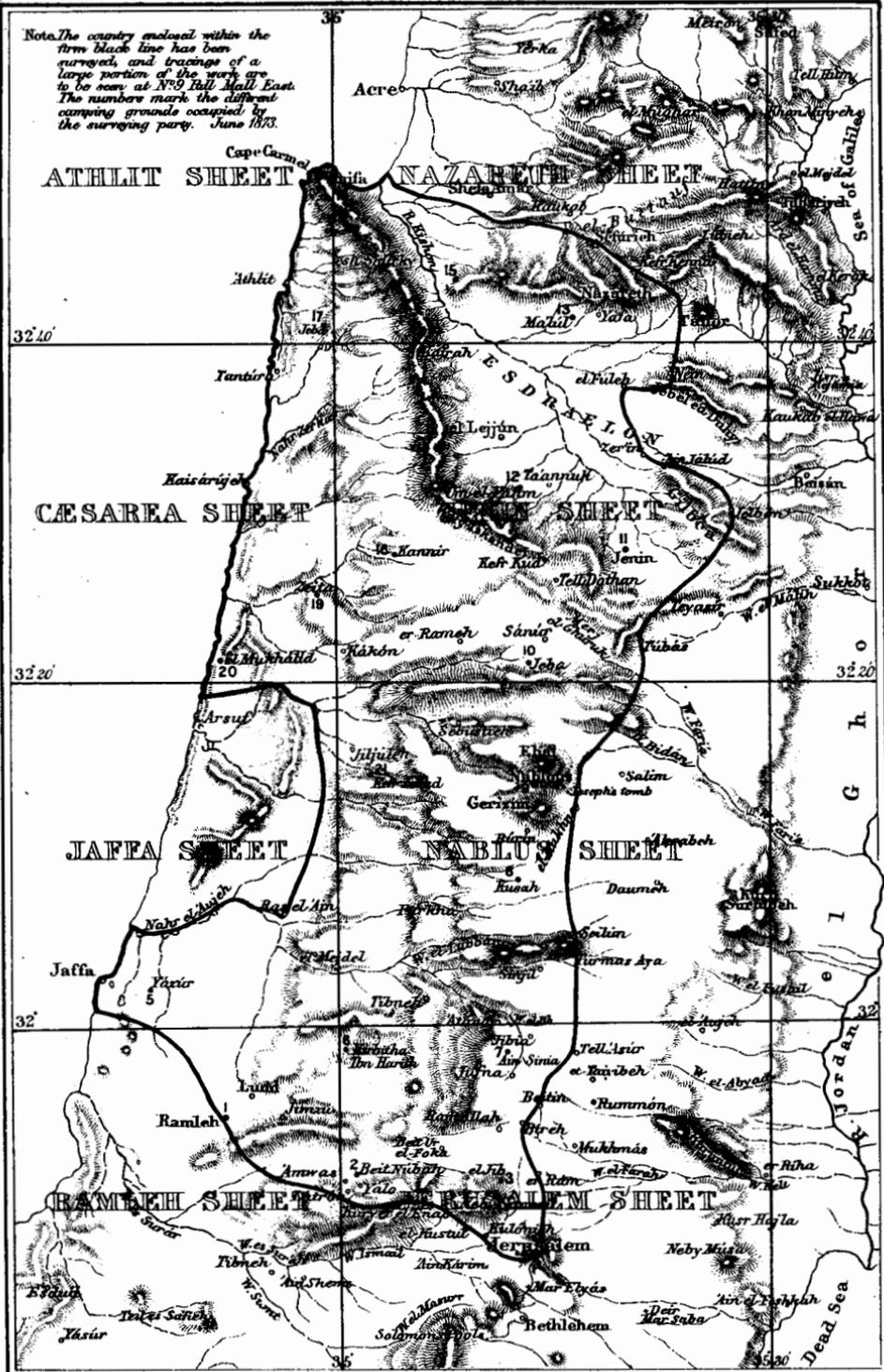


MAP TO ILLUSTRATE LIEU CONDERS LETTERS.

Note. The country enclosed within the firm black line has been surveyed, and tracings of a large portion of the work are to be seen at No. 8, Ball Mall East. The numbers mark the different camping grounds occupied by the surveying party. June 1873.



THE SURVEY OF PALESTINE.

LIEUT. CLAUDE R. CONDER'S REPORTS.

REPORT XII.

THE SOUTH SIDE OF CARMEL.

P.E.F. CAMP, JEBÄ, 12th March, 1873.

Survey.—The last day but one of February found us once more in the field, and the work has, during the present month, been continued without interruption, in spite of two or three thunderstorms, which fortunately passed over us by night. The difficulty of choosing a good site for a camp, a place at once central for the work, at convenient distance from the old boundaries on the east, and from the sea on the west, and at the same time possessing good water and provender for our animals, is now far greater than in the country in which we worked last year. The villages are few, most of them are very poor, and the water brackish and unwholesome. Thus we were forced to content ourselves with our present camp, which is at the foot of the hills, rather to the south of Athlit, and at some distance from the main ridge of Carmel, which an inspection of our last tracings will show to have been the former southern boundary of the work.

The task of triangulation also requires more judgment than formerly. The ruined towers of Athlit and Tantúra would, I had hoped, have afforded standing places for the theodolite; but the first proves merely a wall and the second (also solid) has had the facing of ashlar removed as high as it could be reached from the ground, and it thus stands on a base about two-thirds the size of the upper overhanging part, where the facing could not be reached. We could therefore only observe to, and not from these points. On Carmel we obtained a very extensive view, and succeeded in bringing our observations over its highest ridge, and connecting with the points in the maritime plain. Towards the south, however, the hills are low, with flat broad tops, and differing in height very slightly. To obtain a commanding and conspicuous point was therefore impossible, and whilst choosing the best, we had some difficulty in recognising it again from a distance. Our calculations, however, show that we obtained it correctly, and the operations are altogether satisfactory.

The average size of the triangles is ten miles side, but many of the lines are twelve to fifteen miles. The triangulation extended from the new base now stretches across Palestine, from Tabor on the east to Acca, Haifa, and Cesarea on the west, and forms a good basis for extension to the hills of Safed, and to the Sea of Galilee. It will be checked by its correspondence with the old work on the east, and with the Admiralty latitudes on the sea-coast, and will finally be brought back (by June, it is hoped) to the old base at Ramleh.

