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VIII. Table showing shewing the date circumstances, and various phenomena of the earthquakes that have been observed in Jerusalem during the years from 1860 to 1881-2.

Year	Date	Hour of the day	Barom. at previous	Barom. at next	Wind	Weather
			9. A. M.	9. A. M.		
1863	April 22d	10.45. P.M.	26. 972	27. 308	W.	Changing with severe thunder storm from east to west.
	Sept. 24th	8. 15. P.M.	27. 522	27. 484	W.	Clear
1864	March 24th	2.30. A.M.	27. 472	27. 466	E.	Changed from east to west in afternoon.
1868	Jan. 24th	3. 50 P.M.	27. 572	27. 522	W.	Changed to East next day.
	Feb. 19th	Midnight	27. 262	27. 252	W.	Rain and snow followed
	Oct. 7th	7.30 P.M.	27. 527	27. 512	W.	Storm, thunder and rain, changing from Sirocco.
1870	June 24th	7 P.M.	27. 472	27. 442	W.	Clear and still
1873	June 29th	2.30. A.M.	27. 492	27. 522	W.	Clear and still
1874	March 3d	1. 40. A.M.	27. 472	27. 350	S.W.	Snowstorm.
1877	Feb. 15th	7. 15. A.M.	27. 472	27. 390	S.W.	Snow followed.
	Mar. 14th	6. 15. A.M.	27. 352	27. 286	N.W.	Changed from east on the day previous.
1879	Dec. 31st	9. A.M.	27. 512	27. 816	N.	Snow.

U.S. Consulate at Jerusalem, July 11th 1883.

Consul

No. 27

U. S. Consulate at
July 31st 1883.

Hon. John Davis
Assistant Secretary of State
Washington.

Sir.

I have the honor to transmit herewith a Report on the proposed Jordan Valley Canal with a Map.

I remain, Sir, Respectfully,
Your obedient Servant.

Consul

With two enclosures
1 Report on the proposed Jordan Valley Canal.
2 Map of the same " " "

The Jordan Valley Canal

The opening of the Suez Canal gave additional importance to the already leading place which Egypt and Syria held in the affairs of the East but this new interest was chiefly of a commercial rather than of a political character.

The civilized world looked with astonishment upon the creation of this great highway of commerce along the borders of these two countries though the very desert not did any one expect when in the face of many difficulties the canal was actually opened, that the event would so soon be followed by demands for a new one.

The increase of travel and commerce on this new route to the East has been little less than marvellous, and to relieve the pressure upon it various propositions have from time to time been made which have awakened a deep interest among the prominent men in every civilized nation, but chiefly among those of England and France.

To build a canal (1) through Egypt in an altogether different direction from the existing one (2) to widen the present canal; or (3.) to construct another by the side of it, are among the suggestions that have been made and advocated with ability by different parties.

Proposal

Proposal to utilize the Jordan Valley.

Meantime another scheme for accomplishing the desired purpose has been projected and it has likewise received considerable attention from capitalists, engineers, and journals, the London Times itself being among the latter.

The present paper is designed to give some account of this new scheme and to facilitate the labor of those who may wish to investigate it I have prepared, to accompany my report, a sketch map of the sections of the country through which it is proposed the new canal should pass.

The proposition is, in brief, to cut a canal from Haifa on the Mediterranean coast near mount Carmel South East to the Jordan Valley, flooding this with water, and another between the dead sea and the Gulf of Akabah thus creating an uninterrupted water way between the Red Sea and the Mediterranean.

Peculiar physical characteristics of this region.

A brief outline of the physical features of this part of Palestine and of the region South of it may be necessary, in addition to the accompanying map, before the conditions which it is supposed make this plan feasible can be understood. This is done at the risk of repeating what are to many persons familiar facts.

