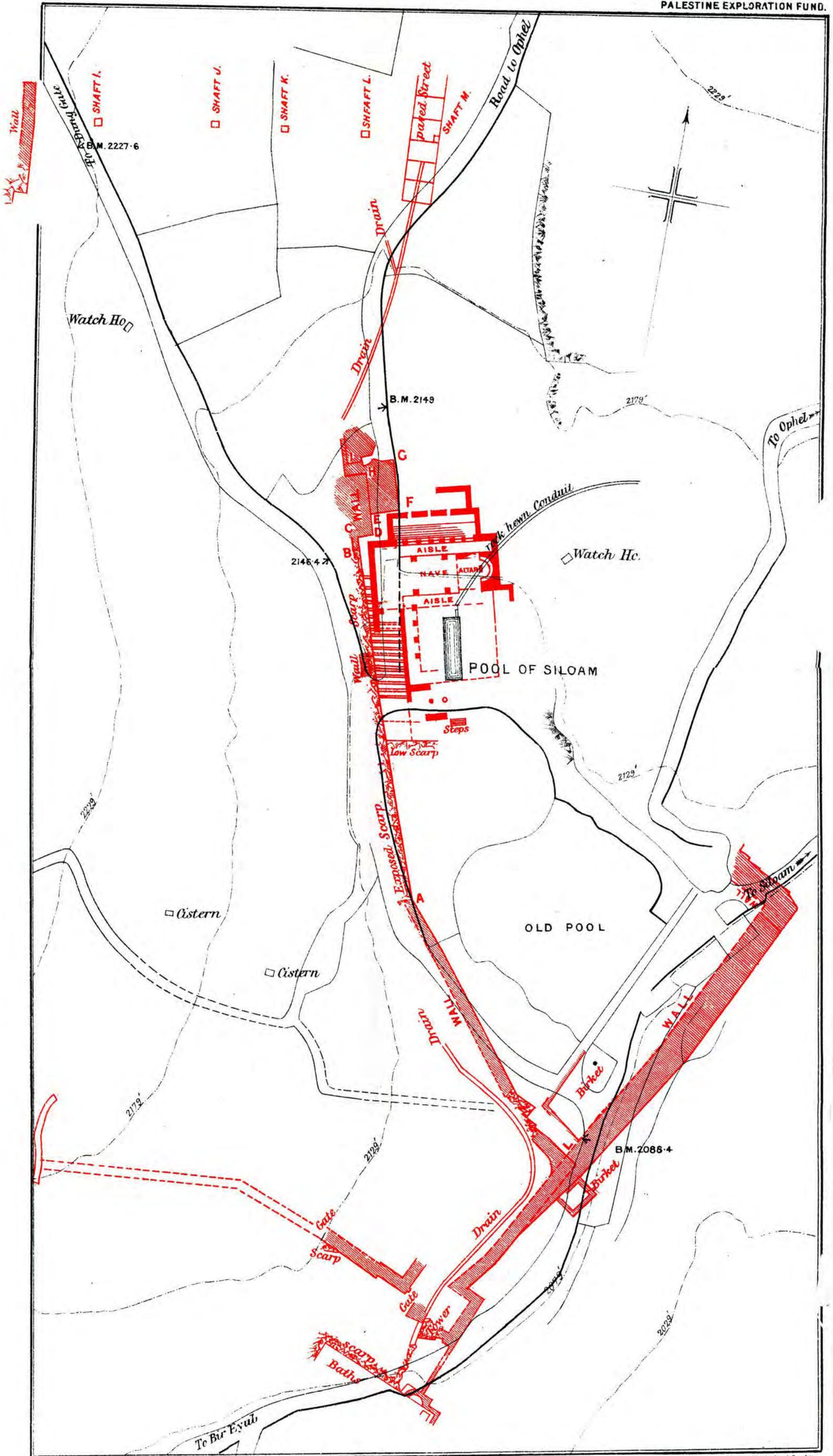


PLAN TO ILLUSTRATE DR BLISS'S ELEVENTH REPORT.
 The Detail in Black from the Enlarged Ordnance Survey Plan, the Excavations in red.

PALESTINE EXPLORATION FUND.



ELEVENTH REPORT ON THE EXCAVATIONS AT JERUSALEM.

By F. J. BLISS, Ph.D.

THE present report is intimately connected with the last, as it shows the development of certain clues already given during the summer season. The results obtained have been in part positive and in part negative, with a decided balance in favour of the former. We have proved that the built stairway made use of a system of rock-hewn steps, probably older, and lead to a court in front of the Pool of Siloam. Our work at the pool itself, taken in connection with that of Dr. Guthe, has determined its ancient limits. An historic church has been discovered so excellently preserved that we have been able not only to recover its main outlines, but to trace many particular features. The paved road to the north of the pool has been traced 30 feet south of the point described last season. Valuable work has been done on the wall crossing the Tyropæon below the pool, and its south-east angle has been found. The season has had its disappointments, the chief one being our failure to find the continuation of the wall to the west of the old pool.

This wall, it will be remembered, was traced from L to A, the last part being on a scarp, which ran on for 290 feet from A to B. Between these two points no wall was found on the scarp, the top of which could not always be seen, for reasons given, except that a few stones were seen between the top step of the stairway and B. This wall continues to C, with an unsatisfactory face, from whence we described it in our last report, as breaking out 14 feet to the east, where it forms a strong corner at D, the masonry along the line CD being much better than that of the line BC. At E the wall breaks out to F, where it again forms a strong corner. It then runs north to G, to which point it was traced when the last report closed. From the corner G we tunnelled west along an irregular face to I, where the wall runs out to nothing. The enormous thickness, FG, ascertained at a point midway between F and G, proves that EFG is a solid mass of foundation work, added on to DH. For DE continues back of EF as far as H, and while tunnelling along a miserable face between F and G we were really quarrying through this added blockage. Following the face to the west for 18 feet from H we found this wall also running out to nothing. Attempts to find its thickness made from the east and north proved that this also is a great foundation blockage.