The execution of the detail on Carmel is a work of more wearisome and difficult nature than any we have had since leaving the Judæan hills. Huge valleys, upwards of 1,000 feet deep, wind tortuously from the main ridge to the sea. They have to be traced carefully, as one can never predict where their next bend may carry them. Ruins appear on hills opposite to you, seemingly within easy reach, and hours have to be spent in dragging your horses down over hard, sharp, slippery rocks, through a jungle of thorny shrubs, and up another ascent of perhaps thirty-five degrees' slope before one can arrive at the site, and commence its examination and survey. Often the remains are quite modern, and ill repay one's trouble, but the thoroughness required in our work makes even these negative results valuable.

Two special surveys will also be required in accordance with our instructions, and I hope soon to be able to send home copies; they will include the neighbourhood of Athlit (*Castellum Peregrinorum*), and of Cesarea. At Tantûra, the ruins are not sufficiently numerous to require separate survey.

Archæology.—Besides the three principal ruined sites at the above-mentioned towns, concerning which you will hear from Mr. Drake, there are a great number of scattered remains throughout our present neighbourhood. A curious low line of hills, of which I shall have occasion to speak later, running along the sea-shore about half a mile inland, but gradually approaching as it goes north to the narrow beach, is quarried on both sides throughout its whole extent. At a distance the appearance of the rocky scarps and steps resemble the walls and flat roofs of a village, and only by the greyer colour is it possible to distinguish between the two. The hills farther inland present similar quarries, at Kh. Shih, and in two or three places on Carmel.

All these quarries are full of rock-cut tombs; at Kh. Shih, at Kh. Umm el Shukuf, and Kh. el Shellaleh, on Carmel, and on the sea-coast, at Kh. Melhah, and near Sarafend, Kefr Lam, and Tantûra, I have collected plans of from fifty to sixty of these sepulchres, the greater part being full either of *tibn*, or of bones and skulls, probably of poor passengers murdered by the natives of the villages. In these ghastly receptacles the turban or dress of a victim may often be found more or less complete.

The majority of the tombs have three loculi parallel to the three sides of the chamber, with a door on the fourth. In each group, however,

at least one with loculi running in perpendicular to the line of the sides occurs. On one we found a cross very distinctly cut. Most of the doors were originally closed by a cylindrical stone of about three feet diameter, and some eighteen inches thick, rolling back into a recess on one side. This method is well known, and its relation to the words of Scripture, "Who shall roll away the stone for us?" has often been shown. Here, however, for the first time I saw some of the stones, fallen flat in front of the doors.

In the midst of the wilderness of Carmel we came on the scanty indications of Crusading work. It is a good instance of the very little that remains of even comparatively modern buildings. From a distance we could see the walls of a ruined village known as Khirbet el Shellaleh, standing as a promontory surrounded with valleys 600 to 700 feet deep, and with steep sides, unapproachable except by one winding road. It commands the country round, though higher hills exist within the range of modern guns, and immediately suggested a Crusading site, resembling such places as Rurhmieh, and Burj Bardawil. Having at last reached it, we could at first find nothing but quite modern ruined hovels, and a quarry with two tombs. Closer inspection, however, showed some small stones with a broad shallow marginal draft, and one well dressed seven feet long, also drafted. The remains of a column built of several pieces one above the other, and of a rocky scarp, the foundation apparently of a small tower to which a flight of rock-cut steps led up, next confirmed my opinion, and, finally, a Maltese cross cut on a broken stone, and well finished, was visible, built into a modern mill aqueduct in the valley below. Putting together these slight indications, there can, I imagine, be no reason to doubt that a small Crusading castle or fortress was here hidden amongst the hills on an almost impregnable site. The head-quarters no doubt would be in the large station of Athlit, which was visible through the mouth of the wady below.

Geology.—The geology continues to possess some points of interest, and it is satisfactory to find the new facts agree with former deductions on the subject. The sea-wall, or low ridge dividing the plain from the shore, is a curious and interesting feature. To trace the dip of the strata is almost impossible, as the quarrying has so changed the features of the hills as to render their original form almost untraceable. The rock is a compact sandy limestone, in which, however, the sand generally predominates so much, that it might, perhaps, be called a cretaceous sandstone. The strata, or laminae, are very thin, and evidently formed at the bottom of the sea, near shore, where the sand would be constantly changing its slope, so that, as at present observed, no two laminae appear to be parallel.

The upheaval of Carmel is now traced on every side, and the dip measured in two or three places. The underlying dolomite is tilted upwards towards the main ridge, and disappears on the south beneath the softer thickly-bedded strata; these are of varying consistency, some

being hard and crystalline, but less compact than the dolomite. At one point I observed a curious vein of hard brown crystalline stone, running through the soft.

We have been fortunate in finding quite a nest of fossils on one hill top (principally gasteropods). On the road to Carmel I picked up an Ammonite; and farther south, in some dark stone are a number of bivalves. A fossil limpet, and some large kind of (?) peeten, with a broken portion resembling Gomphoceras (one of the Ammonitidæ), are also added to our collection, and generally the rock appears near the coast to be much fuller of animal remains than inland.

By far the most interesting geological feature is, however, the unexpected discovery of a basaltic outbreak, an irregular crater some five hundred yards broad, in the neighbourhood of Ikzim. It is the largest I have yet seen in the country, and close to the reported mines, which we have not yet visited, but which may prove to be a lode of copper.

The largest cave I have yet seen, apparently natural, though, perhaps, formed not by water, but by the action of pent-up gases, as suggested in other instances by Dr. Tristram, exists just north of us. I followed it to the end with a candle, and found it some twenty feet broad and high, three hundred feet long, and full of huge bats, whose rushing wings could be heard in the darkness. It contains a few stalagmites of moderate size.