The Jordan, the largest and longest river of Palestine, instead of following the natural course of rivers and running towards the Sea coast (in this case the Mediterranean), runs in a line parallel to it and is swallowed up in the Dead Sea. By this river the country is divided into two pretty equal portions called respectively "Eastern" and "Western Palestine." Western Palestine, the portion between the Jordan and the Mediterranean, consists chiefly of a ridge of mountains from 2,000 feet to 10,000 feet high. This ridge extends North where it is known as the Lebanon range, and South to the peninsula of Sinai. Between the old provinces of Galilee and Samaria this ridge drops down to a low level forming what is known as the great Esdraelon plain which stretches between the Mediterranean on the West and the Jordan Valley on the East. It is across this plain that it is proposed to dig the first Canal, that namely (See Map) from Haifa to the Jordan. Furthermore the Jordan Valley is unique on the surface of the Globe. In general it may be described as a vast chasm or seam from five to fifteen miles in width, sunk into the earth to the depth of from 600 to 1300 feet. The entire valley including the sea of Galilee and the Dead Sea, are thus far below the level of the Mediterranean and likewise of the level of the Gulf of Akabah. It is by filling this great basin and thus forming an inland sea that the projectors of this scheme hope to accomplish their object. As will be seen from the Map, the bend at a point about twenty seven miles from Haifa, rapidly below the level of the Mediterranean, and a ship having reached that point through a canal would suddenly be launched upon deep water which would continue (where the Dead Sea now is the water would be 2600 feet deep) until the second canal was reached, namely the one connecting the Dead Sea with the Gulf of Akabah.

Before the end of scientific exploration in Palestine commenced it was popularly supposed that this great depression or chasm, continued until the Gulf of Akabah, and that these two bodies of water were once united. Indeed I find that very many intelligent persons, who of course can never have examined the subject carefully, still entertain the old notion that the Dead Sea must have some invisible outlet to the Red Sea or the Gulf of Akabah. A glance at the different levels as given on the map will convince one that this is impossible.

For the first canal or the section between the Haifa and the Jordan Valley, accurate surveys have been made and the data given are reliable.

Unfortunately the region between the Dead Sea and the Gulf of Akabah has not been surveyed with similar accuracy and the data given may not therefore be absolutely correct. It is chiefly owing to the fact that this portion of the country is occupied by powerful and hostile tribes of Arabs that the work of surveying it thoroughly has not hitherto been accomplished. Still this section has been traversed from time to time in various directions by competent observers who have taken levels at certain points, and the results given on the accompanying map are in accordance with the best evidence that exists at the present time.

It will be seen that the depression of the Jordan valley continues for some miles to the South of the Dead Sea, when the land gradually rises to an elevation of several hundred feet above the Gulf of Akabah. Instead of there being a depression between these two bodies of water forming a canal already dug by nature, or a plain country which might in time be cut through, the intervening ground is for a great distance more in the nature of a low table land.

The

The Northern Canal.

After this general summary of the leading physical features of the country through which the proposed canal is to pass we can consider directly the details of the scheme itself, and then I find to be most fully stated in a pamphlet of seventeen pages entitled "Memorandum on the Jordan Valley Canal" by J. F. Henley (London). (1882.)

Of the two distinct canals which, as already stated, are to be constructed, that from Haifa through the Esdraelon plain to the Jordan Valley will be considered first —

So far as possible I will, for the sake of fairness, give the author's own language.

"This Northern Canal" he says "represents the most costly engineering work to be accomplished in the whole undertaking" x x x "It should have a capacity suited to the passage, both ways, without sidings, of the largest class of vessels" x x x "It must be 54 yards in width at the bottom, with a depth of nine yards" x x x "The cutting would would be through chalk and laterite, with the sides walled wherever it was necessary to protect the canal against the wash of rapidly passing vessels" x x x In the sea at Haifa, 600 yards from the beach, there is a depth of 30 feet the rise of the tide being from 30 to 36 inches". x x x "Stones for piers and other demands could be supplied from Mount Carmel, and 20 square miles of oak forests, also on Mount Carmel, would furnish all the fuel that would be required" x x x "The expense of the canal, including two piers at Haifa and a European staff of egineers for five years, would, it is computed, amount to about five million pounds sterling" x x x.

Advantages claimed for this Canal.

"It would be the best and cheapest route for shipping proceeding to or from the East" x x x "It would open new and valuable countries and peoples to the benefits of commerce and civilization" x x x "It would assure a sound, profitable, and permanent investment for capital" x x x "Its cost would be but one half that of the Suez Canal" x x x "The expense for maintenance would be but a fraction of that incurred by the Suez line" x x x "At a charge of one half the rates now charged by the Suez Canal company there would still be a large margin of profit for its shareholders" x x x The author claims that because of the absence of the delays incident to the Suez Canal the difference in time of a boat bound east would be, at the latitude of Suez, at least 48 hours in favor of the new route x x x He claims, further, that this canal "would afford unusual facilities for visiting the Holy Land". x x x.

