

the Crusaders, once stood on the southern end, from which the top gently inclines to the north. In the centre of the *tell* is the modern village, about 220 paces in length. To the east are white cliffs, and on all sides the land slopes rapidly. In 1890 Dr. Flinders Petrie visited the place, and found Jewish and Amorite pottery, unmixed with other styles, to within at least 30 feet of the top. On a straight line connecting Ascalon with Jerusalem, Tell es Sâfi will be found to lie about 19 miles from the former and 23 from the latter. Five miles almost directly east from Tell es Sâfi lies Tell Zakariya, a hill over 1,200 feet above sea-level, resembling Tell Judeiyideh in many particulars. For sanitary reasons we shall probably pitch our first camp near this spot. On the lines connecting Tell Judeiyideh with the two other *tells* are minor ruins which deserve examination.

The chief subject of interest at present is, of course, the coming visit of the German Emperor. A carriage road has been constructed to the Mount of Olives *viâ* Scopus. Roads both inside and outside the city have been repaired. The angle in the Joppa Gate has always rendered the entrance of carriages difficult, and now a new entrance is to be effected by tearing down the wall thrown across the moat from the gate to the citadel, by filling up the moat, and by removing some small shops. Mr. Macalister arrived in good health on September 2nd, and we look forward to a season of great interest.

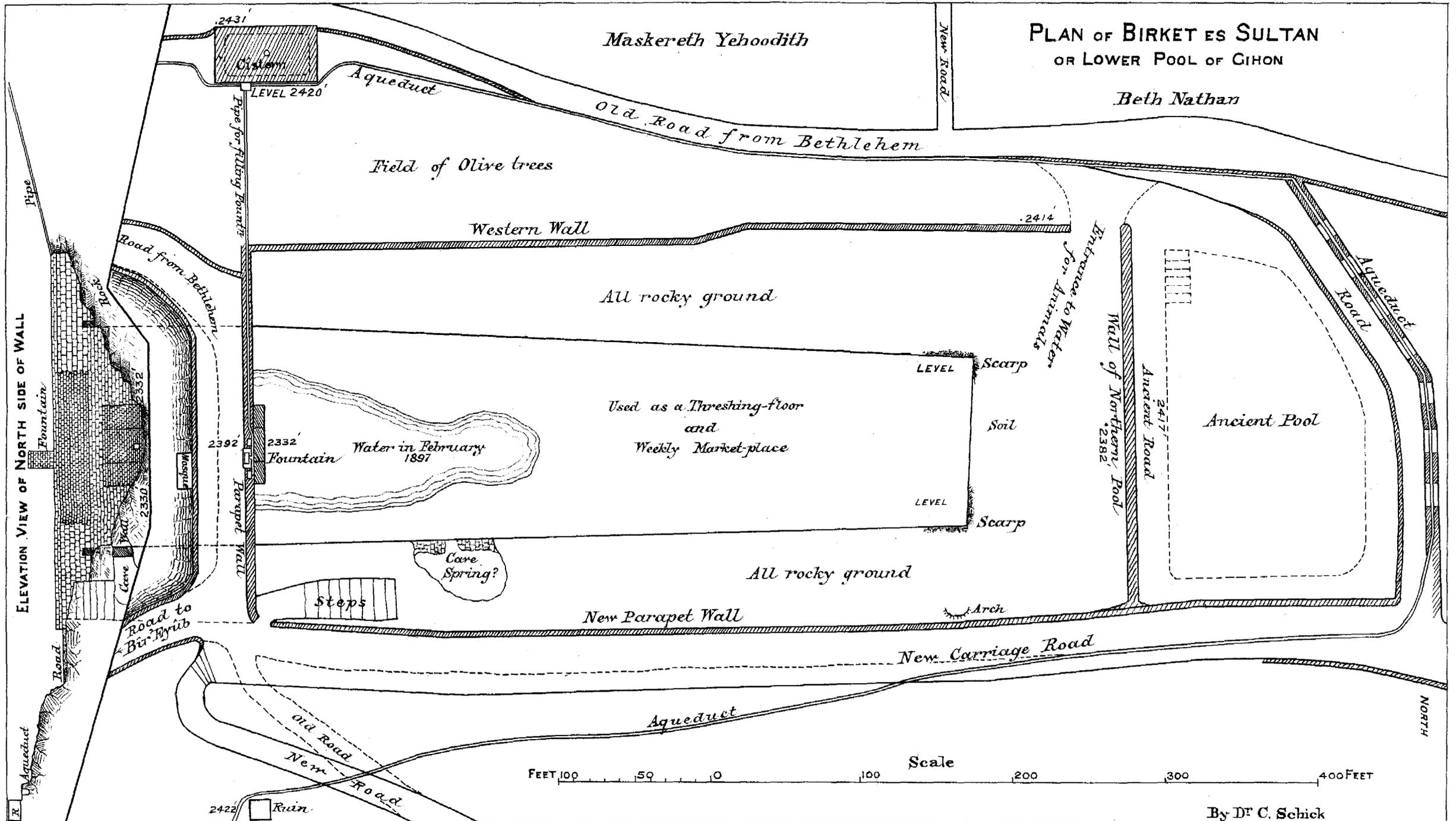
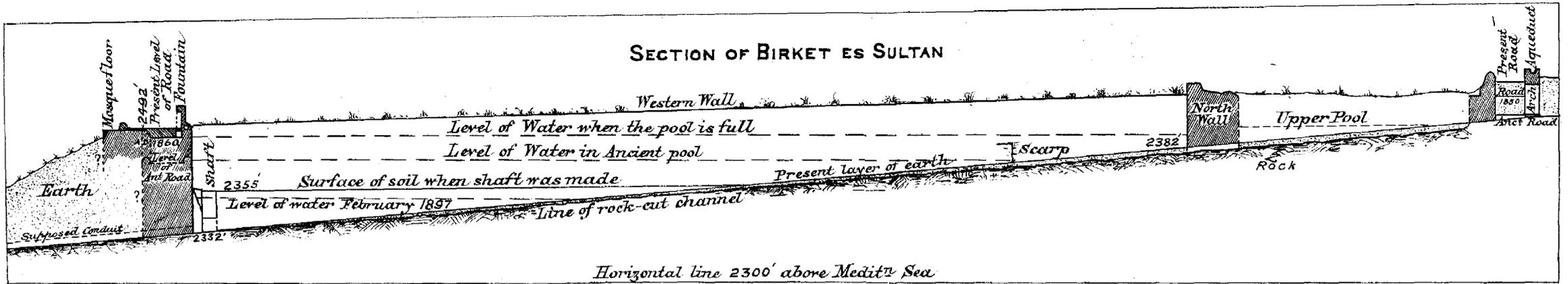
JERUSALEM, *September 12th*, 1898.