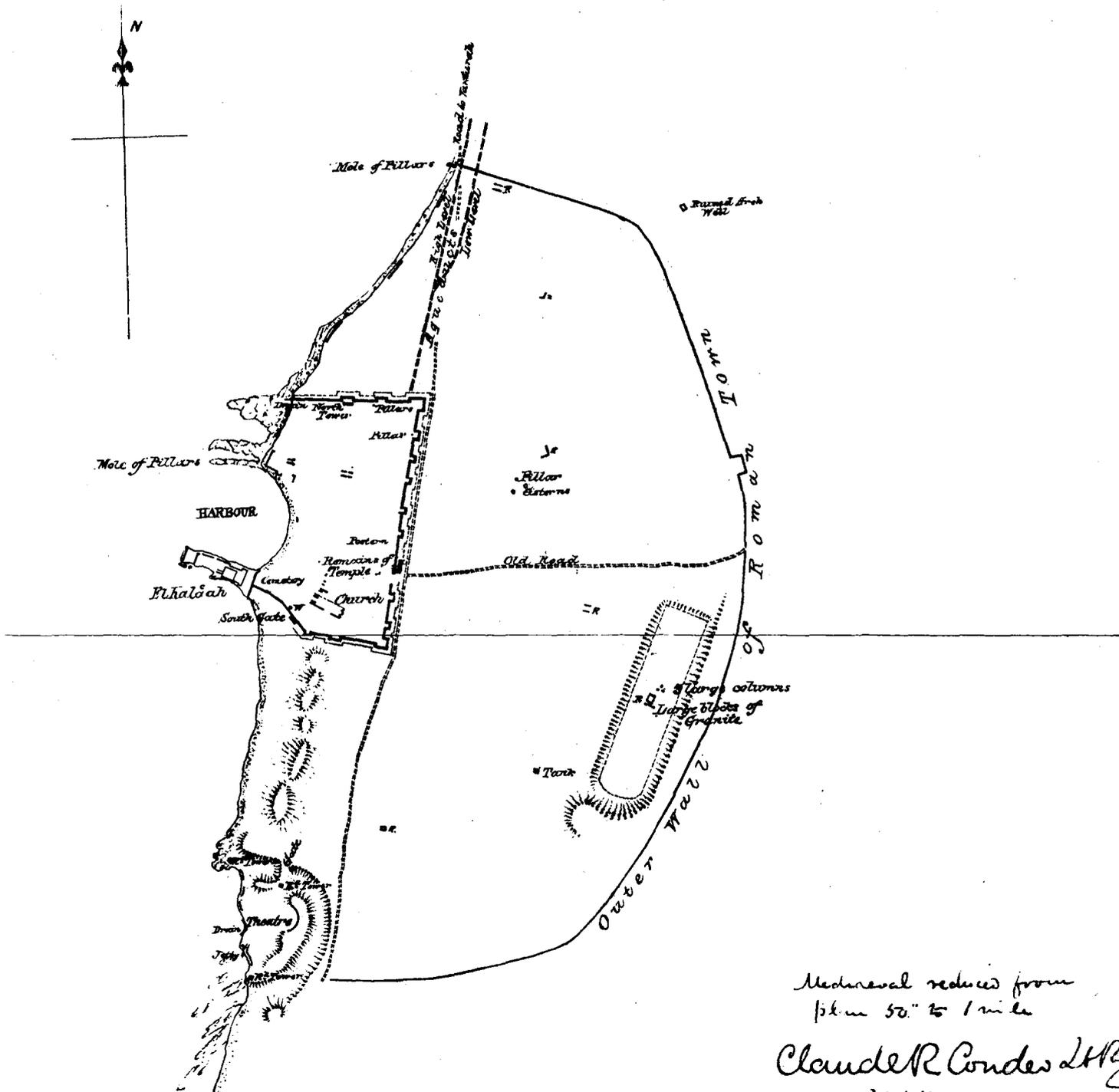
Natural History.—The present season shows Palestine to the greatest advantage of any in the year. The plains are covered with bright green, and the dark wilderness on the hills is lit up with flowers. Of these the commonest are the red anemone, like an English poppy, and the delicate pink phlox. The rock roses, white and yellow, with a few pink ones, the cytiens in one or two places covering the hill-side with golden flowers, the pink convolvulus, marigold, wild geranium, and red tulip, are also plentiful, and several species of orchis, the asphodel, the wild garlic, mignonette, salvia, pimpernel, and white or pink cyclamen, with may in full glory, may be added to the list.

Animal life is becoming active again; at Athlit we obtained gigantic ants. The beautiful mahogany-coloured rhinoceros beetle, the venerable scarabæi, and great numbers of flower beetles, of various species, are very common. The butterflies are new, including the orange tip (*Anthocaris Cardaminis*), the Apollo, and two species of large sulphurs, one of which I have not yet been able to obtain. The great swallow-tails, newly born, are confined to the hill tops, and the red admiral (*Vanessa Urticæ*) is less rare.

Amongst the birds the greater spotted cuckoo and a few quails are the only new arrivals. The last storm at Haifa in February brought great shoals of fish into the bay, and the gulls and a number of petrel followed them. As soon as the sea was quiet once more the sands were found covered with perfect specimens of sea shells, of which I obtained a small collection, including a beautiful little crimson peeten, and some specimens of Trochus; none but broken specimens had been observable before the storm.

ROMAN
AND
MEDIAEVAL RUINS
KAYSARIEH

Scale 6 inches to a mile



Mediaeval reduced from
plan 50" to 1 mile

Claude R Conder Lt Col

21.5.73

Drawn by 2nd Corp G Armstrong RQ

XIII.

JERUSALEM AND EL MIDYEH.

P.E.F. CAMP, MUKHALID, 2nd May, 1873.

FOLLOWING the suggestion lately received from a member of the Committee, I shall in future divide the report of work done from the subjects of general interest included in my letters, and place it first, to allow those who have no time to spare to follow our proceedings without being obliged to read more than the first paragraph.

When last I wrote we had again started field work, and were advancing south; we have, since leaving Jeba, camped at Kannir and Zayta, and shall in a few days break up our camp at Mukhalid, and retire into the hills, having added upwards of 360 square miles, with a monthly average of rather over 170. The triangulation is still large and well shaped, and we have been very fortunate in finding a fine point in the plain, on the top of a high tower in the town of Kakun, and a second almost as good at Kalensawyeh, farther south. In addition to a great number of notes, sketches, and sketch plans now added to my book, the following large-scale plans and surveys have been executed.

ATHLIT :—

Survey of the enceinte of Athlit, scale 24in. to 1 mile.

