

## REMARKS ON MASONRY.

By Lieut.-Colonel C. R. CONDER, LL.D., R.E.

MR. DICKIE'S valuable paper on "Stone Dressing," in the January *Statement*, 1897, agrees with the conclusions which I have published in my paper on Masonry in the "Memoirs." It is still popularly supposed that drafted masonry indicates Hebrew or Phœnician work, whereas all the evidence points to this finish being of Greek origin, and unknown in Syria before the second century, B.C. The descriptions of masonry in the "Memoirs," at such places as 'Arâk el Emîr, Deir el Kul'ah, 'Athlit, and many other sites, will be found to substantiate this view. The drafted masonry was used by Jews, Greeks, Romans, Byzantines, Arabs, and Crusaders, from 176 B.C. down to quite recent times. It is only known in Phœnician buildings which present Greek architecture, and is not found in the ancient part of the aqueduct at Tyre.

Although the dressing of the stones may be a feeble indication of the period to which certain masonry is to be ascribed, the general character of masonry is more distinctive. The following styles may be easily recognised, by aid of examples dated or otherwise fixed :—

*Jewish Masonry.*—The leading example is the Palace of Hyrcanus at 'Arâk el Emîr, built in 176 B.C. Here the drafted stones are of great size, and well cut. They are laid without mortar. The drafts are well finished, and the face of the stone within the draft is flat. The dressing is not the same found in the Herodian masonry of the Temple.

*Herodian Masonry.*—Similar to the preceding, also of great size, and built without mortar. The peculiar dressing of the drafts, and of a border round the projecting part of the stone, is as yet known only at Hebron, and in the walls of the Jerusalem Haram, and on the Tyropœon Bridge. Even the older masonry of "David's Tower"—as far as my memory goes—does not present this peculiarity. The masonry at Herodium is well cut, the stones being very square. There are no drafts, and the general effect is that of good Roman work.

*Roman Masonry.*—That of the second and third centuries A.D., at Baalbek, Gerasa, and other places, is similar to the preceding, but never shows the peculiar dressing of the Herodian. At Baalbek, Greek letters occur as mason's marks on the stones. The size of the ashlar is very great, and the finish remarkably fine.

*Byzantine Masonry.*—This, as found in the remains of chapels, and monasteries, with late Greek texts, and Greek crosses, covers the period from the fourth to the seventh centuries A.D. It is very inferior to any of the preceding. The joints are wide, and the stones are laid in lime mortar which has now perished. In one wall will be found both drafted and undrafted stones. The drafts are irregular, and the "bosses" are sometimes rustic and very generally of irregular shape. The horizontal beds

are sometimes interrupted, giving the impression that the walls have been patched at various periods, but in some cases it is clear that this was a feature of one original structure. Round arches and barrel vaults, domes, and debased classic details accompany this masonry. The stones are generally long, but the size of the masonry is much less than in preceding periods. Drafted stones are chiefly employed on the exterior of buildings—as in other styles.

*Arab Masonry.*—This often resembles the preceding, but drafted stones are less used, and generally smaller than in Byzantine buildings.

*Crusaders' Masonry.*—This is larger and much better cut than the Arab work. The diagonal dressing is peculiar to the Norman work, though only a certain proportion of the stones are so dressed, these occurring on the interiors of castle and church walls. The bosses of the drafted stones on exteriors are generally rustic, with a considerable projection. The occurrence of Norman masons' marks—only found in Syria in the twelfth and thirteenth centuries—is the safest indication of Crusaders' work. These, however, only occur on the best specimens of undrafted masonry in the interiors. They are usually near the middle of the stone. The mortar, mixed with pounded pottery and small shells, is extremely hard, and the work as a whole is well cut and finished.

It is to be noted that no masonry found during the recent excavations presents us with walls like those of the Herodian age, except perhaps at the south-west corner of the upper city. The masonry and mortar described on the east is all of that character which has been called above Byzantine. Between 450 A.D. and 614 A.D. there is plenty of time to allow of several periods of building under Eudoxia, Justinian, and others. Some of the remains may, however, be earlier, and belong to Hadrian's Jerusalem. I think we may conclude that the old wall of Jerusalem, existing in 70 A.D., has not yet been discovered on the east near Siloam. It did not include the Pool of Siloam, according to Josephus, since that pool was accessible to the Romans during the siege. In 333 A.D. the wall on Sion excluded the Cœnaculum, and probably represented Hadrian's line. This also was the line in 1099 A.D., since Raymond of Toulouse encamped on Sion during Godfrey's siege. Eudoxia's wall was perhaps destroyed by Chosroes in 614 A.D., or by the Turks in 1072 A.D. The walls were rebuilt by the Egyptians some months before the Crusaders arrived. In the later part of the twelfth, or in the thirteenth century the wall was extended on the south-west to enclose the Cœnaculum, and ran back north, east of this church. This was perhaps the line of the walls destroyed by David of Kerak in the thirteenth century.

Dr. Bliss has, I think, recovered the line of this later wall, and indications of Crusaders' work were found in 1874 at the Protestant Cemetery scarp on the south-west of Sion.

It does not appear probable that the ancient wall will be recovered by excavation close to Siloam. The great staircase seems to be clearly of the Byzantine age, though it may occupy the position of older rock-cut steps,

which were cut at a different angle in connection with the scarp. As the levels are not given on the published plans and sections, it is at present impossible to understand what may have been the connection with the paved street (said to be Roman) further north. The masonry at AL, south-west of the Pool of Siloam, I saw when it was uncovered in 1881. It appeared to me to be too slight for a city wall, and to have belonged to some Byzantine building. Dr. Bliss does not attribute this, or the block of masonry further north, to the ancient city walls.

It is possible that the older walls were entirely demolished in 70 A.D., and their materials reused. They have disappeared on the north-west of Jerusalem, and some of the stones have there been reused to form the wall of a pool. But if the ancient rampart does exist on the south-east, as on Ophel and near the south-west part of the upper city, it will not, in my opinion, be found by continuing excavations close to the Pool of Siloam, but must be sought further north, or traced eastwards from the remains of ancient walls, in continuation of the south-west scarp, which remains Dr. Bliss has discovered.

In the absence of inscriptions, coins, seals, or well dated pottery, this appears to be all we can at present learn from the explorations on the south side of Jerusalem.

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## NOTES FROM DAMASCUS.

By Dr. ERNEST W. GURNEY MASTERMAN.

*The Well Sādreyeh.*—If on coming to the *Bab el Berid* of the great Mosque of the 'Omayyades in Damascus one turns sharp to the left, instead of entering the mosque, one enters a narrow lane. This lane is bounded on the right hand side by the ancient western wall of the mosque. Following it, it is found to lead to a doorway, inside of which is a small courtyard. Almost the whole of this courtyard is filled by a large tank (or *Bahrah*) about 12 feet square. Rising from almost the centre of the tank to a height of about 5 feet is the mouth of a well surmounted by a windlass. This well mouth is connected with the west side of the *Bahrah* by a kind of solid stone bridge. This well is called *بئر الصادرية* (Well Sādreyeh), and connected with it is the following curious custom. If anyone here receives a severe fright, and he or his friends think he is going to be ill as a consequence—fright being a very commonly supposed cause of many illnesses—he or his friends go to this well and throw in *salt*. The usual method appears to be to put some salt into each corner of the *Bahrah* in turn, but if the case is very serious, and especially if death is feared, the friends in addition to the salt, put in barley, henna, and eggs. I have heard most about this custom