The work done here during the last season illustrates the dangers of trying to make a report intelligible when a given excavation has not been exhaustive. Arguing from the massive nature of the wall between C and G, we had assumed that it was connected with the bit of wall, BC, which was supposed to have been once joined to the wall L to A

by a wall on the connecting scarp. The first part of this theory has now been proved untenable. Having lost all clues to the north, we returned to the crucial point C. A few hours' work showed that the wall BC is unconnected with CD, the latter forming a true corner at C, with a face running to the north. Against this earth is piled up, showing that whatever the wall BC may have been it is quite gone north of the point C. BC is much ruined, and appears to be of slight thickness, though the rapidly rising rock to the west makes the question of its original breadth uncertain. The exact purpose of the great blockage CDGI is undetermined, though the work upon it has cost us an infinite labour of tunnelling and quarrying. As the fall in the rock between B and F is $15\frac{1}{2}$ feet (the blockage at these two corners resting on the rock) it is evident that we have here a filling up of the valley to support some important building. Its relation to the Roman Stairway and to the Byzantine Church indicate that it is later than both of these. The line IG, though a real face, does not indicate the extent to which the valley has been blocked up with masonry, for in a shaft immediately to the north, from which the line IG was reached, we had to quarry through a confused mass of building to a depth of 20 feet, below which there was soil.

The absence of a western door in the church (to be described later) favours the idea that a wall once ran along the scarp from A to B. This may be either city wall, interrupted by the later blockage, or a wall to protect the two pools. It is possible that part of this wall may have been seen by us. At a point about opposite the south wall of the pool we drove a tunnel west from the top of the scarp and at a distance of 6 feet, we found a fragment of wall 8 feet thick. Only 11 feet of its length remain. Two courses of dressed stones appear, 18 and 20 inches high respectively. The stones have chisel-drafted margins, with centres projecting from $\frac{1}{2}$ an inch to $\frac{3}{4}$ of an inch, chisel-picked. They are well squared and set, no lime being used on the face, though it was observed on the inside of the wall. It resembles the masonry found at L in the line LA. Search for a continuation of this wall was made by driving a tunnel west from C for 20 feet, but nothing was found.

While sinking a shaft to the west of the road in line with the series of shafts across the Tyropceon (*see* plan), we came on a wall whose thickness of 8 feet showed it to be worthy of examination. It rests upon a scarp, found at one point to be 9 feet high. Several courses are standing for a distance of 61 feet south of the point where it strikes the road. Then for 33 feet there are clear indications of masonry foundations, continuing as the scarp turns west for 9 feet 4 inches, where it again was traced south for 11 feet. Here the excavation was temporarily suspended. Twenty feet south of the road there is a rock-hewn chamber cut back into the scarp, with two square doorways, roughly lintelled by the wall, which here is 12 inches out from the face of the scarp against which it is built. The scarp thus seems to be older than the wall, but the chambers

were still in use when the latter was built. Indications of rock-chambers were also found near the turn of the scarp further south. The masonry of this wall consists of rough stones set in lime, with courses averaging 10 inches high. Though its scarp is not in line with the scarp to the west of the pool, we intend to trace it further south.

In the meantime, we have been pushing a tunnel north from IH in the hope of catching any line of city wall that may cross the Tyropœon. Up to the time of writing, 80 feet of tunnelling in the rock have revealed no signs of such a wall. Negative results are sometimes as important as positive ones, and in looking at the plan the reader must remember that the red lines by no means indicate the whole of our work.

Far more satisfactory has been the work along the wall which crosses the Tyropœon Valley below the pool. Various periods of reconstruction are indicated by different kinds of masonry, proving this to have been the line of the city wall for a very long time. We cannot hold Eudocia responsible for them all, though this Imperial lady has complicated our excavations at various points. Our work here has been very extensive, but it is still going on, and I prefer to reserve my description till this corner has been carefully drawn in detail.

The great stairway to the west of the Pool of Siloam was generally described in the last *Quarterly*, but further investigation demands a few alterations. On the west the steps butt up against the scarp, and on the east against the west wall of the original pool, which also served as their parapet. As the scarp and wall are not parallel, the breadth of the steps varies from 27 feet at the top to 22 feet at the bottom. The number of steps is 34. They vary in height from 6 to $9\frac{1}{2}$ inches, and are arranged in a system of wide and narrow treads alternately, the wide treads from 4 feet 3 inches to 4 feet $11\frac{1}{2}$ inches, and the narrow ones from 11 inches to 17. The main part of the stairway, as seen, consists of steps built of hard, well-jointed stones, laid on a bed of chips and weak mortar, formed of mud and lime. But pushing along the whole breadth of the stairway along step A (see plan of Stairway and Pool) to the parapet wall, we found that for 10 feet 9 inches from the scarp the tread consists of the natural rock well polished by foot-wear. For a foot from the scarp the tread is 6 feet 4 inches broad; for the rest of this distance the breadth varies from 3 feet 9 inches to 3 feet 4 inches. Then for 5 feet the tread consists of a patchwork, the irregular rock being levelled up with bits of paving. Here the breadth has the normal measurement of 4 feet 4 inches, the additional breadth being furnished by a stone step which could never have been straight to the scarp, as the plan and section EF will show. From this point to the parapet the tread is of laid stones. In our tunnel down the steps, a few feet from the parapet, we found several instances where paving stones levelled up the rock, but in general the steps were built. However, pushing a tunnel south from A, along the scarp, a system of rock-hewn steps, well polished, appeared. Their treads are of varying breadths, one of them being patched up with a stone step. They are at slightly higher levels than the corresponding steps of the stair near the parapet.

