

PALESTINE EXPLORATION FUND.

THE EXCAVATIONS AT AIN SHEMS, 1911.

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THE excavations at the ancient site of Ain Shems were started on April 6, and were concluded for the season on August 12.

The new Imperial Commissioner, Ibrahim Khalil Effendi, spared no trouble which might facilitate our work, whether by his kind mediation in smoothing away all difficulties with the local people as they occurred, or by his active co-operation in the way of superintendence from day to day. In Surraya Effendi, former Commissioner of Excavations at Gezer and now Mudir of Mejdel, we had an old friend of the Fund who stood us in good stead, with courteous assistance in case of need. Mr. Serapion Murad and his brother, the late Mr. Georges Murad, always gave their ready help about matters of a delicate nature with advice to which their knowledge of affairs and of the country gave exceptional value. All these good offices received effective encouragement through the friendly and disinterested solicitude for our success of the archaeological authorities at Stambul, and especially of his Excellency Halil Bey, Director of the Imperial Museums. The Governor of Jerusalem, the Director of Education, the Kaïmakams of Hebron and Jaffa, and the Mudir of Ramleh gave official help in an amicable spirit, which was of paramount importance in dealing with the local proprietors at Ain Shems. To all of these, and first and foremost to his Excellency Halil Bey, the Palestine Exploration Fund and the excavators owe very sincere thanks.

As architect to the excavations the Fund was fortunate in having the co-operation of Mr. F. S. Newton, whose plans and drawings of the site and of the work in progress there will be occasion to consult in what follows.

The foreman of works was Yusuf Kanaan, who has acted in the same capacity with Professor Macalister at Gezer, and has also done similar work at the German excavations at Baalbek.

Taking account of the fluctuations of local labour, the staff of excavators employed works out at an average of 78 men, women, and boys for the whole season.

THE SITE.

Our camping ground was chosen on a roomy terrace, with olive trees below the site on the north side, with a wide outlook westward down the valley of Sorek, fig. 1. To eastward, again, up the valley, is the inspiring prospect of the mountains towards Judah. This view to eastward, including the camp, is shown in fig. 2. In front of the terrace, on the west side, are traces of an ancient roadway, which ascends gently from the valley and after skirting our camping ground, where it is partially cut out of the rock, it



FIG. 1.—THE VALLEY OF SOREK, LOOKING WEST.

passes up in a south-east direction over the shoulder of the hill on which stands Ain Shems, so as thus to reach the Wady Bulus beyond on the south side. The line taken by this roadway, as it leaves the valley for the site, is shown in the foreground of fig. 2. Just on the shoulder this roadway becomes one with an important camel track, which, after descending the upper reaches of the Valley of Sorek, ascends gradually towards the saddle of Ain Shems with the same intention as the other, to make a short cut for the

Wady of Bulus. This lateral valley itself has many windings northwards before it joins its waters at length to those of Sorek, just to west of the site. The long descending spur of limestone rock on which stands Ain Shems projects westward like a natural barrier into the outlet of this lateral glen as if on purpose to cut off the flow of its waters into the larger valley. This disposition of the *terrain* in relation to ways of access to and from the south seems to afford a natural basis for the strategic importance of Ain Shems. And this strategic importance in relation to the south seems to be emphasized by



FIG. 2.—THE VALLEY OF SOREK, LOOKING EAST.

the presence of a second fortified site on the west slope of the valley, where now stands the semi-deserted village of Khurbet Mjina. As if further to add significance to this orientation, towards the south the junction of camel tracks on the shoulder of Ain Shems goes up Wady Bulus in a single route, which suggests connections of traffic in ancient days, with the plains of Philistia further south as far as Gath and Lachish and Gaza itself. It is its position, then, in relation to the exit of Wady Bulus into the Valley of Sorek that gives its individuality to the site of Ain Shems. The Valley of Sorek itself,

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in its wider outlook westward, takes account of Beth-Shemesh only in that more general way in which it also takes account of Timnath and Ekron and Gezer before its waters lose their purpose in the sea.

The Valley of Sorek, opposite Ain Shems looking north, is bounded by a barrier of undulating hills, the contour of which, from east to west, presents a series of gently rounded limestone knolls somewhat ascending and enlarging in the middle region and sinking east before they reach the higher hills of Judah as well as westward towards the valley plain. It is the part of this view towards the hills of Judah that is shown in fig. 3. Beyond this barrier there is no outlook northwards like those to east and south and west about Ain Shems, but, as if to make up entirely for such a lack of vista, on the furthest knoll to east there stands out airily the site of Zorah, reported birthplace of Samson himself, crowned by the wely dome and sacred palm of Sheikh-es-Samet.*

In the westward direction, once again, there lies, concealed behind the westmost knoll of this barrier of hills, the village of Rafāt, in a position analogous to that of the modern representative of Zorah at the east end. The ancient roadway referred to previously as passing south-east to west of our camping ground in its ascent to the shoulder of Ain Shems descends in the opposite or north-west direction towards the bottom of the valley, where it crosses the river by what once a day must have been an important ford. Here, on the left-hand side, is the well of Bir Temed, which draws its waters right from the river-bed. After passing the well the roadway winds up to north-west until it vanishes behind the undulating ridge to west of the westmost knoll, where lies Rafāt. This continuation of the roadway in the north-west direction appears in the left background of fig. 4. Thence it takes its way in the direction of Gezer and the plains of the north. This short cut over the ridge is still taken by travellers to the north, whereas wanderers east and west in search of Beth-Shemesh or Ekron would go up and down the valley. It is up this valley the Ark is to be conceived as taking its wondrous journey from Ekron to Beth-Shemesh,[†] and descending from the knoll of Zorah it is down this same Vale of Sorek that Samson went to Timnath to seek a wife and an occasion against the Philistines.[‡] But

* For the curious traditional connection of this wely with the personality of Samson, see Père Vincent in *Q.S.*, July, 1911, p. 147.

† 1 Samuel vi, 12-13.

‡ Judges xiv, 1-4.



FIG. 3.—THE VALLEY OF SOREK, LOOKING NORTH-EAST.

when Samson went to Gaza, if it was from his native home at Zorah, he would have passed Beth-Shemesh at the shoulder of Ain Shems and taken the straightest way to Philistia up the Wady Bulus, as is still done to-day.

