Sultan Abdul Hamid II (Levanony 2004:104–105). However it was dismantled in 1922 following the decision of the Pro-Jerusalem Society, affiliated with the British military governor (ibid.). The clock tower can be seen in another panoramic photo of the Old City, which was taken from a similar vantage point in 1912 (Vincent 1912: opposite p. 50, Pl. IV). Since the tower does not appear in the Halladjian photo, that photo must have been taken at a time when the tower did not exist (i.e., before it was built or after it was removed).

 Another chronological anchor is the bell tower of the Franciscan San Salvador Monastery in the Christian Quarter. This tower can be seen in the photo at a height of only one story. However, it is known that in 1932 an additional story was built (Sapir 1999:36).

The date of the photograph may be determined by cross-referencing all the data. Firstly, it could not have been taken before the statue of Mary was installed on the roof of Notre Dame (1904). Thus, that statue is the *terminus post quem* ("limit after which") for the Halladjian photo. ⁸ The story added to the San Salvador tower in 1932 is the *terminus ante quem* ("limit before which") for the photo. The photo was taken some time in period between 1904 and 1932, when the clock tower was not on top of Jaffa Gate. This was theoretically possible in two time periods:

- A. Between 1904 and 1907, before the Jaffa Gate clock tower was built.
- B. Between 1922 and 1932, after the Jaffa Gate clock tower was dismantled by the British authorities.

Considering the period Halladjian was active, the early twentieth century is the most reasonable choice, and therefore it may be assumed that the photo was taken between 1904 and 1907.

Photograph D: Aerial photograph from World War I

The pool is also seen in aerial photographs of Jerusalem taken by the German Air Force in World War I (Fig. 6, for example) ⁹. Most of the original photographs are held in the Bavarian War Archive in Germany (Bayerisches Kriegsarchiv, see: Gavish 1978: 134-143). The photographs, which were taken for military purposes, document extensive areas of Jerusalem from above. Because most aerial photos are taken at very high resolution, they constitute a valuable source of information and in many cases a unique one, about archaeological sites that were subsequently covered up or destroyed in the twentieth century. Because these photos cover such large areas, we can distinguish specific sites in them that did not attract the attention of ordinary photographers. Moreover, the advantage of aerial

⁸ Of course, the photo may have been taken some time during 1904, after the statue was installed. Due to similar considerations, all the chronological ranges elaborated in the discussion regarding this photograph are inclusive for the years that define them.

⁹ The pool can also be found on aerial photographs No. 776, 779b, 781 and 792 of the 304 Bavarian Squadron from the World War I (numbering by Bavarian War Archive's index)



Fig. 6: Birkat Sit Maryam, from an aerial photograph of Jerusalem by the German Air Force in World War.

photos is that they allow us to comprehend the plans of large archaeological sites – normally a difficult task when photographs are taken at ground level and capture only a certain portion of the site.

The photograph (Fig. 6) reveals that during this time the pool's plan was rectangular and its corners were slightly rounded. When the photograph was

taken, the northern wall of the pool had already been completed, unlike its appearance in the Halladjian photograph (Fig. 4); that is, the renovations were finished. In the southwestern corner of the pool a new installation can be seen that is higher than the pool's walls. This was probably an installation used to draw water from the pool and direct it toward the bathhouse, as the Baedeker guide noted in 1912 (1912:74). This installation probably replaced the improvised apparatus seen in this corner on Zangaki photograph (Fig. 3) In this photo the al-Yusufiya Muslim cemetery is still small and most of it is east of the pool and of the pedestrian path.

Discussion

A comparison of the photographs from the nineteenth century (Figs. 2, 3) to those from the early twentieth century (Figs. 5, 6) allows us to distinguish changes to the pool and apparent extensive renovation of its walls. This renovation should be dated to the period between the Zangaki brothers' photo (1890) and the Halladjian photo (between 1904 and 1907). Apparently during the renovation a new installation was built at the southwestern corner of the pool to convey water to the bathhouse.

Although the pool has never been dated by archaeological means, most scholars were of the opinion that it was not ancient (e.g., Barclay 1857:481; Wilson 1865: 86; Wilson 1871: 22; Hecker 1956: 206). Significantly, nineteenth-century scholars, who saw the pool before the early twentieth-century renovation, also believed it was of late date. The

earliest mention of Hammam Sit Maryam is from the tenth century CE (Asali 1982: 201), and therefore if the pool was built in association with the bathhouse, the earliest it should be dated is to the Middle Ages. The pool might also have been built later, during the Ottoman period.

The source of the pool's water is unknown. East of the pool the ground slopes sharply down to the Kidron Valley. The fact that the pool is topographically higher than its surroundings meant that it could not have been fed by surface runoff from an extensive area. Moreover, during its renovation in the twentieth century its walls were built a good deal higher than the surrounding ground surface. This shows that at that time surface runoff did not reach the pool directly, and that its water came from aqueduct or channels that collected surface runoff from a more distant area.

However, it is unlikely that when the pool was built, its only source of water was rainfall directly into it. Saltzmann's and the Zangaki brothers' photos show plaster coating the sides of the pool almost to its bottom (Figs. 2, 3). Jerusalem's annual average rainfall is *ca* 500 mm (Benami Amiel *et al.* 2010: 1467). If the pool was intended to collect only rainwater, there would have been no need to plaster it all the way to the bottom (approximately 4 m); a plaster coating about 0.6 m above the bottom would have sufficed. Thus, we may conclude that when the pool was built, it was to have served as a reservoir for water reaching it from an outside source.