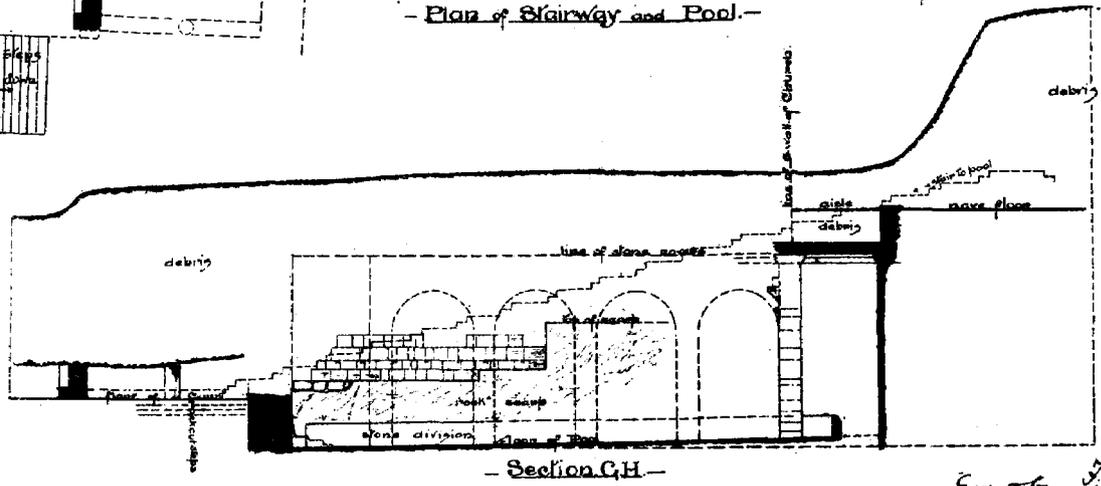
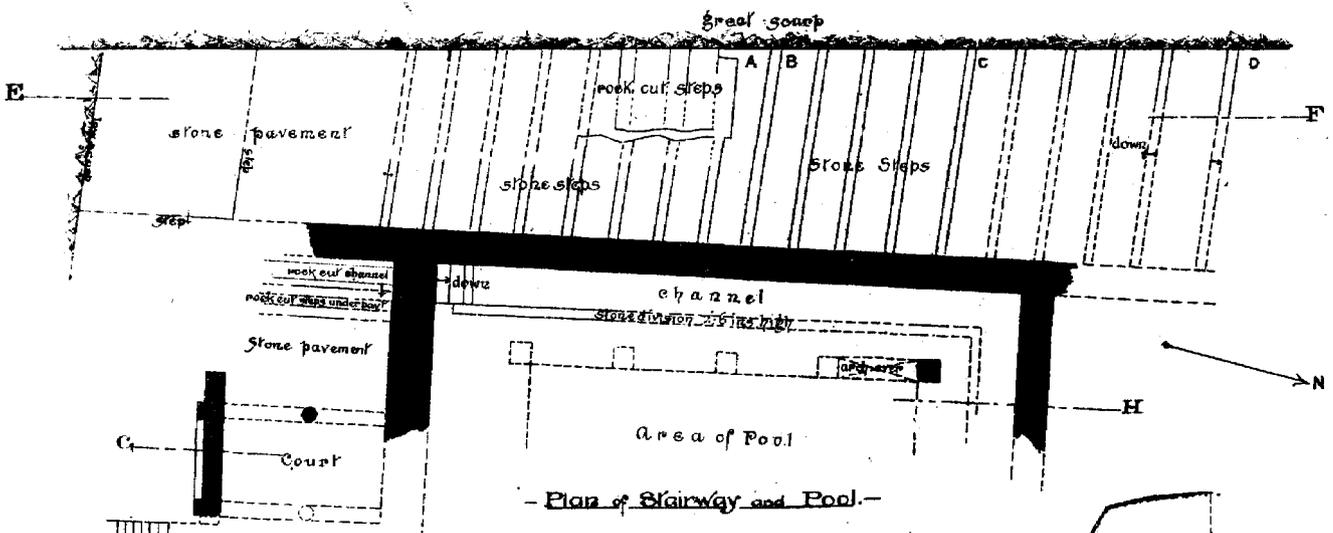
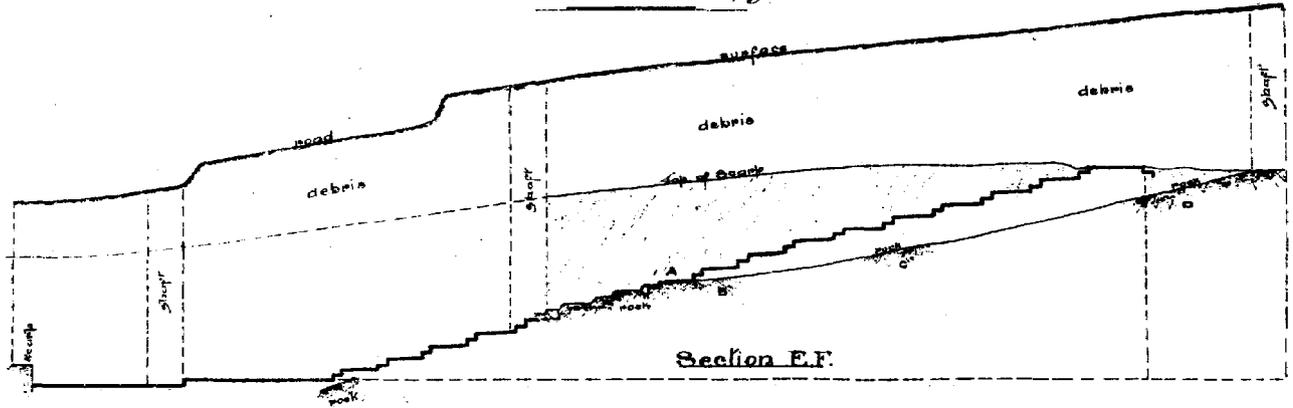
Accordingly, it is needless to say that they do not represent an older system of steps, covered at a later period by stone steps which have since disappeared. But that they represent an older system of steps, enlarged and extended by the builders of the stone system at this point, seems probable. Though well polished by foot-wear, they are very rudely cut, in great contrast to the well-squared stone steps, and the two cannot be ascribed to the same constructors. Had the rock fallen naturally at the time of the builders of the stone steps at this point, they would either have cut well-squared rock steps or have cut down the rock to a level admitting of the insertion of stone steps to correspond in level to the rest of the system.