From the topographical point of view in relation to our site, the interest of these routes of traffic concentrates where they converge on the saddle of Ain Shems (fig. 5). This is just alongside of the wely of Abu Meizar and to right of that as one looks south. At this point, what strikes the eye most forcibly is the contrast between the mass of ruins above ground on the



FIG. 4.—THE VALLEY OF SOREK, LOOKING NORTH FROM NORTH-WEST NECROPOLIS.

left or east hand side beyond the wely and the rounded contours of the mound on the right or west hand side. The ruins beyond the wely ascend to eastward along the higher parts of the spur of Ain Shems, and among them in the distance stands out prominently a second wely, now much ruined, that of Abu Ghazaleh (fig. 5). All this higher eastern region of ruins is Ain Shems proper, while the mound to westward, which crowns the natural limestone terrace, formed by the termination of the spur in this direction, is now called Rumeileh. This mound of Rumeileh appears in lengthened profile



FIG. 5.—AIN SHEMS, LOOKING EAST, AND SHOWING ROADWAY.



FIG. 6.—RUMEILEH—BETH-SHEMESH, LOOKING NORTH.

as seen from north or south, and especially as viewed from Beit Gemal and other heights above the valleys to the south, its commanding length appears an imposing barrier, as it sweeps to westward into the exit of Wady Bulus towards the Vale of Sorek (fig. 6).* The profile view is emphasized more and more as one approaches, and it is only by walking right across the site that one gains any true idea of its breadth in the same direction. If one is not on the spot the true proportions of the mound are best realized by reference to the general plan of the site shown on Plate VII.†

Keeping now in mind the contrast between the two parts of the site referred to above and the junction of roadways on the shoulder of the hill which separates the one from the other, the question is: Does the roadway mark an historical boundary between the two? Did the ancient city originally cover both parts of the site or only that to the west called Rumeileh? To settle this question right at the beginning, it seemed as if our investigations would have to start with an examination of the area next the wely where passes the roadway.

This interesting wely, with its traditional associations with the grand personality of Samson, had drawn our attention to the spot in advance, through its having become our own archaeological *pied-à-terre* at Ain Shems (fig. 7). It is this house of Samson that now affords a safe shelter for the finds from Beth-Shemesh. All our work off the site is done either inside the wely itself or within the seclusion of its court. The reason why all this, to our own surprise, was made so easy may be familiar to readers of the *Quarterly Statement*, from the lively account of how it all happened, given by Père Vincent.‡

At first it might seem natural that a spot having such associations should itself lie within the limits of the ancient city and not without.

There is, however, an equally interesting possibility, suggested by Mr. F. G. Newton, as a result of his own topographical observations on the *terrain*. The wely itself stands on a terrace of rock that ledges westward towards the present roadway, and then dips down out of sight, in a way to suggest an artificial accumulation of débris on that side concealing the original

* After *Q.S.*, April, 1911, fig. 3.

† See also *Q.S.*, July, 1911, p. 142.

‡ *Q.S.*, July, 1911, pp. 145-7.

saddle of the hill, as it was when it first began to be used as a short cut into Wady Bulus.*

There is, further, no doubt, topographically speaking, that to arrive at Beth-Shemesh must have meant arriving at this spot. It is here that, to the present day, a natural halt is made by the passer-by, and it is quite possible that this custom is of immemorial origin. The passer-by halts, as often as not, because his camel halts, and the Asiatic wisdom of all oriental beasts of burden always finds an obstinate excuse for doing so, wherever there is



FIG. 7.—THE WELY OF ABU MEIZAR.

a sacred shrine, or wely, or caravanserai. If, then, the rock terrace on which the wely stands was just outside, and yet at Beth-Shemesh, we can imagine no more likely halting-place for the Ark on its arrival from Ekron than the sacred rock on which now stands the wely of Abu Meizar. The chronicler relates that "The cart came into the field of Joshua, a Beth-shemite, and

* The ledging rock in question is seen in fig. 5 projecting from underneath the west wall of the wely court towards the roadway.

stood there where there was a great stone.”* The story thus presupposes an area just outside the city, and at the same time by the roadside. And it may well be more than a coincidence that, as one approaches the saddle of Ain Shems from the Valley of Sorek, one has only to step a little aside to left of the roadway in front of the wely to be in such a field, and by such a great stone as the chronicler may have had in mind.

PRELIMINARY INVESTIGATIONS.

Many considerations seemed to favour our beginning investigations in this interesting region. The passage of the roadway in particular over the shoulder of the hill made it a practical question of excavation to find out whether actually in ancient days it passed outside the city or not, or whether the confines of the town in this direction did not originally extend eastward beyond the wely, so as to include part or the whole of Ain Shems within the walls. The delimitation of the ancient city confines was further of importance, so as to ascertain at the start what areas were free as dumping ground. When dealing with a walled city this object is most conveniently attained by tracing out the line of the Strong Wall itself. But even after the boundaries set by fortification walls have been ascertained, it does not at once follow that the areas immediately outside can without further ado be freely used as dumping grounds. Ancient cities very usually have the abodes of the dead, or the necropolis, commencing at once outside the city walls. Or there may be ancient habitations, like those of the cave-dwellers of the Stone Age belonging to a time anterior to the confines set by later city walls.

In the case of Rumeileh, the limits of the city, as conditioned by the natural conformation of the limestone hill on which it stood, could be easily guessed by surface observation on the south, west, and north sides. The limestone bluffs which fringe the hill on all three sides form a visible boundary, beyond which it is not easily conceivable that the city could have extended. The natural grottos underlying these could readily, it is true, afford a habitation for the living as for the dead, but we cannot imagine either, as encroaching much upon the rich alluvial fields beyond.

Towards the east, however, where the camel-track takes a short cut over

* 1 Samuel vi, 41.

the shoulder of the hill in order to pass south into Wady Bulus, these confines are by no means so clear, unless, indeed, we take the roadway itself as a landmark.

The question for preliminary investigation then was: Did the modern camel-track across the saddle pass through the middle of the ancient city or did it skirt that on the east side?

With a view to determine this we first attacked the low-lying region to right of the camel-track, from which one ascends to the western mound of Rumeileh.

