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1901.
ORDINARY GENERAL MEETING.

THE PRESIDENT, SIR GEORGE G. STOKES, BART., IN THE CHAIR.

The Minutes of the last Meeting were read and confirmed.

The following election was announced:—

ASSOCIATE:—Dr. Chr. Mudd, of Fitzroy, Melbourne, Victoria.

The PRESIDENT.—I will now call on Sir Charles Wilson to have the goodness to deliver the Address, which he has most kindly promised us, on "Moab and Edom."

RECENT INVESTIGATIONS IN MOAB AND EDOM.


SIR GABRIEL STOKES, LADIES AND GENTLEMEN,—Many years ago, when I was surveying Jerusalem, I used to sit on the Mount of Olives and look with longing eyes on the richly tinted mountains of Moab. The colouring, as those of you who have visited Jerusalem will remember, is most brilliant, and in the light of the setting sun the mountains have the appearance of a veritable fairyland. The only picture I have seen which does justice to the colouring is the "Scape-goat" of Holman Hunt, which has occasionally been exhibited in London.

Last spring, by great good fortune, I was able to make a short tour in the country I had so longed to visit in the early sixties. At that time travelling was difficult, and the few travellers who had visited Moab had only been able to accomplish their object by the expenditure of large sums of money. Afterwards Canon Tristram and others travelled in Moab; but the Canon, as many of you may remember, had a rough experience on one occasion, when he was held prisoner at Kerak for a considerable time. Since the occupation of Moab and Edom by the Turks, travelling

* Monday, February 5th, 1900.
has been comparatively easy, and I had no difficulty in moving about the country, except when the Turks were so anxious for my safety that they insisted upon sending a couple of soldiers with me.

Edom and Moab, so closely connected with the history of Israel, are interesting from the complete agreement of their physical features, as in the case of Palestine, with the slight topographical notices contained in the Bible. From the Dead Sea and the Jordan valley there is a steep ascent to a high-lying plateau. This plateau, which, on the north, has an elevation of 2,640 feet above the sea, rises gradually southward until it attains above Petra an altitude of 5,300 feet, or a height of something like 6,500 feet above the surface of the Dead Sea. Eastward it falls away with an easy slope until it loses itself in the Syrian desert, which extends to the Euphrates. The plateau, and the remarkable valleys that intersect it, are the result of the physical processes which caused the formation of the Jordan valley and the Dead Sea; and this fracture of the earth’s crust gives much of its peculiar character to the scenery. As regards the geological formation, a section in the vicinity of Petra gives at the bottom red sandstone and conglomerates, and then, in ascending order, carboniferous limestone with fossils, the variegated Nubian sandstone in which the tombs and temples of Petra are cut; and limestone, with thick beds of flint, which corresponds to our chalk. It is this cretaceous limestone which forms the surface of the plateau and gives to Moab and Edom many of the characteristics of our Sussex downs and Yorkshire wolds. The limestone, dipping towards the east, passes here and there under sheets of basaltic lava due to comparatively recent volcanic action.

A peculiar feature of the country is the number of deeply cut ravines that intersect it from east to west. These ravines are not wholly formed by the action of running water, but are connected with the fracture and subsidence of the earth’s crust to which the great rift owes its origin. They are really cracks at right angles to the line of the Jordan-Arabah fault. This great line of fracture is continued down the Red Sea and is apparently found in the great rift of Central Africa. The recent investigations of Captain Lyons in Egypt have shown that the Nile valley is also due to a fracture probably of the same age.

The natural features of the country are well distinguished
in the Bible. In the first place there are the downs of the plateau, which are called “the plain country” or Mishor. The downs form an almost ideal pastoral country, and Moab, as we know, was celebrated for its large flocks of sheep and goats. The basalt tracts, which I have mentioned, are exceedingly rich and productive. Nearly everything can be grown in them, and they are called the Sadeh Moab, that is, the “Field,” or cultivated districts of Moab. Beyond the downs is the desert, which during the rainy season, and for a short time afterwards, is covered with sufficient desert vegetation to give food for camels and the flocks and herds of the Bedawin. This is the Midbar or wilderness of the Bible. These three districts are common to Moab and Edom; but the whole country is now little cultivated. No better land for the growth of wheat and barley could be found than that in some of the districts, and since the Turkish occupation small areas have been brought under cultivation and have given rich returns. Wherever there is water, as at Kerak, Tufileh, Elji and Ma‘áin, the olive, fig, pomegranate, and vine thrive well.

