

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.*

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## 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

buttress of a square fort on a spit of land running into the sea. A pointed arch gives the clue to its date; part of a well staircase may still be traced. The ashlar stones are about three feet by two feet and one and a half feet thick; mortar, full of cockle shells, layers of rubble, and old Roman bricks, form the interior of the walls. North of this, and supporting the cliffs, are walls of Roman work, formed of stones some four feet by two feet and two feet thick. Foundations as of a kind of wharf still remain at the water's edge. This massive masonry has been lined throughout with a coat of rubble and cement to a thickness of about two feet, for what purpose I am unable to say. Above these substructures, and immediately facing the sea, are the *débris* of a large number of columns two feet ten inches in diameter. The capitals are a kind of Ionic not unfrequent in the Hawran, and of which I have given an example found in the 'Alah in "Unexplored Syria." The volutes are formed on each side by the junction of two cones attached to the capital, an example of which measured four feet four inches by three feet four inches at top. The building to which these columns belonged must have been a conspicuous object from the sea. To the east of the mound is a Roman tank for irrigation, differing from those I formerly described near Jaffa as being built of rather large blocks of stone. Near this are a few gray granite columns. The sea-coast here is fringed with low rocks and indented with little bays which, protected by a few small moles, would still serve, as they doubtless did under the Romans, as harbours for coasting craft.

Throughout all this neighbourhood the rock-tombs above mentioned are much used by the fellahín to stow away the bodies of murdered men who, not having died *en règle*, cannot be buried in a Mohammedan cemetery. In two caves near Sarafend I counted sixteen skulls, near Athlít as many, and frequent solitary cases or groups of two or three are found scattered about. A native of Athlít to whom I first applied for information, said, "Those are the bones of men killed about here," and seemed to think it the most natural thing in the world that if men went along the high road they should come to such an end.

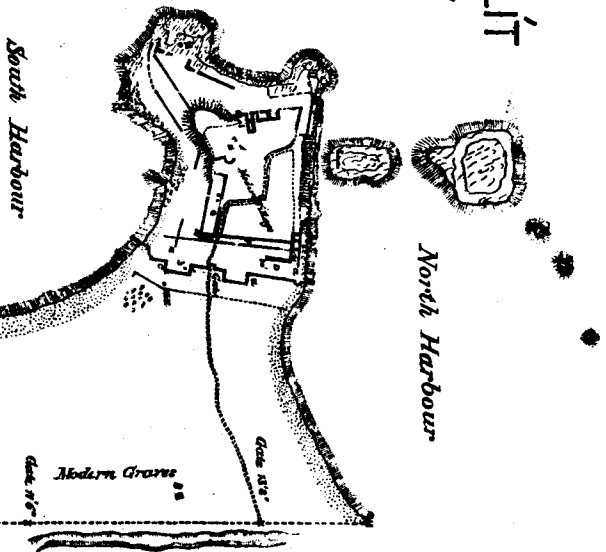
Turning to the pleasanter subject of Mount Carmel we find its steep sides and rugged wadies still covered with a growth of brushwood which shelters the usual wild animals. Many ruins are scattered over the hills, some ancient but many of recent date. Till the advent of Ibrahim Pasha the Druzes were very powerful in Carmel, and owned many villages. All of these, with the exception of 'Asfieh and Dáliyeh—the former half Christian—are now deserted. At a river called Semmákah a large number of columns have been found and will be described on a future occasion.

The weather is peculiarly unsettled and disagreeable, as well as far from healthy. The wind is continually changing, though blowing more from the east than from any other quarter. During the last few days haze and mist have frequently occurred, and there is seemingly every probability of an early and unusually hot summer. The cereals are

