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JOURNAL OF  
THE TRANSACTIONS  
OF  
The Victoria Institute,  
OR  
Philosophical Society of Great Britain.

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EDITED BY THE HONORARY SECRETARY,  
CAPTAIN F. W. H. PETRIE, F.R.S.L. &c.

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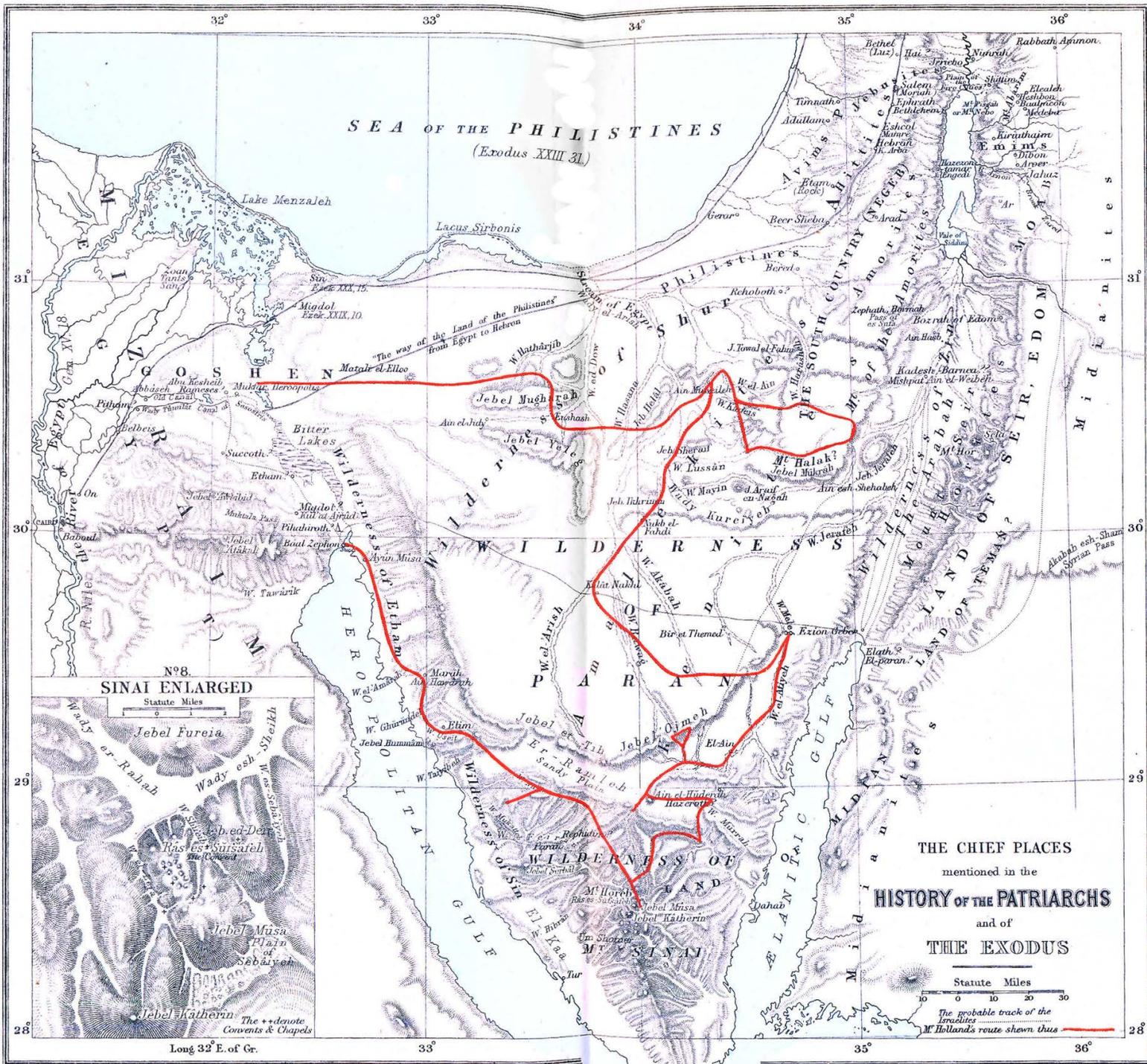
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THE CHIEF PLACES  
mentioned in the  
**HISTORY OF THE PATRIARCHS**  
and of  
**THE EXODUS**

Statute Miles  
0 10 20 30  
The probable track of the  
Israelites  
M. Holland's route shewn thus

**JOURNAL OF THE TRANSACTIONS**  
 OF THE  
**VICTORIA INSTITUTE,**  
 OR  
**PHILOSOPHICAL SOCIETY OF GREAT BRITAIN.**

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ORDINARY MEETING, FEBRUARY 17, 1879.