The Southern Canal

With reference to this the author says: — "The quickest, best and least expensive mode of filling the great ravine of the Jordan will be found to be by tapping the red sea at the castle of Akabah" x x x This point I have marked simply "Akabah" on my map x x x "A cutting through the sands from that point northwards by means of an elementary ditch of 12 to 20 miles in length, would bring to aid the tremendous power latent in the back water of the Red Sea, which would thus be employed as an abraiding agent" x x x "The average fall of the country from Akabah to the Dead Sea is 13 feet to the mile, an incline on which the movement of water would be perfectly torrential, carrying down not only sand and gravel but rocks as well" x x x "There is not probably in existence another such field for exercising the abraiding power of water as that which we have here at our disposal" x x x

The author proposes further to found a complete colony at Akabah, provided with buildings, Hospital, a native camp for 5,000 laborers, barracks for contingent soldiers, bazaar, tramways, steam dredgers, and a steamer x x x the base of operations would be Suez 300 miles distant x x x communication would be kept up with Jerusalem by means of a camel caravan x x x "of the five years estimated as the time requisite for the completion of this great work, we allow two for the elementary ditch serving to tap the red sea, and three years for the inpouring torrent to fill the ravine" x x x "One hundred cubic miles of water would be required per annum in order to fill the Jordan valley in three years to the level of the sea" x x x "For the purpose of cutting the elementary ditch of, say, 50 feet in breadth at the bottom, with a depth to carry a solid body of water 10 feet deep to begin with, any number of bedouin laborers may be had at 4 d. (8 cents) per day" x x "The only tools required being the native hoe, and any kind of basket of the country, and it is astonishing the amount of work which may be obtained out of these apparently indolent people" x x The author concludes his pamphlet as follows: — "It is hardly possible to imagine a more favorable field for the secure investment of capital than that presented by this Jordan valley enterprise. It may be employed for the investment of family funds. It can have no competing line, and must afford satisfaction to its shareholders".

Comments

Comments upon the Author's Statements

The above quotations give, I think, the main points of the scheme and afford a summary of what the originators of it propose to accomplish. The undertaking is certainly one of gigantic proportions, and I do not intend to criticise the plan further than to point out where the author of the pamphlet seems to be decidedly in error, and to state what I consider to be some of the objections to it.

In his statement respecting the Northern canal that "the highest level above the Mediterranean along this route is 108 feet" the author is in error by at least 130 feet.

In my judgment the author is altogether at fault in his estimate of the ground between the Dead Sea and the Gulf of Akabah. Instead of "an elementary ditch through the sands at that point which would develope into a wide estuary for the admission of the Red Sea," engineering skill would be faced here, as will be seen from the Map, by a table land not less than 700 feet above the sea level at its highest point, forming an obstacle which probably could never be overcome.

One is likely to be misled by the author's reference to the "Oak groves on Mount Carmel". It should be explained that they consist of small scattered trees which can hardly be said to form a "Grove" even where the trees are thickest. The trees are not suitable for timber. Still it is not disputed that they would furnish quite a large temporary supply of fuel, but to sweep them of suddenly would be only another stroke towards completing the absolute ruin of the country.

The same is true of his reference to "the astonishing amount of work that can be obtained from these apparently indolent people" which statement is applicable only to the fellaheen or peasant class. The wild Bedouin, with whom they would have to deal along the southern canal, are different class of people altogether, and it is hardly possible that they could be compelled to submit to manual labor to which they are unaccustomed. But even if the Bedouin will not labor, the world could of course furnish laborers should they ever be required.

Objections to the Scheme

The following are among the objections to the plan which occur to me at the present time

(1.)

(1). The country through which it is proposed to construct these canals is under the Turkish Government, and those who know the Government best have the least faith that the necessary grants for such a work would ever be issued.

(2). With regard to the Northern Canal including the Jordan valley it must be remembered that a large number of people would be displaced from the land which they own and, unless the Turkish Government should arbitrarily drive them from their possessions, the matter of compensating them would be one of the most important items in the whole project.