As we were at the same time in search of free dumping ground, we sought to attain our object by sinking a number of trial pits at convenient intervals all over the area. These were two metres by two, and went down to the virgin rock. Such soundings, it is true, are apt to mislead if the deposit contained in them is not examined at the time to see what sort of stratification, if any, it presents. Such pits, as often as not, miss wall remains altogether, especially if such are of sun-dried brick and mud construction. Thus, the one certain test to be applied is the presence or absence of such distinct stratification as is afforded by floor-levels, accompanied by chronological sequence in the pottery, and other finds that may happen to occur in the pit.

In our trial pits wall remains were uniformly conspicuous by their absence. The only exception to this uniform phenomenon was at the surface levels of late date, in the case of one or two of the pits at the north end of the area examined. The underlying deposits showed no stratification, such as would have been indicative of floor-levels. The pottery, again, was marked by no such sequence as would have suggested habitation, but only by that appearance of gradual accumulation characteristic of rubbish heaps that have been long in use. On these the latest refuse thrown on the heap may roll down to the bottom, and thus appear at one level with the earliest round the edges. The alternation of layers of close packed pottery with masses of rubble stones presented an appearance of stratification, with downward curve that is equally characteristic of such rubbish heaps when on a slope. The stratification in such heaps presents a general sequence in time that is usually better marked in the interior and is more vague about the edges. But it is a sequence that is more apt to be characteristic of extra-mural areas than of regions within the walls of cities, and it never shows a floor-level.

All the trial pits, without exception presented the phenomena referred to

above, with a uniformity which indicated with great probability that we were in an extra-mural area, and that the limits eastward of the ancient city lay somewhere to west of the region we had examined. This in turn would mean that the camel-track across the ridge from the Vale of Sorek to Wady Bulus skirted the city on the east side, and that it was the modern representative of an ancient route of traffic past Beth-Shemesh. We were thus further led to the conclusion that the ancient city lay entirely on the western mound of Rumeileh, and that no part of it extended eastward to the area of superficial ruins about the welys, now called Ain Shems. What we have here is a process by which, in course of time, habitation in later eras at Ain Shems withdrew itself gradually eastward in such a way that before the site was entirely deserted, not long ago, no part of the modern village of Ain Shems coincided with ancient Beth-Shemesh. The camel-track that passes by the lower wely marks the boundary between the two.

The results that came out in the trial pits, referred to above, having thus secured us a convenient free dumping ground, we proceeded to the investigation of the area adjoining this on the west side. This region forms the slope up west of the east end of the mound of Rumeileh.

On the assumption, which seemed to be justified by the results brought out in the trial pits, that at the bottom of this slope we were still outside the confines of the city in this direction, it seemed likely that we should come upon remains of the east city wall by working up the slope and westward. As, further, the whole area that might turn out to be outside the Strong Wall would, if possible, have to be made available as dumping ground for future operations within the city at this end, it was decided to clear the whole area on the slope as much as possible layer by layer.

The south half of the slope was first attacked, the whole being laid out in a system of elongated, rectangular plots of equal size, running west-east down the slope. The earth removed from this area was dumped on the low ground at the foot of the slope, and between that and the camel-track across the saddle, which we had previously examined by means of the trial pits referred to already.

The western boundary of this area was formed by an emphatic line of wall rising to the surface and running in a straight line south-north with a turn west at the north end. It was indeed only the appearance of cement in the construction that would have prevented anyone at first sight from identifying this massive system with the Strong Wall at the east end of the town.

we were in search of. In the form in which it appeared to us it was really the east external wall of what was guessed, and in the sequel turned out to be a large Byzantine convent. Other extensive remains of the building systematically connected with this wall were discernible at the surface over a large rectangular area extending westward in such a way as to occupy the entire south-east region of the site. This is the region which will henceforth be referred to as the Byzantine Area.

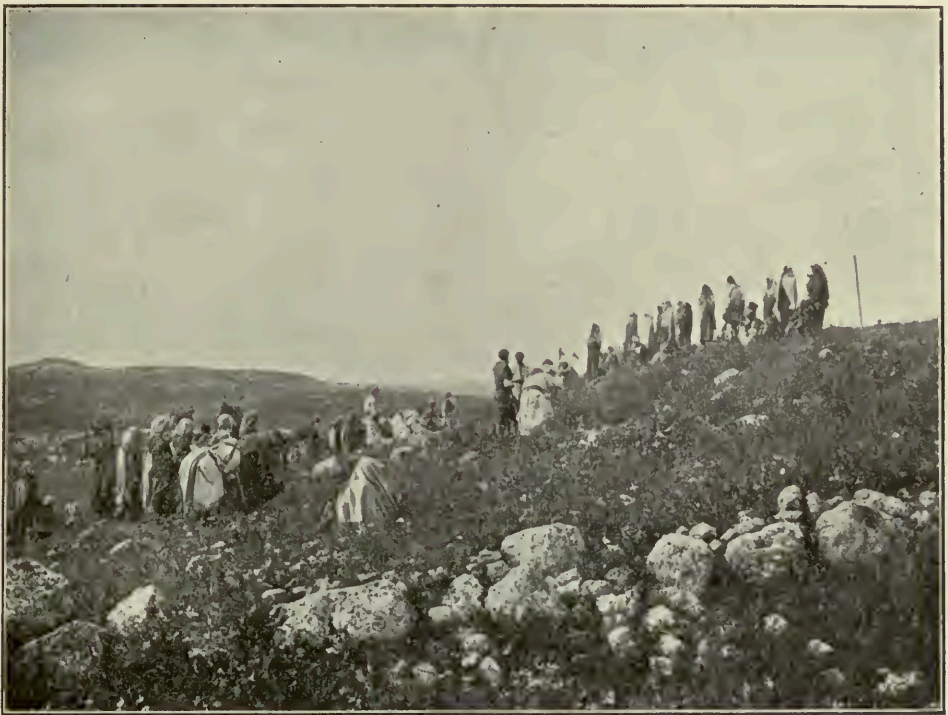


FIG. 8.—PRELIMINARY EXCAVATIONS, LOOKING SOUTH.