H. CADMAN JONES, ESQ., M.A., IN THE CHAIR.

The minutes of the last meeting were read and confirmed, and the following elections were announced :—

**MEMBER** :—The Right Reverend J. Barclay, D.D., LL.D., Lord Bishop of Jerusalem.

**ASSOCIATES** :—Sir John Don Wauchope, Bart., North Britain ; the Ven. Archdeacon Kirkby, North America ; Rev. T. B. B. Ferris, M.A., York ; E. Cutler, Esq., M.D., United States ; J. Fortescue, Esq., North America.

Also the presentation of the following Works for the Library :—

“Proceedings of the Royal Geographical Society.”	<i>From the same.</i>
“Proceedings of the Royal Geological Society.”	<i>Ditto.</i>
“Church and State.” By Professor Birks.	<i>Ditto.</i>
“Some Outlines of the History of Philosophy.”	By the Ven.
Archdeacon Denison.	<i>Ditto.</i>
“Lost Israel.” By Heine.	<i>From C. Biden, Esq.</i>

The following paper was then read by the Author :—

*THE TOPOGRAPHY OF THE SINAITIC PENINSULA.*

By the REV. F. W. HOLLAND, M.A. *With a Map showing the Author's Route in 1878.*

I WILL preface my paper by a few remarks on my own travels in the Peninsula, in order that you may weigh my claim to express an opinion upon the interesting questions connected with its topography.

My first visit was made in 1861, when I travelled in the usual way, under the direction of a dragoman, who was very ignorant of the country, and very much afraid of the Arabs; and I returned home feeling that, although I had seen much more of the Peninsula than most travellers see, I really knew very little about it. But I felt the truth of the Dean of Westminster's remark in his excellent work on "Sinai and Palestine" (p. 33), that the determination of the questions relating to the route of the Israelites had been obscured, first by the tendency of every traveller to make the Israelites follow his own track, and secondly, by the impossibility of instituting a just comparison between the facilities and the difficulties of the various routes, until some one person had explored the whole Peninsula, and I determined that if no one else was in the field I would endeavour to do this. In 1864 an opportunity offered itself; and, accompanied by two friends but without a dragoman, I made a walking tour through the Peninsula, but again returned grieved to find it still remaining to a very great extent an unknown land.

In 1867 I went out for the third time, and lived alone with the Arabs for four months, and succeeded in exploring carefully the greater portion of the Peninsula, and in making a map of it, which was published by the Royal Geographical Society.

In the following year I returned as guide to the Ordnance Survey expedition, and again spent several months in the country; and in the spring of last year I paid it my fifth visit, travelling on foot and alone as in 1867, *i.e.* with three Arabs, whose camels carried my provisions for two months, tent, and other necessaries; and, following the route marked in the map which hangs before you, I traversed a large portion of country that had hitherto remained unexplored, and I hope succeeded in throwing some additional light upon the probable position of Kadesh Barnea and the journeyings of the Children of Israel thither from Mount Sinai. I shall now describe to you what I have myself seen, and the opinions which I have

formed, after a careful study on the spot, of the bearing of the topography on the history of the Exodus.

The Sinaitic Peninsula, strictly speaking, includes that wedge-shaped desert region which is bounded on the west by the Gulf of Suez, and on the east by the Gulf of Akaba, the two gulfs being respectively 186 and 133 miles long.

The Hadj, or Mecca Pilgrim road, which runs eastward from Suez to Akaba, marks its northern boundary; but I shall take you this evening some 80 miles further north to Jebel Muḡrâh, across the desert of the Tîh, or "Wanderings." This desert, the drainage of which runs northwards towards the Mediterranean Sea on the north-west, and the Wady el Arabah and Dead Sea on the east, forms an elevated plateau of limestone, terminating on the south in a long range of cliffs, Jebel et Tîh, which also projects in the form of a wedge into the Peninsula, the southernmost portion being called Jebel el Ejmeh.

The region south of Jebel et Tîh is in the main a mountainous desert.

The popular idea of a desert is a flat expanse of sand. Nothing, however, could be more unlike the desert of Sinai, where sand in any quantity is very seldom seen, the Debbet er Ramleh, or "plain of sand," north of Sarabit el Khadim, and the sandy plains near Ain Hudherah being the exceptions. The greater part of the mountains consist of crystalline rocks, chiefly syenite. These rise to their greatest elevation in the neighbourhood of Jebel Musa, in the centre of the Peninsula, the highest peak being that of Jebel Katharina, which rises to an altitude of 8,550 feet above the sea-level. Jebel Musa is 1,175 feet lower, being only 7,375 feet.

