

not so. They are, as I have shown, very severe in their condemnation of any breach of the moral law, as they understand it. They are free from the unnatural vices of other Eastern nations, and do not regard them with the same tolerance. When I have questioned them they have expressed the utmost horror and abhorrence.

(*To be continued.*)

CALLIRRHÖE AND MACHAERUS.

By Professor GEORGE ADAM SMITH, D.D., LL.D.

THE following are notes of a journey in Moab, April 18th and 19th, 1904, from Madaba by Ma'in to the hot streams Hammâm ez-Zerka in the Wady Zerka Ma'in (Callirrhoe) and thence to Mkawr (Machaerus), with a description of the remains of Herod's Fortress of Machaerus—*secunda quondam arx Judæae ab Hierosolymis* (Pliny, *H.N.*, vi, 16, 72). My companion was Dr. G. S. Buchanan, of London, to whom I am indebted for the Plan.

First Day.—Madaba to the Hammâm ez-Zerka.

7.5 a.m. : Left Madaba (2,500 feet above sea level; temperature, 49°, at 6.15 a.m.), and rode south-west towards Ma'in. 7.25 : Passed et-Teym on the left, following a good track. This is crossed, about three-quarters of an hour from et-Teym, by a track running north-west, on which we saw two Arab clans migrating in that direction. Our guides (Khalil eş-Şuwālīḥeh, of Madaba, and a Circassian soldier from the garrison) said that this is a much-used line of movement from the centre of Moab towards the southern end of Jordan, the direction of the Israelite immigration. 8.5 : Left the main track to climb a steep path towards Ma'in, now immediately in front; traces of a paved road (with several deep cisterns and rock-cuttings) all the way to the ruins on the top. 8.15 : Top of Tell, with small burial ground and a few wretched hovels, inhabited by a dozen Christian families who came from Kerak some 14 years ago, and four or five Moslem families. I got from them a silver coin of Gallienus, and a copper one of Constantinus, jun.,

found in the obviously Byzantine ruins. Ma'in occupies the kind of position so often chosen for ancient sanctuaries in Palestine and elsewhere: an isolated hill in the centre of a hollow formed by a circular ridge. To the south this ridge is as high as, and to the south-west higher than, the hill of Ma'in; it is sustained towards the north-west, hiding the Judæan range beyond; falls slightly on the north and more rapidly round by the north-east; east and south-east the view is open over the rolling plateau of Moab, the three great cañons of which are clearly marked across it—far



FIG. 1.—Dolmen at el-Mareighät, Wady Zerka Ma'in.

to the south the southern cliffs of the W. el-Mōjib with Jebel Shihān beyond; nearer, the line of the W. el-Wāleh; and, beginning as a shallow depression at the foot of the hill of Ma'in, cutting the encircling ridge on the south-west, and breaking at less than an hour's distance into a deep trench, the W. Zerka-Ma'in, which we followed for the rest of the day.

9.5: Left Ma'in and rode down to a tributary Wady, on the west, with foundations of old walls, a prone pillar or two, and an old reservoir with a strong retaining wall (marked on the Survey

map). Entering the main Wady and following it S.S.W., we reached, at 9.20, a gully, down which we came upon an open and fertile stretch, where Abu Wendi Arabs (*cf. Eastern Pal. Mem.* p. 293: "Arab el 'Awāzim at Minyeh, and eastwards to Ma'in, Sheikh 'Aly Abu Wundi") were striking their tents after ploughing the ground against the next winter's sowing of wheat. We left them at 9.35, and at 9.43 passed the finest of the group of dolmens, el Mareighât ("smeared things" or "places"), described by Colonel Conder. Ascending the slope on which most of these lie, we were, at 10.0, on the edge of the fall of the W. Zerka Ma'in into the deep trench mentioned above. Descending this fall by a steep zigzag path, we crossed the bed of the Wady with a shallow stream at 10.26. The stream flows off through heavy groves of oleanders, in which it were possible to conceal a whole army. We heard numerous cattle lowing and splashing through the water. The path follows the line of an old aqueduct on the left bank, almost due south; the high mountain ahead being the Jebel 'Aṭṭārūs.