North of A we removed stone steps at the points B and C to find out if the rock was cut into the form of steps. In both places it was found to be in a natural irregular state without foot-wear, and at C some of the red, natural soil was still clinging to it. The rock was also seen below the top of the stairway at D. The easy fall of the rock shows that the road might have run along the red earth, without steps, as far as A.

The top of the stone-step system is shown by the much broader tread at D and the single step *down* from it to the north. The approach from the north is one of the unsolved problems. The stairway points to the fine paved road further north. But between them interposes the curious large blockage which we had wrongly supposed to be part of the city wall. Although this building rests on the rock, which falls rapidly to the east, we are forced to suppose that it was erected after the steps were disused, for so magnificent a stairway must have had a clear space in front of it. We pushed 20 feet east from the corner C of this blockage, partly to see whether the approach to steps might not have been to the west of it, but the rock rises so rapidly that this theory is impossible. Accordingly I infer that the paved road once led down to the steps, especially as they are of the same class of work. Further investigation may help to settle this point.

Though our excavations at the pool were not undertaken originally for the sake of studying the pool itself, but rather to determine questions relating to the stairway and the church, before showing the connection between the stairway and the pool it will be convenient to show first what light has been cast upon the latter. We first struck the western wall of the original pool, where we found step A butting up against its western face, which thus also served as a parapet for the stairway. In the last report I gave its thickness at 3 feet, and said that it was set back from a scarp. Further investigation has shown that the true eastern face had been ruined, and that it was originally plumb with the scarp, giving a thickness of 4 feet. For on sinking with the scarp and tunnelling south we found the true face of the wall, in line with the scarp, the latter rising here for 5 feet 6 inches, as may be seen in section GH. This wall was traced south for over 30 feet where a corner was reached. At this end five courses of masonry were seen, the lowest, of rough stones, set on the top of the scarp. The courses vary in height from 12 to 18 inches.

Excavations at Pool of Silwan



Excavated by J. D. Bliss
 Plans drawn by A. G. D. Bliss

The stones are mainly small, their lengths varying from 1 to 3 feet. They are well jointed and set in lime, with a fine comb-pick dressing, appearing faintly, as the wall is much weathered. At intervals varying from 3 feet 1 inch to 4 feet 2 inches in the second course of good masonry from the bottom, are bevelled sinkings in the stones $5\frac{1}{2}$ inches square, $1\frac{1}{2}$ inches deep at top of stone, the bevel running out as it descends. They look like cuttings made for the purpose of a raking strut to shore the wall, but why this should have been necessary in a course practically resting on the scarp, is hard to explain. Fallen in front of the wall were two large stones ornamented with an inverted ogee moulding and fillet. The scarp is not very well worked, and has a decided batter. The wall turning to the east from the corner is 5 feet 3 inches thick. At the angle three rock-hewn steps were found, descending to the north. East of these steps a pavement appears. At a distance of 4 feet 6 inches from the west scarp, and running parallel to it, a stone division was traced for 21 feet. This is 2 feet 6 inches high, $12\frac{1}{2}$ inches broad, and has a rounded head, as seen from section GH.

We had thus reached the south-west angle of the original pool. The north-west and north-east angles had been determined by the excavations of Dr. Guthe, giving to the northern wall a length of 75 feet. The west wall runs at right angles to the northern wall, and the distance between the south-west and the north-west angles is 71 feet; hence we have proved the original pool to have been almost square. A happy accident permitted us to see the north-west angle. While sinking a pit in search for the south wall of the church, a thick block of stone was observed at one side of the pit, under which the earth began to run. Crawling under the stone, we found ourselves beneath a roof of huge covers extending from the top of the wall to a large pier. The earth which had once filled the place had sunk, leaving an area some 4 feet high where we could examine this north-west angle at our leisure. The cover at the angle has a clear bearing of 10 feet by 9 feet 7 inches. The moulding of the wall is precisely similar to those found on the stones fallen in front of this same wall further south. The masonry is also quite similar, but as the roof is here preserved, the stones are not weathered. Dr. Guthe indicates on his plan the position of the pier but as he does not draw this in elevation, we sank a shaft along its side, desirous also of comparing the level of the floor with that of the pavement found near the south-west corner and with that of the modern pool. At a height of 12 feet 9 inches from the pavement, the first springer of an arch is seen on the pier, indicating an arcade on this side of the pool. Some of the stones of the pier have a fine comb-pick margin, with a very fine pock marking in the centre. The level of the floor of the arcade at this point is 1 foot higher than that of the pavement found at the south-west angle, and is level with that of the present pool at a point opposite, strong indication that the portico was included in the pool itself, a fact also proved by the relative levels of the portico pavement and the outlet channel, to be noticed presently. The stone division with rounded head was found to be

in the same position relative to the wall as seen to the south. The north-east angle of this same division, evidently a feature of the arcade, was seen by Guthe, as well as a considerable portion to the west and south of the corner.