# ÁTHLÍT

Scale 1:100

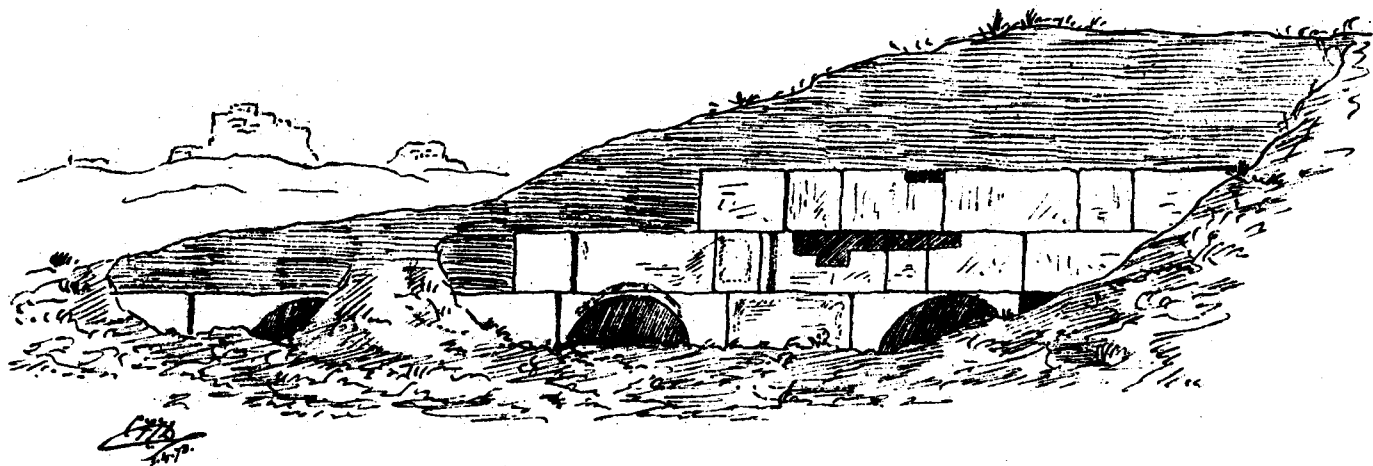
North Harbour



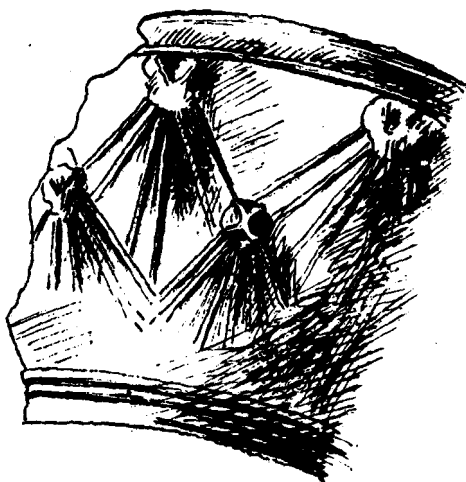
South Harbour

- A *SW* Outer-Tower
- B *Taille* & *Cabern*
- C *NE* Outer-Tower
- D *M* *Kernish*
- E *F* *G* *H* *I* *J* *K* *L* *a* *Tomb* *e* *Radern*
- H Church
- I *Granite* *Chimney*
- M *Base* *of* *Radern*
- at a* *Passage* *in* *Wall*

Surveyed by  
Crawford & Under 1991  
20.5.92



REMAINS OF TEMPLE BUILT BY HEROD AT CAESAREA.



A A  
B B  
C C  
D D  
E E

*Broken Capital from the Church.  
"Abel's."*

well up and barley has been in ear, on the maritime plain, for more than a week.

The following are a few of the identifications of ancient sites which I had begun to work out in our winter quarters at Haifa when sickness prevented their completion. As far as I can ascertain these proposed identifications are new.

יִתְבֵּלָה. *Jethlah* is mentioned (Josh. xix. 42) as a town of Dan, and seemingly in the neighbourhood of Ajalon (the modern *Yalo*). There is no Arabic name that I am aware of which exactly corresponds to the Hebrew, but here the reading of the LXX. Σιλᾶθ may perhaps help us. If that be correct the modern village of *Shilta*, which lies a little north-west of the lower Beth Horon, may perhaps represent Jetblah.

הַלְקַת הַחֲצֵרוֹם. *Helkath Hazzarim* is mentioned 2 Sam. ii. 16, and is translated in the marginal reading "the field of strong men," and we are told that it was a place in Gibeon, the modern El Jib. Close to this village is a broad smooth valley called Wady el Askar, meaning the "vale of the soldiery," which may not improbably be a reminiscence or translation of the Hebrew name.

The town of *Asher* (Josh. xvii. 7) has been identified with *Yasir*, but the modern *Asirah* seems a somewhat more probable identification.

In Josh. xxi. 25, and the other parallel passage, 1 Chron. vi. 70, we find mention of *Aner* and *Bileam* in the one, opposed to *Tanach* and *Gath-rimmon* in the other.

By some אֲנִי *Aner* (cf. Dict. Bible, s. v. *Aner*) is supposed to be a misreading for *Tanach*, but may, I think, be recognised in the modern village of 'Anin, in which rock-cuttings and other traces of an ancient site are observable.