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## BIRKET ES SULTAN, JERUSALEM.

By Dr. CONRAD SCHICK.

1. THERE are several large reservoirs or pools for gathering water at Jerusalem, of which Birket es Sultan is the largest. It is situated in the western valley, opposite the south-east corner of the city wall and 335 feet distant west of it. As it is described in the Jerusalem volume of "The Memoirs," p. 376, mentioned in the modern guide books, and seen by every traveller or pilgrim, it is not necessary for me to give a long description; it will be sufficient to say that it is 588 feet long, and on an average 265 feet wide, an area of 155,820 square feet, and constructed in a very simple manner by two walls being built across the valley—the lower one, on account of the descent of the valley, being much higher than the upper, at the same time also much thicker and stronger, and supported by a mound of earth. The thickness of neither of these walls has yet been ascertained, but that of the lower will very likely be the same as that at the old Pool of Siloam, about 28 feet, against which is put a mound of earth, as at all pools



By Dr C. Schick

Photo lithographed & Printed by James Akers, 6, Queen Square, W.C.

of such construction. The Bethlehem carriage road now goes over it, crossing the valley at a level of 2,392 feet above the sea; for when the road was improved some years ago it was made 2 feet higher. At the inside the bottom of the pool is at a level of 2,332 feet, the wall, therefore, being 60 feet high. The road was made at the same time also much wider, as is shown in the plan, so that the little building, which was once a mosque, nearly disappeared, also the troughs opposite on the northern side of the road, where there was once a fountain, came lower than the ground. According to the inscription in the recess of the little Saracenic fountain building, it was made about A.D. 1520, a branch of the aqueduct bringing the water there for the use of the passers by and those wishing to pray in the mosque.