With the exception of the large plain of el Gaah, on the west, and the smaller plains on the shore of the Gulf of Akabah, the whole of the southern portion of the Peninsula consists of irregular ranges of syenitic mountains. On the north-east and north-west are extensions from the central nucleus of the same crystalline rocks projecting upwards like two horns, nearly parallel to the coast-line of the gulfs on either side. To the north of these a wide irregular band of metamorphic rocks extends almost across the Peninsula; between which and the cretaceous limestone of Jebel et Tîh lies a breadth of red sandstone, of carboniferous age. The shore plains which fringe nearly the whole of the coast consist of desert drift and alluvium, with some remarkable raised beaches and tertiary deposits. A line drawn northwards from Ras Muhammed, the southernmost point of the Peninsula, past Jebel Musa to Jebel el Ejmeh, marks the central watershed; and from this

on either side the drainage flows east and west, cutting its way deeper and deeper through the mountain-ranges until the gulfs are reached, sometimes, as in the case of Wady Feiran, which the Serbal range pushes northwards, by a very circuitous route.

These wadies, or watercourses, in consequence of the mountainous character of the country, form the only roads through it. They are generally dry torrent-beds, their breadth and character differing according to the nature of the surrounding rocks and the rapidity of their descent. Some few are as level and hard as a high road, but the majority afford very rough walking amidst loose rocks and boulders. A remarkable feature along the coast is the existence of a promontory in almost every case at the mouth of the larger wadies. At the outfall of a river is usually found a bay; but the wadies of Sinai are only filled with water after a storm, and the torrents which then flow down them deposit a large amount of *débris*, which gradually assumes the form of a promontory.

The general aspect of the country is one of extreme barrenness and desolation; but it has a beauty and grandeur of its own which cannot fail to captivate the traveller. The variety of colouring is very great, and the evening and morning effects are most striking. The white limestone mountains, dazzling and trying as they are under a midday sun, melt into exquisite shades of purple as the sun goes down. The warmer tints of the brown and red sandstone glow with rich hues of colour; but it is in the granitic district that the full beauty of the desert is seen. There the wildness of the scenery and the varied forms of the mountains, streaked with dykes of purple and black, and displaying a brightness of colouring, red, white, rose, and green, which fully compensates for the lack of vegetation, exceeds the power of description; and the impressiveness of the scene is heightened by the deathlike stillness which reigns around, and by the absence of any signs of life.

The excessive dryness of the atmosphere causes a remarkable clearness, which enables the eye to see objects at a very great distance, but at the same time renders it exceedingly difficult to estimate distances.

The range of temperature is very great in the higher districts during the winter months. On 13th November, 1867, at a height of about 5,000 feet above the sea-level, my thermometer at 6:30 a.m. stood at 17° Fahr., and at midday in the sun at 120°. In December, 1868, at the camp of the Survey expedition, close to St. Katharine's monastery, at an altitude of

4,854 feet, the thermometer ranged from about 22° at night to 70° in the shade by day. The higher mountains are frequently covered with snow. The Bedawin suffer severely from the cold, and in the winter move down to the lower districts. The ibex appear to do the same, and large herds may at such times be seen in the neighbourhood of Jebel Serbal.

The summer temperature is very oppressive on the shore plains, and fever is common in the marshy ground about Tor, but on the mountains the air is always fresh and invigorating, and the climate exceedingly healthy.

The Israelites coming from the warm climate of Goshen must have felt the cold acutely in the Sinai mountains, and it is remarkable that the Bible makes no reference to it, except, perhaps, the command in Exodus xxii. 26, "That if thou at all take thy neighbour's raiment to pledge, thou shalt deliver it unto him by that the sun goeth down."

