

me on the trip by Ibrahim Effendi, who seemed never to mind hardship and fatigue, provided the mission could be accomplished.

JERUSALEM,

May 21st, 1895.

FIFTH REPORT ON THE EXCAVATIONS AT JERUSALEM.

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

It is with much regret that I find the duty of writing this report has fallen upon me, in consequence of Dr. Bliss's unfortunate illness. Just after sending off his report on the expedition to Moab, his health began to break down, from the effects of over anxiety and work, combined with the unusually excessive heat we have experienced here for some weeks, culminating in extreme nervous prostration. This necessitated his removal from the camp to the Grand New Hotel, where he was for a week under the care of Dr. Wheeler. I am glad to say he is now much better, and has left for Beyrout, where the doctor has ordered him to take complete rest for a time.

This report ought to have been written a week ago, but, on account of the before-mentioned difficulties, Dr. Bliss was unable to give any attention to it.

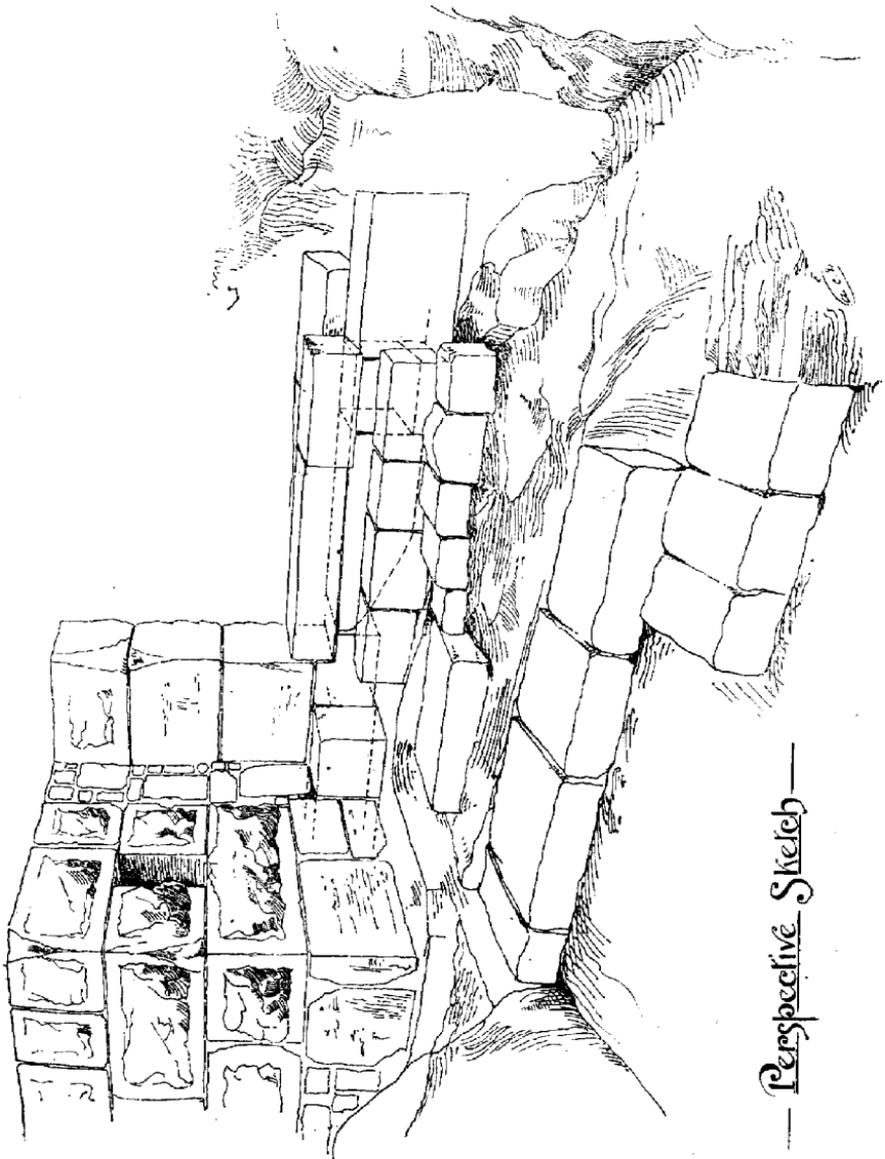
I do not intend to go into a complete report of the excavations, but only to give a running description of the work since its commencement, as Dr. Bliss will enter into more minute details later on.