11.3: An Arab graveyard. 11.10: The corner where the Wady turns west. 11.18: A circle of stone blocks. 11.50: Crossed the bed, now dry, to the right bank, and entered on a plain; for here the Wady, set nearly due west, is very broad. Black volcanic stones appear. 12.10: Reached the west end of the plain and rested above a rocky descent to the stream, beside basalt ruins, called Khurbet Zerka'weyn (زركاوين). 2.20: Left this, descended a rocky path, with a glimpse of the Dead Sea through the gorge of the Wady, and crossed the now fine stream to the left bank. 3.3: Ascended by zigzag path to a broad plateau strewn with basalt stones, and traversing this came above the Hammâm ez-Zerka at 3.30, and commenced the very steep descent into the wide, deep basin of the Wady, in which the hot streams take their rise. About 3.50 we struck the stream near the west end of the basin, where the cliffs approach from either side, leaving a gorge of only some 20 to 30 feet wide, and a high hot waterfall pours into the stream from the cliff on the northern bank, with large deposits of lime and sulphur. The temperature of the stream just where it receives the waterfall is 110.5°, and just below, 109.5°; that of the air in the shadowed gorge, 78° to 82° (these were taken at 8.30 next morning). Just above the gorge were three or four tents and a number of booths erected by Arabs from the neighbourhood; fellahin, and

townsfolk from as far away as Jerusalem and Bethlehem, all come to bathe in the hot water for rheumatism and diseases of the skin. We struck up stream half a mile to a low plateau on the right bank, where we pitched our tents. A stream of hot water, 11 feet broad and one to two deep, springs from the cliffs to the north of this, and shooting past the plateau in a series of low cascades enters the main stream. The temperature of this tributary, 50 yards from its source,

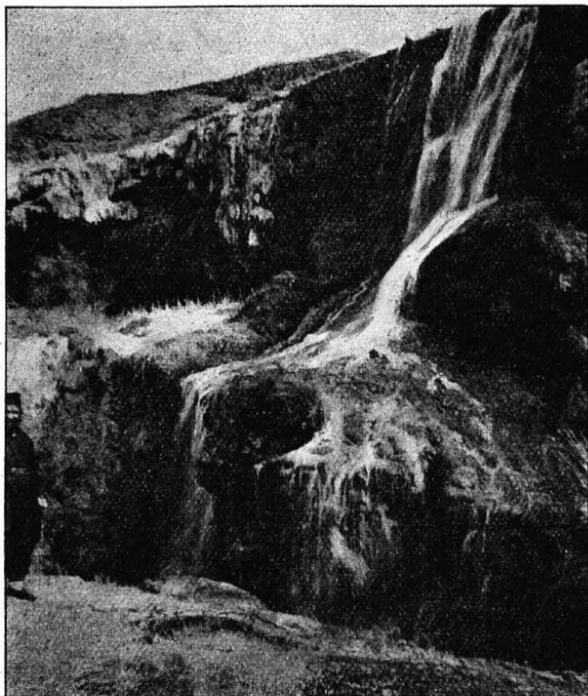


FIG. 2.—Upper Half of the Hot Waterfall in Hammâm ez-Zerka, seen from the rocky platform on the other side of the gorge.

to which we could not penetrate owing to the reeds and mud, was 126° (air, 78°), but lower down, 134° (owing to additional hot springs), and at its junction with the main spring, 112° . Just below the junction the temperature of the latter in a small cascade where we bathed was 102° , but lower down, 127° , due to two hot springs bubbling in one of its eddies.