The eminent position occupied by this building, on what seemed to be the most important region of the site, made it appear advisable to deal with the difficulties raised by its presence right at the beginning of the campaign. Otherwise an area less encumbered by later remains might have led to more immediate results. It has, however, to be remembered that at Ain Shems the bulk of our workmen were from the village of Deir-Aban, and, as such, new to excavation. The sprinkling of men from Abu Shushe, trained under Macalister at Gezer, and from Zakariyeh, who had had experience at other tells excavated by Bliss and Macalister, could only be expected slowly to

leaven the whole mass of our workmen. All this formed an additional reason for starting excavation with the later deposits at the east end of the site rather than with the important early strata and fragile constructions in sun-dried bricks in the free Semitic regions which we guessed to exist to west of the Byzantine Area.

The exploration of the region east of this Byzantine Area was, then, but a preparation for the clearing away of the later deposits in this area itself.



FIG. 9.—PRELIMINARY EXCAVATIONS, LOOKING SOUTH-WEST.

This preliminary investigation is shown at its start in the picture of fig. 8 looking south. The line of large megalithic looking blocks in the foreground might well be taken for strong wall. It ultimately turned out, however, that this impression was misleading, and that they were really blocks from the fortifications put to later uses as boundary walls by Arabic squatters on the site. The pole visible above, near the right end of the picture, marks the north-east angle of the Byzantine Area.

Fig. 9 shows the excavation looking west as it appears from the top of wely Abu Meizar. In the foreground is a glimpse of the camel-track

going south across the shoulder of the hill to Wady Bulus. Beyond the roadway are two of the shoots from the preliminary trial-pits referred to above. Fig. 10 gives the same view with the excavation completed.

The outcome of this investigation was to bring out next the surface a number of rude house-walls, built up against the external face of the east wall of the Byzantine Convent. Everything went to indicate that these walls were the poor remains of the habitations of Arabic squatters, belonging to

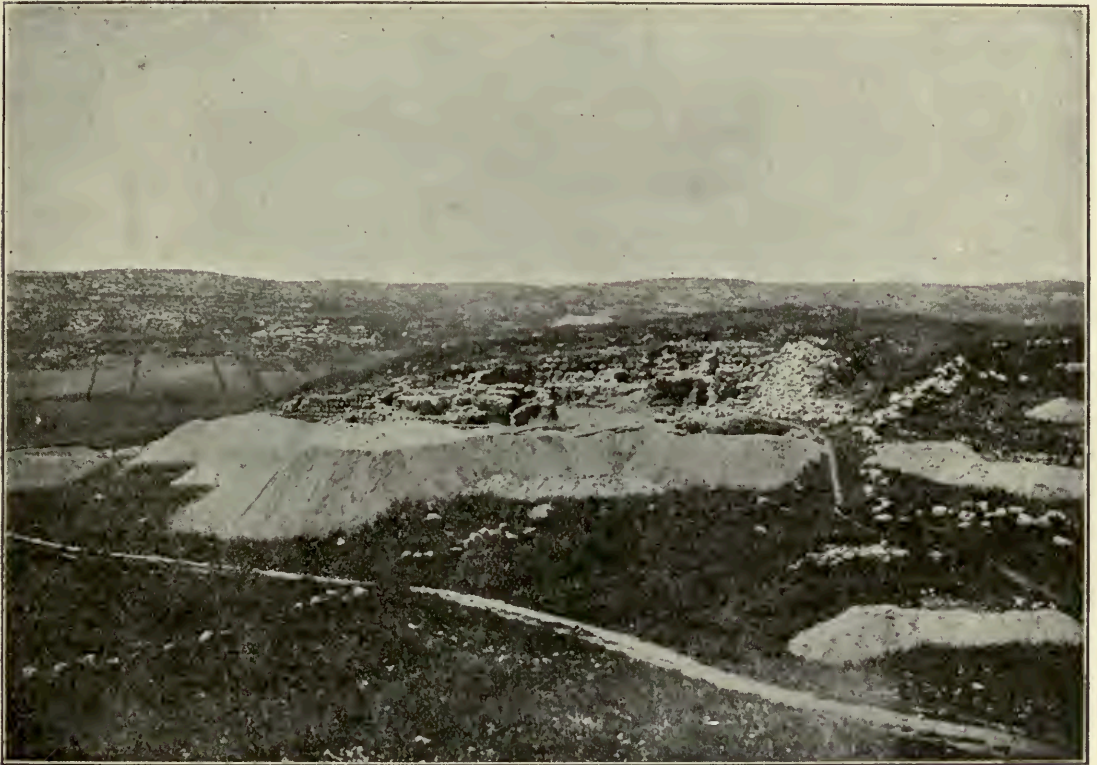


FIG. 10.—PRELIMINARY EXCAVATIONS, LOOKING SOUTH-WEST.

a time when the Byzantine Convent was already in disuse. The relation of these walls to the Byzantine constructions alongside of them will best appear from the Plan of Plate VIII and Sections of Plate IX.

Beneath these walls there were no earlier constructions at all, and this negative evidence in itself afforded an indication that we were still outside the real confines of the city, as that existed in Semitic times. Instead of such walls, what struck us was a certain slope down east in the stratification of the deposits, which at once indicated that we were in an area of thrown-out

rubbish that had gradually accumulated in course of time. This stratified rubbish heap, lying as it did underneath the later Arabic walls, clearly belonged to an earlier time, and it could thus be connected with successive phases in the history of the Semitic city. It was, in short, the more massive central parts of that same rubbish heap the outer edges of which we had already struck in the trial pits. This stratified rubbish heap, in its



FIG. 11.—EAST RUBBISH HEAP, SHOWING STRATIFICATION.

relation to the Byzantine walls alongside of it and the later constructions above it, is shown on Section AA of Plate IX. Fig. 11 shows the stratification as it appeared on excavation looking west. Referring to the section, and comparing with fig. 11, the stratification appears quite clearly and distinctly. First next the surface come the Arabic squatters' walls, built up against and alongside of the massive east wall of the Byzantine Area.

