

Ancient City Sewer.—Sir C. Warren mentions (“Recovery of Jerusalem,” p. 255) an underground channel, referred to by Dr. Barclay in his “City of the Great King” in a manner which implies that it was in some way connected with the Virgin’s Fount. It is near that spring, and appears to the west of it on Plan I; the level of its exit is shown on the section.¹ About 40 years ago I entered this rock-hewn channel with a few assistants, and found it quite dry. We followed it in a north-west direction for 400 feet, when a broken covering slab stopped further progress. A few years later I noticed that the main sewer of the city had an outlet about 250 feet south of the Dung Gate, and that the fluid, after running eastward on the surface of the ground, fell into an opening near the road going down to the Siloam Pool, and then, continuing underground, came to the surface again at the exit mentioned above. Thence the fluid ran down the steep eastern slope of Ophel to the gardens in the Kidron Valley. This state of things lasted a few years, when a change was made and the fluid was carried down the Tyropæon Valley to the *Birket Hamra*, below the well-known small pool of Siloam. This sewer² is certainly old, and in ancient times it probably crossed the Kidron Valley in a diagonal line, below the “King’s Pool,” and, running southward, passed to the east of Bir Eyyûb.

THE RECENTLY-DISCOVERED AQUEDUCT FROM THE VIRGIN'S FOUNTAIN.

From a Paper by Dr. MASTERMAN.

THE work in the basin of the Virgin’s Fount, described by Dr. Schick (p. 29), was carried out by the *fellahin* of Silwan; and the overseer he mentions was Juma’a, one of Dr. Bliss’s most trusted and skilled workmen. Juma’a, acting upon what he had heard Dr. Schick say to Yusuf Pasha, commenced digging on September 9th, and came upon the aqueduct.

On September 14th Mr. Hornstein, who is in close touch with the *fellahin* of Siloam, brought Juma’a and some of his assistants

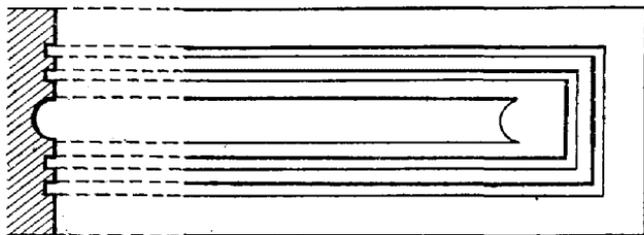
¹ Not published.

² This is probably part of the ancient sewer of the City of David, on the eastern hill. It could not well have served as the sewer of the western hill before the Tyropæon Valley was filled with rubbish.—ED.

to me to ask whether I could lend them some of the Palestine Exploration Fund planks for supporting the sides of the excavation. As the property of the Fund had been left in my charge by Dr. Bliss, I felt that I might safely lend the planks for a purpose so entirely in accordance with the work of the Fund. But in addition to this, I felt that the opportunity of seeing this new discovery was too good to be lost. Mr. Hornstein and I accordingly decided to visit the excavations in the afternoon. We found the work arranged in a most business-like way—like one of Dr. Bliss's own shafts—and we were lowered down in the same way that we had often before descended the Fund's shafts. A little scrambling on hands and knees brought us to the beginning of the aqueduct. After passing through a larger chamber in which we could stretch our backs, we advanced along a passage of lessening height, until at length we had to lie flat in several inches of mud and running water and wriggle along on our faces. After some 20 feet of this we reached the more perfect part, along which we advanced, sometimes crouching low, but usually on hands and knees, for some hundred feet. The narrowing of the channel and the assurance that in any case we could get little further, and that there was nothing more to see there, decided us to return.

