

were accustomed to carry to a great height, and that it was intended to be a tower "whose top should be in the heavens," as is related in Genesis xi, 4.



The Text of the Beirût Tablet from the Photograph.

THE DEAD SEA.

By GRAY HILL, Esq.

I HAVE not observed any reference in the *Quarterly Statement* to the fact that the surface of the Dead Sea has risen considerably of late years. The following is an extract from Mr. Tyrwhitt Drake's report, which appeared in the *Statement* for 1874, p. 188 :—
 "A curious fact with regard to the Dead Sea is to be noticed, as showing that the bottom is still subsiding. At the southern end the fords between the Lisân and the western shore are now impassable owing to the depth of the water, though I have been told by men who used them that they were in no places more than 3 feet deep some 15 or 20 years ago. Again, the causeway which connects the Rujm el-Bahr with the mainland has, according to the Arabs, been submerged for 12 or 15 years, though before that time it was frequently dry. The Arabs say that the level of the water varies much in different years, and is not dependent on the rainfall but on the sea itself, as they express it."

In speaking of the bottom as "subsiding," Mr. Drake must have referred to the portions which he specifies, viz., the causeway to the "Rujm," and the place of the former ford. If the whole of the bottom subsided, the whole of the water in the lake would subside with it. The circumstances which he mentions

are quite consistent with a general rising of the surface of the water, and indeed point to it. At any rate it is clear that the surface has risen since 1874.

The Rujm el-Bahr existed a few years ago as an island, at a short distance from the mainland at the north end of the lake. I remember, about 1890, seeing two Bedawin, who were travelling with my wife and myself, swim out from the north shore to it. But the island has long since disappeared. According to Frère Lieven's "Guide Indicateur des Sanctuaires et Lieux Historiques de la Terre Sainte," 1897, vol. ii, p. 280 (note), this took place in 1892.

My wife and I have an excellent view of the north end of the Dead Sea from this house, which is distant from it about 15 miles, but for the purpose of examining it more closely we have recently been down to it, and encamped on the shore. There is now a large lagoon lying to the north of the north beach, and this lagoon extends east to what is now the estuary of the Jordan. This beach extends eastwards to a point not far short of the spot which formerly formed the west side of the old mouth of the river. Eastward of the beach, the estuary extends over a mile in width towards Sûeimch. The lagoon behind the beach extends to the west and north for over a mile in each direction, and the proper mouth of the Jordan, where it issues from between narrow banks, is set back accordingly. The water of the lagoon tastes very brackish, and I noticed some dead fish in it.

It is evident that the Dead Sea has invaded the old mouth of the river and submerged much of the land to the east and north of the beach, which stretches like an arm to the east between the lake and the lagoon. The beach curves greatly to the north. When the Fund's map was made it curved to the south, then forming part of the north shore. There were many wild ducks and other waterfowl on the lagoon, and I noticed two cranes. At the north end of the Dead Sea were a few seagulls, which must, I suppose, feed upon the dead fish brought down by the river, which die on reaching the lake.

We had with us one of the Abu Dis sheikhs, who told us what we had heard before, viz., that the hasin of fresh water in which tall reeds used to grow, formed by 'Ain el-Feshkah on the north-west side of the Dead Sea, is now swallowed up in the latter. We noticed also that the water of the lake was now nearer to the

wooden hut on the north shore than it was three years ago when we were last on the spot; although as the bank shoals very rapidly in this place a rise in the water would not be so observable here as in many other places. The hut was erected a few years ago. The frame of it alone is left now. It stands opposite where the "Rujm el-Bahr" was formerly to be seen.

Referring to the south end of the Dead Sea, I may say that on two occasions since 1894 we have returned from the Ghor es-Safieh to Jerusalem, *viâ* Zuweirah et-Tahte, and on both occasions our Ghawarineh guides took us through a passage in the chalk cliffs behind the hills bordering the south-west side of the Dead Sea. We asked to be taken by the shore past Jebel Usdum on the south-west side of the lake, but were on each occasion informed that the water was up to that mountain and that it was impossible to pass between it and the sea. In 1890 we did so pass, there being at that time a few yards of dry land in front of Jebel Usdum.

Turning now to the east side, I may say that the Fund's raised map shows a beach extending along the shore the whole way. I believe that this part was not surveyed by the Fund, and presume that the beach is shown in accordance with the reports of Lieutenant Lynch, the Duc de Luynes, or Canon Tristram. There is no such beach now, but the water comes close up to the cliffs from a point considerably north of the Zerka Máâîn down to Wâdy Môjib. I can see that clearly from here with field glasses, and, indeed, in this clear atmosphere, with the naked eye. I have noticed this for two or three years. But I have been on the spot. Early in 1897 I passed along the east side in a small boat as far as Môjib and back, landing at Zerka Máâîn, Môjib, and at several other points on the coast, and I found water, and that of considerable depth, close up to the cliffs and rocks in all this portion of the coast.