The Bedawin Arabs, who inhabit the southern portion of the Peninsula, belong to the tribe of the Towarah, and are said to number about 4,000, not including the women and children. They are gentle and courteous in manners, and strictly honest, theft and fraud being almost unknown amongst them. Of course, if a traveller should attempt to pass through their country with a high hand, despising their customs, and not placing himself under the protection of one of their sheikhs, he would probably very soon be stripped of everything, even to his clothes; but once under a sheikh's protection one's property is absolutely safe. Their means of livelihood are scanty, and they depend upon Egypt for their supply of corn. A few of the sheikhs possess negro slaves, who are always kindly treated. The Arabs live in tents made of goat's-hair cloth, woven by the women, but the encampments are always small, seldom consisting of more than six or eight tents. The scantiness of the pasturage makes it necessary for them to break up into small bodies. Like all Bedawin, they are not continually on the march, but their movements are regulated by the supply of pasturage for their camels and flocks of sheep and goats. In the same way was regulated, I suppose, the stay of the Children of Israel at their different camping stations, when, after leaving Kadesh, they wandered for forty years in the wilderness, and their life then must have closely resembled that of the modern Bedawin. It is interesting to trace out the points of resemblance. The rude looms used by the women in making their tent-cloth remind us how "all the women of Israel whose heart stirred them up in wisdom spun goat's hair" for the curtains of the tabernacle (Exodus xxxv. 26): the primitive millstones with which they grind their corn are doubtless

similar to those with which the Israelites used to grind their manna. Great festivals are held, at which sheep and goats are sacrificed and eaten, and the blood may be seen poured out at the tomb of their saints, or struck upon the lintel and door-posts of their shrines; the marriage rites, the law of restitution in cases of theft, the lawful killing of a slayer by the "revenger of blood," are almost identical with the laws and customs appointed by Moses.

There can be little doubt also that the present natural features of the Peninsula are almost the same as they were at the time of the Exodus. The mountains and wadies remain unchanged. This can be proved. At Wady Mugharah and Sarabit el Khadim, in the sandstone district, are found numerous tablets of Egyptian hieroglyphics and inscribed stelæ, in connection with the ancient turquoise-mines, which the inscriptions state were worked by the kings of Egypt who lived before the time of the Exodus.

The inscriptions are in most cases as sharp and fresh as on the day they were executed, which prove that the thousands of years which have elapsed can have had little or no effect upon the sandstone; much less upon the harder and more compact limestone and crystalline rocks of which the Peninsula is mainly composed.

The conclusion thus arrived at is further confirmed by the fact that the position of the Sinaitic inscriptions, which are scattered over a large area of the Peninsula, not only in the wadies, but also on the sides and summits of the mountains, clearly proves that no great change has taken place since they were made, probably nearly 2,000 years ago.

At the same time there can be little doubt that the amount of vegetation has considerably decreased. Large tracts of the northern portion of the Tih plateau, which are now desert, were formerly under cultivation, and the Isthmus of Suez, under the influence of the maritime and freshwater canals, is only now regaining its former fertility. Such changes in the character of the surrounding country must, to some extent at least, have influenced the dews and rainfall of the Peninsula of Sinai. I am watching now with interest to see what effect the refilling of the Bitter Lakes and the introduction of freshwater irrigation in the Isthmus will have upon the climate of Suez.

Probably also the Peninsula itself contained formerly a far larger number of trees. For many years the Arabs have been burning them for charcoal, which they carry to Egypt and exchange for corn; and the smelting of ores in olden times, of which extensive traces remain, must have caused a considerable

demolition of trees. With regard to the smaller shrubs and pasturage, these are far more abundant, even at the present time, than is generally supposed, and a slight addition to the rainfall would increase them enormously. .

It is wonderful to see the effect produced in a few days by a little rain : grass and flowers spring up on all sides, and the parched and withered herbage of the desert quickly forms a carpet of green, whilst the mountain crannies and basins produce an abundance of succulent herbs.

It is a great mistake to suppose that the monastic gardens at Jebel Musa and Tor, and the Wady Feiran, mark the only spots where any considerable amount of cultivation could exist in the Peninsula. Hundreds of old monastic gardens are scattered over the mountains, and there are occasional traces of terraces for the growth of corn.

Now when rain falls it rushes headlong to the sea, carrying all before it ; but the monks, and possibly the Amalekites before them, placed rows of stones across the gullies, which checked the flow of the water, and caused deposits of earth, which were carefully planted, and the water filtering from one to the other added to the fertility of the country, instead of destroying it.

Its capabilities for supporting life, vastly underrated at present, were probably in ancient times considerably greater, and the water-supply in the granitic district at least is even now tolerably abundant, and many a refreshing swim have I had in clear deep pools, fringed with maiden-hair fern.

In endeavouring to trace the route of the Israelites a difficulty meets one at the outset. Where was Rameses, their starting-point? Brugsch Bey identifies it with Tanis, or San, on the evidence afforded by inscriptions and papyri. But if there, the Israelites would have had to cross the Pelusiac, or eastern branch of the Nile, an undertaking which the history of the Exodus, short as it is, would hardly have passed over in silence. Dr. Beke's theory, that the Land of Goshen was situated to the east of the Isthmus of Suez, has nothing in its favour, except that it brings Goshen nearer to the Gulf of Akaba, which he believed to be the " Red Sea " of the Exodus. That district, however, certainly never had any rivers to supply the fish, which lived in the Israelites' memory as one of the luxuries of Egypt.