We may safely assume that the arcade ran around the four sides of the pool, and represents the "quadriporticum," or four-sided arcade of the Bordeaux Pilgrim. The channel left between one division wall and the limits of the pool was found by Dr. Guthe to have a cement bottom. The rounding of its head towards the channel, and the extreme polish on its stones, suggest that it may have been used as a bench where pilgrims could have sat and bathed their feet. The depth of this channel he did not find. A tunnel in the rock, forming the base of the south wall of the pool, shows how the overflow was carried off.

A glance at section EF will show that a large part of the western wall of the pool was hewn out of the solid rock. I have spoken of this arcaded pool as the original pool, viewed in relation to the present pool, which is a contraction within the area of the former. However, it seems probable that this rudely-hewn scarp indicates the western line of the pool before it was built up in Roman times.

To the south of the pool wall an extensive pavement was found, 5 feet 9 inches higher than the level of the pool pavement. This allows for a depth of water available for all bathing purposes. The southern limit of the pavement was shown by the low scarp, some 37 feet south of the pool wall. Leading down on to this pavement from the south were found eight steps, the stairway being ruined at the top. We have here evidently a court in front of the pool. Resting on the pavement (and hence constructed after it) was found a wall with a column in front of it, also placed on the pavement.

The west wall of the pool was also used as a parapet for the stairway, and this continues south beyond the pool corner. In the south interior angle were found several rock-cut steps, all below the level of the pavement which has now disappeared at this point, but which once must have covered them.

We are now in a position to suggest, with great probability, the *terminus ad quem* of the two systems of steps described above. They were both of them means of access to the pool. The rock-cut system, traced for only a short distance south of A, may have descended to a point just opposite to the rock-cut steps just mentioned, and then have turned at right angles to the scarp terminating with these latter steps. The built system terminates in a level pavement which extends south for 18 feet, when a step down occurs. This pavement continues south (in a more or less ruined condition) for 19 feet, when it butts up against the scarp afore-mentioned. A step to the east, however, brings it on to the pavement of the court in front of the pool. At the point where last seen the south wall of the pool was ruined down to the level of the pavement, hence it is probable that the entrance from the paved court no longer exists.

The most complete discovery of the season is that of the church immediately to the north of the present Pool of Siloam, and with its south aisle built over the north arcade of the ancient pool. To what an extent this discovery is complete may be seen from the plans and sections. Not only has the general form been recovered, but we have found many of the details, and the only part not clear is that just within the west wall.

The inside measurements of the church are as follows:—Length, 84 feet; breadth, 51 feet 6 inches; width of nave, 25 feet 10 inches; width of aisles, 10 feet 5 inches; assumed length of atrium, 62 feet; ascertained breadth of atrium, 17 feet 8 inches. The church is remarkably well preserved for a buried building. The flooring was found to be intact, wherever we struck its level, with the exception of a large part of the north aisle, and a portion of the west end of the church. In the arcade the west pier stands to its full height, as especially determined, while the tunnel, though in places 7 feet high, did not reveal in most cases how much of the others still remain. The west wall is preserved in places to a height of 6 feet, as is the south-east angle of the chapel. The steps of the apse are largely intact.

The discovery was made by accident and illustrates a frequent experience of the excavator, who, in searching for one thing, often finds another. I have shown (on p. 302 of the *Quarterly* for 1896) how we pushed east from the scarp along the top step of the great stairway, in the hope of finding its breadth at that point, and how, 7 feet from the scarp, we found a wall, 4 feet 4 inches thick, running not quite parallel to the scarp. I showed that this wall was later than the steps, as these were broken off irregularly to give place to it. Since then in digging in the south aisle we have found a continuation of the steps buried beneath the level of its flooring. Even while writing the last report I had a hope that we were on the track of the ancient church, which is known to have existed near the Pool of Siloam. But as my guesses could not then be supported by any evidence, I withheld the suggestion. On our plan, published with this report, the hard lines represent parts actually seen, and the dotted lines those inferred. On first looking at the plan and noticing the great preponderance of hard lines, the reader will naturally suppose that, were he on the ground, at one glance he could see the whole form of the church, and that by walking about he could study the details in the open air. Such, however, is not the case. Expecting to see a church, he would find only a cauliflower field. The whole floor, with the exception of the south aisle, where the soil is slight, is still buried under a mass of *débris* varying in height from 12 feet above the atrium to 22 feet above the north aisle and the nave. Section AB is valuable in showing how impossible it is to infer original levels from modern terracing. The recovery of the church is due to a system of tunnels, the added lengths of which come to more than 500 feet. As the length of the church and its appendages is only 115 feet, and the breadth 100 feet, how completely honey-combed the excavated area must have been will

appear at once. How ticklish some of the tunnelling was, will appear in the course of my description of the excavation.

When we had discovered the west wall, as recorded above, we sunk to the flooring, which we found to be of stone pavement, and pushed southwards to its south-west corner, in a tunnel separated from the lofty tunnel above the steps only by the wall itself, which, fortunately for safety, stands here to a height of 6 feet. On the outside, this wall consists of well-squared, well-set stones, in courses averaging 21 inches high, set on large foundation work, rudely laid. The dressing is plain-faced, comb-picked or chiselled; a few margined and picked-centred stones are seen. The faces of the joints have a rough trowel pointing. It extends indefinitely to the south beyond the place for the south-west outer angle of the church, though the masonry grows ruder. The inside face of the wall is plastered.