Irby and Mangles emphasize "the grand and romantic features" of the basin. "The rocks vary between red, grey, and black, and have a bold, imposing appearance." The cliffs to the south show strata, from the bottom up, of sandstone, basalt, and limestone. On the north there is a spread of tufa and tufaceous rock over the sandstone, and terraces of tufa rest on the sulphurous detritus, which in places has given way under them. There are frequent humps and horns of tufaceous rock. The vegetation is lavish. Thick reeds hide the main stream and sources of the tributaries; there are numerous palms, aspens, and thorns, much retem with pink and white blossoms, other bushes and flowers everywhere. The air was full of the music of waters, birds, and crickets. As we sat by our tents the sun set over the line of the Judæan hills, seen through the narrow gorge of the Wady, to the west of the basin. I do not remember a finer evening in Palestine: the clear atmosphere, the light breeze up the valley before sunset, and down the valley after sunset; a blue sky shading to green, and the new moon upon it. To my *Shahrak Mubarek*, "thy month be blessed," a native replied, *Inshallah yanfatih alai wijhak bab er-rizak*, "Please God, may there be opened to you the gate of livelihood" or "maintenance." Afterwards Orion shone brilliantly in the south-west sky and set over the hill on the left bank of the Wady. With the darkness the hills encircling the basin seemed to draw closer, and their outline was sharp against the stars.

I have little doubt that this part of the Wady Zerka Ma'in, with its hot stream and hotter tributaries, is the Callirrhoe to which Herod the Great was carried in his last illness. Seetzen (*Zweite Reise z. Toten Meere*, 1806), Ritter (E. T. iii, 68 ff), and Dechent (*Z.D.P.V.* vii, 196 ff) have proposed in preference the group of hot and cold wells to the south on the Dead Sea coast, known as Es-Şara (visited by Seetzen), and it is true that Josephus describes the water of Callirrhoe as flowing into the Dead Sea (*Anth.* xvii, vi, 5, *Wars* I, xxxiii, 5). But this fact is almost as immediately true of the waters of the Hammâm ez-Zerka. And in *Wars* VII, vi, 3, Josephus describes a number of hot and cold wells, the waters of which when mingled (just as we found) "make a most pleasant bath full of healing for [all] diseases, but especially good for the nerves," and which had about them deposits of "sulphur and an astringent salt" (probably alum), in the valley to the north of Machaerus. He calls the place *βααπας* (one cod. reads *βααπ*), which

might be בְּאֵרִים or בְּאֵר “wells” or “well”;¹ while Jerome in the *Onomasticon*, under “Beelmeon,” gives the name as Baaru.² There is no objection to taking these as identical with the Θερμά ἄπερ ἀν τῇ ἔς πάντα ἀρετῇ καὶ ποτιμά ἐστίν, which Josephus places κατὰ Καλλιρροην, “down on Kallirrhoe,” and not as Καλλιρροη itself. While, therefore, Baaras was the name of the hot springs or streams, Kallirrhoe was that of the whole Wady Zerka Ma’in, or, at least, of that part of it on which the hot springs were situated. We now see how accurate Josephus was in adding: ἔξεισιν δὲ τὸ ὕδωρ τοῦτο εἰς λίμνην τὴν ἀσφαλτοφόρον λεγομένην, “this water issues into the Lacus Asphaltitis.”

I asked of our guides and others in the place whether any road led to it from the Jordan Valley along the coast of the Dead Sea or over the hills on the north. They all said that they knew of none. Nor did the Survey party who came from the north find any path descending into the basin, although they mark on their map a fragment of an ancient road on the hill above. We may suppose that in ancient times the common road for visitors from Western Palestine to these baths was round by Medeba, or, at least, by Ma’in (as we ourselves and the visitors we found from Jerusalem had come). This is confirmed by the visit of Petrus the Iberian.³ Notice, too, that Eusebius connects “the mountain of the hot waters” with Βεελαμεων.

Second Day.—From Callirrhoe to Machaerus.

We woke at 5.30 and found a strong easterly breeze blowing down the Wady, dry, but without the dust or heat of the true Sherkiyeh wind; temperature 73°. After exploring the basin once more, we left the bed of the Wady at 8.55, and climbing the zigzag path on the south by which we had descended, we reached the

¹ This etymology, however, is doubtful, for in a Syriac translation (A.D. 741) of the Biography (*circa* A.D. 500) of Petrus the Iberian (Richard Raabe, *Petrus der Iberer*, Syriac text with German translation, Leipzig, 1895), Baar is spelt with a medial ‘Ayin, בְּעֵר, and if this be the proper spelling, the name meant *Burning*. The description of the valley, with its hot and cold springs, given in this biography is vivid and accurate, even to its praise of the wonderful climate, which, however, the writer attributes to the virtue of Petrus, and confines to the short period of his visit.