Others would place Rameses at Wady Tumeilat, near the present freshwater canal between Zagazig and Ismailia. At all events, the general position of the Land of Goshen on the extreme north-east of Egypt, and corresponding with the modern province of Es Shurkiyeh, appears to be satisfactorily

settled. Brugsch Bey has propounded an ingenious theory that the Israelites leaving Egypt by El Kantara marched north-eastwards to the Serbonian Lake, which he identifies with the Yam Suph, or Red Sea; and that it was here that Pharaoh's host was overthrown. Dr. Byrch, however, does not consider that he has succeeded in substantiating this theory from the ancient Egyptian records, and it is in no way commended by geographical considerations. That the Israelites should have marched so far northwards, and then have doubled back to the Bitter Lakes, where Brugsch Bey would place Marah, and to the Gulf of Suez, appears a most unnatural proceeding, and difficult to fit in with the Bible history. The location of Succoth depends largely upon the position of Rameses; Etham, we are told, was "in the edge of the wilderness" (Exodus xiii. 20), and should therefore be looked for somewhere on the line of the Suez Canal, either at Ismailia, or, as appears to me more probable, immediately to the north or south of the Bitter Lakes. If at the time of the Exodus those lakes formed the head of the Gulf of Suez, the latter position is out of the question; but this is a point which needs further examination.

The passage through the Red Sea probably took place not far from Suez, and then the Children of Israel entered the Wilderness of Etham, or Shur. The latter name, which means "a wall," it has been suggested, was derived from the wall-like appearance of the range of Jebel er Râhâh, which bounded it on the east.

Ayun Mûsa, the wells of Moses, lie about eight miles down the coast, and here perhaps the Israelites encamped after the passage; but the Bible makes no mention of this.

They must next have travelled down the broad plain that lies between the sea and Jebel er Râhâh, now, as then, a journey of three days at the average rate of marching of a large army, and without water. This would bring them to a district near Ain Howarah, where the ground is impregnated with natron, and the water is bitter and unwholesome. Here were the Waters of Marah.

A few miles to the south, the range of Jebel Hammam, which touches the sea, would compel them to turn inland, and Elim may be placed in the plains which lie to the north-east of that mountain, where there are still palm-trees and a supply of water. "The encampment by the sea," mentioned in Numbers xxxiii. 10, appears to prove that, descending Wady Taiyibeh, they regained the coast, and then they *must* have marched on to the plain of El Markha, which may have been the Wilderness of Sin (the alternative northern route, by the Debbet er

Ramleh, is placed on one side directly we descend Wady Taiyibeh to the sea). Between this and Rephidim were the stations of Dophkah and Alush (Numbers xxxiii. 12, 13). The former has been identified with some probability with Mafka, the name given to the sandstone district in which the turquoise-mines were worked. The only possible road from El Markha would lead past this district and up the well-known Wady Feiran, which still forms the great highroad through this portion of the desert, and leads up to Wady es Sheikh, and so to Jebel Mûsa. But where must we place Rephidim, the scene of the battle between the Israelites and Amalekites? Major Wilson and Major Palmer, following Dean Stanley, place it at El Hesweh, in Wady Feiran; but I have ventured to differ from them, though this is the only point on which we do differ. We are thoroughly at one with regard to the Israelites' route. It is argued in favour of Wady Feiran as the site of Rephidim, that it is impossible to believe that the Amalekites would have yielded up without a struggle that fair oasis, with its fertile groves and running stream, which must have been their most highly-prized possession in the Peninsula; and also that tradition and strategical considerations support that site.

But there is nothing to prove that the gardens of Wady Feiran existed before monastic times; and the running stream which Major Palmer saw had not existed one year: I saw it made myself by a great storm in the previous year. After less than two hours' rain one evening a great flood descended from the mountains, and in the morning the whole aspect of the valley was changed. A thick tamarisk-wood, two miles in length, had utterly disappeared; hundreds of palm-trees were washed away; the bed of the wady was raised several feet in some places, and lowered in others; and the present stream had taken the place of a raised bank.

It is true that there was before a stream, though not a perennial one, a little higher up the valley; and from its configuration it is probable that there always has been water here near the surface; for every large wady forms, in fact, a stone drain, and when rocks interpose, and come near the surface, then water appears; but the stream in Wady Feiran cannot be accepted as a proof that it was a prized possession of the Amalekites.