(3). The last statement will be better appreciated when it is understood that in creating this inland Sea not less than 1,000 square miles (probably much more than that) of the best land in Palestine would be covered the lake of Tiberias. Of there the modern city of Tiberias and one small village besides are all that remain. but this city, the lake itself, and all the rich land on the shore around it, would be 700 feet under water. The entire Jordan valley containing 500 or 600 square miles of some of the finest land on the Globe, would be submerged to a depth of 700 to 1300 feet. This would be true also of all the Eastern end of the great plain of Esdraelon. In former times the Jordan valley was thickly inhabited, and the ruins of several cities and important towns bear evidence to its ancient prosperity.

(4.) It seems to me also that Palestine has too strong a hold upon the religious feelings of all the civilized world to allow of such a large part of its surface being thus forever obliterated.

(5.) From the data which I have given in my Map the project cannot be said to be a feasible one. To cut through the plain of Esdraelon alone would be a formidable undertaking, but the low table land south of the Dead Sea would present an almost insurmountable obstacle. I do not pretend to say that engineering skill might not in time cut its way through these immense bodies of earth, but practically the work seems to be nothing less than impossible.

(6.) It is, further, extremely doubtful if the means for such an undertaking could ever be raised. This however is a question which capitalists can easily decide whenever the advantages of the proposed canal are more clearly stated and the probable cost of so constructing it is more accurately computed.

(7). The countries which it is proposed in this manner to open to commerce would in my judgment, and I speak after two years spent in the work of exploring those very countries, be much better accommodated by a railroad connecting them with the sea coast than by any canal, but not even this would serve any

purpose

purpose until a line of forts, well garrisoned, were constructed along the border of the desert to prevent the inroads and depredations of the wild Arabs. Even if a canal were built all the southern section would certainly have to be guarded by forts within convenient distances of each other, and for this large item of expense no provision is made in the proposed scheme.

(8). The Gulf of Akabah itself is said to be very deep, to be lined on either side by precipitous rocky walls, from 500 to 2000 feet in height, and to be subject to severe gales. The length of this Gulf or rather the distance from Akabah to Ras Muhammed, I have given on the map as 130 miles, and this long narrow gorge may by reason of storms, prove too dangerous to shipping to allow of its becoming a practical route to the East.

Conclusion

Those who are at all interested in the matter of increased facilities for communication with the East cannot fail to have their attention arrested by the gigantic scheme of which I have now given a summary without becoming either its advocate or its opponent.

Besides placing the foregoing facts upon record my report may serve a general purpose in calling attention to a wonderful country and to some of its surprising physical features. It would be of great public and scientific interest if the portion of this route from Akabah to the south end of the Dead sea, a distance of 110 miles, (see the map) could be accurately surveyd –

Just south of the Dead sea there are mountains of rock salt, large beds of Bitumen and sulphur and some springs of liquid Petroleum. There ought to be therefore, in connection with the survey, a thorough investigation of the mineral resources of this particular region.

U. S. Consulate at
Jerusalem, July 31st 1883

Consul

No 28.

U. S. Consulate at
Jerusalem August 14th 1883.

Hon.ble John Davis
Assistant Secretary of State,
Washington,

Sir,

In pursuance to your instructions in Circular dated the 2d of June 1883, in regard to Sanitary reports, I have the honor to transmit herewith two monthly sanitary reports from this Consulate and Jaffa Agency for the month ending July 31st 1883.

The Cholera has not yet made its appearance in Palestine, although there is a great deal of sickness in the different villages and towns. Some efforts are made by the Authorities in connection with the different Consuls and the medical staff of the city, to prevent its approach. The fact that Jerusalem is 2600 feet above the Sea, and that we have pretty uniformly cool nights however oppressive the heat may be by day, lead us to hope that the Cholera will not visit us. In 1865 however it raged here with considerable violence.

I remain, Sir, Very respectfully
Your obedient Servant

Consul

Two Enclosures
2. Sanitary reports from this Consulate and Jaffa Agency for the month ending July 31st 1883.

No 29.

U. S. Consulate at
Jerusalem August 15th 1883.

Hon.ble John Davis,
Assistant Secretary of State,
Washington,

Sir,

I have the honor to acknowledge the receipt of your Circulars of the 15th and 21st of May and June 2d respectively.

With regard to the subject matter of your Circular of the 15th I am collecting facts and will report as soon as possible.

Your