Plans of three large vaults below the town.

Plan and proposed restoration of the church, sketches of detail.

Plan of a large tomb (possibly Phœnician) near Athlit.

CESAREA :—

Survey of the mediæval town of Cesarea, scale 50in. to 1 mile.

Survey of the Roman enceinte at Cesarea, scale 6in. to 1 mile.

Plan and section of the remains of the cathedral.

Sketch plan of the theatre south of the town.

Sections of the two aqueducts, as laid down on the map.

MIAMAS :—

Plan of the Roman theatre at Miamas.

Plan of a vaulted building on hill above Miamas.

KALENSAWYEH :—

Plan, sections, and sketches of Crusading Hall at Kalensawyeh.

Numerous sketches and notes were also taken at Tantûra. The site of a Roman town, remains seemingly of a small temple, and a lintel with rough bas-reliefs of lions, were found at Khirbet Semmakah, on the side of Carmel, and it is supposed by Dr. Chaplin to be the site of Ecbatana, afterwards called Carmel by Pliny (*Nat. Hist.* v. 19), where, according to Lightfoot, Vespasian erected the oracle of the God Carmel; it occupies a very strong site, and a great number of oil presses are found near it.

Two inscriptions have also turned up. The first is old Hebrew, found by Corporal Armstrong and myself at Umm el Zaynat on Carmel, over a tomb now choked with rubbish. The rock is too rough to admit of a squeeze being taken, and the letters could hardly be traced, being cut

roughly and painted red, surrounded with a red border. The second was on a stone which had formed part of a tomb near the village of Belah, and was in Greek, *εις θεος μωυος* (to the one God) being distinctly visible and a date which Mr. Drake puts at 332 A.D.

In the neighbourhood of Mukhalid we find a Saracenic khan, and a group of fourteen rock-cut tombs, with loculi of various kinds; one is well cemented, and remains of ornament in red paint, circles, leaves, and lines are visible; another has a circle intersected with a cross cut in front of its entrance. There is also a very curious well, 40ft. to 50ft. deep, and perhaps 13ft. diameter, sunk in the sandstone north of the camp.

In geology I may add that we have obtained fossils which will serve to fix the period at which the upheaval of the shore line, as now observable, took place, and that we have traced the volcanic centre at Ikzim, which proves much larger than at first suspected.

In accordance with the wishes of the Committee I have visited El Midyeh, and obtained a survey of the place and a plan of the principal tomb.

Having arranged the triangulation from the Zayta Camp, I was able to spare a few days to go up to Jerusalem for the Greek Easter, and in order to look after the interests of the Fund in the city itself, returning by El Midyeh, and in time to direct the trigonometrical observations from the present camp at Mukhalid.

The talk of Jerusalem, and of the travellers then crowding in and around it, was the great Shapira collection. Since last I wrote on this subject many important events have occurred. The collection has struggled through the first stage of disrepute and incredulity, and the German *savans* have distinguished this valuable and unique series from the clumsy forgeries so common in Palestine, ranking it with the Moabite Stone and with the Hamath Inscriptions. The expedition of Pastor Weser resulted in a great meeting of the Oriental Society, who elected him a member. The famous names of Hitzig and Rödiger are now arrayed with that of Schlottman in defence of the genuineness of the pottery. Mr. Shapira has received the official position of an agent for the Prussian Government, and his first series of 911 pieces has just been bought by the Emperor himself, at a price, I believe, of over £1,000.

These events had all taken place previous to my last visit, and I could not fairly ask Mr. Shapira to allow me to copy such pieces as were already German property without permission from the owners. Fortunately, however, he has since been able to lay the foundation of a second collection, containing already over 250 pieces, of a character, if possible, more curious than those formerly found, and daily almost growing in numbers. Some of these he brought back from Moab himself during his recent visit in company with Dr. Chaplin, and as they are as yet unsold, and as he is free to sell them to any one he thinks best, he courteously allowed me to take the first sketches of the new objects, of which I copied as many as time would allow, and now hasten to send them home to the Fund.

The most remarkable of these is a great "teraph" of black pottery, 42in. long, with horns and a beard of a semi-Egyptian type, with a fine Phœnician inscription on the "stump" in front, and a second incised behind. The former contains seven lines, the latter ten. The pottery, which at first sight looks like painted wood, is of one colour throughout, the figure being hollow; it has a very curious ochre-coloured decay, which I have tried to represent roughly. The figure was broken in many places, and has been not over-correctly mended with glue.

Most of the new pieces come from new fields of research, with the Arabic names of which I will not trust myself. Those coming from one place bear a sort of family resemblance, though of the 1,100 pieces now collected scarcely one is a facsimile of another. The large goddess with a double inscription (also a terminal figure), and with seven horns, is not dissimilar to a smaller one with seven lines of inscription, and also with horns nine in number. The following, out of the fifteen objects I send home, are of most interest, next to these large figures: First, a teraph, with the two letters Yod, Wou, which if they turn out to be a form of the sacred name *Jehovah*, will be of highest interest; in this, with the exception perhaps of the calf and calf-headed deities, we find the first indication of the worship of *Jehovah* by surrounding nations, to whom, as we see clearly from the Moabite Stone, he was but the "tribe god" of the Jews, the husband of Asherah, and third in the triad with Baal and Ashtoreth, a view already learnedly supported by Lenormant in his "Lettres Assyriologiques."

The second is a sort of "Phoenix," or bird-bodied figure with human horned head; on the neck are seven successive marks, on the breast are five letters incised. The reading of this inscription will perhaps give a clue to the symbolism of the numerous bird-forms in the collection, and I may venture to suggest a connection with the attribute of *eternity* which we find in such deities as Hobal and Bel the ancient, the Phoenix being itself an emblem of the same.

A third is a head similar to one already sent home, with a protruding tongue, which, in accordance with the descriptions of Herodotus and of St. Jerome, we may venture to consider as a representation of Baal Peor, the Priapus of Midian.

The inscription round the base of a fourth, also a horned deity marked with the seven stars, will, it is thought, throw light on the two initials *Ain*, *Aleph*, continually occurring at the beginning and at the end of the inscriptions.

A fifth seems to be the first representation of a god of the character of the classical Pan, with a tail and short goats' horns, the legs being, however, unfortunately broken and lost.

