

*Observations on an ancient Aqueduct, and certain Heaps of Iron Scoria, in the Parish of Lanchester, in the County of Durham, by the Rev. JOHN HODGSON, Secretary.*

PTOLOMY, the geographer, is generally supposed to have lived in the reigns of Trajan, Hadrian, and Antoninus Pius; but as he makes no mention of the Vallum of Hadrian, I suspect that his work was published before that Emperor's campaign in Britain. He enumerates nine towns of the Brigantes, the most northern one of which was Epiacum; and that next to it Vinovia, which is generally allowed to be the Roman name of Binchester.

In his map both these towns are placed much too far to the west, as appears from the Itinerary of Antoninus, and Richard of Cirencester's description of Britain.

Antonine places Vindomora nine miles from Corstopitum or Corbridge, and nineteen miles from Vinovia, according to which distances, Vindomora would appear to have been at Ebchester, in the county of Durham: and Richard, in his fifth iter, disposes of these places in the same manner; but in his third, he places Epiacum eighteen miles from Vinovia, and nine from the Wall. Epiacum and Vindomora, according to his authority, would, therefore, seem to have been names of the same place. Probably, however, Vindomora was at Lanchester, and Epiacum at Ebchester. But as none of these names occur in the Notitia Imperii, and no inscriptions have been found to throw the least light either upon their history or their geography, it is still very doubtful where the true situation of Epiacum was, and whether Vindomora was at Ebchester or Lanchester. That the greater number of places enumerated in the Notitia, as under the command of

the Duke of Britain, were situated either along the line of the wall, or at no great distance to the south of it, there can, I think, be no question; and though the Longovicum of that authority may, on several accounts, be supposed to have been at Lanchester, and the Derventio at Ebbchester, from that place being situated on the river Derwent, yet these suppositions have nothing of the nature of proof for their support.

The extensive ruins of the station at Lanchester, and especially of its suburbs, show that it was once a place of considerable importance. One tablet, found in a field on the east side of it, commemorates the building of a bath and a basilica; and another, discovered within the area of its wall, records the repairing of its principia and armamentaria in the time of Gordian the Third; a circumstance which pretty clearly proves that it was occupied soon after the Romans penetrated into Britain. For, supposing these repairs to have been made in the third year of the reign of Gordian, or A. D. 240, and that the principia and armamentaria had been erected by Agricola in the winter of the year 80, they were only 160 years old at the time of their being re-built, and that work had become necessary on account of their having "conlapsa"—fallen together.

The ancient importance of this station is further shewn, by the great labour which has been employed in making the aqueducts that lead to it. The plan of these works, which I have been enabled to lay before the Society, was copied from a survey made several years since, by Mr. Fenwick of Dipton, and Mr. White of Woodlands. Both its lines are in many places, and especially in Mr. White's woods, as visible as in the day they were made. The bottom of it, on account of its course lying over sandy ground, has been puddled; and the upper part of the northern branch has, of late years, been employed in conveying water to the fish ponds at Woodlands. The earth embankment at the head of the channel of this branch, where two small rivulets fall into one, partly remains: it has been rudely faced with stone, and raised to the height of thirty feet, in order to obtain level for throwing the water into the channel of the aqueduct. The place

where the southern branch has received its water from the brook, called Rippon-burn, is obliterated; but the embankments made near the house at Cold-Pike-Hill, for receiving the water of certain springs, and preserving level to the station, are very distinct. The reservoir was in a field at the south-west corner of the station, and a conduit that appeared near the bath is supposed to have led to it. Several wells have, from time to time, been discovered here by labourers, on the outside of the walls, and there is a plentiful spring at a short distance from the place where the bath stood.

Between the lines of this aqueduct, there are two remarkable heaps of iron Scoria. One of them on the west side of Mr. White's plantations, near the Rippon-burn; and the other at a place called Cold Knuckles, about a quarter of a mile south from the head of the northern branch of the aqueduct. That at Cold Knuckles contains many thousand tons of slag: but there was a still larger heap about a mile further to the west, the greater part of which was, some years ago, employed in making a part of the turnpike road, which leads from Bishop Auckland to Corbridge. Similar heaps have been found at a place called Goldhill, on Houseley-burn, a little above Healey-field; at Nuckton Burn, about three miles above Blanchland; at Bursh-blades, near Tantovy; and at Norwood, near Ravensworth Castle.

In several parts of the parish of Lanchester I have frequently observed that the surface of the earth is exceedingly irregular, with small pits, which the country people call *delfs*, no doubt from *delwing* or digging; and that these places are invariably attended with a stratum of iron stone not far from the surface. Similar appearances may be seen in one of the plantations belonging to the Earl of Bute, on a farm called the Delfs, on the south side of Pontop Pike, and on Tanfield Moor. But in what age either them or the heaps of Scoria were formed, I know of no evidence on which a probable conjecture can be formed, unless the following account can be admitted as testimony.

When the ruins of a great part of the station at Lanchester, and

especially of its suburbs, were raised about forty years ago, the great numbers of hearths, cinders, and slaking troughs that were found, and that resembled those of our smitheries, induced the neighbouring people to conclude that the Romans were "a tribe of smiths." If, indeed, there were not reason to believe that the armamentaria were common to every station, and consequently of no greater importance at one place than another, there is sufficient evidence that places under that name were not only used as depots for arms in the Roman age, but as workshops for military purposes. "Nunc operibus aspiciendis tempus dabat, quæque in officinis, quæque in armamentario ac navalibus fabrorum multitudo plurima in singulos dies certamine ingenti faciebat."\* If, however, it could be shown that the armamentaria mentioned in the inscription found here, were connected with the numerous hearths I have just mentioned, and that these had been used by smiths, we should not only obtain a clue to the history of the heaps of scoria but obtain good ground of evidence that Lanchester, while the Romans were in Britain, was both famous for its iron works, and distinguished for an extensive manufactory of arms.

Some of the slag at Goldhill is blueish, and partly of a glassy nature. The flat pieces at Cold Knuckles are very black, dense, and heavy; and consist of sulphur, combined with small proportions of iron, carbon, and silex: the amorphous pieces are very light, porous, and black. The earth under the heaps has been much burnt: and pieces of charcoal still remain in them.

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\* Livy, lib. 26. c. 51. See also Seneca de Tranquil. Animi. Val. Max. viii. c. 12. Cic. de Orat. l. xiv. Plin. vii. c. 37. In the three last places armamentarium means a dock-yard.