Turning to the east, we tunnelled 6 feet from the corner, coming upon a door, with a step of 7 inches leading to a small chamber paved with white tesserae. Going over its east wall we found this running for some distance to the south, burying the great stairway. The south and east walls of this chamber have been merely dotted in on the plan for reasons to be explained later.

Returning to the point where the church pavement had first been struck, we pushed north to the internal north-west angle of the building, but at a distance of 15 feet from the corner the stone flagging gave place to a patterned mosaic. It is curious that there is no corresponding bit of mosaic in the south-west angle. The west wall was thus traced from corner to corner on its inside, but no door was found in it. This is explained by the rapid rise of the rock to the west. This lack of a doorway also helps the view that a wall ran along the top of the scarp a few feet to the west. In any case, a main north entrance would have been more convenient for those approaching from the city. This north entrance was actually found later.

In the meantime, striking in at the right spot, we had found the exterior north-west angle of the building. We pushed eastwards along a pavement some 10 feet higher than the floor of the church, and, at a distance of 19 feet, we came upon a wall running north from the wall that we were tracing. The pavement was traced for some distance north. Pushing eastwards over the top of this wall, and finding no pavement, at the same level, on the other side, we sank a shaft in the tunnel down along the face of a pier, apparently terminating the north wall of the church at this point, striking what appeared to be a paving stone, some 40 inches above the level of the church flooring as ascertained before. This paving stone, however, was soon shown to be the top of a step, with an 8-inch rise, and pushing south we followed down five steps, coming then on to a mosaic which thus turned out to be at the exact level of the flooring of the building. The pier still stands to its full height, and fortunately the cornice is preserved. It was supposed to be the side of a door and was thus marked in the last plan. To find the other side was

impossible without another shaft. We had passed underground from the property of one man to a point under the gully which was formerly a road but is now used as the open drain of the city, and which bounds the land of another proprietor. These fellahin give us *carte blanche* to work in their lands (for a proper compensation!), but no man will let us penetrate an inch into his property if we approach it subterraneously from the land of another, for these stones which may rightfully belong to him will emerge into the open air from the shaft in the field of his neighbour, who will set up a counter claim. Accordingly, we sank a new shaft at the point where we expected the other side of the door, and came right down upon the steps and also upon what we supposed to be the corresponding door-pier. Further investigation, however, showed this to be an isolated pier, about square, set back $1\frac{1}{2}$ inches from the lowest step. Its original south face was 2 feet 6 inches broad, but it had been strengthened by an additional pier 30 inches broad. The two periods are clearly shown by the straight joint between them and by the fact that whereas the tread of the fourth step from the bottom is broadened to join the back of the original pier, such is not the case with the addition (*see* plan). We then pushed a tunnel eastwards on the mosaic flooring, keeping in view the two lowest steps, and 7 feet 4 inches from the first isolated pier we came upon a second, consisting of a monolith to the height seen, which was 40 inches. At a distance of 7 feet 2 inches from this another was found. By this time it was clear that we were working along an arcade, and the discovery of three more piers confirmed the idea. A little beyond the last of these the border of the mosaic turned south, and we soon found the corner pier and the end of the steps. Turning east we followed along a step (7 inches high) till we came upon another pier and a stone step running south, giving the breadth of this arcaded north aisle of the church. The northern step leads to a chapel railed off in a manner to be described elsewhere. The floor of the chapel is of stone flagging.

The length of the arcade is 64 feet. A glance at section CD will show how rough the construction is. The inter-columnar spacing is irregular, with an extreme variation of $3\frac{1}{2}$ inches, and in the breadths of the piers there is a maximum variation of 5 inches. These are built of stones set in lime roughly dressed with the comb-pick, except the monolith, which is chisel-picked. From the irregularity of the courses one would gather that they had been plastered like the rest of the church. The two bottom steps leading down to the arcade were traced along its whole length. The six lower steps were seen in the shaft, and the six higher ones in a tunnel at another level. Measurements between allow for four more, making 16 in all. It is not impossible that an extensive excavation might reveal the whole stairway still preserved.

The pavement of the atrium and the westernmost of its three doors had been seen last season in a shaft which we sank in search for the city wall, but at that time these had no meaning for us. However, when we followed up the steps, crossed the pavement of the narthex, and broke

through its wall at the north-west corner we found ourselves on this same pavement, and were able to see its connection.

The south wall of the atrium was traced for its entire length, and three blocked-up doorways were found in it. On removing the blockage we observed curious grooves on the outside sills and jambs. The sockets indicate that the doors were double. Opposite the central doorway were found two columns. In the joint between the shaft and the base is a heavy lead bedding, the shaft being merely set on the bed, without joggles or other fixing. The entire shaft of one is still standing, its top being 7 feet 9 inches above the pavement, and only 5 feet under the surface. At the east of the atrium were found offsets from the door-piers, 20 inches high, which were evidently used as benches. Against the west pier of the central doorway we have dotted in on the plan another bench or seat, as a rough portion in the otherwise smooth masonry (here ruined down to one course) corresponds exactly in position to the bench against the east pier, which has also rough masonry behind it. In the east wall several courses are still standing. These continue west in the north wall for about 4 feet, where it is ruined down to the bed of the first course above the pavement. This low course continues to the point indicated on the plan, where it is ruined completely, though the pavement continues. Ten feet beyond in the same line is a rough wall, evidently of the period of the filling in of the doorways. No sign of the doorway which must have existed in the line of the north wall remains, though careful search was made. The atrium must have had a west wall, but its place is now occupied by the huge blockage of masonry, which thus probably represents a later period. We have seen before how this same blockage had also obliterated all signs of approach to the great stairway. Builders are unfortunately not properly considerate of the unborn excavator.