As will be remembered, the wall at the end of last season was left at the point where it emerges from the Jewish Cemetery. Consequently, on April 15th, the work of Season 1895 was commenced at this point, the wall being picked up where previously seen, and followed for a distance of 30 feet, where it stepped up on to a rising scarp, and was unfortunately lost. From this point, the digging was transferred to a point about 90 yards to the south-east. Dr. Bliss's reasons for digging here were: First, the wall, where last seen, running as it did up against a scarp which rose gradually up to the surface of the ground, leading on to the natural rock—which was almost all exposed—gave little hope of it ever being seen again, until it came to a point where the *débris* had accumulated to some degree above the top of the rock. Secondly, the contour of the rock followed the swing of the wall and scarp where seen, and at several places had been stepped out to form beds for the stones. A trench, B, was dug, cutting in a line at right angles to the contour, but nothing was found unless a bed of lime on a rock bottom 3 feet below the surface at the point where the inferred dotted line cuts the trench. To exhaust the possibilities of the wall being further to the north, taking the direction of

the higher contour of the rock, three shafts were sunk where shown, at C, C¹, C², and connecting tunnels were driven between them, the long trench already spoken of being connected with Shaft C by a tunnel, thus making a complete section of the hill between the rock contours. Nothing satisfactory, however, was found. At Shaft C² a piece of wall was discovered which, on examination, proved to be some rude construction, probably a dwelling. Shaft C¹ disclosed a rock scarp which must have also been used for one side of a house, the rock being recessed at different places along the face, and plastered over, similar to the other interiors of rock-cut dwellings discovered at other points within a short radius.

Realising the difficulty of finding the wall at this point, from the fact that there was such a very slight depth of *débris* above the rock, which in a great many places was completely exposed, also from the information gathered from the Fellahin that the soil on the top of these rocks had from time to time been cleaned off and stones removed, Dr. Bliss transferred the scene of operations down towards the south, in line with the Pool of Siloam, where his theory led him to hope the corner of the wall was to be found. In the event of his being successful in finding the wall here, he intended working back in the direction of the cemetery, this seeming to be the most practicable way of proving the connection. Here the ground had also been very much cut up by the Fellahin, for the purpose of getting at and removing the immense quantity of stones that were to be found there; the very fact of which furnished a strong clue to the probable position of the wall. At the part of the hill which seemed to have been least disturbed a shaft was sunk at D, and a tunnel driven in a line at right angles to the supposed line of wall. By the end of the first day, this tunnel had run on to the wall, which on being cleaned off showed itself to be of exactly the same character as the piece of wall last seen where it emerges from the Jewish Cemetery. The similarity was at once most striking, the same rough square stones, with wide vertical and horizontal joints, irregular drafted margins and rough projecting bosses. This was so far very satisfactory, and nothing remained but to follow the line which was now given us. After clearing the *débris* down to the rock foundation, three courses were exposed, the rock being 18 feet below the surface of the ground. This tunnel was then driven eastwards, along the face of the wall, and another one opened from the opposite face of the hill in line with the last-mentioned tunnel. Before long the second gang of men had come upon a line of stones, showing unmistakable signs of polish and wear by foot traffic. This line of stones was followed along the face, until what proved to be the ingoing wall of a gate was reached—just at the corner—and almost at the same moment the first gang arrived at this point. The tunnels were connected here, and the *débris* cleared out down to the rock, showing six courses of splendid strong masonry similar to that already described, the courses varying in height from 24½ inches to 19½ inches, the largest stone being 3 feet 5½ inches long; the rock base is irregular and falls rapidly towards the corner, being 16 feet below the surface at this point. This at once strengthened the first impression, that this

line of stones—showing so emphatic evidence of foot wear—was one of a series of steps, leading to a gate and the probability of finding the Fountain



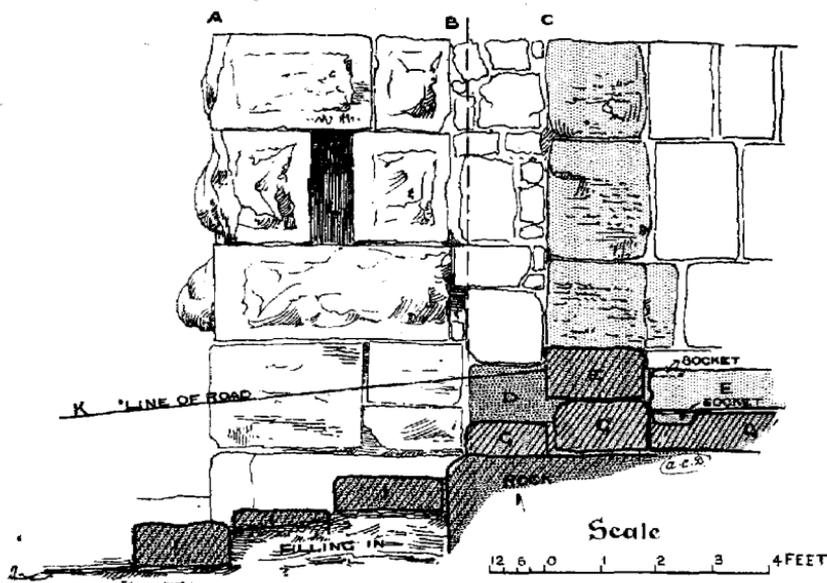
—Perspective Sketch—

Gate was at once raised, excitement and hope increasing every hour, as—cutting in the direction of the ingoing wall—step after step was exposed,