There has been no rain at Jerusalem since about March 20th in this year, yet the appearance of the north end of the Dead Sea and the estuary and lagoon from this house is the same as it was when I arrived here early in that month, and our dragoman, who lives here all the year round, says it continues the same all through the summer. Clearly, therefore, the rise is not due to the rainfall in any particular season. Perhaps it is due to the fact, if it be a fact, that the rainfall of late years has been more

abundant than formerly. Is it possible that there is some volcanic action at work raising the bed of the lake ?

There was a slight earthquake here in January last, which was also felt as far off as Tiberias and Safed. And I may here record a strange appearance which we beheld from this house in May, 1899, and which may indicate volcanic action. I made a note of it at the time. Between 8 and 9 p.m. of the 2nd of that month our dragoman called our attention to repeated flashes of light coming, apparently, from a hollow in the mountains just north of Môjib and a little above the surface of the Dead Sea. It was not lightning. It did not flash across the sky, and the night was cloudless. It flashed upwards from this hollow, and from nowhere else. The flashes continued at rapid intervals of a second or two until 9.30, when we retired to rest. Our dragoman reported that he still saw the flashes going on at 2.30 a.m. They were extremely strong, and the scene was most impressive, and set us thinking of Sodom and Gomorrah. We did not find that anyone else had observed these appearances, but our house is almost the only one which overlooks the Dead Sea. Nor could I find, on inquiry, that anyone had ever witnessed similar appearances on previous occasions. Possibly the flashes were due to the ignition of naphtha or petroleum.

With reference to the east coast of the Dead Sea, my remembrance of Lieutenant Lynch's and the Duc de Luynes's works is that, although they are the only ones recording a voyage on the Dead Sea, they do not give much information about that coast, or any adequate pictorial representation of the very striking and remarkable features of the part which lies between the Zerka Mááîn and Môjib. A careful examination of it and good photographs would give very interesting results. But in the absence of a suitable steamer or a properly-equipped sailing vessel I should not recommend anyone to undertake the business. I once tried in vain to get down to the Dead Sea from inland, along the valley of the Zerka Mááîn from the Baths of Callirrhoe. I have not heard of anyone else succeeding in doing so. Nor have I heard of anyone getting down Wâdy Môjib to the lake ; but even if the water could be reached by either valley, it would be quite impracticable to get along the face of the cliffs and gorges from the one stream to the other.

It may, perhaps, interest some of the readers of the *Statement*

if I give an account, taken from my journal, of the little voyage down the east coast to which I have referred. It may serve at any rate as a warning against the indulgence of enthusiasm without caution or consideration, and as an example of "how not to do it."

In February, 1897, I was informed that in a cave just south of the mouth of the Arnon (Wâdy Môjib) there were statues of a man and a donkey, and an inscription. That stream, I reflected, would probably be the northern boundary of the kingdom of Mesha, King of Moab, and Dhiban, where the Moabite stone was found, is, as the crow flies, only about 12 miles east of it. The Moabite stone bore an inscription on behalf of Mesha against the King of Israel. Why might not Mesha have put up some other monument, in a similar sense, on his boundary overlooking the Dead Sea? The man would be Mesha, the donkey the King of Israel, and the inscription, when deciphered by the learned, would tell us all about it. It would be a comforting consideration that my name would be handed down to posterity as the discoverer of this most interesting relic of antiquity. So I made up my mind to get to the spot.

After much difficulty I arranged to hire a small row-boat which is kept on the Jordan at the Greek Monastery, and we took our tents down to Jericho to make final arrangements, my wife thinking she would like to go also. One of the boatmen came from the Jordan to see us, and I was somewhat disappointed to find from his account that the statue of the man shrank to a head and the donkey became a camel. Never mind, thought I, a head will do, and perhaps the representation of the beast is so weather-worn that its identity is doubtful. It was reassuring to learn from the boatman that there was no doubt about the inscription; both head and camel and, indeed, all the back of the cave being covered with writing. That was the main point. How much more important, I thought, is an inscription than a rude sculpture of any kind!

We removed our camp to the Dead Sea, and about 4 p.m. on February 27th the boat issued from the Jordan and came up to us. It was provided with oars and a little lateen sail, the yard and mast being formed out of small trees floated down the Jordan. There were three boatmen, and there was only room for two more persons in the boat if food and other necessaries were to be carried.

So we decided that I and our cook should alone go, and that my wife and the dragoman should go back to Jerusalem with the camp the next morning.

