

## THE GERMAN EXCAVATIONS AT BA'ALBEK.

By F. J. BLISS, Esq., Ph.D.

THE excavations at Ba'albek, under the patronage of the German Emperor, have now been going on for over 15 months. The officers in charge have been the accomplished architects Messrs. Schültz and Kreucker, and Professor Puchstein, of Berlin, has made two visits of inspection. Owing to the cordiality of these gentlemen towards a brother excavator, I have been able to follow the details of the work for the past year. However, as they themselves have not as yet published a full report, I must confine myself to such observations as the ordinary traveller would be permitted to make.

The aim of the work has been, by clearing away the later accumulation of *débris*, as well as later constructions within the enclosure, to bring to light all that remains of the temples at the time of their destruction, and thus to secure the data for a reconstruction of the original design. This work has now been practically accomplished in the Great Temple, and attention is now being directed to the Small Temple, popularly known as the Temple of Jupiter. As all visitors to Ba'albek will remember, the Great Temple includes: first, a rectangular portico; second, a hexagonal forecourt; third, an immense square court; and fourth, the temple itself with its huge columns. Excavations have proved that the *stylobate* of the hexagonal forecourt, also of the great court, has the usual three steps. Abundant proof is forthcoming that these steps were never finished. A similar sinking may be observed in the great court. The steps were well ornamented with statues from point to point, as proved by the discovery of inscribed bases cut back so as to fit the steps of the *stylobate* of the great court. The Basilica which occupies the western end of the great court has been carefully excavated and left standing. It will be remembered that the three apses point to the west, but signs of an eastern apse have also been discovered. In later times the temple enclosure was used as a fortress, within which were built numerous dwelling-houses, with fountains, an elaborate drainage system, &c. After careful planning, most of these have necessarily been removed,

but enough has been left at one or two points to illustrate the vicissitudes of the history of the place. I have said *necessarily removed*, for to have left them standing would have prevented the discovery of the original construction which they buried. Chief among these is the great altar of sacrifice, about 28 feet square, which stands before the steps leading from the great court to the temple itself. The foundations of this altar are practically complete, and two sides remain practically intact. It is about  $7\frac{1}{2}$  feet high, and is approached by steps at the east end. It is interesting to note that its top was once immediately buried by the pavement of the Christian church. On either side of the altar are two large rectangular tanks or pools. Curiously enough these are not of the same size, nor are they symmetrically disposed with reference to each other and to the altar. The largest one lying to the north of the altar, measures about 63 feet long by 21 feet broad, and is about  $3\frac{1}{2}$  feet high. Three sides are completely preserved, together with the fourth angle. These sides are divided into panels, elaborately carved with wreaths, human heads, cupids, bulls' heads, marine monsters (some of which have the form of Tritons), figures in groups, &c. The work at different points shows various stages of execution, from a rough blocking art to an exquisitely finished carving.

The work of removing so great an amount of *débris* has been facilitated by the use of a small railway with trucks. Advantage was taken of a breach in the north-east angle of the enclosure to carry the earth out into the neighbouring fields. One line of rails was laid through the vaults, through which the enclosure is usually approached, and these were cleared out for the purpose.

Recent visitors must have noticed that the loosened key stone of the lintel of the doorway to the Small Temple had been supported by a rudely-constructed pier. This key stone has now been forced into place, and the pier removed. I may add without prejudice that the architects regard the Cyclopean foundations to the west as an integral part of the Roman work, pointing out that the raising of such huge stones into place presents no greater difficulties than the erection of the great Roman column. In this connection I may also add that Dr. Carslaw, of Mount Lebanon, pointed out to me that the corner of one of these huge stones is broken off, revealing the comb-picking on an inside face, which must have been dressed before the stone was laid *in situ*.

I have confessed to a growing scepticism as to inferences to be drawn in Palestine from stone-dressing, in our present state of knowledge, but if, as Dr. Petrie holds, the comb-pick was a Greek introduction, this fact would militate against the theory of a Phœnician origin of the Cyclopean wall.

In addition to this Ba'albek work, Herr Kreucker has made some minor excavations at Niḥâ, which is situated in a gorge a few miles north of Zaḥleh, and he favoured me with a sight of his exquisite reconstructions of the small temples there excavated. The existence of these temples has long been known, but this is the first careful study made of them. While the work at Ba'albek has been wonderfully successful from an architectural point of view, the number and value of the smaller finds have been disappointing. Apart from some interesting inscriptions, mainly on the bases of statues, the finds consist of coins, Arab pottery, small fragments of carving, &c.