The excavation of the apse and choir was a somewhat anxious affair, as so many features in a very limited area had to be sought for by tunnelling. The fear was that by following a false clue we might render it impossible to tunnel in the vicinity. As it was, we were obliged to fill up some places immediately after the remains were measured, so that we could go on with safety. The plan shows that a wall separates the choir from the north aisle, with two steps leading up to the choir through an opening. The discovery of the apse, with its five steps, was a great relief, as it was the first sure proof that we had found an ancient church. The southern half of the apse was seen in a shallow cutting made at the base of the terrace, and connection being made with the former tunnel, the ventilation was vastly improved. Access to the church was rendered only too easy, and a guard had to be stationed at the spot on Sundays to prevent the entrance of people whose curiosity might have lead them to pull stones out of the tunnel roof. The soil here being so slight the south wall of the choir is gone except one stone. The white marble pavement, partly set in geometrical pattern, is fairly well preserved. A wall was found showing the existence of a chamber to the south of the apse. This had been used at a later period, as proved by walls butting up against it.

Signs of a painted pattern were found on the plaster of the choir wall.

The north wall of the choir is built on the step, 29 inches broad and 3 inches high, which is thus proved to belong to an earlier period. We followed this in a tunnel parallel to that which had revealed the piers of the arcade, and separated from the latter by a pier of earth only 5 feet thick. Fortunately the soil was very firm, no boxing being required. On reaching the exterior north-west corner of the choir, we drove a tunnel to the south, soon finding the two steps leading up to the choir, and two small column bases at the entrance. Between the two columns (the mouldings of whose bases are dissimilar) is a 3-inch sinking in the choir floor, measuring 3 feet 2 inches by 2 feet 8 inches. Desirous of examining the east and west central axis of the choir, in hopes of finding the position of the high altar, we drove a tunnel east as far as seemed prudent, working from that direction, and then working back from the tunnel in front of the apse, we made the connection, coming upon a stone slab set in the marble pavement. Before we could safely examine the limits of this, the first tunnel had to be filled up. This stone is 6 feet 3 inches long by 3 feet 2 inches broad, and a $\frac{3}{4}$ -inch sinking was found in the angle. It occurs exactly in the position for the high altar, which doubtless once stood upon it.

In the angle of the pier north of the apse, another interesting discovery was made. At this point the marble flooring was ruined. Let into the angle was found a sunk box, with sides and bottom formed of red stone slabs varying in thickness from $\frac{3}{4}$ inch to 3 inches. Its bottom rests on 4 inches of earth, burying the pavement in use before the choir wall was built, hence it belongs to the second period of the church. The internal measurements are 23 inches by 8 inches, the depth being 16 inches. The top is entirely gone and nothing was found in it. It reminds us of a discovery we made two years ago of a box sunk under the centre of the apse in the church found on the Mount of Olives. The objects found in this latter box are figured on p. 104 of the *Quarterly* for April, 1895. We decided that this was used for a reliquary; accordingly we may assume that the box found in the Siloam Church was used for the same purpose. The difference in the position of the two boxes should be noticed.

In the meantime we had been continuing our tunnel west for 40 feet from the north-west exterior angle of the choir, and had come upon the two great piers built upon the stone step, hence evidently belonging to the later period of the church. These were puzzling at the time, while the dwarf wall running between them is still unexplained.

The aisle mosaic and the stone step separating the aisle from the nave continued the whole length of our tunnel. The step, however, does not extend to the west wall of the church, and the mosaic at the north-west angle is of an entirely different pattern. I am sorry that these discrepancies were not explained, but at first we had expected to recover only the main outlines of the church, and it was not till the excavations were finished that we were aware how completely the remains fitted

together to form a coherent plan. Certain details were, however, wanting; some of these could no longer be supplied, as we had been forced to close up certain tunnels as the work proceeded, and others could be no longer sought for owing to the lateness of the season. For example, further excavation at the west end of the church is now rendered impossible by the rains, as it is under an open drain down which a torrent of water pours, rendering further tunnelling unsafe.

At the south part of the church, the soil being slight, the work was mainly carried on in an open trench. In this was seen the termination of the steps leading to the choir. Through the kindness of Mr. Charles Hornstein we were able to obtain a photograph of the mosaic of the nave. It has the "scale pattern" enclosed in a border, and is similar to the mosaic of the north aisle. The stone step separating the nave from the south aisle was also traced to the point indicated on the plan. On it were found the two piers corresponding to those on the other step. These had at first appeared to be without meaning, but when the two others were found, it became plain that they had been built at a later period to carry a dome. The east wall of the church appears to be completely destroyed, but sure proof of the south aisle was given by the mosaic, still *in situ* but much broken, to the south of the south-west pier.

Various column bases and bits of moulding were found among the *débris*; these, with the ornamentation still *in situ*, will be drawn later on.

Such then are the details of the church we have discovered at the Pool of Siloam, but there remains to us the interesting query as to whether this church is historic or not. The Pool of Siloam is mentioned by the Bordeaux pilgrim (A.D. 333) as having a four-sided portico, but he makes no mention of a church. Antoninus Martyr (A.D. 560-570) describes a church over the pool. Arculfus (A.D. 670), however, who makes a speciality of the description of churches, is silent in regard to the church at the pool. Accordingly we assume that the church mentioned by Antoninus was built after 333, and destroyed before 670. To assign a builder to it is not difficult. The Empress Eudocia, who died in May, 460, spent the last 10 or 11 years of her life in Jerusalem, where she had been exiled by her weak and jealous husband, the Emperor Theodosius. She employed her time in building numerous churches (notably the Church of St. Stephen, whose restoration is now being rapidly accomplished by the Dominicans), in erecting an Episcopal Palace, and establishing asylums for the poor and aged. Antoninus states that "the fountain of Siloa is now within the walls of the city, because the Empress Eudocia herself added these walls to the city." Though he does not state who built the church; it is not very far-fetched to assume that Eudocia's reason for extending the city walls to include the pool within the city was to protect a church she had built at that point.

