

After Bir-es-Seba I considered that the road by El Arish to Egypt was already well known, so by myself, with only four camels and four Arabs, I made my way across to Ismailia, about 200 miles. One of the Arabs had been part of the road fifteen years before; none of the others knew anything of it, but they were good men from the Egyptian Haiweitats, under a relation of the Sheikh Ibn Shedid. We passed a good many Arabs of the Terabin and Ma'azi tribes, and I was received amongst them as Abdullah Bey, an Egyptian official, thus reviving a name well known and much revered amongst them; they supposed me to be a relation of the great Sheikh Abdullah. I was everywhere well received, and heard many expressions of the utter disgust the Arabs have for Palmer's murderers. They were also very full of accounts of Sir Charles Warren's pursuit of the murderers, and the energetic steps he took to catch them. My route—for there was no path or road—was a good deal over rolling sand drives, with no water supply. At one time we had a council of war, whether we should go back for water or push on to Ismailia; but as we had brought as much as we could carry from the last supply I insisted on pushing on, and we reached Ismailia without loss, but at our last gasp for water. The last two days' travelling were the most trying I have ever experienced; a very strong west wind blew the sand up into our faces, so that the camels would hardly face it. I will not anticipate my report and plans by giving you now a description of the route, but I can certainly say that it is a 200 mile trip I have no wish to traverse again. We only missed our way for a short time once during the whole march, and I was much struck by the wonderful way the Arabs can make their way across difficult country without compass to guide them. I travelled every day from 8 a.m. to 6 p.m. without stopping, and with very little variation. One night we had to travel a good deal after dusk, to make a brackish pool of water, and I very nearly lost the party, as we had to separate to hunt for the water.

There was only one supply of good water after Wâdy Feira, and that was in Wâdy el Arish; after that we only found one brackish small supply as far as Ismailia.

H. H. KITCHENER.

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## ON THE RELATIONS OF LAND AND SEA IN THE ISTHMUS OF SUEZ AT THE TIME OF THE EXODUS.

THIS may be the proper place to refer to a suggestion of mine which has excited some interest, namely, that at the time of the Exodus there was a continuous connection of the Mediterranean and the Red Sea.<sup>1</sup> I never intended this to be considered other than a hypothesis towards the solution of a real difficulty which has occurred to all geographers who

<sup>1</sup> The *Times* and *Standard*, 18th February, 1884.

have undertaken to deal with the subject—namely, the determination of the actual position of the passage of the Red Sea by the children of Israel. As far as I am aware, the problem has been dealt with on the supposition that the physical relations of sea and land were, at the time of the Exodus, exactly or nearly as they are at present ; which there is reason to believe is far from having been the case. As Dean Stanley has truly observed, there is only one feature of the scene unchanged and unmistakable, and that is the magnificent mountain of Jebel Atâkah, the “Mountain of Deliverance,” which from the south formed an impassable barrier to the escape of the Israelitish host in that direction, and induced Pharaoh to exclaim, “The wilderness hath shut them in !” This is “the precipitous mountain descending on the sea” referred to by Josephus, which doubtless commanded from afar the scene of the great deliverance wrought by Jehovah for Israel.

It is also impossible to doubt that, according to the narrative, the passage was made somewhere in the neighbourhood of Suez, probably Baal-zephon.<sup>1</sup> Briefly stated, the Israelites, instead of taking a course into Canaan along the coast of the Mediterranean, which would have brought them into collision with their future enemies, the warlike Philistines,<sup>2</sup> were directed to move southwards from Ramses (or Pi-Ramessu),<sup>3</sup> the capital of Egypt under Rameses II, and after a day's journey they reach Succoth (the place of tents), and on the following day Etham, situated on the edge of the wilderness ; that is, the district lying to the north of the Bitter Lakes, over which the road into Palestine and the east passed. By this road also the nomad tribes from Edom entered the pasture lands with their flocks.<sup>4</sup> From all this, and the absence of any reference to a natural water channel between Egypt and the east, there can be little doubt that at the time of the Exodus, and long before, there was continuous land across the Isthmus to the north of the Bitter Lakes. I therefore wish now to modify the statement which has been made in my name to this extent ; but I hope to be able to show that to the south of that lake the evidence leads to a different conclusion.

From Etham the Israelities “turned” southwards to Pi-hahiroth before Baal-zephon. This locality, as suggested by Dean Stanley, was probably in the vicinity of Ajrûd, the halting-place of the Mecca pilgrims.<sup>5</sup> It is at this point that the difficulty of reconciling the Bible narrative with physical facts meets us ; for, according to the present position of land and water, there is a direct landway across into the “wilderness of Etham,”

<sup>1</sup> Exodus xiv, 2.