בִּלְעָם. *Bileam* (1 Chr. vi. 70) is doubtless the same as *Ibleam* (2 Kings ix. 27), which being near the going up to Gur seems to have been beside a well-known road, and in the direction of the "garden house," which is usually taken to be Jenin. The principal road through Palestine now runs up the wady behind Jenin, and here are the ruins of Bel'ameh, which is the same word as *Bileam*, and the position of which seems also to answer the requirements of the case.

The *Rabbith* of Issachar and *Amad* of Asher, may perhaps be identified with the modern *Arrabeh* and *Umm el 'Amid* respectively, but the notices in the Bible seem too vague for any certain decision to be arrived at.

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#### XIV.

P.E.F. CAMP, KANNIR, March 23, 1873.

EXAMINATION of the ruins of 'Athlit showed us the remains of a Crusading fortress, which in its palmy days must have been equal, if not superior, to anything else of the same period in Palestine proper.

It is now a broken relic, shattered by earthquakes, systematically spoiled and robbed of its stones by the Turkish Government to rebuild Akka; and disfigured by the mud hovels of the fellahin, built over it like the mud nests of the wall bees over Egyptian temples. Abandoned by the Crusaders in 1291, A.D., nearly six centuries of neglect and dilapidation have been unable to destroy the massive walls; whilst the extensive vaults, protected by their situation, are perfectly preserved. To select this as the *castellum peregrinorum*, or landing-place for the pilgrims, was a stroke of policy on the part of the old knights. They well knew the influence of first impressions, and knew the advantage of bringing men—many of whom they hoped would remain under their banners to fight on the sacred soil itself—to a prosperous well-built fortress, situate in a pleasant fertile district, rather than to a point whence the barren nakedness of the central and eastern hills would too soon be brought in view, lighted up by the pitiless glare of an eastern sun. The woodclad steeps of Carmel and her fertile maritime plain would have a homelike look to one coming from mid or southern Europe, and would do much to recommend the spot to pilgrims after long and weary travel by land and sea.

The town of 'Athlit occupies a low rocky promontory, having a small bay both to north and south, which would serve as harbours according to the direction of the wind; that on the north being protected from the south and south-west, and that on the south from the north and north-west. On the land side a wall is carried across the neck of the promontory enclosing some twenty-four acres of land between it and the town. This wall had three gates to the east and one to the south: it was strengthened by a tower at each end at the edge of the sea, and another on a small mound of rock at the south-east angle. A fosse filled from the sea afforded further protection.

The town itself was only entered by one gate to the east, flanked on either side by a large bastion. Before this lay the outer wall and ditch, and behind it the inner fosse, across which lay the main body or keep of the fortress. On the three other sides the town was protected by the sea and a double wall, including that of the keep. The accompanying plan will show at a glance the importance of the place.

The masonry throughout is massive and well constructed; so much so, that parts of it have been mistaken by some travellers for Roman work. There is, however, not the slightest trace of any building anterior to the Crusading period. The walls are generally of great thickness, ranging from 8 to 21 feet: the centre is composed of exceedingly hard rubble, which in many cases now stands alone, having been despoiled of its ashlar. In the outer walls this ashlar or casing is formed of stones 2 feet in depth, and varying from 2 to 5 feet in length, and always drafted: the draft is 3 inches in breadth, the boss rustic, and projecting usually about 4 inches, though in some cases it extends as far as 12 to 14 inches. In one place of the outer wall the

natives have cut into the stones to obtain the leaden clamps, which they told me were used to fasten the stones together. The inner ashlar is smooth dressed.

We found a series of vaults just within the wall of the keep on the east, south, and west sides. That on the south is 240 feet long, and about 30 feet high; that on the east is divided into several partitions, and has a total length of 264 feet. On the west is a fine groined vault, the bosses at the junction of the ribs being made of four trefoils, growing from the centre. Besides this is a vault 60 by 28 feet: it is cemented inside, and has no proper entrance other than by a man-hole in the roof, though now an entrance has been broken at the west end. Some of the fellahin told me that this was intended as an oil well, but it was more probably intended for water, as its capacity, some 261,000 gallons, would seem to preclude the idea of the former. Beneath the church there is, I was told, another vault, but the entrance to this has for some time been closed.