² Under Καριαθειμ, Eusebius seems to indicate the same place by Βαρις, and Jerome by Baare.

³ See preceding notes.

cairn on the edge of the tableland above at 9.25. The hills on the north of the basin appear much steeper than those on the south; to judge by the clumps of vegetation on them, the hot streams there spring on the same level on which volcanic rocks appear below the limestone. From this point there is a great view of the Dead Sea and Judæa. 9.40: Started across the plateau, covered with basaltic stones. 9.50: Reached its southern edge at foot of low hills, and came by a path south-west through these to the foot of high hills at 10.2. Ascended these by a Wady, and then on a ridge to the shoulder of a hill overlooking the Dead Sea at its coast, at 10.14. Climbing further, we came out at 10.23 at a cairn on a still wider view of the Sea to the south and south-west. Engedi and Masada very clear across the water. Dropping over this ridge, we descended south-east a little way into the next parallel Wady, crossing it on the edge of a great cliff, 200 feet high, over which it breaks to a deeper basin. 10.45: Turned east up the south bank of this Wady, and then by zigzags on a steep shoulder covered with the fragrant herb *shiah* (شيه)¹ to the edge, 11.15, of a long level ridge, forming the edge of the Moabite plateau, on which are strewn the ruins of the Beled Mkawr, "the town of Machaerus." All the way up to this from the cliff there had been visible on our right a bold, regularly shaped Tell, which our guides called Kasr el-Meshnekeh (المشنة), "the Castle of the Hanging-place" or "Gallows," where, they added, John the Baptist was beheaded. This is the fortress of Machaerus; it lies due west, nearly a mile from the ruins of the town, and separated from the edge of the plateau on which the latter lies by a complex of wadies (*see* Plan on next page).

The next few hours and the following morning were spent in examining the ruins of the town. They show the features common to the remains of Byzantine towns in Moab; the masonry of the walls—from 2 feet to sometimes 5 feet thick—is the usual rubble between two lines of large dressed stones, without mortar. Many of the buildings were vaulted. There are no openings, but numerous deep cisterns in the limestone rock; the few which still hold water are carefully guarded by a sept of the Hamideh Arabs, whose chief came to our tent and sold us some water. They cultivate a little of the surrounding plateau and house their cattle in the ruins. The ruins extend about three-quarters of a mile from north to south, and

¹ In this form unknown to the Lexicons, which give *Shiah* for wormwood.

perhaps half a mile from east to west on the ridge, which is divided into two parts connected by a col. At the north end a town wall appears to have crossed the ridge from east to west, and there are traces of a causeway here, on the road towards Callirrhoe. There also seemed to be a line of wall on the east of the ridge, but, if so, it crossed the Wady to the east of the latter. The bulk of the buildings