The branch line from the Beirût-Damascus railway to Ḥomş and Hamath will have its junction at the mouth of the Wâdy Yaḥfûfeh, a gorge of the Antilibanus, the station being Reyâk, on the eastern edge of the plain. Work is progressing rapidly; trains as far as Ba'albek are promised for about Easter, and the line will be opened as far as Hamath in the autumn. It is to be a full-gauge railway, in contrast to the narrow-gauge line from Beirût to Damascus. The opening of this line will greatly facilitate the trip to Palmyra, as the journey from Beirût to Ḥomş may be made in one day, and Palmyra is easily accessible by a carriage ride over the plains which stretch between it and Ḥomş.

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#### THE GERMANS AT BA'ALBEK.

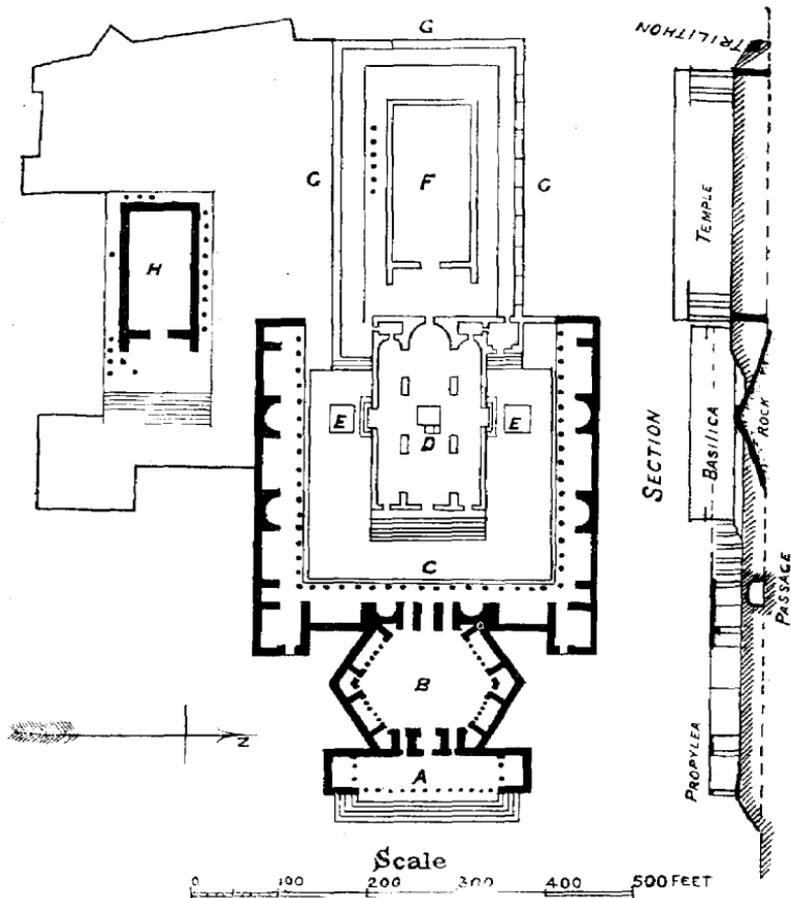
(By permission, from "The Builder" of January 11th, 1902.)

The "unearthing" of the ruins of Ba'albek, which the German Government is at present engaged upon, promises to be an important and imposing addition to the series of ancient sites which have been opened up in the Levant during the past half-century. The excavations are on the scale of those at Olympia, and the enormous mounds of earth which are slowly accumulating on the north side of the ruins impress the beholder with the magnitude and thoroughness of the work, and of the vast sums which are being expended upon it.

The following observations on the progress of the work, made on a casual visit, are in anticipation of the exhaustive and voluminous work

which will doubtless be published by the authorities in Berlin before very long.

SKETCH-PLAN AND SECTION OF BA'ALBEK.



A.—Propylea.

B.—Hexagon.

C.—Great Court.

D.—Rock Altar covered by Christian Basilica.

E.—Lavabos.

F.—Great Temple (unexplored).

G.—Ring of Great Stones.

