

## ARTICLE X.

## NOTES ON BIBLICAL GEOGRAPHY.

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## I. NOTES ON THE ROUTE FROM BEIRÛT TO DAMASCUS.

NOTWITHSTANDING the multitude of travellers who have passed between these two cities, no one seems as yet to have marked the different points with such accuracy, as to admit of the construction of a good map of the route. Several villages and some streams are not found at all in the maps; and those which are given are not always in the right place. These remarks apply particularly to the Buká'a and Anti-Lebanon.

A recent letter from the Rev. Wm. M. Thomson of Beirût, dated Aug. 3, 1848, contains an account of a journey made by him to Damascus in April last; and affords new and important information in respect to the features of the country, and the remains of antiquity along the route. I subjoin copious extracts.

*The Buká'a.* 'Anjar. Mr. Thomson left Beirût April 12th; and passing over Lebanon, slept at its eastern base on the green margin of the beautiful Buká'a. The next morning, April 13th, he reached el-Merj in an hour and a half; a miserable Moslem village with a large and filthy khán. Ten minutes beyond el-Merj the Lítány is crossed on a low bridge of three arches; the water is deep and of a clayey color. "In forty minutes more," he says, "I crossed the large branch of the Lítány that comes from 'Anjar, on the bridge called Dâr Zeinûn. Thus far I had not varied a hair-breadth from the regular road to Damascus; but from this bridge I turned to the left up the stream; and in fifteen minutes reached the fountain called *Birket 'Anjar*, at the foot of the eastern mountain. This is an immense fountain, throwing out the entire river which we had crossed at the bridge Dâr Zeinûn, too deep to be forded. It is also a *remitting* fountain of a very peculiar kind. There is at all times a large stream boiling up from the deep *birkeh*; but at irregular periods there is a sudden and great increase of water; sometimes only once a day; while at other times the increase occurs six, eight, or even ten times a day. Nor does there appear to be any known order in which these irregular flowings occur.

Sometimes they are comparatively small in quantity; at others, the amount of water is prodigious, threatening to sweep away the half-dozen mills that are built around the fountain. There had been a large overflowing just before I got there, abundant evidence of which was everywhere to be seen.

"Perhaps the following may be a probable explanation of these phenomena. All the strata of Anti-Lebanon dip into the Bükâ'a at an angle varying from 20° to 45°. This fountain boils up in a deep pool, several rods in circumference; and not more than ten feet distant from where the strata dip under the plain. Out of this *birkeh* there flows, at all times, a regular river. Not improbably there must be a number of pools or reservoirs of water in the mountain above, communicating on the syphon principle with this fountain. These fill at different times; and when they discharge their waters separately into the stream, there are many overflowings, and these not large. But it occasionally happens, that a number of these reservoirs discharge at once; and then the quantity is indefinitely increased; and the number of overflowings is for that day proportionally smaller.

"The *birkeh* was anciently surrounded by a double wall of large and smoothly hewn stones; apparently in order to raise the water so as to be carried across the plain to the city of 'Anjar; the walls of which are still standing about ten minutes south-west of the fountain. The wall encloses an oblong square, about one mile in circuit. It had four gates and thirty-two towers; and is about ten feet thick. But the greater part of the city was outside of the walls. This 'Anjar ('Ain el-Jürr) is mentioned by Abulfeda (p. 20, ed. Koehler); who also speaks of its "great ruins of stones." Tradition says its very ancient name was 'Ain Kabût; and represents it as once a famous city.<sup>1</sup> I found also, in the quarry on the side of the mountain, large columns which had never been removed; most of them left in an unfinished state,—by whom? I am surprised that so few travellers have visited this singular place; since it lies not more than fifteen minutes to the east of the regular road to Damascus, and is by far the most interesting object on the whole route."