When the Ordnance Survey map  $\frac{1}{2500}$  was made in 1864-65 the bottom of the pool was at the level of 2,355 feet. How deep down the rock would be found was not known, as there was apparently a great accumulation of earth, and as all such pools have an outlet near the bottom it was supposed that this pool must also have one but choked up by earth. Generally, a passage or stair in the mound or the thickness of the wall leads down to such an outlet, so as to enable the outflow of water to be regulated when necessary. I supposed this was the case here, and in order to find it out I made, about 15 years ago, some excavations, namely, a shaft at the inside of the wall in the centre of the pool, but at about 14 feet deep there came out from the earth so much water that we could not go further. For several weeks people fetched water from there, and afterwards, during several years, the earth which was good for building and other purposes, as being pure and having no stones in it, was carried away, so that the bottom of the pool became there much lower, and every year since some water has collected. In 1896 and 1897 there was a great quantity, and when I visited the place in February, 1897, fellahin were bathing and swimming there, as they did also the year before, when a few were drowned. By all this the outlet has hitherto not appeared; there is still too much earth there. Yet there are several other things which have attracted my attention and lead me to report on this pool. When making the shaft I found that at a later period, in the centre of the pool, another wall of 50 feet long and 8 feet thick was built before the old and high (lower) wall abutting or leaning upon it, so as to strengthen it. In the middle of it, for a length of 22 feet, it is sloping, whereas both the ends are perpendicular so that they look like piers. This masonry is carried up for 30 feet, and built of small hewn stones, whereas the old wall has larger and worn-out stones. Such I could also see higher up, as in recent years the last remains of the cement have fallen down, so that every stone of the wall can be seen. Accordingly I give in the elevation section, east to west, a view of the north side or face of this wall. It will be seen that higher up the middle part, for 100 feet long and about 20 feet high, there are also small hewn stones, indicating that this part of the wall had once fallen down and been restored with smaller stones. To the right and to the left are larger

stones, worn, but not so much so as those lower down, which also are slightly smaller. The uppermost layers look more modern, so one can easily detect three or four different periods of building, which explain to some degree the history of the pool.

On examining the bottom of the pool, which is rock, and both sides of the valley one detects, about 100 feet south of the present north wall, rock-cut scarps on both sides as if the pool originally extended only to there, and as to these scarps there are corners showing the width of the original pool (as shown in the Plan), which was then 480 feet long and on an average 130 feet wide, making an area of 62,400 square feet, about the same size as Birket Mamilla, which is 316 feet long and 200 feet wide, making an area of 63,200 feet.<sup>1</sup> At that time the southern wall of Birket es Sultan was 16 feet lower,<sup>2</sup> as indicated by the condition of the stones already referred to, and further proved by the lines of the roads. For on the eastern side of the then smaller pool ran down a road, turning at the end of the pool to the right and going over the wall westwards, and also straight on down the valley towards Bir Eyûb, having on the east side a rock scarp where stone steps led up to the road, which ascends the eastern hill (*see* Plan). When afterwards the pool was made larger the rock steps led down into the new part of the pool, and the road had to be brought more to the east and higher up on the slope of the hill, hence the curious corner, &c., at the south-east of the present pool (*see* Ordnance Survey plan  $\frac{1}{25000}$ ).

2. *A Second Pool.*—A glance at the long section (north--south) will show that the water of the enlarged pool, if it were quite full, would come up to the highest possible point at the level of the road, running over the south wall and mound, 60 feet high, whilst at the north wall it would be only about 10 feet high. The wall there being about 36 feet high, the upper 26 of it are not needed for the pool, hence there must have been some other reason for carrying it up so high, and it seems to me clear that this wall formed at the same time the lower wall of another pool, situated higher up the valley, as shown in the section and in the plan by dotted lines. Being not so deep as the larger or southern one its breadth must have also been diminished. In heavy rain the surface water would come first into this smaller pool, as the *musfaih* or filter, before it ran over to the large pool. The rainwater from the surface of fields always carries with it some earth, and is not clean but muddy; coming into the *musfaih* the particles of earth sink to the bottom, and the clean water on the surface runs then over to the real reservoir. Such a filter pool must be cleared from time to time, and if this is not done it becomes gradually full of earth, and so it is here.