until the left jamb of the gate was reached, and on bearing a little towards the right, the upper sill made its appearance. This was the first authentic proof of the existence of the gate, and confirmed the theory founded on the position and appearance of the tell-tale step. The question now became, how to continue the excavation so as to show the gate as completely as possible and also to get at the most important parts, without disturbing the construction. Accordingly a tunnel was driven in a direction parallel with the steps, and in line with the inside face of the jamb, to discover if the inner sills were *in situ*. This was successfully accomplished and our efforts were rewarded by the discovery of the upper inner sill, almost complete, showing the centre bolt sockets and the seat for the left gate post; a connection was then made between this and the ingoing tunnel. Most careful digging and close supervision had now to be observed, as the most delicate part of the work had yet to come, the greatest care being taken that no stone was removed unless absolutely necessary, and not even then until its position and measurements had been carefully noted. Small sub-tunnels were made, sills undercut, joints cleaned out and every part exposed, unless where it was practically impossible on account of the overhead mass of *débris*, the support of which required careful engineering. At F, a wall was discovered, of large roughly squared masonry, running to G, where all traces of it were, however, lost, and after cutting in various directions, led by false clues and barren theories, the hope of tracing its further development was abandoned and the chances of finding an inner gate were given up. However, in spite of this, it is difficult to withdraw the theory that there may have been a second gate, which has been so completely destroyed as to remove all traces. There are four courses of this wall standing, varying in height from 18 inches to 25 inches and the lengths of the stones vary from $13\frac{1}{2}$ inches to 3 feet 10 inches. A few margin and boss stones are seen, but, in general, the dressing is smooth without margins, the chisel pick being the tool used, the vertical and horizontal joints are irregular and wide.

The gate was hidden under the slope of the hill, at such an angle that the *débris* above its right side was so slight that this part was completely removed, not even the stones of the sills remain at this end. From the plan and sketch it may be seen that the gate as now standing is set back 6 feet from the line of the wall, the ingoing angle being slightly obtuse. This ingoing wall was covered with plaster except on the projecting bosses, and on knocking this off we found two styles of masonry. From A to B the work is the same as in the main wall—from B to C, there is a rough filling in as shown on the side elevation of the gate (Section AB). This proves that at some earlier period, the gate jamb was further out, the angle occurring at B, and hence the stone D would be one of the lowest stones of this jamb, the rest having of course been removed. This idea is favoured by the fact that in the part of the wall AB, the stone of the second course is broken off, showing that it was bonded into the first jamb. There are other indications of this first

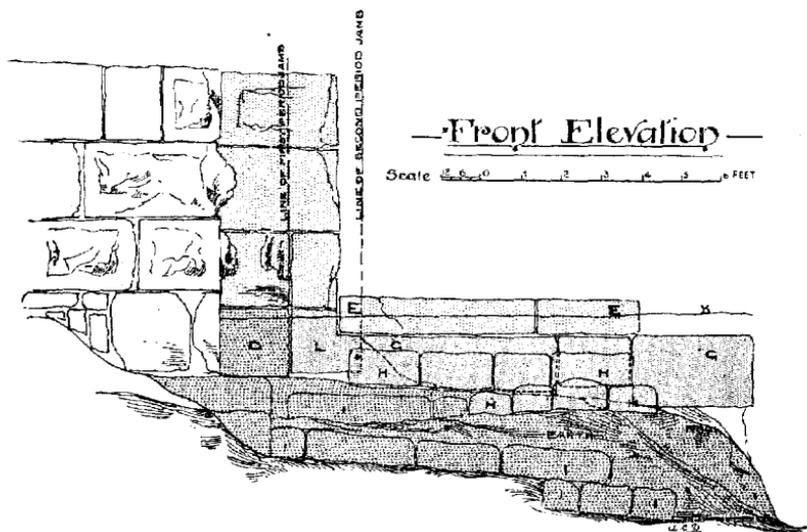
period, which existed before the second and third periods; the second period sill being shown at G, G, and the third period sills at E, E. Two distinct series of steps were found, all well polished, one set above the other. The upper set, indicated by H (front elevation), leads directly to the sill G, G, the lower set I (part of which are rock) would thus lead to an earlier and lower sill—corresponding to the first period indicated by the masonry at BC (Section AB). The upper step of Series I, which is rock cut, would thus become the sill of the gate, the jamb of which, as was before argued, is shown by Stone D. There were no