The 'Anjar here described, is a different place from the modern *Majdel 'Anjar*, which lies at some distance towards the south-west. That these ruins and quarried columns mark the site of an ancient city, there can be no doubt. But in respect to its ancient name, neither of the appellations, 'Anjar, 'Ain el-Jürr, or 'Ain Kabût, affords us any clue. On p. 90, 91, of the present volume of this work, (Feb. 1848,) I have collected the ancient data, which go to show that the

<sup>1</sup> Comp. also Burckhardt's Syria, 4to. p. 8.

city of Chalcis, the seat for a time of Agrippa's dominion, was situated in the Búkâ'a, probably either at Zahleh or 'Anjar. Later information leads to the belief that no remains of antiquity exist at Zahleh; while at 'Anjar, they are of great extent and importance. We may, therefore, safely regard the ruins at 'Anjar as being in all probability those of ancient Chalcis.

*Ridge of Anti-Lebanon.* "Following the base of the mountain southward, we came in twenty-five minutes to the mouth of Wady 'Anjar. It is narrow, with high ramparts on each side; the strata all dipping west. In ten minutes the Wady forks; and we took the branch leading up north-east intending to go directly over the mountain to Zebedány. We wound gradually up this valley for two hours; when we passed over the water-shed into Wady Mádar, up which we rode for two hours more. The water of this valley flows south into Wady el-Kürn, and so into the Barada. The rock is everywhere limestone, covered with bushes, but everywhere desert. We passed not a house; met not a man. There is, however, a little cultivation in some parts.

"At the head of Wady Mádar is the pass called *'Akabet el-Khóbb*. From this lofty point there is perhaps the very finest prospect in Syria. Lebanon, from Jebel 'Akkár to its southern end beyond Sidon, is beautifully developed. All Jebel esh-Sheikh, south, east, and north, covered with snow, is astonishingly distinct. The whole of northern Syria, too, far beyond Hamah, is spread out like a map,—dim, faded, worn, to be sure, but vast, gloomy, mysterious. While directly under our feet, at a vast depth, sleeps the lovely Zebedány, and its more lovely Búkâ'a south of it. We were taken wholly by surprise; and rubbed our eyes to be convinced we were not the dupes of enchantment.

"We had been for some time winding up among snowbanks; and the road over the pass was now blocked up by a vast mound of snow, which our horses refused to scale. So sending them round by a different path, we walked down the mountain through wild gorges choked up with snow. It took an hour and a quarter to reach the village; although from the top it appeared as if one might toss a stone into it. I shall not be tempted into a description of the orchards, gardens, fields, and plains of, in, and around Zebedány. They are the neatest and best kept in Syria; not excepting those of Damascus."

*From Zebedány to Damascus, April 14th.* "The beautiful basin of Zebedány was doubtless once a lake; which in long ages of patient attrition has worn its own deep drain, now called Wady Barada. Nearly in the centre of this basin, about four miles south of Zebedány,

is an old ruined village called *Haush Barada*; and *there* rises at once the river *Barada*. Meandering through the plain in a direction south of east for four or five miles, it slips in among the mountains at *et-Tekiyeh*; and, a short distance below the bridge, leaps down a bold cataract, and begins a furious struggle with the wild mountain gorges of the *Wady*. Nor does it rest one moment, until it glides softly into the green suburbs of *Damascus*. Nobody has done this magnificent gorge justice, either by pen or pencil. The lower bridge, near which are the inscriptions that you have published,<sup>1</sup> is just twenty-five minutes from the head of the gorge.

“The small village *es-Súk* is fifteen minutes below the same bridge. To *el-Huseiniyeh* is twenty minutes further; and at ten minutes more is *Deir Kânôn*, where are the ruins of a Grecian temple, as I suppose, and a singular mound dividing the bed of the river. Twenty-five minutes from this place is *el-Kefr*, where are the remains of an ancient town; there are many columns, one of which has on it a Greek inscription much defaced. Here the ordinary road quits the river, and passes across the country direct for *Damascus*; leaving the stream to break its way through the eastern ridge of mountains.<sup>2</sup> Following the river, which here flows nearly east, I came in ten minutes to *Kefr ez-Zeit*, where I crossed to the northern side of the stream; and after passing *Deir Mukürrin*, reached *el-Fijeh* in one hour and ten minutes. The precipices rise nearly perpendicularly on each side, six or eight hundred feet; and the scenery is magnificent. The fountain of *el-Fijeh* bursts out at a single aperture in the rock with irresistible violence; and at the distance of 120 paces enters, overwhelms, and swallows up the *Barada*. At this one aperture issues a river several times larger than the *Barada*,—an unfordable stream, whose entire course is only 120 paces! Over the fountain are heavy buildings of a very antique appearance.<sup>3</sup> They may have been there, for aught I know, when *Eliezer* of *Damascus* was *Abraham*'s servant. A stately grove adorns and shelters this noble fountain. There are no inscriptions, nor any other ancient remains in the neighborhood.