These walls step down east, but their courses are horizontally placed in contrast with the slope down of the rubbish strata beneath. The pottery coincident with these walls is dominantly Arabic, painted and unpainted. The painted pottery has elaborate geometric designs reminiscent of woven patterns, which come as a surprise in so late a context. Some of the varieties show characteristic shapes such as survive with tenacious persistence among the fellahin of Palestine to the present day. A much smaller proportion of sherds shows horizontally ribbed exteriors in imitation of rapid wheel-turning, which can be referred with some probability to the period when the convent was in use. Among the Arabic and Byzantine sherds, again, emerges a small percentage of Semitic fragments which have evidently strayed from their proper context, and have to be referred in a general way to the earlier pre-Byzantine history of the site.

This stratum was found to have underlying it a thin black layer of charred wood, which was very distinct in the region next the Byzantine Area, and more indefinite on the east confines of the rubbish heap. The black band referred to comes out quite clearly in fig. 11.

The dark layer concealed beneath it a stratum which contained amid its accumulated *débris* pottery that was still Byzantine, giving place to Semitic sherds of the last period of the ancient city.

Then, with a very distinct change from ashy grey to terra-cotta red, appeared in section a thick burnt stratum, in which the *débris* of sun-dried bricks showing chopped straw was prominent. What was interesting about this stratum was the fact that the *débris* was not the natural colour of such sun-dried bricks, as they would have appeared in the construction of the houses to which they belonged, but a bright terra-cotta red, betraying the influence of fire.

As we had clearly to do with a heap of rubbish thrown out from within the walls, the inference was not far to seek, that the firing of the bricks was the result of a conflagration on a large scale. This conflagration must have taken place while the bricks were in position in the walls to which they belonged. This inference is further borne out by the fact that some of the brick *débris* was burnt black, as would have happened to bricks next to wooden beams in the construction.

This Red Burnt Stratum did not contain the mass of pottery characteristic of those levels of the rubbish heap, which represented the gradual accumulations of a more normal period. But such pottery as there was could be taken

to belong, for the greater part, to the same context as that which must have been in use just before the rubbish was thrown out. It was of the same strongly marked Semitic character as that which a little later turned up in similar circumstances in the area of the South Gate, while the same types emerged once more in the tombs of the North-West Necropolis.

It seems clear, from the indications to hand, that the interesting Red Burnt Stratum referred to represents a stirring episode in the history of the city. Such conflagrations on a large scale, as are indicated by this *débris* of burnt, sun-dried bricks, are more usual in times of war than in peace, and it is tempting to see in our burning city the tragic sequel to a successful siege. The throwing out of the *débris* on the rubbish heap would in that case indicate later repairs and operations of rebuilding within the city on a large scale, after the establishment of peace. The question is: Who were the besiegers? The answer may come out as the result of later investigations within the walls, and we have for the time being to remember that we still remain outside.

Underneath the Red Burnt Stratum was an underlying one of more gradual accumulation (see Section AA). This contained masses of stratified pottery, and it was noticeable from an examination of this that types scantily represented in the Red Burnt Stratum turned up here in great quantities. The meaning of this phenomenon is that the underlying stratum we are dealing with represents a period probably of peaceful development in the history of the city, anterior to the siege indicated by the thrown-out *débris* of the Red Burnt Stratum. During this period the pottery contained in this stratum was apparently thrown out gradually from time to time, and it may represent that in use in the Burnt City before the siege.

Still earlier accumulations next the rock may turn out to belong to an era before the Burnt City itself was built. It was interesting to note that on the east borders of this rubbish heap next the rock, and at a depth of some twelve feet from the surface, there occurred an imported sherd of hand-made porous grey ware, with purple black semilustrous glaze, on which was painted geometric pattern in dull matt white. The ware showed affinities with *Ægean* technique, which in Crete go back to the First Middle Minoan Period, and the era about 2000 B.C. The sherd is Cypriote, but the glaze technique seems to have undoubted *Ægean* connections, and its common use in Cyprus may have extended from about the beginning of the Second Millennium to the period about 1450-1400, when this style seems to have reached its culmination.

The results of this extra-mural exploration are shown in fig. 12. In the background is the emphatic line running north-south of the east wall of the Byzantine Convent. The late walls of the Arabic squatters, built up against the main wall, are of an entirely superficial character, and they are built with little care for the laying of solid foundations on the top of the earlier rubbish heap which we have described above.



FIG. 12.—AREA OF EAST RUBBISH HEAP, LOOKING WEST, AND SHOWING EAST WALL OF BYZANTINE CONVENT.

The Byzantine Convent gave indications on the surface of a strong south-east angle and a decided line of wall running west from this, forming the south boundary to the whole Byzantine Area. This south-east angle was cleared, and the wall running west from it traced out, with results shown on the Plan.

The ashlar masonry of the Byzantine east wall towards the south end, shown in fig. 12, is cemented and the materials of construction are otherwise of a miscellaneous character, betraying a late period. Some of the ashlar

blocks look as if they had originally belonged to an earlier building, conveniently near at hand, within the Byzantine Area itself. In some respects they remind one of the ashlar blocks in limestone of the Palace of Omri, at Samaria, discovered by Dr. Reisner. If the resemblance were real it would add to the suggestiveness of their occurrence here.

It had already occurred to us that the east wall of the Byzantine Area might very well turn out to rest upon the Strong Wall at parts where this could be conveniently worked into its construction. The ashlar construction referred to above, however, going down besides, as it does, to the rock, showed at once that this could hardly have been the case where the south-east angle occurs. Besides, this emphatic angle itself seems inconsistent with the line that would naturally have been taken by fortification wall changing its direction from south to west. Further north, however, where comes the part of the wall next the north-east angle of the Byzantine Area, this was found to rest upon massive foundations in large, rough, megalithic-looking blocks, which actually turned out to be part of the Strong Wall in position. At this level the picture shows a narrow interval in the masonry, which itself betrays the later addition of what is above, and then come two courses of cemented Byzantine construction going up to the surface. Some of the blocks of this upper system are ashlar in character, but others again show, by their greater roughness and larger size, that they also originally formed part of the Strong Wall.

Once more, in tracing out westward the external face of the south wall of the Byzantine Area, this was found to change from the ashlar masonry of the south-east angle to construction in large rough blocks further west. These could at once be seen to be megalithic in character, if, indeed, they did not represent part of the fortifications in this region in position. This may be determined with greater certainty when we come to explore the Semitic levels within.