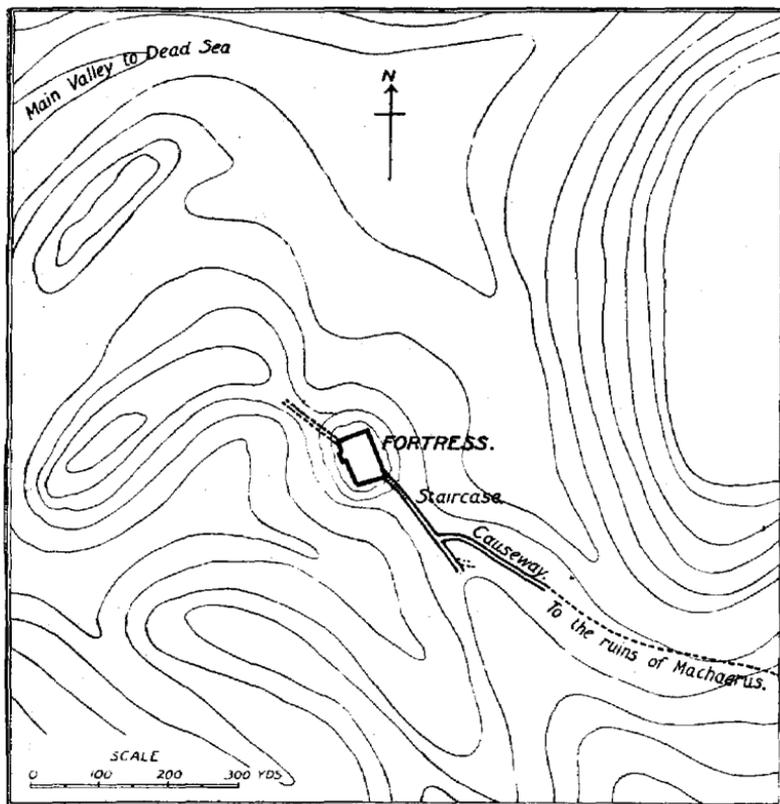


FIG. 3.—Plan of the Fortress of Machaerus, with its environs.

were domestic, but there were obviously several public buildings. The largest of these, called the Keniseh by the Arabs, on the west edge of the ridge, is about 20 paces square (but probably longer originally, for a more recent wall cuts across its west end), and shows the remains of a semi-circular apse at the east end with a cave under the centre of it, a bank behind the cave and the apse built up from

this. There is another rectangular building just south of the col, about 18 paces by 14, with a little apse on its S.S.W. end. To the outside this apse is rectangular, projecting from the wall, but on the inside the stones are so hewn as to make it semi-circular. Another large building had a doorway with stumps of pillars round it. The largest dressed blocks I saw were about 3 feet 8 inches by 2 feet 10 inches by 10 inches. I found also a round stone basin, $1\frac{1}{2}$ feet deep and $1\frac{1}{4}$ in diameter, and one grooved stone, a foot high with a groove of 8 inches, as if for a small conduit. There are several caves. The entrances to some are natural, but others have been cut circular in the rock, and others have a little vaulting over them. Nowhere did we see any mortar. So much for the town.

Leaving its north end by a sloping shoulder, we came down west to the deep Wady on the east of the Kaṣr el-Meshnekeh. I had not a copy of Josephus with me, but I find the details in my notes correspond to his account of the stronghold of Machaerus. He describes this (*Wars* VII, vi, 1, 2) as a very defensible place: "For what is walled round is a rocky mound, raised to a very great height . . . it is trenched round on all sides by gorges to such a depth that the eye cannot easily reach their bottoms . . . and impossible to fill up with earth. For the gorge which cuts it off on the west extends 60 stadia, passing into the Dead Sea; and on this side the summit of Machaerus overtops everything else. Although those on the north and south fail of the size of this gorge, they are equally impassable; while the gorge on the east is not less than 100 cubits deep, and is bounded by a hill lying over against Machaerus." Alexander Jannæus was the first to fortify the place, but Gabinius destroyed it. Herod the Great, because of its contiguity to Arabia, "thought it worthy of his regard and of the strongest fortification." "So surrounding a large space with walls and towers, he built a city there, from which an ascent led up to the summit itself. Further, he built round the summit a wall, and placed towers at the angles, each ¹ 60 cubits high. In the middle of the enclosure he built a palace most sumptuous in the size and beauty of its apartments, and in the most suitable spots he constructed many tanks for the holding of water and the plentiful supply of it: as it were vieing with Nature so as to outdo, by artificial fortifications, the means of resistance with which she had endowed the place. Besides, he equipped it with a mass of darts

¹ So Niese; several codd. read 160: ἑκατόν for ἑκαστον.

and engines, and planned the preparation of everything which might render its inhabitants secure against the longest siege." When Lucilius Bassus (in 71 or 72 A.D.) came to besiege Machaerus, the Jewish garrison, "separating themselves from the strangers with them, forced the latter, deeming them a mere mob, to remain in the lower city and bear the brunt of the danger, while they themselves, seizing the citadel (*φρούριον*), held it both on account of its strength and with design to their own safety; for they assumed that they would obtain a pardon if they surrendered the place to the Romans." Skirmishes followed between the two hosts, till Bassus, having captured Eleazar, a brave Jew of noble family, pretended to be about to crucify him in sight of the besieged. Thereupon the latter "sent out messengers to treat for the surrender of the citadel on condition that they should be allowed to go free and have Eleazar restored to them." On the Romans consenting, the mass of those in the lower city, having learned of the agreement made by the Jews for themselves, "resolved to fly secretly by night. But as soon as they opened the gates, word of this came to Bassus from those who had made the agreement with him. . . . The bravest of such as made the sortie managed to escape, but of those left within about 1,700 men were slain, and the women and children enslaved. Bassus, feeling himself obliged to keep his agreement with those who surrendered the citadel, let them go and gave them back Eleazar."