Finally, not least interesting is No. 200, a globular vessel pierced with eight large holes, and with seven arranged in an angular form, of which five are smaller. An inscription runs round this nondescript production, and above are symbols including sword, spear, bow and arrows, a shield and two stars, with another emblem very similar to a pair of spectacles.

One fine jar I was obliged to leave, and did so all the more willingly since Mr. Drake will very probably find time to sketch it, and to make an accurate copy of the inscription.

Of the old collection there are but few important specimens not already sent to the Fund. The large figure of a goddess, with an inscription translated by Schlottman, has not, however, been copied, and is now German property, as well as one very curious figure conjectured to be a representation of Charon. The head has an unusually long nose, in each hand the demon holds a human mask, behind the trunk is what one might take for a boat, and in front are two thin legs of disproportionate length resembling oars. The figure is small, and, in common with the majority of the minor pieces, it has no inscription.

Such was the condition of the Shapira collection at the time of my leaving Jerusalem. It is to be hoped that the American expedition, now already in the neighbourhood of Heshban, will succeed in bringing fresh treasures to light.

The time of year and the late fall of the winter rains prevented my visiting, as I had hoped, the passages of the Haram, but other explorations within its precincts were facilitated by the repairs now going on within the Kubbet es Sakhras itself. I was enabled in consequence of scaffolding placed over the holy rock, to assist Mr. Schick in accurate measurements of its surface, which will correct and supplement my former sketch. I was also able to ascend into the interior of the drum, and examine the pillars for correction of my former sketches. The cornice, with an Arabic inscription, which runs immediately below the great mosaics, I was most anxious to examine, since both Mr. Fergusson and the Count de Vogüé agree that the latter are of Christian origin. I was, however, able to determine that the cornice was *structural*, and bonded into the building, and not merely a subsequent addition.

In the south-east corner of the Haram my attention was further called to the existence of a regular apse on the east side of the Mosque el Aksah; the centre has been broken away, but the commencement of the wall on either side is distinctly visible, and is marked on the Ordnance Survey. The curve of the cornice above is even better marked, and on reference to De Vogüé's plan I see that the apse is dotted in. This removes one of the great objections to the notion that El Aksah was formerly a Christian church.

We examined carefully what looked at first sight like foundations, on the platform supported by the stables of Solomon; they, however, proved in every case to be merely flagstones some eight inches thick, and there can be little doubt that these vaults are far too weak ever to have supported a structure of any weight above. The piers are, as is well known, composed of large stones drafted on one side, and evidently originally belonging to the external wall; as regards the date of the arches they support, Dr. Chaplin has lately made the valuable discovery that masons' marks identical with some used in the Muristan are also to be found on the haunch stones in the south-east corner of the Haram.

A further detail not marked on the Ordnance Survey is observable opposite the supposed springing of an arch outside the eastern wall. It is a little chamber now almost built up in the thickness of the wall.* The north side of this opening is made of large and very well-dressed ashlar, and rests immediately on the foundation of huge and undressed stones, of which two courses are visible all along the eastern wall of the stable. This recess or opening is shown as a double window by De Vogüé, but must subsequently have been walled up, as it is now only visible through a narrow opening. A very large stone with a semi-column attached, measuring 6ft. in length and 4in. in breadth, the diameter of the column being 3ft. 4in., now lies on the floor. This very probably formed a central pier to the opening.

In Captain Wilson's account of Mr. Schick's late discoveries in the Haram the examination of the Kubbet el Khidr is enumerated. Here, however, I can claim priority, as in October last I was able to enter and examine this mosque. The fact of the floor being of rock is extremely doubtful, but immediately outside the door the rock unquestionably does appear at a level 2438.5 according to my last and most accurate measurement. At or about this level it will be found to be marked together with several other new rock levels in the plate which I sent home to accompany my October report. This level being two or three feet above that of the floor of the Kubbet el Khidr is more important for antiquarian purposes than that of the floor itself, if it should indeed prove on trial with a chisel to be the live rock also.

One of the most important points as yet not fully explored is the No. 29 Tank measured by Captain Warren, and supposed by Mr. Fergusson to contain remains of the Basilica of Constantine. On this subject I may be allowed one important remark after careful study of the appearance of the ground. It is simply *impossible* that the arch of this vault can run at the same level more than a few feet beyond the point to which Captain Warren traced it on the east, for the plain reason that the crown is but 2ft. below the level of the surface, and that on the east the ground falls upwards of 10ft. before reaching the north-east corner of the platform. Thus 8ft., or nearly the whole of the arch of the vault, would be visible at this point, were the vault continued in the same line.

Another important point indicated to me by Mr. Schick was the probable connection between the cisterns Nos. 34, and 2 on the platform, and that group on a lower level known as Nos. 12, 13, and 14. The line between No. 34 and the north side of No. 14 shows indications of two shafts now filled in, and of the top of an arch of small masonry no doubt covering a vault.

Mr. Schick's kind exertions further enabled me to investigate the whole length of the very extraordinary passage leading obliquely from the south-west corner of the twin pools of the Convent of the Sisters of Zion. It was first explored by Captain Warren, but after floating on liquid

* This chamber is described in Notes to Ordnance Survey, page 38.

manure for some considerable time he found the roof too low to allow of his proceeding to the end. It has since been cleared by order of Joseph Effendi, Lord Mayor of Jerusalem. At the time of our visit it had but a few feet of water in it, and we were able to traverse its entire extent on planks.