“Thirty-five minutes below *el-Fijeh* is *Bessîma*, where the river turns in a southerly direction towards *Damascus*. Here commences a grand *Tunnel* under the eastern mountain. It is high enough for a man to walk erect. *Mr. Wood*, the British consul at *Damascus*, followed it a long way under ground; and subsequently traced it, after

<sup>1</sup> Inscriptions marking the site of ancient *Abila*; see *Bibliotheca Sacra*, 1848, p. 87 sq.

<sup>2</sup> See a description of the ridges on the eastern slope of *Anti-Lebanon*, on p. 80 of the present volume.

<sup>3</sup> See *Pococke*, Vol. II. p. 135, and Pl. 22.

it reaches the eastern plain, for *nine hours* across the desert towards Palmyra; he also informs me that it is again seen not far from that city. He is persuaded, that the water of el-Fijeh was conveyed by this tunnel and aqueduct to Palmyra; and ascribes this splendid work to Zenobia. He found at el-Fijeh a tradition, that this was the work of *el-Bint es-Sultán* (the daughter of the Sultán), who reigned at Palmyra.<sup>1</sup>

“As there is no space for a path along the river, the road turns up an opening in the eastern cliffs at Bessîma; and then stretches over a high barren plain for several hours, when you again come to the river at Dummar, near Salahîyeh. From el-Fijeh to Damascus is  $4\frac{1}{2}$  or 5 hours. The immense cliffs above Bessîma are entirely composed of small water-polished pebbles and gravel. When, how, and by what water was this infinite amount of pebbles and gravel worn and polished? How was it piled up into these cliffs of conglomerate, several hundred feet thick? These are questions which require for their solution conditions and data, which confound the science of numbers, and stagger the boldest imagination.

“I reached Damascus just at night-fall; and found a hearty welcome and pleasant home in the family of Dr. Paulding. I may in some future letter mention a few things seen in this great city, which to me at least were new.

“On my return I traced the second river of Damascus [the *A'way*, probably the ancient Pharpar] to its different sources at Menbej and Beit Jenn, near the southern end of Jebel esh-Sheikh. I afterwards climbed over the mountain, and down by the lake Phiala to Bâniás; and thence through the Hûleh and Merj 'Ayûn, by Kûl'at esh-Shukîf, to Sidon and Beirût. All this was a hard ride of four days; which may possibly furnish matter for another letter.”

Yours, ever truly,

W. M. THOMSON.

## II. THE DEAD SEA EXPEDITION.

In a note introducing an Article in the last number of this work, (p. 397,) I have referred to the expedition to the Dead Sea, proposed and undertaken by Lieut. Lynch with the permission of the Naval Department at Washington. It was the wish of that officer, to carry out his plans in a silent and unobtrusive manner; and up to that period no official information had been given to the public as to the pro-

<sup>1</sup> Compare Pococke, Vol. II. p. 136, 137.

gress of the expedition. Since that time, however, an article has appeared in the Southern Literary Intelligencer for Sept. 1848, from the pen of Lieut. Maury of the National Observatory, communicating some of the main results of the expedition, and giving also extracts from the letters of Lieut. Lynch to the Department. I subjoin here the more important facts, with an occasional remark.

The party set sail from New York about the middle of November, 1847; with the hope and purpose of reaching Beirût early in February. But the necessity of visiting Constantinople, in order to obtain the requisite authority from the Turkish government, and various other hindrances, delayed their arrival on the Syrian coast until late in March. It was unfortunate, that in this way at least one fourth part of the best season of the year was lost.