The kingdom of Moab at one period extended northward to Mount Gilead and included that part of the Jordan valley which lies opposite Jericho and is called Arboth Moab or the “plains of Moab.” The Moabites were driven south of the Arnon by the Amorites, and that river was their boundary when the Israelites entered Palestine. The divisions of the country are clearly marked by its physical features. The northern boundary of Moab is the Wady Mojib, or Amon, a very deep valley, almost a c&aelig;n, which it is difficult to cross. The descent from the north is a very rough one of about 1,860 feet, and the ascent on the south side is about 2,040 feet. Formerly it took a day to cross this ravine; but since the Turks have made a mule-track it can be crossed in from four to five hours with comparative ease. The southern boundary is the W&aring;dy el-Hesi, which in its eastern portion has a fine stream that is probably the Brook Zered of the Bible. This ravine, which is more deeply cut than, but not so difficult to cross as, the Arnon, separated Moab from Edom. South of W&aring;dy el-Hesi is the district of Jebeil, which corresponds to Gebal, a place mentioned only once in the Bible (Psalm lxxxiii, 7). This district is separated from Edom proper by a remarkable break in the hills above the Arabah which I have ventured to call the “Shobek Gap.” Edom proper is separated from Midian.
by an equally well marked valley—the Wády el-Ithm. The general direction of the roads is controlled by the physical features, and it is comparatively easy to trace, up to a certain point, the route which the Israelites must have followed. There is only one road from Western Palestine to Edom north of the Dead Sea, and that follows the line of the old Roman road to Medeba. But south of the Dead Sea there are several roads. One leads directly to Kerak and Moab; another runs up Wády Músá, and passes by Petra, to Edom; and a third, ascending to the plateau by Wády el-Ithm, continues northward along or near the eastern boundary of Edom. Now, adopting the view that the Israelites endeavoured to travel by the easiest natural route, it seems probable that they came, in the first place, to the mouth of the Wády Músá with the view of passing through Edom to the Holy Land. The Edomites, however, refused the necessary permission, and the Israelites then marched southward, along the Arabah and up Wády el-Ithm, so as to avoid Edomite territory. One of their camps—it is difficult to say which—must have been near the desert town of M'aán, where there is, and must always have been, an abundant supply of water. The Israelites then journeyed northward, along the line of the present Haj road, by which the pilgrim caravans journey from Damascus to Mecca. The Israelites were practically confined to this route; for if they had diverged to the east they would have got into the Syrian desert, and if they had kept more to the west they would have become involved in a complicated system of ravines, and have encountered great difficulties. By keeping to the Haj road they avoided the ravines, or crossed them at the easiest points, and were able to turn westward over the plateau by a very easy road to Dibon (Dhibán). The lines marked out by nature for the construction of roads, and for the passage of large bodies of men, explain many points connected with the history of the country. They also throw light on the wars between the Israelites and the Moabites, upon the expeditions of the Crusaders, and upon the raids of that prince of freebooters, Renaud de Chatillon. One of the most important roads, especially during the Roman period, when it was made a great highway by Hadrian, was that which connected Damascus with the Gulf of 'Akabah and Arabia. The Israelites, in their campaigns, used the roads south of the Dead Sea. On one occasion they passed through the wilderness of
Edom and were in want of water (2 Kings iii, 8, 9). This seems to indicate that they marched by the desert road, and the battle was fought on the border of Moab, probably in the Wády el-Hesi.

I think that the incident of the blood, or red-coloured water, that the Moabites saw may possibly have been due to a cloud-burst in the hills at the head of the valley, which was not visible to the Israelites. The flood-water probably came down with a rush during the night, as it often does in those regions, and a stormy sunrise, after the rain, would give the red tinge to the water which the Moabites saw in the early morning.* All the expeditions by the Crusaders were made by the roads south of the Dead Sea and had as their objective the line of communication that linked Egypt and Arabia to Damascus and Northern Syria. The rich caravans which passed along this road were frequently raided by the freebooters of Shobek and Kerak. Renaud de Chatillon, who was a very remarkable man, at one time fitted out an expedition to attack Mecca. Following the example of the Kings of Judah and Israel, he built large galleys at the head of the Gulf of Akabah and sent them down the Red Sea with orders to prey upon the Arab boats, and if they could effect a landing, to try to take Mecca. The expedition failed, principally, I think, because Renaud was not with it, and not a man returned to tell the tale.

The climatic changes on the plateau, due to the desert on the east, and the deep depression of the Dead Sea on the west, are interesting. In the vicinity of the latter, the air, which has been superheated in the great rift during the day, rushes up through the ravines with a loud roar and much violence at sunset and for some hours afterwards. At Tufileh our tent was in danger of being blown down, but after a few hours the wind suddenly dropped and it became quite calm. I was told that this strong rush of heated air occurred every evening and that sometimes it was of almost cyclonic violence.