Fig. 7: View of the site of the Birkat Sit Maryam's location in the al-Yusufiya Cemetery. Photograph from the Old City Walls, April 2014.

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Barclay reported that the pool was supplied with water by means of a channel that in his days had already filled with refuse and could hardly be seen (Barclay 1857: 481). Wilson notes that the Ordnance Survey of Jerusalem revealed an aqueduct north of the pool that channeled water to it from a great distance (Wilson 1865: 79). Hecker (1956: 206) believed that the pool received its water via an aqueduct from the cistern known as Birkat al-Hadj. However, there are only a few known sections of water conduits in the vicinity of Birkat Sit Maryam. Schick (1892:13) reported that an aqueduct was discovered during the construction of a carriage road about 99 m east of the Burj Laklak (at the northeastern corner of the Ottoman walls). That aqueduct was reportedly 1.2 m deep, 70 cm wide and its flooring was 736.4 m above sea level. From the photographs we learn that in the nineteenth century the pool had already ceased to hold water to its full capacity; the neglected condition of the plaster on its walls is additional testimony to this fact. At that time, the water system feeding it had apparently ceased operation.

Today the al-Yusufiya Cemetery almost completely covers the hill northeast of Lions Gate (Fig. 7). It was apparently only in the 1990s, with the expansion of the cemetery, that the pool was blocked.¹⁰

Conclusions

Despite the minimal scholarly attention Birkat Sit Maryam garnered in the past, there seems to be sufficient evidence to suggest that the pool dates to the Middle Ages. Its location in a high area indicates that it did not collect only surface runoff, contrary to most of the other unroofed water pools in Jerusalem which were situated in valleys or topographical low areas. The conduits discovered near Birkat Sit Maryam cannot be dated only on the basis of the verbal descriptions of nineteenth-century scholars. However, it seems that these conduits were not connected to the aqueducts from the Solomon's Pools. Additionally, Birkat Sit Maryam was not situated in immediate proximity to any significant ancient site, and what is more, there already were large pools in its immediate surroundings (Birkat Israil and the two pools in St. Anne's Church compound). If Birkat Sit Maryam had pre-dated the Middle Ages, we would find it difficult to explain why it was built specifically at this site. While it is true that in the Middle Ages the water from the pools at St. Anne's Church could not be utilized because they had become blocked (Gibson 2011:18), Birkat Israil, in contrast, was in use. Thus it seems that in the Middle

¹⁰ In an aerial photograph from May 31, 1992, earthworks to fill the pool can be seen. See Tal and Haramati 1994:163.

Ages purpose of Birkat Sit Maryam was to hold water at a higher topographical level, than Birkat Israil could, in order to convey it to the bathhouse.¹¹ Thus its location can be explained only if it had been built as the bathhouse reservoir or was a remnant of the Crusader moat of the city.

In the nineteenth and early twentieth centuries, Birkat Sit Maryam collected mainly rainwater that fell into the pool itself. The few photographs we have at our disposal from that time (Figs. 2, 3) show only shallow water level at the bottom of the pool. However, the photographs allow us to determine that at the time the pool was built, it was constructed to have held water to its full capacity and therefore it seems likely that the pool was fed from an external source.

It cannot be ruled out that Birkat Sit Maryam was once fed by the Pool near the Tombs of the Kings, and that an aqueduct might have connected the two installations. The Pool near the Tombs of the Kings was located in the upper part of the Kidron Valley, west of the Nahalat Shim'on neighborhood (Gurevich: 2013: 149-157). The existence of the Pool near the Tombs of the Kings at a site far from the boundaries of ancient Jerusalem, could be explained by authorities' desire in antiquity to impound surface runoff at a high point in the upper Kidron Valley so as to divert it from there to the city. The logical route for this presumed aqueduct is along the upper slopes of the Kidron; but the problem is that Wilson (1865: 77) and Schick (1892), who conducted limited excavations at the Pool near the Tombs of the Kings, were unable to find an aqueduct that exited the pool. At the time the first scholars were at work in Jerusalem in the nineteenth century, the aqueduct that fed Birkat Sit Maryam had already gone out of use, as shown by Barclay's report that the water channel was blocked. The floor of the pool near the Tombs of the Kings was 740.5 m above sea level, and therefore theoretically water could have been channeled from it to Birkat Sit Maryam, whose floor was approximately 731 m above sea level.¹² This level also conforms to the remains of the aqueduct that Schick surveyed near Burj Laklak.

¹¹ The floor of Birkat Israil at the point at which it was checked by Warren was approximately 709 m (2,325 ft) above sea level (Warren and Conder 1884: 123). Undoubtedly in the Middle Ages, water collected in Birkat Israil reached a height of a few meters above the pool's floor at most.

¹² According to Kuemmel's map, the ground surface near Birkat Sit Maryam is no more than 735 m above sea level. Because the pool was approximately 4 m deep, it may be concluded that the pool's floor was no more than 731 m above sea level.

Photographs of Birkat Sit Maryam allow the appearance of this water installation to be reconstructed. In addition, analysis of the photographs makes it possible to determine that the pool underwent extensive renovation between the last decade of the nineteenth century and up to the early 20th century. If and when archaeological excavations are carried out at the site, these conclusions can provide an important tool in determining the chronology of the findings.

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Fig. 1. Kuemmel 1904.

Fig. 2. Digital collection of the Metropolitan Museum, accessed Feb. 2, 2013. http://metmuseum.org/Collections/search-the-collections/190040614.

Fig. 3. Nassar 1997: Fig. 83.

Fig. 4. Private collection.

Fig. 5. Private collection.

- Fig. 6. Private collection.
- Fig. 7. Photograph by author.