The region of the rubbish heap east of the Byzantine Area, described above, only represents, as said already, the south half of the whole east slope of the tell. There still remained the north half to clear, and this was conveniently plotted out into a rectangular area, 40 metres north-south by 20 metres east-west. This was subdivided into eight elongated rectangles, running down the slope in an eastward direction. Here it was soon found that the poor walls of Arabic squatters rested upon superficial débris or upon virgin rock, which almost everywhere cropped up at only a foot or two from the surface.

All this superficiality was in strong contrast to the considerable depth at which the rock occurred in the area of the rubbish heap already excavated. This inequality, however, was not at all discernible on the surface before excavation, and the reason was that it had got masked in the course of ages by the gradual formation of the rubbish heap itself. This had filled up the inequality between the deeper lying south part and the superficial surface of the rock on the north side.

Guessing the line north-south which might be taken by the fortifications in relation to the Strong Wall, which had already revealed itself underneath the east wall of the Byzantine Convent, this hypothetical line was included within the west limits of the area to be excavated. And, sure enough, as a counterpoise to the scanty interest presented by the Arabic walls, the line of the fortifications began to emerge all along. From two to three courses of the large rough blocks, characteristic of such fortification work, were preserved. The thickness of the wall was found to range between 2.30 and 2.70 metres.

Meanwhile, the separate work of tracing out the line of the fortifications had proceeded so far on the north-east boundaries of the site that the line of this had already been made out on the adjoining north side, and what now emerged was found to fit on to this.

The discovery of the Strong Wall in this region was the most satisfactory result that had as yet come out in the course of our investigations, for it clearly showed where came the east limits of the ancient city. The results that had previously emerged in the trial pits, in the rubbish heap, and in the adjoining area of late Arabic walls, were thus confirmed anew.

THE EAST GROTTA AREA.

As the virgin rock was gradually exposed all along the east borders of the excavation, it showed that peculiar formation of limestone bluff which makes up the natural fringe of the tell all round. Looked at from above, however, the rock surface showed an irregular line of fissures going north-south at some distance from its east borders, which indicated that there had been some natural process of collapse. This curious phenomenon is characteristic of such limestone bluffs all over the countryside. Seen from below, these bluffs often appear hollowed out in grottos, which are accounted

for by the soft character of the rock formation below, and its tendency to harden, and so to ledge out at the surface. The limestone itself is of a soft, friable character, and the ledging out in course of time tends to cause overweight above. This leads to the collapse of such ledges in course of time, and it is this process that explains the great broken off limestone boulders that strike the eye of the observant visitor as he approaches the site from the station of Deir-Aban. The intervals between the broken off boulders and the main mass of the limestone rock appear as yawning fissures with sharp edges, that come to be rounded off only in the course of ages.

Returning now to the area of superficial rock bluffs that had emerged in the excavation, the meaning of the fissures that had shown themselves will be at once apparent. The fissures here also indicated clearly that the ledging rock bluffs had broken off from the main mass, while their lurching position showed that beneath them had been a grotto area, which they now blocked up.

At the north end of the region of collapsed rock bluffs, as the result of some clearing, it was found possible to penetrate down into the fissures. The occurrence of pottery in the deposit below confirmed the suggestion that before the collapse of the overhanging rock bluffs there had been a great cave beneath, revealing traces of occupation. Among the fragments of pottery brought out were Semitic types of the later Bronze Age. To fix the general date there was a small fragment, apparently of a stirrup-vase with lustrous brown glaze paint, which was not native at all, but of Ægean fabric. The type of vase represented by the fragment could be taken to belong to the time when late Mycenaean wares began to be imported into Cyprus, and to be distributed generally throughout the East Mediterranean area and Egypt. The ware in question is contemporary with the Tell-el-Amarna fragments of imported Ægean pottery, and with the style of Late Minoan III. in Crete.* The fabric in question can thus be taken to belong to the epoch about the fourteenth century B.C. The cave seems thus to have been still in use, if not last in use, about that period. The general facies of the latest finds so far made in the cave would make them belong still to the Bronze Age, and to a period anterior to the introduction of iron.

* *Tell-el-Amarna*, Plates XXVI-XXX. *Journal of Hellenic Studies*, XXIII, pp. 198-9, figs. 13 and 14.

It was soon seen that it would not be possible to penetrate down into other parts of the fissures without some blasting, and this process was accordingly delayed to a later time of quiet labour, when there would be fewer workmen about.

Meantime, at the south part of this area, there occurred a sudden descent of the rock towards the region of the rubbish heap already described, and



FIG. 13.—ENTRANCE TO EAST GROTTTO, LOOKING NORTH.

here it was found possible to explore the grotto area more from the side and below. On some clearing of the débris having been effected, the entrance to a second grotto, on perhaps a continuation of the collapsed cave already referred to, emerged. This is shown in fig. 13, looking north. The outside area in front of the grotto appeared as a rounded hollow, ledging out above

on the north side, where the inner recesses of the grotto appear in shadow. To our no small surprise the débris in this outer region began at once to reveal copious fragments of imported Ægean and Cypriote pottery belonging to the Bronze Age, of the period about 1400 B.C. Among these occurred fragments of painted amphorae, such as were common in the Ægean at the time immediately succeeding the sack of Knossos, at the end of Late Minoan II. With these were found fragments of wine decanters and other vases in the grey leathery fabric with geometric pattern in matt white, on a dull black glaze slip, which Professor Myres has called base-ring ware.* Although the deposit was very evidently not quite undisturbed, there was no reason to doubt that the Cypriote fragments were contemporary with the Ægean types, in whose company they were found.

Fig. 14 shows a typical series of such Ægean sherds alongside of the contemporary Cypriote specimens referred to. The Ægean fragments are items 1-9 above, while the Cypriote sherds are 10-15 below. Of the Cypriote specimens, the first shown is evidently a rim fragment of a painted bowl with wishbone handle, like those published by Myres in the *Journal of Hellenic Studies*, XVII, 150, fig. 7, 151, fig. 8 below. The other fragments below are all from jugs in base-ring ware like those shown *ibid.*, fig. 7, 5; fig. 8, 1, 2, 5, 6, 7. The Ægean company, in which the Cypriote vases published by Myres are found, is shown *ibid.*, fig. 7, 1, 2, 9, 11.