In winter there is usually heavy snow on the higher portions of the plateau, and even throughout the spring and well into the summer it is often very cold. The cold wind is the east wind that blows off the desert, which cools down very rapidly after sunset. A curious feature about this east

* An interesting description of a sudden freshet in the valley of the Arnon is given by M. Lucien Gautier, *Autour de la Mer Morte*, 1901.
wind is that it becomes a hot wind west of Jordan. Whilst we were shivering on the eastern plateau, the people at Jerusalem were having one of those hot sirocco winds which bring fever and sickness. This may be attributed to the fact that the east wind from the desert drives before it the heated unhealthy air that is always rising from the Dead Sea and the Jordan valley.

The efforts made to impound and store water in the olden times are remarkable. The whole country is full of large cisterns and reservoirs. I was also much struck with the way in which terraces had been built across the valleys to retain the surface soil and prevent the too rapid escape of the rainfall. Arrangements were also made for irrigating the lands.

At one spot on the plateau of Edom, in the vicinity of Petra, there is an oak forest, or rather the remains of one. It was still a large wood and in some places so dense as to be difficult to pass through. I think Professor Hull mentions that he saw from the Arabah what he took to be trees on the hills above him, and I have no doubt that what he saw was a part of this forest.

The old towns well deserve examination. There are fine Roman remains, but some of the most interesting ruins are those of the Christian period, which have, here and there, marked characteristics. There was little or no wood in the country suitable for building purposes, and all the roofs of the houses were of stone. They built, without mortar, a series of closely spaced parallel arches, or arcades of stone, and then laid large flat slabs of stone on the crowns of the arches to form the roof. Some small churches and nearly all the large reservoirs were roofed in a similar manner. In the latter case the stone roof kept the water clean and prevented evaporation. The Turks have done much for a country in which, a few years ago, no one could travel without fear of being robbed. In that part of the world they have, at any rate, been civilizers, and their occupation has made it easy for travellers to visit Moab and Edom.

I have no time to go into the numerous instances in which the history of Moab and Edom comes into contact with that of the Israelites; but it is extremely interesting to study that history with a knowledge of the geography of the country. I was fortunate enough to obtain a few Greek inscriptions of Christian origin, which are the first that have come from Moab. They were discovered accidentally, and
this seems to indicate that many others might be found. I heard of many inscriptions from the Arabs, but the present Turkish law with regard to antiquities is so unfortunate in its action that when any one finds an inscription or an antiquity he at once buries or destroys it. I am afraid that the effort to secure all antiquities for the Constantinople Museum has led to the loss of many objects of great value, but I feel sure that there is much to be discovered by excavation in Moab and Edom. At Petra we were able to find two or three new Nabataean inscriptions. There, too, excavations would certainly bring to light much that would be of great historical importance. Moab and Edom have been recently visited, on three or four occasions, by Professor Brünnow, who spent eight or nine weeks at Petra. I believe his book, when it appears, will give much new and valuable information, especially with regard to the inscriptions and to the general condition of the country. I was fortunate to have with me Mr. Hornstein, of the London Jews' Missionary Society, who is a perfect Arabic scholar, and seemed to be the friend of every one in the country. He is also an accomplished photographer, and I will now show you some of his photographs, as they will enable you to realize better than any words of mine the general aspect of the country.

[The lecturer then exhibited on the screen a series of interesting photographs of the locus in quo, and after some discussion the meeting terminated.]

Discussion.

The Rev. Canon Girdlestone.—I am sure we are all under a very great debt of gratitude to Sir Charles Wilson. He has given us a great treat and a great deal of illustration of the Old Testament. Many of these points must be quite new to some of us, and they are very interesting.

Canon Tristram's name has been referred to many times, and you will all be interested to know that to-day is his golden wedding.
day, and I hope we may send him a message of congratulation from the Victoria Institute.

With regard to Kerak, it is very interesting, I think, to see how the old and new systems are both face to face and side by side. In the new we have medical missioners, under the Church Missionary Society, doing most excellent work in that place.

With regard to some of the names mentioned to-day, such as Tophel and others, one's mind naturally goes back to the 1st chapter of Deuteronomy, where you have certain localities pointed out in connection with the camping-ground immediately before the people crossed the Jordan in a westerly direction. Sometimes, perhaps, disappointment is felt that all these places have not been exactly identified; but one has to remember that there were two million people at least—men, women and children—and you cannot camp two million people in a village; so that all the writer could do would be to give certain locations as the main centres of the camping-ground. That probably accounts for the peculiar terminology which you get in this early account.

The only other point which I should like to know about, and which I have often been puzzled over, is with regard to that vast desert to the east of the region which Sir Charles Wilson has referred to and to the west of the Euphrates. Was it always a desert, and will it always be a desert? Is it possible that under any special circumstances that land can be cultivated? In the book of Ezekiel it appears, from the ordinary reading of the book, that the tribes are to have long strips of territory running right across that very region. Of course we can explain it symbolically; but still one would like to know if it is possible, under any circumstances, to explain it literally.