Section A.B.

steps leading to the upper third period sills, E, E, the road at this time having been raised up to reach the sill as shown at K. This road is easily traced in the section of the cutting, as it is very hard, and is of a darker colour than the *débris*, showing that when the third period gate had been designed, the steps had been left, and merely covered up, and the road made above them. The second gate had a wider jamb than the third, as is proved by the fact that the stone L belonging to this jamb is cut out for the insertion of the upper sill. The sill of the second period abuts against this stone L, and the socket in the inner sill projects beyond the line of the present jamb, confirming the idea that the jamb at that time must have projected as far as the point where the lower sill G abuts upon the stone L, which is the only stone remaining of the second

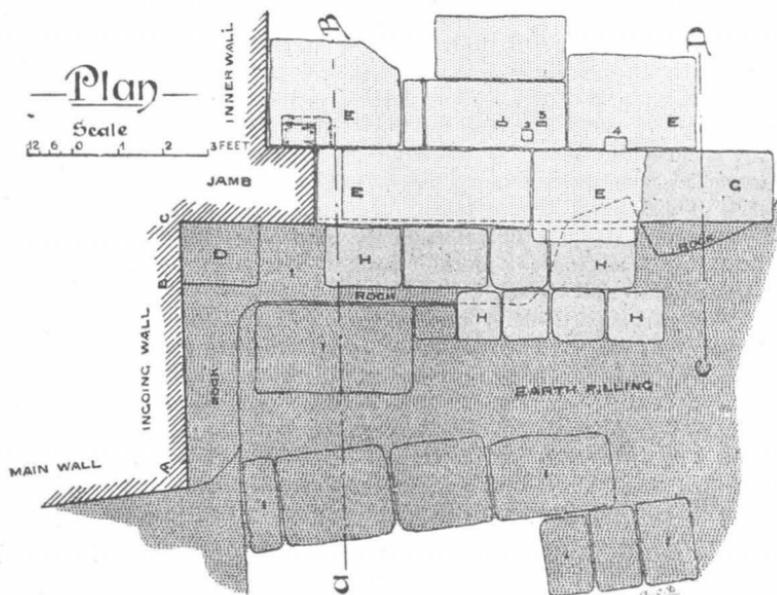
period jamb. The third period jamb is of course the present existing one, the masonry of which closely resembles the wall F G on the general plan, the dressing and building being of the same character. The examination of the sockets in the upper inner sill shows that the gate must have been on two leaves, socket No. 2 being the centre of the gate, and the bolt hole of the overlapping leaf, the small side sockets 1 and 3 being for extra bolts placed farther in on the leaves (*see* plan). Socket No. 4 I think must have been probably in use at the time of the second period gate, of course in a different position, as in its present position it is useless because it leaves no room for the thickness of the gate, being close up to the outer sill. The sockets below the jamb are of course seats for the gate post, the second period one being shown by dotted



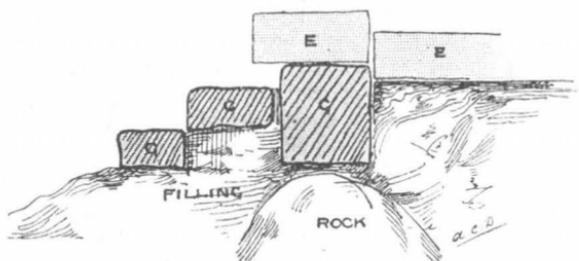
lines. Taking socket No. 2 as the centre of the gate, this would give an opening of 9 feet 6 inches wide over all.

Meanwhile the work had been actively and successfully carried on at other places, and the south-east wall had been followed for 90 feet in the direction of the south-west corner. Shafts had been sunk at H and I, in both of which fragments of the wall had been discovered. At shaft H three courses of masonry were found, the rock bottom being 15 feet below the surface, the stones showing the same character as those at the gate. Shaft I also showed a similar piece of masonry, five courses high, following a rock base 17 feet from the surface. Connecting tunnels were made between these shafts, but unfortunately here most of the stones had been removed, only the lower foundation courses of rough rubble on rock remaining. Another shaft was sunk at J, where we were again successful in finding the wall two courses high, extending a distance of

28 feet back in the direction of the pool. The masonry of this part is of a much inferior character to the other specimens mentioned, there, however, being a few stones with the same characteristic margins and bosses,



which I have before described. Following in the opposite direction for 7 feet 6 inches a similar result was obtained. At this point, the side of a tower was come to and disclosed itself to the extent of two courses