The most conspicuous fragment now standing is part of the east wall of a large tower, at the north-east of the town, known as El Karnifeh. It is about 70 feet above ground, 16 feet thick, and presents a fine example of the drafted masonry above referred to, on the outside. The rubble is very hard, and bound together by irregular courses of large smooth-dressed stones. The lower part of the inside shows the spring of a barrel-vault, and above this are three corbels, supporting the ribs for a groined roof, made of human heads, one bearded, and of a military aspect, the other with shaven face, and long locks curling at the end. A tower of similar importance and size is said to have stood at the south-west corner of the town, and was known as the *Kasr bint el Melek*, "the castle of the king's daughter." This, however, with the church and other buildings, was first overthrown by the earthquake in 1837, which proved so destructive to Safadh, and thence carried away by sea to Akka, for the repairs of that town, after the departure of Ibrahim Pasha. Before the earthquake the roof was still whole on the church; now its very foundations can only be partially traced. From the measurement and angles of some of the walls, taken by Lieut. Conder, I have tried to restore the building, but it is impossible to feel certain of its accuracy, as one cannot tell how much has been displaced by the earthquake; the force of which is attested by huge masses of masonry rolled down to the sea, and by two windows turned topsy-turvy, with parts of the surrounding walls. The houses of the fellahin and their accompanying dunghills, clustered over the spot, add to the difficulties in tracing the outline of the building. A fragment of one capital survives in fair preservation, and of this I send you a sketch. We found one pillar of gray granite 20 feet 2 inches long, and 3 feet 1 inch in diameter; a similar one is said to be buried in the rubbish near by. These may very likely have stood at the west door.

The cornice mentioned by Dr. Porter ("Murray's Guide") has quite



disappeared, but was talked of by some of the village elders. A tradition is extant among these people that El Melek el Dhaber—who, as I have before mentioned, always does duty for any historic king—though able to take Cæsarea by assault, was compelled to besiege 'Athlit for seven years before obtaining possession of it.

There are many traces of European work in the neighbourhood. To the north-east is the detached work of Drestray, containing a tower and stables, the former (now ruined) based on a square rock the sides of which have been quarried away to the depth of several feet; the stables, too, are cut out of the rock, the roof having been formed of masonry. Water was obtained during a siege from a cistern hewn in the rocky base of the main tower and from a well at its edge. The springs of Drestray lie about 200 yards to the north-east. This fort commanded a road cut through the "sea-wall" mentioned in my last report. Either this cutting or the fort itself seem to have been called "*petra incisa*" by the Crusading chroniclers (cf. Murray), and doubtless much information might be gathered from those sources about 'Athlit, though I have not been able to find any notice of it in the few books we have here.

Ruins in Wady Shellateh and at Rushmia on Mount Carmel seem to have been held in connexion with 'Athlit, and a quadrangular fort with towers at the corners, still existing in the neighbouring village of Kefr Lám, may belong to the same date, but is much more probably Saracenic, to judge from the irregular masonry and the small size of the stones.

Other symptoms of European occupation are visible in the ditches to drain the marsh east of the town of 'Athlit, in a rock-cut passage for the same purpose leading into the sea, and in a series of drain-pipes laid in a stone casing, apparently leading from the sea to a marsh called now *El Mellahah*, "the salt marsh." The only object I can imagine for these pipes is to bring sea water for evaporation, as the rocky bed of the present marsh being very near the surface, would, with very little trouble, form an excellent salt farm.

I will conclude my remarks on 'Athlit by stating that a former traveller, notwithstanding the pointed arches, Crusading sculptures, and other unmistakable mediæval remains, has described the ruins as of "*purest Phœnician style!*" A more forcible instance of the necessity of our work could hardly be found than this utterly groundless assertion, for at 'Athlit there is not the slightest trace of any masonry anterior to the Crusades.

Our present camp is situated on the edge of our former work, and not far from Umm el Fahm. The paucity, or rather deficiency, of villages on the maritime plain between Cæsarea and Jaffa, left us no other choice. The plain, however, is good travelling at this time of year, and a large tract can be worked with ease. All around us are extensive woodlands of *Quercus ægilops*, locally called *mallúl*, which extend from the edge of the Belad el Ruhah to some distance in the plain. A similar forest must have existed within quite recent times a

few miles north-east of Jaffa, as the roots and stumps of the trees are found there still alive. These trees do not often exceed thirty feet in height, as their boughs are frequently cut by the Arabs and fellahin for fuel, and also for the purpose of feeding their goats on the leaves. Beneath the oaks no brushwood is found, but there are a few scattered shrubs, such as the sweet flowered 'abhâr (*Styrax officinalis*), with its white blossoms not unlike the orange in colour and smell. The ground is now covered with herbage flecked with brilliant flowers, red, pink, and yellow, the latter colour, however, preponderating.