Two metal boats, one of iron and the other of copper, were transported with great labor from Haifa to the lake of Tiberias. On the 8th of April, the boats, 'each with the American ensign flying, were afloat upon the sea of Galilee.' A wooden boat, the only one on all the lake, and used only for bringing wood from the eastern shore, was purchased for twenty-one dollars, to aid in the transportation down the Jordan. See *Bibl. Res. in Pal.* III. p. 262.

It was thought, that now the difficulties of the route were at an end. But, contrary to expectation, the Jordan proved more winding than even the Mississippi; and the rapids very frequent and sometimes of irresistible velocity. Boats of no other material of construction could have stood the voyage. The wooden boat, just purchased, sunk and was abandoned on the second day. So great were the difficulties that in two days they accomplished but twelve miles; and not until the 18th of May, did they reach the bathing-place of the pilgrims opposite Jericho. "The Jordan," writes Lieut. L. "although rapid and impetuous, is graceful in its windings, and fringed with luxuriance; while its waters are sweet, clear, cool, and refreshing."

The phenomenon of the supposed unusual fall of the Jordan between the two lakes (16.4 feet in each mile), is accounted for in the opinion of Lieut. Lynch, by the tortuous course of the Jordan. In this distance of about sixty geographical miles, the river winds along through a course of about *two hundred* miles. Within that distance the party plunged down no less than twenty-seven threatening rapids, besides many others of less descent. Taking into view the windings of the Jordan, it is necessary to allow an average fall of only about *six* feet in each mile, instead of 16.4 feet; and for this rate of descent the numerous rapids, now first brought to our knowledge, amply account.

The question may here arise, whether this tortuousness of the Jordan is understood to extend quite to the Dead Sea, or is limited to the more northern portion. The writer of these lines, and also hundreds of other travellers, have scrutinized the valley of the Jordan from the mountains back of Jericho; where the valley and the course of the river lie spread out like a map before the spectator as far as to Kurn es-Sürtabeh, some twenty miles above the Dead Sea; and it probably has never occurred to any one to regard the Jordan in this part of its course as a winding stream, but rather the contrary. Those also who have traversed this part of the valley, with the river in sight, have not regarded it as here tortuous. Its windings, if they exist to any great extent in this part, must apparently be confined within, and concealed by, the narrow strip of trees and verdure along its banks.

As the party approached the Dead Sea, they perceived a foetid odor; but this was traced to two streamlets strongly impregnated with sulphur. The Dead Sea, however, soon burst upon their view, into which the little boats bounded with a north-west gale.

The water of the river was sweet to within a few hundred yards of its mouth. The waters of the sea were devoid of smell; but they were bitter, salt, and nauseous.

"As we rounded to the westward," writes Lieut. Lynch, "the agitated sea presented a sheet of foaming brine. The spray, separating as it fell, left incrustations of salt upon our faces and clothes; and while it caused a pricking sensation wherever it touched the skin, was above all exceedingly painful to the eyes.

"The boats, heavily laden, struggled sluggishly at first, but when the wind freshened to a gale, it seemed as if the bows, so dense was the water, were encountering the sledge-hammers of the Titans, instead of the opposing waves of an angry sea.

"At the expiration of an hour and a half, we were driven far to leeward, and I was compelled to bear away for the shore. When we were near to it, and while I was weighing the practicability of landing the boats through the surf, the wind suddenly ceased and with it the sea rapidly fell, the ponderous quality of the water causing it to settle as soon as the agitating power had ceased to act. Within five minutes there was a perfect calm, and the sea was unmoved even by undulation. At 8 P. M., weary and exhausted, we reached a place of rendezvous upon the north-west shore."