— Section C.D. —

of roughly-squared large stones set on a rock scarp, out of which the beds for the stones had been cut. This did not at first look particularly hopeful, chiefly from the fact that neither of the courses was bonded into the wall, which ran straight on behind the stones. However, on

following this clue, the building became more reassuring, the stones now being much larger, better set and worked, and altogether of a better class than any I have before described. Great difficulty was experienced in driving this tunnel, on account of the huge fallen stones which blocked the way. These stones had become firmly wedged together, and in some cases the workmen had to resort to quarrying before they could be removed. One of them I measured, and found it to be 6 feet 6 inches long and 23 inches high, well worked on bed and joints, having drafted margins and rough bosses. The rock here falls rapidly and is stepped out to form the seats for the stones. The corner being reached, the tunnel was then pushed along the face of the tower, the same superior class of masonry still continuing. On sinking down to the foundation, it was found that for 13 feet from the corner, the rock dipped 6 feet, displaying a magnificent piece of wall, at this point ten courses high, measuring over all 13 feet.

This part is particularly interesting, in so far as it shows two distinct classes of masonry. The dip of the rock is filled in with six courses of finely-jointed stones, from 10 inches to $10\frac{3}{4}$ inches high, the longest stone being 5 feet 8 inches, each course having a back set of from $\frac{3}{8}$ inch to $\frac{7}{8}$ inch. The dressing is ordinary chisel pick dressing, with drafted margin in some cases, and the vertical and horizontal joints are worked close and true. Above this, rising from the main base line of the rock, the stones are of different proportions and of more varied character. Four courses of this masonry are standing, varying from 20 inches to $23\frac{1}{4}$ inches high, the length of the stones varying from 11 inches to 6 feet 5 inches; chisel-picked stones and margined and rough bossed stones being placed indiscriminately. The same accuracy in the jointing and setting is also observed in these upper courses, although the general appearance is similar to the other parts of the wall. On examination, it seems quite certain that the shallow courses have been inserted into the dip of the rock after the tower was built, and as the rock rises rapidly towards the inside of the wall, this part would form a sort of facing to the rock, the reduced height of the courses may also be accounted for in this way. Beyond this, along the face of the tower, the rock again rises, and the wall was lost sight of, but was again picked up in the same line, within 10 feet of the corner. Here 10 courses 13 feet high wall are still standing, the upper two courses being similar to the upper courses of the last described part. Below this the stones are of a very rough character, being unhewn and very roughly squared and of massive proportions; turning the corner and following on, the same characteristics continue until the wall abuts up against a scarp 12 feet high, and is again lost. This scarp was followed in its irregular form to where connection was made with a tunnel from a shaft, which had been sunk at K, following a wall foundation of good masonry from K to L. This does not, however, appear to have been connected with the tower, as, in the first place, it does not correspond in direction, and from its position is likely to have been the right ingoing wall of the first period gate, but must certainly have been

removed before either the second or third period gates were built, as its position would render these gates impracticable. Following the argument, the tower is certainly a later addition, possibly of the time of the two late period gates, and may have been cut back at some point above the scarp, giving the desired proportion to suit the widths of these gates.

The drain had by this time been opened, but I will finish my notes on the wall which was being followed in the direction of the cemetery, before commencing my description of this most interesting discovery.

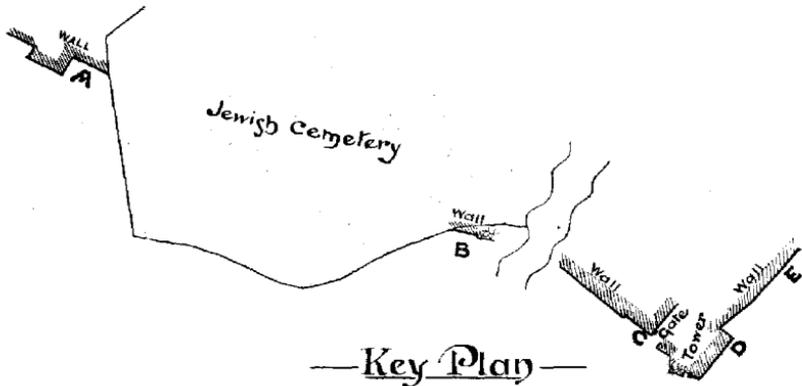
This wall I have dealt with from the point D, where the first shaft was sunk, down to the corner of the gate, and I will now follow it back up the hill in the direction of the cemetery.