It is delightful to hear that the Turks are doing a little good there. I have not heard a good word for the Turks for I dare not say how many years. If the Turks could be put to cultivate that region it would keep them out of the mountains and enable them to do some good work as a little set-off against the bad work they have done in certain regions which we know about so well.

[Applause.]

Professor E. Hull.—I join with Canon Girdlestone in expressing my great pleasure and gratitude to Sir Charles Wilson for his address to us this evening, and particularly at the present time, when, as is known probably to some of you, he has two gallant
sons at the front in South Africa, who I am sure we all hope will return home to their country not only safely but scatheless. [Applause.] I think, under the circumstances, we are particularly indebted to Sir Charles Wilson for coming forward this evening.

To refer to the subject of his lecture, I may mention that a short time ago I was invited by the Royal Artillery Institution at Woolwich to give a lecture before the officers. I gave them two or three subjects to choose from, but the Exodus, at any rate, was the subject which they themselves chose. Just as I was about to go I read a message from a distinguished literary friend living in London to say that there was "no Exodus." I replied if there was no Exodus then William the Conqueror never landed on the shores of England! [Applause.] And I wish my friend could have been here this evening to hear the testimony of Sir Charles Wilson, from actual observation and experience, that there had been an Exodus of the Israelites from Egypt to Palestine.

I will take, if the lecturer will permit me, several points in rotation which have been referred to. In reference to "faults" in the strata, I go so far as to think that it is exceedingly probable that whatever faults run along the valley of the Nile (and I have seen them myself in more than one place) they are geologically contemporaneous with the great Jordan-Arabah fault, which bounds the region lying over to the east of the Jordan-Arabah valley—in other words, the tableland of Edom and Moab.

Now about Kerak, which he described and represented on the sheet. When our party, sent out by the Committee of the Palestine Exploration Fund, which included Lord Kitchener, were encamped down by the Dead Sea, we had a polite invitation from the Sheik of Kerak to pay him a visit. No doubt his intention was entirely hospitable; but recollecting the experience of my friend Canon Tristram when he found himself within the walls of Kerak, I think we were unanimous that we would not trust our precious skins in the same isolated district, where we might be kept a considerable time and only freed on paying a handsome ransom. We sent back a polite message to say that our time was so short that we regretted we were unable to accept his hospitable invitation.

Now Sir Charles Wilson mentions the names of several valleys that I have personally visited and explored to a certain distance, and one he identifies as the Brook Zered. I entirely agree
with him that the Wadi el-Itbm is the valley that the Israelites were obliged to traverse in order to get up out of the Arabah valley when they were forced to return southward again after being refused passage by the King of Moab. That was the only valley by which they could ascend to the tableland of Edom, and it is not to be wondered at that in consequence of that journey it is stated that the people were seriously discouraged by the length of the way. It is a dry valley under an almost tropical sun and must have been very trying to the large multitude of men, women, and children. But with regard to the route by which the Israelites proposed to traverse Edom. I think our party explored what we thought to be the very “king's highway” by which the Israelites might have passed up from the Arabah valley to the tableland of Edom. This valley lies to the north of Petra. They had, I think, a well trodden road passing up towards the tableland and the one used at the present day, I believe, by the pilgrims going from Palestine to Mecca.

Then I would refer to one other point, and that is the lecturer mentioned that on the tableland of Edom and Moab the cold is very intense in winter. When we were there in the middle of winter we saw the whole country forming the tableland covered with deep snow, and we found Western Palestine covered deeply with snow. But when we were descending from the valley of the Arabah into the great depression of the Ghor, as it is called, in which the Dead Sea lies, we were surprised to see the whole of the plain occupied by the tents of the Bedawin Arabs. They had come down from the pasturages of Edom and Moab to the warm climate bordering the Dead Sea, where they pastured all their flocks and herds in the cold part of the year; and really it is a wonderful natural provision by which these Arabs are enabled to pass through the severe climate of the winter months. It was a very pretty sight that was presented to us. Children came up from the camping-ground and arranged themselves in line along our pathway as we descended on our camels and saluted us in a most cordial and friendly manner.

I am sure we are all gratified to learn that there is a prospect of another Moabite stone, or something of the kind, when the country may be more accessible and opportunity is given to travellers to examine it more fully.
RECENT INVESTIGATIONS IN MOAB AND EDOM.

[After some further discussion, in which the Rev. F. A. Walker, D.D., and Mr. Martin Rouse took part, the lecturer briefly replied, and the proceedings terminated.]

POSTSCRIPT.—In answer to a question put by Canon Girdlestone (see above) in reference to the possibility of cultivating the land of the Arabian Desert lying between Moab and the Euphrates, Sir Charles Wilson writes, "I do not know the country between Moab and the Euphrates, but should say, from all that I have heard of it, that it is not cultivable excepting perhaps a few patches, here and there, in hollows which may occasionally produce a scant crop of barley."