Telling them that I expected to get back to Jericho the next evening, we set sail. A good north breeze blew and we were carried briskly to the south. I hoped to get down to Môjib (less than 20 miles) that night. But at sunset the wind dropped, and the men took to the oars. I observed that two of them seemed very feeble and fever worn, and the remaining one alone seemed capable of managing the boat—although he looked but a poor creature after all. I found that they had not brought either food or water with them. I had what I thought enough for two or three days, and a *girby* of water. The night being very dark, and it being obvious that we could not get to Môjib that night, at 7.45 p.m. we landed at the Zerka Mââin, at a little beach about 6 feet wide, on the other side of which were tall reeds growing out of a kind of swamp at the mouth of the stream. We groped about for some driftwood, made a fire, and cooked a little food. I was too much excited with the thought of what I was to see the next day to sleep well, and scarcely reflected what our condition would be if a west wind should cause the water of the Dead Sea to flow over the beach on which we lay. However, the night was still.

Before daylight we made up the fire, boiled some coffee, and started at dawn. A strong north wind arose and a rough sea, and we soon had to lower the sail we had set and row. We passed high precipitous cliffs, mountain gorges, and clefts containing small palm trees, but it looked as if the lake were inaccessible from the mountains inland. Presently the cook and the two most inefficient boatmen became sea-sick, and lay at the bottom of the boat, leaving little room for the legs of the remaining man and myself. He gave me to understand that he felt ill, and produced a bottle of arak, from which he took a drink. I began to wonder what would happen if he became intoxicated, but his drink seemed to put a little more vigour into him, and I persuaded him not to take any more for the present. He and I rowed and steered alternately. After two hours the wind dropped, the sea-sick men revived, and in three and a half hours we reached the north bank of the Arnon. I found here the same thick growth of reeds or bamboos and swamp-like

appearance as at the mouth of the Zerka Mâîn. All but the best boatman got on shore, and one of those who landed carried me on his back across a stream, which was a little above his knees. I then found myself on a little island in the middle of the Arnon with another branch of it to the south. This was too deep to enable the man to carry me over it, so I undressed, hung up my clothes on a tree, and, getting one of the men to carry the hand camera and materials for making an impression of the inscription, waded across the second branch, the water of which came up to my arm-pits.

Having landed on the south side I asked excitedly for the stone head and the camel, and was led along a narrow beach which began at the stream, over sharp stones which cut my naked feet, while the hot sun beat on my bald head, for about a quarter of a mile, and then up the cliff side to a small grotto of red sandstone. The man who was guiding pointed out a round piece of light grey coloured rock fused into the back of the red sandstone of the cave by some freak of nature, and said that was the man's head, and then to a strange shaped rock—like some I have seen at Petra—in the rough form of a small four-legged table, which he declared to be the camel. Well, but the writing! Waving lines on the sandstone—again like what is to be seen at Petra—were all he could offer me by way of inscription. Seeing at once that the whole thing was a delusion I began to wonder for the first time how we were to get back, for the north wind had begun to blow again, and we had left the boat bumping on the shore. I hurried back to the south stream, waded across to the island, put on my clothes again, was carried across the north stream, pushed through the cane-break to the shore, and found the boat gone! I shouted, but there was no answer, looked up and down and across the Dead Sea, up at this house of ours, which I could see distinctly 4,000 feet above me and 15 miles off, sent the men north and south to look for the boat, and sat down to enjoy the full flavour of the taste of solitude on the shore of this strange lake, on the border of which there is not a house, and the last thing which one would wish to see would be a man. I never felt so out of the world.

The Gorge of Môjib, where it joins the Dead Sea, is as narrow as the Sik at Petra, of which it reminded me; the cliffs of the same purplish red sandstone. It seemed impossible to ascend it,

except in the river bed, and I thought I heard the sound of a waterfall. The men I had sent to look for the boat returned, having failed to find it. At last the boatman whom we had left in the boat appeared scrambling along the face of the cliffs from the north. He had taken the boat to a small cove to shelter it from the wind. He led us all back to this place. There we got into the boat again and pushed off, keeping close to the winding cliffs to get as much shelter from the wind as possible, and making very slow progress. But the same men as before getting seasick again, and it being impossible in my tired state to make headway without their help in rowing, we put into a very little creek from which magnificent precipitous cliffs of red sandstone arose. I landed and lay in a few inches breadth of shade, which a ledge of rock afforded from the hot sun, and looked wistfully up at my house. I asked for some water and was told that the *girby* was empty, so I sent two of the men to scramble back to Môjib and fill it at the stream, which they had forgotten to do while we were there. This delayed us for two hours; but on their return the wind changed to the south, and we had a little spell of sailing. Then it dropped, then it blew so hard that we had to take in the sail and seek for a creek, hard to find in the dark, for it was now night, but at 8 p.m. we found a little shelter and a resting place for our tired bodies on a ledge of rock. Here we found a little driftwood, made a fire and coffee, and slept.