The plain and lower slopes of the hills are overrun with the flocks and herds of the Turcomans, who, living in the Merj Ibn 'Amir during the summer and autumn, come hither for pasturage during the winter and spring. Though living in tents, they cultivate the soil just like the fellahin, and pay the usual 'ashr, or tithe, to the government.

They have entirely given up the Turkoman language, and now speak nothing but Arabic; several of the local names, however, on Carmel have a decided Perso-Turkish sound, and may perhaps be traced to these men's forefathers. Their mode of life differs in nothing from that of the ordinary Bedawin, but their cast of countenance is frequently Kurdish. They are divided into seven clans (called in Arabic Ashîreh, or Tyfeh) which are as follows:—1. El Tawat-hah. 2. El Binfhah, or Beni Gorra. 3. El 'Awadîn. 4. El Shagayzât. 5 and 6. Beni S'aidân and 'Alakineh, these two being under one Shaykh. 7. El Nagnaghîyeh. Near Cæsarea are the camping grounds of the Damalkhah and Mus'âi Bedawin, and south of them are the Nafa'at. In the Wady Hawârith are a few tents belonging to the Emir el Hâritneh, whose ancestors once ruled from Tiberias to Cæsarea, and from Akka to Baysan, with a rule of iron. It is probably to a chief of this family that Maundrell ("Early Tr. in Pal.," ed. Bohn, pp. 431, 476) refers by the name of Chibley, who lived at Jenin, and who "eased him in a very courteous manner of some of his coats, which now (the heat both of the climate and season increasing upon them) began to grow not only superfluous, but burdensome."

The tomb of a Moslem *weli*, or saint, named Shibleh, which stands west of Jenin, near Kefr Kûd, is very likely, as suggested to me by Dr. Chaplin, the tomb of this emir, though the fellahin near the spot could tell me nothing of his history.

I may here complete the list of Arab clans in this district by enumerating those in the Merj ibn 'Amir. They are—1. El Kabîyeh. 2. El S'aideh. 3. El Gharayfat. 4. El Zubaydat, and the Mohommaydat, who live on Mount Carmel. The Ghawârîneh, "Men of the Ghor," or depression, live on the plain of Akka, and in the marshes of the Zerka, north-east of Cæsarea. The occupation of these last is chiefly pastoral; and partly by admixture of negro blood, partly on account of the great heat to which they are exposed, their skins are of a very dark coffee colour, blacker and less transparent than those of Abyssinians.

*Cæsarea.*—The ancient ruins of this city occupy a large extent of

ground, but there is little of interest to be found; I shall therefore first notice the mediæval and Saracenic remains, and afterwards revert to those of earlier date. The Crusading city occupied a space 600 yards long by 250 yards broad, on the coast almost midway between the walls of the ancient city. The wall which forms the boundary of the more modern town is fortified at intervals with towers, and fronted by a ditch. The masonry differs essentially from that of the outer walls of 'Athlit, though resembling the inner construction of that place, being small and undrafted. Against this outer wall a Saracenic scarp—sloping at an angle of 60 degrees—and a counter scarp on the other side of the ditch, have been built.' Immediately on seeing the place, I felt sure that this was the case from the analogy of similar additions in various parts of Syria and Palestine; for example, at the so-called David's Tower, Jerusalem; at Kawkab el Hawa, the Crusader's Belvoir; and at the Castle of Horns. Proofs were soon found to show my surmise correct. In one place the scarp half covered a window with pointed arch and vertical joint in the crown similar to those at 'Athlit, and in the Morostán, Jerusalem. There in several places we saw how the scarp had been added on to the original perpendicular wall, after the latter had been finished and carefully pointed with hard white cement (that in the middle of the wall being softer, earthy, and of a blackish hue). Then, to prove the inner part of undoubted Crusading handiwork, we found ribs of groined arches, in one case supported by a corbel formed of a human head; and if this were not sufficient, the remains of a triple apsed church left no room for doubt. Just within the wall may be traced a covered way, 13 feet in width. Little remains of the upper part of the walls, except one tower to the north, on which we found just sufficient room to set the theodolite and observe, and part of the wall, near the southern gate, which stands close to a well of fine clear water, some 20 feet in depth. This well, which is within the walls, seems to have been supplemented by several aqueducts, which will be described further on. The only examples of drafted stones are to be found in the lower walls of the Kala'ah or south-western tower, which, built on a little promontory, extends for some distance into the sea. Here, in the second and fifth courses from the bottom, large columns of red and grey granite, and of black and grey marble, are built as bands alternately with the drafted stones. Beyond this is a reef with ruined buildings on it, being part of the old mole. A little to the north of this some sixty or seventy perfect and fragmentary columns, varying in length from 20 to 5 feet, have been rolled together to form a kind of rude pier in the shallow water on the reefs. Of the mediæval city itself, nothing remains but the ruins of two small buildings, of which the special use can in no way be designated, and of the church. The whole area is covered with shallow pits, from which the well-preserved stones have been taken to Akka, Jaffa, and other places on the coast. The church has suffered less, both on account of the smallness of its stone and the hard crystalline cement used in its construction.