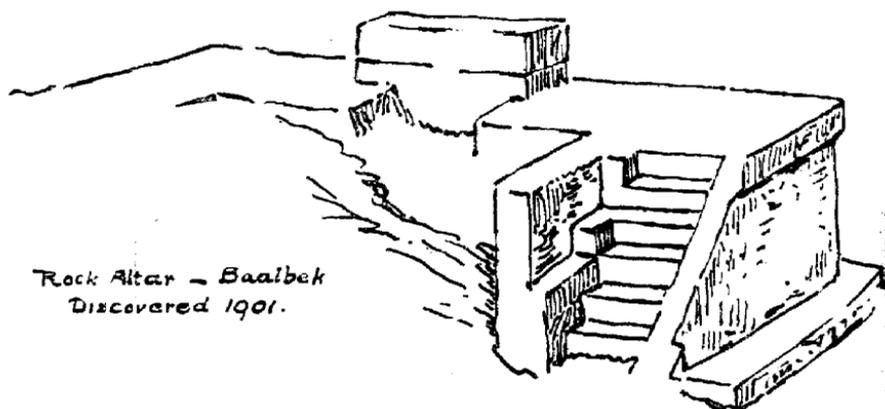
H.—Small Temple (unexplored).

In the first place, the plans of the group of buildings in the Classic period, and in the early Christian and Mediaeval Arab times, can now be intelligently studied. Of the more ancient or prehistoric epoch, before the coming of the Romans, there seem but few traces, but still the centre

feature of the whole site, its *raison d'être*, in fact, is of this earlier period, and of singular interest as such. This central feature is the rock-hewn altar platform round which the Roman buildings have been planned as an ornamental enclosure.

Referring to the accompanying plan, it will be noticed that the centre of the whole group of buildings is a rock which, in a primitive age, must have risen to a trifling height above the plain or flat level of the Valley of Coëlyria. This rock seems to have been sculptured into one of the not uncommon altar platforms of the prehistoric style. It would probably be one of those altars used for human sacrifice, and at one side are still preserved the rock-hewn steps up which the victims would be led for the purpose (fig. 1). Similar examples of such rock-cut altars occur elsewhere in Palestine and Syria. Previous to the coming of the Romans the rock

FIG. 1.



Rock Altar - Baalbek  
Discovered 1901.

would probably have retained its natural form, the site being sufficiently conspicuous for the purpose of an open-air assemblage, and the open ground around affording an excellent expanse for the purpose. This rock-hewn altar platform was probably hollow, with a natural cavity like the larger example on Mount Moriah, Jerusalem, but this has been a good deal broken through at one side. Inequalities in its squareness of form have been rectified by adding blocks of masonry, which in after times, when the destruction of the monument was contemplated, have been overturned and left abandoned.

The Emperor Caracalla is credited with introducing the Roman architecture on the site, which astonishes if it does not charm the beholder at the present day. But such monuments would require many years for completion, and indeed a great part of the buildings bear evidence of never having been completed. In the days of Theodosius, nearly a century later, the work of building the exedræ and outer portions of the group of temples was still going on.

We know so exceedingly little of the religious rites and ceremonies of the ancients and of the systems preceding Christianity, that little can be defined as to the destination and use of the different parts of this great monument at Ba'albek. The Romans presumably found the rock altar shrine of Baal (or the Sun) in the condition in which it still exists. They surrounded it on all sides by a series of walls making up a terrace or platform level with the base of the altar in a way which was commonly used in fortification. On the east, north, and south sides these walls constituted passages and chambers under the general level of the platform, and on the west side the great temple filled up the space on a huge artificial mound of earth. The basement or lower storey of the platform is built of huge blocks of limestone which have never been squared on the face, but only at the jointings. The same system of leaving the masonry to be brought down to a general surface after placing in position has been adopted all over the buildings, sometimes with a finished surface partly completed, but with the edges left raised so as to avoid injury to the jointings in the process of handling. These raised edges were intended to be removed at the completion of the work.

On the walls of the substructure surrounding the great court of the rock-hewn altar was raised the singular colonnaded ambulatory with its square and semicircular chambers. This magnificent colonnade is one of the features of the ancient design which has just been brought to light. The object of this peculiar arrangement of chambers surrounding the great atrium is not very apparent. On each side of the great altar was a lavabo, or shallow basin of water, formed by a low wall, with sculptured panels on the outside filled with winged genii, &c., and festoons of flowers. In some cases this decoration has been left unfinished; evidently these water basins were among the latest additions to the monument.

The existing superstructures of the great platform are too well known to need description; but the splendid colonnade which once closed them in had hitherto escaped notice, none of the columns being *en évidence*. It stood on three steps leading down into the great atrium, and probably resembled the design of the three-sided colonnade of the basilica of Constantine at Jerusalem, with which it was almost contemporary.