<sup>2</sup> Exodus xiii, 17.

<sup>3</sup> Dr. Brugsch-Bey, “Egypt under the Pharaohs,” edit. 1881, vol. i, p. 230, *et seq.* This author places Ramses (or Pi-Ramesses) on Lake Menzaleh, at the entrance to the Tanitic branch of the Nile, and allowing twelve or fifteen miles for a day's march from Ramses, the Israelities at the end of the second day would have reached a position near Ismailia.

<sup>4</sup> Brugsch-Bey, *ibid.*, p. 234.

<sup>5</sup> “Sinai and Palestine,” edit. 1873, p. 66.

by Chakûf, which lies between the Gulf of Suez and the southern end of the Bitter Lakes.<sup>1</sup> It was possible, therefore, for the Israelities to have crossed into Arabia Petræa without the miraculous interposition of God, had the position of sea and land at that period been the same as at present.

It is clear from the narrative that, when the Israelites found that they were being pursued by Pharaoh and his army from the north, they were in a position of extreme perplexity.

Encumbered with a multitude of women and children, flocks and herds, and enfeebled by long servitude, they exclaimed to Moses in bitter irony, "Because there were no graves in Egypt, hast thou taken us away to die in the wilderness?" But it does not appear as if they considered the chief sources of their danger were those above stated. It may be gathered from the narrative, that their danger lay in the nature of the surroundings, and in the physical obstacles to their progress out of Egypt. To the north was the army of Pharaoh; to the south, the desert and mountains; to the west, Egypt, from which they were fleeing; and to the east, the waters of the Red Sea. *Here* was the physical obstacle which (as it seems to me) destroyed their hopes, and drew from them the expression of despair.

Now, let any one compare the present physical conditions of the district north of Suez with those here indicated, and ask himself whether, if they had been at that time as they are now, there would have been cause for this cry of despair, and necessity for a stupendous miracle of deliverance, such as the Bible narrative relates, which impressed itself indelibly on the traditions of the people in whose behalf it was wrought. What was there in the present position of land and sea to have prevented the host of Israel from marching across the hollow, along which the ship canal has been excavated? The canal of Rameses II, which connected the Nile with the Red Sea, entered the Bitter Lake (L. Amarus) at the northern end; but though traces of an ancient canal have been discovered between the southern end of that inland lake and the present port of Suez, it does not follow that these were part of the original and more ancient canal. They may, on the other hand, be referable to the time of the Emperor Trajan, or of that of the Caliphs. All that I wish to contend for is, that there is no sufficient evidence to show that at the time of the Exodus, B.C. 1491, land extended from the head of the Gulf of Suez to the Bitter Lakes. If this be admitted, it is proper for us to inquire, What physical evidence is there in favour of the view that the Red Sea extended northwards of its present position at the period of the Exodus? The reply to this

<sup>1</sup> Most geographers have placed the passage at the Straits of Suez; but if there was land immediately north of this at the head of the Straits, why should the Israelites (ignorant of God's intended miracle) have been filled with dismay on viewing their position, when there was an open way into the wilderness, whither the Egyptians with their chariots could not have followed them (see "Biblical Atlas and Gazetteer," London). Professor Ritter supposes that the place of the passage is to be sought above Suez in the ancient bed of the sea. This is the view in favour of which I hope to show there is evidence based on physical considerations.

question lies in the complete evidence which is to be observed of a recent elevation of the whole land area of this region ; to which is attributable the occurrence of beds of sand and gravel, containing shells, corals, and other marine forms, now existing in the waters of the Gulf of Suez, along either side of that gulf, up to a level of at least 200 feet above its waters. The sea has therefore receded—or, rather, the land has been raised—to this extent during the period of the present forms of marine life. Now a depression of 200 feet below the present level of the land would place under sea-water the whole of Lower Egypt, and large tracts on both sides of the Gulf of Suez ; and, in fact, there can be little doubt that the inland cliffs of the Tih on the one hand, and of Jebel Atâkah and Jebel Abu Derâj on the other, were originally the sea cliffs of the ancient Red Sea ; but this was at a time long antecedent to the period of which we are speaking. The maximum submergence above referred to was much more ancient than the period of history ; but it is not inconceivable that the entire elevation of the land and sea bed into the position we now find them, had not been effected at a time so far back as 3,000 years. Now let us inquire, What extent of submergence would be required in order to bring the waters of the Gulf of Suez as far north as the Bitter Lakes ? Fortunately, the surveys made for the ship canal enable us to answer this question with much exactness. South of the Bitter Lakes, the highest point crossed by the canal was at Châlûf, distant eleven miles from the sea, and this is q. p. 26 feet above the level of its waters. To the north of the Great Bitter Lake there are two elevations—one at Tunum, between this lake and Lake Timsah, which reaches q. p. 25 feet (not very different from the former), and another at El Guisr, between Lakes Timsah and Menzaleh, which reaches a level of from 40 to 60 feet (average 50 feet) above the same datum.<sup>1</sup>