That such an upper pool was once here Rabbi Schwarz states in his book.<sup>3</sup> Now there are flourishing some trees there. But not only is this

<sup>1</sup> Two and a half times smaller than now.

<sup>2</sup> The level of the water when the pool was full required no greater height.

<sup>3</sup> Schwarz, "Das Heilige Land," Frankfurt a. M., 1852, p. 229; *see also* Tobler, "Topographie von Jerusalem," ii, Berlin, 1854, p. 71.

pool now full of earth, but the ground also in its neighbourhood has become higher and higher. Fifty years ago the wall, with the many arches bearing the pipes of the aqueduct coming from Solomon's Pool and going to the Temple area, was more than the height of a man (13 feet high in the middle), and all the arches, nine in number, open; but now they are all shut up, the wall only looking a few feet out from the ground. The next generation will no more understand how their fathers and grandfathers could here speak of a bridge.

On examining the bottom of the large pool, I found that towards the south-eastern corner there has been a cave, the greatest part of the roof of which is now fallen in. This cave was towards the original pool closed up with a thick wall, the remains of which are still there. It may be that a little spring ran out from the cave in ancient times, when the eastern hills were not so much covered with rubbish, in which the rain-water is now taken and absorbed. Such springs are often found in this country, even in the neighbourhood of Jerusalem, running in the rainy season, and drying up sooner or later in summer. If really such a spring was here, it would be the "Dragon Well"<sup>1</sup> (Neh. ii, 13), which would have been the reason for building such a pool here, as was done at Bethel, the lower of the three "Solomon's Pools," and several others in this country.

In enlarging the original pool the side-walls had to be removed and put on either side higher up on the slope, but as the whole ground rises towards the north, the new side-walls would naturally become lower and lower at that end, and become even with the surface of the ground before reaching the north wall; but as a parapet was needed, the walls were carried on except at the north-western corner, where a space 30 feet long was left open as an entrance, where animals from the western main road might go down by the slope into the pool and to the water, at whatever level it was standing.

3. *History of the Pool.*—In the Bible, especially in the Old Testament, pools are often mentioned in connection with Jerusalem, but, except in the case of Siloah, their locality is not stated. In 2 Kings xviii, 17, and Isaiah vii, 3, and xxxvi, 2, is mentioned an "upper pool," and this implies that there must have been a "lower" one, which in Isaiah xxii, 9, is really mentioned. One lying higher up than another could be the "upper" and the other the "lower" pool. As in one and the same valley two old pools are formed—the Mâmilla and the Birket es Sultan, it was only natural to locate those mentioned in Scripture here, and not much can be said against this, nor the identity be fully proved. The pool which Hezekiah made is quite another one, as I have pointed out in the *Quarterly Statement* (1892, p. 9, *et seq.*), situated in the upper part of the eastern or Kidron Valley. In the time of the siege of Jerusalem by Titus, Josephus speaks of pools *inside* the town, but mentions also the "Serpent's Pool"<sup>2</sup> as adjoining Herod's monument, which was found and

<sup>1</sup> See my paper on "The Dragon Well," p. 230.

<sup>2</sup> Josephus, "Wars," V, 3, 2.

described in the *Quarterly Statement* (1892, p. 115), situated just west of Birket es Sultan. This notice proves that this pool (Birket es Sultan) existed when Jerusalem was destroyed by Titus. It is remarkable that afterwards the Talmud does not speak more fully of the pools of Jerusalem—very likely because they were not in any connection with the religious conceptions of the Jews; and the case is the same later with most of the Christian pilgrims, as there was no indulgence of any kind connected with the pools, except Siloah and Bethesda. Even Felix Fabri, who often goes into minute details, does not mention the pool in question, although he often passed along its brink.