I will now give a brief description of our joint observations on the tunnel. We traced its course for 176 measured feet. The last 100 feet are exceedingly winding, and the measure "cut corners" in such a way that no doubt the actual distance traversed was greater by several feet. The first few feet from the shaft are only partly excavated, and lie chiefly in earth and stones. Then the channel is seen to be rock-cut in the floor of the passage, and at present, at any rate, uncovered, *i. e.*, with no covering slabs. At a distance of 32 feet from the entrance there is an irregular chamber bounded by earth and stones, in which the water drops down over an evenly cut drop of 2 feet between sides of beautifully cemented rock or stone walls. There is no sign of any flagstones covering or having covered the channel. This nicely finished piece of work is only about 5 feet long, and then the channel runs under a roughly-cut rock roof with smooth stone floor and sides made of small irregular stones firmly embedded in abundance of black cement. From this point, as far as we traced the channel, the sides were of this character. The cement looked as new as when it was put on, indeed, the wet black made one continually think that it must be

fresh dark mortar, and I several times instinctively felt whether it had hardened! The floor, though thickly coated with soft mud in places, and at other parts covered with *débris* fallen from the roof, was, as far as could be felt, either smooth rock or very smoothly plastered. It seems all the way to be in good condition, as a continuous flow of water, apparently undiminished, accompanied us as far as we went. The roof, after a short distance of rock and a further part (where it has given way in several places) of stones and earth, is covered with flagstones, and near the point where we stopped we found a stone evidently taken from some old building. Its length was only exposed for 1 foot, and its width is 8 inches. On the under surface projecting into the tunnel was a well-cut pattern, of which I made a rough drawing.



A little further on, where the plaster was even more plentiful than usual, we found it for several square feet covered with herring-bone lines. On returning *via* the Valley of Hinnom we saw similar marks upon the plaster on some ruins there.

The only other mark of interest we found was upon a smooth surface of plaster on the right hand side, 44 feet from the entrance. It looked as if it had been made deliberately. The long stroke is about $1\frac{1}{2}$ inches long. The plaster between the stones is not very carefully rendered, and shows the marks of the tools.

As regards the direction of the channel we unfortunately cannot speak with certitude. At the beginning it ran down the valley, but some distance in made a great sweep towards the west.

The height of the aqueduct, where perfect, varied greatly. Occasionally it was as much as 6 feet, but the average was only about 4 feet 6 inches. The width was fairly regular. Our measurements gave from 1 foot 5 inches to 1 foot 8 inches, at about

2 feet 6 inches from the bottom. The tunnel is very winding, and its width was greatly lessened at one or two places by projecting masses of rock or large stones. Probably the numerous turns were made to avoid such obstructions. All the way there was a stream of running water from the spring.

Dr. Schick, who is very interested in the find, has kindly pointed out to me his notes about the "Second Siloam Tunnel" in the *Quarterly Statement* for 1891. It seems natural to conclude that this is the upper part of that tunnel, especially as Dr. Schick pointed out the very spot at which it might be expected to leave the Virgin's Fountain. At the same time it may be noticed there are several points of difference. *This* aqueduct contains a good stream of running water, is in perfect condition most of the distance traced, has a very regular width (much narrower than Dr. Schick's tunnel), and, as far as we have seen, contains none of those doors, obstructions, caves, &c., described in Dr. Schick's paper.

It occurs to me that it is most probable that the first 34 feet of rock-cut tunnel was open to the air originally, and it *may* be that this was the original exit of the water . . . down the Kedron Valley until it was stopped by Hezekiah (2 Chron. xxxii, 4) spoken of in the "Memoirs" ("Jerusalem" volume).

N.B.—References to the Second Tunnel will be found in *Quarterly Statements* as follows:—Vol. for 1836, pp. 92, 97; 1837, p. 104; 1890, p. 257; 1891, pp. 13, 199.

NOTES TO ACCOMPANY THE PLAN OF JEREMIAH'S GROTTO.

By BAURATH DR. CONRAD SCHICK.

ON reaching the door (*a*) in the old wall, one sees to the right a new building which projects southward into a vineyard. Passing through this door and a small hall, in which are shafts of pillars, one notices several paths, and a garden enclosed by new whitewashed walls about 5 feet high. The principal path does not run direct to the new entrance to the mosque, but turns west and then north to avoid three tombs. Entering the garden, and following a path which leads past the tombs, we come to a gate (*b*) in a higher wall and reach a paved court by a small flight of steps. Beneath this court is a remarkable rock-hewn cistern, which has, in its centre, a massive square pier of rock to support the roof. The mouth of the cistern is near the rock-scarp at the north end of the court, and its floor is reached by a flight of steps