Antoninus's description is as follows¹:—"Cap. xxiv. Exinde venimus

¹ Edition of Tobler and Molinier, Geneva, 1879.

ad arcum, relic antiqua porta fuit civitatis. In ipso loco sunt aque putride, in quas missus est Jeremias propheta. Ab arcu illo descendentes ad fontem Siloam per gradus multos, vidimus basilicam volubilem, subtus de qua surgit Siloe: que habet solia duo ex marmore manu hominis facta: inter solium et solium clausura cancellarum; in uno pro benedictione larantur viri et in alio mulieres. In quibus apus multe virtutes astendentur, imo et leprasi mundantur. Ante atrium est piscinia grandis, in qua populus lavatur assidue; nam solis certis horis fons ipse irrigat aquas multas, que descendunt per vallem Gethsemane, que et Josaphat vocatur, usque ad Jordanem in loco, relic deficit in mare Salinarum subtus Sodomam et Gomorrham." The translation is as follows:—"Thence¹ we came to an arch where was an ancient gate of the city. At that place was the putrid water into which the prophet Jeremiah was sent. Descending from that arch to the fountain of Siloam by many steps we saw the round (?) basilica from under which Siloam rises, which has two baths made by the hands of men out of marble; between the two baths runs a partition, in the one men, in the other women, bathe for a blessing. In these waters many cures are effected, and even lepers are cleansed. Before the atrium is a large pool made by the hands of man, in which the people bathe continually, for at certain hours the fountain of its own accord pours forth much water, which runs down through the Valley of Gethsemane, which is also called Jasophat, as far as the Jordan, and enters the Jordan at the place where it runs into the Salt Sea below Sodom and Gomorrha."

My translation is based upon that of Mr. Aubrey Stuart, the editor of "Antoninus Martyr," in the Pilgrims' Text Series, but in his desire to render bad Latin into good English, he has fallen into one or two errors, if we assume that the church that we have just discovered and the church that Antoninus describes are the same. Our Latin author writes: "Vidimus basilicam volubilem, subtus de qua surget Siloe: que habet solia duo," &c. Mr. Stuart, evidently with a laudable desire to avoid two awkward relative clauses, assumes that both relatives refer to the church, notwithstanding the absence of an *and*, places a period after the first clause, and begins a new sentence thus: "The church has two baths." I prefer to read the Latin as it is written. "We saw a round (?) basilica under which Siloa rises which has two baths." The only difficulty here is in making the word Siloa apply to both the fountain and the pool, but this is not great, and the excavations bear out the literal translation. The plan will show that no signs of baths were found within the church itself, and its height above the pool of almost 27 feet make such an arrangement quite impracticable. We would naturally expect to find the baths in the pool, and such has been the case. The portico we have found about the pool is an ordinary Roman bath arrangement, though its inclusion in the limits of the bath itself is unusual. The excavations were not carried on sufficiently to reveal the division between the

¹ He has just been describing the Church of St. Mary's within the Temple Area.

the shafts. The transfer of a silver coin, however, temporarily appeases her.

The hot weather continued very late, and the Tyropœon Valley became more and more unendurable till the rains set in. Both Mr. Dickie and myself were obliged to leave Jerusalem for a short time, but fortunately our periods of indisposition did not coincide, and the work was uninterrupted. Even during several days of rain the work of filling up tunnels went on.

A pleasant incident of the season was the fiftieth anniversary of Herr Schick's life and labours in Jerusalem. In honour of the event the University of Tübingen conferred upon him the degree of Doctor of Philosophy, *honoris causâ*. The German community met at his house, and a service was held and addresses given. Other friends called afterwards, and all were rejoiced to congratulate Dr. Schick and his wife, not only on their excellent health, but on the wonderful work this able archæologist has accomplished in the Holy City.

JERUSALEM, *December 15th*, 1896.

ARCHITECTURAL NOTES ON REMAINS OF ANCIENT CHURCH AT POOL OF SILOAM.

By ARCHIBALD C. DICKIE, A.R.I.B.A.

THOSE interested in the history and development of early Christian church architecture will find this example to be worthy of special study. Early architects seem to have been so generally favoured with a comparatively "free hand" in their work, that it is of rare occurrence to find their ingenuity taxed to surmount the many difficulties involved in dealing with a contracted site. Here we have a site bounded on the south by the Pool of Siloam, on the west by a scarp and probable wall, on the north by an unlimited but rapidly rising surface, and on the east by the position of the conduit which conveyed the water to the pool.

The then existing north wall and arcade of the pool supplied a ready bearing for the nave, arcade, and south wall of the church, the desire evidently being to place as much of it as possible over the pool. As the healing waters of the pool were the sacred element in connection with this church, the high altar—which in usual cases was placed over the remains of the departed saint to whom the church was dedicated—in this instance stood over the point from which the holy waters flowed unpolluted into the open pool. Thus the eastern limit of the church was defined, and this so awkwardly that the scarp and probable wall to the west completely shut off the western access, the necessity for including the steps in order to reach them from the church—as the only available descent to the pool—forcing the architect to draw the west wall to within a few feet of the