The three succeeding days were devoted to sounding. They afterwards proceeded southwards, making topographical sketches as they went, and touching at the copious stream which descends from the hot

springs, as also at the mouth of the Mójib, the ancient Arnon. They approached by degrees the southern extremity of the sea, which at length proved so shallow, that they could proceed no further. Half a mile from the southern shore they found but six inches of water, bordered by an extensive marsh. The present writer also once attempted to bathe in this part of the sea, nearly opposite the middle of the salt mountain Usdum. The bottom was here of sand, and the water so shallow, that after wading out some twenty rods, it reached little more than half way to the knee.

The following extracts from the letters of Lieut. Lynch, in addition to those above given, present the main results of their examination of the Dead Sea.

"We have," says he, "elicited several facts of interest to the man of science and the Christian.

"The bottom of the northern half of this sea is almost *an entire plain*. Its meridional lines at a short distance from the shore scarce vary in depth. The deepest soundings thus far are 188 fathoms, or 1128 feet. Near the shore, the bottom is generally an incrustation of salt; but the intermediate one is soft mud with many rectangular crystals, mostly cubes, of pure salt. At one time Stellwagen's lead brought up nothing but crystals.

"The southern half of the sea is as shallow as the northern one is deep, and for about one-fourth of its entire length the depth does not exceed three fathoms, or 18 feet. Its southern bed has presented no crystals, but the shores are lined with incrustations of salt, and when we landed at Usdum, in the space of an hour, our footprints were coated with crystallization."

Here then is the singular fact, "that the bottom of the Dead Sea forms two submerged plains, an elevated and a depressed one. The first, its southern part, of slimy mud covered by a shallow bay; the last, its northern and largest portion, of mud and incrustations and rectangular crystals of salt, at a great depth, with a narrow ravine running through it, corresponding with the bed of the river Jordan at one extremity and the Wady el-Jeib at the other." The greatest depth obtained was 218 fathoms, or 1308 feet; apparently in this deeper ravine.

"The opposite shores of the peninsula and the west coast present evident marks of disruption.

"There are unquestionably birds and insects upon the shores, and ducks are sometimes upon the sea, for we have seen them, but cannot detect any living thing within it; although the salt streams flowing into it, contain small fish. My hopes have been strengthened into

conviction, and I feel sure that the results of this survey will fully sustain the scriptural account of the cities of the plain.

“Even if my letter were less brief, this is not a proper place to dwell upon the wonders of this sea; for wondrous it is, in every sense of the word; so sudden are the changes of the weather and so different the aspects it presents, as at times to seem as if we were in a world of enchantments. We are alternately beside and upon the brink and the surface of a huge and sometimes seething cauldron.”

The mode of dealing with the Arabs was judicious and most praiseworthy. Writing from the Dead Sea Lieut. Lynch says: “With the Arabs we are on the most friendly terms. In accordance with the tenor of my orders, I have agreed to pay them fairly for all the services they may render and provisions they may bring—but for nothing more. Thus far, two false alarms excepted, we have been undisturbed in our progress and operations. I scarce know what we should have done without the Arabs. They bring us food, when nearly famished, and water when parched with thirst. They act as guides and messengers, and in our absence faithfully guard our tents, bedding and clothes. A decided course, tempered with courtesy, wins at once their respect and good will. Although they are an impetuous race, not an angry word has thus far passed between us. With the blessing of God, I hope to preserve the existence of harmony to the last.

“With one exception we are all well; save to that one, not a dose of medicine has been administered; and his disease is neither caused nor affected by the climate. Although we are up early and out long, living on two meals a day, save when we are restricted to one, there is no complaining; all seem to be actuated by a high sense of duty.”

Having completed the survey of the Dead Sea, the party proceeded to run a level from it to the Mediterranean. After a careful reconnaissance, they selected the pass from 'Ain Terâbeh as the starting point; and Lieut. Dale, to whom the superintendence of the work was assigned, gained the summit of the precipitous ridge or wall on the west, at the close of the second day. This was found to be more than a thousand feet above the surface of the sea. Striking into Wady en-Nâr (the continuation of the Kidron) and up its bed by Mar Sâba and along the foot of Mount Zion up to the pool of Gihon, they proceeded south of Neby Samwil to Ramleh, and struck the Mediterranean about a mile south of Jafa.