The twin pools, now full of water to the crown of the arch, are below that level rock-cut on the east and west; they are reached by a staircase and by rock-cut steps from the street near the Ecce Homo arch. On the south side a rocky scarp rises above the crown of the arch, and over the street to a height about 2,456ft. above sea level; the rock from this point slopes gradually southward, and its height on the south side within the Haram is about the same on the north, but only 2,434ft. where it last appears (at a window on the west wall) above the level of the surface of the interior

The abrupt eastern termination of this great block, standing upwards of 30ft. over the Haram courts at the north-west corner, is distinctly visible on the interior, but its extent on the west is not as yet known. It is through this that the narrow passage, of which a plan is given in the *Quarterly* for April, 1872, is cut. It runs nearly straight till opposite the window already mentioned, which is at a distance of 100ft. from the north-west corner, and on the west Haram wall. At the commencement the passage, which averages some 4ft. in width, is 20ft. high, and entirely cut in rock, through which the rain water from the surface percolated. The roof is formed by huge flat slabs placed from rock to rock, in the sides are passages or weepers to facilitate the collection of the water, and in the bottom a small water channel, not occupying the whole width of the passage, is visible. At about a quarter of the whole length from the entrance a dam 9ft. high is placed, resembling exactly the two dams in the reservoirs planned by me at Seffuryeh; it has a hole below, through which the water could be let out as required. From the farther end, where the total height of the passage is only some 7ft. or 8ft., it runs on at an angle and reaches the west Haram wall at a level 22ft. below the interior surface; this part is built in small masonry, and only the lower part is of rock; the flat slabs are still visible above, and from the wall springs a nicely finished arch of small stones; the channel is evidently (as at present built) later than the wall, and ends suddenly. The true original direction of that part which is rock-cut it is impossible to determine, as it stops abruptly before reaching the wall.

The examination of the Haram wall at this point is of considerable interest, for judging from the height of the rock in the passage there can be but few courses below those visible, and these have every appearance of remaining *in situ*. The stones are 4ft. 6in. high, well finished, and tolerably well preserved, with a draft 3in. wide at the side, and 6in. above and below: the reason of this difference being that each course, as far as one can judge from only seeing two joints, was set back 3in. or 4in. from the one immediately below it. The same feature was observed by Captain Warren in his excavations near the north-east corner of the Haram at about a corresponding level.

Just before reaching the turn in the passage, and opposite the window in the Haram wall, a way has been broken through at right angles to the passage, and the chamber in which the window is can be reached through the floor.

This point is also one of great interest, as the wall is again visible. The south side of the great scarp is here traceable from the Haram wall to the passage, and forms the north side of the chamber. The Haram wall here about the level of the interior is of masonry similar to that already mentioned, and the courses are stopped back in the same way.

But at the level of the ground on the interior the wall is made thinner by a bevelled set-back, leaving two buttresses 4ft. 9in. thick at intervals of 8ft. 9in. This arrangement has been observed at Hebron, and in the remains east of the Church of Holy Sepulchre, but has never before been found in the Haram. The courses of the buttress are all flush. The lintel of the window is one large block, resting on the south side on the courses of the wall, and on the north side on the rock of the scarp.

I was also able before leaving Jerusalem to obtain from Herr Schick the long-promised plate of rock levels throughout Jerusalem. It shows the exact position and depth below the surface of the rock in upwards of one hundred and fifty new places. Combining this with Captain Warren's careful observations, I shall be able to produce a ground-plan of the natural site of the city, which will form perhaps one of the most important set of data for the study of the ancient topography which we can hope to obtain. It must not be forgotten that to Mr. Schick belongs the credit of this most useful and necessary basis for future exploration.

Leaving Jerusalem once more, in the company of Dr. Chaplin, we proceeded by Upper Bethhoron to El Midyeh, of which, in compliance with the Committee's directions, I send a short account with a 6in. survey of the site and a plan of the tomb.

In the January *Quarterly* for 1870 will be found (p. 245) an account of the place by Dr. Sandreczki, who first identified it with Modin, and the curious building with the seven sepulchres erected by Simon Maccabeus for himself, his parents, and his four brothers (1 Macc. xiii. 27; Antiq. xiii. 6). The requisites of the two accounts are, a view to the sea, seven tombs "one against another" with surmounting pyramids and a cloister surrounding them. These, as he points out, are all fulfilled at El Midyeh. My sketch will show how the sea, and the long line of sandhills, with the olive groves of Ramleh, and the white minaret of Lydd, are visible above the line of lower hills immediately west of the spot.

A further account of explorations carried on in that year by M. Victor Guerin will be found in the June number of the *Quarterly* for 1870. After clearing the *débris* the tomb was opened, and, as we were informed by the inhabitants, bones and other treasures, including perhaps the tessellated pavement which formed the flooring of the chamber, were carried away to Jerusalem.

The condition in which the monument was left in consequence of these excavations was not over favourable for subsequent examination.

EL MIDYEH.

This is a large Arab village, standing on a hill, and defended on the north, south, and west by a deep valley. Immediately south of the present town is a round eminence with steep and regularly sloping sides, suggesting immediately an ancient site, but showing nothing in the way of ruins except a few stone heaps amongst the olives which cover its summit. The ground on the west side of the deep wady, which has the modern name Wady Muláki, is, however, much higher, and closes in the view of the sea. It is here, about half a mile west of the village, that the Kabur el Yahud, or "Tombs of the Jews," were found, close to a modern white tomb house, with a spreading tree beside it, the resting-place of Shaykh Gharbawi Abu Subhha. My survey and plans give the necessary details, and I will only add a few observations to explain them. The sepulchres, which are fast disappearing, seem to have been seven in number, probably all of one size, lying approximately east and west, and enclosed by one wall about five feet thick. This is well preserved on the east and west, but has disappeared—or was removed by M. Guerin—on the north and south. Of the walls of partition, however, only one can be well traced, consisting of stones well dressed, laid with continuous horizontal and irregularly broken vertical joints, without any trace of drafting, and varying from 2ft. to 5ft. in length, their other dimensions being about 2ft.

The most northern is the only one of the chambers which is sufficiently preserved for examination, and differs entirely from any sepulchral or other monument I have as yet seen in the country. It consists of a chamber open on the north, nearly 8ft. high, 6ft. from east to west, and 5ft. from north to south. Its only remarkable feature is a cornice the profile of which is a quarter circle, which is evidently intended to support a greater overlying weight than that of the flat slabs some 6ft. long which roof the chamber in. The floor was also of flags supported by a narrow ledge on all sides; these having been removed, the tomb itself could be seen below, a square vault of equal size with the chamber, and apparently 3ft. 6in. deep, though the *débris* which had filled it on one side may have prevented my sinking down to the floor itself.

The pyramid which once surmounted each of these chambers has entirely disappeared; its only traces were the supporting cornice on the interior, and the sunk centre of the upper side of the roofing-slabs, which were raised about 6in. round their edge for a breadth of 1ft. to 1ft. 6in. The base of the pyramid must have been a square of 8ft. or 9ft. wide (it is not possible to determine it exactly), and the height would therefore probably have been 15ft., or at most 20ft. Of the mosaic pavement to the tomb, and of the ornaments of its walls, I was not able to find a single trace.