At a point M a tunnel was bored in from the face of the hill, and within a few feet of the outside, a plastered wall of rough rubble was come to which on examination proved of no importance, and was consequently cut through, the real wall being reached 4 feet beyond this. A connection was then made between this and the first shaft, and a tunnel was pushed upwards, following the wall which continued four courses high of the same character as when first seen. At a point 57 feet from the corner of the gate, the wall rises up on a rock scarp, 8 feet high, which strikes out at an angle from the wall; here a connection was made with the tunnel coming in the opposite direction from a shaft sunk at N. Beyond this scarp the wall is very much broken, but sufficient of it remains to show its direction; and at the shaft it stands 4 courses high, the rock being 13 feet below the surface. Beyond this it entirely disappears, the direction being still shown, however, by a rock scarp which was followed for 15 feet, but as the soil now became loose and dangerous it was deemed advisable to sink another shaft, at O, beyond this, in the hope of picking up the lost wall again. Here, however, the same difficulty was experienced: the rock was reached 13 feet below the surface, but no stones were found; tunnels were driven to right and left, with no more satisfactory result; and thus it remains up to the present moment. The very loose and disturbed nature of the *débris*, together with the absence of any fallen stones, both tend to diminish the chances of any remains of the wall being found near this point; but, in spite of this, Dr. Bliss is still hopeful of again picking it up.

At P the first opening in search of the drain was made, and within 3 feet of the surface it was found, the *débris* at this point being very slight. After clearing this out to the bottom, the line was followed for a distance of 15 feet, at which point the first cover was found; these covers continuing intact for a distance of 86 feet. The drain was entirely silted up and within a few inches of the soffit, the section of the deposit showing a mass of rich black soil with thin layers of washed sand at a few inches apart near the top. The work of removing this soil was an easy task, and very soon a distance of 112 feet had been cleared out, the line being followed until it turned in an easy curve following the direction of the valley. The walls of the drain are partly of rock and partly of stone, and unless in places where the rock is cut out to form the bottom, there is

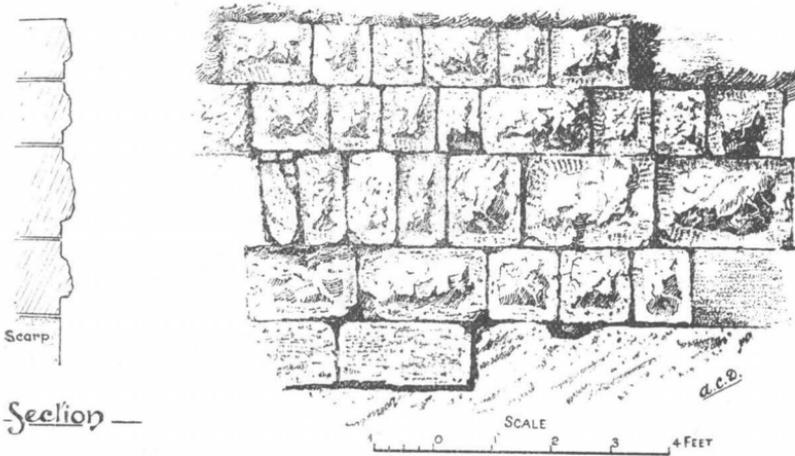
only a rough filling in of stones, probably to allow the sewage to filter through. The heights vary from 7 feet 9 inches to 5 feet 10 inches, and the widths from 2 feet 6 inches to 3 feet. Walls are built of rough squared stones, pointed in mortar, no regularity of courses being observed, and the stones being of massive proportions. At intervals along the drain, where shown on the general plan, there are four branch inlets measuring 2 feet 10 inches, 10 inches, 11 inches, and 12 inches wide respectively at various heights from the bottom of the main drain. The covers are of large stones roughly squared, having good solid bearings of 15 inches to 20 inches, these stones averaging 14 inches high and 22 inches broad.

On examining the covers a very interesting discovery was made of what proved to be two surface water inlets from the street above. These inlets are formed in stones set above the covers, by cutting a slit through $1\frac{1}{2}$ inches wide and 11 inches long, the underside being bevelled off. They remain quite perfect, and are *in situ*, showing the ancient's idea of