There is also nothing to prove that the tradition connected with El Hesweh is not of monkish origin, as the greater number of Sinaitic traditions certainly are.

With regard to strategical considerations, it appears to me that they are in favour of the pass of El Watiyeh in Wady es Sheikh as the site of Rephidim.

Here a remarkable line of precipitous mountains forms the northern boundary of a district called El Jibâl by the Arabs. This district comprises the high central group of mountains which cluster round Jebel Mûsa ; and which I believe to have borne at the time of the Exodus the name of Horeb. It seems very probable that the Amalekites should have retired before the advancing hosts of Israel to this natural fortress, and that they should have determined to concentrate all their forces in making one great stand against their invaders at this spot.

El Watiyeh affords the only possible pass by which waggons could enter this district ; and being only about 40 yards broad and 400 long, and flanked on either side by precipitous cliffs, it would form a strong point of defence. It is, moreover, only one day's march from Jebel Mûsa, which agrees better with the Bible narrative than the proposed site in Wady Feiran, which is three days distant. The rock at Rephidim, which, when stricken by Moses, supplied the Israelites with water, is described as being *in* Horeb, and this would be strictly true if El Watiyeh be Rephidim, and the district of El Jibâl be Horeb.

I have spoken of Jebel Mûsa as Mount Sinai, and the Ordnance Survey of the country has, I believe, proved this without a doubt. There is no other mountain in the Peninsula that answers all the requirements of the sacred history ; in this we find a mountain standing apart from others, so that bounds could be placed round it ; rising abruptly from its base, so that people might come near and stand beneath it, and might even touch it, if permitted ; and having before it a large open space, the Wady er Râhâr, on which the whole congregation of Israel might assemble and come near, or move afar off, without losing sight of its northern peak, the Ras Sufsafeh, which must have been that from which the Law was given. There is also a larger supply of water and pasturage in the neighbourhood of Jebel Mûsa than in any other part of the Peninsula.

I have not time to say much about the route of the Israelites from Mount Sinai to Kadesh. I am convinced that they did not follow that usually laid down for them to the Gulf of Akaba by Ain el Huthera. The wadies along that route are confined and winding, and impassable for waggons, six of which, we are told, had been presented by the princes at Mount Sinai for the service of the tabernacle.

I spent some weeks last spring in tracing out and exploring all the available roads and passes, and have come to the conclusion that they probably marched direct northwards from Jebel Mûsa, and ascended to the Tih plateau by Wady Zelleger

and Wady Atiyeh. These afford an excellent road, and the ascent to the Tih plateau is so gradual that no difficulty is met with. The Pass of Nakb Mirád, discovered by Professor Palmer, is by no means an easy one.

Having once mounted to the level of the Tih desert, a gradual descent across a succession of large open plains, with abundance of pasturage, would lie before them, and they would reach Jebel Mugrah without any trouble. Here we must place Kadesh Barnea, but whether at the south-eastern point near the head of Wady Garaiyeh, where there is a road running northwards, or on the western side at Ain Kadeis, further exploration must determine.

The name of the latter place is a strong point in its favour, and there is abundance of water and vegetation in its neighbourhood, and many traces of ancient habitations. I had hoped that I should have been able to settle this point last year, but the disturbed state of the country, owing to constant raids of the Arabs from the east of the Arabah, and the excessive drought, prevented my exploring the southern face of Jebel Mugrah; when this has been done, this important question will, I trust, be set at rest; and here, and in the exploration of the whole of the Negeb, or "south country" of the Bible, remains much interesting work for future explorers.

The CHAIRMAN, in conveying the thanks of the meeting to the author of the paper, said it showed that Mr. Holland had such a personal knowledge of the subject as was seldom met with. (Cheers.)

Mr. A. V. NEWTON asked:—Were they to infer that there were no indications existing, of the Israelites in the Sinaitic Peninsula, either as records on rocks or otherwise?