With one possible exception (the "lower city"), this account suits the site and features of *Ḳaṣr el-Meshnekeh*. It is a steep mound or hill rising abruptly from a ridge as narrow as itself, which runs north-west and south-east between deep valleys (*see Plan*), which Josephus is right in describing as impossible to fill up. The gorge or valley on the west, as he says, runs to the Dead Sea. The length he gives to it, 60 stadia, may be compared with the two or three hours which our guides gave as the time required to reach the Dead Sea coast from *el-Meshnekeh*. So far as I remember, Josephus is also right in saying that Machaerus overtopped all the hills on this side. The whole Judæan range was visible to us across them. The tower on the Mount of Olives, a bit of Jerusalem, Bethlehem, Engedi, and Masada were very distinct; so, too, Jericho and the green ribbon of the Ghor. The gorge on the east is much deeper, as well as narrower, than that on the west; Josephus gives it as "not less than 100 cubits"; we estimated it as over 400 feet

deep from the fortress walls. The hill on its other side, described by Josephus as "lying over against Machaerus," is the western spur of the ridge on which the ruined tower lies. Again, Josephus says that although the valleys to the north and south of the fortress fail of the size of the other two, they are equally impassable. Roughly, this is correct. They are not properly valleys like the others; the hill merely sinks north and south to the level ridge from which it rises. Across this, on the north, a trench has been dug in the rock, its bottom about 100 to 110 feet below the fortress walls. On the south or south-east the ridge is from 90 to 100 feet below the latter. The hill is very steep. The ascent to the fortress, the *ἀνοδος* mentioned by Josephus, was from the south-east. Here the causeway, now called el-Jisr, is still almost intact along the neck of the ridge, and from it there rise right to the fortress walls the remains of a staircase, partly cut in the rock, partly built. Our guide, when he saw it, at once said "Derrāj" (steps). The length of the causeway is 133 paces, and the breadth 9 feet. At the 70th pace from the foot of the staircase another causeway breaks off to the left (the east) on the line of the present path up the Wady towards the ruins of the town. The summit of the hill, which appears to have been levelled, is enclosed within nearly rectangular walls, of which a few courses still stand. The north side is about 56 paces, the south about 46, the west about 67, the east about 80. Traces remain of the towers which Josephus describes at the angles: the heaviest was that at the north-east corner, and there was also a strong tower or gateway lying out from the west wall, about 20 paces from its north end. Down this side there were at least three large halls, but evidently the whole space within the walls was built upon. Near the north end much still remains of a large reservoir, 17 paces long by 8 paces broad, sunk below the surface, but of built stone and thickly coated with cement. In parts where I measured it the castle wall was 4 feet thick; it runs round the edge of the levelled summit; but there appears to have been an outer rampart or wall 10 feet out from, and 4 feet below, the other. The masonry is quite different from the unmortared ruins of the Byzantine town. It is beautifully constructed, and everywhere heavily mortared. The mortar is still as hard as modern concrete. "No mud in that!" said our guide.