The result of this level as determining the depression of the Dead Sea, has not yet been made public. But as Lieut. Maury states that the *depth* of the Dead Sea measures the height of the precipitous western coast, and that *this is very nearly on a level with the Mediterranean,*

we may infer, if the calculations prove correct, that this level will not differ very greatly in its results from the triangulation of Lieut. Symonds.

On the 9th of June, the whole party after an absence of a little over two months, had returned to St. Jean d'Acre on the Mediterranean. They brought back their boats in as complete order as they received them on board at New York. The party were in fine health. Save a flesh wound to one man from the accidental discharge of his piece, not an accident or mishap had occurred to any one. The Arabs would point to them and say, "God is with them."

They were most anxious to have levelled from Acre to the lake of Tiberias; but at this time, after so long exposure, the party was so exhausted from the heat and fatigue, that it was judged necessary to get as soon as possible among the mountains. They traced *en route* the Jordan to its highest source at Hasbeiya; making careful observations as they proceeded. Thence they crossed Anti-Lebanon to Damascus. Although thus prevented from levelling to the lake of Tiberias, they have, nevertheless, full observations of the barometer and the boiling water apparatus from Acre by way of the lake and river Jordan to the Dead Sea.

The party reached Beirût on the 30th of June; having been compelled to forego crossing the highest peaks of Lebanon from increasing exhaustion and illness. On their arrival they mustered but four able-bodied men; and of the rest several (among them Lieuts. Lynch and Dale) required immediate medical attention. On the 12th of July, Lieut. Lynch writes: "The cases have all yielded to vigorous treatment; and I am assured that all danger is past." He adds: "I deem it a duty as imperative as grateful, to express our obligations to the gentlemen of the American Mission,—the Rev. Mr. Smith and Dr. De Forest in particular. By their judicious kindness they have *all* practically evinced a warm interest in our welfare."

"We are awaiting," he says, "the return of our ship,—our eyes ever eagerly scanning the horizon in the hope of once more beholding her. We look to the sea as our best physician; hence our anxiety to be once more embarked upon it."

But their hopes were soon subjected to mournful disappointment. Two days after the date of the preceding letter, Lieut. Dale was taken ill of a nervous fever. He was removed to the summer residence of the Rev. E. Smith at B'hamdûn, a village on the higher parts of Lebanon, just south of the Damascus road. Here he died on the 24th of July. Four days after, Mr. Smith wrote as follows:

"B'hamdún, July 28, 1848.

"I am sorry to inform you, that Lieut. Dale, the second officer of the Dead Sea expedition, is no more. He died at my house in this village on the 24th, after a sickness of eleven days, of a nervous fever. When one thinks of Costigan, and Molyneux, and Dale, he is almost led to imagine there is a fatality attending all attempts to unveil the mysteries of the Dead Sea."

A later letter from the Rev. W. M. Thomson gives the closing scene :

'Abeih, Aug. 3, 1848.

"Mr. Smith will have made you acquainted with the melancholy termination of the Dead Sea expedition. After keeping the body of Mr. Dale for several days in the hopes of taking it to America, they were obliged to bury in Beirût. I performed the religious services last Sabbath at sunset. The poor sailors fired their farewell rounds over the grave; and then we parted immediately, they to sail at once in *their hired ship*, and I to return to my mountain home,—a sad, sad adieu! I have rarely had my sympathies more deeply awakened than in this case of Dale."

Lieut. Dale had hardly reached the age of thirty-five; he was a man of fine appearance and elegant manners, and was selected by Lieut. Lynch to be his companion because of his experience in the exploring expedition under Capt. Wilkes, and as an engineer, first in connection with the Coast Survey, and afterwards in Florida. His loss will doubtless be greatly felt in making up the report of the expedition; the end of which he was permitted to behold, but not to participate in its fruits, nor to enjoy its rewards.

We wait for the official report, before we can have a full view of the scientific results of the expedition. What it has accomplished, has been done well. But it is obvious, that several of the great problems connected with the vallies of the Jordan and of the Buká'a, have not been solved, for want of time. Let us hope that these also will not long remain undetermined.