The surrounding cloister has also been destroyed, but on the north and west a few courses of a well-built wall were visible in parts, parallel to the sides of the tomb, about 20 paces from its outer wall. Within this enclosure was a choked-up cistern, and without, farther down the hill, a rough cave 22 paces by 14, used as a cattle stable, and full of soft mud.

Immediately north of the tomb are remains of later buildings of small rough masonry with pointed arches. They are ruined houses according to the account of natives of the spot.

The name Khirbet Midyeh will be found on the map as applying to a set of rock-cut tombs about a quarter of a mile south of the Shaykh, and these are described by Dr. Sandreczki at some length. They are separated by a slight depression from the "Kabur el Yahud," and between the two, as shown in my 6in. survey, there is a well and a couple of ruined and broken cisterns. The Doctor enumerates about twenty-four tombs; of these I observed twenty-one, and a large one with two entrances, twenty-three in all. It is possible I may have missed or forgotten to show one. The tombs resemble exactly those formerly described in the large cemetery at Ikzal, but are smaller. They consist of square chambers sunk about six feet in the flat surface of the rock, with a loculus parallel to the length of the shaft on each side, cut back under a flat arch, as shown in the sketch. A large block of stone closes the tomb above; all had, however, been pushed slightly to one side, leaving the interior, which in one case was occupied by the body of a poor native woman but lately placed there, distinctly visible. At first I imagined that they all pointed east and west, but one it will be noticed is at right angles to this direction. Nine of them are placed in one roughly-straight line, and four others parallel. They were all very small. The loculi cannot be more than 5ft. 6in. long, and the stones above are not much over 6ft. 6in.

As continually happens, a tomb of another class exists in the immediate neighbourhood. South of the nine tombs the rock is scarped perpendicularly to a height of 5ft. for over 30 paces, and on the west a square chamber with rock scarps on three sides six paces in length is thus formed. It was probably once roofed over, but no traces of masonry remain; it is filled with rubbish, and on the north and west the tops of two small entrances to chambers are visible; I could not, however, find any corresponding door on the south. A chamber of this kind exists in two or three places near Haifa, where the side entrances lead to tombs with loculi perpendicular in direction to the walls. Similar loculi occur at El Tireh, in connection with tombs *sunk* like the majority of those at El Midyeh. In fact the mixture of three or more classes of tombs in one cemetery is common throughout the country, and the chambers in question, if once the *débris* were removed (which would hardly repay the trouble), would very probably prove to have the Jewish loculus.

The wine-press mentioned in the former Report I visited and measured; it is not equal to other specimens I have copied. East of the

cemetery the rock is much quarried, and there are a few sunken square places resembling unfinished cisterns, or the commencement of a system of new tombs.

There is not, as far as I am aware, any other feature of interest to mention at El Midyeh.

Some account of the ruins at Khirbet Semmakah, the only place on Carmel where remains of any importance exist, will no doubt prove interesting, especially if, as already discussed, it seem likely to be the site of Ecbatana or Carmel.

The statement of Lightfoot is not, however, received by Dr. Thomson, who quotes Tacitus ("History of Vespasian," p. 410) to show that the God Carmel was worshipped without a temple, in the open air, on the top of the mountain, and probably at El Mahrakah, the place of Elijah's sacrifice.

That Khirbet Semmakah is the site of a town, and to all appearance of a Roman town, there can be but little doubt. After wading through the almost impassable brushwood which lies on the lower slopes of Carmel, we came upon a small plain or broad valley with a gently sloping hill at its northern boundary, whilst on the east and west the sides were steeper, and impenetrable for horse and man.

The ruins lie scattered over an extent of rather less than a quarter of a mile, principally on the sides of the hill, and but few were found on the top. On the northern side a very deep and precipitous ravine, in which the vultures, crows, and hawks were wheeling slowly, closes in the site, and renders it impregnable in that direction. The name is Wady Nahel.

The principal remains are those of what would seem to be a small temple, having a bearing of 87°. Only the lower courses of the eastern wall, and two pillar bases 2ft. 3in. diameter, are left. The doorway, which is slightly north of the northern pillar, was 5ft. 3in. wide, and surmounted with a lintel with simple mouldings. This had fallen within the building, and the upper part of the jambs with corresponding mouldings had also disappeared. The stones of the wall were ornamented with drafts, one being 5ft. in length, and so cut as to appear like two stones with the centres raised, and drafts 3in. broad and about 1in. deep. Other drafts were 7in. broad and 1½in. deep. The faces of the stones were in all cases dressed, but the deeper drafted ones were rough.

Immediately east of the temple the town wall, or some similar structure, was traceable for about 50 yards, and consisted of small well-cut stones, about 1ft. long and 6in. high; several other walls joined on to this at right angles, and on one of these, close to the temple, was a stone seeming to have been originally a lintel, but now placed in the wall. It was 7ft. long, 3ft. high, and ornamented with a tablet on which in bas-relief were two lions roughly executed facing one another, and with a cup placed between their paws. A second smaller cup was cut above the left-hand lion's back. The whole of the masonry, though small, was

well dressed, and far superior to modern Arabic workmanship. Unless, indeed, which is unlikely on account of the bas-relief, they should be Jewish, there is no date but that of the Roman occupation to which to ascribe these ruins.

Continuing our search we found a well within the town wall, and a cave without. At the south-west corner of the hill is a strong corner foundation, which seems to belong also to the outer wall, and farther north the ground is strewn with broken stones and fragments. A very low valley here separates the ground and runs south, on the east of its course, and directly north of the temple two caves appear, one possibly a rough tomb. To the west also there are several remains. These include a fine beehive cistern, about 30ft. diameter, foundations of good-sized and well-proportioned stones, and a large sarcophagus lying on the flat rock, 8ft. in length, and with a flat lid beside it.

Still farther west is a smooth platform of rock, in which a square birket, 10ft. side, and a well now partly choked, 3ft. diameter, are found.