The first distinct notices of this pool we have from the Crusading times, when it was called "Lacus Germani," or the pool of a German by birth, who probably had the surname Germanus. That the pool already existed at the time we have already proved, and he not only restored it, but at the same time enlarged it, which proves that he wanted and got two<sup>1</sup> pieces of ground from the Church and Convent of Zion at the foot of this mountain, by a change of another piece of ground or vineyard near the Church of Procopius. These newly-acquired pieces of ground were at the foot of Mount Zion, and below and to the side of his house. He had need of it to make a pool for gathering water from the slopes of the hills for common use and for watering the horses.<sup>2</sup> For repairing the old pool he did not want more ground, but for enlarging the already existing one; and we may be sure that this pool, with the walls, roads, &c., was brought at that time to the size and shape that it has now. The pool not only became larger in extent, but, by the side-walls being placed higher up on the slopes, much deeper, and so the south wall had to be made 16 feet higher (*see* Plan and Sections). Germanus's house may have been the one now known as Bishop Gobat's School, of the Church Missionary Society, or perhaps even lower down and nearer his pool, where there is the ruin of a former house close to and a little higher than the aqueduct where it makes a bending. For a proper house the foundations are rather too narrow, only forming a single room; and if really this was his house, he was then a single man who had devoted himself and his property to the service of the neighbours and the whole community. Other traces of former houses I have not yet detected in this neighbourhood, except on the opposite hill.

All such waterworks require to be often looked to and small repairs done, otherwise they soon go to decay; and so we find that about one century later, according to the inscription given by Schwarz and Schulz (*see* Tobler in his "Top.," ii, p. 78), in A.D. 1291, Sultan Muhamed ibn Kilian restored the aqueduct and made the smaller annexed pool, and certainly also repaired the large one, which hence was called the Pool of the Sultan, or Birket es Sultan. Marino Sanuto saw this pool, putting it down on his plan of Jerusalem, and so as if it had been divided into

<sup>1</sup> Probably one on the western the other on the eastern side.

<sup>2</sup> *See* Tobler, "Topographie von Jerusalem," ii, Berlin, 1854, p. 72.

several parts, and remains of the north wall of the original pool had been still standing, or at least were recognisable, so that with the aqueduct bridge and the south road there would then have been six cross-walls, and he gives just six strokes across, otherwise his figure is rather a puzzle. About 170 years later (A.D. 1484) it was apparently in decay, as Felix Fabri does not mention it, but speaks of work having been begun to bring water from a great distance to Jerusalem, and removing old water-courses, and making tanks for the storage of water. Whether the work was interrupted for a time we do not know, but it was finished half a century later (A.D. 1537), as is stated by the Arabic inscription on the fountain standing on the south wall of the pool. It is quite clear that at the time of these repairs the above-mentioned strengthening wall was built with the small hewn stones, and also the middle piece of the wall over it, together with the fountain and the pipes bringing the water to it, as also the mosque. When, 28 years later, Helfferich (A.D. 1565) saw the pool empty, this does not indicate that it was out of repair, but that the pool, through the water being used, may have become empty every year. Twenty years later (A.D. 1586) Züallart shows in his plan the four walls, or the well, in a large place embraced on all four sides with a wall, so signifying this pool. Della Valle, A.D. 1616 (I, 159), says: "The water of the Bethlehem aqueduct runs on top of the Bersaba (erroneously called so) Pool as a living fountain." Hence the fountain on the top of the south wall was still in acting condition. And a little later Quaresimus (A.D. 1620) speaks of a wall and embankment, over which the Bethlehem road passed, of low walls on east and west, forming a kind of pool. Zuriner (A.D. 1658) calls these walls strong, and remarks that the channels which formerly brought water to the pool were still to be seen in the north. In A.D. 1673 it was reported that the pool was in good condition; but 50 years later (1723) it is described by Ladoir and Pococke as "ruinous," as all later visitors describe it. Nothing was done in the way of restoration. In 1846, when I saw it first, the south wall was bearing still for the greater part the cement, but this has since gradually fallen down, so that, as above stated, every stone can now be seen. The accumulation of earth in it was much higher than now, as already mentioned, and the pool is now, since about a dozen years, used as the place of the weekly cattle market, as the going down the old rock steps is not very bad for animals. The central flat ground is nearly every summer used as a threshing-place, as the corn, &c., can so easily be watched and protected. The north-eastern comparatively level rocky ground is every year used as a place for pounding hamra.

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