The base-ring ware was found in similar Ægean company in tombs of Enkomi, excavated by the British Museum in 1896.† Among the pottery from Tomb 84 at Enkomi there occurs an amphora in base-ring ware, which is clearly a native imitation of Ægean amphorae like those referred to above.‡ The garbled foliate motive in matt white on the body of this vase is copied from the Cretan repertory, and the waving band on the neck mimics a similar design in reserved technique, which the later Ægean amphorae have derived from the Palace Style of Knossos.§

* *J.H.S.*, XVII, pp. 150 f. Myres and Richter, *Catalogue of the Cyprus Museum*, pp. 46-7; Plate II, Nos. 271, 277. † *Excavations in Cyprus*, pp. 1-54, Plates I-XII.

‡ *Ibid.*, p. 38, Tomb 84, fig. 66, item 1189.

§ Compare *Jahrbuch des kais. Deutschen Arch. Instituts*, XXVI, p. 216; Abb., I, pp. 217, 218. Poulsen has here overlooked the important chronological datum afforded by this coincidence of foreign style with native fabric and so is misled by a blunder of Murray's into assigning this base-ring ware to an earlier date in the first half of the Second Millenium B.C. But why cast doubts on the results brought out by Myres?



FIG. 14.—ÆGEAN AND CYPRIOTE POTTERY FROM EAST GROTTA AREA.

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The importance of these finds, from the point of view of comparative chronology, can hardly be overrated, and for this reason it was a pity to have been compelled to observe that the deposit was not quite undisturbed. Several separate vases of both kinds were represented, as could be seen from the fact that some of the fragments fitted. Other fragments have probably got bandied away elsewhere, and it is possible that some of these may be recovered after some clearing has been effected on the east side. Meanwhile, however, enough fragments that fit have been recovered to make it possible ultimately to reconstruct some of the more important types.*

From the chronological point of view, it is of paramount interest to know in what company of native pottery the imported vases appear. For the moment it may be premature to speak with positive certainty about a deposit not altogether undisturbed, but it could at any rate be noted that in the same baskets with the imported fabrics there were seen to come out types of native ware that have since then been found to recur in Tomb 1 of the North-West Necropolis.

On clearing the north face of the outside area, in which occurred the Cypriote and Ægean pottery, we found that the ledging rock above gave place below to rough walling with large boulders, which was seen at once to mask a recess behind. The removal of a few stones of this masonry made it possible to penetrate within the recess. This turned out to be a natural cave with some connection behind, towards the north, in the direction of the fissures already observed. The interior was found to be free of deposit for some distance from the roof. This deposit, as it appeared on the surface, consisted of powdery earth sprinkled with white, from the crumbling limestone ceiling of the cave.

A section of the deposit within the entrance was exposed down to the rock, when it was seen to have been disturbed like that outside. Notwithstanding this disturbance, the interesting fact came out that there were two distinct strata in the deposit. These will be best illustrated by means of the Plan and Sections of the area shown in Plate X. These two strata were separated by a sort of stamped limestone mortar floor. This had been laid with great care, as could be observed at the right-hand side, where remains of it adhered to the rock. Sections AA, BB, show this floor as we found the remains of it

* These will be illustrated in a separate study of the pottery of Ain Shems, to appear in a subsequent number of this Journal.

in relation to the deposit below and above it. The floor had apparently sunk from its original level, which is indicated on the section by dotted lines. This sinking must have been the result of pressure on loose earth below in course of time. It was soon apparent that over the greater part of the cave the floor had been disturbed at some period or other by persons in search of treasure. These, in the course of their operations, had mixed up the deposits, so that it was difficult to determine what belonged originally above the floor and what below. In the parts next the rock, however, it was still possible to distinguish the existence of the two strata. The result that then came out seemed of exceptional interest. The cave had apparently been originally used as habitation by a troglodyte people, possibly of pre-Semitic times. Then came a time when the use of the cave as habitation was given up. The floor was laid, and it was used henceforth for burial purposes. This was shown by the quantity of human bones in a crumbled condition, which, as we ascertained with sufficient probability, belonged to the deposit which had originally lain above the floor.

In contrast with this it seemed as if the troglodyte deposit, wherever observation was possible in the midst of the confusion, presented the phenomenon of gradual accumulation through raising of the floor-level, associated with primitive habitation. In no case where there was any indication at all of the original distribution of the deposit could we assign any of the human remains to the troglodyte accumulations. But further than this we were not able to go, pending explorations in other parts of the grotto which might afford a more certain clue.

The pottery found in the cave turned out to be of very great importance. With much probability, most, if not all of it, as yet examined, belonged together, and to the burial stratum, and considering the confusion it is only with the very greatest hesitation that we would be justified in assigning any of it to the troglodyte deposits. The one type that with some show of possibility might be so assigned is that represented by the two small vases shown in fig. 15, items 15, 16 (lowest row left). Characteristic of those are the suspension handles on either side of the shoulder, the cylindrical body usually widening out below, and the curved base underneath. What seems to be an earlier prototype of this shape has been found elsewhere in Palestine to occur in deposits that are anterior to the period about 2000 B.C.* The

* Vincent, *Jérusalem sous Terre*, p. 31, Plate X, 1, 2, 3.



FIG. 15.—POTTERY FROM TOMB I AND EAST GROTTTO,

specimens from the grotto seem to represent a late development of the type, and indeed the example with cylindrical body, in its form and decoration, suggests collusion with a somewhat similar type of terra-cotta alabastron, that in the Ægean cannot be earlier than the Third Late Minoan Period.* This would bring us down once more to the period about 1400 B.C., and so to the same general context as the Cypriote and Ægean wares found in the area outside the grotto. The later date suggested seems to be further indicated by the fact that a similar vase of higher shape was found to occur in Tomb 1 of the North-West Necropolis.†

In marked contrast to these, however, are the vases, which with more certainty can be assigned to the burial stratum above the floor. These are much more distinctly Semitic in type. Some, it is true, give indications of collusion with characteristic Cypriote types, such as the jugs in base-ring ware, like those of which fragmented specimens were found outside the walled-up entrance of the cave. The greater number were, however, frankly native, and among these stood out a saucer type of terra-cotta lamp which was found later on to occur in great quantities in Tomb 1 of the North-West Necropolis. Fig. 15, opposite, shows two such lamps from the cave, while in the topmost row are two similar specimens from Tomb 1. The type of saucer on which the lamp is based occurs in the tomb equally with the cave. The company in which these types are found in Tomb 1 appears in the picture in rows one and two. It is thus clear that the East Grotto is a burial cave like Tomb 1, and contemporary with that.