Rev. F. W. HOLLAND said:—He did not think there were any records on the rocks. The Sinaitic inscriptions certainly had nothing whatever to do with the Israelites, and although there were one or two inscriptions which appeared to be older than those ordinarily met with, he thought they were not nearly as old as the time of the Exodus. It was exceedingly difficult to judge of the date of the inscriptions, and very great mistakes had been made about them. In the case of an inscription which contained the words, "ΙΩΑΣΑΦ ΜΟΝΑΧΟΣ," one writer was of opinion that the monks of old had written it, but Major Macdonald had told him that he knew the monk who had written this. (Laughter.) He himself had made inscriptions, and from a little distance had not been able to tell which were his, from the colouring. The inscriptions on the granite were made by bruising the dark colouring of the rocks by means of stones; those on the sandstone were

mostly cut with flakes of flint. As regarded other remains of the Children of Israel, he thought there must be some. He did not think they could possibly have remained so long in the country without leaving some traces, at least in their tombs. But who was to say what was, and what was not, an Israelitish tomb? There were some exceedingly interesting primitive buildings, and these were, he believed, the remains of the dwellings of the Amalekites, certainly as old as the time of Israel; and very probably the tombs of the Israelites would be similar to those of the Amalekites. It was difficult in that country to dig a grave, and therefore the inhabitants had been in the habit of making a ring of stones, placing the dead within the ring, putting earth over the bodies, and placing heavier stones on the top. The Children of Israel, when encamped before Mount Sinai, would have their burying-place at some little distance; and just over the pass of Nukb Howa there was a large ring of stones which went by the name of "The Convent of Moses." This ring was about 112 yards in diameter, and he could not help thinking that it was a burying-place of the Children of Israel. There was, however, nothing whatever to prove it, although he thought it a very probable place for the burying of the dead,—just the position the Israelites would have chosen.

Other questions having been asked,—

Mr. HOLLAND said:—There had been an Egyptian garrison at the turquoise and copper mines at Wady Mugharah and Serabit El Kadim. He was, however, of opinion that the garrison would not have been large enough to keep back the Israelites. He thought that the strong point against the northern route was the encampment by the sea. He hardly thought that a small number of Egyptian soldiers stationed, as a guard over the miners, at the turquoise mines would have dared to have opposed the host of Israel. Last spring he had taken pains to ascertain the connection between the northern and southern routes, and he found that there were a large number of valleys through which communication could take place. There was a plain to the south of Jebel Musa, but it was at a considerable distance from the mountain, and he did not think that this plain at all came up to the probable requirements for the camping-place of the Israelites. The only other plain that at all answered to these requirements was that of "Senned;" but he did not think, taking all things into consideration, that it was as suitable for the encampment as the one before Jebel Musa. Serbal seemed to him entirely out of the question. The supposed plain before Serbal did not exist at all. The mountain was a very imposing one, far more so than the others, although not nearly as high. He had been all over the peninsula, and had walked some 5,000 miles in different directions, and certainly there was no plain that at all came up to the requirements in the same way as Jebel Musa.

Mr. D. HOWARD said, that a point in the lecture to be specially observed was the existence of a state of much greater fertility in the Sinaitic Peninsula than was usually supposed. It was a matter for careful examination as to

how far the climatic changes were governed by the state of vegetation. It undoubtedly was the fact that the climate of northern Egypt had been changed for the worse on account of the planting of trees, and such an amount of wet weather had been experienced as appeared to be actually unknown in previous times. Nothing was more evident than that the same cause would work in the opposite direction, and that the excessive destruction of trees would reduce the desert of Sinai to the comparative state of barrenness now found. Of course the conditions of life under which an Arab could thrive were not those which would appear very promising, but it was interesting to find that even now there was a possibility of sustenance for large flocks and herds in what was usually supposed to be a desert. The fact of there being a large amount of herbage was certainly a surprise.

The Right Rev. BISHOP PERRY having asked a question,

Mr. HOLLAND said :—The population of the Peninsula was considered to be 4,000 men, besides women and children. He saw no reliable traces of the Israelites after their departure from Mount Sinai. Throughout the northern desert there were primitive dwellings and burying-places. These *might* be Israelitic remains; but it was impossible to say whether they really were or not. He had intended to go north to Kadesh but had been prevented, and he therefore had struck out to the west. In the country he thus passed through he found a large number of primitive dwellings. After passing Nakhl he came to large tracts of soil ploughed up now by the Arabs for corn. This was done by making a camel drag a stick through the soil—that was all that was required. When the rainy season arrived they planted it. Maize and beans were grown here. Much soil had been obtained in many spots by placing large stones in the watercourses, which arrested the *débris* brought down by the water. In some instances these stones were very large. He was struck by a remark of one of the Arabs with him. Pointing to a row of these stones he (the Arab) said, “There were giants in those days.” Still farther north he had seen on former occasions a large number of heaps of stones, which Professor Palmer found were connected in the Arabs’ minds with traditions of vineyards. Nobody who had not wandered about on foot over these mountains had any idea of the large amount of vegetation and the good supply of water there really was. He formed a perfectly different idea of the country after wandering about it on foot to that which he had formed when passing through as travellers generally do.