On the west side of the great atrium stood the famous Roman Temple of the Sun, once one of the largest in the world, but now reduced to the insignificant proportions of merely six columns. The Germans have made but slight progress in exploring the heap of earth which still covers up its basement, but sufficient is already laid bare to explain its construction and to account for its ruin. In designing this stupendous building the Roman engineers adopted a system of construction of great originality, but wanting in those elements of stability which we usually associate with the Roman name. On the west side of the great prehistoric altar there had originally been nothing, and here the Romans created a large artificial mound of earth on which to raise their great temple with its floor somewhat above the level of the altar atrium. The

atrium was surrounded on three of its sides by a continuous colonnade, and on the fourth the space was occupied by the columns of the temple façade, and the steps leading up to the higher level. The origin and purpose of the famous great stones—the trilithon—which have been the wonder of all ages, are now explained. The great artificial platform of the temple was surrounded on three of its sides with a continuous ring of these enormous stones (60 feet long) for the purpose of steadying the mound of earth, placed at a distance of about 20 feet from the substructure supporting the great colonnade, and forming at the same time the lower course of steps of the platform. The three great stones on the west side of the platform have always been exposed to view, those on the south side have only just been discovered and are at present being laid bare. On the other sides of the temple the level of these stones is still covered up with earth and *débris*, and masked by the Arab fortifications of the Middle Ages. Carrying on to some extent the same idea of construction in all the buildings, the temple and its atrium become the upper storey raised about 50 feet above the original ground or rock level. The lower storey consists of long vaults and, in some cases, vaulted apartments, but the chambers which probably exist under the great temple have not yet been found.

The present excavations are not extended much beyond the great atrium, and the result of them is wonderfully interesting and complete. The spectator is able to realise at a glance the original appearance of the monument, whereas before the Germans commenced operations all was chaotic and unintelligible ruin. The destruction of the surrounding colonnade is, unfortunately, complete, but the paving of the great court, the lavabos, &c., seem not to have been at all disturbed.

The Classical Temple was one of the last to be closed by the edicts of Theodosius, and apparently the army of building operatives which was employed upon it until the very last was provided with work of a new type immediately upon the change of religion. In the centre of the great atrium stand the remains of one of the earliest of the Christian basilicas of the fourth or fifth centuries, North Syrian style. This basilica, perhaps following a local characteristic, is also built on a raised platform of earth, but the earth has been raised in this position for the purpose of covering up the constructions of the Classic period. The early Christians evidently thought to convert the old site to their use, but did not dare to destroy it altogether, so they allowed the rock-hewn altar to remain where it has just been discovered, buried in the centre and under the floor of the new Basilica. The three apses of the new Basilica were built on the steps of the east front of the temple, and the baptistery seems to have been formed out of an "exedra" or chamber at the same end of the building. The altar of the Christians was, of course, to the west, and the building was covered with wooden roofs supported on nave arcades of phenomenal span.

The ancient enceinte of Ba'albek was turned into a regular fortified town during the Byzantine period; a main street lined with dwelling-

houses leads down the south side of the great temple, but many of these remains will, of course, be destroyed by the German excavations. The Arab constructions of a still later age will absolutely disappear as the work progresses. Such a fate is, perhaps, inevitable, although much to be regretted. The amount of interesting information which has already been gained upon the subject of the older religion and its monuments must be a compensation for the loss of later history and Arab associations.

## HEBREW WEIGHTS AND MEASURES.

(See "*Quarterly Statements*" for July and October, 1899.)

By Colonel C. R. CONDER, LL.D., &c.

HAVING read carefully the valuable papers by Sir C. Warren, I venture to approach the question of Hebrew metrology from the point of view of actual remains, rather than from any theory of proportion. The results do not conflict, but I think in detail that other proportions may be established pointing either to different ages, or to various sub-divisions of the units—which may have co-existed.

The accuracy of the ancients was not apparently as great as that of modern systems, and the measurement of ancient buildings generally shows this. Units so derived are liable to error from several causes. 1st, that the original measures were not quite exact—angular measurement especially. 2nd, that when a large number of measurements are collected from various sources some may have been less careful than is required, and measurements in feet or metres may be influenced by the modern units. 3rd, that such measurements are capable of being referred to more than one unit. Unless actual measuring rods, measures of capacity, and weights can be consulted, no decisive check can be established, and scholars have deduced different conclusions from the same data, and from the same literary statements. In our own time the accuracy of Orientals is still inferior. In Palestine the measures of capacity, and the value of European coins, differ among the peasantry in almost every village. But among the Jews and Babylonians standard measures certainly existed, which kept the various units fairly constant.