The most characteristic feature, however, remains to mention. In every direction one finds foundations of little buildings about 20ft. square, near which lie one or more (generally a pair) of rollers, cut out of soft limestone; they are 7ft. long and 3ft. diameter, and have grooves sometimes running the entire length, but generally arranged in four lines parallel to the length of the pillar, with four or five grooves in a line. Of these I counted upwards of a dozen. They are supposed by Mr. Drake to be rollers, moved by handspikes, and placed end to end in the buildings, which he takes to be oil mills.

It is needless to add that I made a rough special survey of the place, and plans and measurements where required.

A doorway, similar in some respects to that of the temple, we found afterwards at Khirbet Baydus, south of Kannir; but in this case lintel, jambs, and seemingly the ground sill, were all cut out of one piece of very hard creamy limestone with fossils. No other ruins of the same date, except a pillar stump, a rough cave, and some blocks of a wall, existed near it. There were, however, ruins of more modern character.

In concluding this report I wish to say a few words as to the geology of central Palestine, the thorough tracing of the centre of basaltic eruption at Ikzim having explained a great deal which must formerly have been puzzling.

In Report VII. I spoke of the formation of the great Plain as due to volcanic action and subsequent denudation, and of the low synclinal dipping upwards to the basaltic centres at Shaykh Iskander and on the Gilboa range. The subsequent discoveries confirmed this statement, but it was not till after leaving Jeba that I was able to grasp the whole geological formation of the country. The sudden upheaval of Carmel, with its abrupt sea and land ends, must strike all observers as requiring explanation, as well as the low, flat character of the range forming the western boundary of the great Plain, between the peak of Elijah's sacrifice and the cone at Wely Iskander's tomb.

The Ikzim centre explains all this. The low ridge just mentioned, of soft limestone with flints, with a yet softer marl below, dipping gently down towards the Maritime Plain, and known by the modern name of "Belad el Ruhah," presents the natural surface of the country. On the south this is broken by the outburst of basalt and other trappean eruptive rocks at Shaykh Iskander, which, in their attempt to escape, have tilted the strata at an angle of upwards of 30 degrees, and have brought to light the underlying dolomite, from above which the softer formations are now washed off by subaerial denudations. On the north-west the Ikzim outbreak has entirely broken up and altered the surface of the country, and finally the appearance of a trappean outbreak near Umm el Zaynat, and of a large cavern, perhaps formed by pent-up gases, on the slope of Carmel, together with its steep sides and the direction of the dips, leads one inevitably to the conclusion that the great elevation of the range is due to the violent internal action of igneous matter, unable to find more than a very partial outlet for escape. The dolomitic rocks and the fossiliferous limestones of Carmel are at a higher level, but of an older formation than the soft marls of the "Belad el Ruhah," and thus it appears as though the effect produced on the part where no escape was possible was far greater than where, as at Ikzim, the basalt found an easy outlet.

On leaving this centre to the north the plain of Sharon suddenly widens to a more than double breadth, and the gradual slope of the hills contrasts markedly with the inland cliffs north of the Zerka. We now approach again the Judæan range, which is said generally to present a low anticlinal, an assertion which it requires numerous and careful observations to prove.

Another point of great geological interest is the date of the upheaval of the shore line, and on this also we shall now be able to throw light, in consequence of a valuable find of fossils at Khirbet Dustray, near Athlit, on the curious *sea-wall* or line of low inland cliffs of sandy limestone, in which, as explained in my last report, the tombs and quarries are so constantly found.

Advancing south of the Zerka we find this line to run gradually farther inland with the widening plain, and after passing Cesarea a second line of cliffs begins to rise close to the beach, attaining a height of 200ft. near Mukhalid, and running on continuously to Jaffa. Thus it seems as though two succeeding periods of upheaval might be expected, giving shore lines some four or five miles apart. It appears also that this upheaval has a very gradual dip upwards towards the south, but further observations near Acca will be necessary before advancing any theory on the subject.

From such a study of geology in a country so interesting as is Palestine, one is led to the conclusion that volcanic action throughout its whole extent from Dan to Beersheba, must have been very violent and continual, and I look forward with great eagerness to the thorough examination of the Ghor, which may perhaps prove to owe its formation

neither to a fault nor to glacial or fluvial action, but to a sudden volcanic convulsion not impossibly at a late geological date, which one cannot but connect in one's own mind with the overthrow of Sodom and Gomorrah.

CLAUDE R. CONDER, Lieut. R.E.,
Commanding Survey Party.

MR. C. F. TYRWHITT DRAKE'S REPORTS.

XIII.

CAMP JEBA, *March 12, 1873.*

OUR present camp is pitched at the foot of the western slopes of Carmel, some three miles south-east of Athlit. The ruins of this place seem wholly Crusading, and I shall forward an account of them as soon as we have examined them. A remarkable natural feature is observable near the coast; commencing in sand dunes about three miles south-west of Carmel convent a ridge runs parallel to the mountain of that name, gradually increasing in regularity and in hardness of rock, till, between Athlit and Tantúrah, it assumes the form of a rocky ridge 40 to 50 feet high, and some 300 yards broad. The stone is a soft crystalline limestone, almost resembling a sandstone. Between these two last-named villages is a plain stretching westwards from this seawall to the sea, and protected from inroads by the peculiar manner in which the former has been quarried. For many miles the whole surface of this ridge has been cut and quarried to a depth of from six to ten feet. In many places a narrow ridge or crest has been left on the summit, thus forming a wall of living stone. Passages have in several places been cut through the ridge, and show traces of having been closed by gates. Rock-cut tombs, as described by Lieut. Conder, are numerous in these quarries, and must, I imagine, be ascribed to the early centuries of the Christian era. Our present state of knowledge, however, with regard to the rock-hewn tombs of Palestine, owing to the almost total absence of inscriptions or any other guides, renders all attempts at fixing the date of these excavations uncertain.

Besides the road passages above mentioned, one water-drain has been also found cut through the rock. In several places, too, we have come across old chariot roads with deep ruts in the rocky surface.

The present village of Tantúrah is situated about half a mile to the south of the ruins of old Dor or Dora. The remains of these ruins— for as usual all the dressed stones have been dug up and carried off— cover an oval mound comprising several acres and adjacent to the sea. The most prominent object is the remains of a tower of Crusading or early Saracenic construction. The part still standing is the north-east