Earthquakes have, however, done what the pilfering masons of Akka could not do. Masses of the wall lie within its area, and by the utter confusion in which they are thrown attest the force of the shock which laid them low. The apse is triple and semi-circular. An arched recess on the north side of the central apse may have been the archbishop's throne, while the rest of the officiating clergy sat in the opposite sedilia. Traces of white plaster are still to be seen on the inner walls of the body of the church. The pavement is visible in one corner, and is of a white marble, set in cement, over a layer of black earthy mortar. At the west end of the church are four buttresses, 18 feet deep by 6 feet in breadth, and some 50 feet high, with sloping tops. The connection of these with the church is somewhat difficult to make out. Beneath the church, and opening out on to these buttresses, are two vaults, one filled up with *débris* and broken in by fallen masses of wall, the other perfect and 70 feet long.

The Roman remains within the mediæval walls are to be seen on the beach near the north-west corner, where there is a layer of coarse tessellated pavement of white stones, buried beneath some 12 feet of *débris*, chiefly composed of broken pottery mixed with fragments of glass and of bones, most of which have been sawn in two. Farther south a wall may be traced, whose lower courses are built of stone,  $2\frac{1}{2}$  feet square. Farther on is a drain strongly cemented, and about a yard wide; the top is broken in. Near the church and north of it are some courses of large stones. These may, I think, with great probability be taken as the remains of the temple built by Herod to Cæsar and Rome, of which Josephus gives us the following accounts (*Antiq. XV., ix. 6, and Wars I., xxi. 7*): "Now there were edifices all along the circular haven made of the most polished stone, with a certain elevation whereon was erected a temple that was seen a great way off by those that were sailing for that haven, and had in it two statues, the one of Rome, the other of Cæsar." And again—"Over against the mouth of the haven, upon an elevation, there was a temple for Cæsar, which was excellent both for beauty and largeness." In the previous sentence he mentions the "white stone" of which the edifices were built.

These remains to which I have referred are so placed as to front the harbour, and are the only stones, with the exception of a portion of wall near the water's edge and now covered with 15 feet of *débris*, which we saw of white limestone. All the masonry of the Crusaders and Saracens, as well as the scattered stones in the outer area, are of cretaceous sandstone. I enclose a sketch to show the character of the masonry: the niches, whose tops are visible, were probably for the reception of statues. A draft and boss appear on some of the stones, which are, however, too much weathered to allow of measurement. I found traces of a similar wall running eastwards from this which is therefore presumably part of the façade. A series of narrow vaults (now broken in) of uncertain date extend between this building and the church, which lies to the south.

The account given by Josephus of the construction of the harbour has been called in question by many. He states that a mole was run out to protect the ships from the south-westerly gales, and that its foundations were sunk in twenty fathoms' water, and composed of stones fifty feet long, by eighteen broad and nine deep. Here we must recollect that Josephus could never have seen these huge blocks, and his information must have been derived from hearsay. Still, the size is not utterly improbable when we still find a quadrangular column of red granite 34 feet long by 5 feet wide, and more than 4 feet 6 inches deep, situated half a mile from the sea. The very numerous columns of grauite and marble show that no expense can have been spared in the construction and ornamentation of the city.

The mole is described as 200 feet wide, and composed half of the *procymatia* or breakwater, and half by the quay and vaults in which the sailors lodged. The reef of rocks running westward from the Kala'ah, though robbed of nearly all its hewn stones, still retains traces of walls and answers well enough in size to this description. Here, too, may be seen traces of tessellated pavement formed of rough two-inch cubes, such as one would expect to be used out of doors, and with these the quay was very likely paved. In one place there are two layers of these cubes, as though one pavement had been broken and another laid over it.