In considering the question of changes of level, we may suppose that the vertical movement was slow and gradual ; and also that, within narrow limits, such as those of the Isthmus, the whole area was equally elevated or depressed during the same period. Now, on the supposition that the rise of the land from below the sea, indicated by the raised beaches and shell beds, was still in progress at the time of the Exodus, it will be seen from the above levels that the waters of the gulf would have extended right northwards into the Bitter Lakes, if only 26 feet of elevation had remained to be effected ; while, at the same time, there would have remained unsubmerged a tract of land with a maximum elevation of about 24 feet to the south of Lakes Menzaleh and Ballah ; that is, in the very district where, as appears from history, there existed a land connection between Egypt and the East.

Taking the above physical facts and deductions into consideration, it seems to me in the highest degree probable, that as far back as the age of

<sup>1</sup> Carte de l'Isthme de Suez, dressé sous la direction de la Comp. Univ. du Canal, 1866 ; also Sir W. T. Denison "On the Suez Canal," Proc. Inst. C.E., 1867, quoted in Spon's *Dictionary of Engineering*. I am also indebted to Sir Charles Wilson for a statement of the levels.

Rameses II, and his successor Mineptah II, under whom the Exodus took place,<sup>1</sup> the waters of the "Red Sea" extended northwards up the valley at least as far as the Bitter Lakes, producing a channel from 20 to 30 feet in depth, and perhaps a mile in breadth; a terrible barrier to the Israelites, and sufficient to induce a cry of despair from the whole multitude. If this view be taken, the Bible narrative (which I assume to be perfectly exact) will be brought into harmony with physical conditions; and the difficulty which has surrounded the subject will have been, to a great degree, removed.

On the same principles we may suppose that the gradual elevation of the sea-bed and adjoining land has progressed, till at some period—one cannot say how distant—the present relations were established; but supposing the rise to have gone on till very recent times, or to be still going on, the rate of elevation would be less than one foot in a century.

EDWARD HULL.

### M. MASPERO'S WORK IN EGYPT.

THE following letter, addressed to Mr. Scott-Moncrieff by M. Maspero was published in the *Times* of February 23rd.

(Translation.)

"BOULAK, Feb. 2nd, 1884.

"SIR,—During the four years I have had the honour to direct the Department of Antiquities, I have never ceased to protest against the numerical insufficiency of the staff and the inadequacy of the funds placed at my disposal. Permit me to repeat this complaint once more, though the present state of Egypt affords me but little hope that it will be heard.

"You know how many monuments are found above the surface of the soil between the mouths of the Nile and the Second Cataract; no country in Europe, not even Italy or Greece, possessing so great a number on so small an extent of territory. Nature, moreover, has divided these monuments into three groups—first, that of the Delta, with Alexandria, San, Sa (Saïs), Bubastis, and the regions mentioned in the Bible; secondly, that of Egypt proper, with Memphis, the Pyramids, the Faioum, Beni-Hassan, Tel-el-Amarnah, Siout, Abydos, Denderah, Thebes, Esneh, Edfou, Koum Ombou, and Philæ; thirdly, that of Nubia, with all the temples of the Ptolemaic epoch in the neighbourhood of Philæ and the wonderful Pharaonic ruins of Wâdy Essaboua, Ibsamboul, and Wâdy Halfa. Of these three groups only one is placed under the care of the Department of Antiquities, and protected as well as may be from the avidity of treasure-seekers and the mischievous folly of tourists—that in Egypt proper. Even this is imperfectly protected, and some localities such as Siout, Tel-el-Amarnah, Bersheh, Beni-Hassan, Illahoun, &c., remain without

<sup>1</sup> Brugsch-Bey, "Egypt under the Pharaohs," edit. 1881, vol. i.