Tomb 1, from the character of the finds, was seen to be strongly under the influence of Egypt, and in this connection it is interesting to note among the finds of the East Grotto an alabaster pyxis (fig. 15, third left in lowest row), such as in Egypt is characteristic of the XVIIIth Dynasty, and the time about 1400 B.C.‡ This type of alabaster vase has a pedestalled foot, which, in the case of the specimen from the East Grotto, appears broken off.

* For an alabastron of this kind see *J.H.S.*, *ibid.*, fig. 7, p. 2.

† Fig. 15 (first left in second row).

‡ A fragment of a similar alabaster vase is seen to occur in an XVIIIth Dynasty environment at Rifeh and is figured in *Gizeh and Rifeh*, Plate XXVIIA, item 262. In the Ashmolean Museum an alabaster vase of the same type, but without the foot, occurs in the same company as Ægean stirrup-vases of the Third Late Minoan Period in a burnt votive deposit of the time of Amenhotep III. (circa 1414-1383 B.C.).

Alabaster vases of the same type were found to turn up in the Fourth City of Lachish in a context of characteristic Cypriote wares which in Egypt itself have a constant association with deposits of the XVIIIth Dynasty.*

The same kind of alabaster vase occurs in Cyprus in a Cypro-Mycenæan context in Tomb 66 at Enkomi.†

Professor Macalister once showed me at Gezer a similar alabaster vase in the company of Ægean pottery of the Third Late Minoan Period. This is



FIG. 16.—EAST GROTTO AREA, LOOKING SOUTH.

the same Ægean pottery which, over a wide East Mediterranean area, including Cyprus, Palestine, and Egypt, emerges in one context with the Cypriote wares, which are associated with the alabaster vases of Lachish. We cannot take coincidences over so wide a field to be fortuitous when we find them turning up once more in our own excavations at Ain Shems.

Besides that afforded by the occurrence of the alabaster pyxis in the East Grotto there seems further indication that the XVIIIth Dynasty dating

* *A Mound of Many Cities*, p. 117, p. 118, item 224.

† *Excavations in Cyprus*, p. 35, fig. 63, item 1041.

may, in a general way, be right in both cases. In Tomb 1 occurred the type of piriform two-handled vase pointed below, shown in fig. 15, item 10 (third left in second row). And it is important to note that Flinders Petrie has discovered models of this very type of vase at Rifeh, in Egypt.* In the same XVIIIth Dynasty context as these models occurred the fragment of an alabaster pyxis already referred to, similar to that found in the East Grotto at Ain Shems. The XVIIIth Dynasty dating has been further brought out by Petrie in a new and interesting Egyptian environment at Saft, which may be Goshen.† Here the outstanding Cypriote and Ægean types recur alongside of other wares apparently of native stamp, which turn up once more in Tomb 1 at Ain Shems.‡

It was now found that it would not be possible to penetrate further beneath the area of fallen rock without some blasting, but as this involved some risk while work was going on in the immediate environment, the operations of blasting were deferred to a more convenient season. This came round while the North-West Necropolis was being explored in the month of July.

After some clearing on the east borders of the Grotto Area the process of blasting was accomplished so far as to enable us to penetrate into the middle region of the cave.

The picture of fig. 16 shows the excavation which followed looking south. The fissures which mark the cleavage of the rock go along on the right-hand side, while the women are standing on the collapsed boulders.

When we got down beneath we soon saw on clearing a little that others had been here before us. The pottery also was much more fragmentary than hitherto, and some clue as to who the treasure hunters may have been was afforded by the presence of a terra-cotta lamp of Arabic date. The deposit resembled in a general way that already examined in the other parts of the grotto, but there seemed to be much more confusion and less indication of the original stratification.

We had thus, for the time being, to be content with the results already brought out. We have seen that in the hollow area at the entrance to the

* *Gizeh and Rifeh*, Plate XXVIIA, 29 (the two vase-models in the left-hand corner below).

† *Hyksos and Israelite Cities*, Plate XXXVIII A, at top right.

‡ *Ibid.*, XXXIX B, 1-15.

south part of the grotto region, Cypriote and Ægean pottery of well-defined types occurred alongside of native Semitic wares, which were found later on to be best represented in Tomb 1 of the North-West Necropolis. These same native wares appeared in the burial stratum in the south part of the grotto region without any noticeable accompaniment of Cypriote or Ægean fabrics. On the other hand, the imported wares were found to turn up in the same baskets with native wares in the middle and north parts of the Grotto Area. Thus, on the whole, the conclusion seems justifiable that both kinds belong chronologically together.

Once more the same types of native Semitic wares were present in the East Grotto and in Tomb 1. And in both areas not only did there occur objects characteristic of the XVIIIth Dynasty in Egypt, but the pottery itself seemed to betray the stamp of strong Egyptian influence of the same period. Further, the Cypriote and Ægean pottery of the East Grotto Area emerges in the same XVIIIth Dynasty context in Egypt itself. Thus we have represented on the spot a co-ordination of foreign evidence which may ultimately prove of further value when we come to correlate the finds from both areas with corresponding deposits within the city.

THE BYZANTINE AREA.

We have now to return to the Byzantine Area itself. The excavation of this was not a case of exploration proper, but of the removal of the Byzantine débris, with a view to getting down ultimately to the Semitic levels beneath.

This Byzantine débris, as soon became clear, did not show any stratification that might be regarded as of significance, from the point of view of the history of the site. The painted Arabic and other stray pottery at the surface was succeeded deeper down by a deposit in which Byzantine objects, other than very poor pottery, were conspicuous by their absence, while anything Semitic that turned up was of an entirely stray character and belonged properly to another and earlier context.

It will thus be sufficient to describe the Byzantine building itself, that emerged in the course of this excavation, without going into the question of finds on stratification, except by the way.

Excavation on the Byzantine Area was started at the east end, which was