In reply to further questions—

Mr. HOLLAND said :—The Sinaitic inscriptions were very much more numerous than was commonly supposed. He found them in all parts of the Peninsula. He was employed during the Ordnance Survey in making copies of them, and copied between two and three thousand, and of course he did not copy nearly all in the Peninsula. There was, he thought, sufficient data to prove that they were not earlier in date than two centuries before Christ, or later than two centuries after Christ. All authorities were now

agreed that they were made between these two dates. There were twelve bi-lingual inscriptions. The one of which a drawing was exhibited in the room was the most clear. The figure of a man in that was supposed by Mr. Foster to be Moses with his hands up in the attitude of prayer. The Sinaitic inscription he read as an account of the battle of Rephidim. In the mule at the bottom he saw a type of obstinate Israel. The Greek he declared to have nothing whatever to do with the Sinaitic. He would, however, call attention to the fact that it was bracketed with it. Besides this, it was one of the few inscriptions made with a metal chisel, and the width of all the letters corresponded with the width of the chisel. The inscriptions were found as a rule on the natural face of the rock. In one or two cases advantage had been taken of tablets prepared for Egyptian inscriptions, but in no instance had the rock been prepared for the Sinaitic inscriptions. The Arabs of the present day made somewhat similar drawings on the rocks in charcoal. The old inscriptions were exceedingly interesting, as representing the character of the people who wrote them. For instance, in the picture in the room there was a man out hunting with a dog; and just above that a man in the act of killing a wild goat with something like a hatchet. Then there was a representation of laden camels. There was also a man on horseback throwing a javelin at a target, and a picture of an ostrich. There were several cases where a man had begun to write his name in Greek, but not being able to manage it had given it up and taken to Sinaitic. He did not think there was anything in the Bible to imply that the battle of Rephidim took place in a plain. Just to the north of the pass, where he supposed the battle to have commenced, was a remarkable hill which commanded a clear view of the whole, and this appeared to him to be the hill on which Moses took his stand. Just at the bend of the pass was a rock called by the Arabs, "The Seat of the Prophet." He asked the Arabs whether they meant "The seat of Mahomet" by this. They answered, "No, the seat of our lord Moses." They poured milk over it as an offering, and stuck little sprigs of grass into the crannies of the rock. He did not attach much importance to the traditions found there, as there was everything against a line of unbroken tradition. He had not formed any opinion as to the point at which the Israelites crossed the Red Sea. The country required very careful examination in order to ascertain whether at the time of the Exodus the Gulf of Suez extended to the Bitter Lakes, or was only connected by a canal. There were to be found traces of human habitation round the Bitter Lakes. He might add that he had found a most interesting road from Ismailia to Jebel Mugrah, along which were fortified walls, dwellings, and buildings of Roman date. There were also great numbers of flint implements. This must have been the high road leading from Edom direct to Egypt, and, he thought, the one followed by Abraham and Lot when they went down into Egypt. He thought the flint implements on the table were made in the time of Moses, but the Arabs of the present day occasionally made them. He should not like to say where Rameses was.

Mr. CRACE said, that when the cuttings were being made for the Suez Canal he rode through them, and found it was perfectly evident that the sea went up to the Bitter Lakes. There were strata of salt in some cases 6 feet thick. He thought they were all deeply indebted to Mr. Holland for his paper. (Cheers.)

In reply to further questions from Bishop PERRY and others,

Mr. HOLLAND said :—The primitive dwellings on the Sinaitic Peninsula were very like the beehive-houses of Scotland. There was no doubt that the Bitter Lake was connected with the sea, but the question was whether it was so at the time of the Exodus. Further down the gulf were to be found raised beaches, so that there had been an upheaval of the coast. The Pillar of Cloud and the Pillar of Fire were certainly a difficulty in regard to a division of the Israelitic host. It could be got over by supposing that the main body was guided by the pillars, while communication was kept up with the smaller bodies. A liquid exuding from the tamarisk tree was called manna ; but this could not be the manna of the Bible, because it was not white, and because there would not have been enough of it to feed the Israelites.

A MEMBER stated, that those in the neighbourhood of the Suez Canal said that since the construction of the canal the rainfall had largely increased. It was possible that when the sea extended further up the country it was much more fruitful, and tamarisk trees might have existed in much larger numbers.

Mr. HOLLAND said, that it was proved by the clay deposits to be found in some of the valleys that there was a much larger amount of vegetation in former times than there was at present.

The meeting was then adjourned.