Kaşr el-Meshnekeh is, therefore, obviously the fortress of Machaerus, built by Herod, and surrendered to Bassus. But where

are we to place "the lower city" which Josephus mentions? The ridge from which the fortress rises is too narrow to have held this; but it may have lain on either of the lower eminences at the north and south end of the ridge respectively—more probably on that to the south at the other end of the causeway where I noted some remains, though the darkness prevented our making an examination of them. One thing is certain, "the lower city," besieged along with the fortress, cannot have been on the site of the Byzantine town to which the name *Mkawr* is now attached, for this, as we have seen, lies nearly a mile away.¹

It was interesting to see the very extensive view from the walls of the fortress. If the captives of Herod Antipas were allowed to look out of their prison, then John the Baptist had before his eyes one of the most comprehensive prospects in all Palestine. It comprised nearly every stage of his own education and ministry: the deserts of Judæa, where he was brought up; part of the Temple, where he had been presented as a child, seen round the Mount of Olives; and the Valley of the Jordan, where he achieved his ministry. One could not help wondering if this second Elijah, as he looked down at the scene of his great predecessor's translation, ever expected the arrival of his own horses and chariots of fire. It is singular to remark how the three great prophets—Moses, Elijah, and John—all passed away within a few miles of each other, across Jordan, in the land of Moab, over against Beth-Peor.

¹ *Machaerus* does not appear in the Old Testament, nor on the Moabite Stone. But the Targums have substituted in Num. xxxii, 1, 3, 35, for *Jazer* מִכְוָר; *Makwar*, and in Num. xxi, 32 מַכְבָּר, *Makbar*. Both forms occur in the Talmudical literature: see *Levy, Neu. Hebr. u. Chald. Wörterbuch*, who cites, besides, מַכְאוּר. The original Semitic form is thus preserved in the present Arabic *Mkawr*. Various derivations of it have been proposed (e.g., *Lightfoot, Opera*, ed. Leusden, ii, 582). Looking from the Moab plateau at the shape of the fortress-hill, one is reminded now of a camel's saddle, and again of a cap: in Arabic one of the names for the former is *Makwar*, while *Mikwar* means a royal head-dress of Persian origin. The Greek form, both in Josephus and Strabo, is *Μαχαρως*, and the Latin, as in Pliny, *Machaerus*. *Reland* (p. 218) cites from a Greek *Notitia Ecclesiastica* among the Arabian towns *Καμν Μαχαβερος* (or *ως*), and *Tobler and Molinier*, in *Hinera Hierosolymitana* (1879), p. 326, *Machaverus*. It is remarkable that neither *Eusebius*, *Jerome*, nor the account of the visit of *Petrus the Iberian* (fifth century) to *Callirhoe*, nor the *Mcdeba Mosaic Map* mention *Machaerus*. Nor does it occur, so far as I know, in the literature of the Crusades; though in the list inserted in old codd. of the *Histories* of *William of Tyre*, and quoted by *Reland* (225 ff.), it is probably represented by the corrupt form *Mahadaron*.

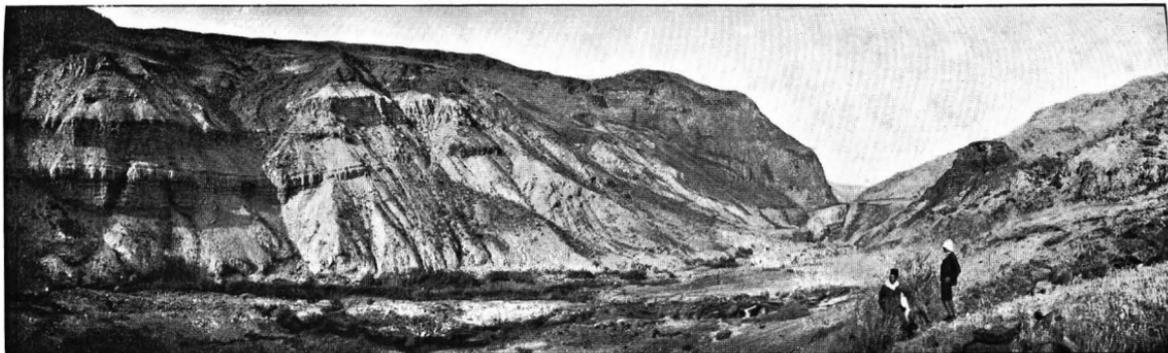


FIG. 4.—Basin of Hammâm ez-Zerka, looking West.



FIG. 5.—Machaerus. From the Ruins of the Byzantine Town. The Kuş el-Meshnekeh is the bold hill in the centre. The Gorge runs between it and the Plateau.