Of the theatre and amphitheatre, which Josephus tells us were among the buildings of Herod, only the latter is to be seen; and this, too, is in such a ruined state, most of the stones being carried off, and the remainder nearly concealed beneath drift sand, that, were it not for the description, it would rather be taken for a theatre. In *Antiq. XV.*, ix. 6, we find it thus described:—"Herod built therein a theatre of stone; and on the south quarter behind the port an amphitheatre also, capable of holding a vast number of men, and conveniently situated for a prospect to the sea."

West of this place, on the sea-shore, Lieut. Conder found traces of a jetty and walls of stones, similar to those mentioned in the north-west corner of the town, also two drains partly cut in the rock, partly of masonry, and measuring 9 feet 2 inches in width. Owing to accumulated rubbish, and the tops of the stairs being broken in, their height could not be ascertained. These seem likely to have been some of the drains mentioned by Josephus as "flushed" by the rise of the tide. As on this part of the Mediterranean coast this never exceeds two feet, the drains must have been nearly level. Geological evidence proves that the coast is gradually rising, and during the nineteen centuries which have elapsed since these drains were cut, it is not improbable that they have been raised to the height of some two or three feet above the present sea level.

An oblong space, 350 by 90 yards, towards the east of the old city, seems to have been a hippodrome. Here is to be seen the huge granite column before mentioned, as well as three cones, measuring 5 feet 8

inches diameter at the base, 4 feet at top, and 7 feet 6 inches in height. Near these, and also of similar pink granite, is a square pedestal measuring 7 feet a side, and projecting 1 foot 6 inches above the surface of the ground. The southern end of this course is banked up, and traces of the city wall appear outside it. The circuit of the ancient town can pretty accurately be traced to the corn-fields, as the ground outside them is much more sandy and unfit for cultivation. In most places, too, there are actual traces of the wall, but it has generally been destroyed for the sake of the stones it was composed of, and bits of the worthless rubble are all that we now see.

*Aqueducts.*—The aqueducts for the supply of the town next deserve our attention. They are two in number, and come into the north of the old city near the sea. The high-level, which has a double channel, comes from Subbarín, having been made, according to native tradition, by two daughters of a king, for a wager, to see who would first carry water into Cæsarea. The well at Sindiani, two miles south-west of Subbarín, is said to owe its supply to this aqueduct having been accidentally broken into by women digging for clay to roof their huts. The same legend attaches to some springs south-east of Cæsarea, called 'Ayyún el Benát, the "Maidens' Springs." Here, however, no traces have been discovered.

The low-level aqueduct comes from the Jisr el Zerka, and has a total length of three miles. It is supplied by the Nahr el Zerka, which, at the mills about a mile and a half from the sea, is stopped by a broad dam, which raises the water some twenty feet. Its channel is at first rock-cut, and open at top, but afterwards is a vault of masonry, 7 feet high, and 6 feet 4 inches wide, built on the low hills bordering the sea. The high-level can be traced for six miles, as far as a spring called 'Ain Ism'a'n, a little below Sindiani. At this latter village it is again found in the well from which the natives still draw their supply, but higher up it is quite lost. This branch, though originally supplied from Subbarín, received large contributions from Miamás—of which place more anon—and was then carried nearly due west, to avoid the hills of drift sand. Below the mill of Abu Núr its construction can be well examined. It consists primarily of three red earthenware pipes,  $6\frac{1}{2}$  inches diameter, embedded in hard cement and carried either on a wall or over arches. In one place, air holes to relieve the pressure, and consisting of two similar pipes opening upwards from the conduits, are still visible. To the south of this has been attached, presumably at a later date, a similar aqueduct, also with three pipes. About 500 yards west of the mill this southern section takes an eccentric circuit with four angles, and rejoins the other shortly before passing through the "sea-well." The object of this *détour* is difficult to explain, unless it be on account of the marshy nature of the ground over which it passes. This southern branch is more perfect than the northern, and its arches in better preservation. On reaching the "sea-well" the aqueduct is carried through the rock, and is reached at intervals by man-holes 27 feet deep by 11

feet wide at top, and decreasing to 3 feet 3 inches at bottom. Steps lead down to the water, passing twice along each of the four sides of the shaft. The water channel is too much choked up for any exact measurement to be taken. After passing through the "sea-well," the water was carried on arches to the town of Cæsarea. In some places the aqueduct, judging from the masonry and method of "pointing" the joints, seems to have been repaired by the Saracens or Crusaders.