I awakened about 1 a.m. of the third day shivering and feeling very ill. I suppose the sun on my bare head at Môjib had given me a touch of fever. I thought that we should never get past those cliffs, where if an oar broke we might be dashed to pieces; food getting low; water nearly exhausted; sun overpowering; one boatman only of use, and he but of little. What should we do! However, reflecting that all depended on my self-possession, with the help of a little coffee I picked up my courage, and at 3 a.m. we pushed off once more, the wind being then light, and we got well away from the coast. Then the wind suddenly shifted to the east and blew stronger, and the sea broke over the boat, making hands and face sticky with the salt. The three invalids sank again to the bottom of the boat, and the remaining one cried out that if we could not get back to the east coast again we should be blown across to the west side and dashed to pieces there, and all

be drowned. My idea was to tack to the north-west and then to the north-east as long as we could keep the sail up. But I thought he would know better than I, so sail was taken in, and we pulled as hard as possible back to the east side. It was very hard work, but we succeeded at last in getting into another little creek, where we rested until 7.30 a.m., when the wind falling lighter, though more to the north, we continued our return voyage, pulling round the windings of the coast so as to avoid the wind. At 10.30 we were past the Zerka Mââin, and the wind blowing hard from due north we took shelter in another creek, where we made a fire of driftwood and cooked some rice. At 11.15 pushed forth again, creeping round the headlands, but soon after 2 p.m. found it impossible to make headway against wind and sea.

Being exhausted with rowing, and finding no other creek available, we had to put back to the place we had last left, where, from the appearance of reeds which we had noticed, we expected to find some fresh water, as the *girby* was again empty. But we found the watercourse dry, except a small pool that was brackish and covered with flies. Here we found many locusts and some footmarks of gazelles. I sent the boatmen to the north, across the face of the cliffs, to look for water, and I thought if they could not find any, we had better here abandon the boat and endeavour to climb up the hills, by a gorge which was near, in search of a Bedawin encampment, the sheikh of which I knew, for I judged that we were now below Ikmara. Nearly all the rice was finished, there was no other food, and only three or four matches were left. At last the men returned with the *girby* full of water. I could see my house lit up by the sunset, and at nightfall made up a big bonfire, hoping my wife might see it, and take it as a signal that we were making way, for I knew how anxious she would be getting. I awoke the men at midnight, the wind having dropped, and having made up the fire so as to give light to enable us to put our things into the boat, off we pushed once more, and pulled all day at the oars.

At 4 a.m. of the fourth day the boat got on to the top of a sunken rock, and we had much difficulty in getting her off. She had struck several rocks before, and had been leaking, and the men had been bailing out before this, but the leak now became heavier. However, I thought we could not sink in the Dead Sea

because of the buoyancy of the water. But soon after I found the boat going round and round, and it struck me that we must be off the mouth of the Jordan, which, owing to recent heavy rains, I knew to be very full of water. I tasted the water and found it fresh, and felt that if we could not get out of the stream we should indeed sink, near as we were to the north shore. We got entangled amongst floating trees brought down the river, and the rush of the stream seemed to hold us in its clutch, and prevent our crossing it. We saw a fire on the shore; the men said when they went in search of water they had seen a tent there in the distance; we heard a dog bark, the cook said it was our dog, and I thought perhaps after all my wife had remained in the same spot with the camp awaiting my return. I fired a few shots as a signal, but there was no response, and I was stopped from continuing my fusilade by the remaining cartridges being wet. Then all being tired out we made fast to a tree which seemed to be attached to the ground in some way, and devoted all strength to bailing out. At 5.30 the remnant of a moon rose, and soon after the first faint light of dawn came, and seeing now where we were, close to the west bank of the mouth of the Jordan, we managed to get clear at last of the river and landed on the west side of it in a very exhausted state. Shortly after some French Dominican monks came down to the Dead Sea to bathe. I walked to them and they were kind enough to give me some food and a little wine, and so my troubles came to an end.

It is said that the Greek Patriarch has recently obtained from the Sultan the sole right of placing steamers on the Dead Sea. A small one I have just seen being drawn upon a truck past the walls of Jerusalem, and I am told that there is a larger one at Jaffa waiting permission to proceed. It is said that the latter is 12 metres long, has a speed of 14 knots, and is to be available for travellers. May they discover what I failed to find!

RAS ABU KHAROUB,
MOUNT SCOPUS, JERUSALEM,
May, 1900.