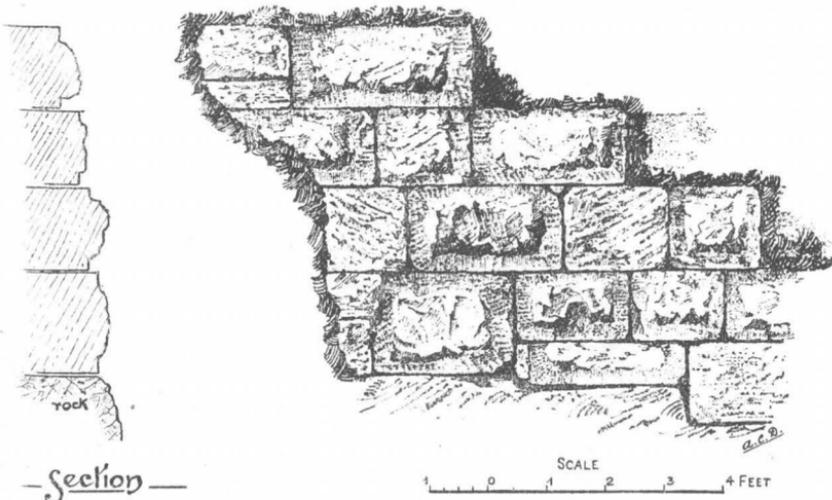


what we now know in the technique of nineteenth century sanitary science as the street gully. Beyond the point where this section of the drain was cleared out, another shaft was sunk, and the drain followed for a distance of 100 feet, where the same characteristics are noticeable; no covers were, however, found in this section, and no branch inlets. Going back to the first shaft, we then pushed down in the direction of the gate for a distance of 72 feet. No covers were found, and as the drain approaches towards the gate it widens out to 3 feet 7 inches, and is almost entirely rock-cut, the bottom falling rapidly until at the point Q, where it is now being excavated, it is 13 feet deep. Here it seems to dip down and get through below a rock-cut and partly concrete tank, which has a rock-cut channel outlet to the drain, but until it is properly cleared out, it is difficult to form a theory as to whether this may be a catch pit, or merely a sinking to suit the levels. However, a week will decide that point. Outside the wall at L, where shown, the outlet of the drain was discovered, and we are at present following encouraging clues

in the direction of the dotted lines on plan, in the hope of finding a cesspool, or a series of settling ponds as a fitting termination to such a scientifically constructed system of drainage.

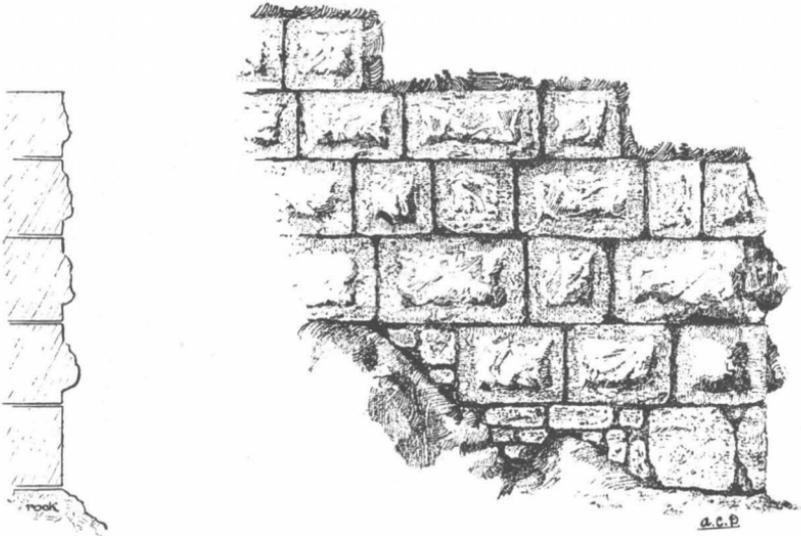


— Specimen a' A —



— Specimen a' B —

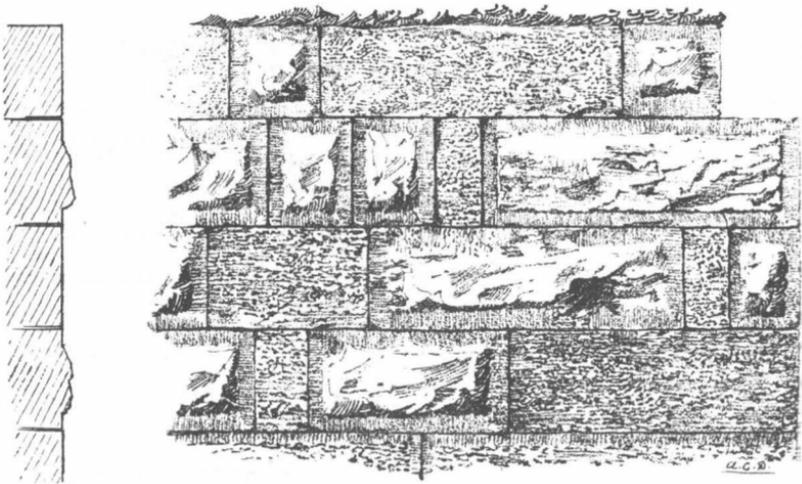
The drawings showing specimens of masonry—drawn to scale—will help to illustrate my description of the wall at the different points,