At Miamás there are several large springs, and many traces of dams and cisterns. At the base of the Khashm, as the bold headland forming the south-west extremity of Carmel is called, is the Kala'at Mi'amás, a Saracenic or Crusading tower tacked on to a Roman theatre. The latter building is much ruined, all the seats being destroyed, and the greater part of the outer as well as the inner line of vaults. The measurement across the front of the theatre, which faces S.S.E., and overlooks the plain and oak woods, is about 180 feet. The masonry is curious: the stones are built together without much regard for order, some being put in lengthwise, others on end, others on their side, the interstices being filled up with excellent mortar. The arches of the *vomitoria* are irregularly built, usually without a keystone. The main wall of the building between the outer and inner vaults is not built in a curve, but in short straight pieces. Several fine granite columns may be seen near the theatre and at the stream below; these, no doubt, belonged originally to the *proscenium*. Around the building are traces of rude dwellings, but as they seem to have been constructed with the stones pillaged from it, they may be referred to the period of Saracenic or Crusading occupation. As yet we have found no mention by any old writer of this theatre in connection with Cæsarea, from which it is distant about five miles. This is curious, as it must doubtless have been frequently resorted to by the inhabitants of that place.

On the summit of the Khashm above is a curious ruin of Roman construction. It consists of a square, enclosing a double and a triple vault with an irregular semicircular arch. The interiors of these vaults are connected by a series of square holes on a level with the ground, and measuring 2 feet by 2 feet. The object of these is difficult to imagine. Near this ruin is a fine rock-hewn cistern of bee-hive shape and well plastered. Directly to the west are the precipitous cliffs of the Khashm, tenanted by numerous griffon and Egyptian vultures, as well as by hawks and eagles of various kinds.

The view from this point is very extensive, reaching from Carmel Convent to far below Cæsarea. Immediately at one's feet dense thickets of reeds and tamarisks cover the marsh of the Zerka, and afford shelter to wild boars and crocodiles. (I have offered a reward for one of these reptiles, and have great hopes of obtaining a specimen.) Eastwards the heights of Shaykh Iskander, above Umm el Fahm, the block of Shaykh Bayazid above Jeb'a, Mounts Ebal and Gerizim, and the main points of the central range southwards, are still visible. Hence the extent of the oak woodland, the *ingens sylva* of the Romans,

of the encroaching tongue of sand stretching eastwards from Cæsarea, and other natural features of the district, may be studied with advantage.

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## THE AMERICAN PALESTINE EXPLORATION SOCIETY.

(From the *Observer*, New York.)

OUR American Exploring party have made a brilliant beginning for us. We were expecting valuable discoveries, but not so soon. Our allotted field is beyond the Jordan, and only preparatory labour was looked for on this side the river. But while Lieutenant Steever has been hard at work day and night in Beirut, organising the expedition, testing his instruments, and getting everything ready for the final march, our archæologist, Professor Paine, has not been idle.

### THE HAMATH INSCRIPTIONS.

The readers of the *Observer* have all heard of the famous Hamath inscriptions. Our countrymen, J. Augustus Johnson, Esq., then American Consul-General in Syria, and the Rev. Samuel Jessup, were the first to discover and describe them, some three years ago. Copies of them, first published by our own Society, are now exciting the liveliest interest among scholars. We shall soon be able to put the public in possession of more exact and authentic copies. The stones were taken through Beirut a few weeks ago, on their way from Damascus to Constantinople. Our Consul-General in Syria, J. Baldwin Hay, Esq., persuaded the Turkish Government to permit our party to take impressions of them. The time was short, but Lieut. Steever and Professor Paine gave themselves eagerly to the work, and the result is a complete set both of squeezes and of plaster casts, which are now on their way to America. Our pamphlet, which is soon to be put to press, will tell the whole story; but meanwhile it may not be amiss to state that what have been called the fourth and fifth inscriptions turn out to be but parts of a single inscription carried round the stone.

### THE GREEK INSCRIPTIONS AT DOG RIVER.

But of still greater importance is Professor Paine's discovery of three new Greek inscriptions, the existence of which appears not to have been even suspected. We accept the discovery with gratitude as an auspicious inauguration of our work in the Holy Land. Nahr el Kelb, or the Dog river of modern Arabic geography, is the *Lycus Flumen*, or Wolf river, of the Roman period. It rises in the heart of Lebanon, plunges down a wild and romantic gorge, and empties into the Mediterranean about two and a half hours, or seven miles, north-east of Beirut. The southern mountain wall which overlooks this rapid stream terminates at the sea in a bold promontory, around which, at the height of 100 feet above the water, winds an ancient road cut in the solid rock. The present road was cut in the reign of Marcus Aurelius, about 173 or 176 A.D. It is some six feet in breadth, paved with large uneven