Section—

SCALE
1 0 1 2 3 4 FEET

— Specimen of C —

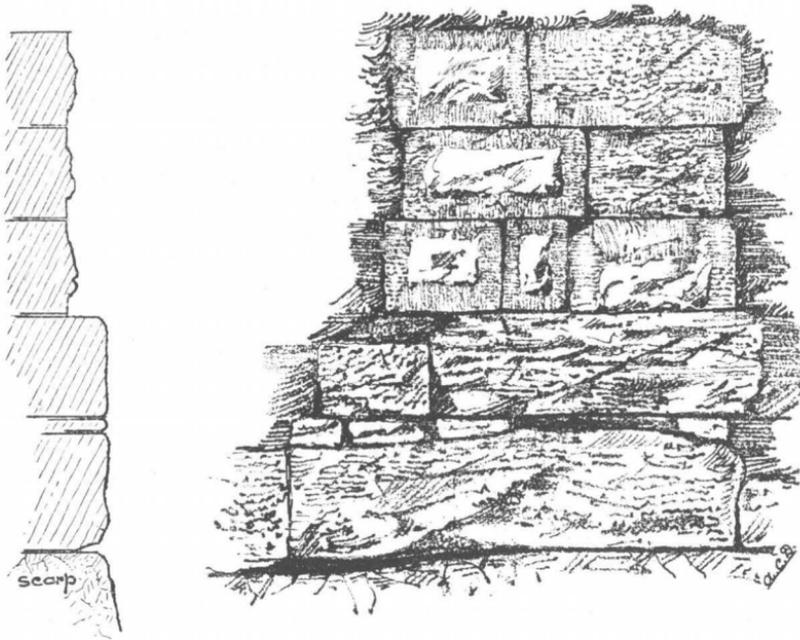


Section—

SCALE
1 0 1 2 3 4 FEET

— Specimen of D —

and also support the arguments brought forward. Specimens A and B are from the two points where the wall enters and emerges from the Jewish Cemetery, which were excavated at the end of last season. Specimen C is from the wall at the corner of the gate. Specimen D is from the tower and bears the same character as the last, except that the stones are much larger, and the hewing and setting is of a superior class of work. Specimen E is from the nearest point to the pool at



— Section —

— Specimen of E —

present excavated, and shows a return to the style of masonry found at A, B, and C. (*See key plan.*)

The objects discovered consist of pottery (mostly Jewish), glass, coins, and an iron buckle, but these I will leave for Dr. Bliss to deal with.

Since its commencement, the work has gone on uninterruptedly until Wednesday, 29th May, when it was stopped on account of Dr. Bliss's illness, and was not again commenced until the following week. The Koorban Bairam holidays were held in that week, so that in any case operations would have been suspended for a few days.

The largest number of men employed at one time was 25, they are all from within an area of a few hundred yards of the pool, the majority having been employed in the work last season. They are a most efficient lot, and go about the work in a workmanlike manner, under the able management of Yusif, whose intelligence and interest in the work, together with his untiring attention to duty, was a matter, I must admit, of surprise to me on my first initiation into the mysteries of excavations.

By the kindness of the Augustinians, our camp was pitched on their property, in a charming position overlooking the Valley of Hinnom and the Hill of Ophel, with the Mount of Olives as an immediate background, the picture being flanked by the walls of the Haram area on the left, and on the right by the ragged village of Siloam, scattered irregularly over the face of the hill, each little square block, with its tiny dome, rising from the solid rock in a rude simplicity, producing a peculiarly natural and charming effect. Towards the middle of May, the heat, however, became so oppressive as to be almost unbearable, our surroundings shutting us off from the wind in every direction. This continued for three weeks, the temperature in the tents for three days being at 96° F. It was at this time that Dr. Bliss's illness reached its climax, which necessitated his removal from camp, but it is to be hoped that ere long he will be back in Jerusalem, with a fresh store of health, fit for the completion of the season.

The relations with the owners have been most harmonious, chiefly owing to the presence of Ibrahim Effendi, whose judgment and tact in such matters are of much value.

During the season we had numerous visitors at the works, the ecclesiastical orders being strongly represented.

REPORTS FROM HERR BAURATH VON SCHICK.

1. *The Muristan*.—In the year 1889 I reported on a large newly discovered cistern, near the Church of the Holy Sepulchre, and immediately north of the Muristan. My report was published in the *Quarterly Statement*, p. 111, illustrated with a plan. Afterwards I sent sections, &c., of this remarkable building, which were also published in the same volume, p. 210. At that time I could not possibly say whether the southern wall of the cistern was rock or masonry, as the old cement covered it still. I had an idea it might be a rock scarp, and then the second wall might have stood on it. But recently I became convinced that it is not a rock scarp, but consists of masonry. It came out in this way:—

In the rebuilding of the former church at the Muristan, just opposite this cistern and south of the road there, the foundation work is even now, after sixteen months' labour, not yet completed. The southern wall of the church goes only from 6 to 10 feet down into the ground, and has to be provided with new foundations. The architect wishes to preserve the old